A Comparative study of the
Constant Observation Model of Care

by
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Submitted in fulfillment of the requirements for the degree of
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Abstract

Patients exhibiting ‘at risk’ behaviours are encountered frequently within the general acute hospital setting, a reflection of population demographic and illness data, which highlights a growing older patient profile and increasing mental health illness. Managing patients that present a risk to themselves or others is challenging within the confines of the general hospital setting, particularly in conjunction with their own physical illness or fragility. For this study ‘at risk’ behaviours included aggression, violence, suicidal intent, absconding, falls and wandering associated with disorientation.

Constant Observation (CO) is a model of care that has evolved from psychiatric practice and is now a common management strategy for managing ‘at risk’ patients, with the aim of mitigating risk to patient and staff. It is highly labour intensive and therefore places considerable burden on the health budget. Despite the acceptance and continued reliance upon the CO model within the general acute setting, there is limited evaluation of the effectiveness of the model in terms of providing enhanced patient and staff safety.

To contribute to the body of knowledge in this area, two research areas were identified. The first was to undertake a comparative analysis of two CO models of care; the traditional ‘sitter’ model and a specialist nursing team model. Evaluation of the models encompassed analyses of the patient profile, adverse events and economic indicators. The second research area explored the experience of the specialist nurse and therapeutic engagement when providing care within the CO model.

In this multicentre study, 394 patients were managed under CO between July 2009 and June 2010. Hospital A managed 201 patients within the traditional ‘sitter’
model and was therefore deemed the control site. Hospital B managed 193 patients within the specialist nursing CO model, referred to as the Nursing Resource Team (NRT), and was therefore the intervention site. Demographic patient profile data across the two hospital sites were not statistically different.

Over half of the patients (52.8%, n= 208) suffered from organic brain dysfunction, evident through dementia and/or delirium. The mean age was 79.5 years (SD=9.5) and 55.2% were male. The behaviours most frequently identified as posing a risk were aggression and violence (26%, n= 104), followed by falls (18.3%, n= 72), wandering (18%, n=71) and suicide ideation (17%, n=67).

Despite a similar rate of adverse incidents during hospitalisation\(^1\) across the two hospitals, the incidence of adverse events during the CO episode of care was significantly different, with the intervention model superior in reducing the number of adverse events ($\chi^2 = 14.7$, p < 0.001). Patients managed under the control model had a slightly higher (3%) incidence of adverse event during CO care, compared to the hospitalisation period.

Patient length of stay was not significantly different between the two models, however economic variables highlighted the intervention model was more efficient and therefore potentially more economically sustainable. Episodes of CO were fewer within the intervention site (899 compared to 1230) and mean duration of CO was 33.6 hours, representing 29.95 hours shorter than the average duration of the control model. The permanent nursing workforce employed within the intervention model also contributed to a significant saving for the hospital site.

A number of themes emerged from the qualitative analysis, which identified a clinical practice that was therapeutic in nature; desire to undertake the work, genuine

\(^1\) Hospitalisation refers to the period excluding CO episode
interest and respect for the patient, collaboration across the multidisciplinary team, patience, flexibility, and specific knowledge and skills. Factors influencing NRT nurses’ satisfaction in the role were found to be extrinsic to the patient and predominantly reflected broader nursing culture.

This study significantly contributes to our understanding of the constant observation model of care and identified a model that could potentially enhance patient and staff safety whilst also delivering efficiency and economic benefits. These findings should be considered in management strategies for maintaining staff safety and the safety of patients exhibiting ‘at risk’ behaviours.
Chapter 1: Introduction

Caring for people with challenging ‘at-risk’ behaviours, within the context of contemporary health care, is a complex issue. ‘At risk’ behaviour has been defined as aggression, violence, suicidal intent or at risk of absconding (Bernstein & Saladino, 2007; Whitehead & Mason, 2006). For this study the definition was expanded to included falls and wandering associated with disorientation.

In common with many developed economies, the population of Australia is ageing; interim predictions within the state of Victoria project a 19% growth in the total population by the year 2021, with those aged 85 years and over growing by 74%. This represents one in seven people being over the age of 70 years by 2021 (Australian Institute of Health & Welfare, 2008). Older patients occupy a disproportionate number of public hospital bed days and are more likely to have co-morbidities and chronic conditions resulting in complex care requirements. In some cases, patients suffering with delirium and dementia, the most common cause of organic cognitive dysfunction in the older patient (Mergui et al., 2008), require the need for additional vigilance because of behaviour that places them, or others, at risk of injury.

In Australia, many psychiatric services closed following the 1992 reform of National Mental Health Policy, resulting in a reduced reliance on institutional models of care (Kalucy, Thomas, & King, 2005; Sharrock & Happell, 2002). Mental health services were integrated into the general health system with the co-location of psychiatric services. In Victoria mental health presentations to general acute hospitals have increased by 37% since 2001 (Department of Human Services (DHS Vic), 2008). The same trend is recognised internationally with an increase in patient presentations and mental health co-morbidity within general hospitals (MacKay, Peterson, & Cassells, 2005). The prevalence of psychiatric co-morbidity in
Australian general public hospitals is estimated to be between 35% and 65% of all patients (Holmes et al., 2001).

Balancing risk management for patient and staff in the midst of increasing community mental illness and an ageing population is a significant public health issue. Historical evidence indicates that the psychiatric vigilance model of care, Constant Observation (colloquially referred to as specialising), has been transposed to the general acute setting and is now mainstream practice for the management of ‘at-risk’ patient behaviour (Shugar & Rehaluk, 1990; Wilkes, Jackson, Mohan, & Wallis, 2008). Constant Observation (CO) refers to the allocation of a nurse, or carer, to watch over nominated patient(s) to ensure their safety and well-being (Blumenfield, Miliazzo, & Orlowski, 2000). Constant observation is predominately instigated when behaviours and/or communication difficulties place the patient, or others, at risk.

There has been a growing reliance on CO within Victorian general acute public health facilities, and more broadly across Australia and internationally (DHS (Vic), 2008, Goldberg, 1987; Lipkis-Orlando, Mian, Levy, & Lussier-Cushing, 1993; Moore, Berman, Knight, & Devine, 1995; Lamdan, Ramchandani, & Schindler, 1995; Worley, Kunkel, Gitlin, Menefee, & Conway, 2000; Spetz, Jacobs, & Hatler, 2007; Wilkes et al., 2010; Harding, 2010; Jaworowski et al., 2008; Wakefield & Jorm, 2009; Knock, Wu, & Chang, 2011). Despite CO being recognised as mainstream practice for patient management guidelines, evidence of the effectiveness of the model, in delivering the intended outcome of enhanced safety, is limited. A number of gaps have been identified in the current understanding of CO:

i) Profile of patients managed under CO within the Australian general acute hospital setting. Few studies reported on patient categories (Holmes et al., 2011; Wilkes et al., 2008; Sharrock & Happell, 2002), and no study
quantified the patient profile or the 'at risk' behaviour, which resulted in the instigation of CO.

ii) Evaluation of enhanced patient safety. The literature identifies this gap in current research within the general acute setting (Wilkes et al., 2008; Dick, La Grow, & Boddy, 2009; Bowers & Park, 2001; Bowers et al., 2008). A limited number of studies have sought to answer the effectiveness of CO in relation to cost or reduced patient falls, however all studies have examined a 'sitter' model which engaged an 'unskilled' workforce (Turjanica, Ardabell, Mancini, & Attari, 1998; Boswell & Park, 2001; Spetz et al., 2007; Dick et al 2009; Wilkes et al., 2010). Is patient safety maintained under a specialist nursing CO management strategy?

iii) Economic impact of CO. As a patient management strategy, CO can have significant economic implications, as it is highly labour intensive. The human resource required to deliver CO is generally in addition to established staffing levels and budget allocation. No Australian studies have sought to establish the cost impact or possible benchmarks for practice.

iv) The lived experience of the specialist nurse providing CO care. To date, Wilkes et al. (2008) have provided the only Australian qualitative study exploring the perceptions of 'carers' delivering CO care. The literature does not settle on a profile of 'carer' for provision of CO within the general setting, but some studies provide recommendation regarding use of experienced nurses (Fletcher, 1999; Hamel-Bissell, 1995; MacKay et al., 2005; Schofield, 2008).
Preliminary investigation

In June 2008 preliminary investigations were undertaken to examine best evidence-based practices for managing ‘at risk’ patients within the general acute setting. The project was undertaken within Eastern Health (EH), the second largest of Victoria’s 18 Public Health Services. EH supports the health care needs of the eastern metropolitan Melbourne population (> 800,000 people) and covers a geographical catchment of approximately 2,800 square kilometers. Services are delivered from a range of acute, sub-acute, residential and community based facilities, providing a combined total of 915 acute inpatient beds and 158 sub acute beds. In addition, extensive adult and adolescent Mental Health services operate within EH. Annually EH provides inpatient services to over 100,000 patients and ambulatory services to close to 600,000 patients/clients.

The older patient

The facilities of Eastern Health lie within one of the largest ageing population catchments of Victoria (DHS (Vic), 2009), which is reflected in the previous 5-year trend of in-patient age profile. For the year 2002-03 patients aged over 60 years equated to over 40% of all patient admissions. By the year 2008-09 patients aged over 60 years equated to almost 50% of all patient admissions; an increase of 6% in five years.

Inpatient growth in Eastern Health’s primary catchment will predominantly be in the 70-84 and 85+ age groups. In the 10 years from 2006/07 to 2016/17, this is expected to equate to a one-third increase in inpatient admissions, or an additional 31,461 admissions across all of Eastern Health. The majority of this additional activity will be in the over 70-age group (DHS (Vic), 2009; Health Round Table, 2009).
The psychiatric patient

Mental health facilities are co-located at two acute general hospital sites, drawing the acute psychiatric patient to the hospital emergency departments both voluntarily and through emergency crisis assessment teams (CAT) and ambulance services. The emergency department at Hospital A (control site) had an average of 252 mental health patients presenting each month in 2007-08, compared with 235 presentations per month in 2005-06. The emergency department at Hospital B (intervention site) averaged 140 mental health patient presentations each month in 2007-08, compared with 128 presentations per month in 2006-07.

Economic impact

In the financial year 2007-08, a conservative estimate of 2,500 24-hour patient episodes of CO were provided across EH sites, demonstrating the need for this additional level of care. The financial cost to the health service was a conservative estimate of $2.9 - $3.9 million, which appeared to have doubled from the previous financial year.

Historical evidence highlighted the implementation of various measures within EH, aimed at containing CO expenditure and improving patient outcomes. Yet, past initiatives had failed to make any real gains. Within this context and exacerbated by the additional pressures of nursing workforce shortages, growing patient clinical risk and mounting staff anxiety, the health service aimed to establish a sustainable strategy which optimised care, managed workforce resources and improved financial outcomes in this regard.

The Nursing Resource Team

The preliminary study comprised a literature review followed by semi-structured interviews with key stakeholders across the health service (n= 47) ranging from direct carers, nurse managers and executive managers. In addition, semi-structured interviews were conducted with health services across Victoria (n=12); 10 public agencies, a private health
service and a national nursing association, to gather information regarding their CO activities and experience. Secondly, an analysis of internal databases was also undertaken to obtain information on patient profiles, hours of CO, departmental use, workforce profile and expenditure.

A general theme to emerge was a reported frustration and dissatisfaction with the standard of care delivered by a largely ‘unskilled’ workforce. This compounded high levels of anxiety and fear when faced with an aggressive, or potentially aggressive patient, or a patient with suicidal ideation. This finding was reflected in the literature, which identified ‘unsympathetic’ or ‘inexperienced’ nurses who would reduce their contact with the patient for fear of precipitating a suicide attempt (Briggs, 1974; Diran, 1976; Fitzpatrick, 1983). The general nursing staff across EH attributed their fear to clinical skill limitations when dealing with mental health patients. Many studies supported the notion that nurses working in non-psychiatric settings of general hospitals do not believe that they are adequately prepared to meet the mental health needs of patients, (Bailey, Amato, & Mouhlas, 2009; Zolnierek, 2009; DHS (Vic), 2001; Talley, Davis, Goicchea, Brown, & Barber, 1990; Happell & Sharrock, 2002; Reed & Fitzgerald, 2005; Lowe, Wellman, & Taylor, 2003; Muirhead & Tilley, 1995; Sharrock, 2006; Wynaden, Orb, McGowan, & Downie, 2000).

In the absence of literature informing an evidence based best practice recommendation for CO, a new model of care was proposed. The current project proposed to address a key workforce recommendation; establishment of a nursing CO care team.

**Aim and Objectives**

The overall aim of this research was to extend existing knowledge related to the effectiveness of constant observation within the general acute hospital setting. The objectives of this study were:
1. To describe the prevalence and profile of patients with ‘at risk’ behaviour cared for under constant observation within the Australian general hospital setting.

2. To determine the incidence of patient adverse events when cared for under constant observation; comparing a traditional ‘sitter’ model (utilising casual or agency contracted staff) with a specialist nursing team model.

3. To determine the economic impact of constant observation; comparing a traditional ‘sitter’ model with a specialist nursing team model.

4. To explore the lived experience of the specialist general nurse providing constant observation, seeking evidence of a therapeutic engagement to enhance patient safety.

In summary, complex patients, by the nature of their medical or psychological presentation and associated ‘at risk’ behaviours, continue to place growing pressure on health services to deliver safe patient centered care. The continued reliance on CO, as a model of care for high risks patients, requires practice review and demands further innovation. Best practice models for the general acute sector need to be explored and underpins the significance of this study.

The significance of this study.

Further information related to the Australian patient profile and the experiences of nurses providing constant observation will broaden the understanding of constant observation within the general acute hospital setting. To date a limited number of studies have tested the effectiveness of CO in relation to enhancing patient safety. This study may lead to policy initiatives that direct health services in delivering appropriate care and models of practice for their individual setting.
CHAPTER 1: INTRODUCTION

Abbreviations

CO: Constant Observation
EH: Eastern Health
DHS: Department of Human Services
DoH: Department of Health
NRT: Nursing Resource Team

Thesis Structure

The remainder of this thesis comprises four chapters: Literature Review, Methods, Results and Discussion and Conclusions. Presented below is an overview of the chapters.

Chapter 2, which follows, commences with a background to the origins of CO. This leads on to an examination of the patient profile managed under CO and the impact of demographic and illness data on the increasing reliance on the model. The framework of CO is explored with examination of the key factors including decision making and role assignment. The review further examines evidence of model efficiency and therapeutic engagement. The chapter concludes with a summary of proposed alternative strategies to manage patients with ‘at-risk’ behaviour.

Chapter 3 provides a detailed description and rationale of the methods used in this study. The chapter begins with an overview of mixed method methodology. This is followed by the study objectives and research questions. The conceptual framework and study design are detailed. The chapter details the quantitative and qualitative data collection and concludes with ethical considerations and the researcher’s position in the study.

Chapter 4 presents the results of the study. In the first section the quantitative findings are reported by answering each of the study objectives. The second section presents the qualitative findings that address the fourth objective of the study.
Chapter 5 discusses the key findings for each objective, providing interpretation and integration of the mixed method findings and links to existing literature. The chapter concludes with discussion of the study’s limitations and recommendations for future practice and research.
Chapter 2: Literature Review

This chapter presents and critiques the existing literature pertaining to Constant Observation (CO), in the context of a model of care for patients with challenging ‘at risk’ behaviour. Through the literature review, gaps in knowledge have been identified highlighting the research opportunity, which has informed the development of this study. This chapter will focus on studies undertaken, and applicable to, the general acute hospital setting and where possible, within the Australian context. The chapter will cover patient profile, models of care and actual and perceived therapeutic benefits of CO.

The chapter is divided into three sections. Section 1 explores the origins and transition of the CO model from the acute psychiatric setting to the general acute care setting. Within this section patient profiles and predictors for management under a CO model are reviewed and highlight a gap in our current understanding of the patient profile requiring CO management. Section 2 examines the CO model, and in doing so reveals many practice variations. This section identifies limitations in evaluation of the CO model and seeks to uncover evidence of enhanced patient care and therapeutic benefit. Section 3 explores alternative management strategies for ‘at risk’ patient groups. This section is followed by a chapter summary, which concludes by presenting the theoretical framework used in this study.

The themes and conclusions drawn from the literature bring to light the avenues for further exploration and underpin the thesis: a comparative model analysis and evaluation of constant observation within the general acute setting.

The literature search was undertaken using MEDLINE, CINAHL, PUBMED, and PsycINFO databases. Evident in the literature was a lack of established terminology and a merging of themes, with the seclusion model of care, well know in the psychiatric setting,
interchanged with CO in some studies, (Stevens, 1971; Briggs, 1974). This necessitated a broad search utilising a number of key words and phrases: “constant observation”, “continuous observation”, “specialling”, “close observation”, “sitters”, “special observation”, “seclusion”, “management cognitive disorders”, “dementia management”, “delirium management”, “psychiatric patient in general setting”, “suicide intent”, “nurse patient ratios”, “aggressive patients”, “psychiatric consultation liaison”. Language was limited to English.

Due to the limited number of specific studies related to CO (n=34) and the desire to establish the origins of CO, there has been no exclusion of papers based on year of publication. Therefore 34 primary studies informed the literature review. In addition government department reports have been included where relevant information has been available.

The Origins of Constant Observation

The literature fails to settle upon one an agreed definition for CO, with variation arising from differences in models of care, terminology and the patient setting. Duffy (1995) concluded that the plethora of terms was indicative of the general confusion surrounding surveillance models of care, but provided a simple definition from the psychiatric perspective: monitoring patients at all times, and being sufficiently close to prevent them from self-harm and suicide. Rooney (2009) referenced the 1999 UK Standing Nursing and Midwifery Advisory Committee definition; the presence of a nurse within arm’s length of the patient at all times, designated to be the highest level of observation. Regardless of the patient setting and origin or cause of the ‘at risk’ behaviour, an inferred understanding of CO is that of a higher level of vigilance or surveillance which is required for patients who pose risk to themselves or others (Goldberg, 1987; Goldberg, 1989; Fiesta, 1991).

The literature reports Constant Observation originating in the 1970s, with the first studies arising from the United States of America (Stevens, 1971; Briggs, 1974; Phillips,
Peacock, & Hermanstyn, 1977). However, Shurgar and Rehaluk (1990) informed that CO had been practiced in the Canadian Clark Institute of Psychiatry since its opening in 1966. ‘At risk’ patient behaviours have historically been encountered more frequently within the psychiatric setting, compared with the general acute setting, with ‘at risk’ behaviour described as aggressive, violent and suicidal or at risk of absconding (Bernstein & Saladino, 2007; Whitehead & Mason, 2006).

As a model of care for managing patients with challenging ‘at risk’ behaviours, CO is a highly labour intensive undertaking and appears to have evolved from the more rigid management model: seclusion. The Victorian Mental Health Act 1986 defined seclusion as, ‘the sole confinement of a person at any hour of the day or night in a room of which doors and windows are locked from the outside’, and only to be used in public mental health services. By definition, seclusion is a very different model of care from CO, the later allowed greater patient freedom whilst maintaining direct supervision. Muir-Cochrane (1999) referred to seclusion as a ‘blunt exercise of corporal power’.

A possible early contributing factor to the rise in CO practice was the Hartford Courant Investigation in the United States (Weiss, 1998) into deaths in restraint and seclusion. This led in 1999 to the US Federal Health Care administrator setting standards for seclusion and restraint for all federally funded health services. These standards included a controversial ‘one-hour’ rule, which required the physician to conduct a face-to-face assessment of all those secluded or restrained within one hour of the intervention. This requirement placed a large burden on hospitals, particularly those with limited resources, (Weiss, 1998).

How and exactly when the CO model transposed into the general hospital setting is difficult to define. Yet, undeniably CO has gradually been incorporated into the culture and
mainstream practice of general nurses within the acute general setting, with the intent to manage the psychiatric patient or the patient with psychiatric co-morbidity (Dick et al., 2009; Lamdan, 1995; Harding, 2010; Wilkes et al., 2010). Shugar & Rehaluk (1990) conducted a retrospective study of CO within an acute psychiatric unit and remarked, “given its ubiquitous use, it is surprising that psychiatrists have not written more about continuous observation”. They speculated that possibly the limited availability of literature was because CO was viewed as a nursing procedure; a reasonable assumption as a psychiatrist may request a greater degree of patient vigilance but nursing staff would hold the responsibility for instigating and managing the patient care.

In Australia, many of the stand-alone psychiatric services closed following implementation of the National Mental Health Policy (1992), which set the direction for mental health reform, signalling a reduced reliance on institutional models of care, combined with an emphasis on mainstreaming (Kalucy et al., 2005; Sharrock & Happell, 2002; Hamilton & Manias, 2008). Mainstreaming refers to the integration and co-location of psychiatric services into the mainstream general health system. This has resulted in an increase in the range and volume of patients with mental health issues within general hospitals (MacKay et al. 2005; Hundertmark, 2002; Stuhlmiller et al., 2005; Department of Human Services, (Vic), 2006; Broadbent, Creaton, Moxham, & Dwyer, 2010).

Recognition of the changing patient profile saw the emergence of the psychiatric consultation nurse, those that provide specialist psychiatric resources to the general hospital. This role was identified in the literature more than thirty years ago (Fife & Lemler, 1983, Barbiasz, 1982). It is also evident that clients of psychiatric services have shown increased rates of physical disorders and injuries since mainstreaming, with these clients more likely to access mainstream health services for care (Kalucy et al., 2005). The estimated prevalence of
psychiatric co-morbidity in general hospitals is considered to be as high as 50% (Bressi, Marcus, & Solomon, 2006). Within the Australian context, a 2001 retrospective audit of psychiatric consultation services across a 12 month period at the Royal Melbourne Hospital, indicated approximately 25% of inpatient and 40% of emergency patients were engaged in psychiatric treatment (Holmes et al., 2001). Holmes et al quantified these figures, recognising a dependence on referral rates to psychiatric services and the limitation therefore in determining overall psychiatric prevalence in the patient population.

Goldberg (1987) provided one of the first reviews of CO within the general hospital context, undertaking a national survey, and reported that 92% of adult acute medical care wards in New England general hospitals utilised CO. In the US, constant observation was an established practice within the US general hospital setting by the year 2000, evidenced by a national survey of constant observation practices (Worley et al 2000). The study indicated that approximately 90% of hospitals reported using CO, representing 37 of 50 American states. Of those who reported that CO was not used, follow-up telephone interviews confirmed all facilities used some form of one-to-one observation to manage high-risk patients. No such studies have been undertaken in Australia, but interviews with Victorian metropolitan public health services (n=9) indicate CO is common practice and a growing concern (Riddell, 2010, EH internal report).

**Patient Profile**

Given that the CO model transitioned from the psychiatric setting, one must question whether it is reasonable to assume that the patient profile requiring CO care is psychiatric in nature. In a retrospective patient record review within the general acute setting, Goldberg (1989) examined the characteristics of patients placed under CO; the most common being patients admitted to medical or surgical units because of the consequences of suicide
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attempts. CO was instigated in the context of ‘suicide watch’, with the necessity of providing additional vigilance for potentially high-risk patients. The continuous availability of the nurse aimed to ensure ongoing patient risk assessment, pre-emptive management and escalation of containment measures. Of note in Goldberg’s study was the finding that most patients under CO had no psychiatric history. This was the only study of its time that informed on the patients for whom it was instigated and the reasons for it use.

Lipkis-Orlando (1993) and Talley (1990), further expanded the findings related to patient behavioural characteristics requiring CO, retrospectively examining patient behaviours which highlighted various patient profiles; substance abusing patients with behavioural management problems, psychotic patients, violent patients suffering personality disorders. These studies also identified, a smaller subset of confused or delirious patients being managed under CO, although the cause and profile of these patients was not reported. In 1996, Lamdan and colleagues investigated patients within a 350 bed urban teaching hospital and concurred with earlier findings of suicidality being the most common predictor of CO with nearly 50% of cases.

Blumenfield (2000) conducted a retrospective review within a 620-bed New York tertiary hospital facility. During this period, 119 patients were placed on CO. The study aimed to identify predictors and correlations in patient diagnostic categories. This study demonstrated that nearly half of patients exhibiting an organic cognition disorder were assigned constant observation. This was the first study demonstrating that the growing older patient profiles, which highlighted advanced age, were predisposed to a greater risk of developing delirium and dementia. The findings were in contrast to Goldberg’s 1989 study that reported patients with suicidal ideation to be the largest patient group. Torkelson and Dobal’s 1999 study also reported confused or delirious patients being a dominant category,
again highlighting the changing patient profile. Blumenfield’s study (2000) also recognised the second largest cohort were patients with no mental illness. The exact profile of these patients was not reported, although ‘no mental illness’ was specified, with explanation that these patients remained uncooperative and therefore diagnosis could not be made. The third largest diagnostic category was ‘mood disorders’ the researcher clarifying that this group included patients with suicide intent. Blumenfield’s analysis also examined demographic characteristics of patients receiving CO and discovered males (and patients with single marital status) were more likely to need CO. In conclusion the study reported that cognitive disorientation, psychiatric medication use and absence of alcohol were found to be significant predictors of the need for CO. A limitation of the study was the large patient group remained unidentified, in terms of a predictor profile.

Two recent reviews of CO within the general hospital setting were undertaken by Jaworowski (2008) and Mergui (2008), within the context of the psychiatric consultation liaison team of the Shaare Zedek Medical Centre, a 550 bed university affiliated hospital in Israel. Jaworowski’s study reported the most frequent diagnosis of patients receiving CO to be organic brain syndrome and mood disorder, “a significant number of CO patients do not attract a psychiatric diagnosis” (page 279). In addition the review identified substance abuse, personality disorder, male gender and single martial status to be highly prevalent within the CO population.

Mergui’s review (2008) compared demographic and diagnostic variables of two groups of patients referred for pyschiatric consultation: one group required CO and the other did not. Overall 714 in-patient referrals were examined, finding 150 patients at risk of harm to self or others and were thus managed under CO and 156 were randomised to the control group. The patients in this study that required CO shared a number of characteristics
including single marital status, younger in age and male gender. This study was the first of its kind to examine the relationship between CO and medical diagnosis. Patients placed under CO were more likely to suffer suicidal ideation, personality disorders and history of substance/ alcohol abuse. Comparing the physical diagnosis of both patient cohorts highlighted the control group to have a more complex medical profile, with the CO group predominantly having no medical problem. In contrast to mounting previous evidence, “confusion (principally geriatric delirium)… was a less frequent indication to use CO in less than 10% of cases” (page 683). This review, generated by a psychiatric consultative liaison (PCL) unit, was indicative of the psychiatric profile of the patient referral. What is unclear, and possibly explains the low incidence of older confused patients requiring CO, is whether all patients placed on CO were referred or seen by the PCL team. The author also explained that under Israeli law a psychiatrist could directly admit a patient at risk of harm to a mental health facility, instead the patient must firstly present to a general hospital emergency department. It is highly probable therefore that this local requirement translated to increased CO incidence within the general hospital and can also help to explain the high representation of psychiatric illness within the study findings.

Patient Predictors

The older patient

The Australian transition to an ageing population has increased significantly during the past several decades. This has resulted from three major factors; a decrease in fertility, a corresponding slower population growth in the younger age group, and a declining mortality, which has contributed to an increase in the older population (Australian Institute of Health & Wellbeing, 2008). Between 1956 and 2006 the number of people aged 0–14 years increased by 46%. In contrast, the number of people aged 65 years and over more than doubled over
this period, and the number of people aged 85 years and over increased more than sevenfold. In 1956, 8.4% of the population were aged 65 years and over and 0.4% were aged 85 years and over. In 2006, almost 2.7 million Australians (13.0% of the population) were aged 65 years and over and an additional 1.6% of Australia’s population (322,000 people) were aged 85 years and over (Australian Institute of Health & Wellbeing, 2008).

Victoria’s population reflects the national trend of an ageing population. The Department of Sustainability and Environment interim report (2003) predicted a 19% growth in the total Victorian population by the year 2021, with the proportion of people aged over 65 years of age set to increase by 3.3% over the next 10 years. Almost a quarter of a million people will fall into this age group by 2016, with 52,000 more people over 85 years. The rate of growth for the 70-84 years age group during this time period will be substantially higher and is expected to be in the order of 59%. Importantly, the 85 and over age group will experience an even larger percentage increase, growing by 74% by 2021 (DHS (Vic), 2003).

The older age group uses a disproportionate number of public hospital bed days. In 2006 Australians 65 years and over, represented 13% of the general population, which translated to 35% of all hospital admissions and 47% of all occupied beds, (Australian Government Department of Health and Ageing, 2007). Older people are more likely to have a number of co-morbidities and chronic conditions resulting in complex care requirements. More than 60% of people admitted to hospital over the age of 70 years have four or more diagnoses, as well as social and psychological care needs and issues. This explains the longer hospital stay, with the average length of stay for people over 65 years being 8.6 days and for people over 80 years being 12.9 days, by comparison the general population average a length of stay of 3.6 days (DHS (Vic), 2005; Australian Government Department of Health and Ageing, 2007).
In conjunction with physical illness and frailty an estimated 60% of older people admitted to general hospitals will have or will develop a mental health disorder during hospitalisation (National Health Service, 2005). Delirium and dementia are the most common causes of cognitive dysfunction. Both delirium and dementia may occur at any age but are much more common among older people, because of age related changes in the brain (Inouye, 2000). Older people require careful and comprehensive management. Health Services, particularly acute facilities, must recognise the importance of improving care for older patients as they often have associated self care deficits, compromised communication and multiple unique needs (Borbasi, Jones, & Emden, 2006; Moyle, Olorenshaw, Wallis, & Borbasi, 2006; Wilkes et al., 2010).

Delirium

Delirium is often referred to as acute confusion. Hospital estimates of delirium, in patients over 65 years, have been reported as high as 10 – 40% at admission, with another 25% to 60% developing delirium after hospitalisation (Rizzo et al., 2001; Insel & Badger, 2002). According to the United States Department of Health and Human Services (2000) the care of delirious patients accounts for more than 49% of all hospital days. This figure is considered an under estimation, given that delirium is frequently misdiagnosed in the acute setting and is usually precipitated by an underlying acute health condition (Fick, Angostini, & Inouye, 2002; Moyle et al., 2006; Steis & Fick, 2008). Trzepacz (1996) conducted a 3-year study of hospitalised older adults and discovered that nursing notes alone were found to contain sufficient information to diagnose delirium 85% of the time, yet it was seldom reflected in care management and medical coding; a clear indication of under diagnosis and recognition.

Delirium is defined as a mental disorder characterised by acute onset, altered level of consciousness, fluctuating course and disturbances in orientation, memory, thought,
perception and behaviour (Iseli, Brand, Telford, & LoGiudice, 2007). In contrast, dementia is a syndrome of progressive, usually gradual, cognitive decline. The American Psychiatric Association (2000) quantifies delirium as; “a syndrome, with multiple potential aetiology, rather than a specific diagnosis with a single cause”, with many predisposing and precipitating factors (Rockwood 1989; Foreman 1989; Inouye & Charpentier, 1996; Insel et al., 2002). Inouye and colleagues (1993, 1996, 1998, 2001, 2006, 2008) have added significant evidence to the enquiry and knowledge of older patients suffering delirium. An early study proposed a model to predict delirium based upon ‘vulnerability’ and precipitating factors (Inouye, Viscoli, Horwitz, Hurst, & Tinetti, 1993). Patients with a higher number of vulnerability factors were at significant risk of developing delirium; advanced age, vision impairment, immobility, history of falls, severe illness, pre-existing cognitive impairment, dehydration. In addition to the vulnerability predictors for delirium, significant precipitating factors included; infections (particularly urinary infection), malnutrition, respiratory insufficiency, polypharmacy (adding more than 3 medications to the person’s current medication regime), hypoalbuminaemia, electrolyte imbalance, trauma history, gastrointestinal disorders and cardiopulmonary disorders (Bair 2000; Insel et al., 2002; Inouye et al., 1993; Inouye, Bogardus, Baker, Leo-Summers, & Cooney, 2000).

When delirium occurs in an acute hospital admission its impact is far reaching, with the consequences of; a slower rate of recovery, diminished functional ability, prolonged time spent in hospital, increased likelihood of admission to a care home on discharge, increased likelihood of being re-admitted to hospital and mortality rates estimated as high as 65% (Rockwood, 1989; Fick et al., 2002; Inouye, Rushing, Foreman, Palmer, & Pmpei, 1998; Flaherty et al., 2003; Millisen, Steeman, & Foreman, 2004; Insel et al., 2002).

Cognitive impairment predisposes a patient to greater risk and is associated with an increased risk of multiple falls in the hospital setting. The annual incidence of falls in older
people with dementia is around 70-80%, which is approximately twice the incidence of falls compared to cognitively intact people (Tinetti, Speechley, & Ginter, 1988; National Ageing and Research Institute (NARI), 2004). A relationship between time of day and level of staffing is thought to exist, with the highest rate of falls occurring when staffing levels are high, but when there is the greatest level of concurrent work demand, (Kerzman, Chetrit, Brin, & Toren, 2004). Two Australian studies have examined the effectiveness of preventing falls in older patients using volunteer ‘sitters’. In a study within a South Australian hospital, volunteers worked 4-hour shifts between 9am and 4pm. No falls occurred during the hours that volunteers worked and the volunteers and families reported high levels of satisfaction. However, falls did occur outside the volunteer hours of work and nurses reported frustration with the volunteer role as they considered they required too much supervision and demanded a lot of their time, (Boswell, Ramsay, Smith, & Wagners, 2001). In the second study, within an acute aged care ward, volunteers worked two-hour shifts between 8am and 8pm on weekdays, within a four-bed surveillance room. The key role of the volunteer was to alert the nursing staff if the patient showed high-risk behaviour. After 20 months, no falls were recorded in the surveillance room and across the ward there was more than a 50% reduction. However, the nurses reported frustration with the limitations of the volunteer role that they were only available across ‘business hours’. Interestingly the volunteers reported frustration with the nurses, claiming they were too slow to respond to their alerts (Donoghue, Graham, Mitten-Lewis, Murphy, & Gibbs, 2005).

Many studies suggest that cognitive impairment, in the form of delirium, can be predicted, often prevented or the duration and severity reduced (Inouye et al., 2000, 2003; Webster, 2002; Milisen et al., 2004; Benedict et al., 2009; Poole & McMahon, 2005). It is important to identify people with cognitive impairment early in their care, preferably on admission, and to actively manage their condition. With evidence supporting clinical best
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practice delirium management guidelines the literature goes so far as to argue that delirium is a marker of poor hospital care for older people (Inouye 2001; Schofield 2008). It is likely that there will be at least one patient and possibly several patients with delirium in a general medical, surgical or orthopaedic ward at any one time, demanding specific planning and intervention to support and effectively manage their care (Inouye 2001; Borbasi et al., 2006; Wilkes et al., 2010).

The psychiatric patient

Within Victoria over one million people experience a type of mental illness each year (DHS (Vic), 2008). Approximately 3% suffer severe mental illness and 40% of this group receive service from the public health sector. Over 10% of the population suffered mild to moderate mental health illness, related mainly to depression and anxiety disorders. Mental Health presentations within Victoria have increased from 29,734 in 2001-02 to 46,474 in 2006 – 07 (DHS (Vic), 2008).

In addition drug and alcohol related illness continues to rise in the community and was the impetus for the establishment of the Ministerial Taskforce on Alcohol and Public Safety (Nov 2007). The rate of alcohol related harm in Victorian is increasing annually, with rising incidents of assault, car accidents, ambulance attendances and hospital presentations, (Matthews, Barratt, & Lloyd, 2011).

Within the Australian context the Australian Human Rights and Equal Opportunity Commission (1993) expressed concerns about reports of loss of dignity by consumers when secluded, constituting a “humiliating breach of their human rights”. Variations across Australia in the regulation of seclusion make problematic any effort to monitor and decrease its use on a large scale (Livingstone 2007). Therefore one cannot attribute changes to
seclusion policy and standards as a contributing factor to the rising utilisation of CO, particularly when Victorian legislation only deems this practice lawful within a public mental health service.

In summary, the most probable explanation for the increased utilisation of constant observation is population demographic and illness data. Increasing numbers of high-risk patients presenting to general hospital facilities include the older patient and patients with psychiatric illness or co-morbidity. That CO continues to be utilised in the general hospital setting, in fact growing in use, warrants examination and further supports this research study.

Australian studies, which inform on the patient profile requiring CO management are few. Holmes (2001) reported a high psychiatric patient profile of those referred to a psychiatric consultation team, the study fails to capture the patient profile across the whole in-patient setting. Wilkes (2010) conducted a retrospective audit of patients who were ‘specialled’ from a 420 bed general acute tertiary teaching hospital between July 2005 and June 2006. Again the study was limited as it sought to capture only the data on patients over 65 years and it is therefore unclear the proportion of patients represented in the total CO patient data. Clearly current Australian data is needed across a total patient profile, preferably a mulitple centre study, to gain a better understanding of the patients managed under CO within the Australian general acute hospital context. This data would inform on possible predictors for ‘high risk’ behaviour and therefore most appropriate care models. The gap of knowledge is one objective of this study.
The Constant Observation Model in Practice

Framework of the CO model

Studies assessing the CO model did not emerge until Shugar and Rehaluk (1990) conducted a retrospective review within the acute psychiatric setting. The study analysed patient records for frequency, timing, reasons for and duration of continuous observation. The authors were seeking answers to patient predictors for CO and the question of therapeutic benefit, in contrast to previous studies that had concluded that CO was a necessity with medico-legal obligation driving its instigation (Blythe & Pearlmutter 1983; Birnie & Matsuno 1988). Shugar and Rehaluk (1990) ignited the spark for clinicians to start to examine the CO model as the 1990s heralded more studies, primarily falling into three categories: i) the psychiatric consultative service and its integrated role in managing patients on CO (Talley et al., 1990; Mallory, Lyons, Scherubel, & Reichelt 1993; Lamdan, Ramchandani, & Schindler 1996), ii) analysis of CO therapeutic benefits for the patient with suicidal ideation (Pitula & Cardell, 1996; Cardell 1997; Cardell & Pitula 1999; Clark 1997; Fletcher 1999) and iii) analysis of CO in economic terms as a viable risk management strategy (Moore, Berman, Knight & Devine, 1995; O’Dowd 1995; Lamdan 1995; Turjanica, Ardebell, Mancini, & Attari, 1998).

The framework for the CO model of care could be perceived to be obvious: one observer to one patient at risk. Yet much variation exists and there are limited studies evaluating the model variations and evidence of effectiveness or therapeutic benefit. In the psychiatric setting, where the model originated, one could presume that CO policy and procedure would be clearly defined. Fiesta (1991) indicated a level of CO practice, whereby ‘S1’ status was defined as the most restrictive and ‘S2’ status less restrictive, and utilised for patients no longer thought to be at suicide risk. MacKay et al. (2005) reported on the CO
requirements within the acute psychiatric setting and referenced the UK NHS Trusts ‘Observation Policy’, which was prescriptive in respect to nursing staff proximity to the patient; “patients assessed to be at greatest risk should be allocated the highest level of observation with the nurse always in attendance and often within arm’s reach” (page 465). Kettles and Paterson, (2007) referenced the Scottish Clinical Resource and Audit Group document: Engaging People – observation of people with acute mental health problems. Within this document a ‘Good Practice’ statement outlined clearly the observation levels that should be used in acute psychiatric settings, stating that intermittent or time period checks were considered unsafe. By contrast, Bowers et al. (2008) referred to “special observation: the allocation of nurses to watch over nominated patients” (page 395). The author stated it could take two forms: “the constant presence of the observer with the patient or intermittent checks at short time intervals” (page 398).

How CO translated into the general hospital setting is questionable. The transposing of a psychiatric model is possibly like trying to fit a ‘square peg in a round hole’. Worley et al. (2000) concluded, “The lack of uniformity between respondents regarding their CO practices was remarkable” (page 308). Jaworowski et al. (2008) clearly described the model within the general hospital setting as “continuous one-to-one monitoring” (page 278). Bailey et al. (2009) definition is somewhat ambiguous, “an increased level of observation”, but goes onto to explain “typically the nurse is assigned to continuously observe patients”. The question then arises whether the nurse observer can be assigned to more than one patient at a time.

Blumenfield et al. (2000) strategised on cost reduction options and suggested “it may be possible to alter CO by using one observer for multiple patients”. Worley et al. (2000) also reported that hospitals confirmed consolidating bed space for patients to decrease CO staffing costs. Yet, Segatore and Adams (2003) warned against placing delirious and agitated patients
in the same room as the activity and agitation of one patient can precipitate or exacerbate the behaviour of another patient.

The CO model in the general hospital may be impacted by many factors including a changing at-risk patient profile with a greater number of older patients, who with increasing age, generally suffer cognitive impairment rather than psychiatric illness; environmental limitations that make it difficult to contain wandering patients; nursing workloads that see higher patient acuity and turnover; a nursing staff skill set that does not necessarily incorporate the ability to adequately perform clinical risk assessment and staff attitudes and beliefs with regard to high risk patient behaviour. The literature has highlighted that nurses are voicing their concerns regarding their ability to care for these particular patients along with others in the ward (Flaherty et al., 2003; Borbasi et al., 2006; Harding 2010; Wilkes et al., 2010).

Decision making points

The nurse, as the consistent patient caregiver and compelled to maintain patient safety, is often faced with weighing the need to instigate CO. What guides and supports the decision making process?

Sullivan-Marx (1996) emphasised professional knowledge as the primary contributor to decisions made that affect the autonomy and dignity of each patient. The knowledge and experience level of nurses, when encountering high-risk patient behaviour, guides their decision-making. Torkelson and Dobal (1999) emphasised the importance of structured systems and processes, in order to ensure consistent decision-making. The authors speculated whether the instigation of CO was a collaborative decision.

Goldberg’s 1987 national survey of CO practices found that over 70% of hospitals had a governing CO policy. Of these, less than half of the policies verified that nurses were permitted to instigate CO and just over one-third required a written physician’s order. This
was also found to be the case in the psychiatric setting (Shurgar & Rehaluk, 1990). Later studies referred to the mandating a psychiatric consultation for all patients requiring CO (Lamdan et al., 1996; Vrale & Steen, 2005). Logue and Parrish (1998) provided commentary on the shaping of suitable policy and practice guidelines citing, recognising that psychiatric suicide policy did not always apply to general medical/surgical units. As a result of these findings a newly developed policy required a physician’s order to instigate and discontinue CO (‘suicide precautions’), however a registered nurse could initiate CO before obtaining a physician order, with a psychiatric consultation to occur in the first 24 hours. Torkelson and Dobal (1999) argued that an increasing awareness of corporate liability had influenced health care facilities to incorporate psychiatric consultation in the CO decision-making process.

Worley’s (2000) national survey across American general medical/surgical hospitals, sought to answer questions regarding policy and authorisation privileges. Of the 102 hospitals contributing to the survey, three-quarters described having a written policy for CO. All hospitals indicated that any physician could authorise CO instigation or discontinuation. In contrast, a nurse (registered or specialist) could only instigate CO in approximately 30% of hospitals and discontinued CO in just over 10% of hospitals. Cost containment was identified as a key driver for incorporating physician consent, with one hospital reporting a 75% reduction in CO use.

A Scottish study (Kettles & Patterson, 2007) reported on a small scale pilot conducted over 6 months, which introduced flexible observations for patients, whereby nurses had greater autonomy in the decision making process. Although this paper originated from the psychiatric setting, a significant finding was the shift away from doctors deciding on levels of observation with a change in practice towards multidisciplinary and nursing decision-making. The pilot study analysed 57 patient CO episodes of care, the results indicated fewer patients required CO and those that were placed on CO required it for a shorter duration. Perhaps
health services that imbed the psychiatrist or physician within the decision making process are not taking advantage of the potential benefits of a collaborative multidisciplinary approach. Could a more effective strategy be the implementation of staff education and training, across disciplines, in the assessment of patient clinical risk? Finally it is worth highlighting Torkelson and Dobal’s 1999 study, which was the only paper to reference family involvement in the decision making to instigate CO.

Hogarty and Rodaitis (1987) developed a policy for suicide precautions within the general hospital setting. The policy advised on the need for thorough evaluation and interdisciplinary review of the need for observation, and that an order for observation was time-limited and required a review every 48 hours. Further evidence supporting targeted timelines emerged from the psychiatric setting in Shurgar and Rehaluk’s 1990 retrospective study conducted within a psychiatric teaching hospital. Overall nearly 15% of all inpatients were placed on CO. Episodes lasted from two hours to 89 days with an average of seven days. For patients receiving three days or less of CO the mean duration was 28 hours. For patients exceeding three days, the mean duration was much greater: 16.2 days. The authors, although acknowledging some of the limitations of their study, concluded that when CO exceeded three days it often became prolonged, problematic and cost-ineffective. It was noted that extended CO triggered secondary problems, often caused by the patient’s reaction to continuous observation.

Mergui et al. (2008) examined a population of general hospital patients whose behavioural management required CO and therefore, by virtue of local policy, referral to the psychiatric liaison team. A finding, not previously reported, was the correlation between a diagnosis of ischemic heart disease and/or chronic obstructive pulmonary disease (COPD) and a prolonged duration of CO. In these two diagnostic groups the average duration far exceeded the duration for the patient with organic brain syndrome with: ischemic heart
disease 67.5 days, COPD 72 days, whilst the mean duration for patients with organic brain
dysfunction was 24 days. This suggests that chronic cardiac and respiratory co-morbidity is
indicative of a higher likelihood of requiring CO care.

Phillips, Peacock and Hermanstyne, (1977) found that nursing absenteeism increased
significantly when the amount of CO increased. Also conferring with this finding is Blythe
and Pearlmutter (1983), who found nurses within medical surgical units complained of
increased stress caused by suicidal patients on their unit. The longer CO occurred the more it
devolved from an acute care intervention to that of custodial care (Shugar & Rehaluk, 1990).
Possibly a more accurate predictor of CO duration was the patient suffering with ischemic
heart disease or COPD, as Mergui’s study highlighted. However, whether the CO model was
appropriate or therapeutic for this patient group, in the first instance, remains unanswered in
the literature.

**Constant Observation - Whose Role is it?**

In 1999, Torkelson and Dobal conducted a study, which provided a unique analysis,
furthering the CO enquiry. Their research involved a statewide multihospital study within the
medical-surgical setting. At this time, only Goldberg (1987) had examined the general acute
setting. It was also unique because it endeavoured to establish who were the health care
workers undertaking the role of constant observer, or as they termed sitters.

The literature highlighted that CO is an assignment carried out by a number of
different providers: registered nurses (Shugar & Rehaluk, 1990; Torkelson & Dobal, 1999;
Blumfield et al., 2000; Fletcher 1999; Bowles, Dodds, Hackney, Sunderland, & Thomas,
2002; MacKay et al., 2005), nursing assistants (Goldberg 1987; Heyman & Lombardo 1995;
Lamdan et al., 1996; Fletcher 1999; Spetz, Jacobs, & Hatler 2007; Dick et al., 2009), family
members (Worley et al., 2000; Blumenfield et al., 2000; Balas, Gale, & Kagan, 2004;
Segatore & Adams, 2005; Schofield 2008; Jaworowski et al., 2008), lay workers (Talley et

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al., 1990; Lipkis-Orlando et al., 1993; Moore et al., 1995), chaplains (Worley et al., 2000), psychiatric technicians (Worley et al., 2000), student nurses (Blythe & Pearlmutter, 1983; Worley et al., 2000), security staff (Jaworowski et al., 2008), secretaries (Worley et al., 2000) and volunteers (Jaworowski et al., 2008; Moyle et al., 2010). Within the psychiatric setting previous research demonstrated a more qualified CO provider, generally a psychiatric nurse (O’Brien-Pallas, Griffin, Shamian, Duffield, & Hughes, 2006; Shugar & Rehaluk, 1990; Moore et al., 1995).

Borbasi et al. (2006) reported an interpretative research project examining the care of patients with dementia admitted to the acute setting with a non-dementia related illness. Interviews were conducted with 25 medical, nursing and allied health professionals from 3 metropolitan teaching hospitals in Australia. One nurse manager commented that ‘one of the greatest help to the patient is family keeping an eye on them...you can’t beat that’ (page 304). Nevertheless, family-staff relationships can be complicated with family members placed ‘on watch’. Jaworowski et al. (2008) highlighted that family members providing CO for a suicidal patient is problematic from an ethical and medico legal perspective. Such an arrangement implies a transfer of responsibility for maintaining the patient’s safety from the hospital to the family.

Overwhelmingly the literature identified that CO was frequently carried out by junior, untrained or unskilled nursing staff, not those specifically educated or qualified to perform the task (Goldberg 1987; Fletcher 1999; Thomas 1995; Heyman & Lombardo, 1995; Lamdan et al., 1996; Torkelson & Dobal, 1999; Blumenfield et al., 2000; Bowers & Park 2001; Bowles et al., 2002; MacKay et al., 2005; Spetz et al., 2007; Rooney 2009; Dick et al., 2009). Some authors drew the conclusion that economic pressure and nursing shortages have required administrators to trial alternative ‘carers’ (Moore et al., 1995, Torkelson & Dobal
Torkelson and Dobal (1999) encouraged the reader to recognise the importance of the sitter role and stated it was ‘crucial’ to understand how stressful it may be; charged with the responsibility of keeping a patient from harming themselves or others. This is possibly felt most keenly when managing a patient with suicide intent. Blythe and Pearlmutter (1983) identified the supposition that suicide watch deemed the staff responsible for the patient’s life. Bernstein and Saladino (2007) recognised the need for medical-surgical nurses to be competent in assessing and evaluating violent and aggressive psychiatric patients who may be admitted to a general acute facility for medical care. Much has been publicised in the media and written in scholarly articles with respect to growing violence experienced within the workplace for health care providers (Anderson, 2011). Consequently the need exists to provide staff with education and support to deal with increasing episodes of patient aggression.

There is evidence suggesting that nurses find it particularly difficult when patient behaviour is perceived as difficult, threatening or disruptive (Flaherty et al., 2003; Benedict et al., 2009; Happell & Sharrock 2002; Sharrock & Happell 2006; Rizzo et al., 2001). Fletcher et al. (1999) conducted a small UK study within an acute psychiatric unit, interviewing nursing staff (n=12) with the objective of greater understanding of their perceptions of the CO model. Fletcher concluded that manageable levels of stress could only be expected of staff after 2-10 years experience. Hamel-Bissell (1995) argued that nurses needed at least 8-10 years experience to care for people at risk of suicide, if they were to manage the professional stress involved.

Who is the most appropriate carer for the patient? Only when the intent of CO is determined can this question be answered. Is the intent of the role one of a custodial
bodyguard or engaged carer? This study, through a comparative model analysis, aims to add to the body of knowledge in this area.

The Purpose of Constant Observation – is there therapeutic benefit?

Active debate continues as to whether CO has therapeutic merit or is indeed harmful and oppressive for patients. Published letters of comment within the UK Nursing Times (2005) highlight the disparity of views. Des Quinn, hospital director, questioned the practice of CO and the expectation placed upon nurses to manage the behaviour of psychiatric patients. He further explained that the patient’s illness at this stage was complex and that they needed expertise, of suitably qualified and experienced nurses, but generally the most junior staff are allocated to ‘special’. Quinn expanded further, ‘the patient is immediately seen as more dangerous and difficult. Specialising detracted from identifying the patient’s needs and providing a care plan. Pembroke (2005), a mental health activist, echoed Quinn’s views and described CO as ‘oppressive, defensive and a poor excuse for an intervention’ (page 17). In reply to these letters, Genese, a staff nurse in a general setting, asked the reader, ‘don’t ignore the positive effects of specialising’ (page 16). In contrast he explained that the decision to instigate CO was a last resort when other interventions had failed. He cited the positive benefits including providing staff who were accessible to listen to patients’ concerns, the ability to de-escalate and provide prompt intervention, increased privacy for other patients on the unit, a reduction in elopement and the potential for prevention of serious incident or injury.

These opinions, both positive and negative, remained valid and are essentially unanswered in the general acute setting by evidenced based studies. A recent review by Jaworowski et al. (2008) encouraged the use of CO as part of the clinician’s patient-centered treatment at time of crisis. Interestingly Jaworowski stated that CO staff should be seen as
part of the therapeutic team, but did not provide treatment, rather containment of the situation.

Bernstein and Saladino (2007) reviewed the psychiatric co-morbid patient from a nursing perspective within the medical surgical setting. Although this review did not specifically examine the CO model, it did highlight the importance of nurses building a rapport with the patient on admission and thereby averting potentially aggression and violent instances. The ability to safely care for these patients is reliant on nurses being competent in risk assessment and ongoing patient evaluation. Irving, Foreman and Fick (2006) suggested that nurses working in general acute settings now require mental health caring skills, once considered the domain of the specialist, to be part of their generalist competencies.

In a qualitative study conducted by MacKay et al. (2005) within a Scottish psychiatric in-patient setting, 25 staff participated in interviews to determine staff perceptions and the necessary skills required to carry out therapeutic constant observation. Staff consisted of registered mental nurses (RMN), nursing assistants, support workers (unqualified) and student nurses, all liable to carry out increased observation. Skilled intervention was identified as the most significant factor, which translated to an ability to become familiar with the patient, build rapport and trust and provide one to one care. Crucial to establishing the therapeutic relationship was the experience and skill of the carer, which played a central role in ongoing risk assessment and decision-making. Inexperience was seen as a reason to exclude certain nurses or assistants from undertaking the CO role.

Bowers et al. (2008) conducted a multivariate cross sectional study across 136 acute in-patient psychiatric wards within 67 hospitals and within 26 NHS trusts. The study collected data on self-harm, special observation, conflict and containment, physical environment and patient and staff factors. The impetus for the study was to investigate the efficacy of special observation. A significant and surprising finding was that no relationship
was found between constant observation and rates of self-harm, considering that most studies commonly cite suicide risk as a common reason for instigating CO. However, intermittent observation was found to translate to less incidence of self-harm.

Very little has been written about intermittent observation and whether it provides therapeutic benefit. Richmond, Dandridge and Jones (1991) suggested it may be utilised effectively to prevent patient elopement. Patient elopement is often a potential risk with an older patient suffering delirium and prone to wandering. Containment of these patients is prone to exacerbate their feelings of entrapment and agitation, heightening the delirium intensity. Schofield (2008) supports the premise of a specially trained clinical support worker, providing person centered care, thereby having ‘the potential to prevent adverse incidents such as falls, attempts to leave the ward and disturbance to other patients and staff’. Balas, Gale and Kagan (2004) also viewed as ‘highly desirable’ use of a skilled sitter in the care of patients with delirium. But do these views translate to best evidence based practice for the older cognitively impaired patient?

Torkelson and Dobal (1999) expanded the premise of therapeutic contact and stated that CO should be used ‘as an opportunity to begin returning control to the patient, or at least forming a healthy alliance with the patient’. Typically CO was instituted for safety reasons, from falls and accidents, than from deliberate self-harm in the older patient. Yet the efficacy of the CO model in delivering a safer environment for the older patient has not been established to date.

Managing a patient with delirium may not be considered as ‘high risk’, however it is no less demanding. Segatore and Adams (2005), in a study examining delirium in orthopaedic patients encouraged caregivers to comprehend that ‘agitation or delirious behaviour was not premeditated, personally directed malice, but rather the product of a
disorganised mind and a hostile environment. She advised that staff needed time to reflect, discuss and debrief patient incidents.

Finfgeld-Connett (2009) conducted a meta-synthesis qualitative study, proposing a therapeutic framework for nurses faced with responding to aggressive patient behaviour. Regardless of the response style, either intuitive or learned through experience, the study proposed a number of core components in achieving authentic engagement; clear and simple communication, appreciation of the patients’ strange world, modifying the environment (e.g. decreasing noise), respect and fair mindedness, close observation following interventions and/or incident, bargaining to set limits and effective teamwork (which may include the family). It was considered important for nurses to project an air of recognition and reciprocity, rather than a sense of self-importance and superiority. Two nursing response styles were considered to inhibit therapeutic management. The first was hierarchical in nature and based upon power and control, with nurses exhibiting an authoritarian approach. The second was distant management resulting in inadequate staffing and high-intensity work environments, where patients are neglected and interactions insincere and cold.

By contrast outcomes of authentic engagement included diminished fear, calmer environments, reduced aggression, more organized thought processes and a sense of security and hope. Depending on circumstances it may be feasible for therapeutic interventions to fall outside standard rules and guidelines; distracting patients by inviting them to go for a walk, playing a game, conversing, listening to music or even utilising humour (Finnema, Dassen, & Halfens, 1994; Lowe, 1992).

The patient needs to be seen in the context of all health professionals’ sharing responsibility, communicating and working together to effect timely management and appropriate discharge destination. Borbasi et al. (2006) conducted a study examining health professionals perspectives when dealing with patients with dementia noted, ‘if the team
doesn’t come together early to make a decision the patient is sitting around waiting’ (page 306). Findings from the study also identified the importance of the role of nurses, whose continued presence on a ward determined to a large extent its culture, which was significant in the overall support of the patient with cognitive impairment.

Segatore and Adams (2005) commented on the elderly delirium patient, that provision of intelligent and compassionate care was imperative with recognition that there was no quick answer and needed to be targeted to individual needs. In this context the nurse is challenged to try and figure out what triggers the behaviour, change that element and try and try again. Patients with cognitive impairment are known to be extremely sensitive to non-verbal cues and mirror the affective behaviour of those around them. It was also noted that in some instances the quality of the nurse-patient interactions could exacerbate or provoke agitation (Segatore & Adams, 2005).

There are many beneficial characteristics of nurses / carers who are required to manage patients with delirium and dementia, but vital is a calm, patient and gentle manner (Keady & Jones, 2010). Based upon the literature review and qualitative analysis of nurse and ‘sitter’, Segatore and Adams (2005) developed guidelines for the carer providing constant observation to an elderly confused patient, which also included these essential traits. Barborsi et al. (2006) found that health professionals believed there was a need for vigilance; a continual watching and assessing of these patients, which was crucial to their wellbeing. What is emphasised repeatedly in the literature is the importance of delirium prevention. Utilising CO in this patient cohort is therefore a control measure treating a range of symptoms. Is CO indicative of possibly a bigger failing in our clinical care of the older patient and a health care system yet to be elderly focused?

Blythe and Pearlmutter (1983) described the ‘guard duty’ approach that often saw a sitter in a doorway reading a magazine. Observation in this sense has been highly criticised,
as it is seen as punitive, while eroding the primary function of nursing, which is to engage people in their care (Rooney, 2009). Conway (1999) found that when patients experienced being under observation they felt neither safe, nor supported by the process.

The patient with challenging behaviour, which places him and others in potentially high-risk situations, combined with medical complexity that warrants hospitalisation within a general acute setting, is possibly the most demanding patient cohort facing health care providers and administrators today. Can the CO model deliver patient centered care with a therapeutic benefit? There are conflicting findings within the literature and this study aims to contribute to the literature in this area, advocating that nurses are the health carers who should carry the responsibility for delivering CO. It is proposed that nurses are best positioned to establish therapeutic engagement with the patient and/or their family, to maximize optimal outcomes and a safer environment.

**The Patient’s Voice**

Only two studies have explored the patient’s perception of being constantly observed, both undertaken within the psychiatric setting with suicidal adult in-patients. Cardell and Pitula (1999) conducted a qualitative study interviewing a total of 20 patients. The patients identified therapeutic and non-therapeutic aspects of CO, with the therapeutic benefits being directly related to the observers’ attitudes and behaviours. Therapeutic interventions included the observers’ optimistic attitude, acknowledgement of the patient, distraction of the patient from thoughts of suicide, emotional support and protection. The participants’ described non-therapeutic experiences of discomfort and feelings of distress due to staff attitudes or behaviour, such as lack of empathy, lack of acknowledgement, lack of information about CO and the role of the observer, lack of privacy and feelings of confinement.

In the same year, Fletcher (1999) interviewed 25 patients who described mainly negative feelings, which they attributed to staff actions and attitudes. The negative feelings
included; being coerced, feeling degraded, isolated and worthless. Some positive patient responses included feelings of comfort and satisfaction. Sitting outside a room can be perceived by staff to be therapeutic, but in contrast the patients’ perceived this as a controlling action. Fletcher concluded that when imposing controlling actions on patients, CO is less likely to be a positive patient experience.

Jaworowski et al. (2008) postulated that patient age as having an influence on how patients viewed CO: older patients generally considered it punitive, especially in those patients with a history of substance abuse, and younger patients were generally more positive about their CO experience.

It is unclear, have we accepted CO as a standard and routine model of care in the acute setting, without considering the patient voice and possible innovative alternatives? The patient’s and family experience of CO requires further research to determine whether the model enhances levels of satisfaction.

**Alternatives to Constant Observation**

**Management of older patients with cognitive impairment**

A great deal of work has been undertaken in Australia and internationally to establish best practice management of older patient with cognitive impairment, this has resulted in a plethora of studies (Inouye et al., 1998; Inouye, 2000; Inouye, 2001; Inouye, 2004; Inouye, 2006; Webster, Chew, Mailliard, & Moran, 1999; Webster, 2002; Day, Carreon, & Stump, 2000; Rapp, Mentes, & Titler, 2001; Segatore & Adams, 2001; Insel et al., 2002; DHS (Vic), 2003; Flaherty et al., 2003; Poole, 2003; Poole & McMahon, 2005; Lincoln Centre for Ageing, 2005; Wang & Moyle, 2005; Ski & O’Connell, 2006; Kratz, 2008; Wiesenfeld, 2008; Travers, Martin-Khan, & Lie, 2009; Wakefield & Jorm, 2009, Moniz-Cook & Clarke, 2011). In Australia, the management of people with dementia+/- delirium in acute settings is
an area of significant interest, research and intervention; given the challenges of an ageing population and increasing demand on our health services.

The Victoria Health Department (DoH 2003 previously known as Department of Human Services) identified person-centered care as a cornerstone in the delivery of health services to older people in Victoria, endorsing a consistent approach to change the culture in our hospitals. Developing a culture of person-centered care requires examination of: processes and tools, risk screening, comprehensive assessment and care planning, physical environment adaption and creation of networks and partnerships in care.

In 2005 the Department of Human Services Aged Care Branch, in collaboration with the Nurse Policy Unit, commissioned an expert working party to develop clinical practice guidelines for the management of delirium in older people. These guidelines were released in October 2006 and provide the framework for future initiatives. The key messages and recommendations for hospitals include:

1. Risk for delirium should be assessed in all older persons admitted to health care settings. Staff caring for older people should be aware of the risk factors for the development of delirium.

2. Delirium is best managed by clinicians with expertise in delirium management, and in most cases by a multidisciplinary team. (Expert opinion).

3. Preventative environmental and clinical practice strategies should be incorporated into the care plan of all older people across all health care settings.

4. An expert psychiatric consultation should be considered for people with severe behavioural and /or emotional symptoms (Expert opinion).

5. Implementation of delirium management guidelines – accompanied by education and reinforcement should be considered in all health care settings (evidence for acute hospital is currently weak).
Milisen et al. (2005) described delirium as one of the ‘geriatric giants’, and followed with a systematic review of strategies for managing delirium, concluding: ‘multi component interventions to prevent delirium are the most effective and should be implemented through synergistic cooperation between the various healthcare disciplines’. In addition Milisen recognised the importance of the nurse, a ‘pivotal role’, in prevention, recognition and treatment.

The literature highlighted many common management strategies for the older confused patient, Insel and Badger (2002) categorised the strategies into non-pharmacological and pharmacological. Non pharmacological strategies included reorientation through clocks, photos, night lights (Inouye 2000; Insel 2002; Ski an O’Connell 2006; Barborski et al., 2006; Jaworowski et al., 2008); decreasing sensory overload (Segatore & Adam, 2005), bed alarm devices (Torkelson & Dobal, 1999; Worley et al., 2000; Schofield, 2008), safe rooms on medical units (Fietsa, 1991; Goldberg, 1989), spending time in validation therapy (Millisen et al., 2004; Ski & O’Connell, 2006; Barborski et al., 2006; Moniz-Cook & Clarke, 2011), environmental changes (Barborski et al., 2006) and most importantly looking for possible sources: bladder catheters, poor nutritional intake (Insel, 2002).

Segatore and Adam (2005) recommended mandatory daily surveillance to ensure adequate oxygenation, perfusion, hydration, nutrition and stimulation in order to decrease the incidence of elderly confusion and enhance delirium management. Inventor and colleagues (2005) identified the growing trend for earlier discharge of elderly confused patients to the geriatric psychiatric setting and the resultant pressure for psychiatric nurses to be competent and cognisant to deliver medical interventions.

Insel (2002) warned against pharmacological interventions, as approximately one-third of deliriums were cause by medication, but went on to recommend haloperidol for management of severe agitation and hallucinations and benzodiazepines for benzodiazepine and alcohol
withdrawal. Many other authors confer with prudent pharmacological management (Torkelson & Dobal, 1999; Inouye, 2004; Segatore & Adam, 2005; Jaworowski et al., 2008; Moniz-Cook & Clarke, 2011). Segatore and Adam (2005) commented on intervention strategies for delirium and agitation in elderly hospitalised orthopaedic patients and stated that many nurses willingly admitted a lack of knowledge of what medications may be useful, and by what regimes. The author went on to argue that 'there was no simple answer and medications should be individualised for every patient. The mantra for medication administration in older patients was to commence medication at a reduced level, as older patients can be sensitive, slow to metabolise and excrete normal adult medication levels (Inouye, 2004; Insel, 2002; Inventor et al., 2005).

The research conducted through large controlled clinical trials advocated for reorientation therapy, implemented by nurses, as the most effective strategy in managing patients at risk of delirium (Schofield 2008; Inouye, 1999). However, some studies reported that attempting to reorient patients experiencing delirium led to undue stress and further delirium and therefore validation therapy, that involved acknowledgement of the patient’s feelings, was a preferred strategy (Foreman, 1989; Fagerber and Jonhagen 2002).

Dementia Special Care Units (DSCU) are cited in the literature (Nichols & Heller 2002, McCloskey, 2004; Moyle et al., 2008), but drawing meaningful findings is difficult due to lack of comparison control groups. Within the acute setting the intention of such units is to contain behaviourally challenging patients in a secure area, with an elderly-friendly modified environment and higher nurse patient care ratios. Purpose built and staffed DSCU’s are yet to be widely explored or broadly endorsed by age care experts (DHS (Vic), 2005). Yet, the Lincoln Centre for Ageing (2005) warned that inadequate hospital resources contribute to poor patient outcomes, prolonged length of hospitalisation and increased risk. Resource limitations included a lack of activities to keep dementia patients occupied; inappropriate
ward environments that are busy, noisy, or have no quiet areas, shared rooms, or no secure
ward to prevent patients from wandering; workload issues and staff-patient ratios, inadequate
time to provide appropriate monitoring and supervision. A study by Clarke, Minas and Stuart
(1991) examined strategies to reduce CO costs associated with older patients in the general
acute setting. The study demonstrated that a day room program focusing intensively on
functional needs decreased the use of CO, decreased length of stay, decreased medical
complications, increased patient functioning and increased family satisfaction.

Bailey et al. (2009) piloted an improvement project to improve the efficiency of constant
observation within an acute brain injury rehabilitation unit at the Rehabilitation Institute of
Ohio. The project involved extension of the sitter role, to that of a companion, providing
diversion therapy within a designated day room. Daily activities provided therapeutic
cognitive stimulation and during meal times the group ate together. Evaluation of the
program found improved staff satisfaction, extended sitter scope of practice, decreased
reliance on CO, decreased use of restraint and although patient Functional Independence
Measure scores did not significantly alter patients were noted to voluntarily spend most of
their day in the activity day room. Perhaps there is a requirement for environment
modification and diversional activity when managing the older patient with cognitive
impairment.

Moyle et al. (2008) conducted a recent systematic review of best practice management
strategies for people with dementia, examining studies between 1986 and 2006. The common
themes to emerge included the importance of early detection and assessment, knowledge and
attitudes of nursing staff, focused communication, a reduction in stressors, familiarity that
includes family and carer involvement and a multidisciplinary approach. Three models of
care for use with older people suffering confusion in acute care were reported. The first,
Demonstrating Progressively Lowered Stress Threshold (PLST) advocated a modification of
hospital environment to lessen the number of stressors. No studies have evaluated the model in acute care; however within residential care positive effects include increase social behaviour, sleep, dietary intake and a reduction in disruptive behaviour (Hall & Buckwater, 1987; Smith, Gerdner, Hall & Buckwater, 2004). Second, Hospital Elder Life Program (HELP) involved joining of skilled interdisciplinary team with expertise in the care of older people, to highly trained and supervised volunteer staff. Evaluation of the model showed a reduction in delirium, less use of restraint, greater staff satisfaction and knowledge of care required by older confused patients (Inouye et al., 2000; Inouye, Baker, Fugal, & Bradley, 2006;). Finally, Creating Avenues for Relative Empowerment (CARE), prepared family and carers to undertake active education and involvement in care of their relative during hospitalisation. CARE resulted in fewer incidents of acute confusion and depressive symptoms and strengthened the care-givers beliefs, understanding and ability to care (Li et al., 2003). Despite the high volume of research and inquiry into delirium management a conundrum remains with a management protocol of delirium still to be established (Ski & O’Connell, 2005).

Management of the psychiatric patient

A psychiatric patient, admitted to the general setting due to medical illness, is reliant upon the skill set of health care providers not specifically versed or competent in psychiatric care. Psychiatry Consultation Liaison (PCL) is the psychiatric sub specialty that provides psychiatric care to the medically ill and is now an established mainstream service within the general acute setting, across all Victorian metropolitan tertiary health services and throughout Australia (Sharrock & Happell, 2001; Kratz, 2008). PCL provides assistance and expertise in the management of complex and co-morbid patients with problematic behavioural and/or clinical presentations, across the whole life cycle, incorporating the sub speciality of drug and
addiction medicine. Most importantly, it is a service that provides resource and support to the medical, nursing and allied health staff working in the acute and sub acute sector.

A pivotal role within the PCL team is the Psychiatric Consultation Liaison Nurse (PCLN), which has grown in presence over the last two decades due to an increasing demand upon general nurses to manage mental health patients and their own sense of inadequacy, fear and confidence in this domain (Fife & Lemler, 1983; Sharrock & Happell, 2000). The PCLN is considered a particularly valuable role in supporting general nurse skill development and confidence, promoting a holistic model of care and assisting staff to manage their own stress. As reported in the literature many general nurses identified a lack of knowledge, skills and confidence in the assessment and management of mental health problems in their patients (Bailey et al., 2009; Finfgeld, 2009; Kaluacy, Thomas & King, 2005; Lowe, 1992; Vraie & Steen, 2005; Knott, Pleban, Taylor, & Castle, 2007; Sharrock & Happell, 2002; Sharrock, 2006).

Talley et al. (1990) conducted a study assessing the efficacy of the PCLN and their power to influence the requirement for CO, patient adverse incidents and length of patient hospitalisation. The study was conducted in a large North Eastern American teaching hospital where PCL nursing had been established for 14 years. It was significant in that it was the first study that attempted to quantify the impact of the PCLN role with respect to CO. Patients were randomised to a suicidal or non-suicidal group and then randomised to the control or treatment group, (receiving PCLN consultation). Patients were included in the study if CO was in place for least two consecutive days and admission was within an adult medical, surgical, obstetric or gynaecological unit. The standing hospital policy required PCL for evaluation of all suicidal patients to determine if CO was warranted. A total of 107 patients were included in the study; the suicidal group had comprised 22 subjects, 11 within the
control group and 11 within the treatment group, and the non-suicidal group had 85 patients, 49 within the control group and 36 within the treatment group.

Unexpectedly the study findings failed to show a benefit in reduction of CO shifts, decrease in patient and staff incidents or reduction in length of patient hospitalisation. What was apparent regarding CO was the perceived power of the intervention, as evidenced by staff refusing PCLN recommendations regarding discontinuation. Talley noted that CO resource was available without financial constraints or accountability and documentation to justify further use. In addition, CO within the facility was a ‘sitter’ role and provided nursing staff with little incentive to replace the easy option with nursing specific interventions and management.

Sharrock is a renowned Australian researcher within the field of PCL nursing and evaluated the PCLN role through a qualitative survey in 2002. The survey was distributed to 260 staff that had sought patient consultation from the PCLN. Overwhelmingly approximately 90% of general nurses endorsed the role and service of the PCLN citing the benefits; provision of education, enhanced patient management, improved continuity of care and better coping skills. Sharrock’s study strengthened the argument for PCLN positions in all general Australian hospitals. In addition the author expressed a view that mental health nursing and its associated skills should not be restricted to conventional mental health service provision.

The patient with psychiatric co-morbidity is mainstream for a PCL service, yet many patients referred to PCL services do not suffer psychiatric illness. There are a few studies examining the effectiveness of PCL services for older people with cognitive impairment, as this patient group appears to generate significant referral to PCL services (Rosse, Ciolino, & Gurel, 1986; Fulop, Strain, & Vita, 1987; Holmes et al., 2001). Strain et al. (1991) provided one of the few studies, examining the effectiveness of a PCL intervention in managing
elderly patient with hip fractures. In a retrospective analysis 452 patients aged over 65 years, were evaluated for cognitive dysfunction and length of hospital stay were evaluated. Baseline data were collected across one year, whereby patients received traditional care. The following year the PCL service routinely consulted on all cognitively impaired patients. The findings confirmed that a structured PCL program with elderly patients with hip fractures was beneficial in improving early detection of cognitive and psychiatric morbidity, earlier patient discharge with substantial cost savings were realised by the organisation.

In a randomised control trial across four general medical wards in a northern UK town, the study aimed to determine the clinical effectiveness of a nurse led mental health liaison service in managing mental health problems of older physically ill patients, specifically depression and altered cognition (Baldwin, Pratt, Goring, Marriott, & Roberts, 2004). The study failed to show significantly improved patient outcomes for psychiatric morbidity within the nurse-led intervention group however, patients in both groups improved in cognition.

Summary

The literature provides evidence that CO, which originated as a psychiatric model of care, is imbedded within general nursing practice throughout Australia and internationally. The effectiveness, in terms of therapeutic benefit, and appropriateness of the psychiatric model within the general setting has not been determined. Previous studies have focused on quantifying CO practice, patient predictors for CO and the impact of Psychiatric Consultation Liaison in adhering or managing CO requirements. Although the model has arisen as a risk reduction strategy when focusing on protecting suicidal, aggressive and potentially violent patients, the changing population demographic now sees older patients with cognitive impairment as possibly the largest patient cohort managed by CO.
Bowers et al. (2008) provided the only study specifically examining therapeutic benefit of CO, yet this study was undertaken in the psychiatric setting. The salient feature is that Bower’s study found no benefit from CO when utilised for suicidal patients, previously the most common patient profile and the impetus for establishment of the model. What is apparent from the literature is a consensus for the general nurse to incorporate knowledge and skills to enhance the management of patients with challenging behaviours, regardless of whether the patient’s behaviour originated from psychiatric or cognitive co-morbidity.

In conclusion, there are a number of gaps within the literature pertaining to CO within the general setting; model framework, recommended carer profile, therapeutic benefit and economic outcomes. The CO model of care needs refinement through clear framework guidelines, or a model of care lacking in therapeutic benefit and therefore not applicable within general nursing practice.

Study Aim and Research Questions

Through the research objectives listed at the end of the previous chapter, this study sought to undertake a comparative analysis of the CO model of care. An evaluation of the effectiveness of two different CO models was intended to add to the understanding, within the general acute setting, in terms of patient safety outcomes and economic variables. A secondary aim was to increase understanding and knowledge with respect to therapeutic nursing interventions and engagement when managing patients with behaviours causing concern. By drawing on the lived experience of the nurse providing CO in the general setting, further contextual data enhanced the quantitative findings.

The specific research questions to be answered were:

Research question 1:
CHAPTER 2: LITERATURE REVIEW

What were the prevalence and profile of patients with 'at risk' behaviour cared for using additional staff vigilance, constant observation, within the Australian general hospital setting?

Research question 2:

What was incidence of patient adverse events when receiving additional CO vigilance provided by a specialist nursing team by comparison to a traditional 'sitter' (casual or contracted agency staff) model?

Research question 3:

What was the economic impact when comparing the two CO models of care?

Minor Research question 4:

What was the lived experience of the specialist general nurse providing additional observation to patients with 'at risk' behaviours and was there evidence of the specialist general nurse creating a therapeutic relationship?

This study provided an Australian perspective and will assist health administrations regarding adoption and/or sustainability of the CO. The next chapter presents the methodology of the study.
Chapter 3 Methods

This chapter presents the methods used in the study. The first section of the chapter will provide the rationale for the chosen methodology and detail the conceptual framework that guided the study. The second section of the chapter focuses on the research design, research setting, participant selection and recruitment, data collection and analysis.

Mixed Method Methodology

This study used a mixed methods research design involving the collection of qualitative and quantitative data, with integration of the data occurring within the analysis phase. Tashakkori and Teddlie (2003) defined mixed methods as ‘a combination of methods from the same paradigm’. It is important to highlight the distinction from a multi-method study which employs various techniques of data collection within the one study, yet remains specifically qualitative or quantitative in methodology (Halcomb & Andrew, 2009).

The origins and evolution of mixed method research design can be identified as early as 1959 with Campbell and Fiske’s reference to ‘multiple operationalism’. In recent years there has been significant growth and acceptance of mixed method research design. The combination of quantitative and qualitative methods in the health and social sciences has seen an extensive range of published papers and books over the past decade, (Andrew and Halcomb 2009; Brannen 2008; Creswell & Clark 2006; Flemming, 2007). According to Andrew and Halcomb, in their book titled Mixed Methods Research for Nursing and Health Sciences, (2009), the impetus for increasing utilisation of mixed methods design is multi-factorial; the researcher’s relationships with those they seek to study, the political agenda to ensure research is
‘useful’, formalisation of research governance thus providing increasing access for participants to view studies, computer technology and programs that enhance validity and integration of data, and finally the growing number of international research collaboratives that are likely to emanate various methods of data collection.

The dynamic context of contemporary health and the complexity of nursing generate a continual interaction between the art and science of practice, making nursing based studies an ideal context for the use of mixed method approaches. Jick (1979) advocated the adoption of triangulation within research studies for the objective of enhancing the diversity and understanding of the contextual research question. Triangular can be defined as; two methods conducted concurrently but separately for the purpose of collaboration or validation of findings (Caracelli & Greene, 1997). Jick suggested that triangulation might ‘capture a more complete, holistic, and contextual portrayal of the unit(s) under study; emphasising that qualitative methods, in particular, had a role to play. Indeed, triangulation has been proposed as offering a multifaceted view to mirror the complexity and multidimensional nature of nursing practice (Wendler, 2001; Foss & Ellefsen, 2002).

Research methodologies that value other patterns of knowing (other than traditional scientific frameworks) and encompass a stronger integration of theory and practice are suited to nursing issues. There are many examples of how mixed method designs have been used to address important nursing questions pertaining to a variety of topics, including: pain management (Carr, 2009), cancer care (McCabe, Begley, Collier, & McCann, 2008), clinical learning environments (Levett-Jones, Lathlean, McMillan, & Higgins, 2007) and skill mix (Beckwith, Dickinson, & Kendall, 2010).

A mixed method research study aims to provide a better understanding of a research problem or issue than either method alone. There are some research
questions, founded and contextualised by practice, that require a multifaceted approach to deliver optimal understanding and relevance for the clinical setting.

**Rationale for choosing a Mixed Method Design**

A mixed method design is both an appropriate and useful design for this study, which aims to evaluate the safety outcomes of patients managed within the CO model and was chosen for the purpose of enhancing quantitative data. A mixed method approach will provide the optimal means of achieving a balanced understanding of the various factors impacting the delivering of care to patients with ‘at risk’ behaviour.

Greene, Caracelli, and Graham, (1989) proposed five primary purposes for undertaking a mixed method study design; 1) confirmation, 2) complementarily, 3) initiation, 4) development and 5) expansion. Onwuebuzie and Leech (2004) added an additional purpose; 6) enhancement of significant findings. This study aims to provide complementary enhancement of statistically significant findings, whether practical, economic or clinical in nature.

Previous research studies (DHS (Vic), 2008, Goldberg, 1987; Lipkis-Orlando, Mian, Levy, & Lussier-Cushing, 1993; Moore, Berman, Knight, & Devine, 1995; Lamdan, Ramchandani, & Schindler, 1995; Worley, Kunkel, Gitlin, Menefee, & Conway, 2000; Spetz, Jacobs, & Hatler, 2007; Wilkes et al., 2010; Harding, 2010; Jaworowski et al., 2008; Wakefield & Jorm, 2009; Knock, Wu, & Chang, 2011), which have examined the Constant Observation model of care, have been collapsed into three streams; i) exploration of patient behavioral or diagnostic triggers that result in the use of additional resource to provide constant visual monitoring of the patient, ii) the impact of psychiatric liaison services to enhance care for this patient group, and iii) analysis of economic indicators. These studies have followed a traditional one-method design. This study, through a mixed method approach, sought to gain a more
in-depth and wide ranging understanding of the clinical issues faced and the characteristics of the generalist nurse in maintaining patient safety, whilst working within a constant observation model.

Analysis of patient incident data alone was questioned since it naturally limits the potential findings of the study, and therefore optimal relevance for embedding change within the clinical setting. Utilising an oral method to collect data fits well with nursing, since oral traditions are strong in the nursing community. Nurses apply storytelling, narratives and conversations in everyday practice when we hand over at a patient bedside, report shift changes, report in patient care conferences, and hand over to colleagues. Nurses often employ talking as a way of grappling with the complexities and tensions that they are faced with in care giving. Tapping into the oral culture of nursing as a way of theorising about nursing is a methodology increasingly evident in health research. For example, Street (1992) in her critical ethnography of clinical nursing practice claimed:

‘My personal experiences of taping oral conversations with nurses for analysis and reflection demonstrated the sophistication of their skills of memory, description and analysis. Although these women were not confident in their skills of writing about nursing practices I found that they were highly articulate concerning their views about themselves, their nursing practices and nursing issues’ (Street, 1992, p.135).

For nursing, oral traditions have been the dominant form by which knowledge and practice issues have been transferred and offer a way of communication and making sense of the practice world and creating and recreating meaning. The use of ‘voices’ has been the common mode of shaping, creating meaning and transferring meaning within the nursing culture. It is, as Walker and Avant (1995) suggested, clinical
discourses in nursing shaped thoughts how they actually acted as nurses, and have remained largely un-theorised until recently.

The qualitative data provided further context through clarification and elaboration of the lived experience of the Nursing Resource Team members. The qualitative phase generated an understanding of contributing factors and insights for care delivery, supporting the implicit desire of the study to contribute understanding to further change and influence practice.

**Conceptual Framework**

This study reflects a mixed method research design, characterised by the collection and analysis of quantitative data followed by the collection and analysis of qualitative data (Creswell, 2003). The qualitative data analysis assists in explaining and contextualising the quantitative findings. An additional benefit for obtaining qualitative data in this study will be the identification of more detailed information, without losing the opportunity to inform on relevant issues within the clinical context.

The Knowledge to Action (KTA) conceptual framework, a planned action theory model, has guided this study. The Canadian Institutes of Health Research (2004) pioneered the KTA process in a study that involved undertaking planned action or change models and predicting the various forces that impacted on the specific change. Studies that follow the KTA process deliberately plan action or change within a relevant contextual setting. Graham and Tetroe (2007a) identified that those who plan change models may work with individuals, but their objective is to alter ways of doing things in social systems. The pilot project preceding this study has been a planned change model.

The KTA framework was first published in 2006, yet as Graham and Tetroe (2007b) identified, despite its recent history, citations have been found in over 25
journals, including the Lancet and British Medical Journal. The KTA framework naturally augments knowledge translation at the point of service delivery, through the relatively simple yet comprehensive structure (Figure 1). The particular attributes of the KTA framework and reason therefore to apply the framework to this study, pertain to the cyclic feedback loops and the emphasis on an evaluation phase.

![Knowledge to Action Cycle Diagram](image)

**Figure 1:** The Knowledge to Action Cycle


Within this study the researcher has progressed through the seven (7) phases, as defined by Graham and Tetroe (2010), of the KTA framework; identify a problem, adapt knowledge to local context, assess barriers to knowledge, select, tailor and
implement interventions, monitor knowledge use, evaluate outcomes and sustain knowledge use.

The KTA framework encompasses all phases of the study, including the preliminary health service based change practice project. Of particular applicability, and therefore selection of KTA framework, has been a focus on local context when adapting interventions. Within KTA philosophy is the recognition that knowledge may not always be entirely research based, thus permitting a blending of contextual knowledge when applying research interventions. The establishment of the specialist Nursing Resource Team, operational 24hours, 7 days week, was initiated based upon two premises; i) contextual knowledge which indicated time and day of week with the highest number of patients requiring constant observation, and ii) previous literature reporting carer characteristics and patients’ experience of a therapeutic relationship whilst constantly observed (Fletcher, 1999; Cardell, 1997). This engineered practice change model is an obvious example of a blending of research based evidence, whilst guided and supported by local contextual wisdom.

The final phase of the KTA framework is an evaluation of interventions for purpose of informing outcomes and sustaining knowledge use. This study reports the evaluation phase of the service based practice change initiative.

**Study Design**

This study compared two different approaches to the management of CO. Within Hospital A (considered to be the control group) the traditional sitter model was used, which comprised unqualified support workers in a contractual agreement. In Hospital B (intervention group) a new approach called the Nursing Resource Team was implemented. Enrolled nurses were employed specifically to respond to the request for CO, these nurses were permanently employed and had received initial and ongoing
training and support in their role. In both hospitals a request for CO was made following a subjective assessment by clinicians; no standard or organisational tool for determining this need.

Quantitative data collection design

An ‘after-only’ quasi-experimental design was undertaken to capture quantitative data. The identification of patients cared for within the CO model prior to the intervention was not possible due to lack of pre-study data. The preliminary analysis was limited and prevented the collection of all variables; it was therefore an incomplete picture. As a result an ‘after-only’ study was the most appropriate quantitative method.

Quasi-Experimental ‘after-only’ designs are useful for the development of nursing knowledge because they test the effects of nursing actions and lead to the development of further theory (Sullivan-Bolyai & Bova, 2010). This method also acknowledges the researchers’ inability to achieve full control over the patient and health care provider variables within the clinical setting. Cannon (2011) acknowledged that despite these limitations the research method and findings provide value in solving problems, making decisions and predicting outcomes, which can be invaluable to policy makers as a basis for making changes. The comparative evaluation of the CO models provided insight, which will guide executive management decision-making across the two local hospital sites.

Qualitative data collection design

A descriptive qualitative research approach was utilised to construct meaning of the nurses’ experiences when managing patients with ‘at risk’ behaviours.
Semi structured interviews were conducted with the nurses who formed the Nursing Resource Team (NRT), with the intent of capturing their responses and in so doing, capturing the grounded everyday experience of those providing care.

**Setting**

The study was undertaken across two acute care hospital sites within the Eastern Health metropolitan health service: Hospital A and Hospital B. Both hospital sites are similar in terms of service demographics, patient casemix and patient throughput. Hospital A operates a general acute inpatient bed base of 322 beds. Hospital B operates a general acute inpatient bed base of 365 beds, (multi-day units). Acuity of patients across both sites were comparable, when compared to the Victorian Department of Health acuity funding model: Weighted Equivalent Inler Scale (WEIS). Both hospital sites have emergency departments and annually treat an average of 48,500 patients (Hospital A) and 47,000 patients (Hospital B) respectively. The average age of the adult (greater than 18 years) in-patients, for the data collection period of financial year 2009-2010, was 57 years at Hospital A and 58 years at Hospital B.

**Data Collection**

**Quantitative data**

A retrospective audit of the Constant Observation database was conducted at both hospital sites to identify all patients from 1st July 2009 to 30th June 2010. By virtue of the patient’s hospital admission, circumstances beyond the control of this study, patients were either within the control group or the intervention group. All
patients placed under constant observation within the two general hospital sites were included; there was no exclusion criterion.

Data were collected from the health service internal Constant Observation database. This is an electronic record system capturing all patients placed under CO and details the patients’ demographic information; date of birth, gender, postcode, country of birth and Non English Speaking Background. In addition the database identifies patient behavioural profile, duration of CO episode, discharge destination, length of stay and readmission status. Data were entered into this system via receipt of a CO authorisation form, which was received and stored within nursing allocations office at each hospital site. The documented detail on this form is dependent upon the compliance of the requesting Nurse Manager to complete all data fields. The final data entry to the CO database was undertaken by different personnel at each site. At Hospital A data entry was completed by clerical staff within a Nursing Allocations office whereas, at Hospital B this was completed by the senior Nurse, or Deputy Director of Nursing.

Over the nominated time period, the audit revealed 156 patients at Hospital A and 191 patients at Hospital B were cared for in CO. The database findings were cross referenced with the authorisation data tool to ensure all patients were captured. This process identified an additional 45 patients at Hospital A and an additional 2 patients at Hospital B. A total of 394 patients were confirmed for the twelve-month period 2009-2010: Hospital A n=201 and Hospital B n=193.

Once identified all patients were screened for adverse events through the Victorian Hospital Incident Management System (VHIMS) incident reporting system, separating incidents occurring during the hospitalisation period and the CO episode of care. The researcher coded each incident accordingly; i) fall ii) violence / aggression
(incidents of patient aggression perceived to be threatening to staff or other patients are locally referred to as Code Grey responses), or iii) other (eg. medication error). Incidents were further analysed through review of the patient medical file, identifying documentation related to time of day, location of incident and any perceived predictors.

The internal Financial Management Information System (FMIS) was analysed by month to retrieve economic indices related to workforce assignment for constant observation shifts. Cost studies were undertaken from a narrow health service provider perspective (Russell et al 1996). The focus of the analysis was on the number of constant observation episodes and duration and the associated salaries and wages, with comparisons drawn across the intervention and control sites. The FMIS provides monthly acquittal of salaries and wages across all department budgets, making it possible to differentiate the associated costs of casual or permanent staff. When examining adverse events, a ‘health sector’ perspective facilitated a broader analysis of estimated cost incurred by the organisation and patient, and was limited to the acute hospital period. (World Health Organisation, 2003).

Qualitative data

Qualitative data were obtained through semi-structured one on one interviews conducted throughout November and December 2010, following the twelve-month data collection period. Ten (n=10) nursing staff comprised the Nursing Resource Team, with their clinical shifts occurring across all shifts seven days a week.

Semi-structured questions were informed by Levin’s (1973) conservation model theory, ‘nursing is a human interaction’. The questions were intent on exploring the nurse in the creation of the ‘healing environment’. Levin drew on
Nightingale’s premise that the nurse created an environment where healing could occur. There are four major principals around which the model is constructed:

1. Conservation of energy - deliberate decision as to the balance between activity (nursing interventions) and the person’s available energy.

2. Conservation of structural integrity - healing is a process of restoring structural integrity through nursing interventions that promote healing.

3. Conservation of personal integrity - recognising and assisting a person to maintain their sense of identity and self-definition.

4. Conservation of social integrity - the requirement for nurse to build a meaningful relationship with the patient.

Ultimately the nurse must tailor care and interventions that meet each patient’s unique needs, within the context of their world and experience. Patient centered care is individualised care, designed specifically for that patient.

The primary goal of the researcher is to link the empirical and the theoretical. Ragin and Becker (1992) explained the researcher’s goal to use theory to make sense of the evidence and to use evidence to sharpen and redefine theory. After developing the question schedule consultation was sought with the senior operational nurse manager, Deputy Director of Nursing, and the Psychiatric Consultation Liaison Nurse specialist for verification of the salient issues and therefore relevance of questions. They endorsed the question template.

The questions covered the following concepts and theoretical issues:

- Reason for undertaking the role
- Preparation and preparedness for their role
- Specific knowledge and professional constructs
CHAPTER 3: METHODS

- Experiences within the socio-political context of the current health care culture
- Major professional issues
- Avenues of support when undertaking this role

The senior nurse manager, Deputy Director of Nursing, who held responsibility for allocating the NRT daily shift assignment, provided the researcher with a team contact list. All members of the NRT were invited to participate in interviews, with consent obtained via telephone by the researcher. Nine nurses consented and participated in an interview. The tenth team member consented to an interview but was unable to attend due to annual leave.

All interviews were conducted in an onsite office, either prior to commencing a shift or immediately following completion of a shift. All interviews were taped, to ensure accurate representation of the interview questions and to provide quotes and qualitative material for data analysis, interpretation and description. All completed interviews were fully transcribed and formed the basis of the thematic analysis and theoretical interpretations.

Interviews followed a standard template of questions, with the flexibility to focus some questions (ie: demographic and clinical technical questions), and the scope to have open-ended questions to elicit further and full descriptions as directed by the participants. Interviews were constructed to encourage the nurse to talk about their experiences, feelings, opinions, knowledge constructs and issues of practice related to the provision of constant observation. The duration of the interviews ranged from 38 minutes to 44 minutes.
CHAPTER 3: METHODS

Data Analysis

Quantitative data analysis

Data analysis used statistical package Statistical Package for the Social Sciences (version 17, Chicago SPSS© Inc.). For all variables the data were analysed initially by total patient sample and then further examined by hospital site, drawing comparative analysis. Continuous variables are presented as means (standard deviation) if normally distributed, medians (inter-quartile range [IQR] or range) if the distribution was skewed and analysis of groups was undertaken using Mann-Whitney U test (medians). Categorical variables are reported as frequencies and proportions and groups were compared using Chi-square, (with Yates Continuity Correction as required). A p-value of <0.05 was considered to be statistically significant. Sociodemographic variables (eg age, gender, English speaking background, pre admission residence) provided a description of the overall sample and established the validity of the comparative study.

All patients receiving CO care were assigned a broad classification, indicative of their primary diagnostic group relevant to CO care, but not necessarily indicative of the behaviour of concern. Four broad groups formed the classification data set:

- Dementia / Delirium; which could exist independently or dependently and included general states of ‘confusion’.
- Psychiatric; acute psychosis, suicide intent, eating disorder
- Substance; drug, chemical or alcohol
- Other; inclusive of medical acuity, acute brain injury (ABI) and intellectual disability
In addition to the Constant Observation classification, all patients were assigned a behavioural ‘risk’ category. This was indicative of the predominant behaviour that threatened their safety or the safety of other patients or staff. Six categories formed this classification sub-set:

- Absconding; at risk of leaving the facility, actively attempting to leave
- Falls
- Suicide intent
- Violent / aggressive
- Wandering; in relation to the older patient and inability to orientate to the care setting
- Other; inclusive of eating disorders, self harm, acute medical instability

Analysis of economic outcomes following adverse events was not straightforward. Currently the Australian data on falls in hospitals do not distinguish between injuries that occur before and after admission. If a patient is admitted to hospital for one reason and falls while in hospital care, it is not recorded as a separate event, (Australian Commission on Safety and Quality in Healthcare, 2009). In 2003 the Australian Government Department of Health and Ageing commissioned a report to inform on projected costs of fall related injuries to older persons with consideration and reflection of the demographic changes in Australian (2003). The estimates within this report were calculated by multiplying the Australian Bureau of Statistics (ABS) population projections (1996 Series 2) by the estimated individual age specific health system costs for fall injury during financial year 1993-94, provided by Mathers and Penm, (1999). The fall injury estimates therefore were corrected for the effect of multiple co-morbidities that are common with increasing age. Mathers and Penm’s study provided the only available population-based health service utilisation and costs
of falls injury in Australia, with the average cost of fall related health care found to be $4,211 (female patients) and $3,366 (for males). This formula provided the basis for analysis and estimating in hospital costs of patient falls within the context of this study.

Economic comparisons were also drawn utilising data related to duration of constant observation episode, number of constant observation episodes during hospitalisation and profile of the workforce which reflected related salary costs.

**Qualitative data analysis**

Thematic analysis was used to analyse the qualitative data. Thematic analysis refers to a subjective and interpretive process in which themes/categories are designated from the narrative of the interview (Daly, Kellehear, & Gliksman, 1997). The process utilised in this study adapted an approach suggested by Daly et al. (1997), in which the following was undertaken:

- Counting, looking for repetition, recurring events/experiences/topics;
- Noting themes, patterns-looking for underlying similarities between experiences;
- Checking to see if single variables/events/experiences were multiple variables;
- Connecting particular events to general ones;
- Noting differences and similarities;
- Noting triggering, connecting or mediating variables;
- Noting if patterns in the data resemble theories/concepts;
- Noting clustered patterns and themes;
- Constructing thematic categories from data.
CHAPTER 3: METHODS

Situating the Researcher

The extent to which the researcher participates in his/her research varies in degrees and to the extent that their own story or bias is told alongside or affects their interpretation. The researcher has been directly involved with the health service pilot project, which preceded this study, and resulted in the strategic decision to establish the Nursing Resource Team model. The introduction of the NRT was not within the control of the researcher. In addition, the researcher has had no involvement in the nurse recruitment or assimilation to the NRT role, as a provider of constant observation, or in the individual’s ongoing commitment to the team, model or organisation.

The researcher committed to the following strategies to close the gap between the researcher and the nurse participant:

- Direct face to face interviews
- Full explanation, including participant consent, prior to meeting, by phone conversation
- Confirmation of consent and understanding of interview context prior to commencing interview
- During each interview, fully engaging with each participant and posing further open ended questions on themes as directed by the participant
- On conclusion of interview, closure and invitation to the participant to articulate any themes or information they considered unexplored through the previous interview questions

In addition, the researcher made a commitment to follow up with the participants, by providing a collective and de-identified summary of the themes of
interview and any organisational response to meet or address ongoing issues faced by the team.

**Ethical Considerations**

Ethics approval was sought prior to the study and granted through Eastern Health and Deakin University (see appendices). Ethical issues in this study were minimal as the specific patient data was routinely collected through the internal data systems. The patient specific identifier number allowed the tracking and investigation of adverse events, giving access to data and descriptors that were routinely collected. The data collected did not impact the patient, was held secure and therefore individual patient consent was not required.

The nurses interviewed, provided consent prior to attending an interview. Consent was granted following an informative discussion highlighting the aims of the research project.

**Summary**

This chapter presented the methods, conceptual framework and research objectives. The research setting, sample, design and analysis were outlined. Explanation was given to the position of the Researcher and the ethical considerations. The next Chapter presents the findings as explored under the research questions.
Chapter 4: Results

The aim of this study was to extend existing knowledge related to i) patient profile and ii) models of care for patients with ‘at risk’ behaviours within general hospital settings and iii) the experience of specialist nurses providing CO. This chapter presents the key findings and is divided into two main sections, which are indicative of the mixed methodology.

Section 1 presents the quantitative data analysis undertaken to answer the three major research questions:

- What was the prevalence and profile of patients with ‘at risk’ behaviour cared for using additional staff vigilance, constant observation, within the Australian general hospital setting?
- What was incidence of patient adverse events when receiving additional CO vigilance provided by a specialist nursing team by comparison to a traditional ‘sitter’ (casual or contracted agency staff) model?
- What was the economic impact when comparing the two CO models of care?

Section 2 presents the qualitative findings, which was designed to supplement the audit results through answering the research question:

- What was the lived experience of the specialist general nurse providing additional observation to patients with ‘at risk’ behaviours and was there evidence of the specialist general nurse creating a therapeutic relationship?

Section 1: Quantitative Findings

Data were collected across a twelve-month period (financial year 2009-2010) and represents all patients managed under Constant Observation (CO) within the two general acute hospital sites: Hospital A being the control group and Hospital B
representing the intervention group. A total of 394 patients were assessed, comprising 201 patients in Hospital A and 193 patients in Hospital B.

Section 1 is organized into three sections. Firstly, the patient profile was examined across the two hospital sites, exploring the variables of constant observation classification, age, gender, country of origin, place of usual residence, risk behaviour, length of stay and readmission within 48 hours of discharge. Secondly, the patient risk events were compared. Finally, the economic variables were examined.

**Patient Profile**

**Constant Observation classification**

All patients were assigned a broad classification, indicative of their primary diagnostic group relevant to constant observation care, but not necessarily indicative of the behaviour of concern; dementia +/- delirium, psychiatric, substance and ‘other’. For the total patient sample, the greatest numbers of patients reflected dementia/delirium (52.8%) followed by psychiatric disorders (32%), representing 85% of the total patient sample. The remaining 15% of patients were within the profile of “other” and “substance”.

When compared across the two hospital sites (Table 4.1), the distribution of patients within these categories was very similar. The two dominant patient classification groups were comparable, with Hospital A having slightly higher numbers in the dementia +/- delirium (n = 110, 54.7%) patient group.
Table 4.1. Constant Observation classification by hospital site

<table>
<thead>
<tr>
<th>CO Classification</th>
<th>Hospital A</th>
<th></th>
<th>Hospital B</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td></td>
<td>n (%)</td>
<td></td>
</tr>
<tr>
<td>Dementia / Delirium</td>
<td>110 (54.7)</td>
<td></td>
<td>98 (50.8)</td>
<td></td>
</tr>
<tr>
<td>Psychiatric</td>
<td>64 (31.8)</td>
<td></td>
<td>62 (32.1)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>20 (10)</td>
<td></td>
<td>22 (11.4)</td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>7 (3.5)</td>
<td></td>
<td>11 (5.7)</td>
<td></td>
</tr>
</tbody>
</table>

A Chi-square test highlighted no significant difference within the CO classification groups between the two hospital sites, $\chi^2 (3, n = 394) = 1.546$, $p = .672$.

Age

The mean age across the sample was 62.3 (SD 23.5), ranging from 14 to 100 years. Two major age clusters were represented in the age profile, with greater proportions in the 75+ year olds and a smaller cluster within the profile of the 20-35 year olds (Figure 2). The median age of the total patient sample was 70 years, which reflected the higher number of older patients experiencing cognitive dysfunction, as displayed in dementia and/or delirium.
Figure 2. Age Distribution total patient sample

The age distribution reflected in Figure 3 was also represented in each hospital patient group. Hospital A patients had a mean age of 70 years (IQR 45.5,82.5) and Hospital B patients had a mean age of 69 years (IQR 38.83).

Figure 3. Comparison of patient age profile across the two hospital sites
CHAPTER 4: RESULTS

A Mann-Whitney U Test revealed no significant difference in the age profile across the two hospital sites: Hospital A (Md = 70, n= 201), Hospital B (Md=69, n= 193) and U = 18114, z = -1.13, p = 0.26, r = .05.

Across the total patient sample, age was also examined within the two dominant CO classification groups. Patients suffering dementia / delirium were found to have an average age of 79.45 years and patients with psychiatric illness had an average age of 42.23 years, (Table 4.2).

Table 4.2. Age Profile by Patient Category

<table>
<thead>
<tr>
<th>Patient Category</th>
<th>n (%)</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dementia/ Delirium</td>
<td>208 (62)</td>
<td>79.5</td>
<td>9.5</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>126 (37)</td>
<td>42.2</td>
<td>19.6</td>
</tr>
</tbody>
</table>

Age was further explored, comparing the two dominant CO classification groups within the two hospital sites. A close correlation of age was evident within the dementia +/- delirium patient cohort, however the psychiatric patient cohort was slightly younger in age (M< 5.5 years) within Hospital B (Table 4.3).
Table 4.3: Age Profile by Patient Category - comparison by hospital site

<table>
<thead>
<tr>
<th>Patient Category</th>
<th>n (%)</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementia/</td>
<td>110 (75)</td>
<td>78.96</td>
<td>9.911</td>
</tr>
<tr>
<td>Delirium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric</td>
<td>64 (25)</td>
<td>44.94</td>
<td>18.116</td>
</tr>
<tr>
<td><strong>Hospital B</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dementia/</td>
<td>98 (76)</td>
<td>80.00</td>
<td>8.686</td>
</tr>
<tr>
<td>Delirium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatric</td>
<td>62 (24)</td>
<td>39.44</td>
<td>20.832</td>
</tr>
</tbody>
</table>

**Gender**

Within the total patient sample, males were slightly over represented (52%).

Within Hospital A male patients were higher in number (57.2%) as compared to male patients within Hospital B (46.1%), (Table 4.4).

Table 4.4. Gender Comparison across Hospital sites

<table>
<thead>
<tr>
<th></th>
<th>Hospital A</th>
<th>Hospital B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Female</strong></td>
<td>n (%)</td>
<td>86 (42.8)</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>n (%)</td>
<td>115 (57.2)</td>
</tr>
</tbody>
</table>

A Chi-square test for independence (with Yates Continuity Correction) indicated a significant difference in the proportion of males and females within the two samples, \( \chi^2 (1, n=394) = 4.42, p = .035 \)

The gender split within the two dominant patient classification groups was examined across the total patient cohort revealing a greater proportion of males
represented in the dementia +/- delirium group (56.4% v. 48.9%). In contrast a greater proportion of females were represented within the psychiatric patient group (37.9% v. 26.5%). Of note was the gender distribution within the smaller patient classification group of ‘substance’; males were dominant (66.7% v. 33.3%), (Table 4.5).

Table 4.5. Gender by Patient Classification

<table>
<thead>
<tr>
<th></th>
<th>Dementia/ Delirium</th>
<th>Psychiatric</th>
<th>Other</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>n (%)</td>
<td>93 (48.9)</td>
<td>72 (37.9)</td>
<td>19 (10)</td>
</tr>
<tr>
<td>Male</td>
<td>n (%)</td>
<td>115 (56.4)</td>
<td>54 (26.5)</td>
<td>23 (11.3)</td>
</tr>
</tbody>
</table>

For the total patient group a Chi-square test for independence indicated no significant difference in the proportion of males and females by Patient Category, $\chi^2(1, n=394) = 6.8, p = .079$.

Gender was further examined by hospital site within the two dominant patient classification groups (Table 4.6). Both hospital groups had a higher percentage of male patients within the dementia +/- delirium classification, Hospital A (63.5%) and Hospital B (74%). Females were represented in a higher percentage within the psychiatric classification at both hospitals, Hospital A (37.2%) and Hospital B (49.4%).
Table 4.6. Gender comparison by CO classification

<table>
<thead>
<tr>
<th>Hospital A</th>
<th>Female n (%)</th>
<th>Dementia/ Delirium</th>
<th>Psychiatric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>n (%)</td>
<td>49 (62.8)</td>
<td>29 (37.2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hospital B</th>
<th>Female n (%)</th>
<th>Dementia/ Delirium</th>
<th>Psychiatric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>n (%)</td>
<td>61 (63.5)</td>
<td>35 (36.5)</td>
</tr>
</tbody>
</table>

A Chi-square test for independence (with Yates Continuity Correction) indicated a significant difference in gender when comparing the two dominant patient categories, indicating a higher percentage of males within the dementia/delirium group and a higher percentage of females within the psychiatric group, \( \chi^2 (1, n=334) = 8.2, p = .004 \)

**Country of origin**

Country of birth revealed the majority of patients being of Australian origin and English speaking (76.4%). No one specific country or region was over represented in those patients not of Australian birth. By comparison across the two hospital sites, Hospital B had a slightly higher representation of patients who were not from English speaking origin (28%) than Hospital A (19%).

An interpreter was employed for one patient (0.5%) in Hospital A and for 10 patients (5%) in Hospital B. A Chi-square test for independence (with Yates Continuity Correction) indicated a significant difference in use of interpreter between hospital site, \( \chi^2 (1, n= 394) = 6.33, p= 0.01 \)
Pre admission residence

The patients’ pre-hospital place of residence, commonly referred to as ‘pre-morbid origin’, can provide some indication of the patients’ degree of independence and/or complexity of illness. The total patient sample was examined and highlighted the majority of patients presented from home (73.1%) and the second largest group presented from a residential aged care facility (RACF) (24.9%). The RACF in real terms was ‘home’ for the patient, however the two places of origin were separated for the purpose of analysis (Figure 4). The category ‘Other’ captured patients admitted from other hospitals or mental health facilities.

![Graph showing distribution of pre-admission residence](image)

Figure 4. Pre Admission Residence - total patient sample

Comparison across the two hospital sites highlighted a similar distribution, with the majority of patients being admitted from home, (Figure 5).
A Chi-square test for independence (with Yates Continuity Correction) indicated no significant difference in pre admission residence (pre morbid location) between the two hospital sites, $\chi^2 (1, n=386) = .03, p=0.86$.

**Behavioural risk category**

In addition to the Constant Observation classification, all patients were assigned a behavioural ‘risk’ category. This was indicative of the predominant behaviour that threatened their safety or the safety of other patients or staff. Six categories formed this classification sub-set; absconding, falls, suicide intent, violence/aggression, wandering, other.

A comparison across the hospital sites revealed a similar distribution of patients within the behavioural groups (Table 4.7). Patients exhibiting violent and aggressive behaviour were found to be the dominant group at both hospital sites, followed by those at risk of falls and wandering. Patients within the category ‘other’
were most commonly those with behaviour that compromised treatment interventions, for example the maintenance of intravenous therapy.

Table 4.7. Behavioural Risk Category—comparison by hospital

<table>
<thead>
<tr>
<th></th>
<th>Hospital A</th>
<th>Hospital B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>Absconding</td>
<td>29 (14.4)</td>
<td>14 (7.3)</td>
</tr>
<tr>
<td>Falls</td>
<td>37 (18.4)</td>
<td>35 (18.1)</td>
</tr>
<tr>
<td>Suicide Intent</td>
<td>33 (16.4)</td>
<td>34 (17.6)</td>
</tr>
<tr>
<td>Aggression/ Violence</td>
<td>51 (25.4)</td>
<td>53 (27.5)</td>
</tr>
<tr>
<td>Wandering</td>
<td>39 (19.4)</td>
<td>32 (16.6)</td>
</tr>
<tr>
<td>Other</td>
<td>12 (6)</td>
<td>25 (13)</td>
</tr>
</tbody>
</table>

A Chi-square test for independence indicated no significant difference within the behaviour classification between hospital sites, $\chi^2 (5, n=394) = 10.4$, $p=0.64$

**Length of stay**

Length of stay for the whole patient sample was an average of 13.13 days, with a median of 9 days (Figure 6).
Figure 6. Length of Stay - by total patient sample

Within Hospital A, the minimum stay was 1 day and the maximum was 110 days (Md 9, IQR 4,19). Within Hospital B the minimum stay was 1 day and maximum 83 days (Md 8, IQR 4,18).

A similar length of stay distribution was evident within both hospital sites (Figure 7) and highlighted no significant difference in length of stay.

Figure 7: Comparison of Length of Stay - by hospital site
CHAPTER 4: RESULTS

It was noted that both hospital groups had significant outliers represented within the length of stay data; Hospital A had one patient at 110 days and Hospital B had two patients at 83 and 79 days respectively. These three outliers were removed from the data set and statistical analysis was repeated. Despite the removal of the outliers there was no significant change in length of stay (Table 4.8).

Table 4.8. Length of Stay – comparison by hospital site with removal of outliers

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>n</th>
<th>Std. Deviation</th>
<th>Grouped Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital A</td>
<td>12.67</td>
<td>200</td>
<td>11.778</td>
<td>8.81</td>
</tr>
<tr>
<td>Hospital B</td>
<td>12.39</td>
<td>391</td>
<td>12.065</td>
<td>8.53</td>
</tr>
</tbody>
</table>

A total of eight patients exceeded the 75th percentile for Length of Stay within Hospital B. By comparison only three patients exceed the 75th percentile for Length of Stay within Hospital A. Yet, overall Hospital B patients had a slightly shorter Length of Stay (Figure 8).

Figure 8: Length of Stay - distribution comparison by hospital site
A Mann-Whitney U test revealed no significant difference between the Length of Stay across the two hospital sites; Hospital A (Md = 8.81, n= 200), Hospital B (Md = 8.18, n= 191) and U = 18096, z = -0.9, p = 0.37, r= 0.05.

Length of stay by CO classification group was found to be insignificant, (Figure 9). For the dementia / delirium patient group Hospital A had a length of stay of 16.05 days (STD 14.7), and Hospital B 16.02 days (STD 13.3). For the psychiatric patient length of stay was 7.97 days (STD 7.3) at Hospital A and 8.92 days (STD 13.9) at Hospital B.

![Figure 9: Length of Stay by CO classification group](image)

Readmission within 48 hours

The key performance indicator of readmission rate within 48 hours was an outcome measure within this study. This indicator loosely informs on quality of care and draws inference regarding readiness for discharge. Victorian public hospitals are required to report this indictor to the state health department. As such, it was included in the study to highlight potential differences in quality of care. Both hospital sites were found to have a 14% readmission rate for the patients who had
been managed under CO as part of their hospitalisation period. A Chi-square test for independence (with Yates Continuity Correction) indicated no significant difference in readmission within 48hrs between hospital sites, $\chi^2 (1, n= 394) = 0.0, p= 1.0$.

In summary, the patient profile across the two hospital sites was remarkably similar with no statistical significant difference found when comparing; age, constant observation classification, risk behaviour, pre admission origin, ratio of non-English speaking country of origin, length of stay and readmission rates. The only indicator found to be significantly different was gender, as compared within the constant observation classification dominant groups.

**Risk Events**

**Risk events during hospitalisation**

Across the total patient sample 84 patients (21.3%) suffered an adverse risk event during the hospitalisation period, excluding the constant observation episode(s). Comparison between the two hospital sites showed a similar number of risk events, with only a slightly higher percentage of risk events at Hospital B (22.8%) compared to Hospital A (19.9%), (Table 4.9). A Chi-square test (with Yates Continuity Correction) highlighted no significant difference in number of risk events between the two hospital sites, $\chi^2 (1, n = 394) = .33, p = .56$.

Table 4.9. Risk event during hospitalisation episode (excluding CO period).

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Risk Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital A</td>
<td>n (%)</td>
<td>161 (80.1)</td>
</tr>
<tr>
<td>Hospital B</td>
<td>n (%)</td>
<td>149 (77.2)</td>
</tr>
</tbody>
</table>
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Four patients experienced multiple adverse events during their hospitalisation period; Hospital A n=3, Hospital B n=1. For the purpose of analysis these patients were viewed as outliers and were removed from the risk event analysis.

The data were further explored within the risk event category. The two major groups represented within risk events related to i) falls and ii) incidents of aggression or threatening behaviour. In addition the patient constant observation classification was examined within the two dominant classification groups, Dementia/Delirium and Psychiatric, in order to gain information related to the profile of patients experiencing risk events.

Patients who have a dementia and delirium had a relatively similar incidence of falls incidents (45%) and violent/ aggressive incidents (54.8%). By contrast risk events related to the psychiatric patient were exclusively incidents of violence and aggression, (Table 4.10). A Chi-square test (with Yates Continuity Correction) highlighted a significant difference between the two patient classification groups, with psychiatric patients having no episodes of falls incidents, $\chi^2(1, n = 63) = 11.5$, p < .001.

**Table 4.10. Risk events during hospitalisation by CO classification**

<table>
<thead>
<tr>
<th></th>
<th>Violence / Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aggression</td>
</tr>
<tr>
<td>Dementia / Delirium</td>
<td>23 (54.8)</td>
</tr>
<tr>
<td>n (%)</td>
<td>19 (45)</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>21 (100)</td>
</tr>
<tr>
<td>n (%)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

For comparative purposes, the same data were further collapsed by hospital site, examining the two major risk events (Violence/Aggression and Falls) by the two dominant patient classifications (Dementia/Delirium and Psychiatric). Violent/aggressive events were represented higher within Hospital A (76.5%) compared with
Hospital B (62.1%). In relation to falls events Hospital B was found to have a slightly higher incidence (37.9%) compared to Hospital A (23.5%). Within the dementia/delirium patient classification both hospital sites had a similar number of risk events, Hospital A (n=20) and Hospital B (n=22), with a relatively even split between violent/aggressive events and falls events, (Table 4.11). However, within the psychiatric patient classification group violent/aggressive events were greater at Hospital A by 50%.

Table 4.11. Risk Events (falls & violence / aggression) during Hospitalisation by CO classification – comparison by hospital site

<table>
<thead>
<tr>
<th></th>
<th>Violence / Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aggression</td>
</tr>
<tr>
<td>Hospital A</td>
<td></td>
</tr>
<tr>
<td>Dementia</td>
<td>n (%) 12 (60)</td>
</tr>
<tr>
<td>Delirium</td>
<td></td>
</tr>
<tr>
<td>Psychiatric</td>
<td>n (%) 14 (100)</td>
</tr>
<tr>
<td></td>
<td>0 (0)</td>
</tr>
<tr>
<td>Hospital B</td>
<td></td>
</tr>
<tr>
<td>Dementia</td>
<td>n (%) 11 (50)</td>
</tr>
<tr>
<td>Delirium</td>
<td></td>
</tr>
<tr>
<td>Psychiatric</td>
<td>n (%) 7 (100)</td>
</tr>
<tr>
<td></td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

In summary, both hospital sites had similar rates of risk events during the hospitalisation period. However, a significant difference\(^2\) was found with a higher incidence of violence and aggression within the psychiatric patient profile at Hospital A.

**Risk events during the constant observation episode**

When comparing the incidence of risk events across the total patient group the incidence decreased by 5.6% when patients were managed with constant

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\(^2\) Chi square statistical analysis was prevented as 0 value was breeched in > than 5 cells.
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observation. A total of 62 patients suffered an incident during the constant observation care period, compared to 84 patients suffering incident during their general hospitalisation period.

A comparison was then drawn between the hospital sites. Despite Hospital B having a slightly higher incidence of risk events during the hospitalisation period (22.8%), as compared to Hospital A (19.9%), risk events during the constant observation period at Hospital B decreased and were found to be statistically significantly lower. At Hospital B risk events decreased by 14.5%, which represented 16 patients experiencing an incident. At Hospital A risk events actually increased by 3% during the constant observation period, representing a total of 46 patients experiencing an incident, (Table 4.12). This indicated that a patient was 2.8 times more likely to suffer a risk event when managed under the traditional model of constant observation care within Hospital A, as compared with the nursing resource team intervention model within Hospital B.

Table 4.12. Risk events during CO episode

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Risk Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital A</td>
<td>n (%) 155 (77.1)</td>
<td>46 (22.9)</td>
</tr>
<tr>
<td>Hospital B</td>
<td>n (%) 177 (91.7)</td>
<td>16 (8.3)</td>
</tr>
</tbody>
</table>

A Chi-square test (with Yates Continuity Correction) highlighted a significant difference between risk events within the two hospital sites, $\chi^2 (1, n = 394) = 14.7$, p < .001, indicating Hospital B had a lower incidence of risks and enhanced patient safety.

The data were further explored within the risk event category, for the two dominant groups of i) falls and ii) incidents of violent or aggression behaviour.
Within the total patient sample, during the constant observation period, there was a comparable rate of falls (50.8%) and incidents of violence/aggression (49.2%).

Although there were lower numbers of risk events within Hospital B, comparison of the risk event categories highlighted a similar ratio in the percentage of falls and incidents of violence/aggression (Table 4.13).

Table 4.13. Risk events (falls & violence/aggression) during CO period - comparison by hospital site

<table>
<thead>
<tr>
<th></th>
<th>Violence / Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aggression</td>
</tr>
<tr>
<td>Hospital A</td>
<td>n (%)</td>
</tr>
<tr>
<td>Hospital B</td>
<td>n (%)</td>
</tr>
</tbody>
</table>

A Chi-square test (with Yates Continuity Correction) highlighted no significant difference between the ratio of falls incidents and violent/aggressive incidents for each hospital group, $\chi^2 (1, n = 394) = .04, p = 0.83$.

At Hospital A an additional two events occurred and were classified “other”, both incidents related to medication administration errors and for the purpose of this analysis these incidents were not included in the analysis.

Three patients experienced multiple adverse events during the constant observation period; Hospital A n=2, Hospital B n=1. These patients were atypical of the population and formed a significant confounding variable, altering the number of risk events that could be attributed to the model of care. For the purpose of analysis these patients were viewed as outliers and were removed from the data related to the following risk event analysis.
The risk event data, representing the constant observation episode, were further collapsed by hospital site, differentiating the two dominant patient classification groups (Dementia/Delirium and Psychiatric).

Within the Dementia/ Delirium patient classification group the number of falls, compared to violence/ aggression events, were double with this patient group experiencing twice as many falls comparative to incidents of aggression (Table 4.14).

Table 4.14. Risk Events (falls & violence / aggression) during CO episode by CO classification – comparison by hospital site

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Violence Aggression</th>
<th>/ Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital A</td>
<td>Dementia / n (%) 11 (34.4)</td>
<td>21 (65.6)</td>
</tr>
<tr>
<td></td>
<td>Delirium n (%) 9 (100)</td>
<td>0 (0)</td>
</tr>
<tr>
<td></td>
<td>Psychiatric n (%) 3 (100)</td>
<td>0 (0)³</td>
</tr>
<tr>
<td>Hospital B</td>
<td>Dementia / n (%) 4 (33.3)</td>
<td>8 (66.7)</td>
</tr>
<tr>
<td></td>
<td>Delirium n (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychiatric n (%) 3 (100)</td>
<td>0 (0)³</td>
</tr>
</tbody>
</table>

The patient risk incident documentation, as applicable to the risk events occurring during the constant observation episode, was examined to gather further information related to the nature of the event or possible contributing factors.

Falls

At Hospital A, falls events (n= 21) occurred across the 24hr time period, the majority (n= 13) were within the afternoon and evening hours (2:20pm – 11:50pm). An adverse outcome resulted in eight of these incidents; bruising and haematoma (n= 8), lacerations (n=3), loss of consciousness (n=2), fracture (n=3).

³ Chi square statistical analysis was prevented as 0 value was breeched in > than 5 cells.
At Hospital B, falls events (n=8) predominantly occurred when the Nursing Resource Team was not managing the patient. Although the team was operational seven days a week and across the 24-hour period, there were occasions when the team were unable to fulfill all the demand for CO, or as reported by the NRT, they were re-deployed to fulfill another nursing shift when ‘nursing’ resources were unavailable. For the data collection period, the NRT provided 87% of all constant observation care. When demand for CO was high in Hospital B there was a small number of occasions (13%) when other resources were required (eg: nurse or patient attendant) for the provision of CO.

When the NRT were managing the patient 37.5% of falls occurred, representing three patient incidents. One of the falls incidents occurred when the NRT nurse was absent on a meal break and the patient was under the care of the unit staff. In this incident the patient suffered haematoma with no serious outcome. The other two instances involved the patient rolling from a low-low bed. In both these instances the patients’ suffered nil adverse effect.

Five falls incidences (62.5%) occurred when a contracted worker was caring for the patient. All fall events transpired in the afternoon and evening hours (1:15pm – 10:45pm), during handover periods. An adverse outcome resulted in three of these incidents; bruising and haematoma (n= 3), fracture (n=1).

Violence and Aggression

Within Hospital A, examination of the incidents of violent and aggression (n=20) did not reveal any pattern related to time or day of the event. Some events occurred in the middle of the weekday and other events in the late evening and overnight.
Within Hospital B, incidents of violence and aggression (n=7) occurred in the early evening and overnight. Only two of these events occurred when the NRT were managing the patient. Both events related to older male patients suffering dementia/delirium who exhibited unpredictable bursts of aggression. On both occasions a female NRT nurse was providing care.

**Economic Factors**

**Constant Observation Hours**

For each patient, the duration of the constant observation episode was measured in hours. The combined total hours, across the two hospital sites, was 19,669.1 hours, representing 2,129 episodes of constant observation care.

However, the total constant observation hours by hospital site varied with Hospital A recording 12,719 hours (1230 episodes) and Hospital B recording 6,949.30 hours (899 episodes). This represented a higher incidence of 331 episodes resulting in 5,770.5 hours of additional constant observation at Hospital A.

Hospital A (Figure 10) is indicative of the 201 patients managed under CO care during the data collection period. The mean duration of CO was 63.28 hours (approximately 2.5 days). Hospital B, the intervention site, was found to have a statistically significant difference in the duration of constant observation. Hospital B, (Figure 10) is indicative of the 193 patients managed under CO care during the data collection period. The mean duration of CO was 33.33 hours (approximately 1.4 days) this was 29.95 hours less than Hospital A.
Figure 10: Duration of CO (hours) - comparison across hospital sites

A Mann-Whitney U test revealed a significant difference between the duration of CO hours across the two hospital sites Hospital A (Md = 36.55, n= 201), and Hospital B (Md = 16.3, n= 192) $U = 12729$, $z = -5.83$, $p = .001$, $r= 0.29$, with Hospital A allocating significantly more hours to CO compared with Hospital B.

Comparison of the mean CO hours by classification group highlights the variation across the two hospital sites (Figure 11).
Figure 11: Mean CO hours by classification group - comparison by hospital site

The ‘at risk’ behaviour requiring the highest number of CO hours was falls. Yet, in every ‘at risk’ behavioural category Hospital B utilised less CO hours (Figure 12).

Figure 12: Mean CO hours by 'at risk' behaviour - comparison by hospital site
Workforce Expenditure

The different staffing profile at each hospital site had an economic impact. Hospital A, the control site, exclusively utilized contracted workers; both patient care attendants (average hourly salary $35) and enrolled nurses (average hourly salary $55). A smaller proportion of constant observation hours (27%) was provided by casual employees; (bank) enrolled nurses (average hourly salary $43).

Hospital B, the intervention site, predominantly (87%) utilised the specialist nursing resource team. These staff are permanent enrolled nurse employees (average hourly salary $38 inclusive of on costs⁴), the remaining 13% of hours was provided by contracted enrolled nurses or patient attendants.

An estimate of the total salary costs for both hospital sites revealed significantly reduced costs for Hospital B, (Table 4.15), saving an estimated $295,000.00 pa.

⁴ On costs refer to superannuation, sick leave, annual leave and acquired day off (ADO).
Table 4.15. Workforce cost analysis – comparison by hospital site based upon constant observation hours

<table>
<thead>
<tr>
<th></th>
<th>Hospital A</th>
<th>Hospital B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contracted Worker</strong></td>
<td>hours (%)</td>
<td>9284 (73)</td>
</tr>
<tr>
<td>(PCA – EN)</td>
<td>$ (Mean)</td>
<td>$417,819.00</td>
</tr>
<tr>
<td><strong>Casual EN</strong></td>
<td>hours (%)</td>
<td>3,434 (27)</td>
</tr>
<tr>
<td></td>
<td>$ (Mean)</td>
<td>$ 147,677.05</td>
</tr>
<tr>
<td><strong>Permanent EN</strong></td>
<td>hours (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$ (Mean)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>hours</td>
<td>12719</td>
</tr>
<tr>
<td></td>
<td>$ (Mean)</td>
<td>$565,496.05</td>
</tr>
</tbody>
</table>

**Discharge destination**

Across the total patient number (n=394) the majority of patients (52.3%) returned home (n= 206). This was a 20.8% reduction in the number of patients who were admitted from ‘home’. The second highest discharge destination (n=94) was to a RACF with 23.9% of all patients discharged to this sector, yet was 1% fewer than were admitted from RACF. The rehabilitation setting registered very small numbers on admission (n=2), however on discharge 14.7% of patients (n=58) were received into the sub-acute sector. Similarly there were no patients admitted directly from mental health facilities however, 8.1% of patients (n=32) were received by specialist mental health facilities on discharge. A small number of patients (n=4) were captured within the ‘other’ group, which generally relates to transfer to another acute facility, either public or private.
Discharge destination was further examined across the two hospital sites with the findings highlighting a statistically significant difference. The highest numbers of patients, from both hospital sites, were discharged to ‘home’. However more patients from Hospital B 63.4% (n=121) were discharged home compared to Hospital A 42.7% (n=85). Comparative to the patient admission origin, at Hospital A this represented a decrease of 29.4% of patients discharged directly home and at Hospital B a decrease of 10.7%. Patients were significantly more likely to be discharged ‘home’ from Hospital A compared with Hospital B (Figure 13).

Patient numbers discharged to RACF’s were similar across both hospital sites and represented a similar percentage compared to admission origin.

Across both hospital sites, more patients were discharged to a rehabilitation setting compared to their admission origin; Hospital A 17.1% (n=34) and Hospital B 12.6% (n=24).

Great disparity was evident in the numbers of patients discharged to a mental health service or facility. No patient was admitted from the mental health sector however at Hospital A 15.1% (n=30) were discharged to a mental health setting compared to only 1% (n=2) of patients from Hospital B.
Figure 13: Discharge destination - comparison by hospital site

A Chi-square test highlighted a significant difference between the discharge destination for each hospital group, $\chi^2 (3, n = 390) = 32.7, \ p = <0.01$.

Risk events

Falls with injury

The following financial estimates are calculated based upon figures and population trends detailed within the Australian Government Department of Health and Ageing 2003 report, which detailed projected costs related to fall injury. The cost calculations were based upon applying the average costs of fall injury to the projected Victorian population (Mathers and Penn 1999). In 2011 the Victorian projected cost per fall injury were estimated at $6,570 per in-patient public hospitalisation episode. Although relatively one dimensional this data formed the basis for the economic comparison across the two hospital sites.

Hospital A recorded 21 falls within the constant observation period. Of these thirteen (n=13) events resulted an injury, with three (n=3) of these events having serious outcome, traumatic fracture. A total estimate of cost, related to falls with
injury, for the Hospital A patient group was $85,410.00. This figure represented the average of $6,570 per fall multiplied by 13.

Hospital B recorded eight falls within the constant observation period. Of these events, four (n=4) falls were with injury and included one event (n=1) that resulted in fracture. A total estimate of cost, relating to falls with injury, for the Hospital B patient group was $26,280.00. This figure represented the average of $6,570 per fall multiplied by 4.

Overall Hospital B was found to have a lower economic burden when comparing; workforce profile, constant observation hours and acute in patient falls events.

Section 2: Qualitative Findings

The qualitative data were gathered through semi-structured interviews undertaken with the nine (n=9) nurses who comprised the Nursing Resource Team (NRT).

Demographic characteristics

Of the nine nurses who agreed to take part in the research study; seven were female and two male. All nurses had been NRT members for a minimum of six months, with six of the nurses being original team members who commenced with the inception of the model in March 2009.

The average age of the participants was 44 years (SD 8). The NRT nurses worked two or more shifts per week, with four nurses working full time. One nurse worked permanent night duty shifts and one nurse, due to study commitments, elected to work only weekends.

All team members were Enrolled Nurses with a scope of practice that incorporated medication administration. Eight of the nine nurses had been nursing for 10 or more years,
with five of the nurses having previous experience within the Aged Care sector, both within public and private residential aged facilities. Three nurses had previous recent acute experience with one nurse recruited from a medical ward within Hospital B. One nurse was undertaking conversion to Registration Nurse (Division 1), following five years of previous experience as a patient care attendant within a rehabilitation setting.

Why become a NRT member?

The interviews commenced with a simple question, regarding the participant’s decision to join the NRT. One nurse described the role as ‘emotionally and mentally hard every day’. A role that most nurses would actively avoid, in fact as one NRT member expressed, ‘the nurses on the wards are generally frightened of these patients’.

Each participant had a unique story to tell, with respect to his or her personal motivation to join the team. For one nurse it was the simple and basic attraction of regular permanent work, which was close to home. Another nurse described the need for ‘something different...a new challenge’. One nurse explained;

‘I just felt I needed a change and starting something from the ground up and being in charge of working up a new model and contributing to create it was an exciting prospect’.

Three nurses identified that the NRT role allowed them to unite their skills and experience from the aged care sector with the acute setting.

‘I just felt this was right for me......I have a diverse background and I felt it was in me......I was lead to do this type of work’.

The youngest team member acknowledged that his decision at the time of joining the team was a little unclear. He thought the permanency of weekend work would facilitate his study agenda. However he went on to concede that the experience within the role had helped him
achieve his Registered Nurse qualification and further led him to a career within mental health.

Two nurses recognised the role would offer variety in terms of different ward environments and different staff;

‘I like working on wards getting to know a lot of different people ....I felt that this was right for me at this stage’.

One nurse summarized her fundamental source of motivation:

‘I wanted a role which would allow me to care.....the day I stop caring is the day I stop nursing’.

**Role definition**

The NRT members all expressed a clear understanding of their role and expectations prior to commencing within the team model. All nurses understood the assignment of ‘specialling’ and the general patient profile that required additional vigilance of observation, particularly with respect to the older patient with cognitive dysfunction. Some nurses had been converted from casual workers to permanent NRT members, having already been fulfilling the constant observation role intermittently. One nurse described the commonality of the work;

‘the fact is that these patients were on our wards anyway, you were looking after these patients as well as the rest of your workload....so to do it one on one I find it very satisfying’.

One nurse described the nature of the work, drawing an analogy with caring for a baby;

‘much of this role is common sense, same as when you have a baby, you need to figure out their issue; could be hot, cold, hungry, thirsty, wet’.
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However, both these examples were superficial and an enhanced appreciation of the role evolved through the interviews as the nurses recounted certain patient scenarios and challenges.

Most of the NRT nurses (77%, n=7) were quick to clarify and express what the role was not:

‘I hate being referred to as a sitter.....I will never introduce myself to a patient or their family as a sitter....this term belittles what we do’

One nurse emphatically disputed a common perception of the role;

‘we’re not sentries, bodyguards or bouncers’.

Every NRT nurse expressed, often through clinical examples, the importance of their role in managing patients with challenging behaviours. Primarily the nurses communicated the importance of keeping patients safe and making a connection of trust.

‘you are there to provide safety....if anything goes wrong it falls on you because you are the primary carer’.

The nurses explained the contradictory scenario, which was what they often witnessed on acute busy wards; vulnerable patients, managed without constant observation, often became more distressed within a busy ward environment because staff were busy, not necessarily visual and a patient could be left feeling isolated, stressed, ignored and therefore at risk of harm to self.

So how did the NRT nurses maintain safety for their patients? Paramount to achieving the best outcomes for patients within these profiles was the ability to keep them safe, which required astute alertness and an ability to read subtle clinical and behavioural changes. One NRT member used the following analogy:
'It's like you need to be a squirrel on speed; you have to be very alert and ready for anything, able to assess very quickly and react instantly to divert or intervene if necessary'.

All NRT nurses held the view that they played a pivotal role in keeping their patients safe and improving their overall management. One nurse described a ‘multitude of benefits’, believing anecdotally that patients were less medicated, not managed with physical restraint and physically monitored and protected which allowed for ‘healing’ and ‘recovery’ time for basic mental function. Without their presence one nurse concluded that; ‘the patient’s safety would be compromised’.

‘there are all sorts of things that you have to watch for and I feel that it is a lot to take on board….you have to predict incidents before they happen’.

One nurse relayed a story of caring for a young patient, suffering acute psychosis, whilst being managed within the busy emergency department:

‘we spent the whole day talking and sharing stories….she had been fantastic…then it was time for me to hand over, she was going to the ward…suddenly she had grabbed a pajama cord and put it around her throat, I quickly put my hand underneath the cord and stopped it from tightening and grabbed my scissors and cut it. Later she explained that she didn’t want me to go…she had trusted me’.

The NRT nurses did not attribute positive patient outcomes to simply provision of an available physical presence; somebody watching and ready to intervene. Rather, they explained the essential requirement being a combination of unique skills, knowledge and experience to fulfill the intent of the role.

‘ the NRT they actually know, they have actually familiarized themselves with everything, understand a lot quicker what a patient might need, how to manage them best…..we know our job, we know what we have to do’.
Three of the NRT nurses highlighted the frustration they felt when returning to care for a patient following an agency nurse. They explained the difference in standards of care and frequent deviation from the patient’s mapped management plan.

‘when I come and it has been agency or people who don’t work in this field often.....the patient is not in a very good state at all, they haven’t tended to basic care......they give us a bad name by just sitting there not doing what they have to do’.

One story relayed by a nurse;

‘I had been managing this patient on and off for a few weeks, she was only 60, couldn’t speak and had Alzheimer’s. The last thing she had was that she was continent. When she got restless we would go to the toilet. I came in one day, after agency staff had been assigned to her all weekend and she had been put in pads and was incontinent....it was so sad and for her husband too’.

One nurse summarised the role of the team;

‘the NRT provide consistency, continuity of care, advocacy and protection....in a nutshell a great standard of care’.

Skills and qualities of the NRT nurse

Personal Attributes

The nurses were encouraged to voice their opinions in regard to the essential attributes of an individual to undertake constant observation work. What were the vital ingredients for someone to fulfill this role? The first requirement, explained by one nurse, ‘you just have to be interested in it [the work]’. On probing whether there was a connection to the three staff that had left the team since its inception, the nurse would not be drawn to any conclusion but instead informed on a previous NRT member who had regretted the decision to leave.
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One nurse felt that one needed to be comfortable with oneself, ‘in your own skin’, to be comfortable and relaxed to deal with these patients. In addition, a particular advantage was the ability to make conversation, to ‘chat’ about any variety of topics. Yet a balance was necessary, to be able to read people and know when to give them space and time to simply be, ‘you can’t talk or bombard someone for eight hours’. Having a sense of judgment in this area often appeared to create conflict for the NRT nurses, with the ward nurses who at times dictated another agenda for them.

A strong theme to emerge was the importance of being calm and patient. All nurses reported these traits.

‘basic personality, you have to be really patient and very calm’.

‘I personally think it takes special people to do what we do......you have to be calm and relaxed’

In conjunction with possessing these personal qualities the nurses highlighted the importance of checking their own responsive manner when in any given situation.

‘I was caring for a young girl and I was prepared to wait for her to feel comfortable with me and eventually she did and she opened up to me and we chatted about her anxiety and stress’.

The NRT nurses recognized the impact of their own behavior and how it might negatively affect a patient if not controlled or moderated.

‘I don’t smother....I stay back.....or I talk quietly.....or I’ll hold their hand if that’s what they want...I want to let them know that they are normal’.

‘because you’re calm, often they are calm...it’s great satisfaction to get through a shift and not having to medicate a patient to calm them down’.

‘I try to communicate in a nice soft voice’.
‘there were two young girls racing into ED saying “there’s a guy out there trying to kill himself”…..so we brought him into ED he was really wound up and a lot of the staff were frightened….but I just sat calmly with him and helped bring him down from that state and he calmed down…he said he felt safe’.

Having these essential personal traits was not a guarantee of suitability to undertake constant observation. The role according to the participants was complex, the patients were complex and the nurses therefore spoke of the importance of experience; in the context of age and life experience.

‘ some of the younger girls come in and I think it might overwhelm them, I might be misjudging but I think they are quite easily overwhelmed by how scary it can get at times’.

This theme emerged in conjunction with the importance placed upon personal attributes. Perhaps the maturity of age within the team validated this perception.

‘I don’t believe the young ones are suited to this work…don’t get me wrong, they just don’t have the experience and their attitudes are all wrong….it’s a job it’s a job for them’.

One nurse explained that life experience gave one a different perception of an older person and with that perception a sense of respect, which enhanced your attitude to care. Participants reported ;

‘ you need to respect these people who have worked all their lives and probably worked very hard…….respect for them and give them the care that they should be having. They might be a ‘silly old b**ger’ but it doesn’t matter, most people are pretty likeable and you find something likeable about them’.
Professional Experience

Clinical expertise evolves over time and this was not lost on the nurses interviewed, with professional experience seen to be of significant benefit when undertaking this role. Experience was considered invaluable and was achieved by consistently working with these patient groups and developing keen senses tuned to the behaviours and triggers that signaled pending changes in patient status. The interview questions explored the nurses’ skill and understanding in this area. Commonly the nurses explained a scenario of patient restlessness and a building state of anxiety or agitation.

‘A lot of patients just start packing up “I’m going home” they will say and start going through their drawers’.

The nurses recognized that sometimes it wasn’t such overt behavior that signaled a change, but very subtle ‘body language’ that changed.

‘They might start stiffening up…clenching their fists…or their language speeds up’.

‘They become more fidgety and looking around…they are then not quiet seeing you or it appears like they are looking through you’.

‘Often its slowing down, they can be rather dizzy wanting to sit or lie all the time…a general deterioration and collapse’.

Participants were asked how they circumvented these situations, minimised unwanted disruptive behavior exacerbation, whilst maintaining patient safety and patient trust. Apparent throughout the dialogue were the many and varied strategies that the nurses employed. Also evident was a persistence to try, whilst knowing that sometimes things worked and other times, without explanation, they did not work. An individual patient’s behaviours invariably became a distinct language that the astute and experienced nurse was able to accurately interpret.
Most commonly the art of distraction was employed to curb patient agitation and wandering behavior. Participants described distraction strategies under many forms, from tending to elimination needs, hygiene needs, simple conversation, walks, basic activities such as puzzles and reminiscing through their life and family story.

‘old people just love to reminisce, it brings them back, it’s just so lovely to get a glimpse of their vibrant days’.

One nurse expressed some exasperation when recounting the relentless endeavour to try and control immediate needs once a patient displayed agitation; the requirement to be the person who undertook damage control. A general theme that emerged was the perceived positive link between engagement and maintaining an active mind. One nurse described their own personal quest to always engage the patient, to find something that made communication easy and natural, a link to the patient.

‘I can usually find some bridge to engage people...one of the joys of getting older, I can usually find something to talk to a person, a patient, about...you need a connection that will engage them and open them up a bit...I never give up trying to engage a patient even if they don’t seem interested or mentally capable’.

Families were generally considered to be a great asset in the quest to make a connection with the patient’s mind and interests. The nurses’ spoke enthusiastically of their engagement with families whenever they were present. Only one nurse mentioned that they had experienced an occasional situation when the family had not been helpful, which had since made him wary.

Often the family provided invaluable information and clues to help explain behaviour. One nurse told of her struggle with a patient within the close confines of a bathroom area. The family informed her of the patient’s claustrophic fears, which then gave context to the behaviour and the development of a different management strategy;
‘so we just made sure the blinds were always up and when he went to the bathroom I put a chair to chock the door part way open’.

The nurses also informed of the benefit and comfort that family members obviously experienced, once they understood their role and the protection they provided for their family member.

‘ we had been talking about cake recipes and he sent me the recipe and thanked me for all the hard work I did’.

Personal attributes and professional experience did emerge as the strongest themes when quantifying suitability for the NRT role. However, knowledge was also rated important and integral to achieving best patient outcomes.

Knowledge

All NRT nurses mentioned or acknowledged the importance of evidence based clinical practice and their desire to ensure currency of practice. How the nurses accessed and assimilated knowledge appeared to be variable across the group. The culture of the nursing unit in which they found themselves working, at times dictated their ability to access information and training opportunities. Only one nurse within the NRT had undertaken a mental health diploma qualification. This nurse was one of the original NRT members, mature in age and male. He was obviously held in high regard by the other team members, who referred to him throughout their own interviews. And he was obviously also valued by the organization, as he was often assigned the most challenging patients.

On commencing in the NRT the nurses undertook an induction program, which consisted of formal theoretical lecture content, case studies and role-playing and debriefing and mentoring sessions. Immediately following the program the feedback was overwhelmingly positive with some nurses expressing the relevance and desire for all nurses
and medical staff to undertake the program. Throughout the interviews three staff mentioned the value of this program.

'we did a lot of psych work, which was really good...and I continue to use strategies that I learnt in that program'.

'although I had looked after a lot of elderly people with delirium, it was great to get the most up to date information and also a reminder regarding the potential triggers for delirium'.

'medications are always changing...the induction program was great to get current information on that'.

Seven of the nine nurses interviewed highlighted their continued drive to attain knowledge. Two nurses made mention of the benefit they found in attending relevant conferences and seminars.

'I have been to a lot of conferences, I have learnt a lot about different aspects of care'.

Another nurse highlighted her enrolment in a diploma unit, which would extend her knowledge base in care of the older patient.

'the aged care unit I'm doing will build my knowledge and I know that what I've learnt and the courses I continue to do, that's how I have learnt to cope with challenging patients....that's how I can do the role I do'.

Although the NRT were not involved in the decision making which initiated a constant observation care assignment, some the NRT nurses acknowledged that their combined experience and knowledge allowed them to feel comfortable to inform and consult with respect to the ongoing requirement for constant observation.

'Than I'm not going to waste my time or anybody else's time or the money....I could be in another ward doing another job if a patient needs me....so yes, always I will inform if this patient no longer has a need'.
Not all nurses felt this confident. Advocacy for certain patient management strategies was at times met with reluctance by ward staff. Some nurses were conscious of the health hierarchy and their perceived position as an Enrolled Nurse, in conjunction with being a transient worker within a ward, and the negative impact of this when advocating certain patient management strategies. These nurses appeared to adopt a position of recommending the cessation of constant observation only when invited to consult. However, they did make mention of the psychiatric consultation liaison nurse consultant who actively sought their opinions and advice.

‘I’m glad she [psychiatric CL nurse] communicates with me, I do feel valued that they take my word on what needs to be done for the patient’.

In many instances the nurses felt collaborative decision making occurred with the psychiatric consultation liaison nurse consultant and the senior ward nurse or nurse manager.

‘I don’t feel I am qualified on my own, but we will have a chat and they will ask my opinion’.

It was through this dialogue that the question of connectedness to the ward staff emerged. As a transient staff member, it was asked whether these nurses felt isolated and how did other staff understand their role and impact they had on patient safety

**Role limitations**

Throughout the interviews the NRT nurses provided an overall sense of valuing and engaging in the work of CO. However, the patient challenges were only one of the obstacles to overcome with the participants reporting this was the easier hurdle, when compared to nursing culture.

**Sense of Value**

Every member of the NRT highlighted a difficult path of acceptance by the ward staff and for a number of nurses they cited particular wards as still being problematic. The issues
spanned an array of topics; lack of respect, failure to understand the NRT role, been seen as agency workers, being directed to manage patients in certain ways, difficulty getting relieved for breaks and essentially a lack of trust. The ultimate challenge as one nurse explained, ‘is actually getting other staff [nurses] on side’.

The NRT nurses described ward environments that were busy and chaotic, that had lost sight of the patients within and of nurses who could no longer recognize an ally from an enemy. However within the chaos they did recognize that,

‘it is more about individuals ……some [nurses] are great and some are not’.

Most (77%) of the NRT nurses described an oppressive atmosphere where they felt some staff viewed them negatively,

‘there are occasions you feel like “oh she’s just the sitter”’.

It was in these instances that the NRT nurses utilized their wisdom of age and experience to progress through the difficult working environments.

‘some places think you’re doing nothing….at my age I have learnt to stick up for myself’.

Many (55%) of the NRT nurses described the difficulty experienced at times in being relieved for breaks. One nurse relayed an extreme scenario, whereby she continues to monitor her own water intake when working, so as to limit her needs for the bathroom. Some of the nurses explained that it was not unusual to go through a whole shift without even a cup of tea. Communication and planning at the start of a shift was not undertaken in some ward environments, making these departments unpopular for the NRT nurses.

The NRT nurses genuinely appeared empathetic to the work load carried by some nursing departments. They highlighted instances when they sought to assist, where the boundaries of their role could be blurred, provided the safety of the patient wasn’t compromised.
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I can be in a room with my patient and three other patients that belong to the ward nurse....sometimes I will make beds and give medications....but you’ve got to draw the line at the patient’s safety’.

Another issue discussed by one nurse was the frustration in not receiving adequate handover at the start of a shift. This occurred when change over with agency staff who lack adequate information on the patient. This individual nurse had adopted a strategy to start work half an hour earlier, receive her work assignment from the allocations office and then arrive on the ward and read through the patient’s medical record prior to commencing with the patient. Although, not paid for this time, the nurse dismissed that detail,

‘I need a good handover ...it is too important’.

When the source of frustration was negatively impacting the patient, the nurses’ passion for their work and their patients’ welfare became very evident. What was acutely difficult for the NRT nurses was the senseless nursing directives given by some of the permanent ward staff, who were themselves thought to be unfamiliar with the patient’s behaviour triggers and requirements, yet insistent on the NRT nurse carrying out certain nursing interventions. Being directed to undertake certain patient interventions, despite the better judgment and knowledge of the NRT nurse was particularly destructive for harmonious working relations.

‘we’re not idiots, in fact we are pretty smart and we know what we’re doing and we’ve had a lot of experience...it’s the epitome of degrading’

For one nurse discussing a particular patient scenario created obvious anxiety and anger.

‘I was told to get the patient out of bed and walking....but the patient had been experiencing acute hyper-delirium for days and was now quiet, because she was exhausted and needed time to recover. Her blood pressure was boarder line and I was
trying to increase her hydration. Yet I was ordered to get her up.....make her walk, tire her out. I felt that I had no choice, they were insistent. When I did she all but collapsed and I put her back to bed. I know they weren’t happy with me....but it was awful’.

The nurses all commented on the negative effect of seeing agency and patient ward assistants being engaged by the organisation to undertake ‘their’ constant observation role. This would occur if a contracted (agency) nurse was unavailable for a standard nursing shift. They expressed a ‘use and abuse’ mentality of the organisation, with inconsistent standards and care objectives.

‘it annoys me…it’s a big bug bear…it’s unfair on the ward assistant who is not trained to do this work, you need expertise....and it just belittles what we do’.

‘the ward assistant doesn’t give good care.....they are a sitter’.

Despite much dialogue and information regarding difficult nursing culture, and the inconsistent organisational standards, it was heartening to have some nurses relay positive aspects.

‘there are good times when we’ll communicate the times when I want my breaks or if I need to move my car, when the staff will assist me to get the patient medications...when they will understand and help me to do my job’.

One nurse believed it had been twelve months before staff got to know her and trust her and be supportive. Others echoed a similar time line and expressed real satisfaction upon entering a ward and being welcomed, seeing staff relieved that they, not an agency or patient care worker, had arrived. This also extended into the warm reception they received when the psychiatric consultation liaison nurse would find them caring for a patient under constant observation. All the NRT nurses spoke positively of this professional relationship and the ability to collaborate with the ‘expert’ in the field.
'she [psychiatric CL nurse] will always give me advise, but at the same time listens to my experience of the patient and encourages me to document and add to the patient's management plan, “if you find things that work add them to the plan”.

The NRT nurses were strong advocates for the role of the psychiatric CL nurse. Some attributed their ‘survival’ in the role directly to her support, both professional and personal.

‘you can always tell her [psychiatric CL nurse] I’m having a bad day, and it might not be patient related, perhaps just paying the bills at home, and she’s great like that’.

Who else supported the NRT nurses in this role?

Many of the nurses (55%, n=5) mentioned the importance of their NRT colleagues. They were pleased to see them arrive for a shift, to handover and to catch up both on a social and professional platform. The handover period appeared in some scenarios to be utilized as a period of debrief, particularly if together they had been managing a patient for an extended period of time. The nurse held in high regard by his colleagues, referred to earlier, was evidently the unofficial leader of the NRT. He described a few occasions whereby his efforts to ensure formal debriefing sessions for the NRT nurses had been found to be beneficial and welcomed by his colleagues.

‘I asked for debriefing specifically for X and she said it gave her a good feeling to see us supporting each other’.

He went on to say;

‘I have said all along, our best resource and support is each other....we have to be there for each other, we are the ones to understand best’.

For the weekend worker and the night duty nurse, the role was clearly very isolating. They both felt separate from their NRT colleagues and tackled unique challenges to gain acceptance by the permanent ward staff and assimilated into the role.
‘trouble is there is such a large turnover of staff...you just get to know people and they have gone’.

‘the only people who you get a chance to talk with regularly are the allocations staff and they don’t know what you’re talking about anyway’.

Sense of Fear

Throughout the interviews the nurses highlighted specific patient scenarios that would make anyone question their own sense of safety and comfort within the constant observation role. Nurses were asked if they had cause to feel frightened or threatened by patient behavior and did the workplace place them in a position of discomfort. Did they feel they had access to support structures and staff?

Nurses responded by highlighting the obvious fear they witnessed in other staff around them when they were confronted with certain patients. Yet, despite the nature of this work, the majority (88%, n=8) of the NRT nurses had never had cause to feel fearful for their own safety. Some emphatically denied ever feeling anxious.

‘No I haven’t, never...I enjoy doing what I do and I think I’m good at it and I often see that I make a difference to patients or their families...but one can never be complacent and think you know it all, you have to be open to continually learn, continually reflect and try and do a better job each new day’.

One nurse was less convincing,

‘no, no sometimes I’m a bit weary...but I’ve never been afraid...I’m not a little frail thing’.

Only one nurse admitted to feeling apprehensive and frightened.

‘I find when a patient is very aggressive, it can be difficult, I try my best...but it can get a bit frightening at that stage’.
Another nurse explained fear within a different context, more a concern for the patient’s welfare and hoping that the patient would come to no harm.

‘I had a patient throwing punches at me....he was pretty elderly, but it was a bit scary as he had a cardiac condition and was getting himself really worked up and almost went into respiratory distress’.

One of the male NRT nurses highlighted not fear, but rather the discomfort he experienced when assigned to young female patients.

‘I feel less comfortable specialising [constant observation] young girls who are post suicide attempt, just because I have to watch them so closely.....I’m a young guy and I just feel uncomfortable, I don’t necessarily want to follow a 17 year old girl into the bathroom’.

Despite being charged with the responsibility of maintaining a patient’s safety, one’s best efforts could possibly not be enough. The nurses were questioned as to whether they had ever had a patient suffer an adverse event while looking after them. Again they denied any such events and took obvious pride in the ability to maintain the patient’s safety. None reported a patient fall, whilst on under their care. Although one nurse angrily told of her patient falling whilst she went on her meal break;

‘I told them they had to stay with her and keep close.....and then I come back, nobody is in the room and she is lying on the floor.....so preventable, I was sad and very angry’.

All the NRT nurses reported near miss events. One nurse reported her lack of hesitation to call a Code Grey event if concerned, and the fact that she had done so on a number of occasions.

‘it’s better not to wait for a major problem....I trust my judgment’.
Education and Mentorship

The nurses were asked to identify one area that they would change, or one aspect that would make their role better, perhaps easier. One major theme emerged and was echoed by all NRT nurses. Foremost they identified the need for ongoing education and an avenue to ensure they could meet their mandatory and core training requirements. Being nursing nomads, assigned rigidly to patient observation, prohibited their ability to access ward based education. All nurses had concerns that their knowledge and expertise in certain areas was perhaps no longer current, and were exasperated by the apparent lack of opportunity or communication to facilitate their learning requirements.

‘I just feel so behind....because we’re not out there with everybody and you don’t get a chance to go and attend an in-service’.

I haven’t been assessed in my basic life support skills and I know things are changing all the time’.

Some of the nurses even offered possible strategies to help them overcome this logistical hurdle. They spoke of ‘study days’ whereby they could achieve their mandatory training requirements and all have the opportunity to debrief and connect again as a group.

In addition to ongoing education other themes were also uncovered. Four nurses mentioned enhanced communication from organizational management to nurse managers and ward staff. An advocacy from ‘higher up’ was felt to be needed and would support their daily battle for acceptance, particularly in wards that still presented hostile environments.

‘it’s amazing how many people have their head buried in the sand isn’t it? I constantly tell them what I’m about, what the NRT do “oh is this new?” ....”well no it’s been going for a couple of years now”.

The youngest team member felt the ‘toxic culture’ within certain ward environments most acutely;
‘I’m pretty idealistic; I’ve just finished my degree so I’m fresh and haven’t been beaten down yet. But, I would try really hard so the ward staff understood the role better’.

Two additional areas were identified as being desirable to improve and contributed to frustrations. The opportunity to debrief was conveyed as an important ongoing requirement, yet was sporadic in nature. The nurses generally needed to initiate debriefing and communication strategies to support themselves and each other. Instead they desired a regular opportunity with relevant support personal, such as the psychiatric liaison nurse.

**Sustainability**

The NRT nurses were asked to speak about their challenges. Two were identified, the first, complex patient scenarios and second, unreceptive even destructive nursing culture. Given that six of these nurses had sustained their position within the NRT from its inception in 2009, questions related to satisfaction and therefore sustainability of the model were asked. Only one nurse indicated they were soon to leave the team; a combination of attaining further qualification and burn out.

‘to be honest I’m growing very tired of specialling [constant observation] but there are times when you enjoy it and times when you just loathe it’.

However, this comment and sense of deflation was in complete contrast to the remaining eight nurses in the team. Participants were asked how did they persevere. For one nurse it was the luxury of time, which afforded her the opportunity to undertake all aspects of care in a thorough manner.

‘ the patients are really grateful that they have their hair washed, clean teeth and long hot showers’.

However, the central and more powerful theme that summarized their ongoing commitment was a model for caring, which evoked a high level of satisfaction. The passion to care, as described by some of the nurses, appeared to take on a spiritual dimension.
‘it’s about the person, seeing the real person and bringing them peace….these old people just want a little reassurance, a little bit of love’.

Summary

This chapter presented the findings related to each of the research questions. The study gathered information to identify, within an Australian context, the patient profile with respect to patients exhibiting ‘behaviours of concern’ within the general hospital setting. As a result the study has quantified new information and awareness.

In addition the study has evaluated an intervention model of care, the NRT, against the traditional contracted worker model of care across two acute hospital sites. The patient profiles at both hospital sites were similar, allowing for the comparative analysis. Statistically significant differences were found when comparing risk events during the constant observation period, with the intervention site demonstrating fewer risk episodes. In addition economic variables highlighted significant differences between the two hospital sites, with the intervention site providing a superior economic model of care.

The qualitative findings highlighted the various dimensions of the challenging role of the NRT nurse. Maintaining patient safety was considered a primary and fundamental responsibility of the NRT nurse. In addition patient advocacy and the nurses’ role as carer were apparent and provided evidence of a nurse/patient therapeutic relationship within the intervention constant observation model of care.

The key findings and their implications for current practice and further interventions are discussed along with the strengths and limitations of the study in the next chapter.
**Chapter 5: Discussion and Conclusions**

The aim of this Chapter is to expand on the key findings, placing them within the current literature, and discussing their implications for future practice and research within the confines of the study’s limitations.

The chapter is divided into three sections. The first section summarises and provides a detailed discussion of the key findings for each of the research questions. The second section presents the study’s limitations and discusses their implications on the study’s findings. The final section presents recommendations for practice and future research.

**Prevalence and Profile of Patients with ‘at-risk’ behaviour cared for using Additional Staff Vigilance (Constant Observation) within the Australian General Hospital Setting**

The first research question explored the prevalence and profile of patients cared for within the CO model. The average age of those under CO was nearly 80 years and over of the sample experienced dementia and delirium. The greater proportion of males represented within the older patient group was initially unexpected, given the state demographic data, which indicates a higher average age for females (Department of Sustainability and Environment, 2003). However, the findings were consistent with Blumenfield’s et al. (2000) study, which reported the older patient with organic cognitive dysfunction as the highest patient group utilising CO.

The dominant older patient category reflected many anecdotal reports across Victorian public health services and correlated with demographic population indicators.
Although CO is a model of care adopted from the psychiatric setting, this finding highlighted the adaption of the model, to manage the growing number of older patients experiencing cognitive dysfunction, as displayed in dementia and/or delirium. This is the first Australian study providing evidence of the older patient profile managed under CO.

One third of patients experienced psychiatric illness or symptoms, with an average age of just over 40 years. An unexpected finding was the gender ratio within the psychiatric patient group, with nearly 60% of patients being female, the exception was the smaller patient cohort within the ‘substance’ category; this group was predominantly male. Although the patient groups aligned closely at each hospital site, the psychiatric patient cohort was slightly younger in age at Hospital B. This could be attributed to the co-located adolescent acute in-patient facility and mental health service on this site. This compares with Hospital A, which had a considerably larger adult in-patient mental health service co-located with the general acute hospital. What is evident from the findings is that the patient with psychiatric illness or symptoms continued to be highly represented in those requiring CO management, which was indicative of the continued growth in psychiatric hospital presentations (Knott et al., 2007; Holmes et al., 2001).

At-risk behaviour

When electing to manage patients under a CO model of care treatment management and interventions must align with the patient’s ‘at-risk’ behaviour. The findings indicated that patients with aggressive and violent behaviour were encountered most frequently, followed by a relatively equal representation of patients who were older and ‘wandered’ or were at risk of ‘falls’ and those patients who had ‘suicidal ideation’. The ability for the nurse to manage the various ‘at risk’ behaviours, whilst maintaining
safety and engagement of the patient is a significant challenge and the ultimate measure of success of the CO model. This group of patients is complex and vulnerable within an acute hospital setting.

With such diversity in the patient profile and patient risk behaviour, well-developed nursing skills and experience are warranted (Fletcher, 1999; Hamel-Bissell, 1995). The qualitative findings also echoed this requirement, with the nurses of the NRT identifying their specialised skills, knowledge and experience to fulfill the role. In particular one nurse spoke of the importance of experience in the context of life experience, which was invaluable when trying to engage a patient and also enhanced an attitude of respect and admiration for the older patient. The nurse went on to speak of the ‘younger’ nurse in the context of their unsuitability for the role of CO, as it was considered easy for them to be overwhelmed and scared. This perception was reinforced when the NRT nurses explained when they witnessed the nurses on the wards and in the emergency departments being frightened of these patients, a finding also reported in the literature (Hamilton & Manias, 1999; Happell & Sharrock, 2002; Heslop 2000; Sharrock & Happell, 2006).

**Sociodemographic factors**

The present study found no significant difference or association in relation to country of origin. Often a better indicator for the implications of care delivery is the requirement of an interpreter, rather than assuming origin of birth is posing a barrier to understanding or language acquisition. However, findings highlighted a very small percentage of interpreter use at both hospital sites. Whether this was a true indication of the patients’ requirement or not, is indeterminate within the scope of this study.
Contributing factors may have been a lack of awareness of the need or process for engaging interpreter services.

Pre admission residence was also not found to be a significant predictor for CO management, with a similar percentage of patients admitted from each pre admission setting across the two hospital sites.

**Hospital key indicators**

Readmission within 48 hours

One of the standard key performance indicators measured across public health services in Victoria is the patient readmission rate within 48 hours following discharge. This indicator is considered a measure of quality of care and discharge appropriateness. The acceptable threshold, as deemed by Department of Health (Victoria) for readmission within 48 hours is less than 7% across the total patient population of an acute hospital facility. This indicator is not sensitive to particular patient groups and does not consider age, primary diagnosis, co-morbidities, length of stay or functional decline. It must therefore be viewed and analysed with caution. In addition, the 48 hour re-admittance indicator only reflects when patients represent at the facility of discharge. That is, it will not capture patient representation within 48 hours at another health facility.

However, despite the limitations inherit in the 48 hour re-admission indicator, it was found to be higher compared with the acceptable state benchmark, indicative of the complex older patient. There was no significant difference in admission rate across each hospital site.
Length of Stay

This study is the first to provide length of stay information on patients who have been managed under CO, during their acute general hospitalisation period.

Length of stay data related only to the acute hospital setting and what was not visible, if examining the results in isolation, was the ongoing length of stay occurring beyond the acute setting. For those patients who were not discharged to home or their pre admission residence, there continued to be a demand on health resources and personal hardship for the patient. Both hospital sites were found to have a decrease in the number of patients returning to their pre admission residence. This was found to be higher at Hospital A with a decrease of nearly 30% of patients returning to their pre admission residence, compared to a one in 10 decrease from Hospital B. The reasons for this warrant further investigation. For example, the standard of care and, in the case of the older patient, maintenance of functional capacity was superior within Hospital B. Or conversely it could be argued that the higher number of patients discharged to rehabilitation and mental health facilities from Hospital A, was in response to an identified requirement for ongoing support for a complex group of patients.

Incidence of Patient Adverse Events when managed under Constant Observation, with Comparison of the two CO Models of Care.

This is the first Australian and international study to undertake a comparative model analysis, investigating the efficacy of the CO model in providing safety for the patient, within the context of the general acute setting; enhancing safety being the primary intent for instigation of CO. Previous studies
identified the need for further research in this area (Dick et al., 2009; Bowers et al., 2008; Schofield 2008; Oliver, 2004; Kettles, Moir, Woods, Porter, & Sutherland, 2004; Torkelson & Dobal, 1999; Barborsi et al., 2006).

**Adverse events during hospitalisation**

Adverse event(s) occurred in one in five patients during their hospitalisation period, excluding the CO episode of care. Adverse events were predominantly an episode of violence or aggression in over half of the cases or a fall in over 20% of cases. The older patient with dementia/delirium was exclusively represented within the falls incidents, however the incidence of violence and aggression were distributed relatively evenly between the older patient group and patients with psychiatric illness. This study highlights that health professionals, particularly nurses, face a growing exposure to workplace violence and aggression by virtue of the growing older patient profile. Moniz-Cook and Clarke (2011) estimated that approximately 30% of patients with dementia exhibited aggressive behaviour, while Anderson (2011) reported an average of 25% of nurses experienced violent incidents on a weekly basis from older aggressive patients and patients with acute psychosis.

**Adverse events during Constant Observation**

This study revealed a significant difference in relation to adverse events across the two hospital sites during the constant observation period. Hospital A, the control site, practiced a traditional CO model predominantly engaging contracted workers (agency staff) with varying profiles, including nurses and patient care attendants. Patients cared for under CO at Hospital A were found to have a higher incidence of adverse events, compared to the number of adverse incidence occurring outside the CO episode of care.
This model of care is referenced often in the literature and commonly results in an inexperienced and possibly disinterested ‘sitter’ at the patient’s bedside (Blythe & Pearlmutter, 1983; Goldberg, 1987; Fletcher 1999; Thomas 1995; Heyman & Lombardo, 1995; Lamdan et al., 1996; Torkelson & Dobal, 1999; Blumenfield et al., 2000; Bowers & Park, 2001; Bowles et al., 2002; Qinn, 2005; MacKay et al., 2005; Spetz et al., 2007; Rooney, 2009, Dick et al., 2009).

By contrast, Hospital B, the intervention site, adopted a structured CO model with care delivered by a specialised nursing team (the Nursing Resource Team). Patients cared for under CO at Hospital B were found to have a lower incidence of adverse events, compared to the number of adverse incidence occurring outside the CO episode of care. Risk events under this model decreased by nearly 15% during the CO episode of care. When examining the types of adverse events, at Hospital B during CO care one in 20 patients experienced a fall, compared to one in 10 at Hospital A. At Hospital B during CO care 4% of patients were registered on the hospital risk database as having an incidence of violence and aggression, compared to 11% at Hospital A. This study found the intervention model may have enhanced patient safety.

The qualitative findings supported the lower incidence of adverse events within Hospital B, with the NRT nurses being cognisant of the importance of their role in maintaining patient safety. Collectively the nurses perceived their role to be pivotal in the overall management of the patient, whilst monitoring their environment and protecting the patient from potential harm. Of the falls incidence at Hospital B, only two events occurred when the NRT nurse was in attendance of the patient, with both events being without incidence. In relation to the incidents of violence and aggression only two events
occurred when the NRT nurse was in attendance of the patient. Therefore, the true rate of adverse events with the NRT nurse managing the patient was 1% of all patients. This finding provides evidence of the effectiveness of CO when delivered by a skilled workforce and is supported by a number of studies that recognised the complexity of this patient group and therefore advocated for nurses with experience (Torkelson & Dobal, 1999; Schofield et al., 2008; MacKay et al., 2005; Bernstein & Saladino, 2007).

Financial Burden related to Operating a Specialist Nursing Team to undertake Constant Observation by comparison to a Traditional Casual or Agency (Contracted) Workforce?

The third research question examined the economic impact of operating a specialist nursing team to deliver CO. Often theoretical models can be perceived as ideal and unrealistic for health administrators faced with managing constrained budgets. CO is highly labour intensive and therefore costly. It can be economic indicators that threaten and ultimately disarm practice innovations, therefore analysis of economic indicators was considered important in the context of this study. In addition this study aimed to contribute to the body of knowledge related to financial factors, as there is limited economic analysis evident in the literature, (Torkelson & Dobal, 1999; Blumenfield et al., 2000; Worley et al., 2000).

Duration of Constant Observation

Duration of CO was reported as part of an analysis on cost impacts (Blumenfield et al., 2000; Lamdan, 1995; Lamdan et al., 1996; O’Dowd, 1995; Goldberg, 1989; Talley et al., 1990). The combined data across the two hospital sites highlighted the significant improvement in the CO economic indicators since the introduction of initiatives to reduce
CO costs. Over the study’s data collection period the health service utilised an average of 1,639 hours per month, a nearly 70% reduction. Analysis of the two hospital sites revealed; Hospital A reduced CO utilisation by nearly 60% reduction and at Hospital B there was a reduction of nearly 80%. This delivered a financial saving of over $255,000 per month, validating the multi method approach of the new initiatives to address the CO financial burden.

The one variation in the pilot project initiatives was the introduction of the NRT within Hospital B. Despite the considerable savings across both hospital sites Hospital B delivered greater benefits. There was a no significant difference in the number and profile of patients managed under CO across the two hospital sites however, Hospital B delivered 25% less episodes of CO care. The greater efficiency at Hospital B delivered a lower average cost per patient CO episode, less by $160.00. It can be concluded therefore that an in-house specialist team, with flexibility to respond across the 24 hour day 7 days a week, is instrumental in reducing associated costs of CO.

The NRT identified their significant role in enhancing the efficacy of CO management. The nurses acknowledged their greater understanding of patient need, recognising what needed to be done and how best to manage care. They also confirmed that at times they provided valuable insight and input into the decision-making regarding the ongoing requirement for CO. This reflects Kettles and Patterson’s (2007) study which reported a reduction in CO episodes and duration of CO, in the psychiatric setting, when nurses were given greater autonomy in the decision making process.

Not surprisingly the different staff profile at each hospital site highlighted the economic variation between the two CO models of care. A permanent workforce, despite
added employer costs, is considerably more cost efficient than engaging contracted (agency) workers. Combined with an enhanced quality of care, which translated to a reduced length of CO episode, and the permanent staff profile, Hospital B operated a superior economic model. The value of skilled and experienced staff is evident when measuring quality outcomes, but often thought to come at a higher cost.

The NRT CO model contradicts this assumption as it delivered real economic benefit.

**Risk events**

**Falls**

Patient falls are a particularly serious adverse event, leading to morbidity and mortality, increased length of stay and financial burden for patient and health service (Spetz et al., 2007; Morse, 2002; Rush et al., 2008). Conflicting reports emerge from the literature regarding the benefit of CO in reducing falls. ‘Sitter’ programs have been reported to have little if any impact on deceasing incidence of patients’ falls (Spetz et al., 2007; Boswell et al., 2001; Bowers, 2008, Harding, 2010). This finding was also realised in the current study at Hospital A. Under the ‘sitter’ program on this site falls incidence increased by nearly 3. The profile of the ‘sitter’ on this site was predominantly the contracted patient care attendant (PCA). Engaging a contracted worker is a risk for any health service as there is considerable variation in skills, experience, and in relation to this work, desire to undertake CO. It is therefore not possible to ensure quality of care and safe outcomes. The falls incidence at Hospital A resulted in an estimated cost of $85,410, nearly 70% greater than Hospital B.

The NRT nurses at Hospital B had a positive impact in reducing patient falls and therefore contributed to financial savings for the health service and potential pain and
suffering experienced by the patient. The nurses reported on the need to react instantly to
patients, predict incidents before they happened and the requirement to be alert to reading
subtle behavioural changes in their patients; a constant hyper vigilant state. The NRT
nurses confirmed that their interventions on many occasions prevented patient falls and
subsequent injury.

**The Lived Experience of the Specialist General Nurse providing Constant
Observation to Patients with ‘At-Risk’ Behaviours, Exploring Evidence of a
Therapeutic Relationship.**

There have been limited studies reporting on the experience and perception of
nurses/carers undertaking the constant observation role, with no studies arising from the
general acute setting (MacKay et al., 2005; Borbasi et al., 2006). This study aims to
contribute to the body of knowledge in this area, as appropriate selection and recruitment
of staff to the role of constant observer is crucial in the overall success of the model and
enhanced patient outcomes.

Initially the NRT identified the desire to undertake this type of work. A basic
requirement was to be interested and to a degree comfortable with oneself, which a
number of nurses identifying the necessity of life experience not just nursing experience.
In some reports the nurses did not differentiate this group of patients, seeing them as no
different to patients that were commonplace within general acute wards. The importance
of this basic premise was supported in the literature, which warned against stigmatizing
patients, and appointing labels of ‘challenging’ or ‘problematic’ (Borborsi et al., 2006;
Moniz-Cook & Clarke, 2011).
A strong theme to emerge through the interviews with the NRT nurses was their sense of pride in their work and standard of care they delivered. Collectively they denounced the notion of a ‘sitter’, explaining that they carried great responsibility and possessed well-developed skills, which were sometimes in contrast to the nurses on the ward around them. A number of studies have reiterated the high level of responsibility carried by the CO role and the associated stress, calling upon the requirement for experienced staff in this role (Torkelson & Dobal, 1999; Blythe & Pearlmuter, 1983; Fletcher, 1999; Hamel-Bissell, 1995).

**Therapeutic engagement**

The NRT nurses highlighted clinical practice within the core components of a therapeutic engagement framework, as proposed by Finfgeld-Connett (2009). They identified an intuitive response, assisted by ‘life experience’ and gathered clinical experience in the role. There were examples of authentic communication, environment modification, close and vigilant observation, teamwork, but above all respect for the patient. In addition they employed the less conventional standards of distraction and humour (Lowe, 1992). The NRT nurses identified all these essential components when reflecting upon various scenarios, which no doubt explains their adaption to this work and sustained enthusiasm.

Collectively the nurses all acknowledged the need to be patient and calm, recognising that patients’ absorbed and reflected their manner. The literature echoed this requirement, particularly when dealing with older patients who are exhibiting aggressive behaviour (Segatore et al., 2005; Borbasi et al., 2006; Moniz-Cook & Clarke, 2010; Finfgeld-Connett, 2009; Moyle et al., 2008). In combination with exhibiting a calm
manner the nurses’ recognised the benefit of being able to ‘chat’ with patients. This was considered a very beneficial skill in gaining a connection with the patient. Content of the conversation was thought to be less important, however a number of the nurses recognised the pleasure they shared, particularly with older patients, when encouraging them to reminisce on their previous years. Gaining insight into a once vibrant life was considered a ‘privilege’, but importantly afforded the nurse the opportunity to understand the patient’s personal world and therefore possible source of fears and anxiety that were potentially displayed in acts of aggression. Strategies which promote an interpersonal context, which allows staff to better understand the wide-ranging causes of aggressive behaviour and create options for responding or preventing aggressive behaviour are supported in the literature (Moniz-Cook & Clarke, 2010; Finfgeld-Connett, 2009). Aggressive patient behaviour in the context of dementia is thought to occur as a result of an unmet need and / or inability to communicate (Moniz-Cook & Clarke, 2010). The NRT nurses appeared to understand these triggers and explained strategies of eliminating possible care requirements, for example elimination, or providing carefully structured deliberate communication. If the patient was not providing the ‘bridge’ then sometimes the family became invaluable, which was highlighted by one nurse who experienced difficulty with a patient in a bathroom. The family provided the vital information that changed the management and consequent behaviour of the patient.

In the first joint initiative, the British National Institute for Health and Clinical Excellence (NICE) collaborated with the Social Care Institute for Excellence (SCIE) in developing health and social care evidence based dementia guidelines (Gould & Kendall, 2007; Iliffe & Manthorpe, 2007). Aggressive behaviour required a functional analysis
and the treatment recommended of followed a three phase approach: identifying antecedents, placing behaviour within the person’s unique history and tailoring solutions. Whether by design or accident, the NRT nurses were practicing according to these dementia guidelines.

Patient centered care relies upon respect and a commitment to engage the patient. The NRT nurses collectively conveyed their feelings of mutual respect for patient and their desire to involve them in their care. One nurse attributed this to having personal maturity and life experience. This again supported the notion of appropriate staff selection for the CO role. The NRT nurses were practicing against Levine’s (1973) conservation principals, in that they displayed qualities associated with conservation of energy, the importance of healing, maintenance of personal integrity and the desire to build a meaningful relationship with the patient. These principals are considered to be the basis for nursing interventions.

Extrinsic impacts for the NRT nurses

An unexpected finding was the difficulty often encountered by the NRT nurses in assimilating to a ward environment and gaining acceptance by their nursing colleagues. One nurse speculated that the process of acceptance had taken 12 months. A culture of hostility existed in some wards and disarmed the nurses, impacting on job satisfaction and at times patient outcomes. The examples of a patient falling whilst the NRT nurse was on a meal break and the scenario of an NRT nurse being forced to walk a patient against her clinical judgment, best illustrate this conflict. The literature has reported extensively on the negative impact of nurses when faced with horizontal violence within the nursing culture (Johnson & Rae, 2009; Vessey, DeMarco, Gaffney, & Budin, 2009;
Sheridan-Leos 2008, Woelfle & McCaffrey, 2007; O’Brien-Pallas et al., 2006; Duddle et al. 2007). There is also an impact for patients with poor morale translating to poor patient outcomes (Aiken, Clarke, Sloane, Lake, & Cheney, 2008; Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; Duffield, Roche, & Merrick, 2010).

Ambiguity regarding role definition of the NRT nurse was thought to contribute to the projection of hostility, intimidation and disinterest by ward based nurses. The NRT nurses reported frequently their need to reinforce their work and responsibility, in conjunction with a battle to correct the perception that many nurses still viewed them as a ‘sitter’, generally considered the lowest member of the medical hierarchy. Lack of role definition and scope of practice can result in disunity and conflict (Eagar, Cowin, Gregory, & Firtko, 2010).

Support for the NRT nurses

Support for the team was derived from two avenues; each other and the psychiatric consultation liaison nurse (PCLN). The importance and positive impact of the PCLN role in assisting with skill development and confidence in patient management is well documented (Fife & Lemler, 1983; Sharrock & Happell, 2000). Sharrock and Happell’s 2002 study highlighted the general nurse endorsement of the role, with collaboration of psychiatric and general skills sets considered very beneficial. The NRT nurses echoed this finding, but also made mention of the personal connection that was made possible by the consistency of the team and their ability to establish credibility with the PCLN.

The interviews identified frustration, and at times anxiety, related to limited internal opportunities for meeting their educational needs. The isolation and constant
vigilance of their role would often result in missed opportunity to access local in-service education. The ongoing requirement for education is a future consideration now for hospital management and the practice development unit.

Limitations of the Study

The limitations of the study need to be considered in light of the results.

Limitations of the data collection sample

As there is no standardised tool for assessing the need for CO, the subjectivity of the assessment may have contributed to the differential patient characteristics or outcomes found in this study. The collection of patient profile data relied upon the accurate entry of the pertinent and relevant information within the health service database. At each hospital site a different type of staff member was responsible for the entry of data; Hospital A relied upon clerical staff and Hospital B had allocated the responsibility to a senior nursing role. As a result some gaps in the data within Hospital A were gleaned from the retrospective analysis of the patient’s medical record. Ideally data entry would have been undertaken centrally by the one person, ensuring consistency of allocation to the various CO categories and ‘at risk’ behavioural subsets. However, practically this was impossible.

Similarly the CO categories assigned to each patient were clinically superficial in terms of informing on patient diagnostics and symptoms. Initially attempts were made, within the CO authorisation tool, to have diagnostic indicator for CO documented. However, not all confused patients were categorically diagnosed with dementia or delirium at the time of instigation of CO care. Nurses were generally aware of the clinical presentation and progression of both organic cognitive disorders, however were not
cooperative or comfortable in assigning diagnostic categories to patients. Therefore the broad category of ‘dementia/ delirium’ was chosen. Exactly how many patients were suffering dementia verse delirium or a combination of both is impossible to determine. Limited resources prevented analysis of all 394 patient records.

This was also the case with the patients assigned to the psychiatric CO category. It was a broad category chosen to encompass a number of mental health presentations. Generally most of the patients in this category did not have a documented definitive diagnosis at the time of instigation of CO. It is not possible to determine whether a proportion of patients within this category in fact had no psychiatric illness or progressed to diagnosis of a psychiatric illness. Similar studies have encountered the issue of patient category and have chosen to capture patient ‘at risk’ behaviour, which was the case in this study (Blumenfield et al., 2000; Torkelson & Dobal, 1999).

Limitations of economic analysis

Measuring the economic impact of in hospital adverse events is difficult due to the number of the variables. Consequently these results helped to describe the investment of resources attributed to the different CO models. Restrictions relating to the scope of the study and the real world nature of the enquiry, limit the level of analysis that can be undertaken in relation to the intervention.

In relation to falls a conservative estimate was offered. Accurate economic data would only be possible if following the entire course of the patients’ illness/ injury across the rehabilitation and primary care phases. This was not possible within the scope of this study. In addition, capturing the economic data related to violent and aggressive behaviour was not possible. The incidence reporting in this category of adverse event
reflects the occasions when a secondary ‘emergency’ response team was activated to assist with patient management and/or containment. The team can vary in profile, depending on time of day, day of the week and department. However, the team consists of staff otherwise undertaking their normal work duties, as such, it is not a team specifically employed for this purpose.

**Limitations of qualitative data**

A limitation within the qualitative component of the study was that data were only provided by the nurses of the NRT and therefore limited comparative analysis with those delivering the ‘sitter’ CO model. For true comparative analysis this information would have added further insight into the variation of role, including additional understanding regarding the higher incidence of adverse events under this model. The voice of the psychiatric consultation nurse consultant at both hospital sites would also have been beneficial to capture, as it would have provided valuable insight regarding the differences of the two CO models.

**Summary of Implications**

Despite the limitations, this study has a number of strengths. To the researcher’s knowledge, this is the first study of its kind to provide a comparative analysis of a traditional ‘sitter’ CO model and a specialised nursing CO model. The findings support CO in terms of delivering patient safety and economic savings; provided the model is structured and delivered by skilled and experienced nurses who choose to care for this complex group of patients. The findings from this study support the recommendations of other studies regarding a nursing workforce with adequate support, training and experience to manage complex vulnerable patients (Balas et al., 2004; Schofield, 2008).
Summary of Recommendations for Further Study

This research highlights a number of opportunities for future research. Firstly, qualitative studies are needed to capture the patient’s perspective and that of their family, within the context of the general hospital setting and across both major patient profiles. This information would assist in understanding further the impact of CO management and future opportunities to enhance and or modify high vigilant management.

Nursing education needs to be maximised in this domain and recognition of a specialist nursing team and their ability to share knowledge and expertise would enhance quality and opportunity of education within the hospital context.

Finally, future studies exploring economic analysis in the area of aggressive and violent patient behaviour need to incorporate staff outcomes in relation to injury and workplace stress. Such analysis would further support education initiatives, related to optimal patient management and patient predictors.

Conclusion

In conclusion, population demographics and tightening economic conditions will continue to challenge health services to fulfill their duty of care in delivering timely evidence based practice. Constant observation can deliver enhanced patient and staff safety outcomes, but models of care need to be contextualised for each setting. The historical model of ‘sitter’ must be abandoned; as it carries a higher clinical risk for patient and staff, whilst being economically unsustainable. This study explored a structured CO model of care and the findings have implications for current health
administrators and educational providers, which could ultimately serve to deliver enhanced patient centered care for the complex ‘at risk’ patient group.
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Appendix 1: Data Collection Tool

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<thead>
<tr>
<th>Constant Observation: Data Collection Tool</th>
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<tbody>
<tr>
<td>Patient ID:</td>
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<tr>
<td>Date of birth:</td>
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<tr>
<td>Country of Birth:</td>
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<tr>
<td>Interpreter required:</td>
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<tr>
<td>Presentation to in-patient ward:</td>
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<tr>
<td>Place of origin:</td>
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<tr>
<td>Discharge destination:</td>
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<tr>
<td>Length of Hospitalization (LOS)</td>
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<td>Duration of Constant Observation</td>
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<tr>
<td>Episodes of Constant Observation during this hospitalization</td>
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<td>Constant Observation Classification:</td>
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<td>Behavioral reason for instigating Constant Observation:</td>
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<td>PCL Nurse Consultant referral:</td>
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<td>Risk Events - During Hospitalisation:</td>
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<tr>
<td>Risk Events - During Constant Observation:</td>
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<td>Readmission within 48 hours:</td>
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Appendix 2: Ethics Approval – Deakin University

Research Services
Office of the Deputy Vice-Chancellor (Research) (Melbourne Campus)

MEMORANDUM

TO: Dr Patricia Livingston
    School of Nursing, Burwood

FROM: Deakin University Human Research Ethics Committee (DU-HREC)

DATE: 5 August 2009

SUBJECT: Project EC 103-2009 (Please quote this project number in future communication.)

Enhancing patient safety: evaluating the close observation model

The application for this project was considered at the DU-HREC meeting held on 3 August 2009.

Approval has been given for Kathryn Riddell, under the supervision of Dr Patricia Livingston, School of Nursing, to undertake this project for a period of three years from 3 August 2009.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Executive Officer immediately should any of the following occur:

• Serious or unexpected adverse effects on the participants
• Any proposed changes in the protocol, including extensions of time.
• Any events which might affect the continuing ethical acceptability of the project.
• The project is discontinued before the expected date of completion.
• Modifications are requested by other HREC’s.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

DU-HREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007).

Signature Redacted by Library

Vicky Bates, Secretary
On behalf of DU-HREC
03 9251 7123
Appendix 3: Ethics Approval – Eastern Health

15 June 2009

Dr Patricia Livingston
Level 3 Clive Ward Centre
16 Arnold Street
Box Hill Hospital

Dear Dr Livingston

QA33/0809 Enhancing patient safety: evaluating the close observation model
Principal Investigator: Dr Patricia Livingston
Student Investigator: Ms Kath Riddell

Thank you for the submission of the above project.

After reviewing study documentation, I can confirm that the project does not require full ethics Committee review. It fits the criteria of a quality assurance project in accordance with the NHMRC guidelines (2003). The project is considered of negligible risk in accordance with definitions given in the National Statement (2007). The project is accordingly APPROVED.

- The study will be conducted on at Box Hill and Maroondah Hospitals

Documents submitted for review:
- Deakin QA project application
- Deakin Victorian privacy supplement
- Participant Information and Consent Form (& Staff Questions) Version 2 dated 13 June 2009

You have advised that data will be collected using various hospital databases and that access to hospital medical notes is not required. If medical notes access (from the Health Information Services) is later requested, please ensure a sign off is obtained from the respective department head.

The study will be noted in the Minutes of the next Committee meeting, for information.

Yours sincerely

Dr Patricia Molloy
Chair
Eastern Health Research and Ethics

CC Ms Kath Riddell