Understanding the relationship between the social determinants of health (SDH), Paediatric Emergency Department use and the provision of primary care: a mixed methods analysis

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Understanding the relationship between the social determinants of health (SDH) and the use of emergency departments (ED) for triage priority 4 and 5 presentations, that are discharged, that would be better serviced by primary care providers, rather than an emergency response, is complex. The difficulty with a SDH approach, is in determining appropriate measures. A number of researchers have addressed this difficulty by focusing on the relationship between deprivation, as a measure, and attendance at ED. This thesis provides an overview of relevant research on the relationship between deprivation and attendance at a Paediatric Emergency Department.

This research employed a mixed methods approach utilising Hospital Admission Status data (HAS ED), Social Health Atlas data (demographic data), measures of deprivation (Socioeconomic Index For Area [SEIFA] the Index of Relative Social Disadvantage [IRSD]), levels of primary care provision data (epidemiological) and parent and staff interviews to explore the factors relating to high attendances at a paediatric ED in South Australia.

The qualitative findings indicate that a dearth of services, such as limited service provision (lack of GP appointments), or after hours services and a lack of broader community based primary services (for example the provision of blood tests, x-rays) influences high Paediatric ED attendances rather than distance to ED, or cost. In addition, the quantitative findings found the highest levels of primary care Paediatric ED attendance were from areas with high levels of deprivation. Further, there were significant positive relationships between possible primary care attendance and discharge status, distance to ED, and attending ED using a private vehicle (rather than emergency vehicle). The epidemiological data suggests that there is a dearth of GP services in areas with higher than average levels of illness. Reasonably, this may impact on the ability of parents to access timely and appropriate health care services from primary care providers.

The lack of a child specific skill set in GPs, no after hours GP services, and differences in familial health access were some of the major qualitative findings from the study. These findings differ from other studies that showed: intra-familial consistency of ED use; and that parental anxiety increases ED use. Further, the respondents described the influences and characteristics of service provision that influence their use of ED for primary health care. These factors are of a structural social determinants of health (SDH) nature. The changes to universal health care provision impacting on paediatric ED use have occurred gradually over time. This is termed here as 'incremental structural inertia' and has led in recent times to a decrease in the provision of GP services that may have increased the use of ED for primary health care. The most distinctive contribution this research makes to the body of knowledge regarding health access is that despite the usefulness of the GP Plus and GP Super Clinics in addressing some of the intermediary SDH such as social support, parenting support and preventative health interventions, the GP Plus and GP Super Clinics will not change the numbers of category 4 and 5 presentations to ED unless there is an increase in the numbers of: GPs, paediatrically trained community health care providers and after hours services.

Declaration

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and to the best of my knowledge and belief it does not contain any materials previously published or written by another person except where due reference is made in the text;

Signed ....

Dated ....

Publications from this thesis

Peer reviewed chapters

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Completing a PhD is a large objective and the following quotation by Alfred Wainwright has helped to inspire me:

> One should always have a definite objective, in a walk, as in life it is so much more satisfying to reach a target by personal effort than to wander aimlessly. An objective is an ambition and life without ambition is ... well aimless wandering. (1972)

Preface

Health access is one of the first steps in the process of maintaining optimum health. Using health services for health access also needs to be sustainable. The use of Emergency Departments (ED) for primary care is not only a costly and inefficient use of health resources, but also may fail to provide the appropriate longer term care often required by children. There is a need to investigate the nexus between the provision of primary care and the use of ED. Why do parents choose ED over community based primary care for non-urgent health conditions? Further, does attendance at ED influence decisions on future health access? Does the use of ED for primary care represent a familial pattern of health access? These questions are important in understanding the influences on health access. This thesis explores the complex relationships involved in the use of paediatric ED for primary care.

The research question: How do the Social Determinants of Health (SDH) and the provision of primary care impact on the use of Paediatric ED for primary care. The aim of this study was to use Hospital Admission Status data, Social Health Atlas data, measures of deprivation, levels of primary care provision data and interviews with parents, staff and community service providers to explore factors relating to high attendance at a South Australian Paediatric ED.

This thesis is divided into eight chapters. Chapter 1 provides a discussion on the models of health. This outlines a framework for understanding how health is structured and the influence of these models on health delivery. Further, Chapter 1 traces the development of the SDH and its impact on health access. In addition, Chapter 1 explores aspects of health access from an ethical perspective. Chapter 2 further develops the concepts of SDH in conjunction with Young’s theory of the relations of power. These constructs are applied to health. Chapter 3 advances the discussion on the socio-political context of health systems, services and access. The impact of use of ED by families and the significance of this research is also investigated in Chapter 3. Chapter 4 provides the questions and methods statements and the rationale for the use of mixed methods; the qualitative method of interviews and narrative analysis, the collection and analysis of quantitative data; epidemiological, demographic, and chi square ($\chi 2$) and multiple regression. The use of mixed methods for triangulation and validity are elucidated. Chapter 5 is divided into three sections. The first reviews the literature on ED use and deprivation. The second provides the results from the quantitative analysis, while the third section discusses these findings within a SDH framework. Chapter 6 furnishes a narrative analysis of the parent in-depth interviews and an analysis of the reoccurring concepts into themes. Chapter 7 has two sections. Section one analyses the results of a Culturally and Linguistically Diverse focus group. Section two provides the results of the staff interviews. A comparison on the main themes from all of the interviews provides a triangulation and summary of the interview data. The final chapter (8) reviews the results of all the data using a SDH and Young’s theories on power to develop a concept of incremental structural inertia. Using these findings, this chapter then explores the impact of the development of new services such as, GP Plus, GP Super Clinics and Medicare Locals on health access.

Topic choice

The use of mixed methods for this type of research seemed appropriate for three reasons. Firstly, investigating health access and the use of ED requires a technique that utilises both quantitative and qualitative procedures in order to capture the amount and the reasons for use. Secondly, the World Health Organisation (WHO) recommends the use of mixed methods for researching health access (Solar & Irwin 2010). Finally, a mixed method potentially increases the robustness of the research process by triangulating the results through multiple methods and sources of information.

Qualitative researchers have a close engagement with the research process, participant selection and research outcomes. As a consequence, it is important that their personal characteristics and training be explained (Tong, Sainsbury & Craig 2007). My interest in this topic stems from my experiences as a single parent, and a former resident, having completed my schooling in one of the lowest SEIFA IRSD areas in South Australia. Further, as a Registered Nurse, the health of others and the influence of deprivation, and socio-cultural aspects of disadvantage became evident to me during the course of a 30 year career[1]. A Bachelor degree in Psychology and Public Policy also highlighted the demographic distribution of mental health issues and the need for a political will to intervene in order to change population differences in health outcomes. This insight directed the choice of topic.

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[1] I am a migrant and the first in my family both here and internationally to complete a University degree

CHAPTER 1

Introduction

The Social Determinants of Health (SDH) offer a way of explaining and understanding differentials in health across different population groups. The distribution of power and the socio-political features of health are the structural aspects of the health of a society and mediate access to health care. These arise from government and structural features of a society. The consistency, timeliness and appropriateness of health access form intermediary characteristics of the SDH that have influences on lifespan health outcomes both physically and psychologically, and are manipulated at a community and individual level.

Some of these structural regulators of health access are well documented, for example, income, occupation, educational attainment, social class, gender and ethnicity. These aspects are referred to as the Social Determinants of Health (SDH), and are well known, while other intermediary SDH, such as, health access, social support and transport, have often only received investigation at a superficial level. Health access that is not consistent, timely and appropriate has consequences for the individual's long term health outcomes and on the health systems capacity to provide affordable, expeditious, and effective interventions.

This thesis explores the impact of the SDH on family health access. It identifies those SDH which impact on the efficient use of a children's emergency department (ED) in South Australia (Women's and Children's Health Network (WCHN)). The inappropriate use may result in the inefficient use of ED resources to provide primary care and primary health care[2] as ED are designed to provide acute care services.

The opening chapter of this thesis sets out the different models of health. This provides a framework for understanding the development and the importance of the SDH. The elaboration and prominence of the models will be presented, accompanied in later chapters by the impact of using the various models discussed to plan service

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[2] Primary health care (PHC) provides a comprehensive means of addressing health inequities through the application of the PHC philosophy and a broad system of community based , inter-professional services that incorporate aspects of social justice and the social model of health into health interventions (Keleher 2001; McMurray & Clendon 2011).

delivery. The development of the biomedical, biopsychological and biopsychosocial models will be examined, along with the limitations of each. The chapter concludes with the discussion of the social model of health[3]. It examines the evidence, debates and theories that argue that illness and disease for individuals, population groups and nations is not simply a matter of pathogens, or individual psychology and behaviour, but a complex interaction between the social system and social factors of a given society and the individual. The concept of health from the biomedical model perspective will be discussed below.

The biomedical model of health

Origins in mind-body dualism

The biomedical model has its origins in the reductionist philosophy of Descarte's division between the mind and body, and the notion that illness is caused by a specific disease, or cellular anomaly, and treated by a specific agent (Krieger, Chen, Coull & Selby 2005). Treatment is based on specific experiments that determine the distinction between pathogenically caused change and normality (Gerhardt 1989). Practitioners are trained to distinguish between the disease and the person (Freund, McGuire & Podhurst 2003). Their education emphasises deviations in the physiological normality of a person, whilst developing technical expertise in diagnosing, treatment and intervention (Gerhardt 1989; Freund et al. 2003). This training ignores the relationships between: mind and body, person and illness, societal conditions, power relations and health outcomes (Gerhardt 1989; Freund et al. 2003).

Pasteur's (1822-1895) discovery that specific germs caused specific illness and disease saw the biomedical model become firmly entrenched in the 1900s (Capra 1983): human beings were viewed as 'machines'; there was no relationship between mind and body and every disease was reduced to its smallest part – the bacteria or virus invading the cell (Capra 1983; Krieger 2001; Burgess 2007). In other words, the biomedical model presents a distinct aetiology where every disease may be

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[3] The social model is distinct from the medical model as it encompasses a boarder base for the influences on health and acknowledges that broader aspects of society are responsible for health outcomes (Baum 2002, p. 533). This is different from new public health that places health in all policies and examines how health is organised within societies (Tudor-Hart 2006).

potentially cured by a specially designed agent that corrects or inhibits the attack on the organism (Gerhardt 1989; Brandt & Gardner 2008).

With the introduction of innovations such as blood transfusions, vaccinations, pain control, and the prevention of infection with antibiotics in the 1920s and 1940s, mortality rates significantly decreased (Klatz 2005) and further entrenched the ‘scientific’ biomedical model as the cure for all disease and illness (Capra 1983; Krieger 2001). The biomedical model with its emphasis on intervention at the individual level through the application of medical and scientific technologies that aid in the “early detection, diagnosis and treatment” of disease (Klatz 2005, p. 536) define health in terms of the specific diseases, germs or conditions that have a measurable and distinctive effect on the body (Burgess 2007; Brandt & Gardner 2008). By providing quantifiable outcomes the biomedical model’s scientific basis was affirmed and its status assured. Treatments based on this model require the disease, injury or illness to be eradicated or cured (Solar & Irwin 2007). However, the biomedical model does not explain the complex interaction between people and their illness, or more generally, between society and the health of its members (Tesh 1988; Krieger 2001; Brandt & Gardner 2008; Brown 2008).

A crucial turning point in the history of the biomedical model was the development of increasing diversity in antibiotics in the 1950s. The proponents of the biomedical model suggest this brought about the increase in life expectancy for the majority of Australians: currently 79 years for males and 84 years for females (Australian Institute of Health and Welfare (AIHW) 2010). This is an increase of eight years from those Australians born in the 1900s (Capra 1983; AIHW 2006). The use of antibiotics and the biomedical model does not adequately explain the shift in illness from acute infection to chronic illness and disease (McKeown 1979; Krieger et al. 2005).

The biomedical model provides a precise determination of a disease or condition through appraisal, categorisation, designing and implementing effective treatments (Capra 1983; Lewis, Collier & Heitkemper 1996; Klatz 2005). As the model allows for treatments and conditions to be evaluated and data-bases to be established, it is possible to plan targeted services and inform government policy more adequately.

One example is the collection of data on avoidable mortality in Australia. Avoidable mortality is defined by Piers, Carson, Brown and Ansari (2007, p. 5) as: “the disease is an identifiable one; the effective inventions are known to health professionals and health services; access to health services is available, and accessible to patients with the condition”. Ironically, the data on avoidable mortality rates reveal that factors other than pathogens influence the occurrence of illness or circumvent the disease. These factors, which include place of residence or socioeconomic status led to other models being developed.

Limitations of the biomedical model

The biomedical model has been subject to five major critiques: i) a failure to deal with the underlying behavioural and social causes of a disease; ii) the high cost of medical technology needed to control disease including the uneven distribution of costs within and between populations; iii) research by social epidemiologists that shows that improvements in health status pre-date medical technological development and are more aligned with improvements in social conditions; iv) the cost of medical interventions; v) the shift in disease patterns from acute to chronic; vi) and the reticence of organised medicine to subject itself to evidence-based critique (McKeown 1979; Capra 1983; Gerhardt 1989; Freund et al. 2003; Baum 2005; Wilkinson & Marmot 2003; Marmot & Wilkinson 2006; Mechanic 2007; Brown 2008). These limitations will be discussed below.

i.) Failure to deal with psychological and social causes of disease

The first of these limitations became apparent in the 1950s as a result of research and the collection of epidemiological data that identified psychological and social factors behind illness and disease. The use of mind altering drugs to change behaviour does not explain individual responses to the exposure to circumstances that cause mental health issues (Krieger 2001). Capra (1983) proposes several reasons for this, one of which is the increases in a vast array of widely used psychotropic drugs, sedatives and antidepressants (Capra 1983; Gerhardt 1989) designed to treat specific organic causes of mental illness and disease (Capra 1983; Freund et al. 2003). Lithium carbonate for example, acts to improve the levels of lithium salts in the brain to combat depression and schizoaffective disorders (Capra 1983; Badewitz-Dodds 1996). These drugs help to control the symptoms and behaviour of people with a mental illness and improve the chances of psychiatric patients retuning to the community and being treated as outpatients (Capra 1983; Freund et al. 2003).

However, the long-term outcomes for the patients taking these drugs, which may have major side effects, began to cause disquiet as the drugs did not cure the illness in the long term (Freund et al. 2003). Some people, in fact, suggested that these drugs were being used as a form of social control to placate disquiet with occupational and social conditions (Freund et al. 2003). As Freund et al. (2003) and Krieger (2001) assert, one underlying cause of mental illness is society's subjugation of women; by treating these women with drugs, doctors were compounding women's subjugation and alienation. Alternative approaches to mental illness treatment were explored (Krieger 2001; Freund et al. 2003; Weiten 2007) and two perspectives were offered: the possibility that childhood events might be implicated in adult mental health outcomes; and that stress caused by dissatisfaction with socially imposed roles might require non pharmacological approaches; for example, revision of social practices. The focus on chemical interventions to cure cellular imbalances does not explain the behavioural, lifespan, social and power aspects of health conditions. When the biomedical model is the only framework considered for health then expensive, inappropriate solutions may arise to resolve health problems.

ii.) High costs of medical technology and biomedical solutions

A second factor is the high cost of medical technology and biomedical solutions to health problems. It is important to understand the application and the limitations of the biomedical model given its location as central, both socially and politically, to most global health systems (Tesh 1988; Solar & Irwin 2007). This positioning ensures the funding of biomedical interventions despite the high costs (Freund et al. 2003; Solar & Irwin 2007). For example, the costly technology-based malaria campaigns in the 1950s involving the widespread spraying of insecticide were a failure as they did not address conditions such as, poverty, that allows malaria infections to flourish (Russell 2004; Irwin & Scali 2005). The dominance of the biomedical model however, means that governments continue to view it as the only legitimate approach and they therefore funnel funds in that direction (Whitehead 2003; Irwin & Scali 2005; Monajem 2006). The narrow focus on technology prevents individuals and communities with complex health needs from accessing the most appropriate health care (Sobo, Seid & Reyes Gelhard 2006; Solar & Irwin 2007).

Biomedical technology has resulted in increased longevity and improved health at an advancing rate – medical knowledge and technology doubles every 3.5 years – and there have been major improvements in cure rates of familial, infective agent, accident, and chronic diseases (Klatz 2005). But the high cost of biomedical technology means that the solutions are not available to everyone other than high income groups; for example, the United States, and wealthy nations. Social discrepancies account for significant differences in mortality and morbidity between population groups and between nations (Wilkinson and Marmot 2003; Marmot & Wilkinson 2006). This is shown in differences in the health of the most disadvantaged population groups (lowest income quintile) compared to the least disadvantaged area (highest income quintile). For example, the death rate of Australian infants in the most disadvantaged populations (lowest income quintile) is 75% higher for boys than those infants living in the least disadvantaged groups (the highest income quintile) (AIHW 2006). For girls there is a 46% difference in the rate between these quintile areas (AIHW 2006).

The disadvantages created by social and economic circumstance falls outside the biomedical model's focus on germs and technological solutions, and the increasing propensity of proponents of the biomedical model to medicalise problems – even those of a social nature – and produce costly pharmacological treatments that have diminishing returns for the individual and society. This failure has seen this model being subject to greater scrutiny (Capra 1983; Gerhardt 1989; Krieger 2001; Freund et al. 2003; Conrad 2008). Additionally, some improvements to health predate the introduction of medical interventions such as antibiotics and can be attributed to improving social conditions.

iii.) Effectiveness of public interventions

A third limitation of the biomedical model has been identified by medical historians. McKeown (1979) demonstrated that infant mortality rates decreased prior to the introduction of antibiotics and mass immunisations as a result of increased access to public education, public sanitation, public health information about hand washing and sanitary food preparation. Most importantly, nutrition levels increased and fresh food became widely available. McKeown (1979) argued that only 10% of the increase in longevity and health of the UK population was attributable to biomedical intervention (Burgess 2007; Solar & Irwin 2007). McKeown (1979, p. xv) highlights the limitations in the biomedical model in the following quotation:

> Medical science and services are misdirected, and society's investment in health is not well used, because they rest on an erroneous assumption about the basis of human health. It is assumed that the body can be regarded as a machine whose protection from disease and its effects depends primarily on internal intervention. This approach has led to indifference to external influences and personal behaviours which are predominant determinants of health. It has also resulted in the relative neglect of the majority of sick people who provide no scope for the internal measures which are at the centre of medical interest.

This quotation asserts that a broader approach to health other than the biomedical model is needed if health is to meet the demands of society as a whole.

iv.) Cost effectiveness of lifestyle changes

Further, recent 'social illness and disease modalities' have defied intervention by the biomedical model (Tesh 1988; Krieger 2001; Brown 2008). The biomedical model offers 'cures' for illnesses such as diabetes and heart disease through costly health interventions such as, heart transplants (Capra 1983; Brown 2008). These conditions to some degree are preventable by addressing lifestyle factors such as diet, exercise and exposure to harmful behaviours such as, smoking and inactivity (Tesh 1988; Krieger 2001; Marmot 2006). However, lifestyle factors are outside the scope of the biomedical view of health, since the intervention is not surgical or pharmaceutical. The major disease burdens of disease in Organisation for Economic Co-operation and Development (OECD) countries are 'non-communicable diseases, injury and violent death' and these require either individual or political will to eradicate (Baum 2005; Solar & Irwin 2007). The focus of the biomedical on one cause and one cure is clearly inappropriate in such situations (Marmot 2006).

v.) Transition of disease causes from acute infection to chronic illness

Furthermore, the major causes of disease and illness in western societies has shifted from infections to chronic, socially determined diseases. This shift defies the cure-focused biomedical model but Pasteur's idea that germs are the sole cause of all disease to some extent continues to blind the biomedical research fraternity (Capra 1983; Freund et al. 2003; Brown 2008). This denies current evidence to the contrary.

The predominant illnesses facing advanced societies – obesity, diabetes and depression – are not handled effectively by the biomedical model (Wilkinson & Pickett 2005; Marmot & Wilkinson 2006; Mechanic 2007). Rather, the evidence suggests that these illnesses are a reflection of social disparities between population groups (Wilkinson & Pickett 2005; Marmot & Wilkinson 2006; Mechanic 2007). The failure of the biomedical model of health to address variations between population groups was identified in the 1970s and led to a focus on other causes of an individual's ill health such as, the 'psychological aspects' and health behaviours. The recognition of somatic conditions and the medical model's inability to treat them brought about the development of the biopsychological model of health (Tesh 1988; Krieger 2001; Taylor 2006; Burgess 2007; Solar & Irwin 2007).

vi.) Contradictory approach to medical evidence by practitioners

The final conundrum facing the biomedical model is the failure of some medical practitioners to subject their work to scrutiny (Freund et al. 2003; Leigh 2008). This is certainly the case in Australia where moves to assess hospitals, service delivery and medical practitioners have been thwarted by the Australian Medical Association (AMA) (Leigh 2008). This is evident in the gap in the national collection of health data included in 'Australia's Health' (AIHW 2008). This government publication collects information on usage of hospitals, general practitioners, socioeconomic health trends and determinants across the life span, avoidable deaths and health system performance. However, the data is simply an overview of the sustainability, efficiency, appropriateness of care, capacity, safety, accessibility and responsiveness of the health sector, and does not cover the standards of practice of hospitals or medical practitioners (AIHW 2008).

These omissions seem remarkable given that the medical profession and the biomedical model purport to be the 'best' intervention for patients and population groups based on measurable, evidence-based best practice (Capra 1983; Krieger 2001; Solar & Irwin 2007; Leigh 2008). Gawande's (2004) research in the USA for example, reveals strong differences between treatment for cystic fibrosis: patients in an average treatment clinic lived for 33 years while those receiving treatment at a centre engaging in best practice lived on average to 47 years (Gawande 2004; Leigh

2008). Despite these results, the Australian medical profession is reluctant to have this type of data collected or published (Leigh 2008; *Medical News Today,* 27 July 2008). When the Federal Health Minister, Nicola Roxon suggested measuring health performance (*Medical News Today,* 27 July 2008), the president of the Royal Australian College of General Practitioners Dr Vasantha Preetham said: “It’s a complex task developing an effective and evidence based indicator set for the nation” (*Medical News Today,* 27 July 2008, p8). Not only do the USA and UK have this form of data available to assist the public in decisions around health (Leigh 2008), but Florence Nightingale and Ernest Codman developed and published this type of data over 100 years ago (Smith, Mossialos & Papanicolas 2008)! Opposition in Australia to evidence based health indicators seems contrary to the philosophy of the biomedical model especially when its practitioners resist publication of measurement and the distribution of best practice initiatives for the benefits of their patients and communities.

Biomedical model and health care access

The sole reliance on a biomedical model may limit timely and appropriate health access as this model requires a recognisable, identifiable illness for treatment which is a complex procedure, especially when diagnosing children. For example, the symptoms of bronchiolitis and influenza are similar, certainly on an initial presentation and diagnosis, and children with these conditions cannot cohabitate as there are potential problems of cross infection. Uncertainty about the diagnosis means that admission to hospital and treatment has to be delayed while waiting for results; it also creates a backlog in the ED. Further, delaying treatment does not fit a preventative health service model.

Indeed, some preventative services are not regarded as cost effective within a biomedical framework due to the social nature of the solution (Solar & Irwin 2007; Brandt & Gardner 2008). Access to fresh food has a proven effect on reducing rates of morbidity and mortality (Robertson, Brunner & Sheiham 2006) but as this factor falls outside the parameters of the biomedical model intervention, it is overlooked. Conditions such as obesity may require counselling, dietary advice and exercise but often treatments offered are biomedical in nature, expensive and have limited long-term success (Andersen, Becker, Stokholm & Quaade 1984; Kral & Naslund 2007).

The health services that are provided are neither cost-effective nor appropriate for the condition.

Chronic illnesses can be difficult to identify and treat, and may require extensive interventions that are often not cost effective for the doctor or health service that is biomedically based and market driven (Freund et al. 2003). As a result, health services may be denied when an illness can be treated at little or no cost to the provider. For example, pharmacological treatments are not cost effective when there are small numbers of the population suffering the condition (Brandt & Gardener 2008). Furthermore, illnesses that fall outside the biomedical model (Freund et al. 2003; Brandt & Gardner 2008; Brown 2008) such as those of a biopsychological nature or diseases caused by social conditions (Gerhardt 1989; Freund et al. 2003; Brown 2008) for example, exposure to toxins, or poverty (Brandt & Gardner 2008; Macintyre, Ellaway & Cummins 2008; Williams 2008) are also difficult to diagnose and treat and thus may not receive funding or resources.

In health systems where the majority of funds are directed towards the biomedical model, services may be costly or limited for illnesses that fall outside it. For example, a primary health care model of service delivery promotes the provision of maternal and child health care, community based affordable care, the provision of essential medicines and immunisation (Keleher 2001, p. 59), whereas a primary care model of service delivery provides services based on the biomedical through General Practice (GP) health services (Keleher 2001). Thus the model of health delivery used by a society can determine not only access to services but also the continuity, timeliness and appropriateness of the health interventions that are provided (Gerhardt 1989; Freund et al. 2003; Brown 2008).

Summary

The biomedical model has been useful in the identification, categorisation and treatment of some illness and disease; however, it fails to take account of underlying social patterns of disease and the fact that some diseases can be managed by changes in lifestyle. This has led to the development of other models of health – the biopsychological, the biopsychosocial and the social model. The strengths and weaknesses of each are discussed in the following section.

The biopsychological model of health

Biopsychological model – definitions

The failure of the biomedical model to address the increasing number of conditions that are broadly termed ‘psychological and social’ and the increasing cost of technologically driven cures that are unavailable to most people, has seen a re-assessment of the biomedical model as the ultimate cure-all (Capra 1983; Tesh 1988; Krieger 2001; Baum 2005; Solar & Irwin 2007; Hunter 2008).

The biopsychological model was developed in the late 1800s (Capra 1983; Freund et al. 2003) and echoed the biomedical model of health in its Cartesian, reductionist, scientific stance (Capra 1983; Burgess 2007). Wilhelm Wundt (1832-1920) used his training in physiology to establish the field of psychology, which he defined as “the scientific study of the conscious experience” (Weiten 2007, p. 7). The biopsychological model of health explores the psychological response to ill health and the psychological interventions necessary to maintain and restore health (Andreassi 1996; Taylor 2006).

Early psychologists such as Hull, Pavlov, Watson, and Skinner adhered to a strict ‘Newtonian’ mechanistic, objective and rigorous measurement of behaviour (Capra 1983; Weiten 2007) as a means of establishing the scientific credentials of their biopsychological model. This precise quantifying of behaviour reflected the preoccupation of Western culture with measurement, technological intervention, control and the manipulation of nature, and added a sense of credibility to its claim of taking over where the biomedical model had left off (Capra 1983; Krieger 2001). The biopsychological model of health came to prominence in the 1970s with the “understanding of the behavioural links, between personality and particular illnesses, and between lifestyle factors and illnesses” (Burgess 2007, p. 342).

Behaviourist approaches

The behaviourist approaches to health and the treatment of specific mental illnesses were based on the associations between the behaviour and the external environment. Diagnosis relies on the “observable and measurable: objective, overt, specific, localised responses to specific stimuli” (Zimbardo 1979, p. 24). The influences of rewards and punishment on changing behaviours featured predominately in treatment and cures (Zimbardo 1979; Weiten 2007). Ill health in need of behavioural change is defined and strategies are developed for the individual to employ in order to implement the treatment and cure (Taylor 2006).

Psychoanalytical approaches

At the time the behaviourist approach was first introduced in the 1900s another school of thought came into being – psychoanalysis. This school developed from the psychiatric branch of the biomedical model and had its origins in the work of Freud. One aspect of Freud's theory was that childhood events played a role in adult emotional responses (Zimbardo 1979; Weiten 2007). Therapists using the psychoanalytic model developed a systematic approach for uncovering the influences of the unconscious on behaviour (Zimbardo 1979; Taylor 2006; Weiten 2007). Supporters of the theory argued that psychoanalysis was a scientifically objective practice that was able to show cause and effect. It offered no scope for exploring the broader social causes of mental illness however, and looked only at the individual and their immediate family.

Cognitive therapy approaches

This approach is important as it attempts to explain human behaviour by understanding how thoughts influence behaviour and thus health outcomes (Zimbardo 1979). This school developed cognitive therapy, for example therapists assist patients to modify their problematic behaviour – e.g. smoking, depression, anorexia – by changing the way they think (Taylor 2006). This approach is again individually focused.

Limitations of the biopsychological model

While the biopsychology model has been important in alerting practitioners to the cognitive, behavioural and emotional aetiology of disease, its application is limited as it fails to address: i) the broader psychosocial causes of illness: ii) the social causes of illness: iii) the preventive aspects of disease: or iv) the fact that social inequalities can cause psychological illnesses. Each of these limitations will be addressed below.

i.) Fails to account for the broader psychosocial causes of illness

Broader psychosocial causes of illness follow distinct social status boundaries: this is shown by evidence from studies by Marmot and colleagues' Whitehall studies on the differences in health between different social groups in Western nations. The results illustrate not only the importance of psychological concerns of different groups (Krieger 2001; Marmot & Wilkinson 2006; Solar & Irwin 2007; AIHW 2008) but also the occurrence of physical and mental illnesses associated with poverty and disadvantage whether financial, power and/or status. The Whitehall population data has continued for many years and the findings reveal health disadvantages between social groups that may not have formerly been considered disadvantaged: employment status, for example has a direct bearing on health (Marmot 2006; Marmot & Wilkinson 2006). While the biopsychological model identifies the psychological effects of the differences in status and power on individuals, it neither addresses nor prevents them.

ii.) Fails to account for the social patterns of illness

Illness correlates with social patterns – this has been clearly demonstrated with mental illnesses and has been highlighted by several studies (Burke, Dunbar-Jacob & Hill 1997; Draine, Salzer, Culbane & Hadley 2002; Petrilla, Benner, Battleman, Tierce & Hazard 2005; Heneghan, Glasziou & Perera 2006). Biopsychological illnesses follow distinct social boundaries with those in the lowest income quintile having a much higher incidence of mental and physical illness. For example, 15% of the population with mental illnesses are from the lowest income quintile whereas only 10% are from the highest quintile (AIHW 2008). Draine et al.'s (2002) research highlights the improvements in mental illness outcomes following the implementation of a program that addresses social disadvantage. Draine et al. (2002) assert that programs that do not address the social causes and the socio-political context of psychological illness perpetuate and maintain these illnesses.

iii.) Fails to address prevention aspects of illness

Draine et al. (2002) maintain that most research in the area of mental illness fails to address the prevention of illness from a social perspective. Preventing mental illness often refers to the prevention of relapse rather than preventing illness per se (Rickwood 2005). Draine et al. (2002) argue that prevention includes being aware of potential triggers and warning signs; and becoming self-aware so that further episodes of illness can be anticipated. He and his colleagues suggest the necessity of having adequate crisis planning in place in case relapses occur; providing supportive, easily accessible community based services with strong communication strategies and providing early intervention services and facilities to go beyond acute care services (Rickwood 2005). All of these can be achieved with public health programs. Whilst Campbell, Thain, George Deans, Richie and Rawles (1998) champion the need to improve biopsychological interventions, their suggestions remain biopsychological in nature and do not address social causes of illness.

iv. Social causes of psychological illness

The ongoing data from population health studies over the past thirty years not only highlights the increasing differences between income groups in a society and the psychological impact on these populations, but has also brought to the fore the inability of the biomedical and biopsychological models in dealing with the differences (Marmot & Wilkinson 2006; Solar & Irwin 2007). Further, despite many people's increasing affluence over the last 30 years, differences in social standing and other social factors have widened and are apparent in the differences in health outcomes which suggests they are socially produced (Marmot & Wilkinson 2006; Wilkinson & Pickett 2009). This realisation has led to the investigation of health from a social perspective.

Biopsychological model and health access

The reliance of the biopsychological model on the Cartesian interpretation of illness and treatment means it too fails to ensure health access beyond recognition and intervention of known aliments. This does not take into account access to health services or the provision of preventative health measures. Further, its reliance on pharmacological cures to address socially derived conditions such as role dissatisfaction and its inability to challenge the power discrepancies behind social and health inequities not only limits its applications but also limits its usefulness in averting ill health.

Summary

The biopsychological model does address some aspects of health differently to the biomedical model. It does include the psychological cause of illness and the impact that childhood events may have on adult health outcomes. The biopsychological model also recognises the role of cognitive perceptions such as, social position and status on health. However, like the medical model notions of health promotion, prevention and social patterns of illness are beyond its focus and scope of practice. In summary the biopsychological model of illness maintains the narrow, technocratic and individual focus of the biomedical model. Another model of health was needed to explore the social aspects of health, illness and disease.

The biopsychosocial model of health

Biopsychosocial model – definitions

The failure of the biomedical and biopsychological model to address the increasing number of chronic and socially derived conditions has led to the development of the biopsychosocial model. First theorised by George L. Engel (1977) this model provides a more holistic view of care. It is an important development in the models of health history as it deals with aspects of illness, disease and health from biological, psychological and social aspects of an individual's life. Engel highlights the deficits of the biomedical model and proposes a new biopsychosocial model. However, it remains individually focused in its interventions and fails to address the broader social causes of illness and disease.

The social model of health and the social determinants of health (SDH)

The social model of health is a conceptual framework that focuses on those attributes and functions of a society that influence the health status of an individual or community. These functions and attributes cover economic and welfare policies and the provision of public services such as health care, education and employment opportunities. The social model takes account of the broader societal influences that impact on health. It recognises that health status is outside the individuals' sphere of direct control, and lies more in the field of government, policy and social conditions.

The social model of health recognises that health is a complex combination of factors. It includes the level of health provided by the state, the responsibility the state takes towards the quality of the health care provided, and the social structures of a society (Williams 2003; Solar & Irwin 2007; AIHW 2008). These social structures include factors such as the distribution of power, income, and employment opportunities in a society, along with the impact of discrimination, or exclusion based on gender, race, religion and age. Social structure refers to the systematic forms of social life derived from the recurring patterns, rules and distribution of resources according to social practices (Germov & Poole 2007). The rules and norms governing a social structure may prevent or enhance people's participation within society through opportunity or exclusion from social institutions.

Additionally, the SDH are aspects of a society that can often directly measure different aspects of life that impact on health; for example, the impact of occupation on health outcomes (Marmot & Wilkinson 2006). The SDH researches the links between individuals and social practices such as access to health and income, thereby exploring health from a broader perspective.

The social model approach to health

The social model makes distinctions between the individual and social responsibilities for health provision with the emphasis on the social causes of ill-health and access to services. This switches the focus from individual behaviours or biological attributes to the society and the inputs into health broadly understood and provided by the state. This approach differs from the biomedical and biopsychological model that defines individuals in terms of deficits, their condition or illness. The social model identifies the problem beyond the individual and within the social structure. For example, the biomedical model would define a university student with the disability of cerebral palsy as having a medical condition, 'cerebral palsy' and using a wheel chair which would prevent them from attending lectures due to their disability. On the other hand, the social model would assert that the student would be prevented from attending lectures due to a lack of theatre wheelchair access. The limitation is in the environment i.e. the building design, rather than in the individual's impairment. The social model acknowledges and describes aspects of life that are external to the individual and mediate how the individual can function and participate within a society and this in turn impacts on health status.

Social determinants of health (SDH)

This analysis of the aetiology of disease in the social structure has led a number of theorists to identify a variety of determinants of health (Krieger 2001; Marmot & Wilkinson 2006; Solar & Irwin 2007; Brandt & Gardner 2008). These determinants include education, housing, employment, health access, income, gender and social processes such as social support and social exclusion. They may be structural or intermediary. For example, the provision of public housing may be defined as a structural determinant of health while the type of housing people live in may determine their level of exposure to mould, infection and pollutants that then influence their health status. This would be defined as an intermediary determinant of health (these will be discussed further in the next chapter).

The diagram 1.1 (Central Northern Adelaide Health Service 2010 (CNAHS), p. 2) illustrates the complex and multifaceted social view of health. It incorporates the larger and broader structures of society such as the political, social, cultural, communal, familial and economic, all of which influence and determine health status.

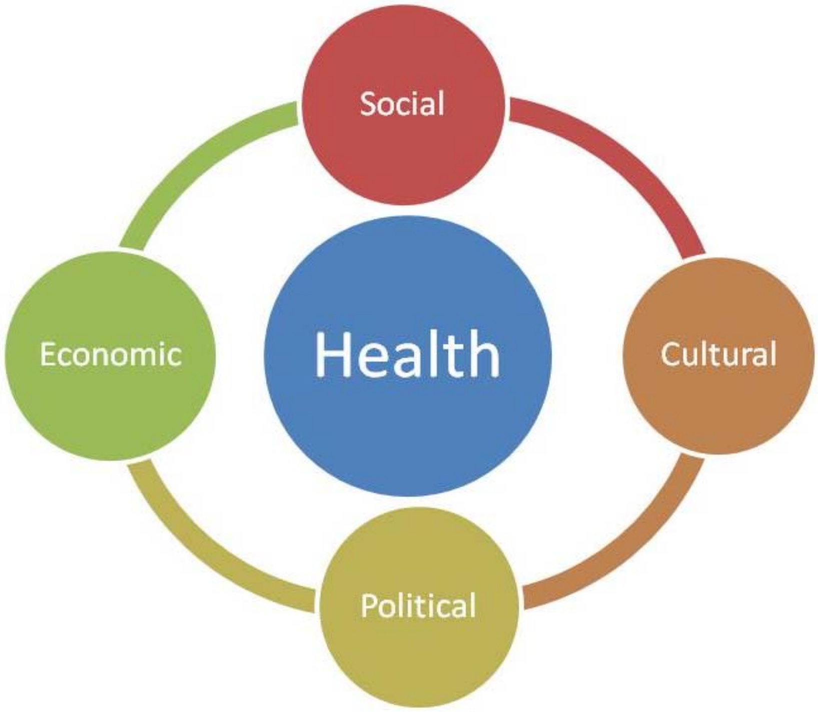

Figure 1.1 Social view of health (CNHAS 2010, p. 2)

Using a social model of health would allow the development of policies and programs that actively support and encourage access to education, health services, employment and training programs. To use the cerebral palsy example, the social model of health would encourage the view that those with cerebral palsy are productive and worthwhile members of society which would lead to the development of building regulations that ensure they have equal access to education and employment. This might also entail implementing policies that provide the family with extra financial support to fund travel expenses, or for respite care. The social model of health recognises that aspects of life outside of an individual's control enhance or inhibit health options. These aspects are intermediary determinants of health.

Addressing health using the social model goes beyond defining illness as an individual problem (biomedical model, biopsychological model and biopsychosocial) to embracing the social and political changes which need to be addressed to improve health outcomes for population groups. The political aspects of health involve not only direct health policy but also welfare and taxation policy. For example, where lack of access is 'caused' by insufficient funds on the part of individuals, policy makers may address this through taxation polices which redistribute funds to assist those of limited income to enhance their access, or introduce health services that provide 'free' care. Countries with redistributive and progressive taxation policies, or egalitarian societies, such as Sweden, have overall better health outcomes for their citizens, than those with regressive taxation systems such as Britain, Australia or the United States (Raphael, Macdonald, Colman, Labonte, Hayward & Torgerson 2005; Solar & Irwin 2007). After tax transfers in Sweden lower poverty rates from 23% to 3% whilst poverty in the UK, USA and Australia remains at 20% after tax transfers (Raphael et al. 2005; Solar & Irwin 2007). Therefore, the government and health system configuration of a country can address some aspects of ill-health caused by poverty by providing universal coverage. Further, Chung and Muntaner (2008) report that societies, with the most comprehensive universal medical coverage have lower infant mortality and less adult morbidity, and increased longevity across a range of health measures. This highlights that a comprehensive approach to health incorporates the wider aspects of taxation, government governance, legislative, political and social systems.

The social model of health incorporates the examination of the causal pathways such as the Social Determinants of Health (SDH) to understand the complex interlinking of socioeconomic, psychosocial and behavioural influences on health (Newton & Bower 2005). Rather than the SDH being viewed as isolated causal factors, other influences such as the existence of the welfare state, the political ideology and taxation policies may also influence health outcomes and the SDH. Further, the complexities impacting on health include aspects of life such as availability and accessibility of fresh food, geographic location, education level and access, public transport and other aspects of life that either enhance or inhibit health outcomes.

The history and the formation of the social determinants of health (SDH)

Differences in the mortality and morbidity rates between population groups were originally highlighted by Marx and Engels (Giddens 1987; Young 1990; Poole & Germov 2007), but more recently in the 1980s by Britain's Black Report (Turrell, Oldenburg, McGuffog, Dent 1999) and the Whitehall Study (Marmot & Wilkinson 2006). The gaps were noted to be of a social nature and affecting the level of health of particular populations and thus were coined the SDH. Black and his colleagues hypothesised that these findings were the result of; i) artefacts of the data, ii) natural selection, iii) human behavioural causes, and/or, iv) material or structural disadvantage (Macintyre 1997). Black, Morris, Smith and Townsend's (1980) first and second explanations refer to problems within the data and genetic factors, while the third explanation situates the problem with the individual. The fourth recognises the social or material causes of illness and disease. Black et al. (1980) also identified causal links between childhood deprivation and long term adult health outcomes recognising that social factors influence an individual's health across the lifespan. The report stressed the need to address health behaviours from a social perspective rather than an individualistic one providing a social dimension to the aetiology of disease. Other factors included the 'influence of social cohesion and social support and the health hazards associated with different grades of living and working conditions' (Black et al. 1980, p. 10).

The Black Report represents groundbreaking work in understanding the SDH and provides a major exploration of the impact of forces external to the individual that determine health outcomes (Black et al. 1980; Turrell et al. 1999; Solar & Irwin

2007). Black et al.'s (1980) study of the social conditions illustrates the different health outcomes for different population groups, highlighting the limitations of the biomedical and the market models to deliver effective health care to all citizens in affluent nations (Turrell et al. 1999; Solar & Irwin 2007).

The Black Report recommended the collection of data focusing on broader social conditions that improve health for the lowest income quintile in the UK (Black et al. 1980). This data would provide evidence of the social causes of poor health and explore the causes that would assist in efforts to decrease the expanding gap in preventable health discrepancies between the lowest and highest income quintile groups (Black et al. 1980). Unfortunately, there was a change of government immediately following the release of the Black Report. The incoming Secretary of State of the new Thatcher government, Patrick Jenkin, refused to implement any of the recommendations citing cost and querying the effectiveness of any proposed interventions (Black et al. 1980).

Neo liberal / market model of health

The newly appointed Thatcher neoliberalist UK government focused on health reform that encouraged small government and the privatising of NHS services through the development of General Practitioner cooperatives (NHS trusts) in an effort to improve efficiency and decrease costs (Gaffney, Pollock, Allyson, Price & Shaoul 1999). The consequences of Thatcher's reforms were the opposite of those proposed by Black et al. (1980). The costs of running the health system increased, and staffing and service levels reduced (Gaffney et al. 1999). These outcomes were reflected elsewhere. Other governments, such as, Netherlands, Sweden and Spain that attempted neoliberalist reforms in the 1980s which promised efficiencies and decreases in cost through market model privatisation found the policies did not deliver on their commitment but rather exacerbated the previous health system failings in all these areas (Graham 2004; Solar & Irwin 2007).

The market orientated health policies introduced in the 1980s focused on efficiency rather than equity in health and equality of health access (Baum 2002; Solar & Irwin 2007). Equity in health access implies that health is available to all at the time of need, and equality of health implies that the health provided is of an equal standard to all (Baum 2002). The market approach to health further disadvantages particular population groups (Solar & Irwin 2007); for example, those living in poverty using a health system where the user pays had little access to health services and were more exposed to ill health (Wilkinson & Marmot 2003; Marmot & Wilkinson 2006; Baum 2005; Edwards 2005). This is thought to be due to the limits by the health services and health care available to them. Further, the use of the market or neoliberal ideologies limits the focus of health towards an individual service and point of service emphasis; whereas, the broader view of health incorporates policies that take account of living conditions, education, and employment (Wilkinson & Marmot 2003; Marmot & Wilkinson 2006; Baum 2005; Edwards 2005). This was evident in the 1990s through the decrease of Medicare bulk billing rates in Australia (the universal health care system) that saw an increase in ‘gap’ or ‘out-of-pocket’ fees for individuals and their families[4] (Young & Dobson 2003; Griggs & Atkins 2004). Where gap fees increased, Medicare no longer provided ‘free’ health care for those in need, with General Practitioners (GPs) in Australia given the option to bulk bill or charge fees. Those GPs who charged gap fees limited access to their services. Likewise in the UK since the introduction of the NHS medical practitioner cooperatives there has been a decrease in service provision, entitlement and accessibility to health services (Gaffney et al. 1999).

The effects of the ‘market-driven’ health policy

More recent research maintains that ‘market-driven’ government policies and ‘political ideologies’ have exacerbated health inequalities and increased the gap between the haves and have nots (Edwards 2005; Kelly Bonnefoy, Morgan & Florenzano 2006). For example, in Australia there is almost 20 years difference in longevity between the highest income quintile and the lowest income quintile group (Royal Australasian College of Physicians 2005). Across most disease groups those in lowest income quintile have higher death rates than those people in highest income quintile. Further, for conditions such as cardiovascular disease there is a 112% for males and 127% for females, mortality difference between lowest and highest income groups. For gastrointestinal illnesses there is a 130% for males and 118% for

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[4] The gap is the difference between the government rebate for doctors and the consumer funded fee for a General Practitioner or health provider for primary care.

females difference, and for respiratory mortality there is a 181% for both males and females, while the differences in mortality rates for cancer is males, 45% and females 73% (AIHW 2005). Further, the median age of death for males is 80.6 years and females is 84.6 years but for Australian Indigenous peoples, who are amongst the poorest Australians, it is 59.4 years for males and 64.8 years for females (ABS 2006). Consequently, the conclusion of past and present researchers is that the SDH need to be addressed to reduce the gaps in health status between population and income groups (Black et al. 1980; Turrell et al. 1999; Irwin & Scali 2005).

By the late 1990s and the early 2000s the evidence being collected globally regarding the increasing socially produced inequities in health was becoming indisputable (Baum 2005; Marmot & Wilkinson 2006; Solar & Irwin 2007). Further, recent research highlights the SDH as being far more determinative of the health outcomes of individuals than ‘medical care’, ‘medical technology’ and ‘personal health behaviour’ (Edwards 2005; Raphael et al. 2005; Marmot & Wilkinson 2006). The SDH represent a means of understanding the causes of health inequities (Baum 2005; Marmot & Wilkinson 2006; Solar & Irwin 2007; Whitehead & Popay 2010). The need to address these inequities through social policy was also irrefutable (Marmot & Wilkinson 2006; Solar & Irwin 2007). In light of this mounting evidence the SDH became firmly entrenched as a health concept and in policy language (Kelly et al. 2006). In 2003 the World Health Organisation (WHO) created the Commission on the Social Determinants of Health (Kelly et al. 2006; Solar & Irwin 2007) and its findings were released in 2008. This has strategically placed the SDH within the WHO policy and research agenda.

Social justice and the social model of health: implications for government policy

As health researchers, health professionals and as a society it is important to qualify our notions of health provision and the availability of health services. One way of achieving this is through the defining and understanding of health as a core value or as a human right. Values can be defined as ‘the beliefs of a person or group which contain some emotional investment or are held as sacrosanct’; whilst core ‘is the most essential or vital part of some idea’ (Morales & Gilner 2002, n.p.). Health as a core value is espoused by the notion of health as a human right, as this places health as a central ideal, and a 'right for all' (Lie 2004; United Nations (UN) 2004; Solar & Irwin 2007). As health professionals, we have a role in ensuring and promoting health as a human right (OHCHR 2004). This entails the recognition of instances and occurrences of denial of health as a human right, for example, when poverty or social status interferes with timely and appropriate access to health care. States have a responsibility when health is a human right to ensure all citizens regardless of race, gender, disability or illness have access to health (Lie 2004; OHCHR 2004).

If health is a right for all humans then it falls outside the individual to provide solely for themselves and becomes a joint responsibility of the individual and the government or society. As a right for all, the provision of health becomes an entitlement to be ensured by governments and the legislative processes (Lie 2004; Baum 2005; Luttrell, Quiroz & Scrutton 2007; Solar & Irwin 2007). This takes the notion of health away from a concept of individual responsibility for the cure of individual diseases, towards an understanding of health provision that encompasses aspects of society which are reinforced and supported by social and political constructs. Furthermore, by viewing health as a human right it enables governments to provide legislation to protect those rights and enables service providers to broaden the constructs of health to be inclusive of social conditions such as adequate and affordable housing and free and comprehensive education (Solar & Irwin 2007).

By encouraging governments to incorporate health as a human right into their policy agenda the advancement of health equity is also ensured (Lie 2004). By using human rights constructs in legislation one can ensure that concepts like equal opportunity to health are upheld. Thus, the principle of the distribution of health rests solely on the society's capacity to provide consistent, timely, and appropriate health care, not on an individual's ability to pay. The supporters of the principles of health within a human rights framework continue to strive for the distribution of health access and services regardless of a person's socioeconomic position, gender, social position, educational level, race, or religion (Lie 2004; Baum 2005; Solar & Irwin 2007). Currently, aspects such a socioeconomic position or geography determine the level of health that can be enjoyed by an individual (Marmot & Wilkinson 2006; Piers et al. 2007).

Where health is a human right, access to consistent, appropriate and timely health would be ensured and protected through government policy and legislation. Those unable to afford the health care they need would be subsidised, thus providing all members of a society with a minimum standard of health care. When health is a human right and entrenched within a legal framework then governments have an obligation to address health inequalities such as, inappropriate specialist usage, by providing a legal and political criteria for measuring a service against this right (Solar & Irwin 2007). For example, the Royal Australasian College of Physicians' (RACP) (2005) findings highlight that access issues, like specialist usage, are a result of the health system inadequacies' and not the individuals' fecklessness. The RACP's (2005) research found that those individuals in Australia who are chronically ill in the lowest income quintile have less access to specialist services than those in the highest income quintile without chronic illness (2005). The obvious conclusion is that those in Australia who could benefit from speciality intervention to decrease their illness exacerbations do not have access to specialists.

Australian governments have demonstrated at times[5] a desire to ensure health equity and access but have not embraced health as a human right. Although Australia is a signatory to the human rights charter it does not ensure health as a 'legal' human right and is the only OECD liberal democratic country that fails to do so (Reid 2004; London 2008). The concept of health equity is not only a denotative ethical ideal in the foundation of the WHO (Braveman 2004; Kelly et al. 2006; Solar & Irwin 2007) but also in the introduction of the National Health Scheme in Britain in 1945, and in the introduction of Medicare in 1984 in Australia (Palmer 2002) as an explicit ethical ideal. Health equity aims to address the structurally produced unfair distribution of health that infringes on the concept of health as a human right. Whilst Medicare was founded on the ideal of equitable health access it does not enshrine health as a human right and as such leaves the Medicare ideal vulnerable to government discretion and tampering. As mentioned earlier the introduction of gap fees by some GPs has undermined universal access to primary health care for some Australians.

Health inequities are socially produced differences which are unfair, unjust and

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[5] The introduction of Medicare in the 1980s was a partial step towards health as a human right (Palmer 2002; Reid 2004)

unevenly distributed across a population (Braveman 2004; Baum 2005; Solar & Irwin 2007; Whitehead & Popay 2010). Health inequalities arise from health inequities. Inequalities in health affect people's capacity to function and participate within a community and are directly constitutive of a person's wellbeing (Solar & Irwin 2007). Thus, health is a special requirement and forms the foundation of other aspects of a person's life including their ability to interact and participate in society, their capacity to work and provide for their material wants, or to care for their families. Therefore, a lack of health impinges on more than ill health or the individual.

To ensure health as a human right would aid in the allocation of health resources and services to those with limited health access to both promote and enhance health (Lie 2004). Accordingly, this enables the concept of health as a human right to facilitate the health of marginalised communities and improve their health outcomes (Kelly et al. 2006; Solar & Irwin 2007). Furthermore, sovereign states that fail to ensure health as a human right renege in their obligation to protect their citizens and uphold their mutual obligation towards their citizens (Bernstein 2007). An omission to secure health as a human right not only fails to change a health system which is unfairly distributed but constitutes societal actions which could be described as 'ethically and morally indefensible' (Solar & Irwin 2007). It also fails to exercise state legitimacy to protect its citizens (Solar & Irwin 2007; Bernstein 2007). Thus, by embracing the ideal of health as a human right and ensuring this right through both policy and legal mechanisms enables governments and societies to address health inequities and to engage with oppressed and marginalised communities in productive health promoting projects (Lie 2004; Kelly et al. 2006; Solar & Irwin 2007; Whitehead & Popay 2010). The notion of human rights provides nations with a standard for minimum action on health and a means of guiding policy to address health inequities.

Conclusion

The arguments presented expound the need for a broader socio-political approach to health that encompasses a more empowering role for the community and individuals and addresses the issues of access and inclusion in the use of health services. Health is not well served by an 'either or' model but rather a model that recognises the needs of communities that are diverse and that go beyond the mere recognition of injury and disease. The incorporation of community and the socio-political context of health would widen responsibility for provision of health and empower service providers to highlight and address inadequacies with government support from within the community being served. The use of human rights concepts to explore health is one way of achieving this aim and highlights health as a unique value deserving of equitable management by nations. Further, the exploration of SDH and their mediation of health is another avenue that can provide the means to address health equity. The SDH, and the ways in which these may be categorised, can assist in researching into the causes of ill health. Chapter two's synopsis will classify the SDH according to the divisions suggested by the World Health Organisation. Chapter three will assess the different conceptual aspects of: health access, family health access and the use of emergency department services for the provision of primary health care. Chapter four will provide the rationale for the methodology choices used to ascertain the causal pathways and interactions among the SDH.

CHAPTER 2

Introduction

In the previous chapter I asserted that social factors were a major determinant of health for individuals and populations. In this chapter these social factors are identified and their impact on health status analysed. Interventions that address power and socio-political structures are needed to improve equity and minimise the impact of the SDH. The previous chapter identified those aspects of health models and service provision that are thought to shape health access specific to individuals as well as factors broader than individual health behaviours which then impact on health outcomes. The social model of health broadens the health paradigm beyond both the biomedical, biopsychological and biopsychosocial model to examine the influences on health that result from social circumstances outside the individual's control. The social characteristics of health have formed the basis of the SDH and are the catalyst for the placing of health on the political agenda.

In chapter one I argued that health was a human right. By identifying health as a human right I contended that this provided the impetus for health to be seen, in part, as the responsibility of government and within the jurisdiction of governments to seek ways to address the SDH using structural and political changes. This places health on the government policy agenda and ensures that health outcomes are a result of interactions between the individual, community and the political system. Health as a human right also acknowledges health as a fundamental requirement for human functioning and participation within a society. Health as a human right provides support for the incorporation of the SDH into the definition of health and supports government mechanisms that improve health outcomes for citizens.

This chapter outlines a conceptual framework for understanding the impact of the SDH and also the context in which the SDH are situated drawing on work done by the World Health Organisation (WHO) (Solar & Irwin 2007). WHO researchers Solar and Irwin (2007) divide the SDH into two groups; those that are structurally determined or 'upstream' from the individual and those which are intermediary or ‘downstream’ thus nearer to the individual. The two categories are helpful in explaining which determinants of health are influenced by governments and the socio-political constructs (structural) of a society and those that are influenced by an individual’s circumstance (intermediary).

The significance of the social determinants of health (SDH)

The concepts that define the SDH allow research into the structural and intermediary influences on health outcomes. The SDH are significant as these concepts provide a means of understanding differences in health outcomes for different population groups (Hetzel, Page, Glover & Tennant 2004; Marmot & Wilkinson 2006; Solar & Irwin 2007; Chaves & Vieira-de-Silva 2008). Further, the SDH represent discrete aspects of health inequalities and inequities that may be researched (Marmot & Wilkinson 2006; Solar & Irwin 2007). The SDH define the socio-political and power structures in a society by establishing a framework for theorisation that enables social change (Gilson, Doherty, Loewenson & Francis 2007; Solar & Irwin 2007). The structural and intermediary categories of the SDH provide an accessible framework for exploring differences in health.

The structural social determinants of health

The structural SDH are aspects of society that reinforce inequities in health, and the social and political policies and practices that determine: discrimination practices, public housing, educational access, taxation, and broader aspects such as the welfare state, universal health care, and neo-liberalist ideological practices such as market driven health care (Solar & Irwin 2007). Health is influenced by socio-political (structural) aspects of the SDH and intermediary or individual circumstances.

The societal institutions and constructs which are enforced and maintained by socio-political ideologies (values and beliefs) and are reinforced by social stratification influence the structural SDH. The socio-political values and beliefs consist of a broad set of organisational, cultural, and functional aspects of a social system which impact on an individual by means of enhancing or denying access to life chances arising from income, housing, health, education, and employment type. The structural SDH shape an individual’s health outcomes in two ways. The individual’s place in the social system determines their access to education, income and other opportunities and that, in turn, influences their access to health information and services. For example, Australian disability welfare provision requires 'mutual obligation'[6] from disability recipients yet disability services compete for funding thus minimising the equipment and supports available for people with disabilities and limiting their capacity to participate and meet their 'mutual obligations' (Saunders 2008). This simultaneously diminishes the services provided and the recipient's productivity and their income. Their poverty in turn impacts on their access to health and support services. This catch 22 situation is structurally designed through the ideology of 'mutual obligation'.

Structural SDH result in social inequities[7]

Health inequities arise from the way in which the structural SDH are stratified within a society. Whitehead (2003) describes health inequities as measurable differences in health experience and health outcomes between disparate population groups – divided according into socioeconomic status, geographical area, age, disability, gender or ethnicity (Graham 2004; Kelly et al. 2006). Whitehead (2003) suggests that these distinct variations result in unequal life chances, limited access to health services and nutritious food, inadequate housing and education. Inequity is about objective differences between groups and individuals which are measurable through the differing mortality and morbidity rates (Kelly et al. 2006), not individual characteristics or individual fecklessness. The structure of a society and its corresponding differences in the structural SDH creates social inequities.

SDH as a form of social stratification

To understand the structural SDH it is important to first define social stratification (Solar & Irwin 2007). Social stratification is the divisions in a society between different groups based on income or socioeconomic position often determined

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[6] The Howard government in 2003 introduced 'mutual obligation' for people receiving a Disability Support Pension. This change required people with disability to attend employment training and enter the work force. It also removed them from the DSP and provided them with a lesser income entitlement of unemployment benefit (Saunders 2008).

[7] Consistency in the use of the terminology and concepts of health inequalities is difficult as different authors use a variety of terms and concepts in numerous ways (Leon, Walt & Gilson 2001; Lie 2004; Solar & Irwin 2007). This may result in difficulties in comparing research and results across disciplines and countries. Clarity in consistently defining the terms is necessary to ensure the variables being explored are distinct entities. This is highlighted here to reassure the reader that where possible only similar concepts have been compared and differences in abstraction and terminology will be pointed out when they occur.

through race, ethnicity, education, gender, occupation or religion (Brunner & Marmot 2006; Poole & Germov 2007; Solar & Irwin 2007). These factors may generate social divisions in society. Social stratification is important as a measure as it is sensitive to whichever intermediary and/or structural indicator of socioeconomic position is employed (Solar & Irwin 2007; Mikkonen & Raphael 2010). For example, the Whitehall studies illustrated that even though all groups studied were in paid employment and were not poor, there were marked differences in illness levels and mortality. Those in lower positions in the civil service hierarchy were more likely to be ill than those in higher positions (Wilkinson & Pickett 2005). This pattern is also seen in South Australia with a 68% increase in social inequality generally predominately occurring in the most disadvantaged income quintile for years 2005-2006, and a 61.8% increase in social inequality for unskilled and semi skilled workers for the same time period (Glover et al. 2006). Differences in health cannot be explained by income alone, but is thought to be an outcome of social position and social inequality (Wilkinson & Pickett 2005; Glover et al. 2006). Social stratification places an individual within a social power structure that is determined by a range of factors. Income is but one factor; others include status, gender, position in the organisation, or control over work.

In an effort to understand and identify ways in which the SDH operate some theorists have provided an overarching view of the SDH. Dahlgren and Whitehead in the Acheson Report (1998) have provided a summary of influences outlined in the diagram in figure 2.1. This model of health describes three levels of influence on health and the interactions between different aspects of society and community that converge towards the individual. The model divides the influences on health into five layers which are placed into three broader categories. In the model ‘general socioeconomic, cultural and environmental conditions’ and the ‘living and working conditions’ form the Macro level, the ‘social and community networks’ constitute the Meso level and the ‘individual lifestyle factors’ and personal biological factors form the Micro level. This diagram provides a summary view of the determinants of health and has been identified by more recent theorists such as Diderichsen, Evans and Whitehead (2001), Solar and Irwin (2005), Mikkonen and Raphael (2010), and used by Krieger, Chen, Coull and Selby (2005) to provide an understanding of the influences on health from the broader ecosocial perspective.

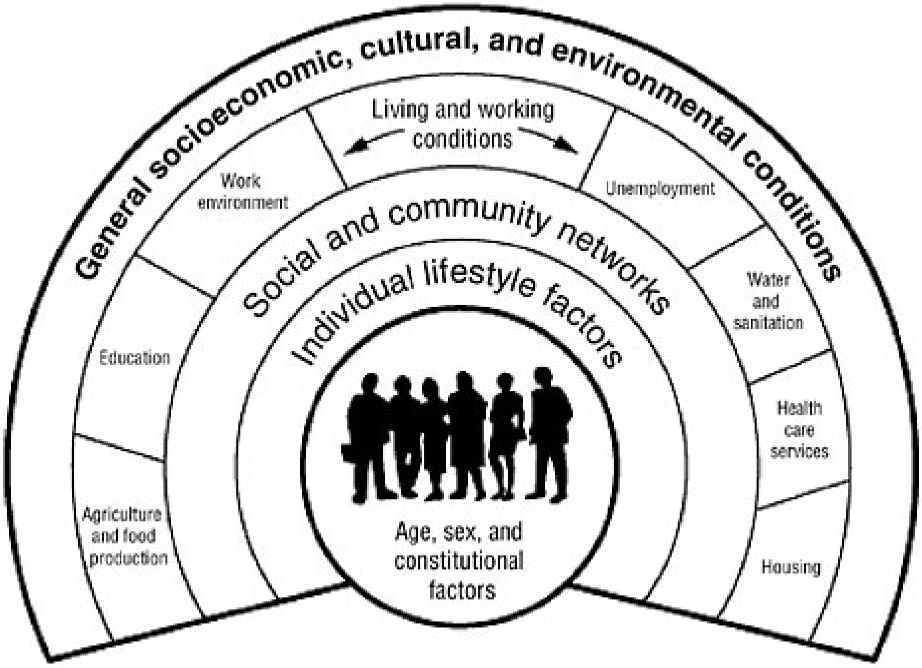

Figure 2.1 Determinants of health (Dahlgren & Whitehead 1991)

Dahlgren and Whitehead (1991) outline areas of influence on health that need to be taken into consideration when identifying factors for investigation. The model moves from the societal and cultural through to an individual's age, gender and biological factors which mediate individuals' capacity to deal with or influence the broader impacts on their health created by the environmental, socioeconomic and cultural conditions. The three levels within the model, the Macro, Meso and Micro require different intervention strategies which target governments, communities or individuals (Kelly et al. 2006; Solar & Irwin 2007; Mikkonen & Raphael 2010). The Macro level represents the structural determinants of health which are distal factors – upstream from the individual. The model underscores the causal hierarchy of the SDH involved in producing health inequities. The structural stratification mechanism is joined to, and influenced by, institutions and processes that are embedded in the socioeconomic and political context. To counter the influence of the structural SDH, policies such as redistributive taxation, as for example, used in the welfare state may minimise the variables which form the structural SDH and actuate health inequities (Solar & Irwin 2007; Mikkonen & Raphael 2010). Importantly, in this model, the response of individuals at the micro level arises from factors at the Macro and Meso level, not from personality traits within the individual. The components emanating from the wider social factors are mediated by power.

Power factors mediating health

The SDH do not occur in a vacuum but are characterised by the way power operates in any given society. The SDH are a product of factors such as public and social policies, forms of governance, and society and cultural values. These policies and cultural values are maintained because they serve the interests of particular powerful groups. Various groups are able to promote and maintain their interests because of their access to power. How this power is used impacts on the SDH in either positive or negative ways for the population. Understanding how power operates within a society has produced a range of theoretical explanations. All these theoretical positions attempt to explain access to resources. They include neo-Marxist, neo-Weberian, Foucauldian, Feminist and more recently micro theories of power proposed by theorists such as Giddens and Young. Understanding power is important as it highlights how existing structures, socially and politically, may influence health outcomes. Power distribution determines social structure, stratification and hierarchies which in turn, influence health. Thus, power is crucial in the development of health inequities (Solar & Irwin 2007). Further, as these discussions on power attempt to unravel the inequitable within social and political structures of a society, the discussions remain controversial and contested and thus, often ignored (Solar & Irwin 2007). The following discussion of the theoretical positions is by no means exhaustive. The theorists chosen were selected as they assist in the analysis of the SDH.

Theoretical discussions of power

Karl Marx, Neo Marxism: Class and economics

Neo Marxist theories of power are based on a division of labour between those who own the means of production (bourgeoisie) and who have access to money and property and those who have only their labour to sell (working class) (Edgell 1993). This division of labour exploits the working or non-professional class in two ways: firstly, through the production process whereby the professional and managerial classes and owners of capital determine the workload and productive levels that will maximise profit. This is achieved through the cheapening of labour costs, maintaining high productive levels, controlling the workforce and maximising the automation of production (Young 1990). Where the relations of power are weighted more heavily with the capitalist and managerial classes the capacity of labour to bargain for just wages is undermined. Secondly, the higher income of the bourgeoisie and professional groups maintains their social power and social standing and thus their cultural value even though their productivity may be less than the labour class (Young 1990). The consequence of this is to reinforce the process as normative in capitalist societies and not be open to negotiation or scrutiny (Young 1990).

Neo Marxist theory suggests that a high level of unemployment also undermines the bargaining power of the working class (Korpi 2003) which in turn exposes them to increased ill health. For example, high levels of unemployment maintain a downward pressure on wages and decrease labour costs. If a government chooses to follow a neo-liberal market philosophy, at the expense of the welfare state, the lower paid are at risk of poorer health through the social and political policies in place. This might include having to pay for health care regardless of income or losing access to injury benefits. For example, the US has an insurance based, and a work entitled health care system that means many self-employed and unemployed people do not have insurance but must self fund their health care. Conversely, the Australian health care system is universal and financed through a tax levy based on earnings, the Medicare Levy. The Australian health system protects its citizens from exorbitant health charges which may be catastrophic for a family (Chernichovsky 2006). The impact of these policies on the SDH is evident in the life expectancy rates between the USA and Australia. Life expectancy in the US is 79.9 years for females and 74.5 years of males. In Australia, life expectancy is 86.1 years and 82.5 years respectively (Chernichovsky 2006; AIHW 2008). In addition, there are no family bankruptcies in Australia due to medical expenses (Chernichovsky 2006).

Max Weber: Class status political affiliations

Weberian theory goes beyond Marxist theories of class, based on ownership of the means of production, to incorporate power derived from class, status and political affiliations. Weber like Marx, saw class as economically based but went further to broaden out his definition of class to include income derived not just from property, but also from education or position. Weber also argued that power incorporated the aspects of status and the political affiliations of an individual so as to influence their person and their position. Status power derives from the prestige associated with occupation, race, ethnicity, gender or position in an organisation. Power derived from political affiliation comes from membership of organisations that are connected to decision makers. Weber's framework allows analysis of various forms of stratification, such as gender, race and ethnicity. For example, the Australian health system is manipulated by key political groups within society; their level of influence is determined by their status, class and political affiliations. An example is the Australian Medical Association (AMA) which represents doctors and their interests. Any challenge to the position of doctors within the Australian health care system is undermined by the AMA. This ensures the power and income base of the doctors is protected. For example, attempts by nurses to expand their role into nurse practitioners, including access to Medicare provider numbers and prescription rights in order to provide health care to people in rural and remote regions is systematically blocked by the AMA (Kearney 2008).

The placement of an individual within a social hierarchy depends on how society is constructed and where that individual is situated within that society and the measures used to assess social worth. For example, in Australian society, a doctor would have more access to social and political power than cleaners through their professional associations such as the AMA, and their social position mediates how society values them. In this exemplar both income and access to power are limited by position, however, other occupations, although of high remuneration, have low prestige, such as car salesperson (Stilwell 1993).

Social prestige and the access to power determine one's social position and access to opportunities including health, education, income and employment (Solar & Irwin 2007). Furthermore, the access to power and prestige may have a strong influence on an individual's perception of their position and worth in relation to others in the society. This comparison may produce feelings of inadequacy and stress (Brunner & Marmot 2006) which in turn may impact on health. According to Solar and Irwin (2007) the major variables which mediate social stratification are income, education, social class, gender, race/ethnicity and occupation and these may create further health inequities.[8]

Michel Foucault: Knowledge/power

Both Neo Marxist and Neo Weberian theories of power take a structural approach. More recent theoretical accounts, such as those proposed by Foucault situate power in knowledge. This approach moves away from a strict structural and hierarchical approach to one where power is fluid. Those in positions of power at any one time have knowledge and the ability to use this knowledge to control the actions of others. One of the ways in which knowledge is obtained and power is exerted is via observation. Knowledge derived through monitoring in the health system is used to control. Examples of this form of control include: hierarchical observation, normalising judgements and examination. Power derived from hierarchical observation is accomplished by observing people in order to perform acts upon them; for example, nurses record and document patients' symptoms. Doctors repeat these observations and order a series of more complicated or technically advanced tests (Gerhardt 1989; Freund et al 2003; Nicholson & Jongen 2008) this may be interpreted as an assertion of the doctor's power over the nurse and the patient. Normalising judgements entail using the data collected and enacting laws and making medical diagnosis that determine what is 'normal', and behaviour and illnesses that are 'abnormal', and treating those suffering these aliments accordingly. The third form, examination, is the process of maintaining control using both hierarchical observation and normalising judgement; for example as occurs when examining patients (Poole & Germov 2007; Solar & Irwin 2007). This is the combination of the first two aspects of surveillance, that according to Foucault, reinforces and upholds the power of specific groups in society. Thus access to health is mediated by the determinations of 'what' constitutes an illness, intervention, and treatment, and 'who' will treat the condition and any charges incurred.

Anthony Giddens: Power to and power over

Giddens analysis of social organisation explores the concept of power used in mobilising resources through administration and allocation. This in turn is supported

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[8] When investigating health inequities it is important to note that they are unfair and unjust and socially produced, but not all variants in health for populations within a country are due to the SDH for example, differences in rates of prostate cancer between males and females are a consequence of being male rather than inequity as women do not have prostates (Braveman 2004). However, differences in health due directly to gender preferences such as the differing immunisations rates between boys and girls which are the results of the preference to immunise male children are an inequity in health (Braveman 2004). These inequities may be studied via the SDH.

by surveillance in order to ‘accumulate, store and retrieve information, and develop primacy of authority’ (Giddens 1987, p. 154). The ability of a group or individual to navigate the collective power of this surveillance depends on their social standing and place within the social hierarchy.

Giddens offers another concept of power which he refers to as ‘power to’. This is the ability of an individual to function so as to change or influence specific events to produce different outcomes in their own interests (Giddens 1987; Solar & Irwin 2007, p. 16). From this perspective it is clear that in modern societies the oppressed and dominated often have little means to change and manipulate their life circumstances. They have little ‘power to’ act in their own interests. For example, in USA and Australia, research suggests that supermarkets and shops in poorer neighbourhoods provide less fresh food and at higher prices, and stock more lines of junk food than in richer neighbourhoods (Connelly 2002a; O’Dwyer & Coveney 2006; Jennings & O’Dea 2008; Palermo, Walker, Hill & McDonald 2008). In this example, the consumer has very little power to change the supply or quality of food provided in their neighbourhood. Despite the consumers being a numerically large group, lobbying of governments does not change this phenomenon as the food industry is more powerful. This suggests that some population groups lack the capacity to appreciate how they might use their collective power to change the situation. It also demonstrates the influence of structural oppression through the manipulation of mass media, economic, political and cultural institutions used by the powerful to maintain their interests regardless of the health consequences, costs to the populous and costs to governments (Young 1992; Solar & Irwin 2007).

Feminist theories of power

Feminism arose from the inability of past social theories to critique aspects of society that oppress women and other minority groups such as homosexual people and specific ethnic groups (Young 1990; Poole & Germov 2007). Feminism is described by Poole and Germov (2007, p. 55) as:

> A broad social, political and intellectual movement that seeks to explain and address all forms of social inequality and discrimination experienced by women.

Feminist theory originates from a variety of disciplines including anthropology, sociology, law, economics and psychology, and provides critiques on aspects of social life that affect women (Allen 2005). Theoretical variants have included Marxist, liberal, critical and psychoanalytic feminism as well as feminist theories linked to the disciplines. Examples include geography, literary criticism and philosophy. Variants of feminism are also associated with cultural and racial groups; for example, black feminism (Allen 2005). Given the diversity of theoretical backgrounds and fields of study feminists are a heterogeneous group. Feminism explores power as a political entity by linking the culturally or socially produced ideas regarding a woman's subordination and exclusion arising from economic, intellectual, social, sexual and political equality in society, with the structures of power that organise society.

Through the emphasis on gender differences in power, feminists have provided a large variety of interpretations of power relations. Allen (2005, p. 1) states that feminists conceptualise power in three ways: 'as a resource to be distributed, as domination, and as empowerment for both the individual and women collectively'. However, when power is conceptualised as domination it may be defined by some feminist theorists as four modalities: 'power over, the ability to influence or coerce; power to, the capacity to organise and change existing hierarchies; power with, the accomplishment of power through collective action; power within, the power that derives from individual consciousness' (Allen 2005; Solar & Irwin 2007, p. 17). Whilst feminist theory is fundamentally concerned with the subordination of women it provides useful concepts and implications for understanding the suppression of minority groups and the use of power by dominant groups. By exploring the differing notions of power, and who or what determines the use of power, a broader picture of the influences on health may be ascertained.

Some feminists maintain that knowledge within a society is determined by power, evident by what knowledge is privileged (Luttrell et al 2007). For example, how illness and disease are defined, or what constitutes 'normalness', are influenced by knowledge which impacts on funding in health care (Luttrell et al 2007). The presumption, for example, in health that 'maleness' is normal is somewhat evident in contemporary practice of only including males in drug trials and basic treatments where drug dosages are based on male bodies (Gerhardt 1989; Freund et al. 2003; Luttrell et al 2007). This has limited the funding for research into women's problems

(Freund et al. 2003).The biomedical model was founded on the assumption of ‘maleness’ being normal and the femaleness being aberrant (Freund et al. 2003) and the funding has followed this paradigm.

Therefore, financial support follows biomedical and maleness constructs, and as the funding of health is determined by the power of interest groups to set the agenda, the ability to influence and change existing hierarchies either enhances or inhibits the power of particular groups and their health outcomes. The power, knowledge and dominance of the biomedical model determines where money is directed and towards which health interventions. This may prevent alternative views of health care and health provision from being explored or enacted and constrain the health of particular population groups.

These discussions of power support the following discussion regarding the impacts of income, education, prestige and social stratification on health. Further, each of these areas are categories of differing health outcomes highlighted by the SDH and thus influenced by power. Additionally, understanding the structural and socially constructed aspects of power and its manipulation of the SDH is important in addressing health inequities and changing health provision. Therefore, a robust deliberation on power and its expression in health is important.

Iris Marion Young’s views of power

Young views power as a ‘relative’ concept by explaining power usage in relationships in the broader social, state, institutional and structural aspects of societal organisation (Young 1990; Allen 2005). In her view power is dispersed through society and its use defined by the relationship and the modes used to perpetuate the domination (Young 1990; Allen 2005). This is contrary to power explained as a possession (Young 1990). This notion describes power as a force to be distributed and lack of power is addressed through redistribution (Young 1990; Allen 2005). Young describes power in relation to domination and its expression through oppression (Young 1990; Allen 2005). Young (1990) also asserts this contemporary view of power is more applicable in industrialised western societies which try to obscure the use of power and provide false equality.

This view of power and oppression recognises that burdened groups are heterogeneous both in composition and the manner in which the oppression operates (Young 1990). For example, polices guiding health provision espouse the concepts of heterogeneous cultural inclusion and yet rarely state how this will be achieved (Grant, Guerin & Parry 2011; Guerin, Grant & Parry 2011). However, there is consistency in the outcomes for these groups as all have a socio-political control restricting the development of capacities, abilities, needs, thoughts, and feelings (Young 1990). For example, the provision of health services that are culturally inappropriate limits access (Grant, Guerin & Parry 2011; Guerin, Grant & Parry 2011). This situates the use of power as a social structural concept reflected in the 'economic, political and cultural institutions' (Young 1990, p. 41) that confines access to health, education, services, and government support.

Overtness and covertness of power

Recent discussions on power by Young have outlined the modern use of overtness and covertness to express power (Young 1992). This expression of power highlights the subtle nature of its use in some instances and its obvious use at other times. For example, single parents are required to explicitly inform the Commonwealth government about their sexual relationships before they can receive parenting payments (Young 1990; Reese 2005). This targeted benefit highlights the power of the department in vetting acceptability for income support. This scrutiny is supported by the general public when those deemed to be rorting the system, 'welfare cheat', numbers, are released to the media (Vanstone 2003; Australian Associated Press 2006). Accordingly, the overt use of power may create oppression.

Young (1990 & 1992) divides power into five forms that she refers to as the five faces of oppression. These are: i) exploitation; this refers to the transfer of benefits from one social group to another, for example, capitalism and men benefit from women's unpaid work such as child care; ii) marginalisation; this is the exclusion of one social group from participation in society; iii) powerlessness; this refers to situations where those who are excluded from the decision making process are required to take orders from those in power or put the decisions of the powerful into action; iv) cultural imperialism; this occurs where the mass media represent only the dominant perspective through stereotyping oppressed groups to the point where they are invisible and yet also scrutinised and their faults magnified; v) violence; this occurs where the oppressed groups are humiliated or physically abused. This violence is tolerated by the dominant group logic and legitimised through cultural imperialism, such as racist or homophobic violence (Young 1990, 1992). These five faces of power oppression pre-empt the concerns of the excluded minorities and diffuse or nullify discussion. Discussion is thwarted in order to maintain the status quo and assert the interests of the powerful to reinforce their power base and protect their interests. These characteristics of power are expanded below.

Exploitation

Exploitation is defined by Young (1990 & 1992) as the transfer of benefits from one group for the advancement of another group that results in a deficit to the exploited group. The process of oppression occurs as a result of this transfer when the powerful group, gains an unequal benefit at the cost of the exploited group. This situation may be reinforced structurally by the social processes that maintain the powerful and promote the transfer and the subsequent exploitation of groups. The example used above of nurses and midwives being denied the ability to determine their own practice through Nurse Practitioners[9] roles and the allocation of Medicare Provider numbers.

Furthermore, this exploitative use of power is supported by governments (Young 1990) who are the main employers of nurses and midwives (Toffoli & Henderson 2009) and have not encouraged the development of the nurse practitioner role despite the recommendations of the Productivity Commission (2005). In Australia doctors are private practitioners charging a fee for service where as nurses remain employees with limited practice and income. This exploitation will remain whilst structural, institutional and relational practices support the unequal transfer of benefit, income and decision making from nurses to doctors.

Marginalisation

According to Young (1992) marginalisation refers to the people that the labour

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[9] A Nurse Practitioner is a fully qualified RN with a minimum of 5 years clinical experience in their chosen specialty area and usually a Masters degree in nursing (Usher K, 2009, Chair Council of Deans of Nursing and Midwifery Australia and New Zealand).

systems will not, or do not use. Young asserts:

> There is a growing underclass of people, globally, permanently confined to lives of social marginality, most of whom are racially marked – Blacks or Indians in Latin America, and Blacks, East Indians and Eastern Europeans or North Africans in Europe (1992 p. 53).

The elderly, single parents, the mentally ill, the physically disabled and other stigmatised groups are members of society at risk of being excluded from the labour market as a result of perceptions regarding their capacities. Marginalisation is evident when Indigenous people earn less in the same occupation or work as non-Indigenous persons for example; Indigenous managers earn only 81% of the income of non-Indigenous managers (AHRC 2006). Unemployment rates of Indigenous people at 20% of the population are three times higher than the non-Indigenous population (AHRC 2006). Table 2.1 compares the unemployment by region across Australia.

Table 2.1 Unemployment of Indigenous peoples vs Non-Indigenous peoples by remoteness

Area	Indigenous peoples	Non-Indigenous peoples
Major cities	20.1%	6.9%
Inner regional	25.0%	8.1%
Outer regional	23.1%	7.4%
Remote	19.2%	4.9%
Very remote	8.3%	3.5%

Table from AHRC 2006

Table 2.1 illustrates the large discrepancy between unemployment rates of Indigenous and Non-Indigenous Australians (AHRC 2006). The marginalisation caused by unemployment impacts on health outcomes. Young (1992) believes marginalisation is increasing and is the most dangerous form of oppression as it obstructs participation in society, access to material assets and connection between people and their society. By excluding particular populations from productive activities marginalisation minimises their access to social cooperation and consumption and access to services such as health.

Further, marginalisation causes not only material deprivation that is not addressed through redistributive social practice or explained through distributive theory, but also personal and social marginalisation, through the structural processes of the bureaucratic institutions that provide social support (Young 1990). Those receiving benefits incur punitive, condescending, and subjective treatment in order to receive assistance (Young 1990). For example, those receiving benefits apart from providing warranted information such as income, assets and age also need to provide information on residential relationship arrangements, previous study, level of study, and intended study (Centrelink 2011). Whilst the collection of this information may seem warranted for the targeting of benefits the general public would not endure this level of scrutiny for the acquisition of employment.

Powerlessness

Contemporary societies maintain the distinctions of power present in class and professional status (Young 1992). Powerlessness exists where people are disadvantaged by their lack of professional and class status. The toil of the majority still benefits the few (Young 1992). Professional membership affords benefits in task assignment and decision making within hierarchical workplace structures which support and maintain their power of some over others (Young 1992). The majority of citizens provide the labour and implement the decisions of the professionals and powerful which further enhances their power (Young 1992). Furthermore, the policies and bureaucracies that regulate citizens maintain and reinforce these power structures through the categorisation of people into professional and non-professional groups (Young 1990). This state of powerlessness is designated by position and non-professional employment that affords little opportunity for autonomy, creativity or judgment for the majority of people as the designated tasks for non-professionals are presumed to require no technical expertise or authority (Young 1990).

The powerless bear the consequence of their class, position and work as determined by the professional and powerful who plan, organise and delegate the workload. Evidence of this may be seen in the Whitehall studies and the longitudinal studies of Scottish men where those in lower paid and lower status positions within the UK have higher levels of ill health, despite their incomes being considered adequate for maintaining health (MacLeod, Davey Smith, Metcalfe & Hart 2005; Marmot, Siegrist & Theorell 2006). It is not poverty that results in illness for these population groups, but powerlessness linked to their position in the workplace hierarchy

(MacLeod et al. 2005; Marmot, Siegrist & Theorell 2006).

Cultural imperialism

Cultural imperialism is experienced by those who are rendered invisible by the dominant culture through stereotyping (Young 1992). The dominant culture interprets all other experiences as different or nonexistent by presenting its' experiences, values, goals and achievements as the norm. This privileging of one culture advantages its members who consider themselves and their culture as the standard by which all other cultures are judged (Young 1990). Minorities or other cultures are positioned as different and thus deviant and/or inferior to the dominant culture. The consequence is the stereotyping of 'others' (Young 1992). The minority group's behaviour, culture and norms undergo a paradoxical experience of being ignored as they are deemed inferior and simultaneously scrutinised for deviancy as the dominant culture imposes its' assessments and its' experiences, values and social characteristics on the oppressed group (Young 1990). Consequently, societal institutions are constructed in a manner which reinforces needs as determined by the dominant group.

Institutional discrimination reflects cultural imperialism and is present in how the religious, cultural or political beliefs of others, portrayed as being at odds with being a 'good' Australian (Sweet 2007). The tendency to fail to acknowledge discrimination and cultural imperialism may attribute structural inadequacies in addressing such practices as individual or ethnic group flaws. This failure to admit to these practices permits the broader social and access barriers to continue (Young 1990; Sweet 2007). For example, Sweet (2007, p. 6) explains:

> A lack of culturally and linguistically trained people reduces the use of the health system … It is one of the reasons Indigenous Australians are more likely to present when they are acutely ill, rather than having preventive or primary care treatment earlier … 'institutional racism' means that health policy and services systematically fail to meet the needs of Indigenous Australians.

This exemplar highlights that structural processes and institutions may exclude those marked as other from even the basic requirements needed to protect their health.

Health and cultural imperialism is linked with poorer health outcomes for the burdened groups. For example, Indigenous Australians report rates of discrimination at twice that of non-Indigenous Australians and the stress of discrimination has been linked to higher rates of smoking, substance abuse, diabetes, heart disease, cancer, and poorer self-assessed health ratings (Paradies 2007). Despite the higher rates of heart disease there is evidence that supports the claims that hospital services do not provide the same quality of care to Indigenous patients and systematic racism is believed responsible (AMA 2007; Paradies 2007).

Violence

Violence is the systemic and validated oppression of a person due to their membership of a particular group. Members of the group live in fear of unprovoked personal attacks on their person or property with the explicit motive to humiliate, damage or destroy the person (Young 1990, 1992). The injustice and oppression of this violence is its acceptance by the broader community (Young 1992). The members of the oppressed group live in daily fear and anxiety and are deprived of the freedom and dignity afforded most other members of the society. This stifles the oppressed group as energy that could be used creatively and productively is funnelled into fear, anxiety, and protective behaviours (Young 1992).

An example of structurally condoned violence is evident in the lack of policy responding to cultural diversity in local councils in Victoria with only 23 of the 68 councils having multicultural policies (Ferguson 2007). Further, some councils are unaware of the culture diversity in the council area (Ferguson 2007). This lack of local government recognition supports cultural blindness and reinforces cultural imperialism. Almost one in four Australians are born overseas and are subjected to higher levels of verbal abuse and physical violence than those born in Australia (Sweet 2007). According to Sweet (2007) this violence, harassment and discrimination results in 70% of people born overseas who are exposed, needing to take time off work to deal with the consequences.

Summary of Young’s theory of oppression

Whilst exploitation, marginalisation and powerlessness refer to structural and institutional oppression that occurs through the relationship between the divisions of labour (Young 1990, 1992) involving who works for whom, who does not work and what work they do, cultural imperialism and violence differ as these concepts are the expression of social and culture allocations that mark one out as *other*. Cultural imperialism has the potential to promote fear and abuse of the other rendering those oppressed, excluded and intimidated, and unable to enjoy many aspects of social participation within a society (Young 1990, 1992).

These categories are not mutually exclusive but rather form a basis for understanding the structural and cultural processes that support and promote power and oppression in a society (Young 1990, 1992). Young argues these divisions and categorisation of oppression avoid the over-simplification of power found in the classical theories of power such as Marxism and Weberian explanations (Young 1990). For example Marxism reduces all oppression to class relations without the specific acknowledgement of aspects of ethnic or gender oppression (Young 1990) while Weberian accounts illustrate the forms of power, but not the forms of oppressions. Further, over-simplification of the structural or cultural determinants of power avoids strenuous debate and fails to provide a vehicle for dealing with the numerous characteristics of power and oppression in societies (Young 1992).

Power: implications for population health

It is crucial when studying levels of population health and health interventions that power factors are taken into account or incorporated into programs or interventions that attempt to address a group's social circumstances. Health programs and interventions that focus on the individual's capacity to change their health whilst ignoring the social realities of power deny the influence social, political and economic conditions have on maintaining illness and disease (Connelly 2002b).

Furthermore, discussions on power, power distribution, power sharing and collective action of the repressed and excluded groups, provides a vehicle for addressing the SDH from a theoretical and societal view point with the awareness of the structural, social and political inequities that require change in order to address health inequities. Discussions on power are also complementary and consistent with the notion of health as a human right and the role and responsibilities of the state in the provision of health care (Lie 2004; Solar & Irwin 2007). Furthermore the *othering* of individuals and groups potentially can deny appropriate and timely access to health care (Johnson, Borrorff, Browne, Grewal, Hilton & Clarke 2004).

The structural social determinants of health

In the next section of this chapter each of the major variables that make up a specific structural determinant of the many SDH are discussed. Those factors used to measure the structural features of the aspects of social stratification including income, education, and occupations are outlined. Variables such as income and education are the social outcomes of the stratification processes, while occupation serves as an agent for social stratification. Occupation is a marker of social power. For example, when comparing a manager to a cleaner, we make assumptions about their levels of education and income which may or may not be valid but influence how we see them, how they see themselves, and what level of influence is attributed to them. Each of the social determinants of health is outlined below.

Income

Income is a commonly used indicator of socioeconomic position as it consistently and directly measures the amount of money available to an individual and family for the purchase of goods and services. Income has a direct positive lineal relationship with health since generally, as income improves, health improves. Correspondingly, if income decreases health decreases. For example those in the lowest income quintile in South Australia have higher rates of illness than those in the highest income quintile and the gap is increasing (Glover et al. 2006). This is evident in the recent rise in premature death which has increased by 46.1% in the last ten years with those in the lowest income quintile 1.8 times more likely to die prematurely (Glover et al. 2006). Further, obesity in children occurs in 6% of the population in the most disadvantaged areas in South Australia compared to 4% in the highest income quintile areas (Glover et al. 2006).

Additionally, income determines the amount of material wealth available to individuals and families. It also shapes the amount of access to health care available to the children. For instance, adult health outcomes begin in childhood so that income has a cumulative effect over the lifespan (Schoon, Sacker & Bartley 2003; Blane 2006; Raphael 2006). The trajectory between childhood adversity caused by poverty and ill health, educational and social outcomes is clear with those children exposed to low incomes in childhood fairing poorer over their lifespan than those from richer families over a variety of health measures (Graham & Power 2004; Blane 2006; Wadsworth & Butterworth 2006; Centre for Community Child Health and Telethon Institute for Child Health Research 2009; Raphael 2009). In the fifteen years prior to 2005, in South Australia there was a 31.1% increase in the number of children living in low income families (Glover et al. 2006). Policy is one course of action which could address exposure to childhood poverty.

One policy implication for income is redistributive taxation policies, such as income support and tax transfers to aid in ameliorating the effects of childhood poverty and improve adult health status (Blane 2006). An example of the power of redistributive taxation policy is highlighted by the comparison of children living in poverty. Since the 1960s there has been a significant increase in the numbers of children living in poverty in the United Kingdom and the United States of America which both are currently at 20% (UNICEF 2005; Daly 2006; Waldfogel 2007). Unfortunately, the taxation and welfare policies of these two countries do very little, if anything, to address the rates of childhood poverty (UNICEF 2005; Daly 2006; Waldfogel 2007). Conversely, in Sweden, although the pre tax transfer rate of children living in poverty is 24%, the policies linked to the redistributive taxation and welfare mean there is a substantial decrease in children living in poverty to 3% (UNICEF 2005; Daly 2006; Waldfogel 2007). The number of single parent families in South Australia has increased by 50% (Glover et al. 2006) and this potentially places more children in poverty. Further, inequality between the most advantaged and most disadvantaged in South Australia is increasing annually by 20% (Glover et al. 2006). This is reflected in adult health figures with disadvantaged male premature death rates 87% higher than the most advantaged areas in South Australia. Given the increasing cost of health and the long term effects of childhood deprivation on health the long term savings associated with alleviating childhood poverty through tax transfer, policies may be highly cost efficient (Daly 2006) with $1 spent in early intervention programs for children saving $7 in adult health expenses (Keatsdale Pty Ltd 2003).

A major critique of using income as a predictor of health is acknowledged by researchers (Kelly & Bonnefoy 2007; Solar & Irwin 2007). Researchers have found inherent problems in using income to measure health status; for example, despite improvements in affluence in many nations an individual's income may not reflect these gains, and may be dismissed by those arguing that income levels are solely responsible for health outcomes (Graham & Power 2004). Further, income levels fail to incorporate other factors, such as the psychosocial or social discrimination aspects of society and how these impact on health. Interestingly, there is a debate on the importance of income on an individuals' psychological status. For example, Lynch, Davey Smith, Kaplan and House (2000) argue that income is crucial to our understanding of the relationship between health and poverty whereas Marmot and Wilkinson (2006) incorporate psychosocial aspects as well. Regardless of which is most significant both aspects effect health outcomes and influence physical and psychological health across the lifespan. Despite these debates income is the most widely accepted and applicable measure both across countries and within nations. Income has an irrefutable impact on health status and has helped to establish the evidence for the social model of health (Raphael, Macdonald, Colman, Labonte, Hayward & Torgerson 2005; Wilkinson & Pickett 2005; Raphael 2009).

Power, income and health access

Young's (1992) concept of marginalisation may be used here to explain the consequences of low income on the ability to access health services. Marginalisation is the exclusion of particular groups from participation in production thus limiting income and access to services including education and health. Further, the construct of powerlessness describes the process that prevents the marginalised from influencing or changing their circumstances, as the policies and bureaucracies are determined by the powerful through, such things as, administrative functions and actions within a society that regulate access to services. These structural elements of a society form the structural SDH. The conceptualisations, implementations and provisions of the health services and modalities of access to the services are set by the powerful.

Occupation

Occupational based indicators measure a person's place in the social hierarchy based on work. Occupation reflects an individuals' and families' income, community standing, prestige, social interactions and social consequences (Marks 1995).

Occupation consists of the type of work performed by an individual, and therefore highlights their; exposure to risk, social ranking, income, and level of education (Marmot, Siegrist & Theorell 2006). Categorisation of individuals by occupation is a powerful predictor of inequalities in morbidity and mortality (Raphael 2006; Wadsworth & Butterworth 2006) as a parent's occupation correlates significantly with a child's risk of injury (Wadsworth & Butterworth 2006). Children of parents with professional occupations have lower injury rates (Wadsworth & Butterworth 2006). There is a significant negative linear relationship between socio-economic status and child injury mortality in New South Wales (Carey, Vimpani & Taylor 1992).

Occupation also defines the level of social inequality. For example, in South Australia between 1990 and 2006 there has been a 61.8% increase in social inequality between those in unskilled and semi skilled labour occupations compared to those in the highest income quintiles[10] (Glover et al. 2006). Occupation and its associated income determine the capacity of individuals and families to procure health services and the resources needed to maintain health (Solar & Irwin 2007). Further, occupation reflects a family's ability to purchase private health insurance and the range of services available to them. Currently 51.4% of the population in South Australia have private health insurance (Glover et al. 2006). Australia wide private health insurance is social stratified with 23% coverage in the lowest income quintile compared with 76% coverage in the highest income quintile (ABSd 2006). Occupation reflects social standing and thus may accord particular privileges such as access to better education, health, nutrition, and housing. Occupation is also indicative of the types and capacity of social networks, and work based stress via employment control and autonomy, and thereby affects health outcomes through the psychological processes that are further strained and exacerbated through limited social networks (Baum & Palmer 2002; Raphael 2006; Marmot & Wilkinson 2006; Solar & Irwin 2007). As highlighted by Veenstra (2000):

> … social support and social involvement in networks, both at the individual level, have been linked to a number of health status measures ... social[ly] rich communities

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[10] Social, health and economic inequality is calculated by examining the differences between the most advantaged with the most disadvantaged population group and devising the differential ratio, with 1.00 representing equality (Glover et al. 2006). The increase or decrease in this ratio is presented as a percent change (Glover et al. 2006).

> may have influences upon individual's health through pathways other than networking and receiving support from family members and friends (p 620).

Occupation, residential area and social connectedness provide an 'upstream' opportunity to reduce health problems (Baum & Palmer 2002).

Occupation type, stability of employment and the associated risks with occupation, all have a correlation with health status (Bartley, Ferrie & Montgomery 2006). Adults with stable, low risk, occupations have better health outcomes when compared with the unemployed or those employed in casual or high risk occupations (Bartley et al. 2006). Further, these results are independent of any previous health status and are reversed when; low risk, stable, employment conditions are attained (Bartley et al. 2006). Thus, occupation in and of its self has associated health outcomes for individuals.

Occupation measures are circumscribed however, as those currently under-employed or unemployed due to age or duties, the injured, disabled or working from home are excluded from this previous research limiting relevance and application (Bartley et al. 2006; Solar & Irwin 2007). Thus, particular groups, such as the unemployed, within society avoid measurement on a variety of health outcomes due to the lack of comprehensive occupational data figures. Notwithstanding this, occupational measures are very powerful predictors of health status for those currently employed (Bartley et al. 2006; Solar & Irwin 2007). Although occupation as a measurement fails to consider the disparities and structurally enforced aspects of a society that alters an individuals' participation and levels of power, such as, ethnicity and gender, it is nonetheless an important indicator of health status.

Power, occupation and health access

Powerlessness is experienced by citizens through the categorisation of people into professional and non-professional occupational groups. The limits placed on the non-professional groups and people are structural aspects of society. Therefore, the structural determinants of health are influenced by the structural aspects of occupation and the privileges given to professional groups. The ability of one group to determine access to work, the type of work and the status of work in a manner that promotes the interests of the powerful is reinforced by societal factors and maintained by bureaucracies and policies; for example, if a patient required access to a physiotherapist then the patient requires a referral from a General Practitioner (GP). The patients and the allied health professionals are powerless to change this. This places access to allied health professionals under the determination of GPs, not the patient. In addition, powerlessness limits access to consistent, timely, and appropriate health services through the designation of a person into a non-professional occupation. As mentioned earlier occupation mediates access to health via purchasing power, urban landscapes and psychological processes.

Social class

Social class involves more than access to income it is a combination of aspects of social significance of an individual and family within the context of occupation, religion, gender and race in a society. According to Marx, class, is determined by the ownership of: the means of production, money and property (Poole & Germov 2007). However, Weber expanded this definition to incorporate aspects of social standing of the occupation (Poole & Germov 2007) and more recently it included concepts of socioeconomic status that incorporate: residence, gender, ethnicity, religion and race (McMichael 1999). Social class reflects far more than income. It extends to the type and breadth of legal rights, individual capability and ability to procure and participate in employment, the type of employment and exposure to hazards, all of which impact on health. Current research reinforces the previous findings that the steeper the social gradient (the difference between the highest and lowest social class) within a society or nation the more wide spread the health inequalities (Black et al 1980; Raphael et al. 2005; Wilkinson & Pickett’s 2005; Solar & Irwin 2007). There is also a relationship between social class, life expectancy, income distribution and gross national product (GNP) and this relationship with health becomes statistically significant when income distribution is added to the analysis (Black et al. 1980; Raphael et al. 2005; Wilkinson and Pickett’s 2005; Solar & Irwin 2007).

Psychologically social class is believed to influence the comparisons individuals make between social classes and is a cause of chronic stress (Marmot & Wilkinson 2006). Social class is a strong predictor of both physical and psychological health for the individual and their family (Raphael et al. 2005; Raphael 2006; Marmot &

Wilkinson 2006; Solar & Irwin 2007). For example, McLaren and Godley (2009) analysed 49,252 Canadian adults Body Mass Index (BMI) data by social class and found that there was a significant difference with higher social classes having lower BMI's (males = $F = 122.2$, $p < 0.001$) (females = $F = 155.5$, $p < 0.005$). Social class is rarely researched in comparison to income inequality. This is thought to be due to the perception that income inequality is viewed as a legitimate form of inquiry whilst classism is not (Muntaner, Lynch & Oates 1999; Solar & Irwin 2007).

Power, social class and health access

Young's (1992) concept of exploitation explains the structural constructs that allow a group or persons within a society to gain benefit at the expense of another group; namely the lower or working classes. This exploitation is unjust and promotes disadvantage (Young 1992). Structures in society reinforce the transfer of benefit from the exploited to the owners of the private means of production through structures and rules that determine remuneration for services and labour (Young 1992). For example, the labour of women in the workforce is often directed to employment that is 'menial' and reinforces gender based tasks that enhance and support the work of men (Young 1992). In the US women's work is often under recognised and under compensated (Young 1992). Lack of income, position, and status limit access to determinants that enhance health such as education and occupation. All of these factors influence access to health care that is consistent, timely and appropriate for optimal health status.

Education

Education as a SDH is reflective of the child's and parent's circumstance as it contains an accumulation of factors such as, social position and income, and is indicative of future health and socioeconomic position (Solar & Irwin 2007, 2010). Education as a variable of health status is a combination of both the baseline education (received socioeconomic position from parents) and future (ones own socioeconomic position) as an adult (Solar & Irwin 2007, 2010). Education encapsulates the lifelong influences from early life and position on health as well as the availability of health resources as an adult (Solar & Irwin 2007, 2010). Education enhances an individual's capacity to make healthy life choices. It also exposes the adult to an array of health resources and services making it easier for the individual to make healthy choices (Solar & Irwin 2007; Solar & Irwin 2010). For example, the highest level of educational attainment for 14.9% of the Indigenous population in South Australia in 2001 was year 12 whereas 34.9% of the non Indigenous population achieved this level. This significantly affects each group's earning capacity and access to goods and services (Glover et al. 2006). Further, 21.5% of the Indigenous population attain only year 10 of schooling (Glover et al. 2006). Trends in educational participation over the last 15 years show a decrease by one third in the number of 16 year olds continuing full time education in the most disadvantaged areas of South Australia (Glover et al. 2006; Glover, Hetzel, Tennant & Leahy 2010). Additionally, childhood illness limits educational attainment and exacerbates adult disease and inhibits full participation or attainment of potential earnings thus, increasing health inequalities (Glover et al. 2006; Solar & Irwin 2007; Glover et al. 2010; Singh & Taylor 2010). More than knowledge per se, education enhances the cognitive skills and analytical abilities necessary to develop strategies which are needed to access and maintain health (Solar & Irwin 2007; Solar & Irwin 2010). Education accommodates a variety of components that mediate health status beyond its mere reflection of social position.

Power, education and health access

The ability of an individual to influence health outcomes often depends on their education level. Access to education not only often ensures entry into a professional or powerful group but also mediates access to and knowledge of services. Powerlessness as described by Young (1992) is the capacity to influence the personal, work, and institutional arrangements that impact on remuneration, participation and access to commodities and services. Education is a key that may unlock access.

Gender

Gender is a relational social phenomenon that is socially constructed and maintained by everyday practices (Zadjow 2007). Concepts of gender are socially constructed, culturally defined behaviours, as opposed to 'sex' which is biologically determined (Solar & Irwin 2007; Morley & Lugg 2008). As gender is socially and culturally created it mediates health via structurally devised constraints. Globally women have less access to and control over resources, such as health (female infanticide, genital mutilation, deliberate female underfeeding), income (economic dependency, lack of well renumerated and secure employment, or, active discrimination in employment positions), education (nil or limited access to education), housing (inability to inherit or secure housing without male support) and this has implications for the quality of life experience and health status across the lifespan (Solar & Irwin 2007; Morley & Lugg 2008). Further, the rates of sex discrimination are evident in sex differentials in the mortality rates of children aged 1-4 years in Bangladesh (BHEW 2002). Male children over the age of one have a 50% higher survival rate than female children (Chen, Huq & D'Souza 1981). This highlights a sex bias in health and nutrition preference for sons (Chen, Huq & D'Souza 1981; Barcellos, Carvalho & Lleras-Muney 2011). Conversely, some societies actively prefer female children with Caribbean communities in the USA breast feeding female children for longer (Quinlan, Quinlan & Flinn 2005). As this active discrimination is socially created it is an extraneous social determinant which may only be addressed 'upstream' or structurally by governments through campaigns to change cultural practices and attitudes (Raphael et al. 2005; Johnson, Mercer & Cassell 2006; Raphael 2006). Removal of gender inequalities in health requires a range of interventions across the areas of education, employment policies, immunisations and health interventions, access to housing, as well as the broader concepts of valuing both female and male children. Thus, addressing gender health inequities involves multiple approaches and research across various policy areas.

Power, gender and health access

Social theories explain the impact of gender on access to education, health, income, services and power, and are described via exploitation, marginalisation, powerlessness, cultural imperialism and violence. The structural nature of exploitation, marginalisation and powerlessness establishes the link between these social and theoretical concepts and the structural determinants of health. Exploitation, marginalisation and powerlessness reinforce the mediation aspects of the structural determinants of health on health outcomes, whilst cultural imperialism and violence are cultural aspects of society that impinge and mediate access to health via the intermediary determinants of health.

Ethnicity

Similarly to gender, ethnicity is a social construct (Solar & Irwin 2007). The active exclusion of particular groups due to their ethnicity has consequences for both psychological and physical health, and is a consequence of the discrimination (Nazroo & Williams 2006). Discrimination also mediates access to income and stable employment (Nazroo & Williams 2006; Solar & Irwin 2007). These are socially structured aspects of a society that exclude individuals and as such are addressed through social and economic policies and cannot be addressed at an individual level. Currently in Australia the life expectancy of Aboriginal and Torrens Strait Islanders lags almost 20 years behind non-Indigenous people (RACP 2005; Solar & Irwin 2007). For example, inequalities exist for Aboriginal people in South Australia across every variable of age and environment (Glover et al. 2006). Further, Aboriginal peoples have the highest levels of disadvantage regarding life expectancy and this is reflected in that fact that an Aboriginal man has 18 years less life expectancy than the population average, while non-Indigenous most disadvantaged male population groups have only 3.6 years less life expectancy than the population average. As discrimination is a structurally defined social and cultural concept research and policy directives are hard to determine due to the intertwining nature with other aspects of stratification such as education, housing, health, employment and income.

Power, ethnicity and health access

Young (1992) describes discrimination through the concept of cultural imperialism that determines a person or group as *other*. This is reinforced by cultural aspects of society that limit a discriminated group's access to processes and services that would enhance advancement, income and social acceptance. This further isolates the discriminated group and the operation of marginalisation occurs. Thus, the capacity to participate by the discriminated group is structurally and culturally diminished and inhibited by social organisation. Cultural imperialism is an intermediary determinant of health and marginalisation is a structural determinant of health. Therefore, to decrease the effects of ethnicity on health access and health outcomes both structural and intermediary determinants of health need to be addressed. Another example is the value placed on educating all citizens to a similar standard regardless of their racial or ethnic origins especially when increasing education levels increases health

(Russell 2004; Nazroo & Williams 2006; Sobo et al 2006). For example, 55% of Bolivia's population is of Quechua or Aymara origin, who due to policy do not receive identity cards or birth certificates and this denies them access to education, legal services, the right to vote and all health services including antenatal services (CSDH 2008). This undermines any attempt to combat Bolivia's high levels of maternal and infant mortality (CSDH 2008).

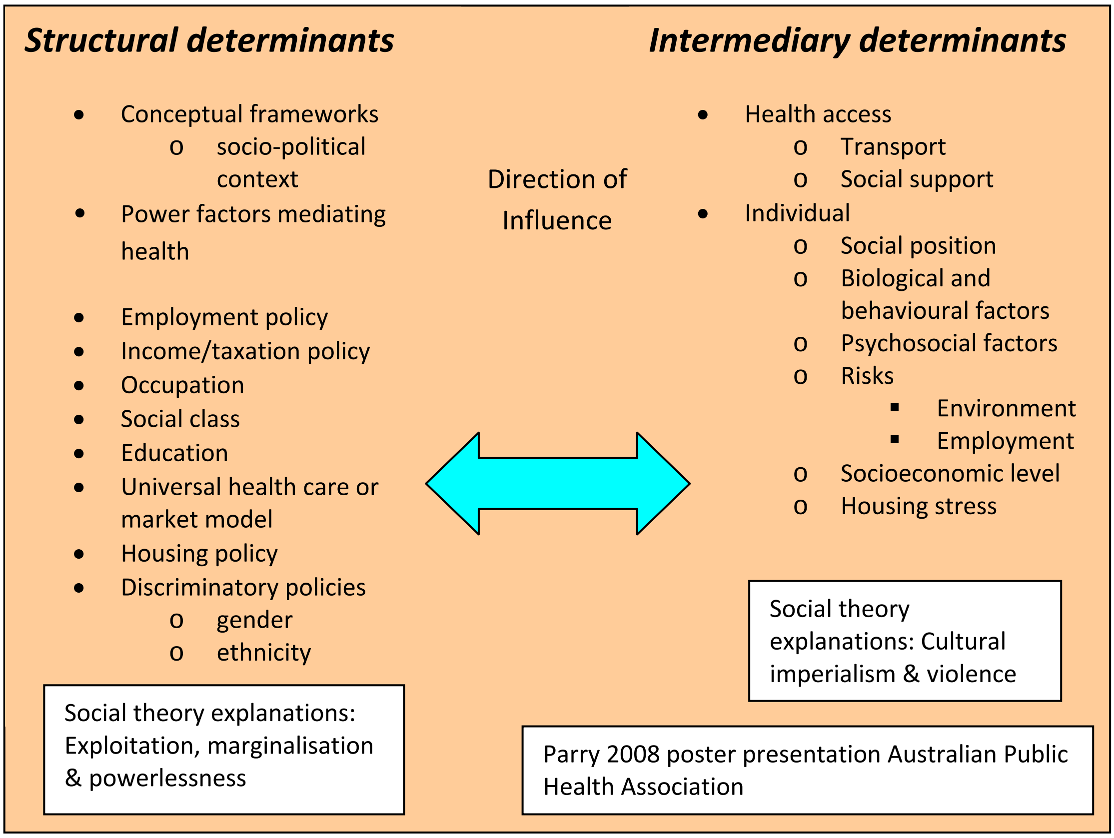
Conclusion for the structural SDH

The structural SDH are linked to and reinforced by macroeconomic, socio-political contexts and policies (Solar & Irwin 2007; Solar & Irwin 2010). The diagram in figure 2.2 illustrates the complexity of interrelationships between the structural and intermediate SDH. This diagram demonstrates the socioeconomic political context of health including macroeconomic policies, social policies (housing, employment, taxation), public policy (education, health, social protection), cultural and societal values that are influence and mediated by socioeconomic position. Additionally, social class, gender and ethnicity (racism) along with education level occupation and income impact on the intermediary determinants of health.

The intermediary social determinants of health

The structural SDH impact on the intermediary SDH which, in turn, influence the individual manifestations of the health inequalities (Solar & Irwin 2007; Solar & Irwin 2010). The intensity of the health risk and the health outcomes for individual health behaviours are thus mediated by the intermediary SDH. The intermediary SDH create a causal chain of influence over the life span and include factors such as material circumstances, social position, biological and behavioural factors, psychosocial causes, risks, environment, socioeconomic level, and housing stress (Solar & Irwin 2007; Solar & Irwin 2010). The intermediary determinants provide the means of direct delivery of interventions. Thus, any intervention at an individual or community level focuses on an intermediary determinant of health, by influencing the factors which directly affect personal health outcomes. For example, oral hygiene interventions (intermediary SDH) that promote preventative dental treatment assume access to dental services (structural SDH) and the income to access these services.

The interaction of the SDH effects, such as each individual determinant (income, education, social status), or material or neo-material constructs, are not mutually exclusive but complementary (Solar & Irwin 2007). The diagram in figure 2.2 illustrates the intermediary determinants such as social support and social position which influence access to the health system (structural – universal health model or market model) and overlap material circumstances (socioeconomic level), behavioural and biological factors and psychosocial factors, the health system, all impact on health and wellbeing.



Structural determinants

- Conceptual frameworks
    - socio-political context
- Power factors mediating health
- Employment policy
- Income/taxation policy
- Occupation
- Social class
- Education
- Universal health care or market model
- Housing policy
- Discriminatory policies
    - gender
    - ethnicity

Social theory explanations: Exploitation, marginalisation & powerlessness

Direction of Influence

Intermediary determinants

- Health access
    - Transport
    - Social support
- Individual
    - Social position
    - Biological and behavioural factors
    - Psychosocial factors
    - Risks
        - Environment
        - Employment
    - Socioeconomic level
    - Housing stress

Social theory explanations: Cultural imperialism & violence

Parry 2008 poster presentation Australian Public Health Association

Figure 2.2 The structural and intermediary SDH

The diagram in figure 2.2 (by the author) outlines the different SDH and how they are situated within the structural and intermediary framework. The different categorisations point to divergent causal factors and thus the means of addressing the social determinants of health. However, the various causal pathways, interactions and interrelated effects of the structural and intermediary determinants require further exploration (Solar & Irwin 2007; Kelly et al. 2007; Solar & Irwin 2010).

Social mechanisms, public policy and health

The social mechanisms for addressing inequality have been outlined previously in the sections on the structural and intermediary aspects of the SDH. Specifically, the structures within a society that mediate the use of power and its influences on the general population, determine health outcomes to a much larger extent than the biological and psychological makeup of individuals. This modern realisation requires the good will of socio-political processes if it is to change health outcomes for the disenfranchised. This is found in public policy.

Public policy and the SDH

Public policies are the policies enacted to administrate the areas of education, health care, water and sanitation (Solar & Irwin 2007). For example, the levels of education as determined by education policy and its availability, regardless of income, is a key determinant of mental health outcomes (Araya, Lewis, Rojas & Fritsch 2003). Thus, aspects outside of direct health provision influence health outcomes. Further, overall policy focus and government ideologies that inform public policy play a pivotal role in health funding and outcomes. For example, the Thatcher neoliberalist government focused on health reforms that encouraged small government and the privatising of the NHS services through the development of General Practitioner cooperatives (NHS trusts) to provide services in an effort to improve efficiency and decrease costs (Gaffney, Pollock, Allyson, Price & Shaoul 1999). The consequences of Thatcher's reforms were the opposite of those proposed, with increased costs, and reduced staffing and service levels (Gaffney et al. 1999). These outcomes are reflective of the neoliberalist reforms to health globally in that the promised efficiencies and decreases in cost through market model privatisation, have in fact, not improved services, or curtailed health inequities, but rather have exacerbated the differences in health status between population groups (Solar & Irwin 2007). Therefore, to make effective public policies that reduce health inequities requires an understanding of the interplay between the structural and intermediary SDH.

Figure 2.3 below illustrates the influence of the theoretical perspectives outlined in chapters 1, 2, and 3 of this thesis on the health system. This diagram demonstrates how these theories fit together and impact on the provision of health service and therefore health access from a boarder social view. This is in contrast to the view of health access as one of individual responsibility.

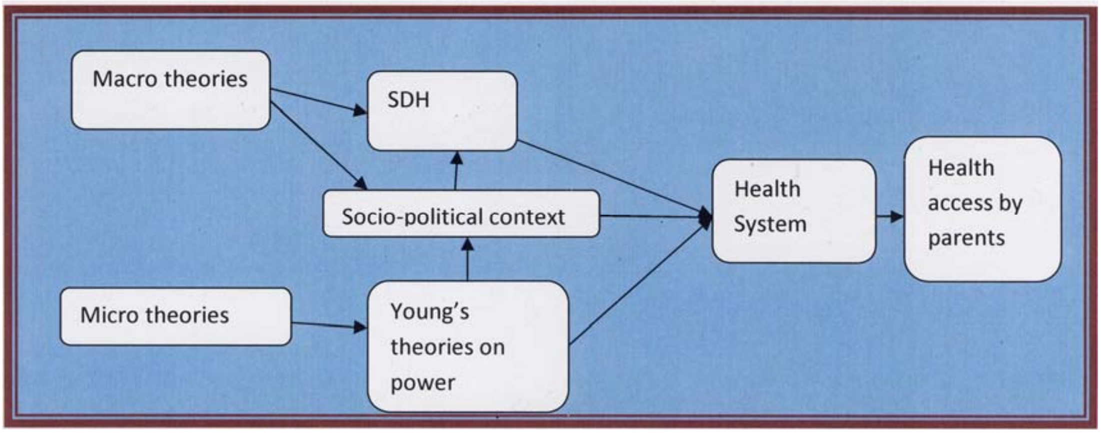


Figure 2.3 The structural and intermediary SDH

Figure 2.3 depicts the relationships between the macro and micro social theories that describe the influences of power in society on the parent's ability to access health services for their children. This framework is explored in greater detail in chapter 3.

Conclusion

Those SDH which are described as structural are directly influenced by the social and political environments and institutions within society and may be addressed by health focused changes to policy in the areas of health, discrimination, education, and housing. The intermediary SDH are downstream and closer to the individual and addressed through community and individual health interventions. Both the structural and the intermediary have short and long term effects on the physical and psychological outcomes of citizens within a society and mediate the level of health that may be attained.

All aspects of the broader notions of health including the influences of power need to be addressed if effective health status is to be a goal of society and will need to contain a mixture of biomedical, biopsychological and biopsychosocial in a social model of health. Further, societies which enhance and enable citizens to overcome the influence of the SDH through policies that focus on taxation, education and welfare supports, improve health outcomes and provide improvements in mortality, morbidity and death by childhood injury rates.

The psychological and physical health of populations are directly influenced by the

SDH and if future health policies are to improve health then the SDH need to be targeted. Although the consequences are intermediary in outcome their causes may be structural. This is an important consideration as both psychological and physical health has long term outcomes for individuals.

The broader concepts and contexts of the SDH overlap and reemphasise the structures of social and political systems that impact on the SDH. The SDH remain a combination of multiple, interwoven and complex sets of variables that influence health. The nature of their effects and an understanding of these effects are needed to unravel their influence and address their impact.

In conclusion, ameliorating factors including the governing structures within a society combine with the cultural and social apparatus to provide the functional aspects of the society which determine health availability. Cultural and societal aspects are further defined within the SDH into the structural and intermediary aspects of a society which directly influence heath outcomes in ways which may be measured. The constructual concepts of structural and intermediary are causal aspects of the SDH devised by WHO and Krieger (Krieger 2001; Solar & Irwin 2007). Further, some authors such as Raphael (2006), and Marmot and Wilkinson (2006), divide the social influences into 12 SDH; this collation of research findings into smaller groups, provides measurable influences on health outcomes. For more specific material of SDH such as social gradient and social cohesion the text of Marmot and Wilkinson (2006) is recommended. It is important to remember these distinctions between the social determinants are somewhat arbitrary, not concrete.

Further, as the social determinants of health are multi-causal and have lifespan consequences there is a need to define, explore and clarify their underpinnings and the causal pathways involved within the family of origin basis. This would enable any constitutive relationships to be applied within the family process where health access decisions are formulated. This would also enable the SDH to be influenced from their core at both the structural and intermediary level.

In addition, the SDH also enables the collection of evidence to provide an evidence based approach to address the SDH. Addressing the inequities outlined by the SDH requires a change in the underlying SDH through research. The approach used to study the SDH needs to be both qualitative and quantitative.

The following chapter will explore the conceptual frameworks such as the socio-economic and political context of health in Australia and how this influences health access and familial health outcomes while Chapter 4 describes the research design and processes used to ascertain the SDH that mediate family health access.

CHAPTER 3

Introduction

The previous chapters outlined the influences of power, government ideology, and sociol-political constructs which form the structural components of the social determinants of health (SDH) and health provision. Further, the previous chapters highlighted aspects of health that are directly amenable to individual and community behaviour change as the intermediary SDH. This chapter explores the different conceptual aspects of health access, family health access and the use of emergency department services for the provision of non-urgent primary health care. These are important concepts as consistent, timely, and appropriate access to health services are necessary to maintain and promote optimal and effective health outcomes.

Conceptual frameworks

Socio-economic and political context

The socio-economic and political context is deliberately chosen here as the first conceptual framework as it is a broad term which describes the myriad of societal factors which, although they affect individuals greatly, cannot be 'directly measured at the individual level' (Solar & Irwin 2007, p. 27). The cultural, social, and functional characteristics of every society's institutions provide the foundations of the 'context' (Solar & Irwin 2007). This 'context' is a powerful mitigating force on both a person's social position and the interstice between each position (Wilkinson & Pickett 2005; Solar & Irwin 2007; Solar & Irwin 2010). Whilst these influences defy direct observation they nonetheless mediate the health opportunities of individuals. This spectrum of factors referred to as the socio-economic and political context have the ability to 'generate, configure and maintain' the social stratification within a society (Solar & Irwin 2007, p. 21). Examples include employment options and the availability of work, the educational structures and opportunities, and political ideologies and institutions, including the features of the welfare state (Solar & Irwin 2007). Concrete examples include the casualisation of work, fees linked to higher education or the rules and regulations governing access to unemployment benefits or disability pensions. These systems, institutions and their practices both support and reinforce where an individual is placed in the social structure of the society in which they live.

Solar and Irwin noted that although the link between individuals levels of health and the SDH have been widely acknowledged, the influence of policies and the social configuration and the maintenance of social stratification has not been fully researched or explored (Solar & Irwin 2007; Solar & Irwin 2010). Further, the redirecting of policies towards the redistribution of material resources has not been suggested, nor the positive outcomes of this reallocation of resources on the SDH identified. The absence of a thorough investigation into the political factors and their influence on health seems astounding given the capacity of policy to change people's social status and life chances (Solar & Irwin 2007; Solar & Irwin 2010).

How a population accesses health care is part of the social and political context of a society. Health and the resources allocated are determined by the social and political characteristics of the society, by the political views on health as a right or health care as an individual responsibility (Solar & Irwin 2007). How health is distributed and who takes responsibility for health (state and federal jurisdictions) is also driven by the social, political, and cultural aspects of a society (Rix, Owen & Eagar 2005; Popay, Kowarzik, Mallinson, Mackian & Barker 2007). This influences the impacts of the SDH on individuals and mediates the possibilities for action on the SDH. The issue of health access is explored below.

Health systems as a structural determinant of health

Health care systems are characterised by the methods used for service delivery. The services that are delivered to consumers may be explained using a health financing and delivery systems framework based on three models of health provision (Docteur & Oxley 2003). These researchers identified three models; the public-integrated model, the public-contract model and the private sector model of health delivery (Docteur & Oxley 2003). These three models, and how each is financed and delivered, are explained below.

The public-integrated model

A public-integrated model combines budget finance with hospital providers that are part of the government sector and does not separate insurance and service provision functions. Staff are generally paid on salary. Doctors and other health professionals may be either public employees or private contractors working for the health care authority. There is complete population coverage and this coverage is simple to provide. The system is broadly publicly financed and contributions are based on the ability to pay. Those earning more income pay higher taxes and levies towards the health care system. Costs and the delivery of the system are directly covered by the government (Docteur & Oxley 2003; Davis, Schoen & Stremikis 2010).

In this system the growth of overall health costs is easier to contain as the government provides both the universal coverage and the provision of services. This provides a cap on the cost of service provision and delivery. This model of health care provision is used by Australia, Greece, Ireland, Italy, New Zealand and Spain (Docteur & Oxley 2003; Davis et al. 2010). Public hospitals are central to the provision of care in this model (Docteur & Oxley 2003), especially in Australia.

The limitations of this system include the lack of incentives to increase output as the system is wage and not productivity based therefore improvements to efficiency may be difficult (Docteur & Oxley 2003; Davis et al. 2010). This may be addressed by the development of funding packages linked to provider output (Docteur & Oxley 2003; Davis et al. 2010). Further, there is a lack of responsiveness to patient needs and a limit of the degree of consumer choice for the provider of services (Docteur & Oxley 2003). Public hospital EDs are part of the public-integrated model of care and while providing care to all Australians there may be a diminished response to children's needs given their developmental requirements.

The public-contract model

This system of service delivery uses public funds that may consist of either a state agency or social security funds to contract private providers (Docteur & Oxley 2003). A public contract model does provide for incentives to prevent ill health. Public payers contract with private health care providers to deliver health services. Payers may either be a state agency or social insurance funds. Single payer arrangements have a stronger negotiating position versus the providers and tend to have lower administration costs than do multiple payer systems (Docteur & Oxley

2003; Davis et al. 2010) and are more responsive to patient needs.

The public-contract model of care provision is used by Germany, France, Netherlands, Central European countries, UK and Japan (Australia's GP Medicare based services). This model of health care requires higher levels of government regulation and control by government agencies to protect public funds and consumer health outcomes (Docteur & Oxley 2003; Davis et al. 2010). This system has lower administrative costs than the completely private system of the US.

The private insurance model

This system of health care delivery relies on the private sector with the insurance and services delivered by private insurance companies. This type of health care system is insurance based and may be mandatory such as Switzerland's model of health provision or voluntary as in the United States model of health care (Docteur & Oxley 2003; Davis et al. 2010). Affordability is an issue with this type of health system from both the individual consumer view point and from the national outcomes stand point.

In the 1990s, in an effort to manage increasing costs the US introduced managed care plans (Docteur & Oxley 2003; Davis et al. 2010). This change has allowed insurers to select clients and providers, and restrict patient treatments, providers, and service access (Docteur & Oxley 2003; Davis et al. 2010). This development has limited access to health care as the insurer, not the patient or health professional, decides the level of treatment required (Davis et al. 2010). In March 2010 the US health system was reformed by President Obama's Affordable Care Act[11]. This act expands health coverage for children and adults by limiting the insurance company's ability to deny coverage on various grounds.

There is a high degree of choice in this system and responsiveness to the patients needs. There is little or no cost control by government or from individuals. The private insurance companies charge what the market will pay and the private insurance in some instances will limit access to care depending on insurance cover. Although the government provides some members of the society with health care,

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[11] Patient Protection and affordable Care Act Health-Related Portions of the Health Care and Education Reconciliation Act of 2010 http://www.healthcare.gov/law/timeline/full.html

others may not be covered by any form of health insurance and therefore have limited access to health. Examples of countries using this system include: Switzerland (mandatory insurance) USA (voluntary insurance) and Australia as 50% of Australians have some form of private health insurance.

Health access

Health access is defined here as the opportunity or right to receive affordable, consistent, timely, and appropriate health care in a manner that promotes optimum health. Limited access to health has been associated with: a significant increase in infant mortality and morbidity (Frankenberg 1994; Sandiford, Cassel, Montenegro & Sanchez 1995; INDEPTH Network 2007), poorer economic outcomes and poverty (Wadsworth & Butterworth 2006; McCally, Haines, Fein, Addington, Lawrence, Cassel & Blankenship 2008), lower levels of social and community support (Hendryx, Ahern, Lovrich & McCurdy 2002), and lower education attainment (Solar & Irwin 2007; Doley, Sibly, Wigg, Crawford, Cowper, Barker & Gale 2008). Further, limited access to health in childhood is thought to cause; disengagement with educational services (Doley et al. 2008), deleterious adult physical and psychological health outcomes (Wadsworth & Butterworth 2006; Solar & Irwin 2010), an increased incidence of poverty (Wadsworth & Butterworth 2006; McCally et al. 2008) and decreased participation in society, consumption and productivity (Hendryx et al. 2002; Shaw, Dorling & Davey Smith 2006; Wadsworth & Butterworth 2006; Solar & Irwin 2007). Additionally, in Australia, ABS data indicates that 73.8% of the most disadvantaged quintile, 73.3% disadvantaged, *39.5% middle quintile, 52.1% high quintile, and 74.2% highest income (least disadvantages) quintile[12], children do not have access to a GP when needed after hours (ABS 2011). However, the mechanisms that determine these outcomes are not fully investigated or understood.

Health access has been identified as an intermediary SDH. Additionally, health access is situated in the intermediary determinants of health as it has a direct influence on the amount, type, and availability of health services an individual

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[12] The most disadvantaged quintile refers a level of deprivation indicators used in Australia by the ABS. This indicator ‘lowest SEIFA IRSD score’ is explained in detail in Chapter 5. The data on children’s experiences of health provision was based on 7,124 interviews of parents. The data were collected from July to December 2009.

receives. Lack of access to health services increases an individual's risk of ongoing exposure to illness and disease (Solar & Irwin 2007). It also diminishes access to health prevention and promotion opportunities (Solar & Irwin 2007). For example, research in Australia of patients admitted to hospital for a pre-existing condition found that 16.6 % of the admissions were 'preventable but not prevented' (Tudor-Hart 2006, p. 85). Accessing health care and services in a manner that enables the cycle of illness to be interrupted or prevented would not only be cost effective but would also be less physically and psychologically tiring for those suffering illness episodes (Tudor-Hart 2006). This equates to almost one fifth of admissions as being unnecessary if primary care could provide a consistent, timely and appropriate health access.

Health access plays an important mediating force in the consequences of illness in people lives. Limited health access is capable of causing health problems that may cause a further deterioration of people's social status by preventing the facilitation of sick people back into society (Bartley Ferrie & Montgomery 2006; Solar & Irwin 2007). Ill health may limit access to employment opportunities through exclusion from particular types of employment or by incapacitation limiting employment (Bartley et al. 2006). Health access has an intermediary quality as it is individually based and thus may be addressed at an individual level.

Health access is also contingent on interagency collaboration. For instance, the incorporation of transport networks and transport assistance into towns and suburbs enhances access to health services for those reliant on public transport and subsidised incomes (McCarthy 2006; Stafford & McCarthy 2006; Solar & Irwin 2007). Conversely, the reliance on the private provision of transport may decrease access to health services (McCarthy 2006). For example, 21.9 % of dwellings in a low SES area of South Australia have no access to a private vehicle compared with the Adelaide metropolitan average of 13.2 % (PHCRIS 2005). Those with limited transport options are more at risk of ill health due to limited access to health resources. Other interagency examples include access to specialist services which for poorer South Australians is accessed through public hospital outpatient departments and reflects socioeconomic disadvantage (Glover et al. 2006).

Payment options and health access

Where there is a greater reliance on co-payments for health service provision there is a reduced access to health by the poor but not for the wealthy (Laris, Gleeson & Alperstein 2008). For example, reducing the funds available for public health has occurred in Australia by the diversion of public funds to provide a 30 % rebate for private health insurance consumers (Laris et al. 2008). This diverts scarce resources from public health provision to providing health services for the wealthy (Laris et al. 2008). Thus, elective, surgical, acute short term health access is funded in the private sector, while the public sector provides for the chronic, emergency and costly health services (Laris et al. 2008). To promote health service access for all, a robust regulatory system ensuring universal or safety net policies needs to be maintained (Collins 2003). This would enable the avoidance of cost related delays in health care access. Further, some Adelaide medical clinics that previously did bulk bill[13] patients now require a co-payment or charge a gap fee of $30.00 over and above the Medicare rebate provided by the federal government for the patient service (Vaughan & Harvy 2009). The Medicare rebate provides $33.55 per 15 minute appointment (Vaughan & Harvy 2009). This has the potential for patients to delay accessing GPs and circumvents exacerbations of ill health.

General practitioner (GP) access

General Practitioner services are primary care services that are provided in the community by private medical providers (Royal Australian College of General Practitioners [RACGP] 2011). GPs are the key suppliers of primary care services in Australia and as such influence both the cost and supply of primary care services (Hall & Van Gool 2000; Baker 2011; Woodruff 2011)[14]. GPs work collaboratively with acute care and allied care health providers (RACGP 2011). This mixture of acute care and primary care services has sought to provide the Australian public with accessible care for health promotion, health prevention and holistic patient care (McMurray & Clendon 2011; RACGP 2011).

Further, GPs are paid on a fee for service basis by the Federal Government through

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[13] Bulk billing is a term referring to the practice by GPs of accepting the Medicare Scheduled Rebate fee from the federal government as the sole payment for a service rather than the additional cost of a gap fee. The gap fee or co-payment fee is an out of pocket fee incurred by the patient.

[14] This is consistent with the public-contract model described by Docteur & Oxley 2003

the Medicare Schedule Benefits Rebate Scheme. GPs determine the area of their private practice and the amount of gap fees charged to the consumer (Hall & Van Gool 2000). Further, GPs act as gatekeepers to other health professionals and specialist medical services. This suggests that the GP is in a position of influence over consumer demand (Hall & Van Gool 2000). GPs influence the levels of utilisation of other health professionals and medical specialists (Baker 2011). GPs have the ability to increase volumes of service in order to protect their income (Hall & Van Gool 2000). This provides doctors with a unique ability within their professional practice to determine and maintain not only their incomes but also the incomes of others (Baker 2011).

In addition, the shortages of general practitioners in rural Australia creates regional monopolies as the rural GPs are self employed practitioners with no or restricted competition. This gives these medical practitioners the significant advantage of charging gap fees strengthened by medical shortages, professional dominance and limited alternatives for services (Kenny & Duckett 2004; Baker 2011). This creates a significant disparity in health access between rural and urban populations (Kenny & Duckett 2004). In addition, within urban populations there are access disparities. For example, outer suburban areas have limited health access[15]. Two such outer urban areas, while geographically covering larger areas than inner suburbia have no GPs living in their area. This limits after hours access and places a strain on limited service provision (Primary Health Care Research & Information Service [PHCIS] 2005). This is a structurally produced inhibitor of health access created by medical dominance, medical shortages, and the controlled provision of other services in rural or outer suburban areas, for example limits on Nurse Practitioners (NP) and Extended Care Paramedics (ECP).

Current agreements between the GPs and the provision of proposed expanded GP and allied health services, for example, has limited the use of after hours GPs in GP Plus clinics if the clinic is situated in an area where there is a GP providing services after hours (South Australian Government 2007). Further, if the GP Plus is situated in an area where the current GP works 9am to 5pm then the GP Plus clinic can only

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[15] Virginia and Dublin in South Australia

provide services after 5 pm (South Australian Government 2007). This not only limits competition to minimise gap fees but it also limits access to GPs regardless of the needs of the population for primary care.

There are alternatives to some of the assessment and treatment options offered by GPs. NPs and ECPs are two examples, however their use is limited due to the current small numbers of practitioners with this qualification (Gardner, Gardner, Middleton & Della 2009). Additionally, there are often structural and organisational limits the use of the 234 nurse practitioners (NP) in Australia (Gardner et al. 2009). These restrictions included lack of Medicare provider numbers (78 %), Pharmaceutical Benefits Scheme authority (71 %), and the ability to issue sick and workers compensation certificates (27.1 %) which has the potential to undermine the productivity of NPs and the potential benefits of expanded access to services for consumers (Gardner et al. 2009). It is noteworthy that since Gardner et al.'s (2009) research was completed the Gillard Federal government has authorised a 100 % increase in the numbers of NPs in an effort to broaden service provision and expand health access (Gardner et al. 2009, postscript). In areas of higher deprivation NP led clinics provide a variety of health assessment, education and health promotion services (Adelaide Unicare 2011).

Areas of socioeconomic disadvantage also have higher numbers of patients per GP. For example, in 2006 it was reported that two of the lowest SES areas in South Australia had one GP per 2,529 people and 2,883[16] people per GP (PHIDU 2006). Given that these areas have a fertility rate of 2-3 children per women while the Adelaide metropolitan area average is 1.61 (PHCIS 2005), there is a higher percentage of families in these areas with limited or no access to GPs. Limited access to primary health care professionals is thought to be one of the factors increasing the use of ED services for the provision of primary care.

Using emergency departments

The preference for ED services often occurs when access to other health services is limited or denied. As ED services are provided free by the state governments in Australia and gap fees for GP services have increased and impacts directly on

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[16] These areas are Salisbury and Munno Para respectively.

affordable health access (Savage 2003) it is reasonable to conclude that this will limit access to health care. This scenario is believed to have also increased the use of ED services for primary care. Further, the limited access to GPs in some areas of outer Adelaide metropolitan area has caused a strain on the emergency services of public hospitals (PHCIS 2005). Public hospitals are funded by the state governments and access to GPs is funded by the federal government through the Medicare rebate scheme. The Northern Division of General Practice acknowledges that the lack of GPs in the northern suburbs of Adelaide is 'serious' and 'places a serious strain on emergency services' (PHCIS 2005, p. 2). Further, as the GPs are paid through the Medicare rebate scheme for services by the federal government, and the ED services are provided by public hospitals funded by the state government, there is a cost shift from the federal government to the state. Additionally, the Medicare Australia Act requires state governments to provide free and timely care to citizens (Medicare Australia Act [Commonwealth of Australia] 1973 amended 2008; Howard 2003). Conversely, the Medicare Act does not require GPs to provide free access or access with no co-payment and therefore GPs may and do charge a co-payment or gap fees directly to patients for services provided (Medicare Australia Act 1973 amended 2008; Howard 2003). This could be interpreted as undermining the universal coverage of the Medicare system in Australia.

Despite being ideologically opposed to Medicare in the 1980s the Howard government of the 1990s and 2000s created policy that supported Medicare and bulk billing (Elliot 2006). Prior to the 1996 election Howard stated:

> The Australian public has grown to like Medicare. They find security in Medicare. They embrace Medicare. So does the coalition and it is an absolute fundamental of our approach that Medicare stays, come what may. (Howard 1996, p. 3)

Howard highlighted the decrease in the rates of bulk billing as a threat to the functioning of Medicare (Howard 1996; Elliot 2006). Further, Howard introduced MedicarePlus which acknowledge the three pillars of Medicare: i) the free treatment of all Australians as public patients in a public hospital, ii) the continued payment of the Medicare rebate at 85 % of the Medicare scheduled fee for GP visit, iii) the continuing provision of the Pharmaceutical Benefits Scheme (PBS). In addition, Howard attempted to improve rates of bulk billing by introducing incentives to encourage GPs to bulkbill; however, GPs are not compelled to bulkbill (Howard

2003). Concession card holders and children bulkbilled provide an extra $5 to the GP (Howard 2003). Currently, children and concession card holders make up 60 % of GP visits (Howard 2003; Baker 2011). Access to GPs is paramount to ensuring timely, appropriate and consistent health care. Out of pocket or co-payment fees reduce access to GP services for some sections of the population. Those with limited income due to social position, unemployment, or ill health seek out services that provide care at minimal or no cost (Glover, Hetzel & Tennant 2004) and thus rely on services such as ED.

The long term use of ED in preference to primary care services has implications for continuity of care. Research comparing non urgent ED use with patients with similar conditions using primary care found that of the 527 participants interviewed, 253 in ED and 274 in GP surgeries, the perceptions of the illness suffered by the client was a major factor in ED use over GP use (Lega & Mengoni 2008). Lega and Mengoni (2008) suggest that patients using ED are more anxious regarding their condition and require services with advanced diagnostic equipment and access to specialists to allay their fears whilst those using GP services require deeper explanations and consistency of care. This research also shows a significant difference in education level with those having a higher education more likely to use GP services (Lega & Mengoni 2008). It was suggested by Lega and Mengoni that to reduce non-urgent ED use in Italy public education espousing the positives of GP use such as empathy, consistency of care and competency with the linking of GP services to advanced diagnostic equipment may reduce inappropriate attendance at ED. Here Lega and Mengoni (2008) infer that patient perception rather than lack of access causes inappropriate and over use of ED. It needs to be noted here that Italy has free public health services (Medicare Australia 2011).

Questions remain regarding which SDH are implicated in access to health care. These include the depth of understanding the services, or why some patients prefer EDs over other forms of health access. Inappropriate use of these services creates an over reliance on EDs for primary care as the ED is designed to provide care of an emergency nature.

Family access

Family has been described in sociology as a ‘unit’, an ‘institution’ and a ‘group’ that constitutes the basic building block of any society (James 1992; UK Social Exclusion Task Force 2007; Australian Research Alliance for Children and Youth (ARACY) 2011). It is usually understood to consist of one or two adults and children. Young (1990) and James (1992) assert that certain types of activities are carried out within the family and one such activity is the care of those who are ill. Decisions regarding when to access health care are made by the adult members of a family during times of need. Some of the research discussed previously has highlighted a small number of the aspects that influence health access. However, it has failed to map the links between the variety of decisions made regarding health attainment, the differing access patterns between family members, and the structural and intermediary aspects of the SDH that inform these decisions.

Past models of health have focused heavily on the individual yet for most people the family unit is the basic form of existence whether they be adult couples including children (UKSETF 2007; ARACY 2011). In 2001 there were 5.3 million families in Australia, which is projected to increase to 7.1 million in 2026 (ABS 2004). It could be asserted that the investigations that fail to determine the influence of family on accessing health care fail to examine an important factor in health outcomes. Family situations and social standing of the childhood family unit is often a consistent and reliable predictor of adult health outcomes both physically and psychologically (Brunner & Marmot 2006; McMurray & Clendon 2011). A family’s socioeconomic status and level of relative disadvantage, when persistent in childhood, may predict childhood behavioural problems, and adult physical, social, behavioural and mental health problems (Marmot 2001; Schoon et al. 2003; Tsey, Whiteside, Deemal & Gibson 2003; ARACY 2011; McMurray & Clendon 2011). Structural equation modelling assesses the long term effects of adversity on development (Schoon et al. 2003; ARACY 2011). Whilst Schoon et al. (2003) use the developmental-contextual model to ascertain the impact of childhood adversity on adult psychological outcomes, little has been done to assess the effects of adversity on health access decisions within family units.

Families also provide a critical resource for children and directly affect 'how children grow, develop and achieve' (UKSETF 2007, p. 5). A child's ability to develop relationships, and integrate into, and participate in their community is also enhanced by positive family connections and support (Tsey et al 2003; Wadsworth & Butterworth 2006; Doley et al 2008; ARACY 2011; McMurray & Clendon 2011). Deficits in this important developmental resources area that are not addressed through community and societal interventions have long term deleterious health outcomes. Families provide access to food, shelter, and health services while espousing and directing attitudes to the use of food, shelter, and health services.

Families also mediate access to health services and as mentioned above access to health determines a person's ability to recover or not from a health condition. The family assesses the child's condition and determines the level and type of intervention required by the child. This may mean access to GP services and the filling of prescriptions for drugs to alleviate the illness. Thus, if families are an important influencing factor in health outcomes and health access then determining the type and level of influence of the family is important in addressing long term health outcomes. As well as this, understanding how family care givers think when accessing care is also important.

The use of emergency departments for health access and its implications for continuing care

A health system's ability to provide health to its citizens has, according to some researchers, been deteriorating with globalisation (Solar & Irwin 2007; Fox & Mason Meier 2009). The resources and structure of the health system, and its capacity to provide services and access has diminished with the advent of neo-liberalist economic reform (Solar & Irwin 2007; Fox & Mason Meier 2009). The universal and distributive justice model of the Australian Medicare health system is at ideological odds with conservative pro-private provision of health care (Elliot 2006). The Howard coalition government boosted private health insurance rebates to improve the uptake of private health insurance in Australia (Elliot 2006). This policy action supports their ideological commitment to the private financing and provision of health services (Elliot 2006). Health care systems' provisions of service based on a person's ability to pay does not service all citizens. Now more than ever understanding the mechanism by which the health system and health access mediate health outcomes is of growing importance if health equity is the goal of government health policy.

In 2006 in South Australia there were 473,000 ED attendances (Feeney 2006b). In 2006 Feeney estimated that demand for emergency services is growing by 7% per year. The initial proposal for this research also found growth in emergency services. Hospital Admissions Services System (HAS) ED data from a South Australian Child Youth and Women's Health Service (presented in detail in Chapter 4) shows an increase in non-urgent cases. Non urgent cases represent a possible inappropriate use of ED. Further, in 2008 there were 6.7 million presentations to ED Australia wide with an increase in waiting time by 30 % and the growth in the use of ED far exceeding population growth in the same year (Australian Broadcasting Commission (ABC) News 2008). This supports the premise that there is an increasing use of EDs to provide non urgent care.

Specific population groups with unmet needs use EDs more frequently for the provision of medical care. For example, those with a mental health problem, multiple medical health problems, the poor, and the very old have limited access to both health and social support services (Collins 2003; Marmot & Wilkinson 2006; Keene & Rodriguez 2007). In addition, the poor use health services inconsistently and infrequently, and are more likely to use EDs for their health care (Collins 2003). The use of EDs to provide non-urgent health services is more likely by the chronically ill, mentally ill or poor. This reliance on inconsistent, ill-timed, and inappropriate health access increases the likelihood of consumers having exacerbations of illness and a higher frequency of acute episodes requiring admissions rather than consistent, timely, and appropriate health access that maintains their health and optimum wellness.

Retrospective analysis of ED presentations has highlighted that between one to two thirds of patients attending ED could attend a general practitioner for treatment. These avoidable presentations are assumed to occur due to a lack of access to primary care service in a consistent, timely and appropriate manner (Page, Ambrose, Glover & Hetzel 2007), which could be provided in a community or primary care setting (Keene & Rodriguez 2007; Page et al. 2007). Such presentations may be avoided through prevention, for example, immunisation, adequate access to treatment for acute conditions such as, gastroenteritis, and appropriate management of chronic health conditions (Page et al. 2007) and/or increasing the linkage of patients with the appropriate services (Page et al. 2007). Linkage is thought to be a mediating factor in avoidable presentations (Page et al. 2007).

Further, over reliance on EDs to provide non-urgent health access may place a strain on the services provided. EDs run at over capacity rates of 62 % in most OECD countries (Bradley 2005). This overcrowding may lead to decreased staff satisfaction and an increase in mortality and morbidity rates for patients (Bradley 2005). Non-urgent patients attending ED are thought to be due to lack of social support (Hastings, George, Fillenbaum, Park, Burchett & Schmader 2008), access to a GP (Kenny & Duckett 2004), social services (Keene & Rodriguez 2007), and an inappropriately limited access to health care (Furler, Harris, Chrondos, Powell Davies, Harris, & Young 2002; RACP 2005). Further, there is an inverse correlation between need and length of consultation time, with those requiring more services due to poverty and chronic illness receiving less time, less prevention and less referrals to specialist services (Furler et al. 2002; RACP 2005). Therefore, the tendency to use ED services in preference to primary care services and preventative services is driven not only by a lack of social support and transport (see intermediary SDH Chapter 2) but also by structures within the consultation practices of GPs and the delivery structures of the services from a policy direction (see structural SDH Chapter 2). Coordinated, comprehensive, universal and community based services that respond to local needs; increase the capacity of families to respond to children's needs and circumvent deleterious adult health outcomes (Department of Health 2003).

Wong and Regan (2009) conducted research into patients' experiences of access including the quality and consistency of health care. Their data provides the basis for improvements to be incorporated into any future policy and health provision changes and increasing compliance with treatment (Wong & Regan 2009). Patients in their research identified:

> three types of continuity: i) relational – the ongoing therapeutic relationship between a consumer and provider; ii) informational – the use of information on past events and

> personal characteristics; and iii) management – a consistent and coherent approach to the management of a health condition. Participants believed that the inability to maintain a continuous relationship with a provider contributed to challenges in maintaining people’s health. (Wong & Regan 2009, p. 6)

This brings to the fore concerns regarding ED’s capacity to facilitate continuous relationships with clients given that this brief is outside the design of ED services. When ED services are used in preference to primary care services, continuity of care is jeopardised thus further compromising long term health outcomes. Further, Wong and Regan (2009) assert that any impediment to primary care access and resource allocation creates an increase in avoidable admissions to hospitals. As avoidable admissions account for almost one quarter of hospital admissions this represents an efficiency saving for the government.

The requirements of the health system to provide health access and the ability of a family to access health are mediated by both the structural SDH and intermediary SDH. The influences on health access are currently measured by the biomedical model of health through the collection of clinical data. The observable and distinctive aspects of presentation to EDs such as, the presenting illness and the category a patient is placed into as a priority of treatment are collected routinely by EDs. However, the reasons that led families to use an ED and the socio-political constructs that inform and direct attendances at ED are subtle and not fully understood. Actions to address non-urgent presentations need to include structural and socio-political change to be effective.

The links between sociological theoretical constructs of power, the structural SDH such as education and the intermediary SDH of health access for the family needs broader investigation. The current collection of ED data provides information on the clinical influences on health which are measured by the overt indices collected via the biomedical model; however, the covert nature of some aspects of health access, namely those at a socio-political level remain unexplored and unchallenged.

Significance of this research: research on inappropriate use of emergency department (ED) services

Overcrowding in EDs is an increasing problem in OECD countries with over capacity rates at 62% (Bradley 2005). Overcrowding is correlated with: increased morbidity and mortality (Bradley 2005; Horwitz & Bradley 2009), higher incidence of misdiagnosis, or under-diagnosis of serious conditions (Bradley 2005; Bernstein, Aronsky, Duseja, Epstein, Handal, Hwang, McCarthy, McConnell, Pines, Rathlev, Schatermeyer, Zwemer, Schill & Asplin 2008). The causes of overcrowding are varied (Bradley 2005). One possible cause addressed in this study is the use of EDs in preference to other services for ailments that are non-urgent. Favouring ED services over other health options is believed to be due to several factors. These include, patient belief in the urgency of the condition (Bradley 2005; Lega & Mengoni 2008), limited access to other services due to socioeconomic position (Lu, Leung, Kwon, Tin, Doorslaer & O'Donnell 2007), lack of availability of services after hours, limited knowledge of other services (Lega & Mengoni 2008; Stein, Andersen & Gelberg 2007; Adamson, Ben-Shlomo, Chaturvedi & Donovan 2003; Roberts & Mays 1998), lack of social support (Surtees & Wainwright 2007; Scheppers, van Dongen, Dekker, Geertzen & Dekker 2006; Kendrick, Mulvaney, Burton & Watson 2005), and lack of transport, either public or after hours (Lega & Mengoni 2008). Despite considerable research on why patients chose EDs for non-urgent primary care the relationship between attendance and the structural and intermediary SDH is missing.

The research literature has identified that the level of social support for older adults predicts ED usage (Hastings et al. 2008) and Suruda, Burns, Knight and Dean (2005) highlight the influence of socioeconomic status as a significant predictor of ED services. Although these two studies were conducted in the UK and US respectively, the results are important as they illustrate factors outside of the family that determine, and can be used to predict, ED usage. Both studies used attendance data, socioeconomic data, social demographic figures such as neighbourhood income, and health insurance provisions as predictors of ED utilisation. These studies also used logistic regression combining the hospital data with the epidemiological data to predict ED attendance. However, neither study used a mixed methodology, such as including interviewing patients to understand patient decision processes and rationale. The narrative method used in this research provides a depth of data to accompany the quantitative analysis in a mixed method design.

Epidemiological conditions

Epidemiology is the branch of medical science that seeks to determine the environmental and social aspects of diseases by examining patterns of distribution, prevalence and likelihood (Bonita, Beaglehole & Kjellstrom 2006). In addition, epidemiological research contributes to population-based health management by exploring and determining the health needs and access from a community's cultural, policy and health resource analysis perspective (Porta 2008), hence the use of epidemiology in this thesis.

Further, the manner of funding treatment for particular illnesses is the result of powerful influences exerted on social structures which determine policy (Gerhardt 1989; Solar & Irwin 2007; Solar & Irwin 2010) and do not necessarily follow the epidemiological patterns of illness. The financing of one intervention over another (Solar & Irwin 2007) follows patterns of socio-political power (Young 2002; Solar & Irwin 2007). This context of health access and services management is useful here as it provides an insight into service provision. Consequently, diseases often follow the patterns of social stratification in society. Those that are the least powerful (lowest income quintile) suffer the worst health outcomes. For example, the incidence of lung cancer in rural South Australia is 73 % higher in the lowest income quintile compared to those in the highest income quintile (Glover et al. 2006). Further, there has been an increase in social inequality in South Australia of 68.1 % over the last ten years (Glover et al. 2006). Accordingly, the impact of illness in this quintile group is compounded by distance to services or lack of service in rural areas and the burden of disease is exacerbated by the expanding income divide between the haves and have nots. Additionally, exposure to illness decreases a person's capacity to work and thus limits income (MHCA 2007).

The epidemiological information discussed above, whilst outlining social difference in the patterns of disease, does not explain their causes. Additionally, for epidemiological information to be useful for clinical practice the cause of these patterns of disease require pathways of investigation (Bonita, Beaglehole & Kjellstrom 2008). This allows for the impacts of ill health to be addressed and provides possible means of delivering interventions. The SDH afford the opportunity of exploring the causes and pathways of epidemiological data.

Significance

The importance of these concepts to this research thesis is its ability to maintain validity whilst exploring the constructs of transport, income, and social support on the access to the types of health care used by family members. This requires consistency between the theoretical concepts of the influences of power on the structural and intermediary components of the SDH, and the health outcomes, as mediated by the measurable aspects of the research, such as transport, social support, and income[17]. The linkages between these parts forge new pathways for the theories, methods, constructs, and conclusions made during this research thesis.

Figure 3.1 illustrates the differing levels of influence of the SDH. The health system is a structural determinant of health while health access constitutes an intermediary determinant of health. A new level of influence being closer to the individual is the micro-mediary determinant of health. This level mediates health access which in turn is mediated by the health system.

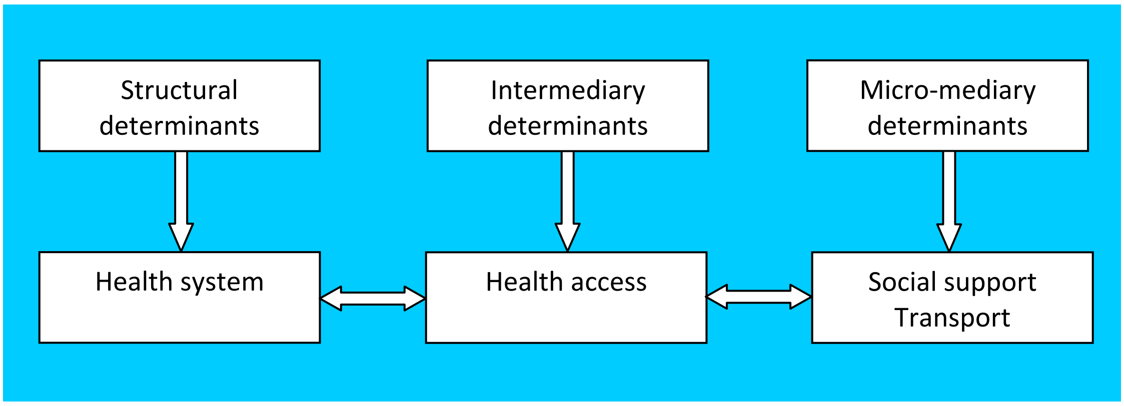

Figure 3.1 Social determinants of health influencing health access

This diagram represents an important breakthrough in understanding the pathways that form health access and has implications for addressing health access deficits.

Conclusion

Access to health care forms the basis of lifetime health outcomes. Outlining the socio-political and sociological theoretical constructs that influence health access

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[17] These aspects were measured using the HAS ED, ABS and *Social Health Atlas* data.

allows inroads to be made in addressing health inequities. Poorer health outcomes are determined not only by aspects such as education, income, gender, ethnicity, social class, and health behaviours, and the structural, and intermediary SDH, but also by the influence of exploitation, marginalisation, powerlessness, cultural imperialism and violence (Young 1990, 1992) on a family's ability to access health care, and resources that promote health outcomes.

The provision of health access through the concept of health as a human right has the ability to enhance adult health outcomes by ensuring that the mechanisms that manipulate health access are fully understood. Previous research has been limited by its lack of depth and breadth. The exact causal pathways for health access remain under-investigated. Further, the socio-political concepts that influence and maintain limits on health care access up until now escaped linkage to sociological theory such as Young's five faces of oppression.

This linking provides a theoretical basis for the outcomes of limited health access and helps to map the causal pathways from a structural, cultural, governance, and policy perspective. These aspects of society impact of the provision of health to families and mediate characteristics of family health access.

The methods used to measure family health access are explained in the following chapter. Thus, the components of family health access are not only personal in nature or clinical, but also structural, and therefore a mixed methods approach is required. A mixed methods approach has the essential elements of incorporating qualitative and quantitative data in the same research study. This allows for the inclusion of the family story with the clinical and demographic data that explains the non-urgent nature and socioeconomic aspects of familial attendance ED.

Chapter four will provide the coherent and logical reasons for the methodological and measurement choices used to ascertain the causal pathways and interactions between the small numbers of previously superficially studied SDH and their influence on the access to consistent, timely and appropriate health services.

CHAPTER 4

Introduction

The previous chapters addressed the impact of the Social Determinants of Health (SDH) on health access and the use of emergency departments (ED) for the provision of health services. This chapter establishes the methods used to investigate the SDH and their influence on family health access. While quantitative and epidemiological[18] data provide a broad understanding of demographic influences on health, qualitative data, stories and narratives provide a personal perspective on life and family circumstances. Both sources of information are useful and highlight the influences on how families make health access decisions. Given this, this study has employed a mixed method approach. The chapter outlines the methodological and measurement choices used to ascertain the causal pathways via a description of: the research journey, the significance of the research, research design, choice of quantitative method, data (Hospital Admission Status [HAS][19] ED data, which is the WCHN administrative and clinical data, and the *South Australian Social Health Atlas* [Glover, Hetzel, Glover, Tennant & Page 2006] information) and the use of the qualitative method of narrative analysis. This is followed by an outline of the ethical issues.

Statement of purpose

Family health access is determined by factors of a socio-political and community nature. The SDH provide a means of investigating these components. The core elements of the SDH, as introduced in Chapter 2 may be divided into two parts: the structural and intermediary. The structural determinants represent the socio-political influences on life chances. They include access, income, employment and housing.

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[18] Epidemiology data used here refers to the examination of the relationship between the SEIFA IRSD score and the use of ED by also examining the severity of presentation from specific postcode areas. This use of epidemiology investigates correlations in order to provide the robust debate required to analyse recent policy decisions to improve health access. This type of epidemiological practice significantly contributes to population-based health management (Porta 2008). This utilises a social model of health and SDH rather than the traditionally based biomedical view of epidemiology (Porta 2008).

[19] HAS ED data consists of clinically focused information collected on presentation at ED. For example, triage priority, postcode, mode of transport (ambulance or private car), and attendance with a referral letter.

The intermediary determinants constitute the individual intervention pathways. Examples include type of housing and availability of after hours GP and other primary care services. In an effort to decrease the numbers of inappropriate attendance at EDs, and to ensure these families have a more comprehensive form of primary care, the impacts of the structural and intermediary SDH on family health access need to be explored. The diagram in figure 4.1 explores a logical sequence for mapping familial usage of ED and the influence of some SDH.

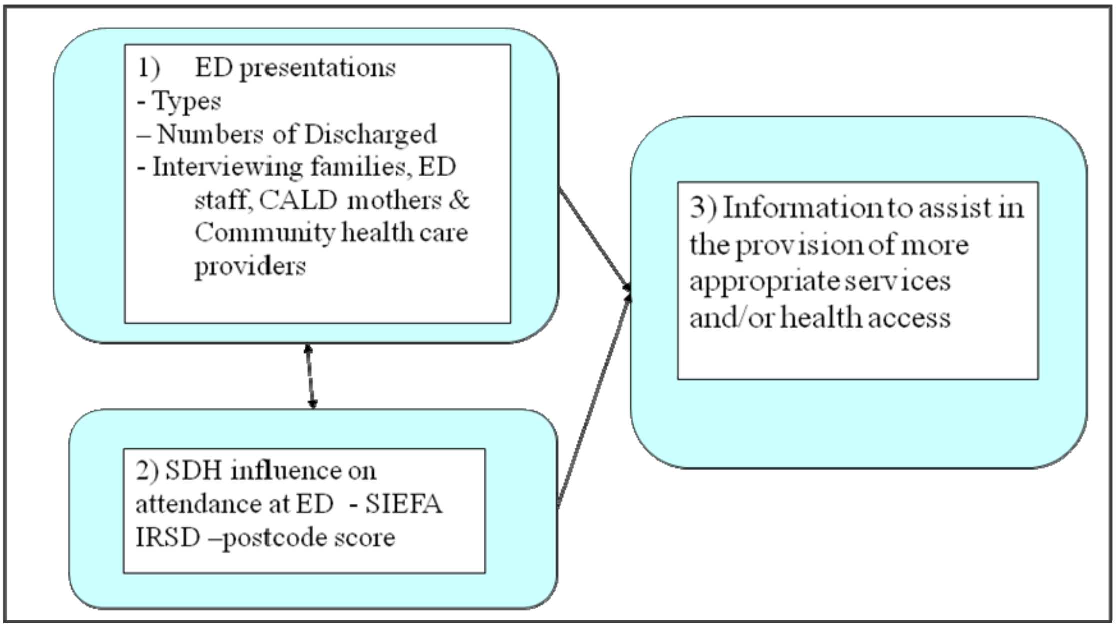

Figure 4.1 Research Logic Model (adapted from Kumar 2005)

Figure 4.1 illustrates the pathway used for mapping the research question statement. The three steps involved are: 1) The determination of the extent of possible primary care cases (Priority 5 cases) presenting at the ED on a monthly basis using the HAS data[20] (a WCHN administrative and clinical data base), 2) the identification of which SDH influence family health access at a general level[21] using the *South Australian Social Health Atlas* (Glover et al. 2006) and, 3); narrative and semi-structured interviews with twenty families to ascertain the impact of the SDH at both the structural and intermediary level. This information will assist in; i) the development of appropriate services, ii) the improvement of access strategies that decrease

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[20] The HAS ED data consists of the information collected on presentation to the ED service e.g. postcode, type of illness or injury, the speed and type of intervention required by ED staff, how the patient arrived at ED i.e. via ambulance or private vehicle and whether the patient attended with a referral letter (had visited a GP prior to attending ED).

[21] The number of GPs per head of population data is available in the ABS and *Social Health Atlas* publications

unnecessary ED presentations, and, iii) the expansion of understandings of the influence on families of the structural and intermediary SDH on ED attendance.

Methods statement

To fulfil the requirements of the statement of purpose and the research logic model the methods must provide information on; i) the current Priority 4 and 5[22] usage rates, ii) the type of health services accessed by each member of the families that were interviewed, iii) the determining factors that shape health access for each family, iv) the available alternatives to ED, and, v) the desired outcomes for the families that would assist their health access. To achieve these aims a mixed methods data collection format was chosen.

Mixed methods

Mixed method research designs are used to answer "the what and how" questions of a research project (Woolley 2009; Pluye, Gagnon, Griffiths & Johnson-Lafleur 2009). In this study, the mixed methods approached comprised of, the quantitative methods of HAS ED data, which is the WCHN administrative and clinical data set that supplies information on the types and rates of service usage, and an analysis of the *South Australian Social Health Atlas* (Glover, Hetzel, Glover, Tennant & Page 2006) information, demographic and epidemiological, that provided an understanding of the families' access to services (rates of GP service provision, income – demographic) data, and the severity of illness (triage priority) (epidemiological). The qualitative data were provided through narrative parent interviews, and staff, Culturally and Linguistically Diverse mothers group (CALD), and community service provider interviews.

The combination of the use of demographic, epidemiological and narrative data is recommended by World Health Organisation researchers Kelly and Bonnefoy (2007) when investigating issues related to the SDH. The epidemiological and demographic data allows for the identification of relevant information on class, gender, education, income, and other SDH (Kelly & Bonnefoy 2007). Further, it provides a basis for a more comprehensive understanding of the interactions between these categories and

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[22] Priority 4 and 5 indicates a presenting condition that can wait for treatment that is not in need of urgent or emergency treatment. Priority 4 and 5 cases could possibly use another primary care service.

patterns of health. Whilst the quantitative data often describes the situation, such as the number of attendances at a health service and is important in managing some aspects of a service (Kelly & Bonnefoy 2007; Pope, Mays & Popay 2007), it fails to explore the deeper needs of a population group or explain the influences behind some SDH. In short, demographic and epidemiological data may lack the depth in information regarding issues that influence choices on many aspects of family life that can be addressed through in-depth interviews or other qualitative approaches. This is addressed by the inclusion of narratives that allow families to express how these SDH impact on their health decisions. The inclusion of qualitative data is important as it bridges the current gap in evidence provided by quantitative data.

The strength of mixed methods is also found in the elimination of bias linked to a single methodological design by enhancing the depth in quantitative clinical and epidemiological and demographic data. Mixed methods also afford the ability to triangulate data through a more comprehensive data collection process (Johnson, Onwuegbuzie & Turner 2007; Sosulski & Lawrence 2008; Pluye, Gagnon, Griffiths & Johnson-Lafleur 2009) by using two data sets to confirm the findings. In addition, mixed method designs are powerful processes capable of illuminating policy deficits and solutions by providing directions for social action (Sosulski & Lawrence 2008; Whitehead & Popay 2010). In this study the two forms of data were used to understand why families chose ED to provide non-urgent care in preference to a primary care provider. Firstly, the HAS data identified the populations that attended ED, while the *Social Health Atlas* provided a description of these populations and the levels of primary health access at the postcode level. Furthermore, the ABS SIEFA IRSD score identified the levels of deprivation on a number of indicators whilst triage score provided the severity of illness on presentation at ED. Identifying the population of high attendees at ED for primary care does not include details on why they attend, nor what factors inform their actions, nor if this presentation type will inform future use. This requires talking to them and understanding the patterns, rationale and influences on choices of health service usage. This was achieved through the use of narrative interviews with the families and semi-structured interviews with staff.

Sequencing

The sequencing of data collection is an important consideration in mixed methods given that the two kinds of data contribute to illuminating the research questions. This sequencing has one of two possible aims. Mixed methods can be used to ‘tell the story’ or to confirm results. Further, mixed methods can be used to triangulate the research process providing a robustness to the research process. For example, sample selection criteria and the timing of data collection can be used to establish the relationship between qualitative and quantitative data and this enhances the links between forms of data, findings, and conclusions (Sosulski & Lawrence 2008). In this study the collection of HAS and postcode data, and the identification of families for interview occurred concurrently to assist in the triangulation of the data sets.

These methods and sequences were chosen to build a picture of how many were using ED for primary care, from which postcodes and socio-economic level[23]. This enabled a cross checking of the interview data in order to establish how this population differed from the statistical data. The interview also provided an understanding of the pathways used by families in accessing ED. The in-depth narrative exploration of families attending in the Priority 5 category provided an understanding of their rationale for attending an ED department for a non-urgent episode of care. The mixed methods approach answered the research questions raised from different perspectives, as well as allowing the accumulation of varying depths of knowledge.

Study Design

Research Process: Stages

The stages of the mixed method design outlined in Figure 4.2 illustrate the pathway and orderly sequence of events used for the collection and analysis of the data. This succession of events and the choice of methods were determined by the literature, previous research in the area and the unfolding enquiry. The stages and sequencing of the methods and data collection was deemed appropriate given the complex nature of the information being collected and the patterning of influences on the SDH and families and are outlined below in Figure 4.2.

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[23] This information is provided by the ABS SEIFA IRSD data and *Social Health Atlas* data.

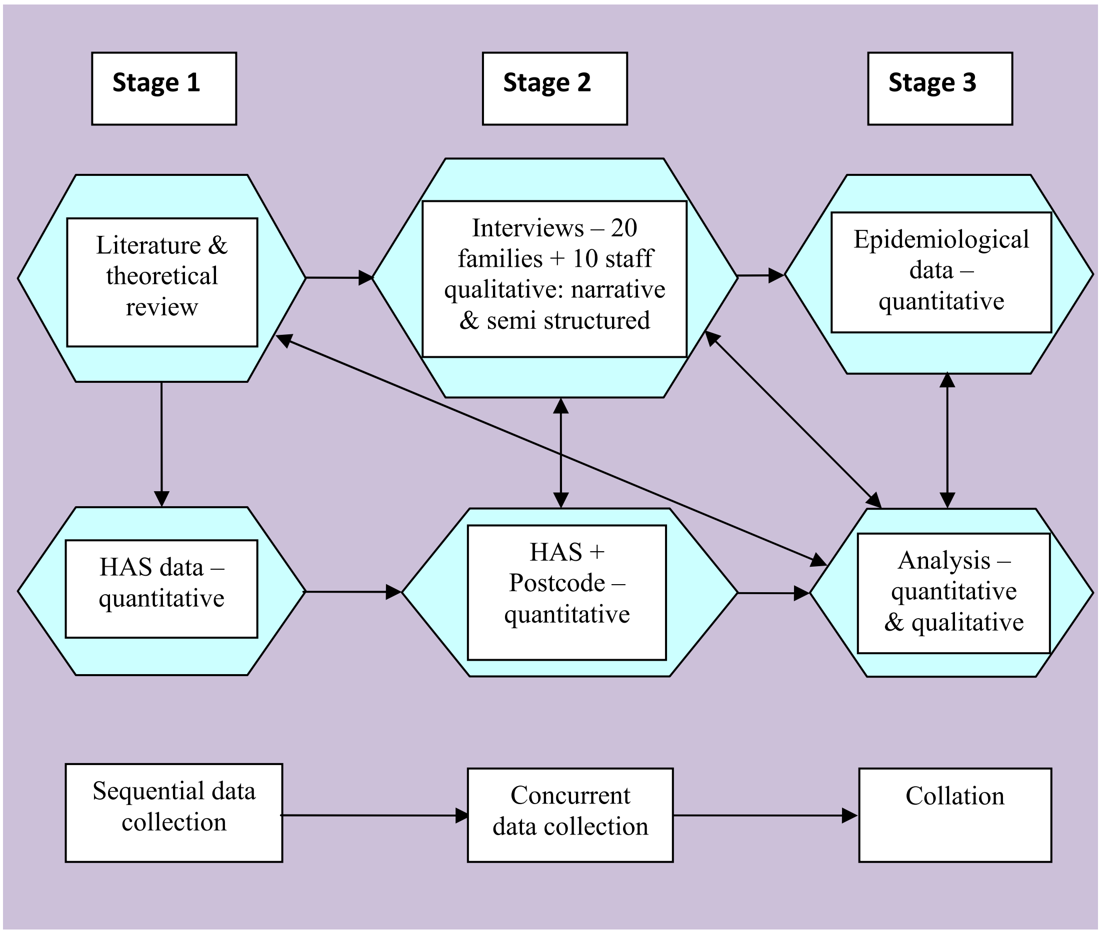

Figure 4.2 Study design and stages (adapted from Kumar 2005 and Woolley 2009)

Stage 1

In stage one a review of the literature on the SDH was conducted and a three month review of ED non-urgent usage HAS data covering the past two years [after ethics approval (appendix A)]. The three months chosen were October, November and December in years 2007 and 2008. The rationale for this time frame was to obtain data for the same period over two years to determine any significant changes such as an increase in presentations. As junior, and inexperienced doctors are just beginning clinical rotations in the first part of the year the later months of October, November and December were chosen in order to reduce differences in triage practices by novice staff. Choosing later months in the year allows time for new staff to develop consistency in treatment and an awareness of the application of the clinical priority levels.

This preliminary HAS ED information is collected routinely by the Women's and

Children's Health Network (WCHN). The HAS ED data were analysed and confirmed the need for further investigation into those SDH characteristics that impact on the use of ED usage. The examination of the non-urgent HAS data supported the premise that Priority 4 and 5 presentations to ED were increasing and this corresponded with the findings of research conducted in OECD countries (Bradley 2005).

The information from the HAS data was examined in the light of a review of social theories that explained the influences of SDH on health outcomes. This literature highlighted the place of power and the way powerlessness impacts on health access for some population groups (Young 1990; Edvardsson, Holritz Rasmussen, & Kohler Riessman 2003). At this point it was hypothesised that the micro social theories of Young (1990) might best describe how power operates and complements the division between the structural aspects of the SDH, and the structural and intermediary determinants of health. Further, social differences in health access may be explained by power relations and the influence powerful professional groups have on policy relating to health service provision.

Stage 2

Stage two used a concurrent mode of data collection of the recruitment for families to be interviewed who had been discharged[24] from ED for interview and the collection of HAS ED data on the families that used WCHN ED. The latter data contained information on; priority levels, postcode of residence, attendance with a referral letter (indicating primary care use prior to presentation at ED) and transport mode to hospital. The families that attended ED and were subsequently discharged potentially represented cases of primary care illness that could use another service, as well as possible candidates for interview.

The first step in this process was the engagement with ED staff and this entailed the presentation of the research proposal following ethical approval from Flinders University and WCHN in Adelaide, South Australia. The initial ethics proposal suggested that staff recruit families for interview. However, it was deemed more

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[24] Children attending the ED with a condition that is not considered as warranting admission are discharged and sent home. Those children with a condition requiring admission are either admitted to the short stay ward or into the hospital.

appropriate for the ED medical director to send letters of invitation to discharged families some weeks after they had been discharged from ED and at a time when the distress of the event was no longer present. This also ensured that the ED waiting area remained un-congested. After further consultation with the ED staff, they agreed to mail a letter to all families discharged from ED as this was believed to be the most time efficient and least confusing for both the parents and the staff.

The HAS ED data provided postcode, mode of transport, referral letter, and severity of illness (triage priority) of the family who visited WCHN ED. This enabled an assessment to be made on the representativeness of those families interviewed. For example, in the month of October 2007 there were 214 Priority 5 families from postcode 5127 and this represented 59% of all the families discharged from the ED. The aim was to attempt to achieve a similar percentage of families from this postcode for the qualitative interview sample in order to attain representativeness and to triangulate data sets.

Stage 3

In stage three the data were analysed from the sequential and concurrent mixed methods data collection events. The HAS ED demographic data were evaluated against the demographic data from the *South Australian Social Health Atlas* (Glover et al. 2006) in order to determine if the areas of high ED use contained higher percentages of children, professionals/managers, unemployed, GP services, access to private transport and single parent households. Further, the ABS SEIFA IRSD scores provided an understanding of the levels of deprivation in a postcode area. These factors were examined to build a picture of those postcodes that had the highest rates of ED attendance. The collation of the data used frequencies, chi square ($\chi 2$), logistic regression, and thematic analysis.

Research process: HAS ED data

Determining the current Priority 5 usage rates: HAS ED data

Rationale for using HAS ED data

This research commenced with the collection of HAS ED data. All presentations at ED are subjected to a process of prioritisation using the Australasian Triage Scale (Commonwealth Department of Health and Family Services 1997 reviewed 2006

[CDHFS]) that consists of an evaluation of the patient’s condition to assess the level of urgency required for treatment. Triage identifies patients needing immediate clinical attention and patients who can wait. The condition is assessed using a priority rating of between 1 to 5 with Priority 1 determining ‘very urgent’ clinical intervention, for example an abnormal vital sign such as heart rate, and treatment at level 5 condition being able to wait 120 minutes or longer (CDHFS 1997; van Veen, Steyerberg, Ruige, van Meurs, Roukema, van der Lei & Moll 2008).

The Australasian Triage Scale rates clinical urgency in hospital-based EDs across Australia and New Zealand (CDHFS 1997). It was developed to assess the need for immediate clinical intervention and determine performance parameters for patient flows in ED and is used in the ED involved in this study. Patients are assessed on arrival by an appropriately trained triage registered nurse who monitors their clinical signs and progress through ED (CDHFS 1997). The triage system also allows for the deployment of additional resources to particular areas depending on clinical needs; for example, if patients are waiting for more than two hours in ED extra nurses may be assigned to ease the patient overload (CDHFS 1997). This promotes the flow of patients to the wards if admitted or to discharge areas if admission is unwarranted.

Further, the HAS ED data is routinely collected by hospitals to assist with; i) clinical data regarding the diagnosis, ii) clinical services required by the child; for example, children with asthma are designated to the respiratory ward and are reviewed by respiratory physicians, iii) the planning of services, such as, the numbers of nurses required for the functioning of a particular service, iv) the application for funding of current services, v) expanding the current service based on usage, and vi) identifying future health requirements and their provision. The extensive use of ED by non-urgent cases can potentially stretch scarce resources (Bradley 2005; van Veen et al. 2008). An ED is an expensive and highly technical area due to the nature of trauma, services required, and the need for highly qualified staff (Bradley 2005). Thus, if admission to hospital is unnecessary these patients may be better served by community based primary care and primary health care centres.

The HAS ED data presented in Table 4.1 was collected by the Women’s and Children’s Health Network (WCHN) in South Australia. Analysis of this data provided the rationale for the research question. The table shows the percentage of attendances according to triage priority level.

Table 4.1 Percentage of Paediatric ED attendance by priority level 2007-2008

Priority	October 2007 – December 2007	October 2008 – December 2008	Change (%)	P-value
1	0.2	0.1	-50.0	.14
2	8.1	5.6	-30.9	<0.001
3	29.9	29	-3.0	.02
4	52.7	50	-5.1	<0.05
5	9.1	15	64.8	<0.001

Adapted from WCHN HAS ED data, 2009

A comparison of the attendance numbers by priority level over the three month period highlights the increase in Priority 5 between 2007 and 2008. Table 4.1 shows that the increment rate was almost 65% during 2007-2008. However, the attendees were declining in 2008 for all other priority levels as compared to the previous year. The Chi square test also showed a significant increase in the priority 5 level, $\chi2$ (1, *n* = 2,317) = 2312.80, *p* <0.001 over the years 2007 and 2008. The Phi and Cramer's V value representing the strengths of this relationship is 1.00 indicating a much larger than typical effect of one variable on the other (Leech, Barrett & Morgan 2005; Gravetter & Wallnau 2009). This differs from the trend in the other priority cases which show a decrease in attendance numbers and a statistically significant differences (*p* <0.001 Priority 2 and *p* <0.05 for Priority 3 and 4) in ED attendance over the same time span. This initial investigation supports the need for further examination if only to help explain the increase in priority 5 ED presentations.

Rationale for using qualitative interviews

Once a family was identified as a Priority 4 or 5, discharge case and the clinical data supported the premise that this family could possibly use another health service, (for example a General Practitioner), a letter was sent inviting the family to participate in the research. The family were invited to contact the researcher and thus voluntarily selected to participate in the research. After consent was obtained a meeting was arranged at an appropriate venue. The interview took place and this entailed either attendance by the researcher at the family home, community centre, or local libraries. The use of family homes, community centres and libraries was important as it removed the aspects of stress that is commonly felt by parents at times of health access when children are ill[25] (Streisand, Braniecki, Tercyak & Kazak 2001; Bentley 2005). This approach is supported by Bentley (2005) whose research identified the different behaviours exhibited by parents in EDs. Bentley (2005) argued that it was important to have a neutral setting for post ED visit interviews. Further, a comfortable environment is considered important as it allows the primary carers/parents to reflect on their health access and contemplate the assorted ways their family has accessed health services. An unhurried and relaxed interview environment also enable families to consider the influences that impact on health access and explore alternative possibilities to enhance health access in the future. The family members interviewed were primary care givers, mostly mothers, and information was sought on how they accessed health care for their children with an emphasis on differences between family members, modes of transport used to obtain care, and social support available to families. Finally, in the individual narrative interviews the way participants made decisions about the use of health care was explored. Questions included when the judgment was made to take the child to ED, and who in the family made this decision and what alternative services were available.

Narrative research and analysis

History

A narrative approach was used in the parent/carer interviews as described above. Narrative study, as a research approach began in the 1800s with its application expanded through the methodological frameworks of Russian formalism, United States new criticism, French structuralism and German hermeneutics (Czarniawska 2004). Russian formalism was developed by Saussure in the nineteenth century and explored further by Tynyanov and Jakobson (1928). Proponents of this approach viewed literature as a system and the social fabric as the ‘system of systems’ (Dombro 2007). Russian formalism used literary devices, such as developing a ‘scientific method’ for the study of poetic language that reported the ‘distinguishing features’ of literature (Erlich 1973). Narrative analysis using Russian formalism seeks to determine not only the sentence and consonantal structures, melody, syntax,

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[25] The children were ill at the time of ED attendance but had recovered by the time the interview took place.

rhyme, composition, tone, metaphor, patterning, plot, genre and character, but also the social and political context of speech (Czarniawska 2004). It draws on critical theory for its analysis. Further, some researchers break up what is being said into patterns of tone, metaphor, etc. This style of narrative analysis was used by Labov (2006). It is a text analysis using both linguistic and socio-political analytical determinations.

United States new criticism was established in the 1920s as a critique of pre capitalist and modern capitalist society (Giddens 1987; Jancovich 1991). It derives meaning from the 'close' examination of the poetic or literary texts to determine cultural influences (Searle 2005). The analysis of the language itself within the text provides 'a unique source of meaning and value, sharply distinguished from other texts or other uses of language' (Searle 2005, p. 691). The components, meanings, and structures of the narrative enable a comprehensive analysis of language to occur. The critique of society is thus afforded through the investigation of language. Its distinct difference from Russian formalism is that it does not use a formalised linguistic structure analysis method to determine meaning (Erlich 1973).

French structuralism developed an analysis for specific fields of intellectual inquiry portrayed as parts of complex systems and is based on the work of Saussure (Giddens 1987). It has influenced the work of social theorists, such as Foucault, and is used to analyse language, culture and society to understand rituals and systems of significance (Giddens 1987). For example, the abductive[26] nature of narratives allows for different views of phenomena to emerge and this is useful in organisational and social research (Czarniawska 2004). This is an important component of narrative analysis as it enables a variety of interpretations to be displayed and is of particular relevance to the aspects of family life that are situated in society, community and within the social structure, and expressed in conversations and narratives illustrating the complexity of influences.

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[26] "Narrative stories express multiple, possibly conflicting viewpoints, these are often choral-like, three dimensional, self-reflexive, and dynamic" (Barry & Elmes 1997, p.13). This illustrates the fundamentally abductive nature of the narrative. Abductive reasoning allows the inference of *a* as an explanation of *b* (Peirce 1981). As *a* is a precondition to be abducted from the consequence of *b* (Peirce 1981).

German hermeneutics developed in the 18th century is used to interpret text as a conceptual resource providing insight into a broader meaning (Dombro 2007). The term hermeneutics means to “translate or interpret” (Munhall 2007). The 18th century German philosophers Schleiermacher, Hegel, Kant and Von Schlegel developed this method of critical analysis drawing out the means of text (Munhall 2007). The words within the text are given measure or weight to portray the meaning of the author or orator in order to provide an ‘objective’ analysis (Munhall 2007).

The use of narrative perspectives has increased in the last 25 years and various disciplines such as psychology, education, sociology, and history place the theory, research methods and tools, and its application within the inventory of the research repertoire (Lieblich, Tuval-Mashiach & Zilber 1998). Historically, narrative analysis is inherently interdisciplinary by nature extending to other social science methods such as, survey, observation, and empirical measurement to give rise to a broader use of narrative analysis (Kohler Riessman 1993; Lieblich et al. 1998; Czarniawska 2004; Daiute & Lightfoot 2004). Its contemporary use offers a counterpoint to the past reductionist approaches to research, providing theoretical complexity and methodological diversity (Kohler Riessman 1993; Lieblich et al. 1998; Daiute & Lightfoot 2004). In this research the socio-cultural aspect of narrative analysis is employed drawing on the socio-political aspects of Russian formalism, United States new criticism and French structuralism allowing for the analysis to be linked to social theories of power.

The use of narrative to determine social constructions

Narrative analysis is the broad term used to describe a research act that aims to obtain from the participants detailed accounts of their lived experience through their stories. In practice, many such projects have focused their attentions on vulnerable or marginalised groups, thus containing an emancipatory emphasis, but the method can be used with any group of people (Davies 2007; Duffy 2008). Narrative inquiry uses the narratives that emerge from interviews and examines the material within the context of how the data and participants are situated in the social world. It is the task of the researcher to tell the story of both the lived experience of the participants being interviewed and the way in which they interact with the external world (Liamputtong 2009). Meanings are derived through the deconstruction and reconstruction of the narratives defining structural elements (Duffy 2008).

The systematic means of understanding the structure and function of complex stories and events used by narrative analysis reveals the social world and an individual’s identity (Czarniawska 2004; Duffy 2008). As such, narrative study is situated within a social constructionist paradigm and illuminates the individual’s understanding of their socialisation process (Duffy 2008). The stories represent how the participants see themselves within a social structure and their capacity for empowerment and self determination. Narrative analysis situates an individual’s conduct and intentions as relayed through individual experiences, within institutional and socio-political context of a society (Czarniawska 2004).

Structural elements of the narrative

Narrative analysis seeks to reveal the key elements in a story that illuminate meaning. The meanings assigned to the elements of the narrative have distinct functions (Czarniawska 2004; Liamputtong 2009). The functions outline the significance of an action as determined by the meanings assigned to it by the participants (Czarniawska 2004). This allows the researcher to analyse the structural elements and the functions of the narrative and to link the past events to present experiences and interpretations within the storyteller’s life (Duffy 2008). Further, this analysis may be used to inform determinations on future actions, events, and beliefs that form the basis of where the participant is situated within their social arena. It is important to provide the participant with the opportunity to review the raw transcript to ensure their meanings and content were relayed to the researcher (Munhall 2007).

A structural analysis provides the method for interpreting the structural elements and the functions of a narrative interview (Czarniawska 2004). The actant model developed by Greimas (see, e.g., Greimas & Courtes 1982) distinguishes between the ‘way the narrative is told [the discursive level (or enunciation)] and the narrative itself [the narrative level (or utterance)]’ (Czarniawska 2004, p. 79). The use of the actant model here assists in distinguishing aspects of power within the narrative (Czarniawska 2004). For Greimas the narrative provide a means of understanding the observations and actions of humans, animals, objects or concepts for research not only in social science but also in the area of social technology (Czarniawska 2004). The elements are deconstructed by the researcher into components such as, time and place, complexity of the event, complications of a critical event, the meanings, and actions assigned to the event and the result or outcomes from the event. This provides a means for scientists to understand a narrative through the deconstruction, construction, and reconstruction, and then reiterate the narrative in an analytical manner, thus creating a new theoretical model (Czarniawska 2004). This thesis analyses the parent's stories of paediatric health access using the framework provided below.

Orientation in time and place

The person interviewed situates their story within time and place for example when the event occurred, such as a week ago, a month prior to the interview, or where the event occurred or the multiple venues used during an event, for example, the family attended the local health services to find it closed and proceeded to the ED department. This articulates at least two pieces of information: that the family tried to use local services but were unable due to lack of provision; and/or that other local services were not accessed. Participants use terms such as 'before' and 'after' to situate the narrative in a spatial and chronological sequence (Labov 1997; Czarniawska 2004; Liamputtong 2009).

Complexity of the event

The complexity of the event is relayed to the researcher and outlines who is involved in the event, the influences they have over the event, and what is involved in the event. Further, the impact of institutions and social structures on the event can increase complexities. This locates the narrative in a social context. As an event is remembered by the participants, the extent of the memory represents its complexity, as it interrupts the mundane (Kohler Riessman 1993). This situates the event as a critical event in the life of the narrator.

Complications of a critical event

A critical event is described in the manner in which it is interpreted by the narrator and the ramifications it may have on the narrator's life. The language used provides an understanding of human conduct and its implications (Daiute & Lightfoot 2004). The narrator may evaluate the impacts of the event as a series of actions that require further actions and interactions that arise from the episode of health access. These events may be viewed as either positive or negative by the storyteller and provide an instrument of analysis. For example, the family attends their GP only to find after waiting to be seen that the GP does not treat that paediatric condition and they are referred on to ED to wait there for primary care treatment. This implies the GP lacks a paediatric skill set and adds complexity to child health access as the parents need to determine local skill levels of the GPs as well as determining health access hours.

Implications arising from the critical event

The negative or positive consequences arising from the complications caused by the critical event may have ongoing implications. Narratives people derive from events inform self-belief and expectations for future events, both at an individual level for themselves and at a social level for their expectations of society (Kohler Riessman 1993; Lieblich et al. 1998; Czarniawska 2004; Daiute & Lightfoot 2004; Duffy 2008). Further implications for the family could include; at a self belief level, not being able to provide health care for their children; or at a societal level, that local services are not available to them when they need them.

Meanings and actions assigned to the events

These refer to the meaning attributed by the participants to the particular events and the role these meanings play in future decisions to seek health care. The meanings then also guide subsequent actions regarding health care and its access. The actions of the participants and their child/children inform decisions regarding health, and the type of health care they access. A process of construction hereafter determines the patterns of health access.

The result or outcome of the event

The result or outcome of the event is the combination of the above that has implications far beyond the event. It may inform later health issues. The interpretations of the critical event inform self belief, the individual's capacity for self direction, and ideas regarding the services and support available in our society. Thus, the results or outcomes of a critical event may influence patterns of future health access.

Narrative analysis provides the opportunity to gain in-depth information on events or circumstances within a person's life that has significance to them. The narratives collected can substantiate each other providing common themes. One of the underlying motives for using narrative is to examine the depth such data provides and apply what is learnt from a few to many, to gain substance for quantitative data, and to make theoretical assumptions through the method and triangulation of the information collected to reinforce the research process.

Social and power implications of narrative analysis

Researchers have found the use of narrative analysis important in discovering the underlying socio-political impacts on population groups (Kohler Riessman 1993; Lieblich et al. 1998; Czarniawska 2004; Daiute & Lightfoot 2004). As Kohler Riessman (1993) notes:

> The use of narrative analysis is important as all narratives are socially constructed and laced with social discourse and power relations (Kohler Riessman 1993 p. 65).

As such narrative provides a useful insight into the social and power relations that influence the participant's decisions. In this thesis the stories are used to link the family's narrative with the structural determinants of health and illuminate Young's theories of power, namely: exploitation, marginalisation, powerlessness, cultural imperialism and violence, and how power is expressed and influences decisions and actions. This analysis offers the means of addressing the social aspects of the SDH via narrative analysis. The previously described structural elements of the narrative are analysed and deconstructed into representations of the structural and intermediary SDH and its implications on power and future health access for the participants and their family.

Rationale for using a CALD focus group

A CALD focus group and subsequent analysis of the themes provided information on health access from a group of mothers living in a lower SEIFA IRSD area. This was necessary in order to explore the facilitators and barriers to health access given that parents from lower SEIFA IRSD are the most frequent users of the Paediatric ED service and this group was not adequately captured in the parent interviews. The focus group was conducted in predominantly in English however, an interpreter was provided for some of the women who's English skills were limited.

In order to provide one form of triangulation of the data, and to ascertain the staff's understanding of the influences on health access decisions, the key stakeholders in the ED section of the hospital were also interviewed. These include; Divisional Chief, Manager Facilitators, Clinical Nurse Consultants, Clinical Nurses and ED nurses and some Medical personnel. This was done to investigate and corroborate the data provided by the families. This information was seen as important as the views of the staff will inform the levels of service and the ability of the organisation to provide appropriate and timely health care, as those often needing the most services, for example the chronically ill and the poor, have less access to them (Furler et al. 2002; Suruda et al. 2005). Bradley (2005) suggests that 50% of patients attending ED have access barriers to alternative forms of health care, although Lega and Mengoni (2008) argue that many patients who access ED erroneously believe that their condition is serious. Bradley (2005) also suggests that non-urgent usage is a contributing factor to ED overcrowding and inefficiency that leads to deleterious health outcomes for ED patients and decreased job satisfaction and burnout in staff.

Gaining an insight into the staff perspective also enabled an exploration of the service provider's understanding of the SDH and how these aspects informed decisions about families in health care access. Staff opinions often inform service developments and the face-to-face interactions with the public; for example overcrowding could be interpreted as a need for more staff rather than a need to develop alternative community services. Additionally, if staff believe that provision of services to Priority 5 clients is a waste of resources then interpersonal interactions with families may be negatively influenced. Opie (1997) found that team member's opinions and interactions in a health service contribute to the 'team narrative' which provides distinct perspectives on particular service users. These factors may also influence family health access and require investigation.

Rationale for using semi-structured questions

Initially a narrative interview process was used with the families. Following this they were asked a series of semi structured questions. This was important for two reasons; it avoided a repeat of information in a broad narrative of the experiences of accessing health care, and the follow up semi structured questions were only asked where the relevant information was not provided in the narrative first. Other factors impacting on health access such as, transport and social support were investigated in the interview and the semi structured questions. However, the broader concept of income was measured at a SEIFA IRSD score level. The SEIFA IRSD area score provides a possible indication not only of access to materials and services for families but also may be an objective measure of community resources as well. Further, the SEIFA IRSD measures particular SDH factors such as, income level, education, access to private transport, social support, unemployed families or underemployed families, and socioeconomic data available from the Australian Bureau of Statistics (ABS). Whilst postcode may be a broad measure of socioeconomic and SDH its use is valid as it aids in corroborating other information, data, and observations (ABS 2006a). In addition, health service provision is determined at a postcode level (Glover et al 2006). Postcode data allowed comparisons to be made between different socioeconomic and geographical areas in order to identify the source of variations in health care access for families living in these areas. Identifying the postcodes placed the family within a socioeconomic and geographical context within South Australia and allowed for a comparison of the patterns of health access and service provision.

The SDH units examined include for example, transport type and availability, and whether either of these units inhibit or enhance health care access. Further, income type included quintile level, social welfare benefit (such as pension, single parent allowance), or amount of income[27]. The unit of health care was categorised as availability of health care, type of health care, the frequency of use, and cost of health care for these postcodes.

The qualitative research participants

The family participants selected for interview were recruited using a critical snowballing method (Hansen 2006). Critical snowballing uses key professionals to provide information on possible suitable participants for research (Hansen 2006). The method of sampling was also important to enhance rigour and whilst random sampling is preferred it is not appropriate for qualitative studies (Hansen 2006). In an effort to maintain confidentiality and enhance the inclusiveness of the study the

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[27] The data used here is available at postcode level from the ABS and *Social Health Atlas*

participants were selected by the staff of the ED. This constitutes a form of, critical appraisal, chain, or snowballing sampling, where by key informants, in this case the staff, suggest families to be involved in the research (Hansen 2006). The participant's then self select to be involved in the study. This ensured that the researcher had no prior knowledge of the participants or their health conditions. This method was critical as the staff determine the reasons for care and the level of health service response. For example, the ED staff on presentation allocate the triage priority and determine if the parents are using ED for primary care. Those parents using ED for primary care were then identified by the staff and then approached via a letter for recruitment into the study. This entailed staff critically appraising the families that presented to ED and determining their appropriateness for the research project. Therefore, after discussion with the ED staff the process of recruitment was as follows:

- All attendees at the children's ED service who were subsequently discharged directly home from the service were sent a letter of introduction and a participant information sheet.
- Administration staff mailed the letters to the families.
- Interested parents then responded to the letter by telephoning the researcher. They were screened for suitability to participate in the research, as only those families that could have attended an alternative service were interviewed. Exclusion criteria included:
    - Those families returning to ED at an ED physicians request.
    - Those families whose child required the reinsertion of a feeding tube as this service is not provided by GPs.
    - Families referred by another hospital due to limited paediatric capacity,
    - Children of ED staff members.

An information sheet and letter of introduction to the research project and the project outline was sent via the mail to the family. Of the 312 letters sent 22 families responded and 18[28] families participated in the research. A description of the participants is provided in the table below. In an effort to provide a basis for

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[28] The sampling of families ceased once the saturation of themes occurred (Mason 2010). There is a point of diminishing returns where further interviews add little to the defensibility of the research process and findings (Mason 2010).

comparison between family groups all families that voluntarily self selected that were included in this study were then categorised into SEIFA IRSD quintile income groups and then further described in terms of their demographic characteristic that included; area of residence, number of family members, family composition, for example, single parent headed households, and transport types and availability. The participants also provided information on the types of after hours' health services available to them and this was included in the analysis.

Table 4.2 Qualitative research participants (families)

Participant	SEIFA IRSD	Participant observation & interview details	Interview date 2009
1, 2, 14, 15, 17	Lowest income quintile area[29]	Spent 1½ hours with participants. Family 1 not fully employed. Migrant family unskilled. 2 children. No after hours GP services. Rang locum and wait was 4 hours then went to ED.	June 2009
		Family 2 single parent family last accessed health care for child 2 of 2 children. Interview 1 hour. Mother had tried GP first no appointments. Had attended ED.	June 2009
		Family 14 last accessed health care for child 1, 2 and 5 of 5 children. Child 5 has chronic health conditions and always use ED services and have not considered any other service. 2 hour interview. Rang GP no appointments. No transport to other health services available and limited funds to pay gap fees.	September 2009
		Family 15 2 hour interview. 1 child. No after hours service from local GP. Rang locum 4 hour wait used ED.	October 2009
		Family 17 had 2½ hour interview. 5 children all will chronic health conditions. 2 youngest severe conditions. No GP appointments wait 2-3 days for children and 3-4 weeks for adults. Has used NP clinics.	December 2009
6, 10, 16	Low income quintile area	Family 6 had 2 children. No after hours GP. Did not use local hospital preferred to travel to paediatric ED as more comprehensive for children.	August 2009
		Family 10 had found GP care not as comprehensive as ED for 2 children. 1 hour interview.	August 2009
		Family 16 had 2 children. 1½ hour interview. No after hours GP. Found locum skills with children limited preferred paediatric ED.	November 2009

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[29] These scores represent the 5 socio-economic classes. For a discussion on the quintile range see Chapter 5, Table 5.2 Quintile ranges

Participant	SEIFA IRSD	Participant observation & interview details	Interview date 2009
13	High income quintile area	Family 13 had 2 ½ hour interview. 3 children. Had used NP in UK. No after hours GP services had attended ED.	August 2009
3, 4, 5, 7, 8, 9, 11, 12, 18	Highest income quintile area	Family 3 spent 2½ hours with participants. Family 3 accessed health care for child 4 of 4 child family. No after hours GP.	July 2009
		Family 4 interview 50 minutes (at work). 3 child family. No after hours GP. Had attended a private hospital ED ($300 upfront fee) but then went to the paediatric ED.	July 2009
		Family 5 single parent family with 2 children. Had accessed ED due to gap fees charged by GP for child access after 3pm. Had also used ECP services.	July 2009
		Family 7 one child family. Both employed in the tertiary education sector. 45 minute interview. No after hours GP service.	August 2009
		Family 8, 2 child family. Parish provided house. 1 ¼ hour interview. No after hours GP service and locum wait 4 hours.	August 2009
		Family 9, 1 child family. 1½ hour interview. Migrant professional family. No after hours GP. Plenty of local GPs but no available appointments. No locum knowledge.	August 2009
		Family 11, 1 child family. 2 hour interview. No after hours GP. Limit GPs. No locum service.	August 2009
		Family 12, 2 children. Had used NP in the UK. Had used US and South African health care systems. Self employed. No GP appointments available. No locum for 4 hours. WCHN ED Local hospital.	August 2009
		Family 18 1 hour interview. 2 children self employed. No GP appointments. Tertiary educated. Could have used local extended clinic but preferred WCHN ED Local hospital.	December 2009

N.B. all ED use was for a primary care condition.

Table 4.2 provides an example of the details collected for each family and the parent/carer interviewed for the research.

Staff

Ten[30] staff working in ED also self selected and volunteered for this study. The

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[30] For a full discussion on qualitative thematic saturation see Mason (2010).

details of the staff members included employment level such as, manager or RN level 1, skill levels and duties and interactions with the patients and their families. The ED staff formed the ‘key informant’ component of the study (Hansen 2006).

It is important to note that whilst this sample, consisting of the families and staff, does not fulfil any representative statistical inference requirements, the sample does provide a substantial contribution (Polkinghorne 2005) to deeper levels of understanding and experience exemplars required by this research. This may limit the research to being idiographic but it does not diminish its importance.

Members checks

The process of confirming the contents of the transcript entails the ‘checking’ transcript accuracy by participant ‘members’ (Roberts & Taylor 2006; Munhall 2007). Families, ED staff and Community Health Service staff were given the opportunity to review the transcripts for accuracy of content and meaning. Most declined however two families did review the transcript of the recorded interview.

Quantitative data

Demographic data

Demographic data was used in this study to situate the families interviewed within the broader social setting, for example, the postcode situates the family in a socioeconomic (quintile) group thus linking social theories with the data and providing a theoretical base. Young’s theories on power provide a platform that allows the findings, results and any subsequent recommendations to be viewed in light of these theories. The positioning of the family in a quintile group also provides a means of situating the narrative analysis into a broader context. For instance, if the family’s income is in the lowest quintile range, then their transport and health access patterns may be similar to that of other families in the same quintile group and this supports the generalisation of these findings to others in this quintile group as well as their story.

Epidemiological data

Epidemiology is the logical and systematic collection of data on diseases, its occurrence, and location both locally, nationally and globally. By comparing rates of disease in populations and subpopulations epidemiological studies over the last 50 years have highlighted the impact of the SDH on disease rates. Epidemiology alerts us to the fact that the patterns of disease lie mostly outside of the biomedical model's sphere of influence (Bonita, Beaglehole & Kjellstrom 2006). The information provided in an epidemiological form highlights distinct aspects of life that influence health, such as, personal characteristics and environmental exposure and may be used to prevent the spread of illness and future outbreaks (Bonita et al. 2006). Epidemiology data was used to describe the occurrence of diseases in particular geographical locations and among specific population groups. This database aids governments in planning services, monitors outbreaks of disease and providing public health information to prevent ill health in at risk populations. The severity of illness and the postcode data collected (epidemiological) by the HAS ED as one form of data as this alerts us to patterns of health events, and characteristics or determinants of health (ABS SEIFA IRSD information). By comparing this data to the information on health service provision, a determination on the appropriateness of health access may be achieved. Further, epidemiological information can be combined with demographic information to enhance the understanding of the population's capacity to access health services. For example, areas containing higher level of residence dependent on commonwealth benefits may require more health services due to the link between poverty and ill health (Marmot & Wilkinson 2006).

Table 4.3 shows the postcode information as the geographic areas from the HAS ED data. The postcodes were transferred to Local Government Area (LGA) and Statistical Location Area (SLA) which is commonly used by the *South Australian Social Health Atlas* (Glover et al. 2006). This enabled comparisons to be made from one data set to another. For example some information such as GP number per person is only available in LGA form and required conversion. Converting the HAS postcode data, to comply with the data presented in the LGA formats allowed for comparisons across a broader range of data. This assisted this research project in two ways. Firstly, it provides the triangulation of the information collected with other sources to strengthen the results, and secondly, it aids in the validation of the information with other members of the same community.

Table 4.3 Postcode data, area, local government area (LGA) and statistical location area (SLA)

Postcode	Area	Local Government Area	SLA code
5000	Adelaide	Adelaide	40070
5006	North Adelaide	Adelaide	40070
5007	Bowden, Brompton, Hindmarsh, Welland, West Hindmarsh	Charles Sturt	41064 – inner
5008	Croydon, Croydon Park, Croydon Park South, Devon Park, Dudley Park, Renown Park, Ridleyton, West Croydon	Charles Sturt	41068 – north-east
5009	Allenby Gardens, Beverley, Kilkenny	Charles Sturt	41068 – north-east
5010	Angle Park, Ferryden Park, Regency Park	Port Adelaide Enfield - Park	45896 – Port Adelaide. Enfield – Park

Quantitative data collection

The information was extracted from the Paediatric ED service at the Women's and Children's Hospital through the HAS ED. The rates of attendance of Priority 4 and 5 patients have been considered as these represent possible primary care attendance cases. This information was collected by the HAS ED and the data are used as a clinical tool initially and include information on the department or clinic that will need to review the patient, where the patient is within the hospital system, Medicare number[31], area of residence and demographic information such as age, gender, and health insurance status.

The HAS ED system does not record income, health care card status, or occupation therefore this information was predicted/ascertained from the SEIFA IRSD code of the suburb where the participating family lived. This assisted with situating the participating family within a socioeconomic context and provided information regarding the structural determinants of health that might influence decisions regarding health access. The combination of the qualitative data with the quantitative data enabled the grounding of the quantitative data within the society and the links between societal constructs and family health access to be explored.

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[31] A nationally provided universal health access number for each Australian citizen.

All analyses of HAS ED and SEIFA IRSD data were performed using SPSS software, version 18.0 (PSPP, Evanstron, Illinois, USA). Descriptive statistics are expressed as cross tabulation to highlight the areas of highest use of ED whereas, $\chi 2$ and logistic regression enabled possible conclusions to be drawn from the relationships between the HAS ED and SEIFA IRSD variables arising from the data. This may be used to predict future ED usage by particular population groups (Hastings et al. 2008; Brace, Kemp & Snelgar 2006; Suruda 2005). The epidemiological data and the qualitative responses to the questions on ED use were investigated to determine the links between income, occupation group and health access using a multinominal logistic regression.

Quantitative participants

The 25,520 paediatric cases using WCHN ED were collated into 268 postcode areas and the numbers of children attending from each area. Postcode areas over 50 kilometres away from WCHN ED were removed to ensure that true emergency cases which consisted of only one attendance did not skew the data set. This also allowed those frequent users from outer suburbs to remain in the data set as the frequent users in triage priority score 4 and 5 were those that could possibly use another service. Postcode areas that had small levels of attendance were controlled using the select if > 10 as these cases were often true emergency or one off uses of ED and here the investigation is high level usage by primary care cases. Only 163 postcodes remained for the multiple regression analysis.

Analysis

Cross tabulation

Cross tabulation was used to provide a better understanding of the relationships between variables of interest (Kelley & Maxwell 2010). It provided a further analysis of the data beyond descriptions and uses the combination of information on two or more variables to describe difference or arrive at a possible explanation:

- Descriptive cross tabulation aim at describing the problem under study
- Analytic cross tabulation in which groups are compared in order to determine difference, or focus on exploring relationships between variables (Pallant 2005; Kelley & Maxwell 2010).

These results are displayed as percentages and are easy to read at first glance and make further analysis easier. This procedure provides another means of determining if further analysis is warranted. Therefore, the initial HAS ED comparisons between years 2007 and 2008 were cross tabulations to determine the need for this research.

The use of chi square ($\chi 2$)

Chi square affords comparisons of relationships between variables and determines statistical significance for these relationships (Kelley & Maxwell 2010). There are basic assumptions with $\chi 2$ that should be checked e.g. random sample and independent observations. The researcher needs to ensure that each person or case can be counted only once; the data from one subject cannot influence the data from another subject and a person can not appear in more than one category or group (Pallant 2005; Kelley & Maxwell 2010). The HAS ED data used here meets these requirements.

The aspects of ED attendance (variables) were examined to determine any relationships of significance. Only variables that represented a single attendance were used. For example, the mode of transport was recorded for each attendance and this represents a single datum for that family at that time. All of the variables of interest to this research were analysed in this way. This level of the analysis excluded the SEIFA IRSD data as this information represents area scores rather than individual scores.

Chi square provides the directional information while Cramer's V and Phi provide information on the strength of the relationship between the variable under investigation. The relationships tested are explained in full in Chapter 5. Chi square was used to determine the significance and direction of the relationships between the HAS ED and SEIFA IRSD variables to identify the extent to which these variables impact on priority 4 and 5 ED use. The use of $\chi 2$ and univariate analysis of the total number (25,520) of children using WCHN Paediatric ED from June 2009-December 2009 to explore the following variables:

- Triage priority
- Admission/discharge status

- The transport used to assess ED
- The distance travelled to ED
- Attendance at ED with a referral letter
- SEIFA IRSD.

Multiple regression model

Multiple regression uses categorical data and is used to identify factors that predict inclusion in a particular group and are beneficial here in predicting which groups within the population are most likely to use ED services (Hastings et al. 2008; Brace et al. 2006). The data recorded in the variable coding thought to influence health care access decisions such as, triage priority, use of emergency transport and admission status was measured and combined with the epidemiological service provision and SEIFA IRSD data to identify the patterns of income, social support and transport that contribute to ED use in preference to other health services (Chapter 5). This provided an understanding of degree to which the variables of interest impacted on primary care ED use. The multiple regression used the following variables:

- Triage priority at level 4 and 5 indicating primary care use (dependent variable)
- The percentage of children from a postcode discharged from ED (independent variable)
- The percentage of children from a postcode using private transport to assess ED (independent variable)
- The distance travelled to ED (independent variable)
- The percentage of children from a postcode attending ED with a referral letter (independent variable)
- SEIFA IRSD (independent variable)
- The numbers of GPs per population (independent variable).

These variables were aggregated into percentage scores to enable the analysis to use the SEIFA IRSD and GP variables to be included in the analysis. This ensures consistency of measurement as an area level analysis.

Quantitative data checks

The suitability of the quantitative data analysis is important as it determines the validity of the results. Chi square tests are based on the idea that the sample populations are not normally distributed, contain ordinal or nominal data, and seek to determine if there is a relationship between the variables (Coakes & Steed 1996; Pallant 2005; Kelley & Maxwell 2010). Cross tabulation, Chi square and logistic regression are appropriate here as they provide the researcher with differing options for data and variables.

Ensuring rigour

Mixed methods research provides a process of rigour through the mechanism of triangulation. However, it is also important for both the quantitative and qualitative data sets to demonstrate rigour. For quantitative methods this means the data must be generalisable, reliable and valid.

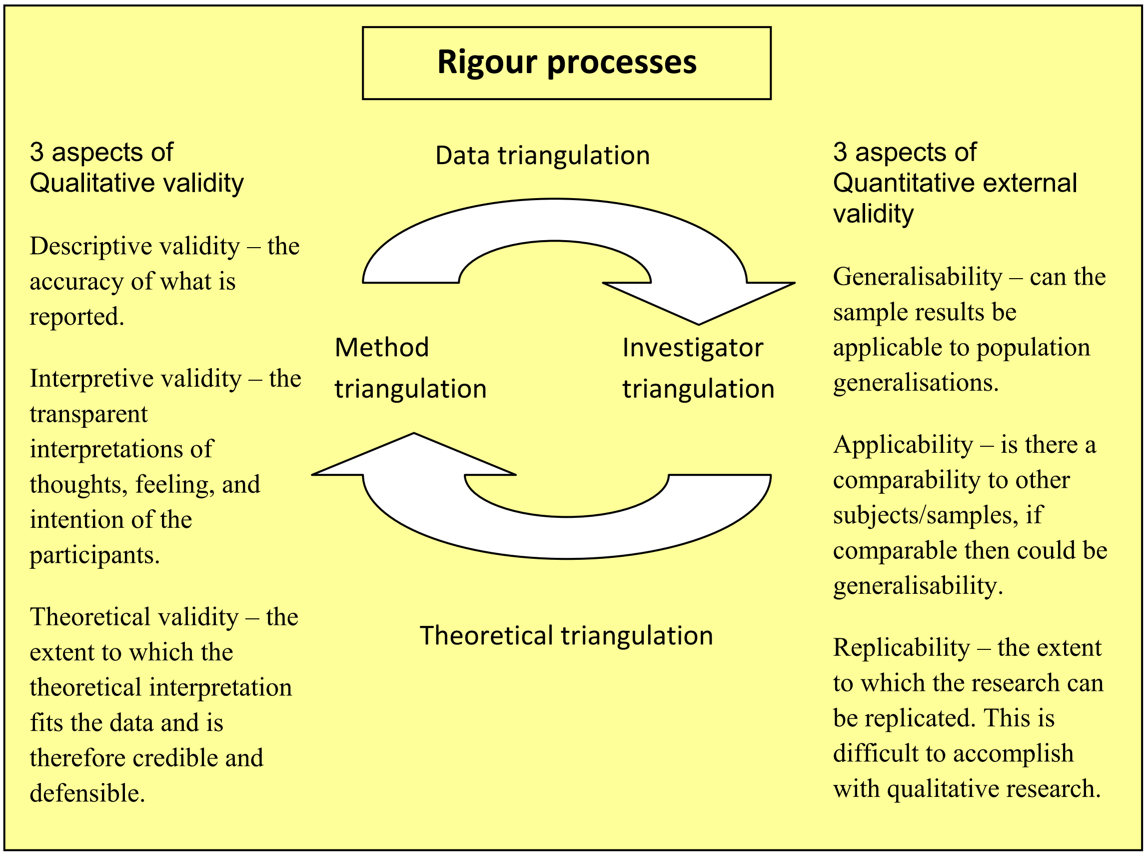
Generalisability, reliability and validity

The quantitative data collected for this thesis was limited to that collected by the HAS ED system and the data available from the *Social Health Atlas*. The HAS ED data provided a numeric description of the families that used ED that could be matched with the epidemiological data from the *Social Health Atlas* to provide a generalised description of a family's social circumstances and the availability of primary health services. This enabled some comparisons with other families living in similar economic and social conditions (Kelly & Bonnefoy 2007). The use of SEIFA IRSD census derived socioeconomic data 'offers a valid and useful approach to overcoming the absence of socioeconomic data in medical records' (Krieger 1992, p. 703). This enables the conclusions to be generalised to other situations of a similar culture and populations in an analogous social setting. Accurately describing the exact set of circumstances in which health access for these families occurs allows boundaries to be determined and the parameters of influences to be mapped. In a sense this provides the 'controls' for these circumstances that may be used to determine if these conditions were repeated. This knowledge then would predict the outcomes. This provides external validity as defined by Kelly and Bonnefoy (2007).

Further, the methods, models, and subsequent results are replicable and may be duplicated across a variety of settings and contexts (Kelly & Bonnefoy 2007; Murphy & Davidshofer 1994). The use of epidemiological data provides an epistemological framework that explores cultural context and generates a conceptual structure that allows the application of the narrative analysis to describe health outcomes for a particular population group within a socioeconomic and structural determinant setting (Kelly & Bonnefoy 2007). This can be reproduced across other health settings and across other socio-political contexts to map the SDH on family health access in other countries.

Qualitative and quantitative reliability in mixed methods

Achieving rigour in qualitative research draws on the credibility, dependability, usefulness, trustworthiness, and transferability of the data (Figure 4.3) and is important as it strengthens the quality of the data, and the theoretical analysis (Hansen 2006). For example, credibility in qualitative research relies on the research process, findings, and interpretations being reasonable and representative of some type of truth to the reader (Hansen 2006). Dependability requires the researcher to report the methodological processes in detail in order that the reader is assured that proper research practices were employed, but also to allow other researchers to repeat the study with a view that similar results would be obtained (Hansen 2006). Usefulness is the extent to which the research is useful in describing social constructs and interactions of a phenomena and the application of the research for use by the community, professions and academia (Hansen 2006). Trustworthiness is the degree to which the research practices, methods, techniques and processes are clearly understandable to the reader (Hansen 2006). Transferability of qualitative research implies that the results cab be transferred or applied to other settings or situations (Hansen 2006). As described previously, quantitative data requires generalisability, reliability and validity. The use of the six aspects of validity (validity is discussed in detail below) described in Figure 4.3 assist in providing rigour in this research. Not only is the relationship between the theoretical concepts and the data important for validity but also, the appropriateness of the explanation provided by this relationship. The diagram below shows the process of rigour determined by reliability which depends on method, investigator, data and theoretical triangulation occurring within the process of validity.



Descriptive validity – the accuracy of what is reported.

Interpretive validity – the transparent interpretations of thoughts, feeling, and intention of the participants.

Theoretical validity – the extent to which the theoretical interpretation fits the data and is therefore credible and defensible.

Generalisability – can the sample results be applicable to population generalisations.

Applicability – is there a comparability to other subjects/samples, if comparable then could be generalisability.

Replicability – the extent to which the research can be replicated. This is difficult to accomplish with qualitative research.

Figure 4.3 Qualitative and quantitative rigour process

The diagram in Figure 4.3 highlights the continual process of ensuring qualitative and quantitative rigour and validity. The fundamentally interpretive nature of qualitative research addresses rigour through descriptive validity, interpretive validity, theoretical validity and transferability using the different forms of triangulation. The design of the research project is built around understanding the participants' world from an outside perspective. As discussed in Figure 4.3 the process of rigour for quantitative research relies on generalisability, applicability and replicability. In addition, the process of triangulation of the data, investigation, theory and method aside from being a continuous process also provides rigour in this research project.

Triangulation of qualitative and quantitative results

Triangulation involves the convergence of evidence from different sources that not only reflects the research questions but also supports the results from alternative viewpoints (Hentz 2008). In this thesis the four aspects of triangulation (Figure 4.3) inform the data collection process and the analysis.

Triangulation of qualitative data also occurs when the research method is congruent with the philosophical paradigm (Annells 2006). The validation of the information is an ongoing deliberate process that unfolds as the research progresses and checks each piece of information with another source. Any differences and similarities are compared and verified in order to develop a full picture of the research question. As outlined by Roberts and Taylor (2006, p232):

> Triangulation involves the use of more than one method of data collection or study to validate the same result. This process is important because as the study unfolds and information is revealed, it is essential to take deliberate steps to validate each piece of information against at least one other source (for example, a second interview) and other methods. It is important to compare and establish differences and similarities.

One of the methods used in this research to provide triangulation is the use of a mixed method design. Another method is the use of member checks (discussed previously) and the epidemiological, and data from the hospital collection process. The use of the HAS ED data helps to illustrate the increasing numbers of patients of Priority 5 category. The use of the HAS ED data and the narrative interviews helps to substantiate the placement of the family within a Priority 4 and 5 category and confirm the possible use of another service. Data triangulation is enhanced by the use of qualitative and quantitative data in the same study (Sosulski & Lawrence 2008). The use of qualitative data increases the depth of quantitative data. The complexity of the information gathered and the collection methods and overlapping nature of the data enables both the qualitative and quantitative data to substantiate each other and both data collection methods provide a social context for the data sets (Sosulski & Lawrence 2008). This further triangulates the information.

Another method used to enhance triangulation is the use of multiple investigators or data checking. This has been achieved via the corroboration of the themes by another investigator. This also enhances rigour as does the use of multiple methods of triangulation (Hansen 2006). The Table 4.4 highlights the different methods of triangulation and how they have been used in this study.

Table 4.4 Mixed methods summary

	Quantitative	Qualitative
Overarching goals	To determine the numbers of children using ED services in the Priority 4 and 5 category	To examine the reasons behind the presentations at ED for primary care
Guiding theories	Epidemiological and demographic data provides information on the broader patterns of; disease, social influences and health access. Overarching theories of social status and power determining health access was explored e.g. Marx, Weberian and Young.	Narrative analysis explores information on the processes of decisions regarding health access. Language and its usage are socio-politically situated.
Design	Examine HAS data for; number in Priority 5 category, comparisons with last year's figures, possible illness categories. Compare socioeconomic groups, areas, social support, transport and SDH for predictors of ED usage.	In-depth interviews with families in Priority 5 category and with key staff members. Semi-structured questions of the families enable the linking and situating of the families within tier broader social context. Semi-structured questions examine staff perceptions of Priority 5 cases and social issues determining health access.
Triangulation	Variables from qualitative data and quantitative data such as, income, transport, and types of health access. Compare results with the general population. Using HAS data for simple associations and multiple logical regressions. Compare families and areas for services. Time provides an aspect of triangulation e.g. stability of information over time	Using different methods to triangulated data e.g. narrative interviews with families and key staff members. Based on; a narrative analysis method, literature review, comparison with quantitative data to assess consistencies of themes within population groups. Linking these data to Young's five faces of oppression and the structural and intermediary determinants.

Table 4.4 outlines the key features of this research design. An additional feature of the design is the collection of HAS ED data twice, 12 months apart which provides an aspect of time triangulation (Roberts & Taylor 2006). This provides the opportunity to determine the consistency of the information over time and is a supplementary form of triangulation. The consistency of the information may then be projected into similar lived experiences for others in the future.

Validity

Qualitative validity

The use of mixed methods is increasing and so has its credibility as a valid form of enquiry (Haverkamp, Morrow & Ponterotto 2005). Assessing validity requires consistency of measurement. Qualitative validity can be represented by 17 terms, some of which remain contested, however, the agreed definitions include: i) descriptive validity; which generally refers to the factual accuracy with which the data is described, collected and the recognition of any initial interpretative bias (Winter 2000); ii) interpretative validity; that is the extent to which the researchers interpretations of the data coincide with the participants (Winter 2000); iii) theoretical validity; which situates the research within paradigms that provides a conceptual framework and guides philosophical assumptions and the selection of tools, instruments, participants and methods used (Winter 2000; Ponterotto 2005); iv) generalisability; which refers to the ability to externalise results to the general population, however, the qualitative aspects of this research restricts it to the those participants studied (Winter 2000); and v) evaluative validity; which represents the consequence of the whole research process and its outcomes and is a measure of ‘overall’ validity (Winter 2000).

Quantitative validity

Validity is determined in quantitative research using six criterion; i) content validity refers to the distinct domain being clarified and studied, ii) criterion validity is the demonstrated application of the hypothesised constructs into a score for the construct of interest in a manner that can be used to assess or predict the occurrence of the construct, iii) construct validity overlaps with the others by illustrating that the construct developed measures what it sets out to measure, iv) design-related validity which specifically relates to the; a) internal ability of the research design to control for particular threats to validity, and b) external ability to generalise the findings, then concept, v) statistical inference refers to the appropriateness of the statistical inferences made by the research, and, vi) measurement validity refers to the consistency of the measurement and scores obtained (Dellinger & Leech 2007). According the Dellinger and Leech (2007) all these characteristics determine quantitative validity.

Mixed methods validity

The main purpose of using mixed method research is the desire to integrate qualitative and quantitative methods for the purpose of: i) methodological triangulation (this is referred to as corroboration by some researchers) which seeks to test consistency of the data collected across methods, ii) elaboration is the use of one data set to clearly explain and assist in the analysis of information obtained using another method, iii) development refers to the dynamic nature of collecting results using one method to design, gather and analyse the information gathered using another method, and iv) initiation is the elucidation into a new theory based on branching findings from various data accumulation methods (Yount & Gittelsohn 2008).

The concepts of construct mixed methods validity are determined by asking the following questions; i) What empirical evidence is available that links the data in meaningful ways? ii) What evidence is used to justify the relevance of the data linkages? iii) What are the consequences and appropriateness of the data interpretation? and iv) What are the societal consequences either intentional or unintentional of the anagoges? (Dellinger & Leech 2007).

Here the empirical evidence is the knowledge that is available – perhaps via raw data, coding criteria, theoretical rationales, member checks, and statistical analysis that links data to the meaning of the data (Dellinger & Leech 2007). Further, does the evidence that is available then justify its utility, its relevance and value to a research community? Additionally, are the consequences of data interpretation appropriate given the potential consequences of these inferences, the values of the researcher inherent in the choices made, and the impacts these meanings have on the data. Furthermore, the consequences of the appropriate use of the data in terms of intended and unintended social implications or value implications can only be determined by society and the research community in the future. Yet all these aspects have important implications for the validity of mixed method designs (Dellinger & Leech 2007).

According to Dellinger and Leech (2007, p. 312) mixed methods validity is based on firstly the foundational elements; this new concept reflects the previously unaddressed aspect of the ‘researcher’s’ prior understanding of a construct and/or phenomenon under study’ and includes personal reflections, comprehensive theoretical and empirical understandings and analytical developments, understandings, evaluations, and is the combination of all these influences. Secondly, the inferential consistency; uses the consistency of previous understandings with the appropriateness of the design, measurement, comprehensiveness and conclusions of the research together. Thirdly, the utilisation/historical element is the validity construct in which the impact of past information provides acceptable constructs that measure the evidence appropriately and in a meaningful way for the research community. Fourthly, the consequential element in construct validity for mixed methods consists of the social acceptability of the outcomes of the research as assessed by the stakeholders, subsequent researchers and the broader community. This thesis addresses the first three concepts by combining the researcher’s previous experience, literature, previous research, an understanding and definition of the constructs, and a transparent account of the mixed methods research process. The fourth element was provided by the social constructionist analysis, as well as, member checks, discussions with health professionals and the dissemination of the findings.

Limitations of the study design

The limitations of the HAS ED data include no income measurements, no family support information and a limited depth of information regarding the influences on families for their health access choices. The demographic data provided by the *South Australian Social Health Atlas* (Glover et al. 2006) is also limited in its depth and limited in its coverage of health services available as comprehensive and performance data are not collected by the ABS or the *South Australian Social Health Atlas* (Glover et al. 2006). Although narrative methods and analysis address some of these limitations this method is not limit free. Narrative methods entail the collection of stories from the participants’ understanding. This is a subjective process that relies on memories of an event. Given that a child’s illness is a stressful event for parents the recollections of the circumstance may be inaccurate. In an effort to minimise any distortion this research interviewed key stakeholders for their views on family presentations in the Priority 5 category to provide an alternative data set to compare differences and similarities. The integration of narration via its cultural, psychosocial and linguistic constructs can be termed discourse (Daiute & Lightfoot 2004). Discourse situates language and actions within a cultural and social setting and this setting is used here to situate a family within the structural and intermediary SDH. The narratives are confined to those expressing them and narrative interviewing and transcriptions are intensive and not suitable for large studies.

The narrative interview sample is not socioeconomically representative. To achieve this the research required the same percentage of respondents form each SEIFA IRSD quintile that was reflected in the HAS ED data. The HAS ED data shows higher usage by the lowest SEIFA IRSD quintile. As the percentage of respondents is not consistent with usage rates the interview data remains non transferable. The use of the CALD focus group (Chapter 7) sought to address the socioeconomic imbalance.

Given that all writing and scientific evidence is socially constructed and therefore biased (Kelly & Bonnefoy 2007), the results of this research are restricted to the social constructs within this society. However, other societies of a similar social construct may find the results of this research transferable. Given this, the extent to which the variables measure the occurrence of the phenomena is also socially constructed and their usefulness in the logical regression statistical procedure may need revision.

Ethics approval

Ethical approval was received from Flinders University and the Child, Youth and Women's Health Services in South Australia (see Appendix A). The original data from HAS ED were provided as a de-identified data set and used to ascertain the need for the study. All subsequent HAS ED data were also supplied in a de-identified form. The ABS and *Social Health Atlas* data were provided at a postcode, LGA or SLA level only.

All families' and key stakeholders' anonymity was maintained throughout the course of the study and all interview material was preserved in accordance with research protocols and ethical polices of the National Health and Medical Research Council and Flinders University. All participants were informed that all personal information was confidential and that no identifying information would be included in the results, thesis or any subsequent publications. Further, all audio files and transcripts remained de-identified and stored in secured area on a password protected computer.

In addition, consents for interviews and the CALD mothers group were obtained. The CALD consent process used the time required to ensure each sentence of the information sheet was understood to ascertain true consent. Further, to minimise any possible distress caused by discussions on children's health access all families and the CALD mothers focus group were provided with information (in the appropriate language) for free counselling post interview.

Conclusion

This research fills the gap in knowledge regarding some of the factors involved in accessing health care. Whilst the work of Hasting et al. (2008) has provided insight into the aspect of social support on older adult's use of ED it has not addressed a family's/children's usage of EDs. Although Suruda et al. (2005) addresses ED by children and their families using income as a predictor, they did not investigate SDH or access to transport. Neither study provided an in-depth method of data collection to explore the participants' views on factors that influence these attendances at EDs.
Whilst earlier research has linked socioeconomic factors with ED attendance this research has failed to explore the SDH context of the issues beyond the immediate to incorporate the structural and power relations that reinforce this option as the only health access available to particular families. This research addresses these deficits by investigating the influences on ED use and their links to the SDH and it uses epidemiological data and narrative analysis to interpret this discourse.

This research analyses the narrative data, HAS ED data and links it to the epidemiological and demographic data to provide a broader understanding of the influences of the SDH on families attending ED. This analysis allows for the identification of the themes qualitatively and then in a logistic regression to provide predictive factors of ED presentations. The use of epidemiological data also provides a framework for the application of social theories that explain differences within society. This process brings the nuances of speech in each story into the boarder social fabric to explain health access patterns.

The research design used here, whilst acknowledging the previous limitations on the understanding of the societal influences and the researcher bias, attempts to overcome these constraints through the use of mixed methods in both in a sequential and concurrent manner. This will ensure the results and conclusions are worthwhile and valid. Additionally, the outcomes of this research will inform future theoretical links, service development and research on health access. Further, the measurements used will form a basis for future research and exploration of key aspects of health access for families.

CHAPTER 5

Introduction

The relationship between the social determinants of health (SDH) and the use of emergency departments (ED) for priority 4 and 5 presentations, that would be better serviced by primary care providers, is complex. The difficulty with a SDH approach is in determining appropriate measures. A number of researchers have addressed this difficulty by focussing on the relationship between deprivation, as a measure, and attendance at ED (Carlisle, Groom, Avery, Boot & Earwicker 1998; Hull, Jones & Moser 1998; Burt, Hooper & Jessop 2003; Kelaher, Dunt, Day & Feldman 2006; Peacock & Peacock 2006; Bell, Schuurman & Hayes 2007; Shah & Cook 2008; Moore, Deehan, Seed & Jones 2009). This chapter provides an overview of relevant research on the relationship between deprivation and attendance at ED.

The chapter is divided into three sections. The first section provides a discussion on the way in which deprivation is a proxy for the SDH drawing on the literature on ED use and overuse. This research literature demonstrates a world-wide trend in overuse of EDs by particular population groups. The section also examines the data from ED attendance at the WCHN Paediatric ED during the period 2008-2009. Analysis of this data demonstrates two points. South Australian families from the two lowest Socio-Economic Index For Area (SEIFA) quintiles (as determined through postcode) attend ED at a higher rate than do families from higher quintiles. Conversely, it also illustrates the use of ED by one group of the highest income families in South Australia which is influenced by hospital location.

The second section uses the social health atlas to report on the relationship between ED attendance, SEIFA and transport, triage priority and admission status and the provision of primary care services such as General Practitioners (GPs). In the third section, the social health atlas is used to identify several other factors related to the SDH for the cohort of high attendees. These include socio-economic status, number of children, numbers of single parent households, employment and unemployment rates, and rates of childhood accidents and illness. This analysis assists in understanding some of the factors that explain why this population attends ED more frequently than those from higher SEIFA areas and begins to build a picture of those SDH that impact on access to health services.

Section 1: International literature and themes of emergency department use

The international research literature describes the use on ED in three broad themes: the characteristics of frequent ED users; the socioeconomic influences on ED use, usually referred to as deprivation; and the availability of alternative services to ED use. These categories sphere of influence are by no means exclusive but rather overlapping in occurrence. The extent and significance of these influences are investigated here within the three broad themes discussed below.

Characteristics of emergency department users

Firstly, ED use is determined by the characteristics of the user with frequent users having a number of shared attributes. Researchers examine this population under the following headings, severity of condition (triage priority) (Santos-Eggimann 2002; Downing & Rudge 2006; Siminski, Bezzina, Lago & Eagar 2008a; Siminski, Bezzina, Lago & Eagar 2008b; Moore, Deehan, Seed & Jones 2009); length of stay, for example, if the presenting condition warrants admission to the hospital (Santos-Eggimann 2002); age of client/patient (Santos-Eggimann 2002; Downing & Rudge 2006; Siminski et al. 2008a; Siminski et al. 2008b; Siminski, Cragg, Middleton, Masso, Lago, Green & Eagar 2005; Moore et al. 2009), ethnicity of clients (Santos-Eggimann 2002; Dyhr, Andersen & Engholm 2007), gender of patient (Siminski et al. 2008b; Moore et al. 2009), time of attendance (Moore et al. 2009), self referral (Masso, Bezzina, Siminski, Middleton & Eagar 2007), distance to hospital ED (Fone, Christie & Lester 2006), and cost of alternative services, for example, ED in Australia is free whereas GPs charge a fee (Masso et al. 2007). In all the studies above these categories were found to be significant factors in, or predictors of, ED use. Aside from the biological and cultural attributes of ethnicity and gender, it can be argued that these characteristics, rather than individual foibles, are a result of the second category: deprivation.

Specifically ED users are often aged 0-5 and 60-80 years of age. These age groups are the heaviest users of non-urgent ED services that could use another service such as GPs (Siminski et al. 2008a). According to Siminski et al. (2008b) these age specific cohorts use of ED is increasing at a rate of 9.2% per year. Moore et al. (2009) found frequent attendees (those attending ED more than four times in a 12 month period) were more like to be after hours, single, older males (>32 years) these patients accounted for more than 46% of repetitive ED use. Further, earlier research by Siminski et al. (2005) found attendance by primary care (those who could use GPs) patients, after hours, to be statistically significant. Fone et al. (2006) found car ownership, access to public transport and shorter straight-line road distance to ED was correlated with higher levels of ED use. However, correlation coefficients did not vary with income levels (Fone et al. 2006). Ethnicity shows similar patterns of ED use for gender and age group except in the 19-59 years which shows much higher rates of ED use in ethnic minorities (Dyhr, Andersen & Engholm 2007). Dyhr et al.'s (2007) Danish study also found lower rates of telephone triage and GP use by immigrants. This literature overall conveys that characteristics such as age, gender, private car ownership, access to public transport, distance from ED, access to after hours primary health care, cost of alternative services, and comprehensiveness of alternative services are also contributing factors.

Socioeconomic influences on emergency department users

Secondly, ED use occurs more predominately amongst individuals living in deprivation (Bell, Schuurman & Hayes 2007; Kelaher, Paul, Lambert, Ahmed & Davey Smith 2008). Deprivation is a measure of population disadvantage based on specific characteristics (ABS 2006; Testi & Ivaldi 2008). These include ethnicity (Dyhr, Andersen & Engholm 2007; Kelaher et al. 2008), lower levels of education (ABS 2006; Bell et al. 2007), lack of access to adequate and secure income (ABS 2006; Testi & Ivaldi 2008), lack of car ownership (Moore et al. 2009), and the inability to raise emergency funds (Kelaher et al. 2008). Other studies show there is a significant correlation between deprivation and distance to ED services with closer proximity to ED increasing use (Carlisle 1998; Fone et al. 2006). These measures overlap with the explanations of ED use provided in the first theme (characteristics of ED users). Deprivation measures in Australia are collected on a national scale using a census (ABS 2006). In conclusion some of the characteristics described in the literature in the first section are influenced by deprivation; for example, car ownership and cost of alternative services are mediated by deprivation, whereas the aspect described below are determined by policy and the structure of the health system.

Availability of alternative services

Thirdly, the use of ED is a result of a lack of alternatives to ED services and reduced use of ED is dependent on the provision of other services (Carlisle, Groom, Avery, Boot & Earwicker 1998; Masso et al. 2007; Siminski et al. 2007). Other services such as: telephone triage services (Dunt, Wilson, Day, Kelaher & Gurrin 2007; Dyhr, Andersen & Engholm 2007), after hours clinics (Carlisle et al. 1998; van Uden and Cresbold 2004), and extended care services such as, home visiting services (Hull, Harvey, Sturdy, Carter, Naish, Pereira, Ball & Parsons 2000) show significant relationships to levels of deprivation (Carlisle et al. 1998; Hull et al. 2000; Bell et al. (2007) and social class (Dyhr et al. 2007) with the patterns of use of these services reflecting the deprivation level of the client. For example, Carlisle et al. (1998) found a significant relationship between higher levels of deprivation and ED use, and lower levels of telephone triage use. This UK study result was replicated in a study by Blatchford et al. (1999) and Shah and Cook (2008). Further, a Canadian study of Bell et al. (2007) also confirms these UK findings. In areas in the UK and Canada where services are limited, are further a field or nonexistent, there is a higher use of EDs. The results of the research mentioned above shows a significant correlation between populations and telephone triage services (Knowles, Munro, O'Cathain & Nicholl 2006; Dunt et al. 2007; Dyhr et al. 2007), after hours care provision, extended care services such as: home visiting for infants, and decreases in ED use (Hull et al. 2000; van Uden & Cresbold 2004). In contrast, short distances to ED increases use (Fone et al. 2006). Those living in deprivation access health differently than populations in higher socioeconomic areas. The literature describes a pattern of health access but not an explanation for its occurrence.

This overview shows that the use of ED is complex and is linked to use of the entire health care system and modes of health access. Further analysis will aid in understanding the interplay between the characteristics that influence health access and ED use. Until the underlying factors are identified and addressed the overuse of ED remains an expensive inappropriate use of specialist services (Siminski et al.

2008a).

Use and over-use of emergency departments

The international research literature on the use and over-use of ED departments illustrates several points in the types and time of use and over-use of ED by specific population groups. A UK study by Moore, Deehan, Seed and Jones (2009) identifies the personal attributes such as, gender, triage category, and time of attendance acting as antecedence in rates of attendance. They found a significant relationship between gender (males >50.5% of single attendances and 69.5% of > 10 attendances), triage priority (category 1 or 2 accounted for 36.1% of single attendances and 54.3% of > 10 attendances), after hours attendance (51.4% of single attendances and 69.2% of > 10 attendances) and more than 10 uses of ED in a year (Moore et al. 2009). Moore et al.'s (2009) research aimed to identify frequent users by personal characteristics rather than socio demographic factors in an effort to inform future service provision provided for these individual qualities.

Further, the Netherlands' research by Moll van Charante, Steenwijk-Opdam and Bindels (2007) explored the role of triage management in presenting cases in the cost effective and efficient utilisation of after hours resources that in turn decreases the use of ED. Moll van Charante et al. (2007) also delineate use of after hours service by age, gender, presenting problem or injury, use of ambulance services and self-referral to ED. While acknowledging levels of overcrowding Moll van Charante et al. (2007) found the use of ED by patients, was on the whole, an appropriate choice and that patients, in the Netherlands were, on the whole, satisfied with alternatives to ED. This research however did not control for deprivation or review the impact of socioeconomic status on ED and after hours use. All studies cited above found the characteristics of triage, gender and after hours presentation to be significant factors predicting ED use. Further, these studies highlight the cost inefficiency in the over use of ED. These studies however did not focus on primary care triage categories, or deprivation as an influencing factor, nor did they map the existence of alternative services for those using ED.

To define socio-economic factors behind ED use others outline the role of deprivation in ED use. An ecological analysis by Burt, Hooper and Jessop (2003) on the use of health services in the UK explored the role of deprivation which is frequently associated with higher levels of health service use across all divisions. Comparisons across the UK illustrate the patterns of health service use across GP, ED and ambulance services differing between income population groups (Burt et al. 2003; Jessop, Brenner & Jones 2008; Peacock & Peacock 2006; Shah & Cook 2008). Extreme deprivation is consistently associated with higher levels of use across all health service provisions except telephone triage services (Peacock & Peacock 2006; Burt et al. 2003; Shah & Cook 2008). All of the above researchers acknowledge the presence of particular socio-economic factors, such as, low income, welfare dependence, reliance on public transport and single parenthood, often short hand for deprivation, as a major influence on ED use. Measures of deprivation are important in delineating the role of deprivation on ED use.

These researchers measured deprivation using national data such as census data (index of multiple deprivation), clinical management data (use of ED and ambulances that includes area of residence) and the British General Household Survey (Peacock & Peacock 2006; Burt et al. 2003; Shah & Cook 2008). The use of these data sets also included information on age, gender, ethnicity and occupation or income. This allowed the researchers to control for these variables in the analysis and describe the results in relation to the influence of deprivation (Peacock & Peacock 2006; Burt et al. 2003; Shah & Cook 2008).

Deprivation is often measured by determining socioeconomic factors associated with affluence to provide an area’s deprivation score (Bell, Schuurman & Hayes 2007). These factors within and between western democracies remain similar and consist of aspects such as, low levels of education, low income, no private house tenure (living in rental or government accommodation), no private car ownership, or an inability to access emergency funds, such as $2000 (Shah & Cook 2008). These aspects of an individual’s life culminate to produce an overall assessment of an individual’s capacity to access material and social resources (ABS 2006). For example, low income minimises an individual’s or family’s ability to maintain health or access health when needed.

The number of characteristics differs between countries and the size of the areas covered varies, however the concepts remain based in the SDH. Health and access to health services are influenced by deprivation. The extent to which other attributes influence health access necessitates the isolation of deprivation from other influences that determine ED use. The research that does segregate deprivation from other characteristics is helpful in determining the impact of deprivation on the use of ED which accounts for up to 60 % of ED use (Hull et al. 1998; Bell, Schuurman & Hayes 2007).

Further, the use of ED services in preference to other services is also influenced by deprivation. The exact mechanisms involved in this process require further investigation, partly because the use of ED for non-urgent illness is costly[32]. In the UK, Canada and Australia, ED services represent a more costly provision of health access than alternative services such as after hours GP clinics (Cooper, Arnold, Smith, Hollyoak, Chinemana, Baker & O'Brien 2005; Knowles, Munro, O'Cathain & Nicholl 2006). The overuse of ED has to some degree created overcrowding which in turn has been followed by misdiagnosis, under diagnosis and decreasing job satisfaction (Bradley 2005).

The UK analysis of 20,421 households found that the people using NHS Direct phone services and those directly attending ED were fundamentally different on a number of deprivation measures (Shah & Cook 2008). The social factors influencing health access targeted by the survey included: presence of chronic health conditions, level of disability, household income, in receipt of government benefits, housing tenure, type of employment and access to material goods such as a private car. Ethnicity and country of birth were also collected to statistically control for these variables. Populations in the lower socioeconomic categories, men, the very young and people over 65 years used ED more. Shah and Cook (2008) found, families characterised by lack of car access, being from an ethnic minority, receiving government income support, employed in unskilled or manual labour and rented tenure had a significantly increased likelihood of ED use and a significant increased likelihood of long term limiting illness or disability (Shah & Cook 2008). Families that were the most affluent used the telephone NHS Direct service significantly

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[32] The cost in this instance refers to the cost of service provision rather than cost to the individual.

more. This research controlled for the sex, age, chronic illness and familial composition and found that deprivation was significantly associated with increased ED use. The most affluent group significantly used the telephone NHS Direct service as its health access preference. This survey and interview data set is limited as it reported on ED access in the previous three months and the use of a telephone service over the previous 12 months. The research did however illustrate differing patterns of access by different socioeconomic groups.

The literature on the use of ED uses several measures to determine differences in population groups that correspond to higher or lower rates of attendance. The measures used provide a wider picture of the general life circumstance of not only those using ED but also the areas in which they live. These differences also illustrate differing modes of access to services that support the conclusion that the SDH are important influences on health outcomes and ED use. To this end the use of deprivation is explored here as a proxy for the SDH. Deprivation as a measure uses several SDH as aggregate values to provide a score that represents an area's social and material resource.

Deprivation as a proxy for the social determinants of health

Research on the use of ED services has tended towards identifying the underlying causes or over-use or inappropriate use (Bradley 2005). As noted above low socioeconomic populations or individuals who score highly on deprivation scores are high users of public ED services. Low income populations use ED for primary care if they cannot afford fee-for-service providers, especially after hours services. Factors used to identify the socioeconomic status, and other forms of disadvantage for these population groups vary. Most measures of deprivation from western democracies use information obtained via the national census (Bell, Schuurman & Hayes 2007). This information is used to construct indexes that describe particular characteristics of distinct areas (ABS 2006; Bell et al. 2007). These dimensions help to describe the material wealth and access to resources available to the population in a particular area (ABS 2006). Measures of deprivation, such as the UK's: Jarman Deprivation Score, Townsend Deprivation Score and the Carstairs Deprivation Index consist of measurable variables within a population. For example, the Jarman Deprivation Score uses the following eight attributes: unemployment, overcrowding, born in the

New Commonwealth, lone pensioner, children under five years, low social class, and one year migrants, to define deprivation. These census variables are normalised, standardised and weighted to provide a score for a geographical area (Census Dissemination Unit (CDU) 2010). The Townsend deprivation score uses four variables to measure deprivation; rates of unemployment, car ownership, home ownership and overcrowding (CDU 2010). The Carstairs Deprivation Index uses four unweighted variables; unemployment, overcrowding, car ownership and low social class to measure deprivation (Morgan & Baker 2006; CDU 2010).

In Australia and Internationally raw census data transformed with Principal Component Analysis is used to provide a deprivation score (ABSa 2006; Bell et al. 2007). This analysis uses the different characteristics from the national census and the data is weighted and standardised to form a score for an area. The final score is limited by the number of characteristic used, for example, in the UK; the Townsend score uses four characteristics (Census Dissemination Unit (CDU) 2010), Carstairs uses four (Morgan & Baker 2006; CDU 2010), and Jarman uses eight (CDU 2010). Canada uses a geographically based census area score derived from six measures of access to particular social and material resources such as; completion of high school, unemployment/employment ratio, average income, single adults, marital status, and single parenthood (Pampalon & Raymond 2000). The USA uses five census variables to determine deprivation; income/poverty, education, rates of employment, housing tenure and occupation (Messar, Laria, Kaufman, Eyster, Holzman, Culhane, Elo, Burke & O’Campo 2006). However, Sweden uses 700 indicators divided into 13 domains (Vogel 2001). Deprivation indexes provide elementary readily accessed national data providing insight into socioeconomic status in areas of residence.

In Australia, the Australian Bureau of Statistics uses 17 characteristics derived from the national census for the Index of Relative Socio-economic Disadvantage (IRSD) as a measure of deprivation (ABSa 2006; ABSb 2006; ABSc 2006). The 17 descriptors of the IRSD deprivation in Australia are listed in table 5.1.

Table 5.1 Characteristics forming the ABS IRSD measure for the SEIFA score

Measure of deprivation
Private dwelling

Measure of deprivation
No internet
Employed as labourer
People aged over 15 years with no post-school qualification
People with an annual income between $13,000-$20,799
Renting from the Federal government or community organisation
Unemployed
One parent families
Paying less than $120 rent per week
Aged under 70 years with long term health condition or disability needing assistance
Of Aboriginal or Torres Strait Islander origin
Private dwelling requiring one or more bedrooms
Aged over 15 years and has been separated or divorced
Employed as a machine operator or driver
Over 15 years and did not go to school
Employed in low skill community work or personal service work
Does not speak English

(Adapted from: ABSa 2006; ABSb 2006; ABSc 2006)

These variables form a score to describe the socio-economic conditions in a particular area. The lower an area's score the higher the rates of deprivation. Further, these 17 descriptors form the Index of Relative Socio-economic Disadvantage (IRSD) which is one of four indexes[33] used to describe access to income, services, material wealth and community resources in an area. For example, the descriptor 'employed in low skill community or personal service work' provides not only the level of education required to perform the work but also the wage level of the worker. This supplies the reader with an insight into the income available on a general level for householders living in this area. Areas containing large numbers of personal service workers would therefore have access to particular levels of income. All four indexes provide the Socio-Economic Index For Area (SEIFA) score measuring a number of descriptors (ABSa 2006; ABSb 2006; ABSc 2006).

Deprivation and the social determinants of health

These defining characteristics of income, employment/unemployment, housing and car ownership are also a sub-set of the SDH (Solar & Irwin 2008). Solar and Irwin

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[33] The other three indices consist of varying descriptors. The numbers of descriptors used differs for each index. Each index represents different descriptors that capture different aspects of Australian advantage or disadvantage.

(2010) list the following SDH; income, occupation, education level, social class, gender and ethnicity. Each of these characteristics has the ability to determine an individual's access to resources and ability to participate in society. For example, an individual's occupation dictates the level of access to income and social class which in turn influences, not only their mental and physical health, but access to adequate housing and community resources. An individual's gender and ethnicity often influences their occupation and access to education.

The SDH, as explored in Chapter 2, cover a variety of aspects both at an individual level, which are referred to as intermediary SDH, those closest to an individual such as personal transport, social support, social position and biological and psychological makeup, and those resources available at a social or broader level referred to as the structural SDH. The structural SDH consist of social and political policies and practices that determine; discrimination practices, public housing, educational access, taxation and broader aspects such as the welfare state, and universal health care. The SDH have more of an influence on health outcomes than biological or behavioural aspects of an individual. Therefore, the area of residence has an important impact on an individual's health outcomes. The link between deprivation and its impact on ED use in South Australia is explored below.

Deprivation and use of the emergency department in South Australia at Women's and Children's Health Network (WCHN)

The link between deprivation and ED use is well established. Those living in areas of higher rates of deprivation are more likely to have longer term illness and attend ED more often. Those from higher socioeconomic areas are more likely to use telephone triage services before attending ED and are on the whole healthier (Shah & Cook 2008). Therefore, understanding the impact of socioeconomic status and the use of Women's and Children's Health Network (WCHN) ED services by families in South Australia is imperative if there is to be any change to the current increasing use of services. This thesis examines the numbers and types of attendances at the WCHN paediatric ED according to the postcode of usual residence. This will enable the researcher to determine if particular postcode areas use the ED services more frequently and the levels of deprivation within a postcode area.

The ABS (2006) indicators of the level of deprivation in an area are a nationally based assessment that is indicative of the level of material and personal resources in an area. The information is collected at an individual level and then aggregated into a postcode area score. The lower the score for an area the higher the levels of deprivation, with the Australian scores also divided into five equal population quintile groups.

The score for the Socio-Economic Indexes For Areas (SEIFA) derives from the ABS (2006) national census conducted every five years. The SEIFA provides a set of indexes that measure a series of socio-economic characteristics for an area (ABS 2006). The indexes capture four concepts. One of these, the Index of Relative Socio-economic Disadvantage uses 17 measures to determine the levels of income and education in an area. These measures provide a ranking of a geographical location in Australia and a 'score' for that area (ABS 2006). The lower the area's score the higher the levels of deprivation.

The Women's and Children's Health Network (WCHN) provides the only paediatric specific Emergency Department (ED) in the state of South Australia. The use of age limited data avoids the influence of older age in the analysis of ED use. The original data collected, and presented in Chapter 4, examined triage priority use in 2007, and 2008. This analysis highlighted an increasing use of ED in the triage categories that could use another service. Further examination of the data also illustrated other factors influencing ED use, such as postcode, discharge status, referral rates, and mode of transport to ED. The WCHN ED collects all of the data mentioned above using the Hospital Admission Status (HAS) Emergency Department (ED) system[34]. This provided the researcher with a rich and relatively reliable clinical data set with some of its limitations reported below.

This section explores the 2009 HAS ED data using broader indices of ED use and

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[34] The use of the WCHN HAS ED data set enables the researcher to determine a de-identified patient's use of the ED service across several measures. For example, triage priority, admission or discharge status, transport to ED, referral letter from GP and the usual postcode of the families' residence. The connection of these variables to the postcode enables the researcher to link the family to an area and the levels of deprivation within that area. This is important in understanding the resources available to the families attending ED on social and general material level. This insight can explain part of the complexity in ED use by particular population groups.

links the postcode area to the ABS SEIFA IRSD score (ABS 2006). The investigation initially illustrates those postcode areas that use WCHN ED more frequently than other areas. The highest postcode areas are explored by SEIFA IRD score, number of attendances of children from the postcode and the percentage that attendance level represents from the top seven postcodes.

The Table 5.2 illustrates the score ranges from the IRSD format in the SEIFA indexes (ABSa 2006). The IRSD scores have been arranged into quintile groupings (Dal Grande, Taylor, Jury & Greenland 2004, p. 19; ABS 2006). The quintile groups aggregate scores together into five even groupings[35]. The lowest score under 937.0 represents areas of lowest average material assets and higher levels of deprivation in the area population. The SEIFA IRSD score is not an individual or family marker of socio-economic level or access to resources but rather an area indicator of socio-economic disadvantage (ABSa 2006). The research data presented in this chapter explores the link between deprivation and use of ED services.

Table 5.2 Quintile ranges

Quintile	SPSS code	SEIFA IRSD score
Lowest	1	<937.0
Low	2	≥ 937.0 to < 980.8
Middle	3	≥ 980.8 to 1020.0
High	4	≥1020.0 to 1063.0
Highest	5	≥1063.0

(Adapted from Dal Grande, Taylor, Jury and Greenland 2004, p. 19; ABSa 2006)

The use of postcode data provides important information on the areas of residence for those attending ED. The majority of use of ED is represented by only one or two families in a postcode area however; some postcode areas have families attending at rates in the 100’s. The graph shown in figure 5.1 illustrates the spread of all the postcode areas in the six month period of data collection[36]. The reader needs to note that seven postcode areas record much higher levels of ED use; over 500 attendances. These areas represent an unexpected occurrence in the data and will be investigated further.

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[35] These groupings are equivalent to the five socio-economic levels.

[36] The collection period was June 2009 to December 2009.

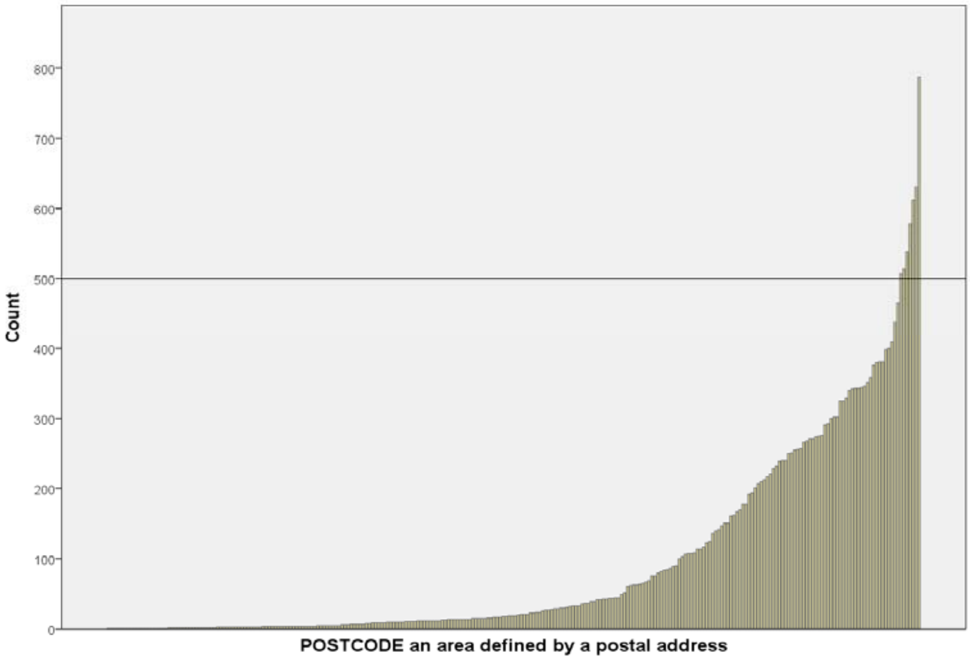

Figure 5.1 Numbers of children attending per South Australian postcode

Figure 5.1 provides a valuable insight into the rates of attendance by each postcode area. The majority of postcode areas have fewer than 100 children using WCHN ED services. Therefore, those areas with larger proportion of presentations represent an unexpected occurrence in the data. The areas with consistently higher levels of attendance were investigated by SEIFA IRSD score to determine the levels of deprivation within the area. Five of the postcode code areas with the highest attendance levels are from the lowest SEIFA IRSD scored areas; however, two of the frequent attendee's postcode areas are from higher SEIFA IRSD scored areas and this requires further investigation.

Univariate analysis of the seven postcodes areas with the most frequent use of WCHN Paediatric ED June 2009-Decmeber 2009.

The graph in Figure 5.2 presents those seven postcodes where attendance at WCHN ED was most frequent. This information is important in determining the SEIFA IRSD score for those attending ED to ascertain the influence of deprivation and thus SDH on ED use. Figure 5.2 illustrates only those areas of large numbers of attendances per postcode area.

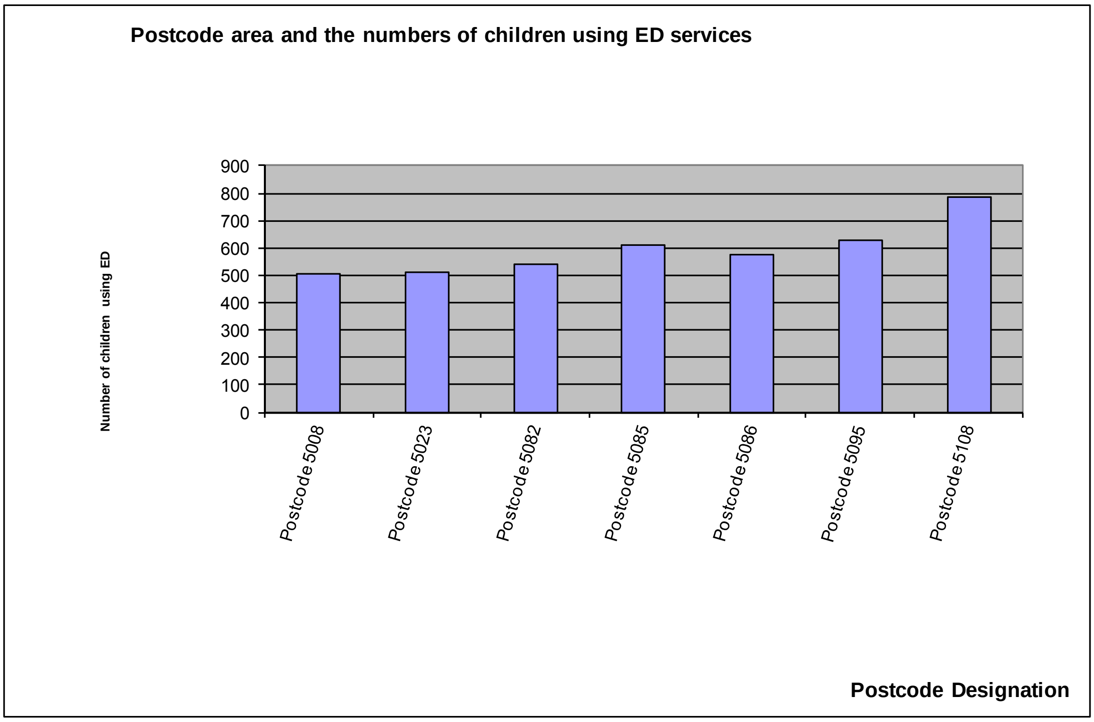

Figure 5.2 Postcode areas of children with the seven highest rates of attendance at WCHN Paediatric ED

Of the 227 postcode areas in South Australia using the WCHN ED data between June 2009 and December 2009 there were seven areas with high numbers of attendance. The details of the number of attendances per postcode and the SEIFA IRSD score for the postcode area are provided here. There were 507 children attendances from postcode area 5008. This postcode area has a SEIFA IRSD score of 914. There were 514 families from postcode area 5023, the SEIFA IRSD score is 913. The postcode area 5082 had 538 child attendees and this area has a SEIFA IRSD score of 1092. Another 612 children came from the 5085 postcode area and this area's SEIFA IRSD score is 937. A further 578 children attended from area 5086 and the SEIFA IRSD score is 943. Furthermore, 630 attended from area 5095 and this SEIFA IRSD score is 1004 while the highest number of attendees at 787 were from postcode area 5108 and this area has the lowest SEIFA IRSD score of 905. The next largest rates of attendance were below 460 families from one postcode area, for example, there were 456 children from postcode area 5084 using ED. Table 5.3 presents these seven areas by their SEIFA IRSD score. Only the areas of high use are investigated here as these form the cases of interest for understanding the influences on high ED use.

Table 5.3 SEIFA IRSD area score and the corresponding postcode area and number of children presenting to ED service

SEIFA IRSD score	SEIFA quintile group	POSTCODE	Number of attendees	Percentage rates between the top seven postcodes
905	Lowest	5108	787	18.8%
913	Lowest	5023	514	12.3%
914	Lowest	5008	507	12.1%
937	Lowest	5085	612	14.6%
943	Low	5086	578	13.8%
1004	Middle	5095	630	15.1%
1092	Highest	5082	538	12.9%

Table 5.3 illustrates variations in the use of WCHN ED by the seven highest user areas. There are 2420 (58%) children attending from the lowest SEIFA IRSD score areas, 630 (15%) children from a middle SEIFA IRSD scored area and 538 (13%) children attend from the highest SEIFA IRSD area. The 2420 attendees represent the largest cohort of presenting children at WCHN ED and reside in only four postcode areas from the lowest SEIFA IRSD scored areas. In contrast, almost ¾ of the other postcodes (Figure 5.1) had well below 100 attendances during the same period. Deprivation explains the attendance of the lowest SEIFA IRSD score area population but it does not explain the use of emergency departments by the middle or highest SEIFA IRSD score attendees. This data supports the findings from the UK and Canadian linking deprivation to an increased use of ED services (Hull et al. 1998; Dowsell & Towner 2002; Burt et al. 2003; Gulliford, Jack, Adams & Ukoumunne 2004; Bell et al. 2007; Laursen & Nielsen 2008). Therefore, this research supports the relationship between deprivation and increased attendance at ED however, the large anomaly of the number attending from the highest postcode area 5082 requires further exploration which will be provided in the personal interviews in Chapter 6.

The map in Figure 5.3 illustrates the quintile scores for postcode areas across metropolitan Adelaide. The postcode areas of interest are highlighted to provide a visual comparison of the areas by SEIFA IRSD score and the proximity to the Child Youth and Women's Health Service ED. The ED is situated in the pink postcode area 5006.

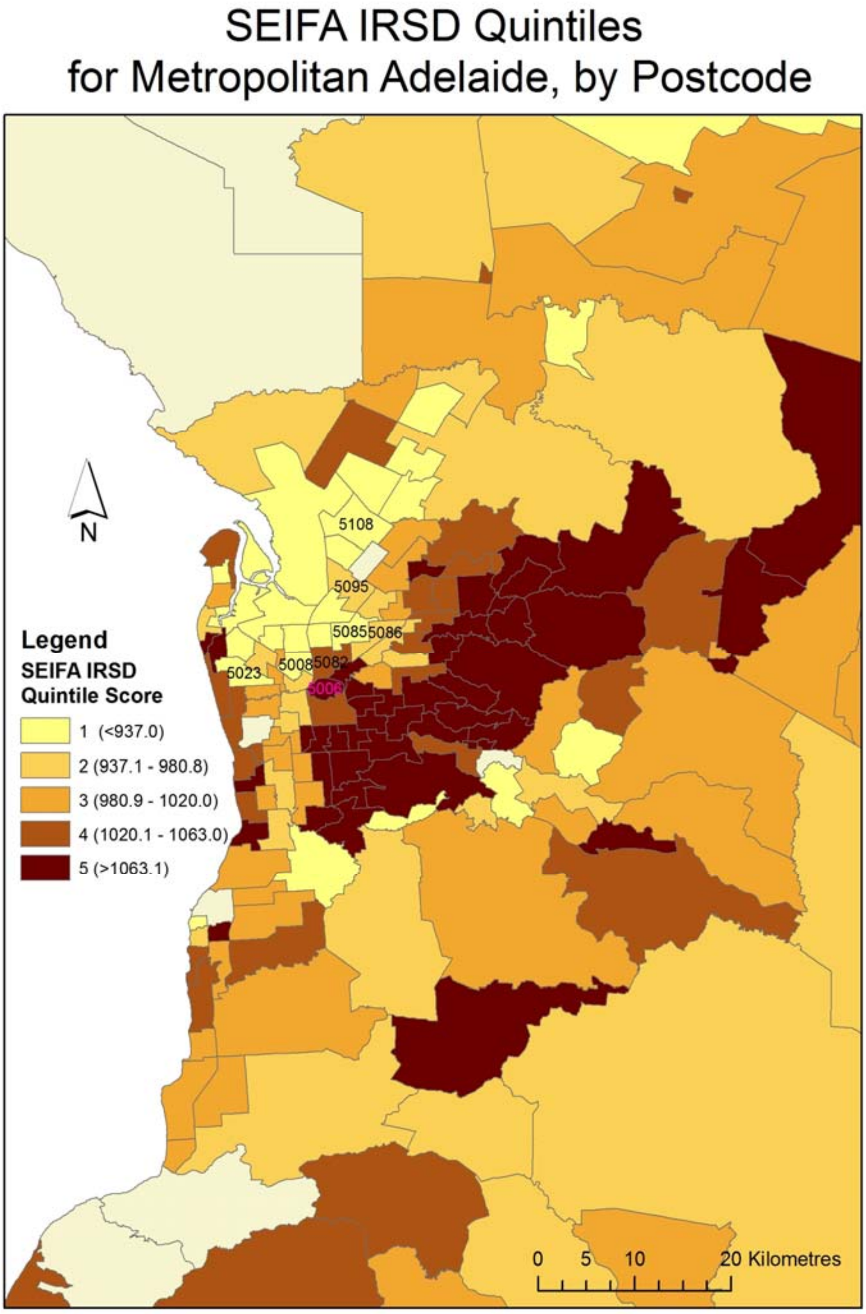

Figure 5.3 WCHN ED use by the seven highest use postcode areas showing the SEIFA IRSD of each postcode area

The map (Figure 5.3) presents the SEIFA IRSD status of each area. Postcode area 5008 is situated closest to the WCHN ED (postcode 5006). Areas such as 5108 with the highest levels of deprivation are furthest from WCHN ED. It is important to note that while the rates of attendance and deprivation differ, the rates of children as a proportion of the population remain similar across all seven postcodes areas examined here. The postcode area 5082, in the highest SEIFA IRSD area score, has 17.1% of its population aged 0-14 years, whereas postcode area 5108, in the lowest

SEIFA IRSD scored area with the highest levels of deprivation has 19.1% of its population aged 0-14 years (adapted from Tennant 2009). The 2% difference in children aged between 0 and 14 years does not explain the 249 more attendances from postcode area 5108 in a six month period. Consequently, children attending from areas of high deprivation are using the WCHN paediatric ED in greater numbers, but conversely, are travelling greater distances to use the service. This points to other influencing factors on this ED use which are explained by the parents in Chapter 6 and the staff in Chapter 7.

Section 2: Transport, triage priority and admission status and the provision of primary care services such as general practitioners

Univariate analysis of the independent variables comparing characteristics of the total presentations to the WCHN Paediatric ED June 2009-December 2009

This section uses the social health atlas to report on the relationship between ED attendance, SEFIA IRSD score, transport, triage priority and admission status and the availability of primary care services such as General Practitioners. The link between community service provision and deprivation is explored using the numbers of available service providers per head of population as a broad guide. Access to health services is derived from several measures, including: access to alternative services such as GP's, the availability of transport to attend health services, the seriousness of the attending condition (triage priority) and whether the condition warrants admission to hospital. These aspects of health access are also influenced by deprivation. The need to access health care is an important variable that is also influenced by several other factors. These factors include the mode of transport to ED, for example, urgent conditions require transport by ambulance, the triage category with priority 1 attendees requiring immediate attention and an admission to hospital. The HAS ED data should indicate that those attending via ambulance are of a more urgent category and require admission to hospital than those arriving by personal transport.

SEIFA IRSD score and transport

Transport used to attend ED at WCHN provides important details about the level of deprivation of the individual families attending ED and is a social determinant of health. International research highlights that increased use of public transport is linked to increased use of ED by populations with no car ownership (Bell et al. 2007). Further, families with no car show higher rates of ambulance use (Peacock & Peacock 2006; Shah & Cook 2008). Lack of car ownership is also one of the variables used to determine the SEIFA IRSD score for area (ABS 2006) and is an important indicator of deprivation (Bell et al. 2007). The figure 5.4 below shows the frequency of differing modes of transport according to SEIFA quintile area of parents taking their children to ED at the WCHN. This data represents all attendances from South Australia in June to December 2009.

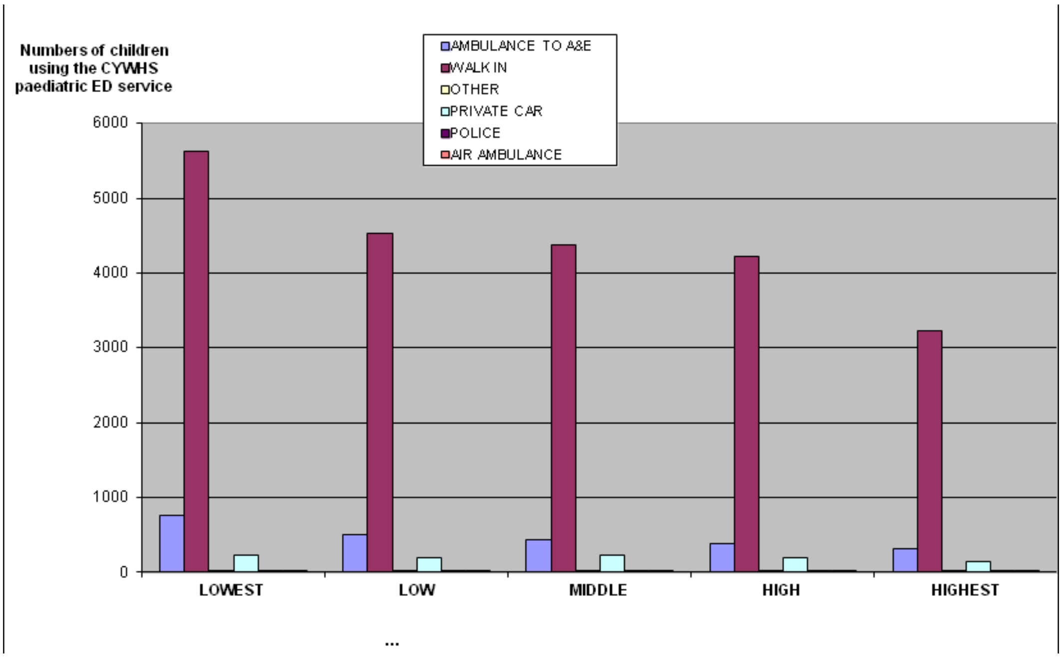

Figure 5.4 SEIFA IRSD area score and the frequency of differing modes of transport

The graph in Figure 5.4 above highlights that across all modes of transport those in the lowest SEIFA IRSD areas attend at higher rates. However, those living in the lowest quintile SEIFA IRSD areas attend via ambulance at higher rates than those from the other quintile areas. Those from the lowest SEIFA IRSD area attend using ‘walk in’ at 25% while those from the highest SEIFA RISD area at 14%. This percentage is almost half the ‘walk in’ rate of the lowest quintile group. Further, those attending ED via an ambulance from the lowest SEIFA IRSD represent 31% of all attending by ambulance. Ambulance usage rates by those from the highest SEFIA IRSD occur at 12% of those attending ED. This is less than half the percentages of the lowest SEIFA IRSD rated ambulance presentations, suggesting they may have more serious problems and attend at higher rates across all measures.

There are low numbers of ambulance use across all SEIFAS IRSD areas compared to other forms of transport. To assist in the further analysis of the data the ‘walk in’, private car, police and other categories were collapsed into a non-ambulance variable. The ambulance and air ambulance frequencies were collapsed into an emergency transport variable. This provided a dichotomous variable data set of emergency and non-emergency transport to hospital to determine the relationship between triage priority and transport. To maintain consistency and provide sufficient cell data for chi square ($\chi 2$) analysis the triage priority score was also collapsed into three categories due to the low numbers of triage 1 priority group. Thus, triage priority 1 and 2 became collapsed triage score 1[37]. The results of the $\chi 2$ analysis provided an insight into the relationship between the variables of triage priority and transport. There is a statistically significant relationship $\chi 2$ (2, n = 25,520) = 2069.68, $p < 0.001$ between the variables of transport to hospital and triage priority. The Phi and Cramer’s V value representing the strengths of this relationship is 0.285 indicating a smaller than typical effect of one variable on the other (Leech, Barrett & Morgan 2008; Kelley & Maxwell 2010). As the influence of transport and triage priority is confirmed it is also important to understand the relationship between triage priority and deprivation for this cohort.

SEIFA IRSD area score and triage priority at attendance at the emergency department.

The international research indicates that there is a link between triage priority at attendance and deprivation, with deprivation causing higher levels of illness, and therefore triage priority scores of the more immediate intervention category (Beattie, Gorman & Walker 2001). The presence of deprivation compounds illness resulting in an exacerbation of illness needing higher levels of intervention demonstrated by higher triage scores and higher rates of admission (Warr, Tacticos, Kelaher & Klien 2007). An examination of the HASS ED data for triage score highlighted the large numbers of triage priority 4 and 5 (those attending ED that could possibly use

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[37] Triage priority 3 became the collapsed triage score 2 and triage priority 4 and 5 became the collapsed triage score of 3. This provided the required statistical score needed to complete the chi square analyses in SPSS.

alternatives to ED). Figure 5.5 below presents the levels of triage priority and rates of attendance from the five SEIFA IRSD areas.

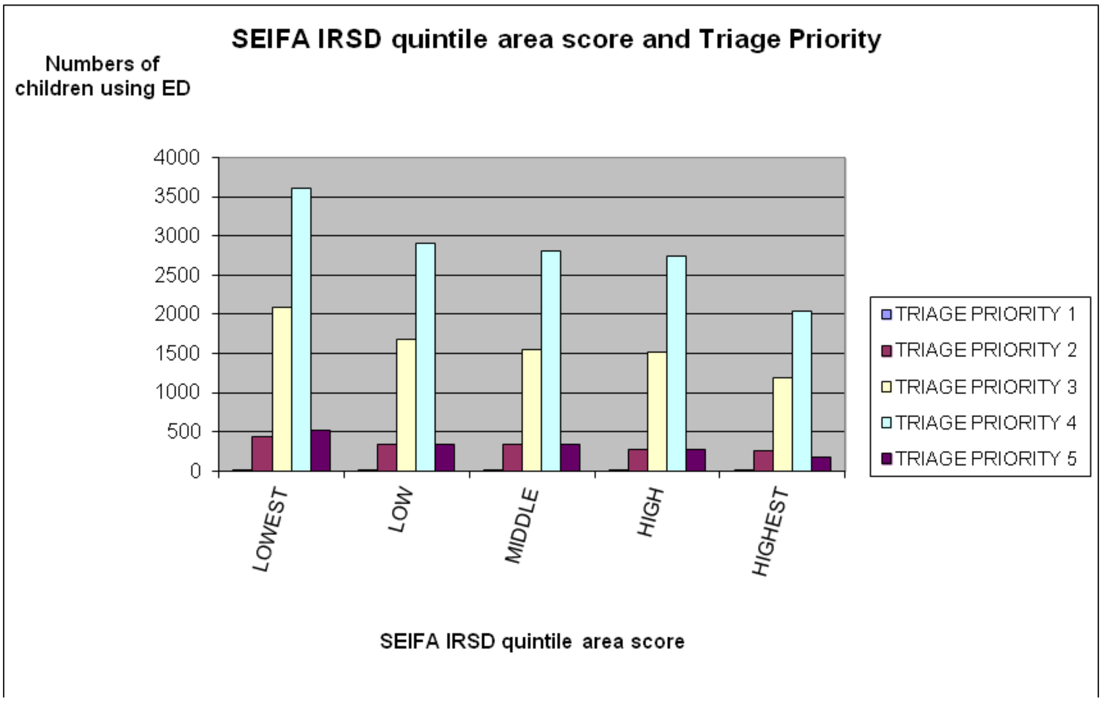


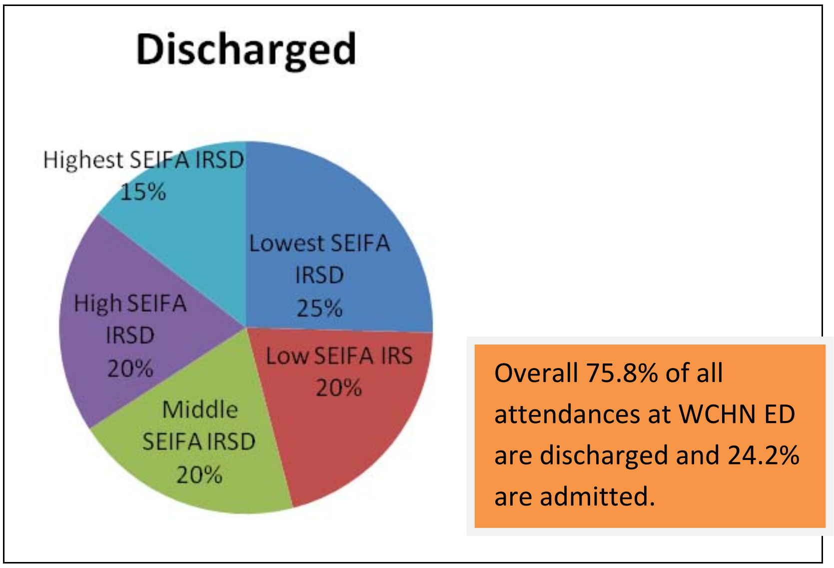
Figure 5.5 SEIFA IRSD area score and the triage priority score on attendance at ED

The graph in Figure 5.5 presents each triage score level within the SEIFA IRSD score as determined by the postcode provided to staff at the time of attendance in the WCHN Paediatric ED. This graph displays the HAS ED data provided and again the data shows those from the lowest SEIFA IRSD areas attending more often and requiring more immediate attention with 23% of those attending ED from the lowest SEIFA IRSD quintile areas. Therefore, the lowest quintile children attend in the priority 1 category more often than the highest quintile group. Those from the highest SEIFA IRSD quintile area represent only 17% of the priority level 1 attendance. Also of note is the use of ED by priority 5 clients. Children attending in priority level 5 category from the lowest SEIFA IRSD area represent 31% of all priority 5's whereas only 11% of priority 5's live in the highest SEIFA IRSD areas. These children may at times be able to use alternative services other than ED as the discharge status data reflects the non admission status and possible use of other services. Those children from the lowest SEIFA IRSD areas attend at nearly three times the rate of children from other areas. Levels of service provision will also be examined as a means of explaining ED use.

The use of triage data provides an insight into the levels and severity of illness attending from a postcode area. However, the Australian triage scores fail to incorporate the assessment of the need for the client to access primary care services (Fry 2009). To allow for the effective evaluation of health service provision future ED presentations needs to record the use of ED for primary care. Further service provision and policy needs to take into account the increasing presentations in the primary care category and devise health services that may address this inefficient use of resources.

Departure and admission status

Admission or discharge status is important in two ways in understanding child attendance rates at ED. Firstly, as discussed above the severity of the illness is linked significantly to triage priority. Secondly, the rates of discharge are indicative of the possibility of the use of alternative services for children attending ED. If high rates of users are discharged then it is probable that these users could attend at a service other than ED. The pie chart in Figure 5.6 displays the percentage of those attending for each SEIFA IRSD area that are discharged from the 25,520 children attending at the ED in June to December 2009.



Overall 75.8% of all attendances at WCHN ED are discharged and 24.2% are admitted.

Figure 5.6 percentage of children discharged from ED by SEIFA IRSD quintile score June 2009-December 2009.

Figure 5.6 indicates that overall 75.8% (19,355) of all attendances end in discharge while only 24.2% (6165) of children attending at WCHN ED are admitted. Reviewing the data by SEIFA IRSD area it is of note that the children from the lowest SEIFA IRSD areas are discharged home from ED at a higher rate than children from the highest SEIFA IRSD areas. As expected there are higher rates of attendance from the lowest SEIFA IRSD. Therefore, overall, children from the lowest SEIFA IRSD areas attend more frequently but most children attending ED are discharged.

Triage priority and admission and discharge status rates were analysed using a $\chi 2$ statistic. This analysis indicates that there is a statistically significant relationship, $\chi 2$ (2, n = 25,520) = 4896.733, $p < 0.001$ between the triage score given to those attending ED and admission status. This result is expected, as those with triage priority 1 or 2 requiring immediate medical intervention would often require admission to hospital for further observation and treatment given the severity of their illness. Conversely, those attending in priority 5 category would expect to be discharged. The relationship between triage priority and admission to hospital is good with the Cramer's V value of 0.438. The result of 0.438 indicates a typical effect of one variable on the other (Leech, Barrett & Morgan 2008; Kelley & Maxwell 2010). This result is synchronous with the expectation that the severity of an illness would indicate the admission status of a patient.

The map (Figure 5.7) illustrates the use of ED by the top seven postcode areas. Most use is from metropolitan Adelaide. It also provides a visual comparison of the top seven areas of most use. The WCHN ED is situated in the pink postcode area 5006.

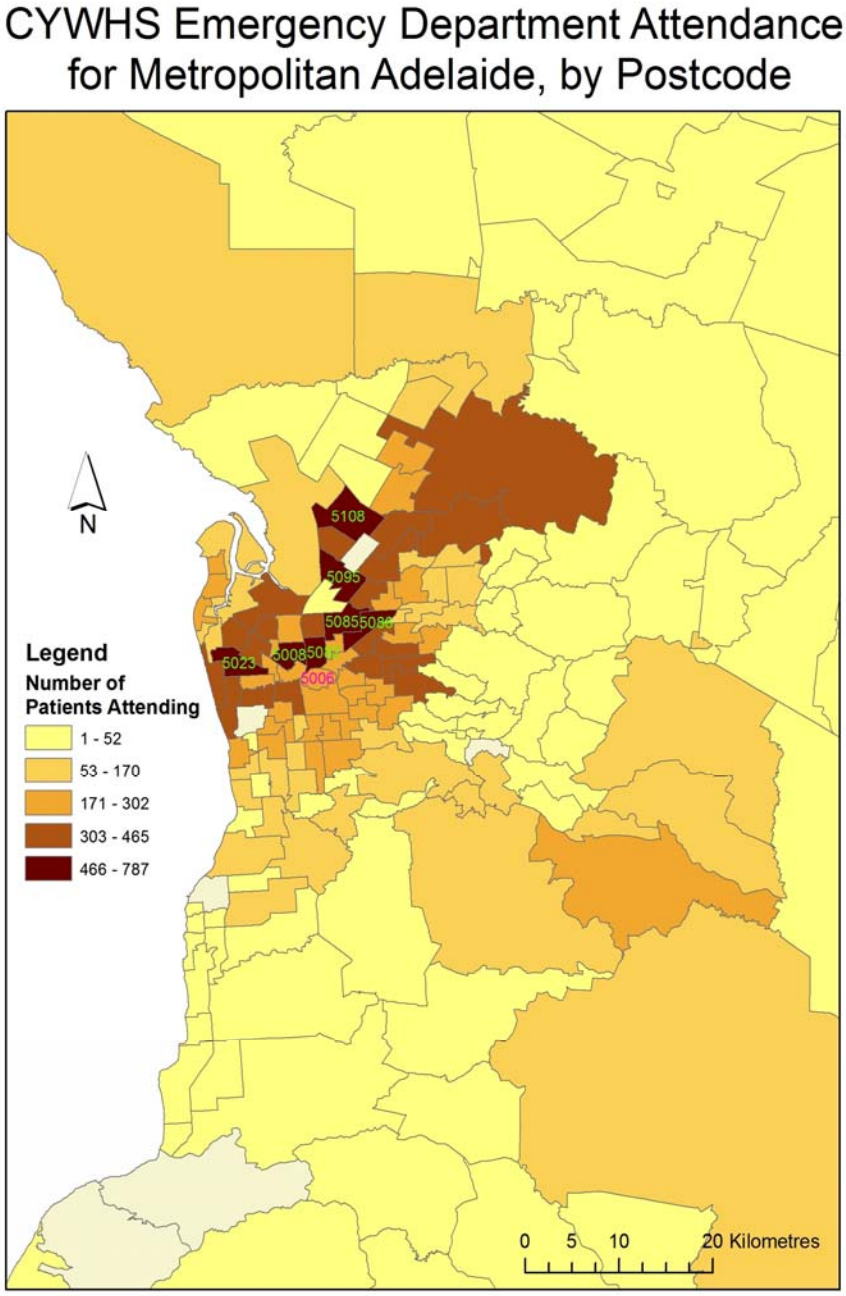


Figure 5.7 WCHN ED (in pink) attendance rates for the top seven postcodes

The high rates of use from these areas need explanation and furthermore the high rates of discharge do suggest a lack of alternative service use or provision. The children that are discharged could possibly use another health service as only children admitted require monitoring in acute care services. The provision of alternative services is explored below for the postcode areas exhibiting highest use.

Provision of primary care services in areas representing the highest use of the ED.

The provision of primary care services may provide an alternative to ED as well as the provision of preventative services such as immunisation for children, wellness assessments and chronic illness management. The analysis of the use of WCHN ED illustrates the differences in health access in that, while there are the expected lowest SEIFA IRSD areas accessing ED more frequently due to deprivation, there is also one of the highest SIEFA IRSD using ED in large numbers. Exploring the provision of primary care services in these areas reveals that the 5108 postcode, the lowest SEIFA IRSD scoring area, has 2,529 people per GP, compared to the 5082 postcode, the highest SEIFA IRSD area, with 636 people per GP (Glover et al. 2006; Tennant 2009). Therefore, while there is a dearth of services in the lowest SEIFA IRSD score area the same cannot be said for the highest SEIFA IRSD scored area. Thus, lack of GPs may be one explanation of the high use of ED by those families living in postcode 5108, however it is not the only influencing factor in ED use as those in postcode area 5082 have more GPs per person and yet is an area of high ED use. In summary, while the figures suggest a need for more primary care services are required in areas of high deprivation (lowest SEIFA IRSD scores), it does not explain use in areas of high GP provision.

GP service provision

Access to health services is not only an indicator of deprivation but also an intermediary SDH. The postcode area 5108 has higher numbers of residents per GP, for example, Salisbury North-East has 2,529 people per GP (Glover et al. 2006; Tennant 2009). This area has approximately 188,559 people, of whom 22.4% are aged 0 to 4 years and 14.6% are aged 15 to 24 years (PHIDUa 2005). These figures are marginally higher than the general South Australian population as a whole for these age groups which are 19.8% and 13.8% respectively (PHIDUa 2005). Therefore, this area has a slightly higher proportion of children and young people than other localities and much lower numbers of GPs to service it.

Further, this suburban area also has lower than average rates of private vehicle ownership with the number of dwellings having no access to a motor vehicle at 10.1% and the South Australian state average at 9.9% (PHIDUa 2005). A low income can influence a family's ability to purchase a car, healthy food and preventative health services. The unemployment rate in the 5108 postcode area is 10.9% while the South Australian rate is 6.6% (PHIDUa 2005). Furthermore, only 7.4% and 7.3% of adults living in the postcode of 5108 are managers and professionals (ABS 2006). Overall these factors illustrate higher levels of deprivation, lower levels of education and access to material resources and a limited access to health services. Given all these factors of deprivation, it seems incongruous then that residents from the 5108 postcode area would travel up to five times the distance to ED than other families travel to access ED at this service unless necessary.

An assessment of the postcode 5082 provides a comparison of areas in order to highlight other factors influencing use. The area of 5082 is in the SEIFA IRSD score of > 1063.0 indicating an area of socio-economic affluence (ABSa 2006). There are 636 people per GP (Glover et al. 2006), therefore this area has much higher rates of GPs per head of population than the 5108 postcode area. There is a slightly lower percentage of children and young people in this area, 17.1% compared to the Australian average of 19.8%. Further, the numbers of children and young people is again lower than the 5108 area at 23.9%. Therefore, the number of children per head of population is not necessarily an indicator of more ED use. The number of dwellings in postcode 5082 without a motor vehicle is 12.1%. This is higher than the lowest SEIFA IRSD area 5108 which has 10.1%. Further, the low car ownership in postcode 5108 is coupled with low levels of public transport. This could provide a part explanation for the high rates of attendance at ED by postcode 5082 as the public transport coverage for area 5082 is much higher (10 minute intervals), than area 5108, and the distance to the hospital in area 5082 is small at 4 kms and therefore taxi transport maybe an alternative. Given the higher income, those in management positions at 36.5% (5108 is 9.8%) and the much lower number of unskilled and semi-skilled workers at 10.9% compared to 32.0% in 5108, hire transport or company provided transport such as a company car, could be an option when attending ED with a child. This may explain lower rates of car ownership in postcode 5082 despite the higher SEIFA IRSD quintile score of >1063. Therefore, levels of private car ownership only explain part of the ED use picture with access. Postcode area 5108 has slightly higher rates of private car ownership, as opposed to

5082, but lower levels of public transport services and lower incomes but much higher levels of ED use. Conversely, postcode area of high use 5082 has higher incomes, higher numbers of GPs to access and higher access to alternatives such as the possibility of taxi travel and public transport providing access to health. This highlights the complexities involved in ED use as not only do alternative services, such as GPs, need to be available, but also, the means to attend such as private vehicles are required.

Additionally, the area of 5082 has only 7.7% of children living in welfare dependent families whereas the postcode area 5108 has 34.9%. This large difference between the living standards of these children further illustrates the levels of deprivation in the 5108 area. It also provides an explanation for the high rates of ED use as the 5108 families could ill afford gap fees or pharmaceuticals costs. Attendance at ED incurs no fees or pharmaceutical costs as drugs are provided free of charge to families after 6.00pm (Raftos, personal communication, 2010).

The differences of particular SEIFAS IRSD areas from the highest quintile area using ED services may be reflective of the location of this hospital in a highest quintile area. Further, the lack of after hours services seems consistent across SEIFA IRSD quintile areas. Therefore, regardless of the numbers of GPs per head of population, if no after hours services are provided, then ED is the only option outside business hours[38].

The distance from the hospital and the emergency department use

The position of the hospital could explain the overuse of ED services by those postcode areas that, although affluent, use ED more frequently than those in higher affluent areas researched in the UK. Studies in the UK have asserted that deprivation and distance influence ED use, with those in areas of high deprivation travelling small distances for ED use (Carlisle et al. 1998; Fone et al. 2006). Conversely, the findings from this research show that, despite long distance from the ED service, those who are deprived still use the ED service more. For example, those in postcode area 5108, one of the lowest scoring areas in South Australia with a SEIFA IRSD score of 905, live a minimum of 26 kilometres (kms) from the WCHN ED yet have

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[38] Business hours consist of Monday to Friday 9am to 5pm.

the highest children attendances, 787, while those in postcode area 5082, SEIFA IRSD score of 1092, live a minimum of 4 kms and also have high rates of attendance at 538 over the period of HAS data collection from June 2009 to December 2009. Specific deprived groups living furthest away from the ED service are also using this service at much higher rates than those living close by. This may be due to a preference for this service over other services, lack of availability of other services, or other factors but distance is not the only determining factor in WCHN paediatric ED use. This finding highlights that multiple factors other than distance may contribute to ED use.

Distance was calculated using Google Maps as this provides the road map distance from a specified postcode area to the WCHN ED. This mapping system also provides a time to travel the distance and a choice of routes. When a choice of routes was provided the most direct or shortest distance was used as the score. Table 5.4 illustrates the postcode area and GP coverage and the distance to the ED.

Table 5.4 The top seven postcode areas and access to GP services by head of population and distance from the WCHN ED department 2009

Postcode area	Population per GP	SEIFA IRSD area score	Kilometres from hospital	SEIFA quintile group	Numbers of children attending ED	% of attendance for top 7 postcodes
5108	2,529	905	26kms	Lowest	787	18.8%
5095	2,216	1004	14kms	Middle	630	15.1%
5008	2,165	914	10kms	Lowest	507	12.1%
5023	1,285	913	10kms	Lowest	514	12.3%
5085	1,018	937	6kms	Lowest	612	14.6%
5086	1,018	943	6kms	Low	578	13.8%
5082	636	1092	4kms	Highest	538	12.9%
Average	**1,039**	**1000**	**10.8kms**		**512.5**	

Table 5.4 provides a cross reference of the numbers of residents per GPs in each postcode area, rates of attendance, SEIFA IRSD scores and the distance travelled to obtain ED services. This illustrates the lack of GP services and levels of deprivation in particular postcode areas. The low and lowest quintile areas are between 6 to 26 kms away from the hospital, therefore distance does not seem to influence access, with the lowest SEIFA IRSD scored area (905 – this score indicates high rates of

deprivation) being the furthest from the ED department yet having the highest rates of attendance (787). This area (5108) also has the lowest rates of GP coverage. Rather than distance to access being a factor in ED use for those living in deprived areas, the provision of alternative services seems to influence ED use.

A Chi square ($\chi 2$) analysis of tirage priority and distance using all 25,520 cases of South Australian attendance at the WCHN ED July 2009-December 2009.

A $\chi 2$ test was used to assess the relationship between triage priority and distance. Analysing all 25,520 cases there is a statistically significant, positive relationship between triage category and the distance from WCHN ED $\chi 2$ (456, n = 25,520) = 1257.233, p <0.001. The Cramer's V indicates the strength of the relationship is smaller than typical at .157. Therefore, there is a correlation between the high distance travelled and the higher triage priority 4 and 5. This is consistent with the large numbers of children travelling from the outer suburbs (20-35 kms) to attend WCHN ED in the triage categories 4 and 5[39].

Alternative services

Other services such as Parenting Helpline offer access to health information via the telephone. This service has the capacity to triage children before their parents attempt to take their children to ED. The manager of this service was interviewed and the results of the interview appear in Chapter 7. The parents' responses to the use of this service are reported in Chapter 6. The international data on telephone triage services, designed to restrict the use of ED services to those requiring hospital interventions, has had limited success with populations living in deprived areas (Cooper, Arnold, Smith, Hollyoak, Chinemana, Baker & O'Brien 2005; Shah & Cook 2008). Cooper et al. (2005) suggest that public education would remedy socioeconomic differences in telephone triage use.

Alternatively, the Federal Government has introduced GP Plus and GP Super clinics in an effort to address the shortage of GP services and the overuse of EDs (National Health and Hospital Reform Commission [NHHRC] 2009). The GP Plus and GP Super clinics provide a range of primary health services with extended hours

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[39] Triage priority 4 and 5 could indicate possible primary care use.

(NHHRC 2009). The GP Plus service reviewed here is small, in the southern area and provides an after hours only GP. Conversely, the larger southern area GP Super clinic has no after hours GP service as it is collocated next to a private extended hours GP service. Both provide daily access to: counselling, parenting support, psychological services, physiotherapy, occupational therapy and speech pathology (Managers 1 and 2 personal communication 2010). The provision of after hours only GP services is a commitment by the Federal and State governments to provide services that do not directly compete with local GPs (Managers 1 and 2 personal communication 2010). These services are available after normal GP hours and therefore do not directly compete with GPs for clients. The small southern (5173 in Chapter 7) area service provides bulk billing[40] access for those patients with a Medicare card and is thus affordable. The large southern (5043) GP Plus clinic is collocated with an extended hours GP service. This extended hours GP service charges an upfront gap fee of between $30 and $60 depending on the time of attendance. The collocated extended hours GP service bulk bills for health care card holders only. Therefore, even though the GP Plus and GP Super clinics are provided to enhance health access the access is limited by the operating hours of the other privately run local GP services and the practice policy of the local GPs on bulk billing.

This SDH and public health based government initiative aims to support people in lower SEIFA IRSD areas to improve health outcomes and access (NHHRC 2009). New service provision will provide complementary services in an effort to decrease reliance on ED services. New services are planned for other areas of high need and low GP coverage such as those in the 5108 area. This research provides a baseline that can be used to determine any change occurring in ED use from the introduction of the GP Plus and GP Super Clinics, however, as noted, unless these services can be provided free of charge they are unlikely to impact on ED use.

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[40] Bulk billing refers to the charging 85% of the Medicare scheduled fee and the GP does not charge a gap fee.

Multivariate analysis of the independent variables and the use of ED for primary care services

Regression analysis

The previous research findings and the statistical significance of the chi square results plus the strength of the Cramer V scores indicate a need to explore which of the variables has the greatest influence on ED use. A regression analysis was conducted using the triage priority level as the dependent variable as this variable is indicative of illness level and the level of intervention required by ED staff. Triage priority was aggregated into the percentage of priority cases over 3.5 to represent those in priority 4 and 5 for each postcode area. This provided an area score instead of an individual score to allow comparison with other area variables such as, SEIFA IRSD scores. The other variables were transformed into aggregate scores for the same reason and are as follows: distance (mean), departure status (percentage of discharges per postcode area), transport (percentage of those using private transport to attend ED), letter of referral (the percentage of children attending with a GP referral letter per postcode area), the population per GP which is an average number per postcode, and the SEIFA IRSD as the deprivation score of that area.

Multiple regression analysis

The use of multiple regression in a hierarchical regression model allows the researcher to select the variable entered into the analysis in an order determined by previous research and theory whilst knowing that at each stage the previous variables are held constant (Kelley & Maxwell 2010). The subsequent results show the estimated model improvement (Kelley & Maxwell 2010). The use of multiple regression may explain factors such as deprivation, availability of private transport or the need to use emergency transport and access to primary health care, on the triage level of illness of children (Kelley & Maxwell 2010). Children from areas with high levels of deprivation are often sicker (Warr, Tacticos, Kelaher & Klien 2007) and have lower levels of access to alternative primary care (Glover et al. 2006; Tennant 2009). Understanding the influences on presentations to ED is important and also provides an opportunity for the possible diversion to primary care and primary health care for some cases by the supply of alternative services.

There are limitations in the HAS ED data collection process (discussed in Chapter 4) and these are beyond the researcher's control. The questions asked in WCHN ED are specified by the Department of Health and the data collected is variable, subjective, and dependent on the staff member involved. Further, this data is collected mainly for clinical diagnosis purposes rather than the influence of the SDH, or service planning and delivery.

These limitations and the focus of this research have necessitated the aggregation of the data into postcode cases. Postcode level analysis of service provision has highlighted some health provision deficits in some areas. Further, government planning of new service provision such as GP Plus, is determined at a postcode level. In addition the aggregations of the variables into postcode scores controls for disaggregate bias when using nationally produced deprivation scores such as SEIFA IRSD (ABS 2006).

Operational definitions

All the variables included in this multiple regression analysis are based on theoretical arguments and research (Kelley & Maxwell 2010). The variables were the aggregated percentage scores of the topic of interest from each postcode area. For example, the dichotomous variable, private transport, is the percentage of children attending WCHN ED who do not arrive by ambulance or emergency transport but arrive by private car, public transport or walk in. The aggregation of these data into postcode area data allows for the comparison of scores with the SEIFA IRSD area score.

Further, the other independent variables were: SEIFA IRSD area score (an indicator of deprivation in an area which is a continuous variable with a low score of 800 representing a high level of deprivation), the percentage of children attending with a referral letter (those children that have attended a GP [primary health care provider] prior to attending ED), discharge status variable was aggregated to represent a dichotomous variable of those children discharged and those admitted; this variable was further manipulated into an area score representing the percentage of children from an area discharged from ED and the distance travelled to WCHN ED. The dependent variable, triage priority, was aggregated to the percentage of children using triage priority 4 and 5 (non-urgent) from a postcode area.

Multiple regression procedure

A total of 163 postcode areas were used in the multiple regression analysis[41]. This number of cases is appropriate for regression analysis using the ratio of 18 cases per variable (Kelley & Maxwell 2010). Required assumptions for using this technique were checked and met. General statistical package IBM SPSS 18 was used. These 163 postcode areas represented those areas with a minimum of 10 attendances at ED. This tries to capture those areas on most use rather than those using ED rarely.

Multiple regression results

The bivariate correlation between independent variables and triage priority level of over 3.5 (possible primary care use of ED) ranged from a very low .04 (number of people in an area per GP[42]), .10 (SEIFA IRSD score for an area), -.37 (distance from the WCHN ED), to a large .74 (the percentage of children attending with a referral letter [therefore these children had accessed primary care prior to attendance]) .76 (percentage of children using private/non-emergency transport to attend WCHN ED), and the largest correlation of .82 (percentage of children discharge from ED in a postcode area). This indicates that multicollinearity[43] is an unlikely problem. Figure 5.8 illustrates in pictorial form the standardised multiple regression used in this analysis.

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[41] A forced entry method on SPSS is the default method. This method allows for all predictor variables to be entered in one block to assess their predictability in the model, while controlling for the effect of other predictors in the model (Pallant 2005 p. 160).

[42] This variable represents the numbers of people per GP. The higher the number then the lower the health access as there are more people attempting to access the GP. The lower the number of people then the higher the potential levels of access to a GP.

[43] Multicollinearity assesses the relatedness of the independent variable to the dependent variables to determine the level of relatedness of one variable towards another. If the variables are closely related there is an influence of one variable on another that may interfere with the relationship between the independent variables and the dependent variable. Therefore the use of a logistic regression is compromised if the independent variables are too closely related to each other.

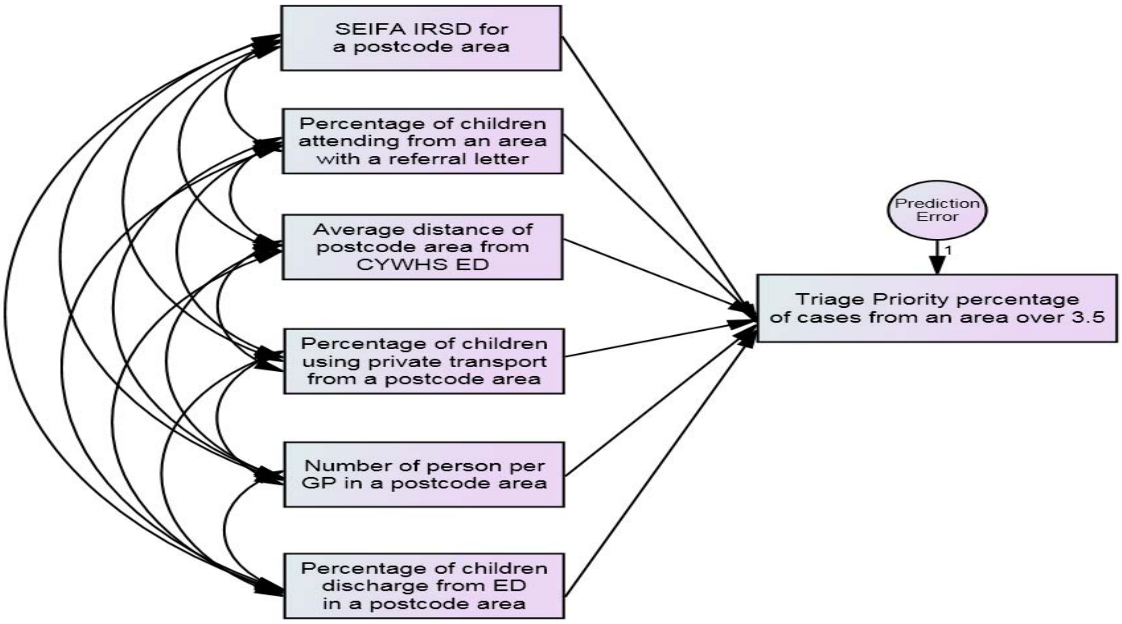

Figure 5.8 The model used to explain the impact of the independent variables and the dependent variable triage priority 4 and 5.

The results of the multiple regression model summary indicate that the combination of these variables explains 74% (Adjusted R Square) of the variance in triage priority. Further, these variables significantly predict triage priority level F (3, 163) = 34.79, p <0.001 as tested by the omnibus test. To investigate how well *mode of transport, referral letter, number of people per GP, distance from ED and discharged from ED* predicted triage priority 4 and 5, when controlling for level of deprivation (SEIFA IRSD score), a hierarchical linear regression was computed.

In the final model containing all six predictors entered, discharge status t (163) = 5.78, p <0.001, private transport t (163) = 4.67, p <0.001, referral letter t (163) = -3.73, p <0.001, SEIFA IRSD area score t (163) = -2.72, p = .05, average distance t (163) = 2.37, p <0.05, are significant predictors and number of persons per GP t (163) = 1.08, p >.05, is not a significant predictor of triage priority 4 and 5. This interpretation is supported by the standardised beta values (β) that indicates that discharge status β = 0.472, has a greater influence than private transport β = 0.324, referral letter β = -0.235, which has a greater influence than distance β = 0.117, SIEFA IRSD score, β = -0.114, and number of persons per GP β = 0.044, on a triage priority level of over 3.5. The table 5.5 provides the beta coefficient signs for the variables used in the multiple regression.

Table 5.5 Beta coefficients for triage priority 4 and 5 (Coefficients a)

Model	Un-standardized coefficients		Standardized coefficients	T	Sig.	95.0% confidence interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
Constant	26.668	7.860		3.393	.001	11.142	42.194
SEIFA IRSD For a postcode area	-.0018	.006	-.114	-2.721	.007	-.030	-.005
% of children using private transport from a postcode area	.317	.068	.322	4.676	.000	.183	.451
Average distance from postcode area to WCHN ED	.010	.004	.117	2.377	.019	.002	.018
% of children attending from an area with a referral letter	-.157	.042	.235	-3.733	.000	-.240	-.074
Number of persons per GP in a postcode area	.001	.001	.004	1.089	.278	.000	.002
% of children discharged from ED in a postcode area	.333	.058	.472	5.786	.000	.219	.447

a. Dependent variable: Triage Priority percentage of cases from an area over 4 and 5

The beta coefficient signs indicate the direction of the relationship between the variables. The negative relationship of SEIFA IRSD score for a postcode area and triage priority indicates that as the SEIFA IRSD score increases (an area of more affluence) the percentage of children from an area using ED from triages 4 and 5 decreases. This supports the premise that those from lower SES areas use the ED at higher triage levels for possible primary care services. The negative direction of the coefficient for referral letter and triage result may indicate that when the percentage of children attending with a referral letter from an area increases, then the percentage of children attending with a priority 4 and 5 decreases. This could be indicative of the reasons for referral, as the provision of a referral letter indicates attendance at a primary care service (GP) prior to attending ED. Therefore, those attending with a letter could be triaged at a higher level e.g. 1, 2 or 3 and thus be sicker and not able to be treated by the GP. The positive signs indicate as one variable increases so does the other. Therefore, as the numbers of children attending that are discharged increase so do the numbers attending at triage priority 4 and 5. The same can be said for distance and this could be influenced by the large number attending from outer suburbs. So too the number of persons per GP, that is, as the number of people per GP increase so too does the numbers presenting at triage 4 and 5, which could show a lack of GP access.

Further, the Stein formula (appendix 4) determines the extent to which the results of this multiple regression may be used to explain differences in the population (Field 2009). Cross validation check multiple regression score of adjusted R^2 = 0.74 Stein formula validation check is 0.719. Therefore, the difference is 0.03 and this is small indicating that the cross validity of the regression model is good.

Discussion of multiple regression results

This chapter has investigated the extent to which deprivation, access to primary health care, use of non-emergency transport, the population level per GP, discharge status and the distance travelled to WCHN ED could assist in explaining the use of ED by possible primary health care cases. The use of ABS SEIFA and HAS ED has provided a valuable insight into the influence of these variables on triage presentation levels 4 and 5.

Discharge status relates closely to triage level and this could be indicative of the clinic relationship between triage priority and discharge. In the multiple regression, the single best predictor of a triage priority level 4 and 5 is the discharge status of those children attending ED, with private transport and referral letter following closely. This is consistent with clinical knowledge that would suggest that the triage priority would be indicative of the patient need to be admitted and indicates a close relationship between these two variables. Further, those attending ED via emergency transport would usually be triaged at a more immediate intervention category of 1 or 2. It is to be expected that most of those attending by private transport would not be as ill as those attending via an ambulance or emergency modes of transport and receive a lower triage priority rating. Furthermore, the influence of the referral letter is also supported by the parent and ED staff interviews suggesting that GPs refer children to the WCHN ED for a number of reasons.

SEIFA IRSD score predicts triage priority but not to the extent of previous research, however these data may be influenced by the use of this particular ED service by those children living locally in the highest SEIFA IRSD[44]. Further data collection and structural equation modelling is needed to determine the pattern and extent of the influence of the SEIFA IRSD's impact on the primary care use at ED. The number of people per GP has no significance value. The number of people per GP in a postcode area could be an indicator of access to primary care services and this also influences ED use and requires further investigation utilising a design which specifically captures this information.

Binary logistic regression results from all 25,520 attendances

The unadjusted odds ratios, associated with 95% confidence interval, from the binary logistic regression model were shown in Table I Appendix C. Six variables (Deprivation SEIFA IRSD score, referral letter provided to triage, transport used to ED, discharge from ED, number of people per GP in a postcode area and distance to ED below 55 kilometres (km)) were examined to assess the significant relationship between the factors and the probability of using ED with triage priority 4 and 5. Transport used to ED (OR = 7.62, 95% CI 6.89 – 8.43) and discharge from ED (OR = 7.38, 95% CI 6.92 – 7.88 showed a strong positive significant ($p<0.001$) association with ED attendance triage priority level 4 and 5 while referral letter provided to triage (OR = 0.51, 95% CI 0.48 – 0.55) showed an inverse association with triage priority 4 and 5 ED attendance (Table I). Deprivation SEIFA IRSD score, number of people per GP in a postcode area, and distance to ED did not appear significant relationship with the use of triage priority 4 and 5.

Although there is no significant relationship between deprivation SEIFA IRSD score and the use of triage 4 and 5 in the unadjusted model, it appeared as a significant indicator when the model was adjusted with all other variables (Table listed in

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[44] A subsequent multiple regression removing postcode area 5082 did not alter the percentage of SEIFA IRSD's impact within the model furthermore all other results remained the same.

Appendix C). This may indicate that SIEFA IRSD score influences the other variables and their impact on triage 4 and 5. Therefore its effect is indirect.

Section 3

The social health atlas has been used throughout this chapter to provide information such as the number of households that own a vehicle in a postcode area. This has assisted in shedding light on several other factors related to the SDH of residents from postcodes identified as having high attendance for priority 4 and 5 at ED at the WCHN hospital. Factors such as socio-economic status, number of children per household, numbers of single parent households, employment and unemployment rates, and rates of childhood accidents and illness are significant. As some of these aspects have been illustrated and discussed above, a more general discussion on the SDH is provided here.

Research into childhood injury rates in Australia depict a significantly increased incidence of accidental injuries with moving vehicles, fire and burns, and poisonings in children in the lowest income quintile (Poulos, Hayen, Finch & Zwi 2007). Internationally regardless of the measure of deprivation there is an increased incidence of injury, severe injury, and death in children from the most deprived areas (Faelker, Pickett & Brison 2000; Dowsell & Towner 2002). The higher rates of children attending, across all triage priorities, from areas with high levels of deprivation, that is, 40.7% of children using WCHN ED, are from the low and lowest SEIFA IRSD quintile areas, and supports the previous research mentioned above.

Social determinants of health (SDH)

Promoting increased equity and efficiency of health services addressing economic deprivation is important (Burt, Hooper & Jessop 2003; Dal Grande, Taylor, Jury & Greenland 2004; Peacock & Peacock 2006; Poulos, Hayen, Finch & Zwi 2007). Overuse of EDs is costly for the service providers (Shah & Cook 2008). Economic deprivation leads to an increased use of ED services by low socio-economic populations (Beattie, Gorman & Walker 2001; Dal Grande et al. 2004; Peacock & Peacock 2006). Essentially, the findings here indicate that deprivation influences the use of paediatric ED for primary health care use.

Deprivation is defined internationally using a variety of measures and terms, but it generally refers to a lower socio-economic class characterised by a lack of resources both individually and socially, as a result of a lack of: income, education, social capital and local societal infrastructure (Hull, Jones & Moser 1998; Dowsell & Towner 2002; Burt, Hooper & Jessop 2003; Gulliford et al. 2004; Bell, Schuurman & Hayes 2007). Regardless of the measure used, deprivation is associated with higher use of after hours GPs and ED (Dowsell & Towner 2002; Burt, Hooper & Jessop 2003; Downing & Rudge 2006). Deprivation in the UK accounts for 48% of ED use (Hull, Jones & Moser 1998). In this study those children living in areas of deprivation account for 40.7% of WCHN ED users in a six month period.

Limitations of quantitative data

These data are limited by the manner of collection, for example, the ‘walk in’ category is considered by staff as non clinical information and its value is seen as limited and the ‘walk in’ category is a ‘catch all’ category for non ambulance attendance and not reflective of car ownership (Raftos 2010 personal communication). This consideration influenced the decision to aggregate these scores into a dichotomous variable of emergency and non emergency transport to determine the relationship between triage priority and transport. To maintain consistency and provide sufficient cell data for analysis the 5 levels of triage priority score were also aggregated into three categories due to the low numbers of triage 1 priority group.

There is an issue with the method of data collection as this is performed by many individuals. It is highly subjective in respect to the lack of training provided in the determination of the categories on the HAS ED intake form. Therefore, the categories of data are not adhered to with a reverence and professional conduct associated with formal data collection from a researcher, research associates or social scientist.

Conclusion

The efficient and effective use of health services are important components in providing health care that is consistent, timely and appropriate in its interventions, especially for children. The responsibility of provision also plays an important part of health access; for example, if the health services are provided by the state then funding for services and access to service is a state function. Health access that is not consistent, timely and appropriate has consequences for the individual's long term health outcomes and on the health system's capacity to provide affordable, expeditious and effective interventions. This chapter has identified some of those SDH which impact on the efficient use of a children's ED services in South Australia (Women's and Children's Health Network (WCHN). Namely, those children living in areas of higher levels of deprivation (lowest SEIFA IRSD scores) have much higher rates of use of ED regardless of the distance to ED.

Children in the lowest SEIFA IRSD areas have three times the rate of priority 4 and 5 attendance than children from the highest SEIFA IRSD area. These categories could use alternatives to ED at times, which is supported by the 75.8% discharge rate at WCHN ED. There is, however, a lack of alternative service provision in the lowest SEIFA IRSD areas and this is illustrated by the population per GP figures.

Assessments of the constituents of deprivation remain, to an extent, country specific. There is a plethora of research linking deprivation with deleterious health outcomes and an increased use of EDs (Dowsell & Towner 2002; Burt, Hooper & Jessop 2003; Downing & Rudge 2006; Marmot & Wilkinson 2006; Laursen & Nielsen 2008). Recent research associates deprivation with an increasing use of EDs in preference to primary health care services (Masso et al. 2007). This practice by patients inhibits preventative care by primary care practitioners and promotes an illness cure cycle of health access (Masso et al. 2007).

Further, international research has found higher levels of material deprivation and lower socio-economic status equates to higher ED use and an increase in levels of long term limiting illnesses (Shah & Cook 2008). Increasing levels of chronic ill health presentations at ED services delays the throughput of patients and promotes the misuse of ED services ill-equipped to treat chronic illness. Developmentally the prevention of chronic illness can occur in childhood, therefore, timely and appropriate interventions can be aided by primary health care services. The results here indicate that children from the lowest SEIFA IRSD areas have limited access to primary care and use ED at much higher rates than children from the highest SEIFA IRSD. Primary care and primary health care services that provide preventative interventions may circumvent the development of chronic conditions, although appropriate and timely treatment regimes seem limited.

Deprivation explains the attendance of the lowest SEIFA IRSD score area population but it does not explain the use of ED by the middle or highest SEIFA IRSD score. The position of the hospital in one of the highest SEIFA IRSD score areas in South Australia may explain the use of this service by this socioeconomic group. For this particular postcode area it is a local hospital.

Deprivation as a measure of several SDH is a defining influencing characteristic in the use of ED services. Deprivation has an influence greater than distance of family from the hospital and the socio-economic area in which the hospital is located. These findings further delineate deprivation as a measure of several SDH as a most important influence on ED use.

This analysis assists in understanding some of the factors that explain rates of attendance by particular populations and some of the structural SDH reasons why this population attends ED more frequently than those from higher SEIFA areas. It also explains why both the lowest and the highest SEIFA IRSD area population use this particular ED. The further analysis of the reasons provided by families attending ED is explored in the following chapter and the views provided by community health care providers and the ED staff is presented in Chapter 7.

CHAPTER 6

Introduction

This chapter presents a qualitative account of the parents interviewed using a narrative approach and an illustration of the connections between the material outlined in previous chapters and the emerging patterns of health care access for the 18 families interviewed. The chapter also provides new information regarding differences between individual family members and their use of health care services. The use of narrative analysis provides an in-depth understanding of why families choose to take their sick child to the Women's and Children's Health Network (WCHN) paediatric ED, commonly referred to as the Women's and Children's, when all that is required is a GP visit.

The 18 families interviewed discussed their health access in global terms and often mention many episodes of health access with a variety of health providers. This represents a unique inquiry and analysis in the use of paediatric ED services. The families did not mention the triage priority allocation system used by ED, as they are not informed of their child's triage priority, and this is consistent with the staff interviews reported in Chapter 7. All families interviewed had been discharged from ED; this indicates the possibility of these families using an alternative service. Further, all the families indicated that they had used ED when they could have used another service such as a GP or locum. The chapter commences with an outline of the data collection process, and the analytical and interpretive procedures used for the narrative analysis. The first part of the data analysis presents the interview. The second portion, the analysis, links the data to the theoretical base and the Social Determinants of Health (SDH) on a theme by theme basis. The conclusion highlights the impact of the SDH on the health outcomes for the families interviewed.

Qualitative Procedure

Narrative analysis

The qualitative methods used in this chapter are loosely drawn from the Kohler Riessman (1990) and Czarniawska (2004) narrative analysis. Narrative analysis takes the verbatim interview and analyses its components. It allows the researcher to form an impression of the participants' experiences for it is through narrative that we express our understanding of our social world, justify our decisions, make sense of past actions, and use that understanding to inform our future decisions (Kohler Riessman 1990; Franklin 1998; Czarniawska 2004). Personal narratives provide meaning-making and are part of a discourse of sense making (Kohler Riessman 2002a; Czarniawska 2004). The collection of many stories or narratives of similar events allows the researcher to sift through the stories in order to discover recurring patterns and themes providing a triangulation of the findings (Kohler Riessman 2002a). The social constructivist view of narrative dictates the collection of stories from the same milieu (Bertaux 1998; Kohler Riessman 2001).

Parts of the narrative are presented so that the reader may see the stories independently of the analysis (Franklin 1998; Kohler Riessman 2001). This acknowledges and allows for the separation between the analysis and the material and is expressed by Kohler Riessman (2001) below:

> The construction of a narrative segment for analysis and the representations and boundaries we choose are strongly influenced by our evolving theories, disciplinary preferences and research question. (Kohler Riessman 2001 p. 10)

An exploration of this nature allows for a link to be made to the broader themes of the SDH. This situates the social constructs within the story as part of the experience of the health consumer within the structure of health services provided.

The parents' narratives convey the trauma and drama of having a sick child and the events that led up to them taking their child to the WCHN ED. The parents also describe previous episodes when their child was sick and what factors in that story influenced their decision to use the WCHN ED this time for a triage priority 4 and 5 (possible primary care) illness event.

Introducing the families: Socio-Economic Index For Area (SEIFA) Index of Relative Social Disadvantage (IRSD) area score

All the families interviewed provided postcode information. These data were converted into a SEIFA IRSD area code for that area allowing for a broad identification of each family's socioeconomic status. The SIEFA IRSD area rating for each postcode was then compared across a broad range of HAS ED attendance characteristics as outlined in Chapter 5. These characteristics included; triage priority, discharge status, and mode of transport to ED (discussed in chapter 5). The SEIFA IRSD area for all 18 families is provided in Table 6.1.

SEIFA IRSD areas of families interviewed

The SEIFA IRSD score is developed from 17 indices of deprivation and disadvantage and provides an area wide population measure for socio-economic disadvantage (ABS 2006). Of the 18 families interviewed five resided in the lowest[45] SEIFA IRSD area, three in the low SEIFA IRSD area, 1 from the middle SEIFA IRSD quintile and 9 from the highest. This data is presented in the table 6.1:

Table 6.1 SEIFA IRSD area code for each family interviewed

Family code	Total	SEIFA IRSD area code	Quintile	Comments
1, 2, 14, 15, 17,	5	1	Lowest	Family 1 not fully employed, family 2 single parent family
6, 10, 16,	3	2	Low	
13	1	3	Middle	
		4	High	
3, 4, 5, 7, 8, 9, 11, 12, 18	9	5	Highest	Family 5 is a single parent family living in a highest SEIFA IRSD quintile area.

Table 6.1 highlights the socio-economic level of the SEIFA IRSD of those who were interviewed. Those in the lowest SEIFA IRSD area have high levels of deprivation and limited access to material and health resources such as GP access. As noted in Chapter 5 the majority of attendances at WCHN ED are in SEIFA IRSD area quintile 1-3 especially in triage priority 4 and 5. The majority of parents agreeing to be interviewed came from SEIFA IRSD quintile 5 and, on the whole, have high incomes and access to GPs. Hence, it should be noted that the 18 families interviewed are not a representative sample of parents attending ED. However, the motives of parents across all SEIFA IRSD provide insight into why they attend at ED when ideally

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[45] The lowest SEIFA IRSD indicates an area with higher levels of deprivation and limited access to material resources and wealth.

attendance at their local GP would be most suitable. This data were also supplemented with a focus group of parents who attended a local community health centre in SEIFA IRSD area 1. The results of this focus group are presented in Chapter 7.

The initial analysis noted several themes that have been condensed to describe the barriers encountered by the parent's during a child's access to health. These are in order of most frequently discussed: i) lack of GP services, ii) children are a specific consumer group (the parent acknowledges that children are different to adults and respond differently to treatment) in two subthemes; a) the GP has a limited skill set in treating and managing children, and b) the time taken to treat a child, iii) locum availability, iv) familial differences in health access (parents and children have different patterns of primary health care access), v) parental constructions of being a good parent, vi) the cost of attending a GP, vii) limited use and value of telephone triage services (the parents expressed that the telephone services are limited in the information and intervention they provide), viii) the need for specialist services (the parent believes the child needs to receive specialist paediatrician care as the current services both public [hospital] and private [GP] are inadequate), ix) a lack of understanding of the role of the WCHN ED by residents living in close vicinity, and x) violence in multi care (adult and child combined services) ED services. In many cases the parent's story had a number of overlapping themes; this is illustrated in the narrative segments throughout the chapter. This broad range of themes points to the fact that the main reason given by parents in the use of the ED is due to the lack of alternatives. The first theme identified is the 'lack of GP services'.

The versatility of narrative analysis is that the socio-political influences are found in the retelling of the story (Kohler Riessman 2001). Here the focus is on the structural and intermediary determinants of health. This new application of the narrative allows for the exploration of health access from the consumer's stance. Further, it maps the strategies used by parents given the current structure and delivery of health services. The narrative from the Carol (all names have been changed to pseudonyms) illustrated the journey through health access as a pathway of trial and error that includes several trips to the GP, and lack of after hours access before deciding that the WCHN ED was the best option for her family. This pattern of access has been repeated by the other parents.

i.) A lack of GP services

All the mothers suggested that they used the WCHN ED as there was a lack of GP access for unplanned and after hours services and this occurred for a variety of other reasons. This was regardless of the socioeconomic area and family circumstance. The following stories illustrate this issue.

Carol, George, and son Flynn (family 10) lived in a semi-rural, low SEIFA IRSD area, approximately one hour's drive from the WCHN ED. The three bedroom older family home was situated on a 20 acre block with almond trees. They had few neighbours (geographically speaking) in this predominately market garden area. Carol had worked as a disability services manager before becoming a parent. She and George had tried for several years before the birth of their only child, Flynn, an 18 month old active boy. Although they did not have many close neighbours, geographically, and no immediate family, they had many close family relatives, friends, and neighbours for assistance and support when they needed it. The isolation from services for this mother is a salient point and it is interwoven throughout the narrative. The distance to health care and the very limited hours of GP service provision is highlighted most starkly by Carol.

One Saturday afternoon around 3pm Flynn was playing and bungee jumped off the bed and bumped his head. A bruise appeared '*about the size of an egg'* and as the local GP closes at 1pm so Carol and her husband took Flynn to the WCHN ED. Carol explained why she went to the WCHN ED (commonly referred to as the Women's and Children's) after hours and continues with the theme of expertise in child health. This example also demonstrates how the experience informs future health access.

Transcript section 1: Carol

> ... by this stage it was Saturday evening because of this, well we rang the GP. We didn't have access to our local services because our doctor closes at midday, 1pm on Saturday, and so we thought the next best option is the Women's and Children's. They're experts in child health care (pause [p]), so that's how we changed to them, that was on the Saturday and then they asked us to come back for a follow-up appointment on the Monday. The other one (p), the other time we used the Women's and Children's would be back in March or April, When Flynn [son] decided to bungee jump off the bed ... And it was on a Saturday afternoon, so we don't have a locum

> service available here, There is no locum doctor that will come here. I guess because of our isolation [this family is 36.5kms from the WCH] or limitation in health provision I'm not sure, but, no, we don't have a locum practice that's available to us.

One of the main reasons parents use the WCHN ED is a lack of alternative services in their area on weekends and after hours. This family lived 36.5 kilometres from the WCHN ED so there is considerable cost and time involved in attending the hospital. In this semi-rural area the small population of 1682 residents (ABS 2006) is one reason for the lack of services as it is not cost effective for GP services to open extended hours. This means that for unplanned, urgent, emergencies and after hours care parents need to seek care at the WCHN ED as it is the only alternative.

Carol also states '*so that's how we changed to them'* indicating that this scenario has influenced her future choice in health access for her child. She does acknowledge the limited population as a driver for the lack of after hours service however, this does not explain the lack of services in highly populated areas described next. A number of families interviewed living in highly populated areas claimed they lacked access to GP services either after hours or because of too few services. The extract from Margaret's (family 17) interview demonstrates that even in areas where there is a high population there is a lack of GP and after hours services.

Margaret has five children, three of whom live at home with her and her husband, Donald. The two youngest children have severe disabilities that require ongoing assistance. One child has autism and becomes very distressed with strangers in the house so this interview was conducted over the telephone. Donald earns $45,000 per annum[46] and the family rely on a carers allowance to help them *'make ends meet'*. Their home is in a newer housing division less than 10 years old. The area is one of the lowest SEIFA IRSD areas in South Australia. The interview with this mother took 2 hours over the telephone while Christine (her youngest daughter) was having an afternoon nap. Margaret was very forthcoming and showed considerable insight into the health system which she said was due to her ongoing and extensive use. Four of her five children have ongoing health issues. The two older children have depression and one of these children also has Attention Deficit and Hyperactivity

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[46] The average income, full time, ordinary time, earnings in South Australia per annum is $59,223 (ABS 2010). This is a seasonally adjusted measure of annual income per state.

Disorder and the two youngest children have autism and Goldenhar Syndrome respectively.

In the narrative below Margaret identifies the lack of services. She explains that this is the result of the high ratio of population to the low numbers of GPs. Margaret spoke in general terms rather than her specific needs at this point, and provided useful insight into the needs of this lowest SEFIA IRSD area where illness rates are higher. In this postcode area there are 2,529 people per GP (Tennant 2009; PHDIU 2010). This differs from the previous family, Carol, where the ratio of GPs to population was 1,106. Lack of access to GP services may occur in both low and high population areas.

Transcript section 1: Margaret

> The doctors here are doing the best they can (p) but the area has grown so rapidly, the amount of people living in this area now is 4,000 people and now 350 new houses being built and another 500 to be developed and there can be 4-5 people per house ... They have a Nurse Practitioner clinic in the shopping centre, they're great with diabetes and stuff and they are very busy but you can always get in. The locum service here is only half time at 4 and ½ hours overnight [coverage of the locum service], for a GP appointment [for a child] you can wait 4 days. I can wait up to 3 weeks. I don't want to burden them [GP] so I go as little as possible. Our last doctor had to leave and set up a practice where it's less busy. I should go regularly to keep an eye on my health but it's hard to get in.

Margaret is aware of the strain placed on the GP by the lack of other services or other GPs in this growing housing development. The growth in this area is not supported by the provision of health services thus new families buy in an area that is inexpensive but does not have access to GPs, immunisation clinics and other allied health services needed by young families. Further, people from the lowest SEIFA IRSD are the most frequent attendees at WCHN ED supporting a need for more services. Margaret reasoned that using WCHN ED alleviates some of this pressure on the GP. She said she delays in attending the GP for her own health, as the GP is too busy although, she does have the option of using a Nurse Practitioner clinic for health checkups.

Other parents living in the inner suburban areas also noted the lack of GP and after hours services. This is illustrated by the quotations below:

Transcript section 1: Nickie and Geoff

> ... he [son] started coming down with something (p) a high fever, and he was unwell and nothing was open so we took him back [WCHN ED] ... the doctors around here are only open between 9[am] to 5.30[pm]... we have no locum services that comes around here.

Transcript section 1: Katie

> ... he [son] had a high temperature ... nothing is open after hours and our GP is shut on a Wednesday as well ... I mean our GP is great with the kids but his hours are limited and I didn't want to wait for the locum.

Transcript section 1: Kris

> ... unless it is an emergency we would always use the GP... but if it is after hours (p), our GP is open eight-fifteen until six or seven o'clock at night, through the day. And it's eight until twelve on Saturday mornings. We have a locum but the time we needed it [locum service], we needed to wait four hours for the locum to arrive and you are put on a list and if the others in front of you take longer, then you wait longer.

Transcript section 1: Mary

> ... normally it's the GP but if the GP is busy or not open then it's the Women's and Children's emergency.

These sections of narrative illustrate a lack of GP services for parents to use. The provision of services occurs through several processes that are linked to the SDH. The socio-political constructs provide services through the public and private aspects of the health system. The GPs provide an initial mode of health access, primary care access, at their own discretion. The public health services provide access through the acute care services such as ED (the proposed changes through the introduction of GP Plus services are discussed in Chapters 7 and 8). The inability of parents to obtain access to a GP may inadvertently direct parents to ED. Further, the provision of health services is determined by others, not the parents. These socio-political influences are determined by the power of the professionals and the ideologies of the government providing the services. The type of health system is a structural SDH. The service provision is a combination of socio-political influences and the type of health system. These factors in turn mediate health access. The intermediary SDH, such as socio economic status, education level and social status, also influence health access and determine the parental ability to meet the health requirements of the child. The limited availability of services impacts on familial patterns of health access.

Several parents noted that they delayed seeing their GP or had to wait up to three weeks. However, waiting more than a few hours with a sick child is not an option.

Parents believe their sick child requires immediate attention (this is also supported by the staff interviews). The need for immediate care also informed the type of services accessed by parents. Parents sought practitioners with child specific knowledge and an ability to build rapport with a child.

ii.) Children are a specific health consumer group: the GP has a limited skill set in treating and managing children, and the time taken to treat a child

The use of GPs both during daytime hours and after hours can be, in the views of the parents interviewed, not appropriate in providing care for their children. There is recognition by these parents that the knowledge of children's health requires specialised skills that may not be catered for by GP services. This is evident in the portion of transcript again from Verity (family 14) and this was also highlighted by 16 of the families interviewed.

Transcript section 1: Verity

> I'm very, very happy with the Women's and Children's Hospital. I'm not happy entirely, with the abilities of the GPs but that's something that I can't see there's any solution to, I think they're very basic, it's an introductory port to get a referral to where you need to go. Their [GPs] knowledge is limited, and the main thing is the time, it is very limited because they don't have, you can't cover my children's needs in a ten minute appointment. My other daughter took an hour and fifteen minutes, just to give a history to the paediatrician for her first appointment.

Verity describes the limitations of the services provided by GPs for the children of this family. She also illustrates the role of the GP as a gate keeper to other services. The other issue mentioned here is the limited time available to GPs to examine children and the needs of children for a more thorough assessment that often takes longer. This situation is a major theme from the staff interviews (Chapter 7). This section of Verity's interview describes a major flaw in the organisation of Medicare which pays doctors on the number of patients they see based on set times for each consultation. GPs as private providers in a fee for service system rely on the throughput of patients to maintain their practice and service income. This phenomenon is also highlighted by the WCHN staff interviews (Chapter 7). This type of access model limits the time available for any one patient and limits the time needed to service specialist groups such as children, and those with complex and chronic health care needs.

There is also a sense of powerlessness expressed by Verity regarding her inability to change the way in which she accesses health for her children. She expresses the view that the poor quality of service provision and its lack of suitability is outside the parent's control. The structure of service provision is one of fee for service at the GP level and the GPs act as gate keepers to further services such as, specialist medical services, psychologists, physiotherapists, x-ray and pathologist services such as, blood tests. As gatekeepers Verity sees the GP as preventing her from accessing these diagnostic and specialist services for her children by not providing a referral when requested despite the past family history. Verity's first child was diagnosed with a rare gastrointestinal absorption disorder and the delay in accessing services has delayed essential treatment that mitigates the more adverse outcomes of the condition. When Verity suspected her second child also had the disorder she attended her GP, and despite the family history, did not receive a referral so took her second child to WCHN ED. This provided direct access to the appropriate testing and paediatrician. Further, this could indicate a lack of GP training in the need for prompt referrals for children (this is also discussed in Chapter 7). Again this describes a structural block to timely and appropriate health access for children.

Some families used the WCHN as it is a child specific ED service and the use of other services has been less than helpful in the care of their child. One such incident was described by Verity (family 14). Verity, her husband, Michael, and their two children lived in one of the lowest SEIFA IRSD areas. Verity stayed at home to care for two children under the age of five and Michael worked as an engineer. Verity described the use of other hospitals and GP services, other than services at the WCHN ED, as being inadequate in two aspects; firstly, the time taken to examine the child, and secondly, the specific knowledge of children and their development.

Transcript section 2: Verity

> [When asked about using the local hospital and not the WCHN] So, we will drive past the Lyell Mac to go to the Women's and Children's and I have found the level of care and the thoroughness at the Women's and Children's quite in-depth in comparison to what we've received at the Lyell Mac and/or the Modbury emergency. We've been to them, and one occasion I took the same child to the Modbury one and then, wasn't happy with the assessment there and then realised, hang on they're not actually child orientated, so went to Women's and Children's, and the five minute review of her at the Modbury, was actually a half hour thorough review by a neurologist at the Women's and Children's so there is quite a different level of care.

Verity identifies the levels of care available at different ED services. The two other hospitals provide a generalist ED service for all age groups while the care at the paediatric WCHN ED is thorough and takes 30 minutes. Verity notes that despite the closeness of two other hospitals she and her husband prefer to travel further away in order to access more child-focused care. The lack of child-focused services and skills are also exacerbated by the general lack of after hours services.

Several other parents, such as Veronica, note that GPs do not always know the correct treatment for children and ring the WCHN ED. The lack of GP knowledge may be circumvented by attending the ED directly. Thus, there is a need for child specific skill set to enable the examination and treatment of children. The service provision choices by this professional group may determine the accessibility of GP services for children. The staff interviews (Chapter 7) also note the specific nature of interactions with children, child treatment and the time taken to examine a child, that all impact on the willingness of a GP to treat a child.

iii.) Locum availability

Locums provide after hours GP service in the families homes. This service can incur a gap fee and the family may need to wait two or more hours to be seen. Some of the 18 families interviewed had used a locum service. The narratives below illustrate the experiences of those families using locum services. Families had differing experiences of locum services: Carol and Veronica had no access to a locum service, while Margaret had limited access. Felicity, (family 1) below had used the locum services but found the wait for the service to be longer than the wait at ED.

Felicity had English as a second language and lived in a new housing development that was part of an established area in the western suburbs of Adelaide. Despite the modern two storey upmarket homes, this suburb has one of the lowest SEIFA IRSD areas in the state. The house was very new and on the water front. Felicity and her husband had their own business. Entry to the house was by an intercom system and gateway. Felicity had recently used the WCHN ED for their daughter as she had a stomach ache. The family had two school aged children. Both Felicity and her husband were present at the interview although only Felicity answered questions. When asked about their use of WCHN ED she responded:

Transcript section 1: Felicity

> ... yeah because sometimes night time, GP, they not working, and if you call out now, the doctors, they'll take a long time, sometimes two, three hours. So I thought no. I took her (p) go there [WCHN ED], yeah, because now, sometime had to (p) A lot of patients (p.) Have to wait long time. They say minimum of two hours.

Felicity found the wait for the locum to be equivalent to the wait in ED. Felicity preferred to go to ED as the staff were available to *keep an eye on her child* once they arrived. Felicity found this to be reassuring as both she and her husband had a limited understanding of health matters and had no family support here in Adelaide. This is evident in the next piece of the narrative.

Transcript section 2: Felicity

> Yeah sometimes, night time, Call out doctor take too long, and sometimes to go to children's hospital is not too long. Sometimes this not too long. But least now, I've got someone now, go there [WCHN ED], They check straight away now. Because sometimes you wait too long and you worry about now (p). Don't know what happened because you're not idea. Yeah I thought better I send to Children's hospital (p) they got someone, they know, like nurse, doctor (p) they see, they know what happened, and at home you don't know.

This illustrates the dilemma for parents with the long wait for a locum similar to that of ED. ED however, provided the reassurance of having staff available to monitor the child while they wait. This also highlights the difficulty of depending on community primary care services such as Locums. The parents noted an unpredictability with the Locum service.

iv.) Familial differences in health service use

Excerpts from the interviews throughout the chapter illustrate differences in familial health access. All the parents interviewed noted that while they used paediatric WCHN ED to provide primary health care for their children they would wait sometimes three weeks to access a GP for similar services for themselves. Parents preferred to provide immediate care for children. The nature of trying to provide care for a child when confronted with limited access to GPs creates another layer of complexity to health access. Minimal after hours services combined with the parents requirements for urgent care creates a reliance on ED services. The constrained provision through, limited service hours, variety of alternatives, paediatric specific skill set and willingness to treat children are aspect of health access that are determined by service providers. These aspects may funnel parents towards paediatric CHWYS ED. Once ED has provided the appropriate service this informs and shapes future use creating a preference for the ED for their children in the future.

v.) Constructions of 'good parenting'

The parents interviewed said they needed to act quickly when their children were sick. There was also a need for the parents to provide care that not only seemed appropriate to them but was seen to be good parenting by others. Mary, a transgendered single mother and her son, Liam, lived in a South Australian Housing Trust townhouse, in one of the lowest SEIFA IRSD areas in the state. Mary and Liam have lived in this complex for three years and were the only permanent residents. All the other residents were housed there on a temporary basis until other accommodation became available. The need to be seen as a good parent was illustrated by Mary who went to great lengths to explain the care she provided for her children:

Transcript section 2: Mary

> My son hadn't been in direct contact with this person as far as we knew ... he had used that classroom ... then felt unwell ... that's enough for me to say well you've got to go and find out. It's the same like Luke is in the Scouts ... I got involved ... I mean I want to know who is looking after my son ... other parents, you never see them ... they just drop the kid off. I cannot fathom a parent who leaves their child with someone they don't know.

Mary's non-traditional pathway to motherhood over exemplifies the construct of parenting. Mary describes monitoring the health of her son and his social outings as a construction of what it is to be a 'good parent'. Veronica also expressed being vigilant: *You have to be a bit vigilant,* in caring for children and Felicity mentioned *doing your best*. This meant parents sought immediate care for their sick child and this is also expressed below by Carol:

Transcript section 2: Carol

> And we were feeling, me in particular, because he was in my care, I hadn't left him, but, we were having a lay down on the bed together and I thought he was asleep (p), so I allowed myself to doze off, and despite me having a mountain of pillows on the side of the bed (p), he managed to (p), I don't know quite what he did (p), next minute he's on the floor looking up at me, as if to say, how did I get here Mum. So I guess I felt particularly bad about that episode (p), until I was speaking to a whole number of people who told me they couldn't remember the number of times their child had fallen off the bed ... I felt a lot better about it, and, since then my husband said, oh yes, we probably didn't need to take him [to ED]. But we're still happy with the decision we made (p), because if something had happened (p), you would never forgive yourself, and you would be negligent.

Carol expresses the feeling of guilt surrounding the injury of her child and the need to ensure all possible avenues are explored to determine the extent of an injury. She also verbalises the concept of negligence of care provision felt by parents and the fear of being labelled as negligent. This places pressure on parents to provide immediate care for the child when ill. Hence, there is a feeling of urgency in the provision of care for children. This, combined with the discussions above on limited health knowledge, fear of the child being sick and lack of services, creates pressure on parents to seek services quickly if they are to provide timely and appropriate care for their child. This places parents in the dilemma of having to provide care in a timely fashion for their children but not having the structural services provision within society to back up this expectation. Further, the cost of the provision of health access is also a concern of parents.

The social context of this narrative research

i.) Cost of attending a GP

Medicare and access to GPs was ‘free’ in the 1980s. The universality of Medicare aimed to provide care for all Australians. Over the past three decades the increase in ‘gap’ fees is at the discretion of the GP or specialist medical practitioner. Discussion with parents revealed the difference in SEIFA groups’ responses to gap fees.

There is a difference between the narratives from areas of high SEIFA IRSD scores (Sharon, Katie and Veronica) and those from lowest SEIFA IRSD scores (Carol, Mary, Verity, Margaret and Anne). Those families from the lowest SEIFA IRSD areas describe feelings of powerlessness when talking about access to services or when describing changes to health services to enhance their access. Although Gail, (family 5) lived in a highest SEIFA IRSD scored area, she was a single parent on a part parenting benefit and had a low income. Gail, mother of two children, was distressed by the lack of recognition of her family circumstance and the necessity to pay a gap fee to her GP for the provision of care to her children:

Transcript section 1: Gail

> I just really wish the doctor’s wouldn’t charge that big a gap (p), because that’s the problem I have with the whole thing and that’s why I’ve got to wait years to get anything done. If I had the money I could see a specialist. My GP knows I’m a single parent and have a Health Care Card and he still charges a fee to see the kids if I arrive

> at the surgery after 4pm. Sometimes you can't get an appointment before then (p), then there is a gap fee penalty. Then the specialist[47] will charge you $40 up front for the visit as well (p), its greed (p), it's never enough money for them (p), because there's no set fee. They charge the gap they want, it's not fair. Yeah it's not, I don't know what but it's not compassion. It's like a business and my surgery its run like a business. You know 15 minutes, you're in and out. It's 9-6 that's the times. You can't change anything, time, charges that's the way it is. Unless you have money, I'll wait to be seen but the kids need to be seen straight away.

Gail highlights along with Mary (single parent lowest SEIFA IRSD area) ... *my GP charges a gap fee it's just the way it is,* and Verity (family 14) *cost for my friends is an issue and they'll put off seeing the GP and wait to go to ED* the impact of gap fees. These women express a sense of powerlessness regarding their ability to change the way in which they access health for themselves and their children. Gail limits GP use due to the cost. Gail and Margaret (family 17 with five children above) delay their own health needs due to appointment availability and cost. Gail uses the WCHN ED due to the cost of seeing the GP for her children. Gail also notes that access as well as service provision is outside the parent's control.

Again the issue of the structure of GP service provision is highlighted as the fee for service and the gap fee acts as a deterrent when seeking health care. Gail also expresses a frustration due to limited access restricted by GP opening hours being compounded by this practice charging a gap fee when parents bring their children to the clinic after school hours. This places an added financial burden on the family if the parent is employed as they take time off work. Gail saw herself as powerless to change the situation of health access for her family.

Powerlessness of influencing health access

Conversely, the families from the highest SEIFA IRSD (Sharon and Katie) believed they could change access patterns and have access to doctors at times of need via family and friendship networks. This type of access was unique and notably different from the parents interviewed from lowest SIEFA IRSD areas. Sharon and Katie provide examples:

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[47] Research by Baker (2011) noted that the fee charged by the specialist is also at the discretion of the GP. The GP ticks a box on the referral form indicating if the patient is to be charged Medicare only – bulk billed – or charged a gap fee.

Transcript section 1: Sharon

> At every stage what you call the networking is excellent. So I've never known anything like that [having to wait for a GP appointment]. I've never known anything in the private sector to be like, I mean I got the best service. Probably because it was due to him [husband is a physician]. Mainly I've never really known what the private would be like for other people [waiting for a specialist appointment]. But for myself it's obviously been very good and if I'm not happy I just say something.

Sharon (highest SEIFA IRSD quintile area) illustrates her use of services. She had used the WCHN ED after hours only when the negotiations for other forms of health access, by directly phoning the GP or through friendship networks, had failed. This included access to private specialist services for both her and her child. Katie also discussed using friendship networks to achieve health access at times when their usual GP was unavailable. It needs to be remembered that this postcode area has 564 residents per GP which is vastly different to the 2,529 residents per GP in Mary's lowest SEIFA postcode area.

Transcript section 2: Katie

> He's [the GP] closed on Wednesdays and if my child's sick on Wednesday I'm actually stoned because I can't, I phoned other GPs and they won't take me, I phoned and phoned had to go, so yeah and then I've phoned around and one time I really felt like I needed a GP [for a sick child]. A friend of mine at school's a GP [one of the other parents] and she got me into her practice because she works, but otherwise I wouldn't have got it. I would have used the Women's and Children's.

These parents in the highest SEIFAS IRASD areas only used the WCHN when all other options were unavailable. The option of personal access to a GP via a friendship, school or work place networks was not available to those living in the lowest SEIFA IRSD. Further, access to GPs is limited in lowest SEIFA IRSD areas by the sheer volume of people per GP. This further exacerbates health access issues in the lowest SEIFA IRSD areas. Further, cost is a limiting factor for health access as those with money can access doctors, and specialist services via social networks when required.

ii.) Other Emergency Departments: alternatives to WCHN ED

Veronica, Mary, Verity, Carol, Nickie and Geoff all noted the availability of other ED services. These hospitals ED services were of a generalist nature and did not focus specifically on paediatric medicine but provided care for all South Australians. In all instances where the parents had a choice of another ED service they preferred the WCHN ED. This was often despite the close proximity of the other ED services to their home. Reasons governing these preferences included the perceived lack of expertise in child health and the levels violence of EDs, in that order. The perceived lack of chid specific skills has been discussed. In these examples the parent's use of other ED services had been less than satisfactory so they used WCHN ED instead. This service addressed their needs so future use focused on WCHN ED. The other aspect of WCHN ED over other EDs, level of violence, is explored later[48].

iii.) Use of telephone triage services

The use of telephone triage services was discussed by the first three families and was included as a point of discussion in all other interviews. Several families identified a reluctance to use telephone services. These families do not use this service because they believe that their sick child needed to be seen and this cannot be done via a telephone triage service. This is depicted in the quotation by Mary (family 2). Mary believed the telephone triage services were inappropriate for providing health triage for sick children:

Transcript section 3: Mary

> No I haven't [used the telephone triage service], I wouldn't consider that was appropriate for this case [sick 14 year old son] in the first place. You need someone to be able to see your child. They can't tell if they are sick over the phone ...

However, some families did use the telephone triage service. Some parents found the triage service referred the family on the ED. While this could be an expected outcome it does indicate that the parents required a different outcome. This may be indicative of a lack of understanding of the telephone triage service. Other parents found the service and the information provided was appropriate and avoided ED use for primary care. These two separate aspects of service provision are explored next using a story from Susan (family 15).

Susan (family 15) lived in one of the lowest SEIFA IRSD areas in South Australia both she and her husband are university educated and had moved into this area as it was close to the city. This area is 8.7 kilometres from the WCHN ED and approximately a 15 to 20 minute drive. Susan stated that they chose this area to live in as they believed it was becoming more popular with more affluent people and *was*

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[48] The themes are explored in order of magnitude. Those themes expressed most often are discussed first.

an up and coming area. Although this area was a lowest SEIFA IRSD area this family considered themselves to be middle class. This is evident also in the type of language used to describe the telephone service.

Transcript section 1: Susan

> Yeah, we used the parent helpline a lot, in the very early, probably the first year [of babies life] because we used that one quite a lot, but they (p) I mean (p) they were always quite clear that they weren't really handling the specific kind of medical issues anyway, it was more kind of sleep issues and behavioural stuff and all that stuff which was really useful.

This example illustrates the types of information provided by the nurse trained telephone service staff. Susan was very clear about the type of information provided and the levels of assistance provided by the triage telephone service. In contrast, Mary is unclear about the information provided by the telephone triage service and has therefore not used the service. Susan went on to explain that if the issue was of a medical nature the nurse referred them on to the hospital:

Transcript section 2: Susan

> I think almost every time we ended up going in [into the WCHN ED] anyway though because they said [the telephone triage service] yeah you probably should go in, so but it's still good ...

Susan relied on the telephone triage service for initial contact when her child was ill and was happy with the service overall. Other families were also happy with the telephone triage service and found the information provided by nursing staff to be of value in guiding the treatment of their child. For example, Anne (family 16) lived 7.6 kilometres from the WCHN ED in one of the lowest SEIFA IRSD areas. This is an 18 minute drive away from the hospital. Anne, Robert, the husband, and three children had used the WCHN ED recently as their youngest child had a cold. Neither Anne nor Robert had competed secondary schooling to year 12.

Transcript section 1: Anne

> Yeah good, they're[telephone triage service] good at like you know just making sure you know you can ask them questions (p), double checking something (p) especially with age differences they always changing their recommendations on what food they should and shouldn't eat and all that kind of stuff.

Anne used the service to check information regarding the changes in care between the birth of her first child 10 years ago and the birth of her third child 14 months previously. She had over a decade of parenting experience and had previously been employed as a personal carer, and has some basic knowledge of health care. Anne found the telephone triage service a valuable resource in providing confirmation of information she already knew.

It is important to note the demographic and socioeconomic differences in these three families as this is consistent with the international data on telephone triage use (Bell Schuurman & Hayes 2007; Kelaher, Paul, Lambert, Ahmed & Davey Smith 2008). The first family, Mary, was from the lowest SEIFA IRSD area, was a single parent on part parenting benefit, did not use the telephone triage service. The second mother, Susan, although from a lowest SEIFA IRSD, had higher levels of education, and both parents where professionals and considered their residential location as one that would become a higher SEIFA IRSD area over time. Susan's family did use the service for particular information. Susan was aware of the information limits and although she had used the service for information other than sleep and behavioural information she noted that on these occasions she was referred on to the WCHN ED. The third mother, Anne from a lowest SEIFA IRSD area also found the telephone triage service helpful. In addition, Anne had experience of parenting over a long period and some health knowledge. However, Anne seemed unaware of the telephone triage service limits. She used the service for information other than sleep and behavioural issues. This is evident in the following comment: *because they're nurses so they're a bit more able to go through the actual like symptoms.* Hence this supports the research literature that shows that parents with higher levels of education understand more clearly the limitations of the telephone triage service and the information provided by the nurses (Bell Schuurman & Hayes 2007; Kelaher, Paul, Lambert, Ahmed & Davey Smith 2008).

Essentially, the differences between these families were the level at which they were educated and employed rather than the area where they lived. Susan spoke more confidently and with more insight as to the level of information provided and the limitations of the telephone service. This was consistent across the socioeconomic levels of the families interviewed. Mary and Anne had lower levels of employment as a data entry person and a personal carer and both were receiving part benefit and family payments. Mary and Anne, from the lowest SEIFA IRSD areas were reluctant to use the telephone services or were unaware of the services limitations whilst those from the highest SIEFA IRSD areas, in more professional occupations or with higher levels of education, such as Susan, were happier using this service. These findings are consistent with the international literature on telephone triage service use (Bell Schuurman & Hayes 2007; Kelaher, Paul, Lambert, Ahmed & Davey Smith 2008) which state that families using triage telephone have higher occupational and educational attainment. However, given the limited numbers of parents interviewed these results need to be viewed with caution. Further research is needed that controls for levels of education, parenting experience, health knowledge and an understanding of the telephone triage services capacity and limitations on the information provided in order to understand in greater detail the impact of deprivation/SEIFA IRSD area score on telephone triage use.

iv.) Violence in other Emergency Department services

Several families lived in areas with an alternative hospital to the WCHN ED and were asked about the provision of child specific services available in those hospitals. The response from Mary summarises one of the major issues. Mary was concerned about the behaviour of other adults using the generalist ED service. The reason was violence.

Transcript section 4: Mary

> [When asked about using the local hospital and not the WCHN] You know the different ways people approach the whole thing and emergency room wait has been happening for years. You hear about that and the area around here where people are low social groups. They’re involved in drugs and alcohol and there’s this anger just floating below the surface, it takes very little to get them going.

Mary did not use the nearest hospital for after hour’s services due to the levels of aggression she had observed in the waiting area. She did not want to expose her child to these levels of violence, either verbal or other unspecified actions. Other parents said they did not use this local hospital for other reasons such as, the limited knowledge of children which was not only evident in some GPs but also in other ED services.

v.) The need for specialist care

Veronica relates the difficulties as a parent and health professional of navigating the use of GP and ED services on a variety of occasions for her four children. She gave examples of when she used the local GP, and her views of the GP skill set. Veronica also described in great detail an instance of care with her youngest daughter that ‘went wrong’. This dramatic event combined with her previous experience of inappropriate and lack of timely care, influenced her decisions to use either a local GP or the ED services. Her story illustrates the complexity of parent decision making.

The family home is in SEIFA IRSD code 5 (one of the highest quintile areas in the state). Both Veronica and her husband John, are health professionals (a part-time, registered nurse and a full-time, registered mental health nurse). The two youngest children, Grace and Lucy remained during the interview which took two hours. The older two children, Oscar and Lily, were in school. Veronica began her story by explaining that she knew she should take her child to the local GP rather than the hospital, but a series of events regarding access incidents involving several GPs and a junior doctor had ‘forced the family to purchase private health insurance’ to ensure a private paediatrician meets the family at the WCHN ED when Lucy is sick. Certain traumatic events surrounding the care of their youngest child, Lucy, had left her and her husband justifiably anxious about her treatment. Further, the lack of knowledge exhibited by some GPs when caring for her other children, illustrated not only in the events outlined in this interview but also on other occasions prompted Veronica and John to conclude that private specialist treatment was the only option in ensuring adequate care. The narrative segment below outlines the factors that influenced Veronica and her husband to take their four children to the WCHN ED, without first presenting at their local GP. Additionally, Veronica also shared a common view among the mothers interviewed of a desire to provide the best possible care for their children.

Veronica retold the events leading up to Lucy’s admission into High Dependency at the WCHN. She expressed these events in a rather objective manner at times indicative of her nursing training. Veronica described an experience when Lucy’s condition deteriorated to an extent that she stopped breathing. At this point in the narrative Veronica becomes teary. In this instance Veronica explained that the care provided by the GP and paramedics was appropriate and very good but lack of appropriate care by an inexperienced doctor in ED led to Lucy needing high dependency care. Further, this incident combined with the previous experiences with GPs recommending the wrong medication when her other children were unwell led her and her husband to the use of WCHN ED for all the care of all four children. This is described in the section of transcript. It is important to note that only the responses of the parent, usually the mother, are provided here. Veronica commenced by presenting general information on ED use.

Veronica began by explaining that on the night in question Lucy had been asleep and at about 10pm had woken and had difficulty breathing. They had rung the local doctor and taken Lucy to the local GP clinic. The GP was extremely concerned about Lucy's condition as were Veronica and John. The local GP rang an ambulance to come to the surgery and pick Lucy up and she was transported via ambulance to the WCHN ED. The events that then occurred in the ED led the parents to purchase private insurance and insist on their private paediatrician meeting them at the hospital when one of the children was ill. The response below is to the general question "What events led up to you using the Women's and Children's ED?"

Transcript section 1: Veronica

> Lucy is 2 for her a few times (p), for Grace once and for Lily once, not for Oscar. The last one was Grace [daughter].Lucy [daughter] was Thursday night she had an ear infection. Grace had a reaction from her MMR from her immunisation and Lily had an ear infection ... Yeah after hours care. We tried lots of different services before (p) now we go straight there [WCHN ED]. There is (p) I could ring up the GP after hours but I think it's better to go down there [WCHN ED] and get the expertise ... it came to a head. Once an ambulance for Lucy but that was called by the GP. What happened there was we went to the GP and that was about a year and a half ago went to the GP and they called an ambulance and then they (GP clinic) rang up the Women's and Children's and said you need to basically there's a baby coming you need to pay attention to da, da, da, but they [WCHN] didn't really and they didn't look at her properly. She [Lucy] had pneumonia but she presents like this (pointing to the child who was running around the room and jumping up and down on the spot) all the time, even when she's sick she's got lots and lots of energy and I think the person [Dr] who saw her was quite new, and I understand people need to learn (p) but at the same time in the emergency department there was a child with a mental health and behavioural issues. I think she [Dr] got distracted (p), they [nurses and other staff] were all coming into her (p), all the medical staff were coming in (p), and saying 'you need to get rid of him [other patient], he needs to go out, you need to get him out', and sure enough but because Lucy was jumping up and down (p) and had lots of energy they [WCH staff] thought she's not really sick and so she [Lucy] went down. I think if they had checked her then when the GP rang and said "you need to address this when the ambulance arrives" and said "you need to address her because of her vital signs", so they left her [Lucy] in the cubicle doing obs and not totally left (p), but not paying attention either and so she ended up a code blue. Yeah it was [terrifying] and all because of this doctor, anyway this woman obviously needs to learn and all that sort of stuff, but she

> neglected Lucy and felt she had to go and see to this other boy, she should have stayed with her [Lucy]. She [Lucy] made it, [mother a bit teary and distressed] she went to high dependency for the night (p) but because of that (p) that's the only reason why we're a bit careful when we go down there.

This story provided Veronica with the opportunity to express her point of view, about the quality of care as she retells an important event in her children's life. This story is important from several aspects. First, it is a story of a health professional relating events in a mostly objective way however, it also relays the powerlessness of parents to prevent these events from occurring. Further, it illustrates the need of parents to act quickly when children are ill as they can deteriorate quite quickly (this is reiterated by the WCHN ED staff in Chapter 7) and the need for parents to have confidence in, and access to, appropriate care for their children. Veronica is also teary at the moment when describing the deterioration of Lucy. This has motivated her to implement a strategy which she determines has countered her perceived deficits in the current after hours access for her children. Veronica explained her understanding of the events and how these impacted on her children's ongoing care. Her response is measured by the understanding of the need to provide training for doctors and the care of her child/children.

The majority of these events are beyond parental control and exist due to the structures within society that inform policy on health service provision. The narrative highlighted: the need for after hours care, the need of GPs skilled in childhood illness and medications, the skill set of the medical staff in ED, the use of private paediatricians in ED, the need for extended primary care services, such as blood pathology and x-rays, and the need for parents to provide timely and appropriate health access due to the nature of childhood illness. Veronica's narrative also exemplifies the lack of GP specialist knowledge of childhood illnesses; for example, *Grace had a reaction from her MMR, from her immunisation,* and the tendency for GPs to redirect children to WCHN ED not only in emergency situations but also for routine care such as ear infections. Many of the parents interviewed noted that GPs lacked knowledge on childhood illnesses and this was confirmed in the staff interviews described in Chapter 7. However, this family interview differs in that it also illustrates that not all the staff at WCHN ED are specialist in dealing with children, *I think the person [Dr] who saw her [Lucy] was quite new*. This point is unique to Veronica's story but it does explain why the parents took out private health insurance in order to be able to access specialist medical care by a paediatrician on arrival at ED.

Veronica's story identifies several additional themes. One of these includes the need for after hours care in the suburbs. Veronica also states that most of the care accessed for the three children occurs after hours, for example, *Yeah after hours,* and the preference of child specific expertise, *but I think it's better to go down there and get the expertise*. Hence, it is not only limited access to services after hours that mediates the use of ED services but also the need to access health professionals who are specialists in specific paediatric illnesses.

Veronica also expresses a sense of powerlessness over the treatment provided by the doctor even though another medical professional, the GP, and ambulance staff had highlighted the seriousness of the child's condition. The trainee doctor at the WCHN ED did not provide an appropriate response which was evident in the comment: *so she ended up a code blue*[49]. Veronica is a health professional but despite this has little ability to access after hours care or prevent negative events occurring in the hospital setting. Despite her obvious knowledge of acute care procedures and treatment protocols she was powerless to prevent Lucy from having a respiratory arrest.

Veronica provides other instances when several local GPs have misdiagnosed or provided inappropriate care for her other children. This has prompted her and her husband to purchase private health insurance *'which we can't afford'* to ensure a private paediatrician meets them at the hospital. This illustrates the use of an expensive strategy to navigate what they perceive to be a gap in the current health service. This strategy is not available to the many families from lowest SEIFA IRSD areas as it depends on having adequate income. This is explained in the next portion of the transcript taken from the same family.

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[49] This code is used in acute care services to indicate the need for immediate intervention for conditions such as respiratory arrest (as in this case) or cardiac arrest. This comment also highlights some medical/nursing knowledge – both the mother and father of these children are nurses.

Transcript section 2: Veronica

> if it's after hours then we are in a bit of a pickle so we have to go down there and we have to be quite, careful, with the others with just an ear infection and thing like that then it doesn't matter, I suppose it depends on what they've got, but sometimes it can be a bit of a mess down there [ED].You have to be a bit vigilant ... We just think that often we take the kids [to the GP] they're not experts in kids and it's more that and Lucy's private Paediatrician works from the Women's and Children's so that makes access to him easy ... It costs money to go down, petrol and parking and all of that so it's not cost effective but at least you know they can call the paediatrician or whatever.

In the dialogue above Veronica spoke hesitantly and acknowledges that the use of ED in many instances occurs for conditions that should be seen by a GP. This is acknowledged in the comment *so we have to go down there and we have to be quite careful* and *you have to be vigilant* implying the need: for child specific services, and to strictly monitor the children and health professional's behaviour to prevent a reoccurrence of their youngest daughter's problems. This choice is limited by two factors, the GPs lack of experience *they're not experts* and unwillingness to treat children, and the limited after hours services. Veronica outlines the reasoning behind the choice of ED. She acknowledges the cost involved in travelling to the hospital after hours inferring that the decision to travel to the hospital is not taken lightly but out of necessity due to the lack of services and an anxiety about her child's illness and the past experience of a respiratory arrest. Veronica also acknowledges that the family is using ED for primary care that may be provided by a GP.

vi.) A lack of understanding of the role of this child and state specific Emergency Department

The location of the hospital in the one of the highest SEIFA IRSD areas creates a unique situation when determining the distance and socioeconomic influences on ED use. A number of families interviewed lived close to the hospital and this influenced their use of the services. Some of these families believed that as the hospital was close to their residence they should be given preferential service. This is demonstrated by the comments provided by Laura.

Laura's family (family 18) lived 3.9 kilometres from the WCHN ED which is an approximate 5-10 minute drive. This area is one of the highest SEIFA IRSD areas in the state. Laura did not wish me to come to her home as it was inconvenient. The interview was conducted over the telephone at a time proposed by the Laura. Laura was university educated with a master's degree in business marketing and her husband owned his own furniture import business. The two children attended private schools. Laura responded to the invitation for an interview by complaining about the long wait in the ED caused by *others who could use a hospital in their own area*. She was very happy with the service provided aside from the wait and suggested an upfront fee may deter people who are not locals from using the hospital. Laura's family also had no or limited access to after hours services, depending on the time and day of the week, despite the affluence of the area. Laura's youngest child six had recent treatment at the ED for a cold (primary health care).

Transcript section 1: Laura

> I'm very happy with the Women's and Children's Hospital … I'm not happy with the wait it was 2-3 hours, and the worst part of the experience was being surrounded by children who could have used another service somewhere else. There were children in ED with chicken pox and they could have used another service closer to them … After all they have the Lyell McEwen. They have services in the northern suburbs, … they don't need to use our services … The Women's and Children's Hospital is our local hospital … I think there needs to be more promotion of other services … This would decrease the use of our hospital by others who could use another service … An upfront fee would also prevent the use of the service by those living in another area. I think $60 would be appropriate. This could help discourage those who could use another service and it would be useful if those who could pay were seen first especially if it meant you did not need to wait to be seen.

Laura's narrative indicates a lack of understanding regarding the use of ED for primary care and in the role of the WCHN to provide service for the state's women and children. Implicit in Laura's narrative is an ideology that health can be purchased and that payment means faster service. There is also an 'othering' of the users of WCHN ED who live in the northern suburbs. There is expression of entitlement in *they don't need to use our services* implying a sense that those from outside the local area are less entitled to use the service. Laura recognises that a fee would deter those 'others' from using the service acknowledging the socio-economic differences. Laura seemed unaware of the Medicare legislation that prevents public hospital from charging a fee for service and undermining the universal nature of health access in Australia. Eight of the nine families living in the highest SEIFA IRSD area lived close to the hospital, and half (four) had difficulty understanding the need for families living outside the area to use this hospital for ED services. The more affluent families also used locum services more frequently however their access to after hours primary health care services was as limited as those from the low and lowest SEIFA IRSD areas.

Limitations of the narrative accounts

This interview process and analysis has provided invaluable insights into the use of WCHN ED by families; however, there are some limitations to the information. The information is reflective of the views of the 18 families interviewed and not all of those using the WCHN ED service. The SEIFA IRSD interview areas are not representative of the ED usage rates SEIFA IRSD areas. The nature of the hospital is a deliberate limitation as not all age groups are accessed for their level of health access in an effort to control for the confounding aspects of age and ED use found in previous studies.

Conclusions

The use of WCHN ED for the provision of primary care was explored through in-depth interviews with the parents. This process provided the themes presented here for why parents use the WCHN. These include a lack of GP and after hours services, children as a specific health consumer group, locum availability, familial differences in health service use, constructions of being a good parent, the cost of attending a GP, the use of other ED's the use of telephone triage services, violence in other ED services, the need for specialist care, and a lack of understanding of the role of this child and state specific ED. Further, the powerlessness expressed by parents living in the lowest SEIFA IRSD, in influencing health access is noteworthy in the distinctness of these findings and the broadening of our understanding into the use of paediatric ED for primary care.

The narratives have provided an insight into both the logic of the parents' actions and the effects of the system's structural constraints (Franklin 1998) on health care access. The conclusions drawn from this qualitative data is that firstly, for different socioeconomic groups their access to health services is reliant on the number of services available and cannot be augmented through social networks. This means those in the lowest socioeconomic areas with a dearth of service provision are forced to rely on ED services to bridge the gap. The lack of supply is a SDH structural health system deficit rather than an individual responsibility. Further, the lack of access is also linked to socio-economic status.

This lack of access is in part socially driven and a source of parental frustration expressed through views of powerlessness by those from the lowest SEIFIAS IRSD. The gap fees charged by GPs are at their own discretion and become an impost on families on low incomes. The families on benefit support interviewed regarded their ability to change the situation as limited and viewed themselves as powerless to change their health access patterns, and were aware they used WCHN ED for care other than emergency care.

In addition, there is a lack of services available after hours for all families. There are a number of drivers for the lack of after hours services and these include an inability to provide the number of services required in newer areas and urban fringe areas. This is in combination with an overall lack of after hours services, GPs or alternative services such as extended care paramedics, and a limited GP paediatric skill set.

Other services such as x-ray, pathology and treatment for minor acute injuries such as skin tears are referred to ED directly due to a lack of suburban infrastructure and GP capacity. These aspects of service provision are addressed at a socio-political level and beyond the influence of consumers. The future plans to provide GP Plus and GP Super clinics may alleviate these gaps and will be addressed in the next chapter.

The use of triage telephone services by the parents interviewed is consistent with the result found in the UK that show that while this service is helpful and does alleviate some ED use, it is class specific and used by those with higher levels of education in more affluent areas. To address this deficit consumers need a more comprehensive explanations of the limits of the information this service provides. The value of the service should not be underestimated as it provides a worthwhile source of information and support for those who use it but it should not be seen as a panacea for ED primary care use.

The parents did describe an anxiety regarding the access of health services for their children. This is partly due to the nature of childhood illness in that a child's condition can deteriorate quickly however, part of this anxiety is system produced and based on past experiences of health access. The parents experienced a lack of after hours health services, and where services were available the health professionals exhibit a limited understanding of childhood illness. This has prompted the parents to find services that are child specific such as the WCHN ED.

The addressing of the structural deficits in after hours service provision may not only improve family access to health care but it may also assist in the development of services for prevention of health issues. These services have the capacity to limit the future exacerbation of illness and provide health intervention in a more cost effective manner. The use of the ED for primary care is expensive and inefficient (Bradley 2005). Furthermore, there is a sense of powerlessness described by some of the parents interviewed in accessing health care in a cost neutral, timely and appropriate manner. These families were from the lowest SIEFA IRSD areas or were families on commonwealth benefits. Young's (1990, 1992) analysis of social interactions and power distribution within society provides an insight into the general powerlessness of specific population groups and these findings are consistent with these theoretical concepts. In addition, the structural SDH also explain the impact of structural and socio-political constructs on the health outcomes of lower socioeconomic groups. The SDH structural concepts illustrate the impact of social difference. This social difference between the provision of services is also illustrated by the narrative responses here. All of these theoretical explanations of difference highlight the mediation of the structural and socio-political influences on access to health.

CHAPTER 7

Introduction

Narrative analysis uses language to explore our social constructions of the world and provides a set of themes to summarise the social context of important events. This chapter further explores the narrative themes developed in Chapter 6 by drawing on interviews from: a culturally and linguistically diverse (CALD) mothers and women's group, the Women's and Children's Health Network (WCHN) paediatric Emergency Department (ED) staff, and the managers of alternative services to the ED, in an aim to understand the drivers behind, and perceptions of, primary care users of the ED. This chapter is in two sections. The first part provides an analysis of the CALD focus group themes examining the mothers' use of the ED and other health services. This is followed by an examination of the staffs' explanations of the influencing factors on primary care presentations. Accompanying this is a section outlining the managers of GP Plus and GP Super Clinics' views on primary care use of the EDs. This exploration is important for two reasons: it enables staff and managers providing services to have a voice and communicate their understandings of the social realities facing parents. In addition, it provides robustness to the triangulation of responses from the families using the WCHN paediatric ED.

The second section of this chapter compares the staff and managers' themes with the responses of the parents. This provides a broader understanding of the social constructs and themes influencing ED use for primary care services. Further, both sections are interpreted within the social determinants of health (SDH) framework.

Section 1

Attendance at the emergency department

The analysis of the parents interviews has highlighted that, while parents do acknowledge that they attend the ED with their children for GP treatable conditions, this is due to a number of factors. These factors broadly include: i) the ratio of population to GP in an area, which results in long waits for an appointment, ii) a lack of after hours services, creating a reliance on ED for primary care, iii) a lack of clinical diversity to treat minor ailments and injuries, iv) a GP lack of child specific clinical knowledge potentially limiting the services available to children and, v) the gap costs of GP services[50]. In the conclusion to Chapter 6 it was noted that there were structural deficits in the provision of health care services that led to inappropriate attendance at the ED, rather than parental ineptitude. Some of these results are also reiterated by the CALD group of mothers and young women (and staff later in this chapter) who agreed to be interviewed in the focus group setting.

Culturally And Linguistically Diverse (CALD) focus group

A Conversational English and Support Group meets weekly at the Parks Community Centre. The Parks is situated in Angle Park, postcode area 5010, Statistical Local Area – Port Adelaide –Parks (C), and is in a lowest SEIFA IRSD area (ABS 2006a) and has 2,165 people per GP (Tennant 2009; PHIDU 2010). This area has similar population socioeconomic characteristics to the areas in the northern suburbs that have the highest levels of WCHN paediatric ED use. As noted in chapter 6, of the mothers interviewed, only five came from the lowest SEIFA IRSD area. In order to strengthen the voice of this population group a focus group was conducted at the Parks Community Centre.

The Children's Services Manager of the Parks Community Centre was contacted, via email initially and then phone, to ask about the suitability of the researcher using one of the centre's support groups. The manager was then invited via letter to ask the CALD mothers and young women's group if they would like to participate in a focus group exploring their experiences of health access. The CALD group invited me to attend at a time that was convenient to them. The idea behind this was to give the CALD group the power to decide if they wanted to be involved, rather than me and the manager and in determining their involvement. This process illustrated the respect and care the manager afforded the CALD group and illustrates Young's (1990, 1992) work on the impact of oppression of marginal groups.

The focus group on health access coincided with the English language class on 'how to make a doctor's appointment'. This group is a support group, as well as an English

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[50] The cost of attending a GP was mentioned by some of the parents receiving commonwealth benefits, most of the WCHN ED parents interviewed were from high SEIFA IRSD areas and did not mention cost.

language group and aims to assist new migrants and refugees to adjust to life in Australia. There were 14 participants, including four staff. Most of the women in the group had been in Australia more than six months however, two members had only been in Australia a few weeks. The session took four hours as each woman was given the opportunity to respond in their own time. The questions (based on the parent interview questions (appendix B) focused on general ED and health care use in easy to understand terminology. The themes highlighted by the CALD group were similar to those mentioned by the WCHN ED parents interviewed. These were: i) no after hours GP services, ii) locum use (their experiences of locums were more positive than the WCHN ED parents), iii) family differences in health access (parents and children use different health services), iv) cost of GP services, and iv) parental constructions of being a good parent.

No after hours GP services

On the whole the women and mothers used the hospital for emergencies and also for primary care ailments that occurred after hours. This is highlighted by the following quotations from five mothers:

> No GP then use hospital. If GP quick see use GP first. Go to hospital after 12 o'clock, 3 in morning go to hospital. Have cut. Call locum first, after hours doctor say 2 hours wait so we call ambulance, we take son to hospital, cut fixed (CALD mother 1).
>
> I go hospital when it's an emergency and when there's no doctor, clinic here shut (CALD mother 4).
>
> After 5 o'clock I go to the hospital (CALD mother 5).
>
> My child is sick at night, 1 o'clock, my husband take to hospital (CALD mother 7).
>
> My daughter late at night, my doctor obviously closed. My daughter was attacked by a rooster, her hand bleeding. We went to hospital we had to wait a long time 4 – 5 hours I think (CALD mother 11).

These responses were to the question, when do you use the hospital? Some of the women and mothers stated they used a locum service that came to their house usually within two hours. Most of the women and mothers had limited knowledge of after hours services and this lack of knowledge was also noted by the WCHN ED mothers living in the lowest SEIFA IRSD scored areas and reported in Chapter 6. When asked what the opening hours of their local GP were, the majority of responses were similar to those below:

> I not sure when doctor shut I go to the hospital (CALD mother 2).
>
> My family doctor open after 9 o'clock [am] and my doctor close at 5 o'clock. If after hours I wait for my husband to come home and if emergency I go to hospital. If for me I wait. If children I go to hospital (CALD mother 6).

The understandings of the service availability are similar to those reported by the WCHN ED parents in the individual interviews. Further, the comment by CALD mother 6 supports the findings in Chapter 6 that parents would wait for health access for themselves, but not for their children.

Locum use

Locums were used by some of the CALD mothers to provide after hours care for themselves and their children. The majority of the CALD mothers did not drive due to religious constraints and required the doctor to visit their home. This service was provided in this area at no cost to some families. However, some of the CALD mothers present were not aware of the locum services or as noted above, found the wait for the service too long.

> I call the after hours doctor, he come, no cost (CALD mother 1).
>
> When I sick the doctor comes to the house, late call doctor comes (CALD mother 3).

The availability of a locum service is dependent on the local GP services in the area (Government of South Australia 2010). The locum service is also a fee for service health provision that is provided by subsidies from the State and Federal governments, in conjunction with a fee provided by the local GP services (Government of South Australia 2010). For example, in order for a local GP to provide a locum to cover their patient base after hours they are required to pay an upfront, non refundable, booking fee of $220.00 for each application (Health Workforce Australia 2009). Once a locum is employed by the GP there is a fee of $250[51] per hour payable to the locum by the GP clinic (Beat Medical Locum Agency Workforce Guidelines 2010). What the patient pays is variable, but they could be charged $50 gap fee. Therefore, the locum service needs to be cost effective for a

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[51] Under the Medicare Rebate Scheme a GP can earn $330 per hour providing patients with a 10 minute consultation. This remuneration consists of $33 per consultation from Medicare (Federal government rebate) and $22 fee from the patient. Locums can not see 6 patients per hour (Hampshire 2010 Australian Government, 2010, www.health.gov.au/internet/mbsonline).

private GP practice to consider offering such a service in their practice area. Therefore, locum provision is not consistent within the metropolitan area. In addition, the CALD mothers also noted the differences in the use of health services. The adults did not mind waiting for primary care, such as colds and flu but would not wait for an appointment for their children.

Family differences in health use

Most of the CALD mothers used hospital services after hours for their children. The CALD mothers only used the ED for themselves in an emergency. As noted above, some CALD mothers said they would postpone seeking health care for themselves until a GP appointment was available, but would not delay seeking health access for their children. This is captured in the response below:

> I tried four different practices in my area and we could not get an appointment for a sick child. We had to go to the hospital and wait for four hours. Then two days later the child was still sick and we went back and she was finally admitted. That's how sick she was. But I think the worst thing is that you can't get access to services when you need a diagnosis. So you then can't get access to other services. You need a referral and then need to wait to get in and then need a diagnosis so you can get the other services you need to help your child. Like if the child is autistic there is such a long wait for help. If I need help I can wait (CALD 13).

This sentiment and access model is a reiteration of the parent's practice of health access outlined in chapter 6. This suggests that the parent's use of the ED for their children is because in the parent's view the child needs immediate medical care. In the parent's view there is a need to act promptly. Furthermore, this mother noted the need to access services has a domino effect as it allows access to other services that may be required to provide appropriate and timely interventions for a child with a long term health condition, such as autism. In this mother's view the gate keeper role of GPs prohibits timely access due to a dearth in GPs available in some areas to commence the initial referral process. Therefore, attending the ED can provide quicker access to specialist services than waiting for a GP appointment and then obtaining a referral.

The Parks Community Centre has a health clinic which is used by most of the women who attended the focus group. The women liked this service and felt comfortable there and this is reflected in the following quotation:

> I come here. I like it here. The doctors are good here (CALD mother 1).

> There are doctors here, I come here (CALD mother 3).
>
> I come here (CALD mother 6).

The Parks Community Centre provides services the women feel comfortable using and trust. This also suggests that the use of the ED for their children is not a ‘preferred option’ but an ‘only option available’ scenario. This finding is noteworthy as it challenges previous findings that suggest people prefer to use the ED (Mistry, Hoffmann, Yacuk & Brousseau 2005).

An extension of community based services

When the women were asked for suggestions to improve services they responded by discussing services at the WCHN, extended after hours services and the capacity of the local primary care services to provide a broader range of tests and clinical expertise. This is illustrated comprehensively by the quotation below:

> When you are pregnant and you go to the hospital you are examined by many different people. Too many doctors they check you. There needs to be one person you see, one person examining you. If they had people here [Parks Community Centre] to see you, more specialists here, nurses here, you could come here for your tests, x-rays. This would be better (CALD mother 9).
>
> I would like the baby nurse and the pregnancy nurse to come to my house it is difficult for me to get out. I have diabetes when pregnant and the nurse came to the house. My husband break his leg. I don’t drive. I very worried one day at night he is very sick and he had to go to hospital, I could not go with him, could not help him, so I had to stay at home with the children (CALD mother 6).

These comments from the CALD mothers illustrate the depth of understanding regarding the resources they need, the types of services and the style of service provision they believe is needed. One woman noted the process of using the WCHN during pregnancy and the unpleasant practice of being examined by different members of staff at each clinic appointment and when in labour. This practice is culturally inappropriate for these women and yet is normal practice in Australia. Further, this mother also noted solutions to this practice, such as the provision of more community based and home visiting services, and increasing the capacity of community services to perform a wider variety of specialist services. This supports the research of Tsey et al (2003) on addressing the SDH and health provision for Indigenous families through family empowerment programs that address self determined needs for health and support services. Additionally, access to health services by this CALD group is restricted by cultural practices, for example, many of the Muslim women in this group did not drive or use public transport. Access to the Parks Community Centre was provided by the centre bus and met cultural norms as the bus driver was a woman. Access to healthcare needs to conform to cultural norms to be appropriate. The provision of more community based services would assist some of the mothers and their children accessing health care.

Cost of GP health access

Over half of the CALD mothers noted the GP charged a gap fees and that this was prohibitive at times in accessing health care for their children and themselves.

> Some doctors charge a lot. The nearest doctor to my family charges. My family doctor does not bulk bill. We need more doctors to reduce Medicare (CALD mother 9).
>
> Yes cost is a problem (CALD mother 2)
>
> No covered I have cost over Medicare (CALD mother 4).

The cost incurred through gap fees was preventative for some parents. The gap fees are charged at the discretion of the GP. The GP is also at liberty to decide on the amount of gap fee charged and if gap fees are charged by the services the patient is referred to by the GP[52]. This can place the parent in the quandary of needing care but being unable to afford the gap fee.

Parental constructs of being a good parent

The CALD mothers noted the need to provide prompt care when their children were sick. This was also noted by the WCHN ED mothers. This is consistent with the theories of Young (1990, 1992) regarding the oppression of women and the scrutinising of mothers and migrant groups. The parents had a sense of needing to do the right thing, of being seen to do the right thing, and to negotiate the services available to them.

> I ring doctor she [child] very ill. Do right. Need doctor. Doctor send other doctor, after time doctor [locum] (CALD mother 3).

This mother required a doctor for her child and she wanted to '*do right*'. This was also noted by the mothers in Chapter 6. As noted above the mother also wanted to accompany her sick husband to the hospital but needed to stay home with the

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[52] For a full description of the role of GPs in the Australian health system see Baker (2011).

children as she could not drive. Further, it was previously noted that a mother needed to wait until her husband returned home from work, to access health care for her children as she did not drive. The mothers' quotation in Chapter 6 also commented on the organisation of the health system; namely, the lack of child appropriate after hours services. There is an expectation that parents, especially mothers, take responsibility for the health of the family. This places the mother in a dilemma as children constitute a particular group with different health access needs to adults. The capacity of the mother being able to provide the required health access in a timely and appropriate manner is dependent on several factors: the availability of appointments; the opening hours of the primary care service (GP); the GP's ability to treat the child, and the gap fees charged. These aspects of health provision are outside the mother's control. However, there is the concurrent requirement that parents provide the care their children need effectively, promptly and appropriately. Parents face a dilemma of needing to provide their children's care to meet their own and societal expectations, but they are unable to obtain an appropriate service within a required time.

In summary the CALD focus group reiterated several of the broader themes expressed in the previous chapter; these are: i) a lack of after hours services; ii) a lack of clinical diversity to treat minor ailments and conditions in the community and by some GPs; iii) a lack of available appointments; iv) the immediacy of children's health care needs, and v) the high gap fees charged by GPs. These factors influenced their decision to use ED for primary care.

It needs to be noted that the responses are representative of this group at a defined point in time. There were also limitations due to the size of the group and the time taken to explain the questions and provide the answers. Despite the limitations the CALD focus group session was invaluable in confirming some of the responses by the WCHN ED parent interviews. Further, it provided insight into understanding the appropriateness of particular service practices that are culturally inappropriate for members of particular communities. It was also worthwhile for the CALD women who participated as it provided further exploration and understanding of the Australian health system. The CALD women had the opportunity to learn about different health access processes from each other, the staff present and the researcher.

Section 2

Staff interviews

The staff of the WCHN paediatric ED were also interviewed. These interviews reiterated many of the themes noted by the parents but were couched in clinical or developmental terms. This material was used to triangulate the results from the quantitative and qualitative chapters. Ten ED staff were interviewed. Table 7.1 lists their professions.

Table 7.1 The staff designation of the ten staff interviewed

ED staff designation	Number of staff within this designation
Medical director	1
RN level 3, Clinical Services Coordinator	1
RN level 2, Clinical Services	1
RN level 2, ED Discharge Coordinator	3
RN level 1	4

The transcripts from the interviews provided seven major and eight subthemes as a result of the interviews: i) difficulties in treating children (major theme), a) masking illness (subtheme), b) indirect diagnosis (subtheme); ii) issues for GP service provision (major theme), a) examination process, b) remuneration for examinations, c) lack of GP appointments, d) lack of after hours services, e) GP skill set, f) waiting for a locum, iii) costs of GP visits, iv) the use of ED's for specialist tests, v) limits of ED use for primary care, vi) CALD children health access, and vii) closing of paediatric services. In reporting on staff views, *staff 1, staff 2* are used to avoid breaching anonymity and confidentiality given that the identity of the hospital is known. An initial presentation to the staff in ED informed them of the research and their role in this process. This presentation was used as part of the recruitment process to inform staff of the aims of the research and the need for their participation.

The recordings of the interviews were transcribed verbatim. The portions of the consultation relating to a topic were assembled into major themes. The most commonly recurring themes are presented here. The responses were to the question:

"I'm interested in why do you think parents come here with children needing GP or primary care?"

The difficulties in diagnosing children

The staff in the WCHN paediatric ED service highlighted that children constitute a special group who react differently to illness, injury and disease. The WCHN mothers interviewed (Chapter 6) also mentioned the difficulty in diagnosing their children and how this informed their quick response to their child's illness. The staff mentioned two subthemes in treating children. Firstly, children often mask illnesses and they may be sicker than they first appear. Secondly, the staff noted the aspect of indirect diagnosis as the parents provide an account of the illness or aliment thus making diagnosis a difficult and indirect process. When an adult is ill they recount their symptoms to the health professional directly, but when a child is sick the doctor often relies on the parent for symptom definitions. These two subthemes will be discussed.

Masking illness

Children can often present to a doctor or triage nurse in a manner that masks the severity of their condition and may appear well despite being very ill. In order to diagnose and treat children the staff need to be skilled in interpreting the differing presentation styles of children and look beyond the presenting symptoms. This is captured by the following quotations:

> ... but a febrile patient [child] could have meningitis and therefore needs the specialised care of our department [WCHN ED] and you don't know until after the patient has been seen, now that makes it difficult, a child vomiting could have a surgical cause ... or it's a mild gastro (staff 2).
>
> ... they [child] have become sick quickly and they [parents know ... they are not going to wait and try to make an appointment with their GP – they are going to come straight in (staff 4).

This aspect of childhood illness was first introduced by one of the mothers Veronica, who stated '*she presents like this, lots of energy'* and several other mothers in Chapter 6 who stated that they needed to be 'vigilant', 'careful', and respond 'promptly' to childhood illness. This notion of responding immediately to children's ill health can be driven by the difficulty in diagnosing what is wrong and knowing how to respond. Another aspect of the difficulty in diagnosing children from a health professionals' view point is the method of history taking, for example, the illness history is provided by a third person – the parent or carer.

Indirect diagnosis

As stated in Chapter 3 children represent a unique health consumer group as their health needs are accessed via their parents or carers. Children have a particular need for health care to be provided promptly in order to minimise long term health deficits (Sandiford et al 1995; Tsey et al 2003; UNICEF 2005; Wadsworth & Butterworth 2006; Doley et al 2008; Centre for Community Child Health and Telethon Institute for Child Health Research 2009). The parents provide all the information regarding the course of the illness prior to presenting at the ED. The mode of history taking is done via the parents, thus it is indirect. This method relies on the parents' observation skills, knowledge of health and ability to relay information to the health professional. This is time consuming and has implications for ascertaining the correct diagnosis and interventions. These aspects are captured in the following quotation:

> ... taking history is indirect through a parent often so that from a GP's point of view time consumptive and risk assumptive because more likely you're going to miss something in children than you are in adults and there's implications of that happening (staff 2).

The WCHN ED parents interviewed also noted that there is an extended time required to examine a child. Staff further noted that there was an additional risk of GPs missing a child's diagnosis. These two subthemes present unique aspects of children's health services provision that illustrates the difficulty of providing health care for children. The quotations also raise issues regarding GP service provision for children and this will explored below.

Issues for GP services

General Practitioners provide primary care for Australians on a fee for service basis. This service model impacts on service provision in the manner identified by some of the staff interviewed. These impacts consist of, but are not restricted to: i) the time taken to examine a child; ii) the remuneration available for the time taken; iii) lack of available appointments; iv) lack of after hours GP services; v) the GPs capacity and skill in treating children; and vi) the long wait for a locum service.

Examination process for a child

As GPs work on a fee for service basis and run their own businesses the time taken to examine anyone can be a financial issue. The time taken to examine a child is longer than an adult examination. This is captured in the following quotation:

> I would assume that funding is part of the issue, if as my understanding is, and I might be totally incorrect here, but a GP needs to see 6 patients an hour, just 10 minutes per patient but a paediatric patient is a time consumptive patient just simple things like taking off clothes is more difficult (staff 2).
>
> ... when they [parents] go to the GP they only have a five minute slot and if you want a bigger appointment you have to have one earlier and ... the fact that the GPs very busy; he's only got five minutes to spend with that child (staff 4).
>
> I do know that GPs only roster ten minutes or so, to a patient, and a child clearly needs more than ten minutes. So it's a very low threshold for seeing a child (staff 5).

The issue of time given and the remuneration for the Medicare Scheduled Fee rebate for a consultation could be an issue for some GPs[53]. There is no specific recognition in the Medicare Benefits Scheme (see footnote below) for the examination of children.

Remuneration for examinations

GPs can claim an extra fee for a long consultation under the Medicare rebate scheme. This remuneration is not child specific. The lack of explicit recognition of the children's needs at a funding level could result a lack of acknowledgment of children's needs per se. Therefore, lack of child specific and appropriate treatment and service provision may result in children becoming distressed, uncooperative and irritable. This adds to the complexity for GPs assessing children.

> Paediatric are both time consumptive and risk consumptive ... a complexity that is not reflected in the remuneration ... Yeah so because it's a private system it's you know quite an ulterior motive of making an income for the doctor there are subtle influences, that's not to say that, the GP doesn't want to give you the best possible service to every patient, but if he's got limited time and he's has to get an income then children don't make money and they produce an element of risk (staff 2).

The time taken to examine a child is longer than an adult examination. This issue of taking time to examine children was raised by the parent Verity who discussed the time taken to thoroughly examine her child (Chapter 6). Further, the remuneration provided for GPs is a structural component of the health care system and outside the realm of parental influence.

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[53] The fact sheet for General Practitioners for Medicare Schedule fee Rebate Items does not recognise children as a specialist group requiring a longer time in a consultation (Australian Government, Department of Health and Ageing 2010).

Lack of GP appointments

The lack of appointments was an issue for all the parents interviewed and while the parents did not mind waiting up to three weeks to see a GP when they were sick, they could not want to wait more than a few hours for their children to be seen. The lack of availability of GP services was also raised by several staff members. This is demonstrated in the quotations below:

> Probably just can't get in to see the GP, I think a lot go – will try to get in to see the GP and they can't (staff 1).
>
> ... they can't get in to see their GP and the alternatives are not there now in that group if we made better access for patients in the community (staff 2).
>
> ... generally GP's are really good, if it's a child, they will try to fit them in somehow. But with certain practices, maybe it's just not possible (staff 3).
>
> The other thing is quite often they will ring to make an appointment with their GP and they absolutely can't get in (staff 4).
>
> Firstly, it's hard to get a doctor's appointment (staff 5).
>
> ... but there again I think even with our own GP it is – I know if I'm trying to access a GP and you just can't get in, you can't get in for a few days, but if you've got a sick, a child that's unwell, you're not going to wait long, so therefore you'll come to hospital and you know you're going to be seen, even though it can be quite a wait, depending on what's wrong of course, with your child (staff 6).

The lack of available appointments was the major issue highlighted by the parents and the reasoning behind why they took their child to the ED for primary health care problems. The other issue of note here is that the children will definitely be seen at the ED, even if the wait is several hours. Parents know that while they wait in ED a nurse is available to monitor the child's condition should they become concerned.

Lack of after hours GP services

The lack of appointments after hours was a major issue for all the parents interviewed. While the parents did not mind waiting up to three weeks to see a GP when they were sick, they did not want to wait more than necessary for the children to be seen. This was also noted by the staff in the following comments:

> ... parents with the real urgency, by parents and they can't get in to see their GP and the alternatives are not there now in what say that group [primary care users] if we made it better access for patients in the community you say we'd go there until that happens they come here [WCHN ED] because there is no other place for them to go (staff 2).
>
> Resources, yes, and a lot of things of course are closed after hours and that means, and

> perhaps children, when dad gets home from work, and the child's unsettled, be a bit unwell in the evening, and then things come to a head in the evening, so therefore the hospital, yes, you haven't got the resources to be seen after hours ... I think after hours is a problem, but there again, I think even with our own GP (staff 6).

Further, the staff agreed that there was a lack of alternatives for parents seeking care for their children. The staff interviews triangulate with the parents and CALD findings that there is a lack of services for unplanned paediatric patients and lack of general after hours service provision.

Unsuitability of a locum service

The staff noted the differences in waiting at home for a locum to attend and attending at the ED service to wait. The ED service is required to assess patients in a timely manner and within the required protocols and while this may take up to four hours, the patient is triaged on arrival and monitored while waiting. For this reason parents often chose to wait in the ED rather than at home for a locum to visit.

> ... it's interesting because you will see a run of, especially over the weekends, you'll see a run of triage that would be primary care, children with coughs and colds, and they might be quite unwell and they can't get in to their GP, they've seen a locum in the middle of the night, but it's just – and it's good in some respects, that they feel reassured by coming somewhere, like the emergency department (staff 3).

The parents also reported that they preferred to wait in the ED rather than wait for the locum at home. Waiting in ED provided reassurance rather than using the locum service. This quotation also reiterates the lack of available appointments for unplanned primary care.

The deterioration in the GP skill set over time

Some of the ED staff suggested that there has been a decrease in the skill set and range of services provided by GPs. The ED staff noted that the reduction in the GP skill set had limited the services GPs provide for children and had increased the use of paediatric ED for primary care treatment.

> ... and a lot perhaps aren't specialised with children as much, and so they [GP] thinks the child perhaps needs a blood test, certainly if they need an x-ray it's easier to come to the hospital and they [GP] know that will all be followed up (staff 3).

> ... once upon a time GPs would suture a patient, GPs would deal with minor trauma like fractures, minor fractures, as time has gone on particularly in this paediatric area and the pressure of increasing costs, the pressure of needing increasing turnover and potentially I suppose, increasing litigation and other things like that have coloured the way that doctors in general practice feel about procedural things which slow them down I assume, so therefore, it's rare now that GPs will suture a patient particularly a

> child where sedations required (staff 2).
>
> ... once upon a time you could go to your GP with a little cut, he would suture it and I mean we have glue now for very minor cuts, they'll still send them [children] in here [ED] for glue. Once upon a time you never came here. I mean we never ever, ever, had to come to this hospital and you would also have your GP call to the home if you were sick; our doctor came to our house to see us [as children] if we were sick and couldn't go out and that doesn't happen anymore (staff 4).

This is also of concern as GPs have the opportunity, more than ED medical staff, to provide ongoing care. Some member of staff interviewed noted that the GP knows the patient and has baseline understanding of the parent's levels of literacy and health knowledge and can tailor the response to that level. ED staff do not know where to pitch their response as the visit in the acute care setting does not form the basis of an ongoing doctor patient relationship. This is consistent with the findings of Lega and Mengoni (2008) and Wong and Regan (2009). Due to the nature of delivery of acute care services ED staff had 'one shot to get it right at intervention/ treatment/ education'. So ED staff are limited in cost efficient preventative interventions.

Cost of GP visits

As previously stated, staff members, believed that cost was a major driver for the use of ED services over GPs, however, while this was mentioned by the staff it was not discussed by many of the parents interviewed. Nevertheless, it needs to be noted that many parents interviewed were from the high and highest SEIFA areas. Those parents receiving Commonwealth benefits, and the CALD mothers, did mention the prohibitive nature of a gap fee, and were charged gap fees despite Federal Government directives to the contrary. The Medicare Benefit Scheme encourages GPs to bulk bill for a consultation with children, however, as GPs are private providers the Federal Government cannot insist the GPs bulk bill children. The gap fee is a cost burden for some parents.

> I think a lot of people if they go to the GP they're going to have to pay, so I think it is quite an issue (staff 1).
>
> ... at the GPs – more GPs are charging now, there no bulk billing GPs ... it's the cost to parents ... then there's medication it doesn't take long to get to $100 if you've got an asthmatic child (staff 5).
>
> Yeah, I think that may have a considerable cost, x-raying, I mean that's expensive outside [outside the hospital], of course after hours you can't do that anyway, but of course, you're not having to pay that within the hospital, and scripts, collecting, yeah, the prescription, pharmacy, taking that outside costs. Yes the pharmacy is free here after hours (staff 6).

It is reasonable to conclude given the much higher rates of use of the WCHN paediatric ED by those families living if the lowest SEIFA IRSD areas with the highest levels of deprivation that the costs associated with attending at the GP and the added costs of medication would be prohibitive. Further, there is no cost for medications at the WCHN ED and pharmacy as after 5pm all prescriptions are filled for free. As highlighted by staff (No 5) above the gap fee and cost of medication may add up to $100 with a GP visit.

The use of the emergency department for specialist tests

Parents often need to use variety of health services when their child is sick, for example, if the parent suspects the child has a broken arm they know the GP may send them off to get an x-ray, but also then refer them to ED to put on the plaster. Parents then find themselves needing several services and then still having to attend the ED.

> ... the fact they [parents] have been around the place and then they come in, and as I said, yesterday ... the child might have a broken arm; they'll go to their GP who'll send them to have an x-ray; they'll go back to the GP ... then they will come into us because the GP will say 'I can't put that plaster on [the child] you will have to go in there [WCHN ED]' ... it's the general practices they won't suture; they won't put a plaster on even though it might be just a green stick fracture [a simple child's fracture] (staff 4).

> ... I think we have more children therefore the total number of tests is more, but I don't think we do more tests on children than we used to, I think that we can do tests on children more conveniently than they can maybe at general practice and therefore the test that maybe required is done to get a definitive answer ... I suppose when the parent goes to the GP they're expecting a definitive answer too but that may not be a true perception of the system (staff 2).

The lack of child specific expertise and the inability of GPs to provide more than a consultation was also raised by the WCHN ED mothers. The staff also noted that the larger clinics that have blood pathology, x-rays and plastering services could provide an alternative to the use of the WCHN ED. Some parents used these larger primary health care clinics[54] and this alleviated some of the use of the paediatric ED.

> ... (as above staff 4) ... whereas if they went to XXXX [after hours clinic] which is one of those big practices they [the GPs at the XXXX clinic] would actually do the x-ray

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[54] These are private for profit listed health clinics that provide an extended range of medical and allied health services described in Chapter 3. As private for profit listed entities the services is a company that is expected to provide dividends to its shareholders.

> there and put the plaster on. They [the GPs at the XXXX clinic] may send them to our Outpatients Fracture Clinic follow up or they [the GPs at the XXXX clinic] may follow up (staff 4 p. 2).

The clinic mentioned provides extensive services to its patients however, it is situated in the highest SEIFA IRSD area and charges a $60 upfront fee with no bulk billing for the treatment of children. The fee for service undermines the universal premise of Medicare and has the potential to set up a two tier healthcare system in Australia. Further, there are no such ‘super’ clinics currently available in postcode 5108, the area of deprivation that has the lowest SEIFA IRSD. Postcode 5108 has the highest rates of attendance at the WCHN ED. A state and federally funded larger clinic, GP Plus Centre, is however, under construction.

The initial premise of Medicare was the provision of health service to all Australians at no or little cost (Hampshire 2010; Australian Government 2010). The advent of large clinics that charge upfront fees over and above the Medicare Scheduled fee undermines the universal nature of Medicare and the provision of services that decrease the negative impact of the SDH. Further, the introduction of upfront fees could potentially form a two tiered health care system with those able to afford the fees receiving prompt services and those unable to afford the fees having to wait or access inappropriate primary care providers such as ED’s. Waiting to access services due to cost was also noted by some of the mothers interviewed for their own health needs.

Limits to the use of Emergency Departments for primary care

The staff argued that EDs were established to deal with acute emergencies rather than dealing with ongoing care. General practice services are staffed and designed to provide preventative, ongoing primary care services. This distinction is reflected by the comments below:

> ... if you know the patient and you can go and see them later on in the day or you know the patient, they[GP] know the parent there’s a person they can trust that would follow the directions they’ve been given and return if things get worse, whereas for us, we don’t know the patient, we don’t know if we can count on them coming back because we’re really busy so therefore we will seek a test which may help us to get a more definitive answer so we’re sure that we’ve eliminated as many of the possibilities of the serious infections etc as possible before we let that patient go (staff 2).

In Chapter 3 it was noted that use of GPs could build rapport with the patient and through an ongoing relationship provided consistent, effective and more encompassing health care. This has the potential to provide patients with health care that incorporated the SDH, and not solely biomedically based care.

CALD health access

The staff noted the use of the ED by migrant groups. This practice was believed to lessen once the migrant groups had established themselves in Australia and developed a network of service providers.

> I don't know whether the percentage of migrants is higher here than what are out in the community, I don't know that but you know because we haven't measured it we haven't looked at it, the same with Aboriginal children, we don't know that whether we see more Aboriginal children here than out there percentage wise, but yeah, we see that there are waves of new immigrants that can come whereas back some time ago, one group would come, more frequently, but as they've established themselves in the community, they've got their own doctors, general practitioners, we don't seem to see the same number and obviously the language has improved and so they become less visible because they don't need an interpreter ... takes a while to adjust to the system ... as you are trying to learn the language first let alone the system obviously the easiest thing is to come here (staff 2).

Staff were aware of the difficulties immigrants have adjusting to a new country and navigating the health care system. The ED is a stop gap measure until the new immigrant community is established and can provide CALD health professionals. This presents a novel pattern of use of the ED. New migrants need to adjust to changes of language and culture and learn a new health care delivery system, while this is occurring they use the public hospital system.

Closing of paediatric services

The WCHN ED staff noted the decreasing provision of paediatric services at hospitals in Adelaide. This has occurred as a result of a policy decision which was based on the cost of providing the children's services as well as the limited number of paediatric trained doctors and nurses. This is illustrated by the comments below:

> ... they'll go to particular hospitals that do not treat children. I think the Modbury Hospital has actually shut the paediatrics, yes, which is a real shame (staff 6).
>
> Particularly in a state of this size, we are lucky, most other jurisdictions of a million people have only one paediatric service hospital where we have five and that's a big problem but we do need hospitals for the aged, the ageing population, so some of the hospitals that currently have a paediatric service may need to consolidate their service which are closer to the community [ageing] for those sort of things and become the sort of hospitals or recovering older patients but from a paediatric point of view I think

> the trend which has happened, you know, the closing of neonatal hospitals except for the three paediatric hospitals services is an appropriate move and with time the political thing of closing those hospitals is happening anyway as far as paediatrics goes (staff 2).

This policy decision, whilst justified economically decreases the availability of services for children and also place increasing demands on the WCHN ED. The outcomes for parents and the community is that not only are GPs becoming reluctant to provide services for children but also the number of hospitals providing services is decreasing. This places parents in an accretive dilemma of how to access services for their children when required.

Staff themes summary

In summary, the paediatric staff's major themes and subthemes affirm the themes noted by the WCHN ED parents, and the CALD focus group. Notably there have been several themes that are specific to the staff. These themes include: indirect diagnosis of children's illness, remuneration for GPs, the deterioration of the GPs skill set for paediatric care, limits to the use of the ED for primary health care provision, migrant use of the ED, and the closure of other paediatric services. Consequently, it could be concluded that the decreasing availability of GP services, after hours, and paediatrically focused alternatives to ED place a growing pressure on both families and the WCHN ED services.

Community health care provision interviews – alternative services to the emergency department

The managers of a GP Plus Clinic 1, GP Plus Clinic 2, Telephone Triage Service and an Extended Care Paramedic volunteered for an interview. Four alternatives to ED health providers in total participated. The following themes arose from the information and data provided. These themes overlap with the themes provided by the parents and by the WCHN ED staff. The managers and the extended care paramedic provided a description of the services they provide and the way in which their services addressed health access for families.

GP Plus Clinic services

The GP Plus and GP Super Clinics are new public health initiatives designed to address the SDH by providing more access to health and support services in areas of most need. There are seven metropolitan GP Plus clinics in Adelaide that will also receive additional funding to provide after hours services (Roxon 2010). The families interviewed demonstrated differing patterns of health access between family members. The parents would always visit the GP, even if it meant at least a seven day wait for an appointment. The children however accessed health differently and their access to health is mediated by parental decisions, with the outcomes determined by availability of immediate services and previous access experience. The table 7.2 provides a comparison of the levels of GP by areas that will be provided with a GP Plus Clinic 1 or GP Clinic 2 with an area of high GP coverage, Eastern suburbs (postcode 5066).

Table 7.2 Area of GP Plus and GP Super clinics by the numbers of population per GP and area SEIFA IRSD quintile score

Area	The number of GPs per head of population	SEIFA IRSD Quintile score for the area 1-5
GP Plus Clinic 1 (5173)	1 GP per 4,585 people	Low = 2
GP Plus Clinic 2 (5043)	1 GP per 2,142 people	Low = 2
GP Super Clinic (5115)	1 GP per 2,883 people	Lowest = 1
Eastern area GP access (5066)	1 GP per 659 people	Highest = 5

The Table 7.2 illustrates the socioeconomic differences between areas and the availability of GP access.

GP Plus Clinic 1

The GP Plus Clinic 1 postcode 5173 has one GP per 4,585 residence and the total population in this area is 14, 215 (Tennant 2009). This area has one of the lowest levels of GP coverage per head of population in the state. Further, there are a higher number of families receiving emergency family assistance in this area 3,596.1 per 100,000 (Tennant 2009). This information describes an area of high deprivation, and low SEIFA IRSD score which is consistent with the profile of an area with high health need and a dearth of health services. While the paediatric attendance at the WCHN ED is low, 45, for the data collection period these residents also have access to another paediatric ED service at Flinders Medical Centre. GP Plus Clinic 1, only has GP services available after hours such as after 5pm, on weekends and public holidays and these services are bulk billed. This arrangement has been negotiated with the local GPs in order in order not to compete with them (manager 1 2010). Other services are available during the day, for example, parenting support, counselling, speech pathology[55], psychosocial services, occupational therapy, and physiotherapy. The fees for all services are covered in full by the Medicare for those with Medicare cards who are bulked billed (manager 1 2010). Those without Medicare cards are charged $50 per visit Monday to Friday before 8pm, $60 after 8pm and on weekends (Hamilton 2010). The GP Plus Clinic 1 is based on a model of service delivery that provides services based on community need. This service was open in 2006 to provide a mixture of community services, such as immunisation clinics, kindy-gym, and drug and alcohol counselling service (manager 1 2010).

The manager of the GP Plus Clinic 1 told a similar story to that of the parents and staff. This included a trend to using the after hours GP service with a view to decreasing the use of local hospital ED services:

> Most people call in the afternoon and just book in, because they want to see a GP but can't get into their GP, so they call in ... not emergency but an urgency – yeah, so we're trying to make sure that people don't feel the need to go to Noarlunga [local hospital] for some of those GP type issues.

The manager explained that this service was a drop in, first come, first served arrangement and that patients could not book into the GP clinic until the afternoon. Therefore, if a patient could not get in to see their own GP, or one of the local GPs in private practice they would have to wait until the afternoon and attend the GP Plus clinic to book in for the first appointment at 5pm. The clinic used bulk billing and this avoided the usual gap fees for the families accessing GPs.

The GP Plus Clinic 1 manager also acknowledged that this was a new area with a lot of new houses, and young families with few public facilities. This issue was raised by Margaret (Chapter 6) and other parents who noted that a lack of service provision in their local area meant services like the WCHN paediatric ED were used more often. This is outlined by the manager in the following comment:

> Yeah but lots of young families – everywhere, the school's chockers [full], the childcare centre's chockers, the kindy's chockers, we're chockers with our playgroup

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[55] To access services such as speech pathology, physiotherapy the patient must first visit a GP to receive a referral. The only service directly accessed by parents in the kindy-gym (Australian Government b, Department of Health and Ageing 2010). Further, this referral must be accompanied by the GP appropriate referral number for allied health practitioner to claim for the consultation.

> ... I suppose a lot of new families – low income families- are moving down here because the housing is a little cheaper.

This comment illustrates the point that despite the opening of a GP Plus Clinic in this area there is a need for more health and parenting support services, including primary care. This is a growth area with a large numbers of young families. The managers noted that many of the young families using their service did not have extended family support. This is illustrated by the following quotation:

> We broker services so other organisations provide services through here. The WCHN runs a getting to know your baby course here [GP Plus Clinic] to give Mum's a bit of confidence ... and it's a quiet time and its gentle time of yoga for mother and baby. They love it and that's good. We run antenatal stuff as well. We could run more. A lot of the families here are young families with no support, no grandmothers, no one to show them how to care for a baby. We have drop in and one on one with the family and child health nurse they pick up if there are problems before they begin, so preventative care. We work in partnership with the services so there's no duplication.

This GP Plus Clinic (1) offers courses that support families based on the broader notion of health provision. This area has higher than average levels of families receiving Commonwealth support. The bulk billing of all Medicare card holders aims to ensure the primary care services provision are universal. This service targets some of the SDH by addressing the need to support families and children with social welfare as well as health service provision. By providing services in accordance with the notion of a social model of health this may provide a means to circumvent poorer adult health outcomes, by ensuring through support that, families access health and welfare services in a timely fashion. This interrupts some of SDH that led to for instance, to lower educational attainment through ill health and lack of support (Schoon et al 2003; Wadsworth & Butterworth 2006; Doley et al 2008; McCally et al 2008; Wilkinson & Pickett 2009). Interventions in childhood are timely, as the staff working at this service are aware, early interventions provide better adult health and social outcomes (Marmot & Wilkinson 2006; Wadsworth & Butterworth 2006; Wilkinson & Pickett 2009). The GP Plus Clinic 1 provides additional services and does not compete with the local GPs.

> We have an after hours GP. GP connect come in and provide that. The idea behind GP Plus is that we support the local GPs we don't compete with the GP services but provide a resource for the local GPs to refer into lots of people use it we bulk billed. It's full there are a number of reasons for that I guess, the GPs here are full and there's a wait. And we bulk bill and it is an issue for people who can't afford to pay for people who are working and not earning much, we help to prevent the use of the EDs for all the coughs and colds stuff. The urgency but not emergency illnesses.

GP Plus Clinic 2

The interview with the manager of the GP Plus Clinic 2 took place while the clinic was being built. This new clinic will provide the following services: dental, mental health, community, child and adolescent health, allied health, speech pathology, occupational therapy, psychology, antenatal, youth counselling, life skills and health promotion services. The clinic will not provide GP services.

> We won't be providing any GP services, or what is called an undifferentiated GP service, because we are located right next door to XXXX clinic [an existing extended hours private medical clinic] and that's what they do. So we're not there to duplicate that. But we will have some GPs working ... on a specific, or be part of a specific team, in one of the multi-disciplinary teams provided ... the Aboriginal family clinic has a GP.

Despite the need for more GPs in the both areas, that is, the GP Plus Clinic 1 (5173) and GP Plus Clinic 2 (5043), the medical profession has negotiated with the government to ensure services that do not directly compete with their members. This highlights the power of this professional group to override the needs of health consumers.

These arrangements have the potential to undermine access to GP and primary care services, for example the large private XXXX GP service changes an upfront fee of between $30 and $60 above the Scheduled fee for all GP services. This limits access only to those consumers that can pay an upfront fee. Further, the two services GP Plus Clinic 1 and GP Plus Clinic 2 offer different costing models for GP health access: GP Plus Clinic 1 bulk bills every Medicare card holder therefore there are no upfront or gap fees for this service; however; GP Plus Clinic 2 has no after hours generalist GP services and refers clients to the clinic next door which charges upfront fees. The two services described offer different health access. This has the potential to confuse the consumer and undermine the potential use of the services.

Summary of the GP Plus centres

The GP Plus Clinic 1 provides free, bulk billed services and after hours GPs care for all Medicare card holders. The second service, the GP Plus Clinic 2, provides allied health and social support service with targeted GP services only offered to specific population groups. The XXXX large private service provided next door to the GP

Plus Clinic 2 only bulk bills those with health care cards (those on commonwealth benefits, such as pensioners) (manager 2 2010). The area in which the second clinic manager was situated, the GP Plus Clinic 2, does not have the same level of free access to primary care and primary health care services as the first clinic, GP Plus Clinic 1 which bulk bills all services. This difference in cost for health access may compromise the universal and primary care access, thus undermining the intent of the state and federal government.

Both managers discussed the need for more primary care and primary health care services in order to decrease the use of ED's for primary care (manager 1 2010; manager 2 2010). The managers also reiterated the need for more alternative services such as Nurse Practitioners (NP) and Extended Care Paramedics (ECP) to provide a variety of assessment and health provision as well as ED diversion services.

Extended Care Paramedics (ECP)

The ECP program has been available December 2008 and provides a program of acute care intervention in order to prevent ED presentations (Sheppard 2010). From December 2008 to 30th June 2009 a pilot study for this program successfully provided health care for patients who would have otherwise use the ED or been admitted. It diverted 49.4% of ED presentations and 5.3% of hospital admissions with no adverse outcomes (SA Ambulance Service 2010; Sheppard 2010). ECPs provide care and treatment for patients in their home.

The interview with the ECP took place at Flinders University. The interview lasted one hour. The ECP noted that during his treatment of the public several of the same issues discussed by the parents, CALD women's groups, WCHN ED staff and the managers above were present (ECP 2010). These overlapping themes will be discussed below. The first theme mentioned was the lack of GP services.

> The people we see would end up in ED as there are no after hours GPs anymore. Most people don't have access to any services after hours. Others we see during GP hours can't get in and don't know what to do so they ring the ambulance service on 000 and are referred by the triage desk to us [ECP service] (ECP 2010).

The ECP service caters mainly for older people but some families have used this service (Chapter 6) for children when for example, the child has fallen and bumped their head. The families that had used the service for their children found it convenient as the ECP attends at the home, usually within the hour and provides appropriate on the spot care. The use of this service has been cost affective for the state government as it is cheaper than people attending ED services (SA Ambulance Service 2010; ECP 2010).

Discussions

The parents, CALD women's group, ED staff and community health providers have discussed several issues in common. These issues point to a number of factors that inform parents' decisions to use the ED for primary health care service. These themes are; i) there is a lack of GP appointments ii) the nature of childhood illness and its difficulty to diagnose means they seek specialist care, iii) the time taken to provide services for children works against GP services, iv) a lack of after hours GP services forces parents to seek ED and, v) the limited ability of alternative services to provide a broader range of acute and chronic health needs such as, blood test and x-rays drives patients to ED. The issues numbered i), iii), iv) and v) are structurally based and form the foundation for the effects of 'incremental structural inertia' which will be discussed in detail in the final chapter.

Conclusions

Narrative is useful as the people telling their story express the ideological structures and struggles within a societal context, in this case the struggle to access healthcare. By using both qualitative narrative analysis along with the quantitative multiple regression the data provides a predictive component for future health care access. Both narrative and multiple regression examine the hierarchical nature of the influences on health access. This enables an examination of health access that acknowledges different levels of influence on parents and EDs. The conclusion from this research is that structural causes, namely the lack of primary care services especially, paediatric services, best explains the use of ED for primary care. These include the lack of unplanned appointment opportunities and after hours services, GP remuneration and GP skill set. These issues impact more profoundly on those living in areas of highest deprivation as they are unable to augment their health care needs through other mechanisms such as family and friendship networks. This forces them to rely on ED services for primary care.

There is an acknowledgement by the health professionals interviewed that this lack of access is in part socially driven. Further, that this lack of access maybe a source of avoidable ED presentations. By addressing the dearth of after hours extended services that can provide blood pathology, x-rays and plastering there is the possibility of decreasing the use of paediatric ED. Further, if these services were bulk billed it could alleviate some of the financial burden and make parents more likely to attend private practitioners such as GPs.

The introduction of other services such as GP Plus and GP Super Clinics aims to alleviate some of the preventable ED presentations, however; this requires these services to offer free and after hours medical care. As noted above this has not yet been achieved. This research provides an important baseline study of family health care access prior to the introduction of the GP Plus and GP Super Clinics.

The GP Plus and GP Super Clinics have the potential to address health from a social model of health perspective. For example, these clinics provide primary health care services using promotion, prevention and an intervention model that addresses aspects of the SDH, such as social support. By addressing the SDH inequities through the provision of extended and preventative health care use of unplanned non-urgent ED services may be reduced.

The community service providers supply services in an area of high need in an effort to address the differences in population health outcomes. This again addresses health from a SDH perspective. The ongoing instigation of broader health and social services is needed to provide health from a SDH perspective, using a social health model. Further, services providing primary health care may alleviate some the primary care workload at the nearest ED.

Other services such as x-ray, pathology and minor acute injuries such as skin tears are referred to the ED directly due to a lack of suburban infrastructure, which in turn impacts on the capacity of GPs to offer these services. The development of an extended skill set for GPs, Nurse Practitioners, and Extended Care Paramedics may alleviate some of the ED attendances. These aspects of service provision are addressed at a socio-political level and beyond the influence of consumers. The future plans to provide GP Plus and GP Super clinics will be addressed in the next chapter.

CHAPTER 8

Introduction

This thesis explored of use of ED for primary care services. The social model of health assisted the exploration by providing a broader view of health. The social model of health provides an alternative model that includes concepts of consumer rights and needs, and proposes an understanding of health as a social function and responsibility rather than an individual one. This view of health empowers consumers by incorporating their views into the socio-political context. This process assists in the provision of appropriate health access by ensuring children's need are included in health provision. The results and conclusion presented in this thesis expound the need for a broader socio-political approach to health that encompasses a more empowering role for the community and individuals, and addresses the issues of access and inclusion in the use of health services.

Further, the use of the SDH framework in this thesis aids in situating health access within a structural or intermediary context. The use of the structural and intermediary categories provides a strategy for directing specific interventions and these aid in the development of recommendations for action. Health is mediated by the SDH, and by addressing the SDH population differences in health outcomes may be addressed.

In addition, it is clear that in modern societies some population groups often have little means to change and manipulate their life circumstances. They have little 'power to' act in their own interests, despite their large numbers. Therefore, an understanding of power and oppression provides an insight into understanding which aspects of society and which factors need to address any change, as consumers, especially groups such as children with little socio-political influence, have a limited impact on ideological change and service provision[56]. Young (1990, 1992) divides power into five forms that she refers to as the five faces of oppression. Young's concept of oppression provides concepts that align with the SDH. Exploitation, marginalisation and powerlessness are characteristic aspects that are intertwined in

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[56] Chapter 3 outlines the limited power of consumers despite their large numbers.

the structural and institutional aspects of society. The expressions of cultural imperialism and violence on the other hand are expressions of social and cultural allocations of a group as *other*. These faces of oppression mediate access to services and participation in society. The manifestations of the five faces of oppression are both covert and overt. For example, the CALD focus group noted some culturally inappropriate health provision practices that decrease the use of those services by the mothers interviewed. Further, those living in areas with higher levels of deprivation have less access to health services. Failure to address these health needs may be viewed as a form of marginalisation. Understanding the structural and cultural processes that mediate health access and support and promote power differences is important when addressing the health issues of those with limited health access options.

This final chapter provides a discussion on the background to this study. This is followed by a summary of the research methods and findings (part one). Part one provides a review of the research question and the research methods and the use of mixed methods (part one). A theoretical discussion follows in two parts. In part two the SDH are outlined. Models of health service provision and its delivery are summarised along with ED use and deprivation. Part three provides a discussion on the role of power in policy arguing that health policy is characterised by incremental structural inertia and it is this that partly explains the high attendance at ED for primary care conditions of particular populations. The conclusion to Chapter 8 and recommendations complete the thesis.

Background to this study

Children are a unique health consumer group due to the pace of their development and the importance of timely and appropriate health interventions. The recent introduction of universal home visiting for newborns[57] recognises the need to provide universal health care as a form of early intervention in health for children. Access to health in a times of need is important for children. The lack of unplanned

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[57] Department of Human Services, 2003, *Every Chance for Every Child: Making the Early Years Count.* A Framework for Early Childhood 2003-2007. South Australian Government. www.health.sa.gov.au viewed on 20th May 2011.

GP appointments and after hours community based child focused health care services promotes the use of paediatric ED services. ED services are, by design, ill-equipped to provide the primary care and long term preventative primary health services required for optimal childhood health.

Part one

Research question

The factors that influence the use of ED for primary care are complex. To address the use of ED for paediatric primary care and impact of the SDH and its relationship to ED primary care use is important. In order to capture part of the intricacy a mixed methods research approach was used to explore this question.

A summary of the research methods

This research used a mixed methods approach. Mixed methods provides both methodological triangulation through the elaboration of one data set by using another method, and theoretical triangulation to provide defensible and credible results that fit with the theories provided. Using mixed methods allows for the use of the previous understandings of the data collected and combines the data sources to increase our understanding of the construct under investigation. This process also allows for the clarification and analysis of the material to provide new understandings.

Summary of quantitative methods

Quantitative data collection consisted of three data sets: HAS ED, ABS, and the *Social Health Atlas.* These data sets provided a robust univariate analysis. They enabled the information collected to be corroborated with other data sets. Further, they increased the ability of cross referencing of the information collected. The use of correlations and regression analysis allowed for the relationships between the HAS ED data and the SEIFA IRSD data to be explored to provide an understanding of the impacts of the variables on the use of ED for primary care.

The HAS ED data set provided evidence of the use of ED for primary care. The variables in the data set were analysed in a chi square, multiple and binary logistic regression and their impact on ED use was measured. Further, the effect of deprivation on ED use was measured by adding the SEIFA IRSD score to the equation.

The ABS data set provided the evidence of the deprivation score for an area through the SEIFA IRSD score and quintile groups, as well as, the numbers of GPs per postcode area. The confirmation of the GPs number per person in a postcode area was achieved using the *Social Health Atlas* data. The data was also included in the statistical analysis to determine its relationship with the other factors in ED presentations for primary care.

Summary of qualitative methods

The ability to provide in-depth information is afforded by qualitative data. The characteristics of the qualitative data provide a more comprehensive view of the information available through the quantitative data. Collecting qualitative data from several different aspects for example, the parents, CALD focus group, ED staff and community service providers allowed corroboration of the results. The themes provided from the interviews were reiterated by all the key stakeholder groups.

Summary of mixed methods

The use of mixed methods research is important as it assists in the elimination of research bias through the use of multiple data sets. Each data set was collected either sequentially and concurrently and was used to inform subsequent data collection. The quantitative and qualitative data also provided a triangulation of the data and the results. Further, the use of multiple data sets of the same genre also enhanced triangulation and increased the robustness of the research process.

The use of mixed methods in this research has triangulated the interview data between the parents, ED staff and the managers of two GP Plus Health Care Clinics. The sequential process of data collection allowed for the incorporation of the previous data to inform the next phase of data collection. For example, the initial HAS ED data showed an increase in ED primary care use. In addition, the interview data assisted in the triangulation of the quantitative data through the confirmation that limited after hours access necessitating the use of ED for primary care. The use of mixed methods enables the exploration of these various health data sets in combination with the subjective realities of population groups that are socially and politically marginalised (Hesse-Biber 2010). The process of mixed methods was also used here to determine firstly, the need for the research with the initial sequential quantitative analysis. Secondly, the concurrent quantitative and qualitative data collection methods allowed for a mapping of use concurrent (HAS ED data) with the interviews for triangulation. Thirdly, the interviewing of parents after the ED attendance allowed for a more comprehensive coverage of their health access processes. Fourthly, the interviewing of ED staff and community health providers to determine the provision of alternatives to ED provided an exploration of possible future service provision. The use of mixed methods in this manner strengthened the research results.

Theoretical Triangulation

Theoretical triangulation is the extent to which the theoretical interpretations fit the data, and the results are therefore credible and defensible. This is achieved through the application of the theories to the data interpretations. This aspect of triangulation is discussed below.

Findings

The universal nature of Medicare and health provision in Australia is based on equity and accessibility. However, the reality is that populations in particular areas have limited access to primary care and primary health care services and this is evident in the demographic data, HAS ED data and the narrative analysis. This suggests that Medicare provides universal entitlement rather than universal health access (Baker 2011; Woodruff 2011). This research has demonstrated that the differences in health service provision, using SDH framework, are structurally produced. The lack of unplanned GP services and after hours primary care services is the major explanation for high ED use. For example, postcode areas with the highest levels of deprivation, such as 5108, have 2,529 people per GP, whereas, 5067 with one of lowest levels of deprivation, has 561 people per GP. The 5108 has much higher rates of paediatric ED use.

Deprivation has a recognised influence on paediatric ED use. The previous research has used various measures to describe deprivation (Fone et al 2006; Bell et al 2007;

Kelaher et al 2008; Testi & Ivaldi 2008; Moore et al 2009). In this study the SEIFA IRSD area score were used as a proxy for deprivation. SEIFA IRSD uses 17 indicators to measure deprivation some of which cover the concepts of the SDH for example, educational attainment, occupation, access to transport (ABS 2006). This research also found that families living in areas of high deprivation use ED more frequently across all triage levels. Further, deprivation and the use of ED for primary care type services are also related. As levels of deprivation increase so too does the use of paediatric ED for minor illness and injury. The results of the SEIFA IRSD score[58] for an area on triage priority 4 and 5 suggests that as an area's SEIFA IRSD score decreases, indicating higher levels of deprivation, then the triage[59] priority level increases, indicating possible primary care use. Further, the parents, staff, CALD mothers and the community health providers noted that, aside from the general lack of unplanned GP appointments across all socioeconomic gradients, there was less access to health services in their suburb and therefore, this suggests ED is used for primary care. Further, this lack of provision, as described by a SDH framework, is a structurally induced lack of access to primary care and primary health care[60].

This study found a significant increase in the use of paediatric ED for possible primary services between 2007 and 2008. These results affirm previous research that indicates an increasing use of ED for primary care services (Beattie et al 2001; Bradley 2005; Siminski et al. 2005; Siminski et al. 2008a; Moore et al. 2009). A possible explanation for this is provided by the interview data from parents, ED staff, CALD mothers and community health providers. The qualitative data indicated a dearth of primary care and primary health care services for children when needed, particularly after hours in suburbs with higher percentages of children.

In addition, deprivation combined with a short distance to ED has been found to increase ED use for primary care (Fone et al. 2006). This research challenges these findings as those families living 30 kms away in areas of deprivation are the highest

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[58] The SEIFA IRSD score, from the Australian Bureau of Statistics, is a measure of an areas deprivation. The higher the SEIFA IRSD score then the lower the levels of deprivation.

[59] Triage priority 1 denotes an immediate intervention as the presenting illness is potentially life threatening. Triage priority 5 can wait at least 120 minutes for medical intervention.

[60] Primary care is care provided by a GP whereas primary health care is care delivered by an array of allied health professionals that is consistent with the social model of health.

users of ED. The distance of a postcode area from ED was analysed, and found to be significant, indicating those children attending from areas furthest away often attend at higher triage priority levels. The area of highest ED use, 5108, (has one of highest rates of deprivation and paediatric ED use) is about 30 kms from the ED, and has the highest rate of triage priority 4 and 5. Therefore, rather than proximity to the ED, deprivation influences ED use, even when parents have to travel up to 30kms.

The use of multiple regression analysis is useful in measuring the impact of several variables on the variable of interest. The use of paediatric ED for primary care was analysed in a multiple regression analysis using triage priority use over 3.5[61]. Further, all postcode areas over 50 kms away from the hospital were removed from the data set. The other variables were added in order of the level of importance provided by previous research. A multiple regression analysis found that 74% of the influence on triage priority was explained by the regression model used. This indicates that the number of variables used assisted in explaining the use of paediatric ED for primary care. The exploration of these variables could thus provide an explanation of the use of ED for primary care. The variable with the largest impact, discharge status had the largest relationship with triage priority. These results indicate a significant positive relationship between triage priority 4 and 5 and discharge status. As triage priority level increases so does the chance of discharge from ED. Further, those attending at triage priority 4 and 5 are seven times more likely to be discharged[62]. This is consistent with the increasing use of ED for conditions that may be primary care in nature. The parents, staff and community health providers give a possible account for this as all noted the use of paediatric ED for primary care due to the lack of available appointments with GPs, and after hours services.

The use of private transport, the next largest impact, rather than emergency transport to attend ED was analysed and found, a significant positive relationship between private transport and triage priority 4 and 5. Children attending ED using private transport are more likely to be triaged in the categories of 4 and 5. An increase in

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[61] The aggregation of the variables for analysis is described in full in Chapter 5.

[62] Odds ratio in the binary logistic regression model divides the 25,520 HAS ED cases into two groups those in triage levels 1, 2, and 3 in group 1 and those attending at triage 4 and 5 in group 2.Table 1 Appendix C.

triage priority level indicates an increase in private transport as the type of access to ED. Further, those attending and triaged at 4 and 5 are seven times more likely to arrive in a private rather than an emergency vehicle[63]. Children attending using a private vehicle are more likely to be triaged at levels 4 and 5. This is supported by the binary regression[64] as private vehicle showed a significant relationship with triage priority 4 and 5.

The variable with the next largest impact was attendance at ED with a GP referral letter. This indicates access to a GP prior to ED use. The results here indicate that there was a significant negative relationship between triage priority 4 and 5 and a referral letter, thus as the level of the triage priority rises the rates of referral letters decreases. This demonstrates that those children attending ED with a referral letter are often triaged at lower levels, such as, 1, 2 or 3, suggesting the need for more immediate care and conditions other than primary care. The parents, ED staff, CALD mothers and community health providers noted the referral of children to ED for conditions that were sometimes outside the GPs scope of practice. The qualitative responses suggested some up-skilling of primary care providers may be needed for community based health professionals, particularly GPs, to treat children, as children constitute a specific population group.

These quantitative findings are supported by the parents, staff and community service providers who also noted that there was a need for children to be seen promptly. Further, the parents said that the dearth of services available for unplanned treatment were limited and influenced the over reliance on ED for primary care. In addition, the lack of child specific services also limited the options available for parents to use when accessing health care for their children. Moreover, this limited health service access was compounded by cost.

In addition, the use of narrative[65] confirmed the methods used in collecting qualitative data that informed the researcher of the possible future actions of the participants. For example, in this study some parents indicated that their previous

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[63] Odds ration Appendix C.

[64] Binary regression Appendix C.

[65] Narrative analysis and the story situates the qualitative information in a time, place, with future decisions making included in the narrative discourse.

experiences of health access would inform their decision to use ED. This is captured by a parent who noted *that's how we changed to them [paediatric ED].* Although this discussion was noted during the parents exploration of the GP skill set it illustrates how previous experiences also influences parent's decision to continue using the ED and their future choices.

These findings have implications for the universal nature of the Australian Health System. Limitations in the ability of the health system to provide services for children, not only perpetuates the lack of access to health care in a timely and appropriate manner needed to circumvent adult health problems, but also, increases the use of a costly form of health provision in an inefficient manner by the use of ED for primary care.

Part two

SDH and Health access

As illustrated by the SEIFA IRSD scores many aspects of a person life influence living standards and access to material procession and services, such as health care, not only in their area of residence, but also, individual factors. Many of the measures captured by the use of SEIFA IRSD scores are also aspects of the SDH. Characteristics such as level of education, income, and housing tenure determine not only individual levels of affluence but also the ability to access health care in a timely and appropriate manner.

General summary of the SDH

The SDH are used as a means of understanding health inequities. The intermediary SDH provide the possible pathways for addressing those SDH that impact directly on individuals. The SDH highlight inequities in the provision of health in a society. Access to health care constitutes an intermediary SDH, which is close to the individual and impacts directly on their health outcomes. Structural SDH are produced upstream at the policy level and impact less directly on the individual but more discreetly at the community and population level.

Deprivation at a theoretical level

Deprivation describes the impoverishment or restriction of aspects of life that may result in a lack of participation, abilities, potentials and access to features of society that are considered necessary for adequate inclusion and health. Deprivation limits an individual's outcomes across a broad range of measures, such as education, income, occupation and health. It prescribes a set of circumstances that act to limit rather than enhance positive entitlements. Deprivation limits choices and access to variety of aspects of life. Deprivation is implicit in the maldistribution of health services and access. At a practical level it is the result of policies and social structures that fail to address inequality in the population. This may occur through action or inaction on polices that ensures that health access and health outcomes are not mediated by deprivation.

Deprivation and SDH

Deprivation was measured using the SEIFA IRSD indices. This provides a postcode level score of deprivation. Deprivation using this instrument also captures indicators of the SDH such as occupation, income, educational attainment, and the numbers of Commonwealth benefit recipients per postcode. This not only provides an indication of the community capacity for service provision that enhances health but also provides an indication of the person deprivation experienced by individuals in a postcode area. Understanding the intermediary (personal) and structural (socio-political provision) impact of the SDH is important as this framework provides some understanding of how the deficits within deprivation may be addressed.

ED use and deprivation

Previous research has identified family deprivation as a key factor in ED use (Carlisle et al. 1998; Burt et al. 2003; Bell et al. 2007; Kelaher et al 2008; Testi & Ivaldi 2008; Moore et al 2009). This research also found that suburbs with the highest use of ED often used ED for conditions that could be treated by a primary care; attended using non emergency transport; had the lowest SEIFA IRSD scores; had high levels of deprivation; had low levels of attendance with a referral letter and have less GP services per person. The link between deprivation and aspects of the SDH for example, limited provision of services, used ED more frequently especially for primary care conditions.

Not only deprivation but a lack of services

This research confirmed the increasing use of paediatric ED by primary care cases. Further, it supported previous findings that the majority of attendees using ED for primary care lived in areas of high deprivation (HAS ED data and SEIFA IRSD score) (Bell et al 2007; Kelaher et al 2008; Testi & Ivaldi 2008; Moore et al 2009), and this was further established using the ABS data on the numbers of GPs per person in an area. Thus, those areas of high deprivation had low numbers of GPs and had the highest rates of paediatric ED use. The interviews with parents, ED staff, CALD mothers, and community health providers most frequently noted that the use of ED for primary care occurred due to a lack of access to GPs and after hours services rather than deprivation alone. This is an important point as the provision of services is structural and is decided by socio-political aspects of society.

Constructions of parenting and the provision of health care

The implication of the requirement of unplanned interventions for children's illnesses, necessitates, that the parents seek timely access to health services, therefore, service provision also determines child health access. A lack of GP appointments, no after hours GP services or expensive after hours GPs services were described by the mothers as being influences on primary care ED use. Furthermore, the parents' decisions regarding using ED for primary care seemed by them to be driven by a lack of alternatives. The lack of timely and appropriate service provision was also noted by the ED staff.

The options in health access for parents requiring a primary care service varied and were often tempered by the parents ability to wait to access health care. These familial differences in health access are illustrated in Figure 8.1.

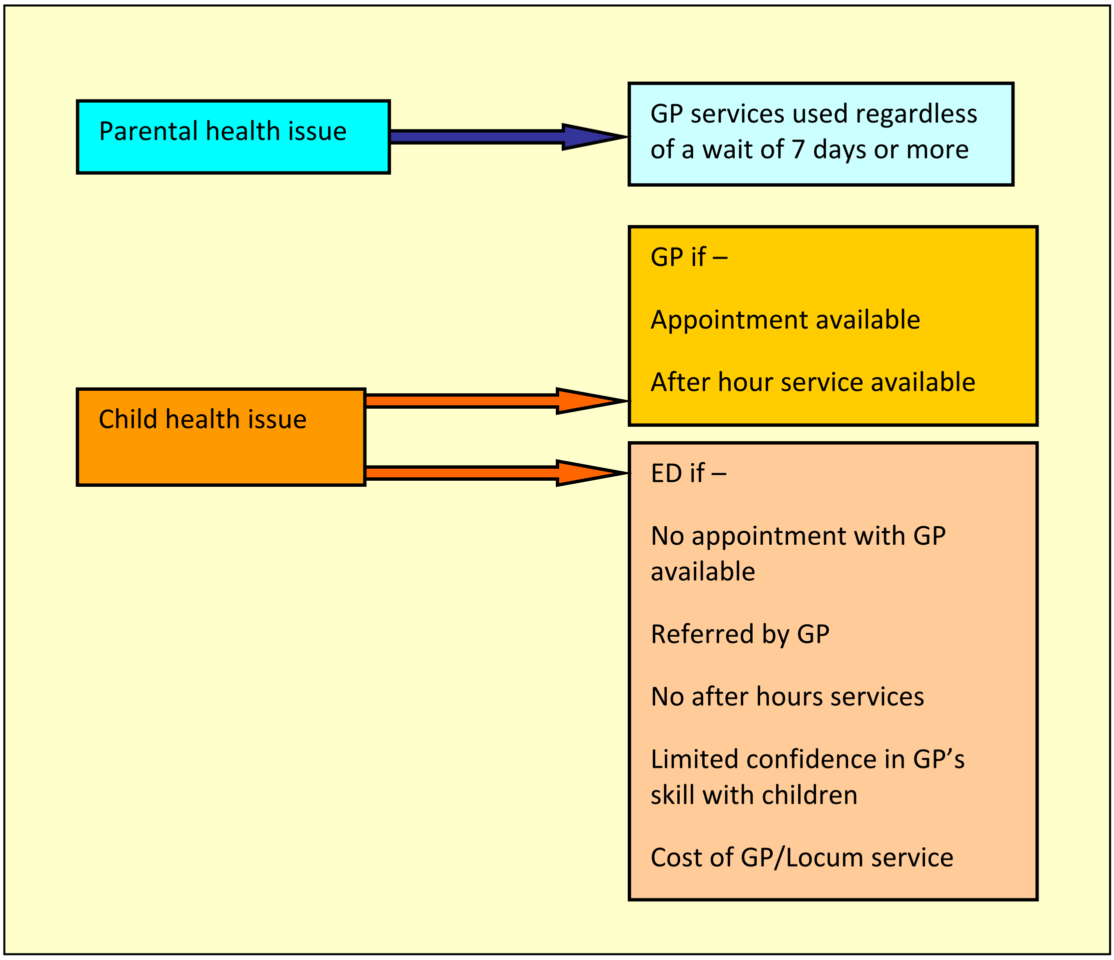

Figure 8.1 Proposed familial model of health access

The figure 8.1 highlights that, for primary care, parents are willing to wait to be seen by the GP for their own care; however, the health of children raises different issues. Parents are not prepared to wait. Furthermore, the services, according to the parents, need to provide a comprehensive range of services, such as, x-ray, blood pathology and orthopaedic services to avoid the need to take children to another service to obtain care. Failure to meet these criteria necessitated the use of paediatric ED for primary care.

Parental constructions of good parenting

All the mothers interviewed constructed 'being a good parent' with the timely provision of health care. Over half of the CALD mothers noted that GPs charge a gap fee and that this was prohibitive in accessing health care. Being a good parent for the interviewees implied immediacy in providing their child's health access. This patterned family primary care access in a heterogeneous manner as the children's health needs were often prioritised as urgent and adults needs as non-urgent. Family members use health services in different ways, and all families interviewed stated that while the parents waited to use the GPs to treat their illnesses, children could not. This practice by parents was also identified by the staff as the staff acknowledged that there were often limited service options for parents but to attend ED.

The ED staff also noted that there was an immediacy for children’s diagnosis and treatment due to the tendency for children to present differently for similar illnesses or to mask severe illnesses. This tendency of children to respond differently to illness led to the parents need to seek a health professional. The lack of appropriate and timely health care services made the parent’s task in accessing health more fraught.

Health access as a family organised process

It was evident from the interviews that mothers remain the prominent care providers of younger children. It is notable that the CALD mothers, unable to drive for cultural reasons, are still expected to resource and organise health access for the children when sick. The recognition of the family as a group taking responsibility for the health of the children, despite the obvious provision in the CALD families of gender distinct roles, needs to be recognised in health access. The view of health access here extends the concept of health access from an individualistic one to that of a group formulated process.

In summary, the parents, CALD mothers, ED staff and community health providers noted the lack of GP and after hours services, as the main influence on paediatric ED use for primary care. The ED staff noted this was due to a lack of timely appointments, a lack of GP paediatric skills and knowledge or a reluctance to treat children.

Part three

Models of health care

In Chapter 3 health was discussed using a financing and service provision framework. Three models of service delivery were explored. A public-integrated model combines budget finance with providers that are part of the government sector and does not separate insurance and service provision functions. This model provides mostly government salaried staff and contributions are based on taxable earnings. Costs for service provision are controlled and covered by government, and all citizens are covered (Docteur & Oxley 2003; Davis, Schoen & Stremikis 2010). The public health system in Australia uses a public-integrated model for funding of public hospitals. The public-contract model uses public funds to deliver services that are provided by private providers. These types of services in Australia are provided by GPs who are private providers and paid by Medicare. This model has lower control of costs as private providers set their fees. The use of two different funding models goes some way to explaining the cost shifting that is endemic to the Australian health care system. This also explains the ability of GPs to set their own fees and charge gap fees. The final model, the private-insurance model, is delivered by private providers and all costs are covered by private insurance, as the US model of health demonstrates. Some citizens may be left without access to health care in this model. Australia has some aspects of this model with nearly 50% of citizens with some form of private insurance (Docteur & Oxley 2003; Davis, Schoen & Stremikis 2010) and examples from the narratives of where parents use their private health insurance to access paediatric care.

The introduction of Medicare in the 1980s was a distinct shift towards a combined public-integrated model and public-contract model. Under Medicare primary care was provided by GPs and the costs of the services were covered by the Federal government in a public-contract model. Further, the model of health provision, namely the public-contract model, has limited cost containment as it allows private providers to charge the fee for service as they determine. Under the contract arrangements the public, Medicare, pay the agreed fee and the gap fees are dictated by the private providers, GPs. The increasing prevalence of gap fees has resulted in increasing costs borne by the consumer. Access to public hospital was free and provided by the State governments in the public-integrated model. The service providers are employees and this assists in cost containment. This change to service provision has seen a move away from the public-integrated model and cost capped public-contract model towards the private-insurance model that is distinctly self funded. In the private-insurance or self funded model the ability to manage costs by governments is decreased as the cost of services is set by the provider and access to health is mediated by the ability to pay. This shift in service provision limits access to health care by particular population groups.

Policy, power and the provision of health care

This chapter also evaluates the provision of health care services against a SDH framework. The structural SDH are used to determine the influence of policy and power on service provision. This research found that access to health care is mediated by the supply of services. Policy and power inform the provision of the numbers and types of services available. Further, power and policy have interacted over the past two decades to produce a concept termed here as ‘incremental structural inertia’. Incremental structural inertia describes the small, insignificant, policy and provision (structural) level changes that have occurred through a lack of appropriate government interventions necessary to meet the paediatric health care demands on the Australian health system. Incremental structural inertia has modified universal health access for children, leaving those families living in areas of high deprivation, with limited access to paediatric health services.

The provision of health services is outside the control of the individual and within the realm of the structure of general practice service delivery and the subsequent government directives towards these services. Changing the work practices and service provision of a powerful group such as doctors is, according to Young’s (1990, 1992) theory on the power of professionals, and reiterated here by the parents, beyond the influence of the parents and within the realm of the powerful, such as professional groups, and politicians. Due to the influence of the powerful, the ability to change the health system, places this construct in the category of a structural SDH rather than an intermediary SDH as argued by some theorists.

Through the examination of the power relationships, an understanding of the impact of factors mediating health care access may be attained. Young’s fluid notion of the existence and manifestation of power through oppression is useful in explaining the socio-political influences on the structural SDH. By determining which structural SDH are influenced and analysing the pathway of power, a possible means of addressing health inequities may be achieved. Here the ability to defer the requirements of a community, equitable health access, to promote the agenda of a professional group exemplifies the power of that professional group. This use of power maintains the income and position of doctors to define their areas of work, work practices and secure their incomes. Any changes to service provision, such as the introduction of more GPs to an area or the use of other health professionals in the provision of services that may impact on a doctor's income is thwarted by the AMA[66].

The influence of powerful groups such as the medical practitioners and their ability to influence governments into not providing services that compete directly for their patient base is testament to the ongoing influence of the medical profession over policy. This occurs despite the known and documented lack of service provision in the lowest SEIFA areas in South Australia. The provision of new GP Plus Clinics services is only allowed by the GPs in the area on the proviso that no GP services are provided when they directly compete with the local GPs. This seems contrary to both the general market based productivity policy present elsewhere in the health system, for example, in the provision of private hospitals, and the universal nature of Medicare. Using Young's theory of the five faces of oppression the ability to circumvent consumer needs, market completion and undermine Medicare could only be achieved by a powerful professional group. Young (1990, 1992) describes the influence of professionals within a society and their ability to maintain power structures that promote their place in society and enhance their own financial gain. The ability of a group to stifle completion even when a dearth of services is present illustrates the power of this professional group.

Power and the medical professional

The AMA has successfully negotiated the minimal provision of GP services in the GP Plus and GP Super Clinics. This is despite the dearth of services in the areas where these clinics are situated. This demonstrates not only the power of the AMA but also the powerlessness of the community in receiving the services they need. This suggests that the lifetime of deleterious health outcomes experienced by some population groups related to child health access may continue, unless the health needs of the community take precedence over professional power. Further, the ability of allied health professionals, and other health professionals, such as Nurse Practitioners (NP) and Extended Care Paramedics (ECP), to provide services may be

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[66] Community service providers interviews Chapter 7.

compromised through gate keeping of GPs and restrictions on their professional practice. This limits health access, and limits the implementation of the social model of health and the provision of primary health care services. The broad range of health professionals could provide a variety of specialist services not consistently provided by GPs, such as unplanned, urgent home visiting care, paediatric assessments and hospital diversion services.

The differences between true primary health care (PHC) based services that incorporate a social model of health focus and primary care (PC) that is based on the delivery of services using a biomedical model of health focus, such as GPs, also impacts of health care access. The language slippage in the use of the terms PHC and PC may be viewed as a subjugation of the social model of health based service provision required to assist in the reduction of health inequities to a model of health provision that is again biomedical in its focus. Therefore, despite the use of the term PHC to describe the new health reforms the focus of service delivery remains biomedically centric. The biomedical model has failed to address the SDH and health inequities outlined in a SDH approach to health care provision.

The manipulation of PHC service provision to include patients cost or limit service provision to after hours undermines the nature of PHC and its remit within the social model of health. Access to primary health care needs to be determined by the needs of the community rather than the requirements of private business interests. The new health reforms have attempted to provide a wide range of extended health professionals, such as NPs and ECPs, to address health access deficits. The Gillard federal government proposed reform, initiated under the auspice of PHC, has negotiated with GPs to only provide services that do not directly compete with local GPs. This will maintain the current limits of access of children to timely and appropriate health care.

The power of a professional group to promote its agenda and work practices at the expense of other professionals and the community needs links directly to Young's theory of oppression through the use of power. Further, power in this instance explains the privileging of GP centric service provision despite the evidence on the SDH to the contrary and creating the domination of PHC provision and the channelling of funds away from a social model of PHC system towards a biomedically focused method of service delivery. This maintains the exploitation of the consumers and allied health professionals and their access by consumers through the GP monitored gate keeping role.

These aspects of Young's theory also represent the socio-political aspects of the structural SDH. The implications for the population are clear. Whilst health access is determined more by powerful professional groups, rather than community needs, little will be done to improve population health outcomes, and the over-use of ED will continue. This will maintain the inefficient use of ED services and further promote an illness, cure and treatment cycle for children rather than a broader intervention, preventative, health service usage model.

Initially, Medicare and the Pharmaceutical Benefits Scheme (PBS), the foundational features of Australia's universal health care system, provided free access to primary care (GPs) services for all Australians (Medicare) and access to pharmaceuticals (PBS) for a minimal fee (Young & Dobson 2003). However, over the last 20 years there has been a gradual increase in gap fees for GP services and PBS fees charged for drugs provided to those living in deprivation (Baker 2011). These changes have not been effectively addressed by governments. While the Howard government introduced incentives for the bulk billing of children the uptake by GPs remained at the discretion of the GP. Further, some recent policy changes have at times been actively encouraged through health policy moves to a user pays ideology (Baker 2011). The socio-political nature of policy effects Medicare and the PBS at a structural level to provide universal health access for example, the failure by governments to act to address the increasing use of gap fees has created a process of incremental structural inertia that hinders health access for those living in deprivation.

Incremental structural inertia

Incremental structural inertia is a fundamental policy slippage away from universal provision and access towards limited health access for some population groups. This has occurred through a failure to address restrictive professional practice and a change in government direction towards a more market based process of health provision. This thesis has found that the parents, ED staff, CALD mothers and community health providers describe system wide circumstance that influences the way they use paediatric primary care services. I have termed this phenomenon as 'incremental structural inertia'. This refers to the small almost unnoticeable changes in service provision which, in themselves do not appear to have any impact but if added together over time, decrease the efficiency and effectiveness of a universal health care system. This occurs through the minute decreases in universal coverage for sectors of the population across a range of services; for example, the cost of pharmaceuticals and GP access. It is evident that it is the limited provision of primary care, primary health care and after hours care provided both by government services and private practitioners (GP's) that places ED under increased pressure to provide primary care services. This erosion of primary care has happened slowly and almost imperceptibly overtime and places increasing pressure on parents to provide timely and appropriate care for a sick child.

Structural in the term incremental structural inertia uses the concepts and terms coined by the WHO Commission on the Social Determinants of Health (CSDH 2008) to describe aspects of health that are structurally determined through the socio-political constructs of a society. In this instance the erosion of service provision occurs at a structural level rather than at an individual level. This is evident by the lack of provision of adequate services and the services' inability to keep pace with increased demand from increasing population or limited numbers of GPs and after hours services.

Further, the structural nature of the policy and power influence on the provision of health services is also acknowledged in the concept's structural portion of incremental structural inertia. Thus, the ability of particular professional groups to determine service provision and modes of access is beyond the influence of the individual and may be based on differing forms of oppression rather than the need for services.

Inertia in incremental structural inertia describes the lack of activity by governments to address the deficit in service provision despite increasing: i) poorer health outcomes for particular population groups[67]; ii) costs of inappropriate ED use[68]; and iii) use of ED for primary care services[69]. This inertia has placed a strain on ED service to meet the demand created by the lack of alternative services and the ability of governments to deal with powerful interest groups.

This incremental structural inertia has developed over a number of years, by what is described by the parents, ED staff, CALD mothers and community health providers interviewed, as the eroding of services that are available for children through the limited numbers of GPs in some urban areas; a lack a paediatric GP skill set, and a limiting of the availability of alternative services.

There is an attempt to redress the lack of primary care and primary health care access and the subsequent overuse of ED through the introduction of GP Plus and GP Super Clinics. These alternatives to ED are situated in areas of high ED use with corresponding limited service provision and high demand. The staff and community service providers noted that, to be effective, these services need to provide a variety of health professionals with child specific skills and to have GPs and ancillary services available across the week and after hours. The implementation needs to be accompanied by an increased level of information to the parents in these areas. This information needs to outline services that are available after hours, and the capacity of these services to cover particular population groups such as children. Reliance on a few health professionals, such as GPs to meet the variety of health services required will perpetuate the current use of ED for primary care.

All the parents noted that children’s health needs were different from theirs. As a consequence children’s access to health required a different response from the parents. The parents determined that children’s health needs were more immediate. Due to these conclusions by the parents then the type of services used needed to match these decisions. Therefore, the timely availability of the services is an important consideration when a child is sick. The need to act promptly in response to childhood illness was also noted by the ED staff.

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[67] *Social Health Atlas* data.

[68] ABS and *Social Health Atlas* data.

[69] HAS ED and Interview data.

Incremental structural inertia and Medicare

The lack of recognition of the differences in treating children when compared to adults by the Medicare Scheduled Benefit Scheme also undermines children's access to primary care and primary health care. GPs are private practitioners' who are paid on a fee for services basis, and servicing children requires more time which is not remunerated under the current system. This means for a GP it is often not timely and cost efficient to see children.

Further, it is at the discretion of GP to bulk bill or implement a gap fee, and the amount of the gap fee impacts on paediatric health access, as cost impedes universal access. In addition, service provision is at the prerogative of the GP. The opening times and where the GP clinic is located is not determined by need but rather by practitioner choice. This needs to be addressed through broader service provision; for example, NPs and ECPs, and through government directives for free paediatric health care.

The addressing of the structural deficits in after hours service provision may not only improve family access to health care but it may also assist in the development of services for the prevention of health issues. This has the capacity to limit the future exacerbation of illness and provide health intervention in a more cost effective manner. Further, the development of health professional supported access, rather than, health professional controlled access and supply is paramount. This enables the health services supplied by health professionals to be consumer driven, and this may increase consumer participation in health and thus provide services that meet demand. The use of the ED for primary care is expensive and inefficient.

The health system as a structural social determinant of health

The health care system is determined by government mediates access to health through health policy. Health access is closer to the individual and is therefore an intermediary social determinant of health. Attempts to address deficits in health access by the Howard government relied on private primary care providers[70], namely GP's compliance, with policy directives rather than direct service intervention or provision; namely, the directive to bulk bill for children's GP visits. As some of the parents, ED staff and community health providers have noted this has been implemented with varying degrees of success.

This lack of direct, enforceable, incentive based initiatives has led to an incremental deterioration of the universal coverage and access to health services. GP services are limited in numbers in areas of most need, access by opening hours, skill set, remuneration for children's treatment and consistency of cost neutral treatment for children. This illustrates a distinct change from the initial intention of Medicare to cover all Australians and has led parents to use alternatives to primary care such as ED in order to provide timely and appropriate care for their children.

Further, the implementation of gap fees for pharmaceuticals is at the prerogative of the government. The pharmaceutical gap fee payment imposed by Government occurs despite the evidence that these fees reduce access and may increase health inequities. This promotes a user payers access to pharmaceuticals. To address the SDH and halt incremental structural inertia, programs and policies are needed that actively support universal access and reduce gap fees.

In addition, some solutions to improve health access for children using the proposed SDH framework may provide some understanding of the future policies that may address the SDH concepts. These suggestions incorporate the Medicare structure and the introduction of the GP Plus and the GP Super Clinics. By highlighting the potential flaws in the GP Plus and the GP Super Clinics, the possible solutions to avert any potential negative impact on children's health access are explored.

The need to address children's health access

Children represent a special population group. The lack of timely and appropriate health access for children and the use of malapropos costly services, such as ED, require addressing for at least three reasons. Firstly, children's developmental

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[70] Currently some GP charge $55 per 10 minute visit $33 of that is refunded to the patient from the Medicare Rebate Scheme the other $22 constitutes a gap fee covered by the patient (David Hampshire 2010 "Living and Working in Australia" Survival Books Limited).

requirements necessitate prompt health interventions. Secondly, the lack of access to primary health care is costly for governments. Finally, universal health care provision assumes equity in health access. By tackling the equity component of children's health access the other two issues will be addressed. Further, targeting children's health may prevent longer term health conditions.

The possible solutions: Future service provision

GP Plus and GP Super Clinic services

To address the use of paediatric ED for primary health care the GP Plus and GP Super Clinics would need to provide GPs and allied health professionals with a specific paediatric skill set. This use of ED as a diagnostic and access portal to specific paediatric services may decrease. Further, the GP Plus and GP Super Clinics with specific paediatric service may provide a variety of services in a local community.

The advent of more community services may also address some of the access issues such as distance to the paediatric ED. Those families living in areas of high deprivation, 30 kms from ED, in areas of high ED use for primary care, may benefit through a decrease in travelling time, and by having community based services. However, other access issues such as those expressed by the CALD mothers; for example, the lack of transport, may require other intermediary SDH interventions, such as a community bus, NP and ECP mobile, home visiting services to address transport related health access issues.

Further, cost related health access issues may necessitate socio-political structural SDH intervention, such as the introduction of policy preventing the use of gap fees for all paediatric GP consultation regardless of the time of the appointment. The current ruling allows for practitioner discretion when charging gap fees. Addressing this system wide access phenomenon could strengthen universal health policy aspects of PHC. This characteristic of health care organisation is system based rather than community or individual directed access and constitutes a health public-contract model and structural SDH issue.

The price of pharmaceuticals may present another cost issue for health care access. This too is a facet of the overarching socio-political constructs of health care organisation rather than an individually created health issue. The implementation of price cap on all PBS covered medicines for children may address this aspect of health access.

Nurse Practitioners (NP) and Extended Care Paramedics (ECP)

Other health professionals may provide access to a variety of services in order to provide prompt health access for children, but would need to remain salaried, rather than private practitioners. For example, specialist Child Health Nurse Practitioners could be given responsibility to prescribe medications, initiate diagnostic tests, refer to specialists, and order x-rays (Pollard 2005) providing a lower cost alternative for some health services. The AMA refers to the use of Nurse Practitioners as a 'dumbing down of health care' (AMA 2007). The AMA maintains that nursing practice needs to be under the guidance of doctors doing tasks determined and delegated by doctors.

Nurse Practitioners now number 65,000 in the USA (Pollard 2005) and they have practised in Canada, New Zealand, US and UK for almost two decades (Toffoli & Henderson 2009; Usher 2009). This restriction of nurses and midwives autonomous practice in Australia decreases competition for health services and ensures the powerful influence of doctors in determining the extent of nurses' work. This may be addressed through the use of NP and ECP. The GP Plus and GP Super Clinics provide an ideally situated base for a multidisciplinary team to provide non-planned or urgent care.

Conclusion

In conclusion, in future, the aspects of the health care system that are socio-political in nature are categorised as a structural SDH. Universal health care and the level of coverage underlie the structural SDH. The structural and socio-political support, or lack thereof, has modified access to primary care and primary health care through a process termed 'incremental structural inertia'. Incremental structural inertia may be addressed through direct policies tackling health access.

Further, the ability to access health impacts on longer term health outcomes. The timely and appropriate nature of health access impacts directly on the individual therefore health access is an intermediary SDH. By addressing the structural SDH there is a flow on effect to the intermediary SDH. Changes to primary health care provision may improve health care access. This requires both community based intermediary interventions and structurally based socio-political interventions to address the dearth of health services in particular postcode areas. Further, the cost of not addressing health access increases welfare payments, increases lost taxes by diminished employment participation, and increases health care costs (Hall & Van Gool 2000; UKSETF 2007; CSDH 2008).

Changes to structural SDH are influenced by socio-political ideologies. These socio-political constructs are determined by powerful groups in society. Thus, alterations addressing structural SDH, such as nationwide service provision of GP Plus and GP Super Clinics, are effected by powerful interest groups. A range of interventions are needed to address the use of ED for paediatric primary health care.

Recommendations

The recommendations to enhance health service provision and access are provided within a structural and intermediary SDH framework.

Intermediary SDH

To address the intermediary SDH and enhance health access the health services need to provide:

- An extension of the current parenting support program in the GP Plus Clinics e.g. parenting and child relationship building, parenting skills, child development and health knowledge.
- A variety of professionals with child specific skills, such as Nurse Practitioners (NP), Extended Care Paramedics (ECP) and child health nurses.
- An increased level of information to the parents in lowest/low SEIFA IRSD areas regarding the services available through NP, ECP and GP Plus and GP Super Clinics. This information needs to outline the services that are available

during weekdays and after hours, the capacity of these services to cover particular population groups such as children.

- Diverse service provision such as NP, ECP and GPs in mobile services to address the distance and lack of transport experienced by families living with deprivation, or by families with particular cultural norms preventing women driving cars.

Structural SDH

Promoting children as a special and distinct population group within the health care system through:

- Child specific Medicare Benefit Scheme remuneration available to GPs, NPs and ECPs.
- The compulsory bulk billing for all children receiving primary care and primary health care regardless of the time or type of the visit.
- A public awareness campaign outlining the introduction of GP Plus, GP Super Clinics, NP and ECP Clinics and locations. The availability of mobile NP and ECPs services.
- The implementation of price cap on all PBS covered medicines for children may address the cost of attending a GP as currently costs for pharmaceuticals is added to the cost of attending a GP but not incurred in after hours use of ED.
- An independent data collection system recording data on the availability of services. As service providers collect data on service use but data on in-availability of services to meet patient need is not collected. This would provide data that would assist in determining service need rather than service use.

Future research

Future research is needed to determine if the changes to services provision such as GP Plus and GP Super Clinics are effective in reducing ED use for primary care. In addition, to exploring the long term impact of the introduction of intermediary SDH measures future research into these clinics and their impact on child health by reducing some of the attendances at these clinics and ED for non-urgent conditions needs to be explored. Further, research is also required to understand if alternative health practitioners may be used to provide some aspects of non-urgent primary care. Finally, research is needed to determine service requirements from consumer's perspectives rather than health provider determined service provision.

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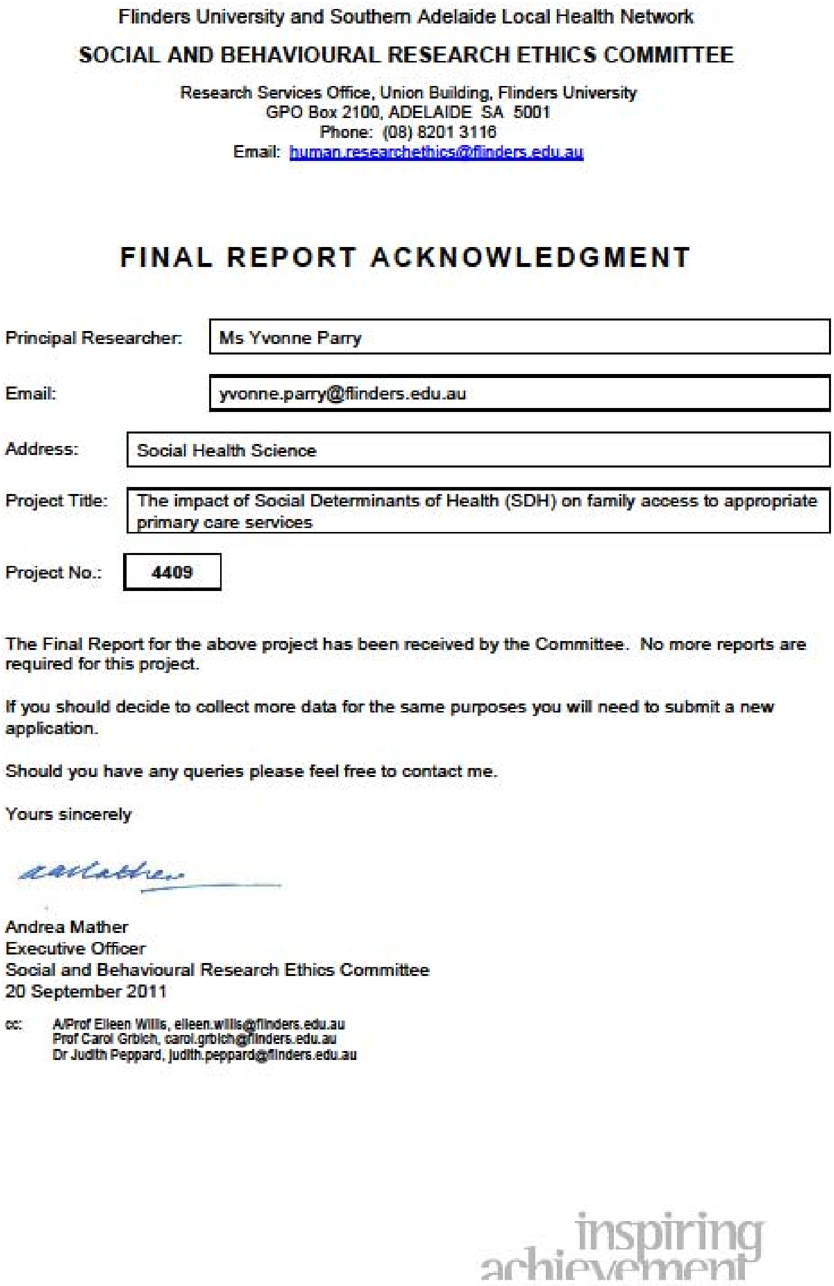
APPENDICES

Appendix A



Flinders University and Southern Adelaide Local Health Network

SOCIAL AND BEHAVIOURAL RESEARCH ETHICS COMMITTEE

Research Services Office, Union Building, Flinders University
GPO Box 2100, ADELAIDE SA 5001
Phone: (08) 8201 3116
Email: human.researchethics@flinders.edu.au

FINAL REPORT ACKNOWLEDGMENT

Principal Researcher:	Ms Yvonne Parry
Email:	yvonne.parry@flinders.edu.au
Address:	Social Health Science
Project Title:	The impact of Social Determinants of Health (SDH) on family access to appropriate primary care services
Project No.:	4409

The Final Report for the above project has been received by the Committee. No more reports are required for this project.

If you should decide to collect more data for the same purposes you will need to submit a new application.

Should you have any queries please feel free to contact me.

Yours sincerely

Andrea Mather
Executive Officer
Social and Behavioural Research Ethics Committee
20 September 2011

cc: A/Prof Eileen Willis, eileen.willis@flinders.edu.au
Prof Carol Grbich, carol.grbich@flinders.edu.au
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inspiring achievement

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Project title: The impact of the Social Determinants of Health (SDH) on family access to appropriate primary care services.

Monday, 19 March 2012

Influences on families seeking health care

Staff Participant Information Sheet

Dear Staff member,

We would like to invite you as a provider of services in the emergency department to comment on the use of these services by Priority 5 clients. This research project seeks to identify aspects of the parents' lives that may result in Priority 5 use e.g. low income of parents, lack of transport during office hours to visit GP. Any answers to any questions asked with remain confidential and all answers provided will maintain the anonymity of the staff member. If you are concerned that particular questions may lead to your anonymity being compromised please inform the researcher and the answers to that question will be removed.

This is a research project and you do not have to be involved.

Flinders University and the Flinders Prevention, Promotion and Primary Health Care: Social Health Sciences Unit is committed to ensuring that any research undertaken is beneficial and achieves its stated outcomes. This research project forms part of a PhD (Research) being conducted by Yvonne Parry. The study seeks to explore factors the influence Priority 5 presentations at accident and emergency departments. This research will provide data for policy change through identifying the social determinants of health that influence parents or carers decisions to take their child to ED for care, rather than more locally based primary care services such as their GP. Reducing waiting times in ED is about improved management of patient load, but it is also about inappropriate presentations. The research will run for two years.

If you choose to participate, you will be interviewed by the researcher Ms Yvonne Parry. Your responses will remain confidential. You will be asked some questions about your experience of the Priority 5 presentations and its relevance to your work. The interview will be recorded and will occur either before or after a shift or as arranged with the researcher at a time and place that is convenient. The questions asked will take no longer than 30 minutes of your time.

Your comments are valued by the staff at Flinders Prevention, Promotion and Primary Health Care: Social Health Sciences Unit and we know that your time is valuable. There are no direct benefits to you associated with this study, however your comments will help to offer the better services to clients in the future.

Your participation in the study is entirely voluntary and you have the right to withdraw at any time.

All information you provide in the semi-structured interview will be confidential, only Yvonne will know that you have participated. All records containing personal information will remain confidential and no information that could lead to your identification will be released.

If you require further details about the project, either before, during or after the study, please contact Yvonne Parry on 0438 746 276 to discuss this study.

This study has been reviewed by the Flinders Social and Behavioural Research Ethics Committee. Should you wish to discuss the project with someone not directly involved, in particular in relation to matters concerning policies, your rights as a participant, or should you wish to make a confidential compliant, you may contact the Executive Officer, Research Ethics Committee, Ms Anthea Jacob, on 8201 5962.

This study has also been approved by the Women's & Children's Health Network Research Ethics Committee. If you wish to discuss the project with someone not directly involved, in particular in relation to matters concerning policies, your rights as a participant, or should you wish to make a confidential compliant, you may contact the Research Secretariat, Human Research Ethics Committee, Ms Brenda Penny, on 8161 6521.

Thank you for your participation in this research

Ms Yvonne Parry

RN, BA (Psychology & Public Policy), MHSM

MRCNA

Higher Degree Student

Social Health Sciences Unit

Flinders Prevention, Promotion and Primary Health Care

Faculty of Health Sciences

School of Medicine

Flinders University

Associate Professor Eileen Willis

Course Coordinator: Bachelor of Health Sciences

Social Health Sciences Unit:

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Project title: The impact of the Social Determinants of Health (SDH) on family access to appropriate primary care services.

Monday, 19 March 2012

Influences on families seeking health care

STAFF SEMI-STRUCTURED INTERVIEW SCHEDULE

All answers are strictly confidential.

This interview schedule will be used to determine factors that influence families who use accident and emergency services for priority 5 conditions in preference to local primary care service.

If you have any concerns regarding a question or the questionnaire or this research in general please do not hesitate to contact the researcher Ms Yvonne Parry on: 0438 746 276 during business hours.

Thank you for your participation as your assistance in this is invaluable.

ED Staff Questions

1. **What age group are you?** (please circle)

17-20 21-29 30-39 40-49 50-59 60-69

2. **Do you consider yourself to be an Aboriginal or Torrens Strait Islander?**

Yes ☐ or **No** ☐

3. **Is English your first language?**

Yes ☐ or **No** ☐

If No, please name the languages spoken?

4. **Do you provide ED services in a language other than English?**

Yes ☐ or **No** ☐

If Yes, please name the languages?

5. **What position do you have in your organisation?**

eg. RN, CN

EN ☐ **RN** ☐ **CN**☐ **Manager Facilitators** ☐ **Divisional Chief** ☐

or other please state

6. **How long have you worked in ED?**

Please comment

7. **Please describe to me in details the factors you believe are responsible for clients using ED services. I will listen until you have finished I may take a few notes in case I need to clarify some points after you have finished.**

8. **Do you believe the availability of transport impacts on ED presentations?**

YES ☐ or **NO** ☐

If yes then how would you rate its impact

☐	☐	☐	☐	☐
Very high	High	Average	Low	Very low

9. **Do you believe social support impacts on ED presentations?**

YES ☐ or **NO** ☐

If yes then how would you rate its impact

☐	☐	☐	☐	☐
Very high	High	Average	Low	Very low

Please comment

10. Do you believe income impacts on ED presentations?

YES ☐ or **NO** ☐

If yes then how would you rate its impact

☐	☐	☐	☐	☐
Very high	High	Average	Low	Very low

11. Do you believe GP service availability has an impact on ED presentations?

YES ☐ or **NO** ☐

If yes then how would you rate its impact

☐	☐	☐	☐	☐
Very high	High	Average	Low	Very low

12. Is there are any other information you would like to provide regarding health access for priority 5 presentations

Please comment

13. **Please list any suggestions of things that could be done differently to facilitate clients access to health services generally:**

14. **Please Comment on any other aspects which you believe will improve the care of priority 5 presentations in the future?**

Thank you, for your time and assistance in this research

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Project title: The impact of the Social Determinants of Health (SDH) on family access to appropriate primary care services.

Monday, 19 March 2012

Influences on families seeking health care

STAFF CONSENT

This consent form will be kept separately to avoid identification and maintain confidentiality.

I ……………………………………………………………………………………………….

Being over the age of 18 years hereby consent to participate as requested in the interview for the research project on Family access to health care.

---

1. I have read the information provided
2. Details of procedures and risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
   - I may not directly benefit from taking part in this research.
   - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
   - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
   - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
   - I may ask that the recorder be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree to the tape/transcript being made available to other researcher who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. * delete as appropriate

7. I have had the opportunity to discuss taking part in this research with a family member or friend.

Participant's signature………………………………………….Date………………….

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name……………………………………………………………….

Researcher's signature………………………………………… Date……………………

8. I, the participant whose signature appears below, have read a transcript of my participation and agree to its used by the researcher as explained.

Participant's signature……………………………………………Date……..………..

9. I, the participant whose signature appears below, have read the researcher's report and agree to the publication of my information as reported

Participant's signature……………………………………………..Date…………………..

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Project title: The impact of the Social Determinants of Health (SDH) on family access to appropriate primary care services.

Monday, 19 March 2012

Influences on families seeking health care

FAMILY INTERVIEW SCHEDULE

All answers are strictly confidential.

This questionnaire will determine factors influencing the use of accident and emergency services in preference to other service for clients with a priority 5 urgency rating.

If you have any concerns regarding a question or the questionnaire or this research in general please do not hesitate to contact the researcher Ms Yvonne Parry on:

0438 746 276 during business hours.

Thank you for your participation as your assistance in this is invaluable.

Opened ended questions:

- I am interested in how you access health care as a family could you please describe for me the last health access for each person in your family. I will listen first without interruption and I will take a few notes in case I want to ask questions to clarify a few points.

Areas for clarification if participant does not explore them in the narrative interview:

- Health card status

(If yes to question 2 then not questions 3)

- Occupational status and annual income
- Mode of transport used to attend accident and emergency?
- Other forms of transport available to the family
- Forms of social support, neighbours, grandparents, friends, community child care
- Other sorts of health services available to the family

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Monday, 19 March 2012

Influences on families seeking health care

PARTICIPANT CONSENT

This consent form will be kept separately to avoid identification and maintain confidentiality.

I ……………………………………………………………………………………………….

Being over the age of 18 years hereby consent to participate as requested in the interview for the research project on Family access to health care.

---

1. I have read the information provided
2. Details of procedures and risks have been explained to my satisfaction.
3. I agree to audio recording of my information and participation.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
    - I may not directly benefit from taking part in this research.
    - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
    - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
    - Whether I participate or not, or withdraw after participating, will have no effect on any treatment or service that is being provided to me.
    - I may ask that the recorder be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/do not agree to the tape/transcript being made available to other researcher who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed. * delete as appropriate

7. The privacy and confidentiality of any information I provide will be safeguarded as explained in the Participant Information Sheet.
8. I have had the opportunity to discuss taking part in this research with a family member or friend.

Participant's signature………………………………………….Date………………….

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name……………………………………………………………….

Researcher's signature………………………………………… Date……………………

9. I, the participant whose signature appears below, have read a transcript of my participation and agree to its used by the researcher as explained.

Participant's signature……………………………………………Date……………..

10. I, the participant whose signature appears below, have read the researcher's report and agree to the publication of my information as reported

Participants signature…………………………………………….Date…………………..

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Monday, 19 March 2012

Project title: The impact of the Social Determinants of Health (SDH) on family access to appropriate primary care services.

Influences on families seeking health care

PARTICIPANT LETTER OF INTRODUCTION

Dear Family,

As you have recently accessed the Women's and Children's Emergency Department I would like to invite you to be involved in evaluating the use of these services by Priority 5 clients. Priority 5 cases are of a non-emergency nature as assessed by a trained triage staff member.

This is a research project and you do not have to be involved. A separate consent form will be provided if you agree to participate.

Participation in this research project rests solely on you contacting the researcher as no contact details or personal details of any kind have been provide by the WCHN.

Flinders University and the Flinders Prevention, Promotion and Primary Health Care: Social Health Sciences Unit is committed to ensuring that any research undertaken is beneficial and achieves its stated outcomes. This research project forms part of a PhD project (Research) and seeks to explore factors the influence parents to take their child to an ED rather than a local GP. These are called Priority 5 presentations. This research will inform policy by identifying any changes that may be required to meet the requirements of clients. The research will continue for two years.

If you choose to participate, you will be interviewed by the researcher Ms Yvonne Parry. Your responses will remain confidential and anonymous. You will be asked some questions about the conditions that led you to take your child to the ED. The interview will take approximately one hour of your time.

Your comments are valued by the staff at Flinders Prevention, Promotion and Primary Health Care: Social Health Sciences Unit and we know that your time is valuable. There are no direct benefits to you associated with this study however; you will be reimbursed for any costs incurred by attending the interview, such as child care. Further your comments will help to offer the better services to other clients in the future.

Your participation in the study is entirely voluntary and you have the right to withdraw at any time. Participation in this research will not influence your treatment or care in any WCHN department.

All information you provide in the interview will be confidential, only Yvonne will know that you have participated. All records containing personal information will remain confidential and no information that could lead to your identification will be released. Your information will remain confidential except in the case of a legal requirement to pass on information to authorised third parties. This requirement is standard and applies to all information collected both in research and non-research situations. Such requests to access information are rare; however we have an obligation to inform you of this possibility.

The outcomes of this research will be published in a final thesis submission. Other publications may be written for professional journals or presentations at conferences. All publications will contain only de-identified data and statistics.

If you require further details about the project, either before, during or after the study, please contact Yvonne Parry on 0438 746 276 to discuss this study.

This study has been reviewed by the Flinders Social and Behavioural Research Ethics Committee. Should you wish to discuss the project with someone not directly involved, in particular in relation to matters concerning policies, your rights as a participant, or should you wish to make a confidential compliant, you may contact the Executive Officer, Research Ethics Committee, via Ms Anthea Jacobs, on 8201 5962.

This study has also been approved by the Women's & Children's Health Network Research Ethics Committee. If you wish to discuss the project with someone not directly involved, in particular in relation to matters concerning policies, your rights as a participant, or should you wish to make a confidential compliant, you may contact the Research Secretariat, Human Research Ethics Committee, Ms Brenda Penny, on 8161 6521.

To participate please ring the researcher Yvonne Parry on 0438746276 during business hours.

Thank you for your participation in this research

Ms Yvonne Parry
RN, BA (Psychology & Public Policy), MHSM MRCNA
Higher Degree Student
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Faculty of Health Sciences
School of Medicine Flinders University

Associate Professor Eileen Willis
Course Coordinator: Bachelor of Health Sciences
Social Health Sciences Unit:
Flinders Prevention, Promotion and Primary Health Care
Faculty of Health Sciences
School of Medicine
Flinders University

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Information Sheet for Families

Project title: The impact of the Social Determinants of Health (SDH) on family access to appropriate primary care services

Influences on families seeking health care

Investigator:

Ms Yvonne Parry
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Dr Judith Peppard
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What this project is about?
The focus of this research project is to determine what social factors influence families to seek primary care for their children at an Emergency Department, rather than primary care services closer to their home such as GP services. The aim is to determine policy that will lead to less useage of hospital servces and an increased use of primary care servcies.

How will I be involved?
If you agree to participate you will be interviewed by the researcher Yvonne Parry. This interview will take place in a venue and time to suit you. You will be asked about the circumstances that led you to use Emergency at the Women's and Children's Hospital. The interview will take approximately one hour and will ask questions about resources, local support and other services available to you and your family.

It is anticipated that for the interview we will meet in a quiet, private area in a mutually convenient location. It will also occur at a mutually convenient time. Permission will be sought to tape interviews. Participation is voluntary and you are free to withdraw at anytime without prejudice to yourself or any family member. In the event that participation causes you any personal distress you may withdraw and you will be offered the opportunity to debrief with a free family counselling service. The business cards for the counselling service will be provided at the interview and any subsequent meetings.

There will be no direct financial benefit to participants however, participants will be reimbursed for costs incurred by attending the interview e.g. child care. All payments require the participants to sign a receipt of funds reimbursed to the approximately value of $40.

How will confidentiality be maintained?
All information will remain strictly confidential. Your name or any identifying material will be removed from the interview tape by Yvonne Parry. Any data released in publications will be de-identified and remain private. Your information will remain confidential except in the case of a legal requirement to pass on information to authorised third parties. This requirement is standard and applies to all information collected both in research and non-research situations. Such requests to access information are rare; however we have an obligation to inform you of this possibility.

To participate or find out more information:
Please contact the researcher Yvonne Parry on 0438 746 276 during business hours.

Flinders University Social and Behavioural Research Ethics Committee has approved the research. If you have any concerns regarding ethical issues please contact the Secretary Anthea Jacobs Phone: (08) 8201 5962 Fax: (08) 8201 2035 Email: anthea.jacobs@flinders.edu.au .

Influences on families seeking health care

This study has also been approved by the Women’s & Children’s Health Network Research Ethics Committee. If you wish to discuss the project with someone not directly involved, in particular in relation to matters concerning policies, your rights as a participant, or should you wish to make a confidential compliant, you may contact the Research Secretariat, Human Research Ethics Committee, Ms Brenda Penny, on 8161 6521.

Thank you for your time and assistance with this important research

Appendix C

Table 1. Adjusted and unadjusted binary Logistic regression model (odds ratio (95% CI)) on triage priority 4 and 5 and relevant factors associated with triage priority with 4 and 5.

Factor	**Unadjusted**			**Adjusted**§		
	OR	**95% CI**	**P-value**	**OR**	**95% CI**	**P-value**
Deprivation SEIFA IRSD score						
Lowest	1.00	-	-	1.00	-	-
Low	0.98	0.91 – 1.05	P = 0.53	0.92	0.84 – 1.00	P = 0.05
Middle	1.02	0.95 – 1.10	P = 0.57	0.92	0.84 – 1.00	P = 0.05
High	1.02	0.95 – 1.10	P = 0.57	0.89	0.81 – 0.97	P = 0.01
Highest	0.93	0.86 – 1.01	P = 0.10	0.83	0.76 – 0.92	P < 0.001
Referral letter provided to triage						
No referral letter from GP	1.00	-		1.00	-	
Referral letter from GP	0.51	0.48 – 0.55	P < 0.001	0.72	0.67 – 0.77	P < 0.001
Transport used to ED						
Emergency transport to ED	1.00	-		1.00	-	
Personal transport to ED	7.62	6.89 – 8.43	P < 0.001	5.13	4.61 – 5.72	P < 0.001
Discharge from ED						
Admitted to hospital	1.00	-		1.00	-	
Discharge from ED without treatment	7.38	6.92 – 7.88	P < 0.001	6.06	5.67 – 6.48	P < 0.001
Number of people per GP in a postcode area	1.00	0.99 – 1.01	P = 0.17	1.00	1.00 – 1.00	P < 0.01
Distance to ED below 55 kilometres (km)	0.99	0.98 – 0.99	P < 0.001	1.00	0.99 – 1.00	P = 0.59

OR, Odds ratio; CI, Confidence interval

§ Each risk factor was adjusted for with all of the other risk factors listed in the table;

Appendix D

Stein formula

Adjusted R^2 = 1-[(n-1/n-k-1)(n-2/n-k-2)(n+1/n)] (1- R^2)

= 1-[(163-1/163-6-1)(163-2/163-6-2)(163+1/163)] (1-.74)

= 1-[(162/156)(161/155)(164/163)] (.26)

=1-[(1.038)(1.038)(1.006)] (.26)

= 1- [1.083] (.26)

= 1- .281

= 0.71