
Constructing Trust

in acute inpatient mental healthcare facilities:

the role of physical, social and symbolic

environments of care in supporting therapeutic safety

“Architecture, of the all the arts,

works most slowly, but most surely, on the soul.”

Ernest Dimnet: *What We Live By* (1932)

Mary Therese Potter Forbes

CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the field.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis has been acknowledged. In addition, I certify that all information sources and literature are indicated in the thesis.

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Signature of Student: 

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Dedications

This work is dedicated to the many people who have had the fear and suffering arising from an acute episode of mental illness compounded by the places in which they have sought help. My hope is that it goes some way toward preventing vulnerable people experiencing *sanctuary trauma*, surely the most insidious and unrecognised of adverse medical events.

It is also dedicated to Alan Hodgkinson, former Deputy Head of the School of Public Health and Community Medicine at UNSW, who died prematurely and unexpectedly on 2 June 2011. Alan was a psychiatric nurse by training and took a special interest in this research. I will be forever grateful to Alan and thoughts of him always inspired me when I began to flag.

PREFACE

On 31 August 2015 amendments to the New South Wales (NSW) *Mental Health Act 2007* came into effect. The objects of the Act are no longer to provide for the “...care, treatment and control” of people who are mentally ill or mentally disordered but to provide for their care, treatment and “recovery”, which has been defined elsewhere as: “the development of new meaning and purpose in one’s life as one grows beyond the catastrophic effects of psychiatric disability” (Commonwealth of Australia 2010).

The legislative change reflects changing perspectives of, and attitudes towards, mental illness but whether the change will affect the planning and design of acute inpatient mental healthcare units is uncertain.

Current practices and facilities fall well short of creating the physical, social and symbolic environments of care conducive to recovery. The risk management paradigm, with its focus on controlling perceived hazards and uncertain futures, has come to dominate approaches to the built environment in acute inpatient mental healthcare. Safety, from this perspective is approached in very narrow and concrete ways, through overt security, surveillance and external controls, making tangible Jeremy Bentham’s ideal of the ‘panopticon carceral’ (Curtis et al. 2013; Foucault 1975). Even the Australian National Standards for Mental Health Services defines ‘safety’ merely as “freedom from hazard” (Commonwealth of Australia 2010) and this definition is applied in the relevant safety standard (Standard 2) to the activities and environment of the mental health service for the protection of consumers, carers, families, visitors, staff and community .

Such a narrow approach has the potential of privileging controls aimed at protecting people from consumers over implementation of the United Nation's (UN) principles for the protection and improvement of those with mental illness, which are incorporated into the NSW Charter of the Rights of People with Mental Illness (*Mental Health Drug & Alcohol Office 2011*), including Principle 9 that:

"..every patient shall have the right to be treated in the least restrictive environment and with the least restrictive or intrusive treatment.." (United Nations 1991)

The British *Royal College of Psychiatrists* (the College) rejects the view that safety in acute inpatient mental healthcare is produced by controlling access to external concrete hazards, rather the College argues that safety is created by:

"good relationships and interactions and the trust that is built up between those individuals" (Royal College of Psychiatrists 2011).

Trust is understood from this perspective as fundamental to a therapeutic relationship and the essence of the recovery model of care wherein risk taking is required. It involves a mutual willingness to take risks in the therapeutic relationship where both the consumer and clinician are vulnerable to the acts of the other. When concerns about hazard reduction dominate institutional ideas about safety and the material/built environment is devised to address perceived hazards, the development of entrusting social milieus enabling the growth of self-efficacy and the reclaiming of identity are likely to be disrupted.

This perspective made me - a nursing academic and lawyer who taught risk management, patient safety, leadership and organisational change, and who had

once worked in health facility planning, curious as to how acute inpatient mental healthcare environments are made safe without the use of oppressive architectural responses to perceived risk. The perspective of the Royal College of Psychiatrists presumes that an over-emphasis on surveillance and control in a building impedes the construction of therapeutic relationships, thereby compromising safety and leading to consumer and care provider harms. The perspective equates the concept of a trusting therapeutic relationship with therapeutic safety.

I set out to understand how the physical habitat/material environment of these places supported or hindered the creation of trust and thus therapeutic safety, and not simply the technical safety of hazard reduction.

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ACRONYMS

AHS	Area Health Service
AMHU	Acute Mental Health Unit
CAMHS	Child and Adolescent Mental Health Service
CSP	Clinical Services Plan
DD&C	Design Development & Construct procurement methodology
D&C	Design & Construct procurement methodology
DH	Department of Health (UK)
EssenCES	Essen Climate Evaluation Schema
EOI	Expression of Interest
FF&E	Fixtures, Fittings & Equipment
GMHIU	General Mental Health Inpatient Unit
HERD	Health Environments Research and Design Journal
HFBG	Australasian Health Facility Building Guideline
HI	Health Infrastructure
HDU	High Dependency Unit
IADH	International Academy for Design & Health
IIMS	Incident Information Management System
MH-CoPES	Mental Health Consumer Perceptions and Experiences of Services
MHDAO	Mental Health and Drug & Alcohol Office
MHICU	Mental Health Intensive Care Unit
MHPC	Mental Health Planning Council

MHU	Mental Health Unit
MOH	Ministry of Health
NHS	National Health Service
NSIH	National Health Service Institute for Innovation and Improvement
PI	Project implementation (Stage 3 POFP)
PFI	Private Financing Initiative
PFP	Private Financed Project
PICU	Psychiatric Intensive Care Unit
POFP	NSW Health Process of Facility Planning
PPP	Public-Private Partnership
RCPsych	Royal College of Psychiatrists (UK)
SSP	Services Procurement Plan
SSDB	State-wide Services Development Branch
VPU	Vulnerable Persons Unit

DEFINITIONS

Biophilia	An hypothesis proposed by E.O. Wilson that human beings have a genetic propensity to respond to other living organisms which design properties should harness.
Cartesian Analysis	Modernist paradigm which sees the world as objects, sets of objects, and objects acting and reacting upon one another.
Ethnography	The study and systematic recording of what people do in their daily life using qualitative research techniques.
Evaluation	Systematic examination of a policy, program or project aimed at assessing its merit, value, worth, relevance or contribution.
Grey Literature	The term used for information or research output produced by organisations outside of academic publishing and distribution channels, which is generally not peer reviewed, including: government reports and policy documents, non-peer reviewed commercial studies and proprietary knowledge.
Haptic	Any form of interaction involving touch.
Hapticity	A system (not limited to touch) that yields information about solid objects in three dimensions. Used by

	neuroscientists to refer to the emotive and multisensory experience of architecture, not limited to the ocular.
Index Admission	An admission with a principal diagnosis of a specified condition which is the starting point for analysing repeat hospital visits for that condition (denominator).
Inpatient	Denotes consumers who have been admitted to an acute mental healthcare facility located on a general hospital site.
Patient Safety	A whole system approach to minimizing harm affecting patients; it extends the idea of 'clinical risk management'.
Phenomenology	The study of subjective experience with its roots in the philosophical work of Edmund Husserl. It involves the systematic study of the structures of consciousness and the phenomena that appear in acts of consciousness. Ontologically differentiated from Cartesian analysis.
Photo-elicitation	Where photographic images are used as an interview tool to extract attitudes, opinions and views.
Repertory Grid Technique	A technique to elicit underlying semantic constructs held by individuals about people, places and spaces.

Salutogenesis	A construct conceived by Aaron Antonovsky focusing on human health and the factors underlying physical, social and emotional well-being, rather than pathogenesis.
Somatic	Of or relating to the body, especially as opposed to the mind.
Somatosensory	Sensory receptors. The somatosensory system is the part of the sensory system concerned with the conscious perception of touch, pressure, pain, temperature, position, movement, and vibration, which arise from the muscles, joints, skin, and fascia.
Therapeutic Milieu	A therapeutic milieu is a supportive environment in which clinical staff work with clients to provide safety and structure while assessing the patient's relationships and behavior. A consistent routine is maintained, which fosters predictability and trust. A milieu is considered therapeutic when the program's community provides a sense of civility, membership, belonging, care and accountability.
Triangulation	A multi-method research or evaluation design that draws from pluralist sources to illuminate a phenomenon.

Vulnerable Persons	A protective environment for patients who are
Unit	susceptible to physical or emotional injury or attack.

NOTES ON STYLE AND LANGUAGE

The terms **consumer** and **service user** are used interchangeably to refer to the **acute mental healthcare inpatient**. They are preferred as they remind us that these people should be in control of their recovery and should be accorded the respect to do so. The word **patient** is used on occasion to retain the authenticity of the speaker's voice and where the context makes it appropriate to do so.

The terms **participant** and **key informant** are also used interchangeably for although it is usual in qualitative research to refer to subjects as 'participants' that term is also used when referring to members of health facility planning teams. To avoid confusion, key informant is generally used for those study participants who were interviewed.

The term **general hospital** and **non-mental healthcare facility** are used to distinguish those facilities from acute inpatient mental healthcare facilities/units.

Square brackets [...] denote an insertion by me to make sense of a quoted passage.

ABSTRACT

This multi-method, multi-case study was a philosophically pragmatic and realist inquiry into how the physical habitat/material environment supports or hinders the creation of therapeutic safety in acute inpatient mental healthcare facilities.

The literature review indicated that trust is integral to therapeutic relationships but acts of trust were unlikely without manifest organisers and signifiers of trustworthiness. The *Constructing Trust Model* that emerged from the review postulated that the *Environmental Determinants of Care*, comprised of physical, social and symbolic elements, moderated therapeutic trust in the development of safety. The *Determinants* were incorporated into James Reason's (1995) *Swiss Cheese Model of Accident Causation* to illustrate how environments emphasizing surveillance and technical safety do not create therapeutically safe environments but introduce latent error, leading to patient harms such as violence, seclusion and sanctuary harm.

Four sites were purposively selected for participation in the study. Initial site visits were made to three newly commissioned facilities and data were collected using key informant interviews, document and artefact analysis. Alterations were made at the fourth site, including: acoustic dampening, wall murals, gardens, increased circulation space, new colour scheme, and new outdoor furniture. Data collection also included focus groups, a safety climate survey, spatial data, incident data and seclusion data. The frequency and duration of seclusion was reduced during renovations. Staff reported consumers found the work a welcome distraction, providing hope that a poor environment would be much improved. On completion

staff reported reduced patient agitation, increased patient satisfaction, and fewer incidents of vandalism. Seclusion practices, however, soon reverted. Funding was not provided for changes to address environmental problems known to be linked to seclusion use, that is, overcrowding and social density.

Three major findings emerged in the cross-case analysis. Firstly, participants held dichotomous beliefs about safety. I labelled those who viewed safety as arising from the control of concrete hazards requiring custodial environmental designs, '*Risk Warriors*', and those who considered trusting relationships the precursor to safety, requiring environments signifying care, trustworthiness and refuge, '*Trust Advocates*'. Secondly, at all four facilities decision-makers did not follow the advice of *Trust Advocates* and introduced unintended risk into the care system, creating the latent conditions for iatrogenic harm. Thirdly, collocation of acute inpatient mental healthcare facilities on general hospital sites encouraged the cultural dominance of *Risk Warriors*, leading to an over-emphasis on surveillance and the control of risks, to the detriment of trust development strategies and therapeutic safety.

CHAPTER 1 – INTRODUCTION

“Fallible decisions are an inevitable part of the design and management process.

The issue is not so much how to prevent them, but how to ensure that their adverse consequences are detected and removed.”

Reason (1990a, p 480)

The Contribution of Latent Human Errors to the Breakdown of Complex Systems

1.1 DEVELOPING THE QUESTION

I became interested in the relationship between safety and the physical spaces and places in which people suffering an acute episode of mental illness receive care while evaluating the process of facility procurement for New South Wales (NSW) Health. A comprehensive and participatory procurement process had not lead to the construction of acute inpatient mental healthcare inpatient environments that clinicians considered supportive of therapeutic objectives. I was to identify best practice in acute inpatient mental healthcare facility design, and investigate shortcomings in the procurement process. As I was not a mental healthcare practitioner I first had to understand the therapeutic purpose of the facilities and then how the built/material environment could safely support that purpose. I became aware that the risk management model guiding the sector was quite different from that which underpinned approaches to patient safety in other healthcare settings.

1.1.1 Organisational Accidents in the Socio-technical System

Generally in healthcare, patient safety policies and procedures are directed toward keeping the consumer of healthcare services safe from iatrogenic harm, that is, harm caused by the interaction of the people, equipment and places (the socio-technical system) in which care is provided. Efforts to ensure safety are focused on identifying and devising strategies to prevent or mitigate problems arising within and between the micro-systems of a complex, adaptive healthcare system (Mohr, Batalden & Barach 2004). From a systems perspective, things can go wrong not only through the interactions within each micro- system but between micro-

systems and between layers of interacting micro-systems (Barach & Johnson 2006; Kohn, Corrigan & Donaldson 2000; Mohr, Batalden & Barach 2004; Vincent & Clements 2006; Waring et al. 2010). This systems thinking is presented diagrammatically in Figure 1.1 below.

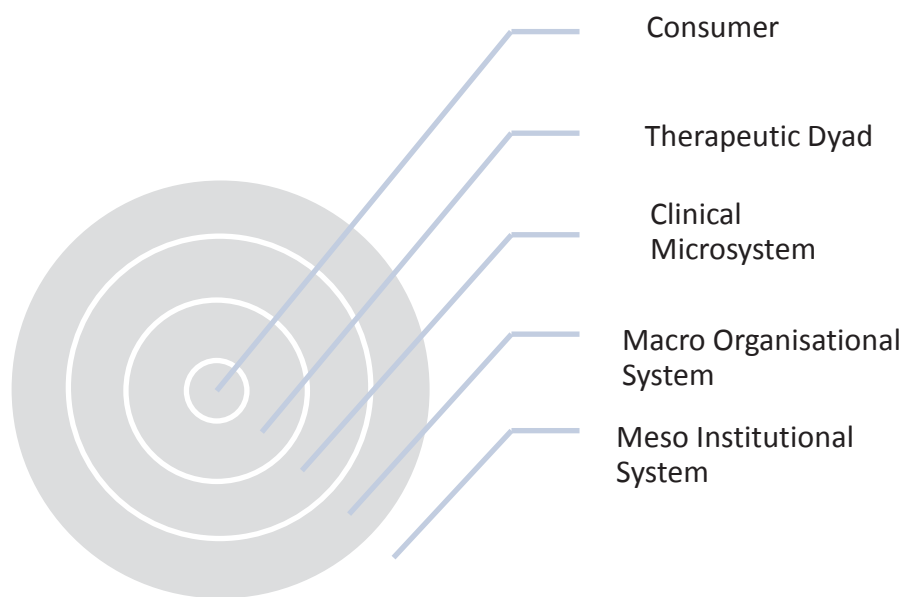


Figure 1.1: The Systems Model in Healthcare

Adverse events are viewed as '*organisational accidents*' and understood as arising from system breakdowns, which are not attributable simply to the actions of individuals at the point of harm, but are the result of manifest systemic weaknesses created by decisions made earlier at the organisational and institutional levels. Management decisions are understood to have the potential to either actively cause operators to breach safety rules or policies to achieve ends (active errors), or more insidiously, introduce the latent conditions for error downstream (latent errors) (Reason 1990a, 1990b, 1995, 1997).

The trajectory to error is shown below in Figure 1.2.

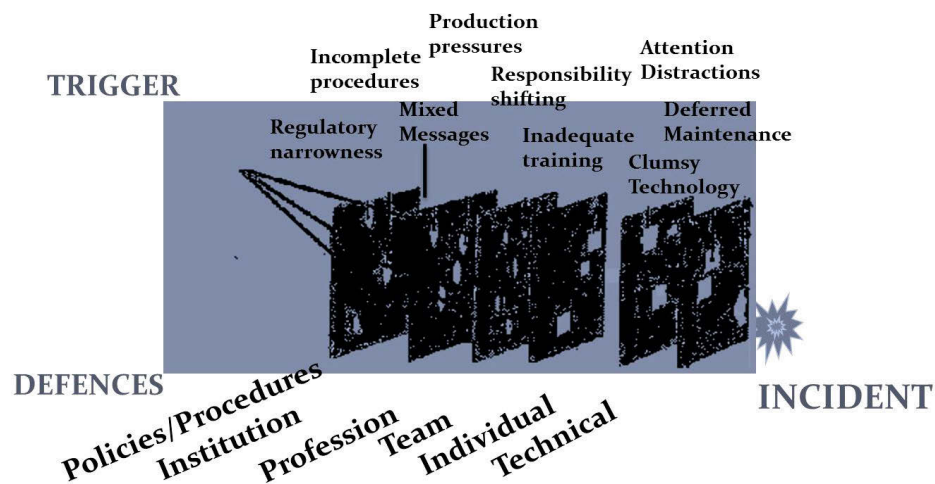


Figure 1.2: The Swiss Cheese Model

Active errors follow a trajectory through a concatenation of systematic failures in defences and barriers which trigger unsafe acts at the point of healthcare delivery. The holes in slices of Swiss Cheese have been used as a metaphor for the trajectory of an accident, and thereby induces a sense of hazard being ever-present in a health care organisation (Reason 1995). This heightened awareness of the vulnerability of processes, procedure and policies to failure encourages vigilance in people at the front line (Vincent & Clements 2006).

Latent errors arise from fallible management decisions and are frequently hidden within the system, as shown in Figure 1.3 below. They are challenging or impossible to identify and neutralize before combining with local triggering events to cause harm (Reason 1990a, 1995). Responsibility and accountability for these errors is also distal and opaque, making learning from these types of errors problematic.

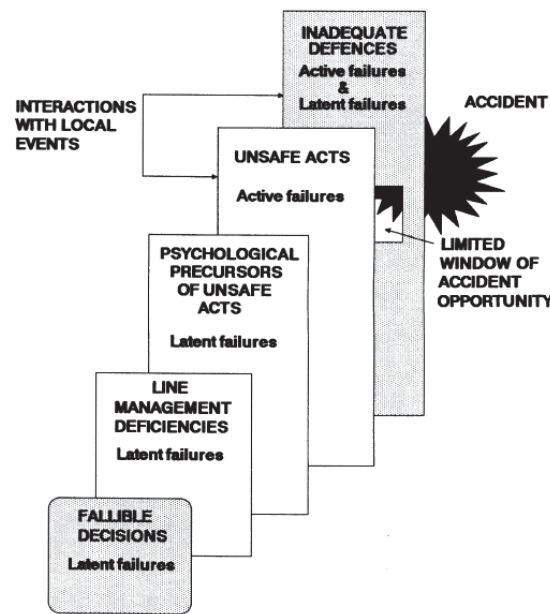


Figure 1.3: Reason's Model of Organisational Accident Causation (1990a, p.479)

1.1.1.1 Limits of Reason

The clarity of Reason's Swiss Cheese Model is attractive to risk managers across multiple high-risk industries but it has been criticised on a number of basis.

Li & Thimbleby (2014) criticise it as a simplistic and static representation of complex systems. They proposed an *extended* Swiss Cheese model in which defensive layers are conceptualised as dynamic and active such that defensive strategies introduced to combat a 'hole' in defences will have the unintended consequence of creating unexpected holes in defences ('*unknown, unknowns*') and new trajectories toward harm (Li & Thimbleby 2014).

Young et al (2004) has criticised the Swiss Cheese metaphor as inviting a tenacious search for pre-existing latent conditions and attributing all accidents to defective systems, without according sufficient explanatory value to proximate causes,

including operator error (Young et al. 2004). They argue that the model causes active transgressions to be overlooked.

To some extent Amalberti's (2001, 2005) application of the socio-technical work of Rasmussen (1990, 1997) and Perrow (1984, 1999, 2011) to healthcare is regarded in accordance with the view of Young et al (2004), as Amalberti's *practice migration model* of organisational resilience presumes that the expertise of the operator is the crucial last point at which organisational accidents may be averted (Amalberti 2001; Amalberti et al. 2005; Perrow 2011; Rasmussen 1990, 1997). Unlike Young et al (2004), however, Amalberti directs attention to the organisational systems needed to support the optimal functioning of the clinical micro-system and articulates the difference between safety and resilience, and to that extent accords with, or elaborates, Reason's basic model (Amalberti 2001; Amalberti et al. 2005; Le Coze 2015; Morel, Amalberti & Chauvin 2008; Rasmussen 1990, 1997).

The positivistic criticisms made by Young et al (2004), are themselves simplistic in that they ignore the centrality of organisational culture and safety climate to the creation and control of the latent conditions for system failure, and what Karl Weick calls 'sense-making' whereby an organisation creates meaning founded on interpersonal and organisational trust. (Adobor 2005; Le Coze 2013; Weick 1993; Weick 1995; Weick & Sutcliffe 2003).

Weick & Sutcliffe's (2003) sociological study into the failure of the staff and management at Bristol Royal Infirmary in England to realise for fourteen years that its abnormally high infant mortality rate was unjustified, identified a collective

mindfulness, or “*cultural entrapment*” of the staff which was enacted through the interaction of staff in the process of organising care. They constructed a reality in which they believed their patients had worse outcomes because they were intrinsically the most unwell. Their sense-making narrative was one of doing their best for ‘*bad*’ cases.

Weick’s concept of ‘sense making’ does not fully explain the inertia of complex adaptive systems to implement lessons actually learnt (Duffield & Whitty 2015). The history of a number of healthcare procurement projects demonstrate the tenacity of complex adaptive systems in not learning from past mistakes (Duffield & Whitty 2015). In 2011 the Victorian Government Ombudsman found that despite extensive protocols (and available literature) agencies kept making the same mistakes around planning and procurement. Notably the 2013 Chesterman Inquiry into the failure of the Queensland Health Payroll System found that “*the problems were known to be ones not uncommon in large government projects of this kind. The neglect of them in this case is cause to think it is likely the lessons will again be ignored*” (Chesterman 2013, p. 219 cited in Duffield & Whitty 2015 at p. 312). The Garling Special Commission of Inquiry into Acute Care Services in NSW Public Hospitals (Garling 2008) identified known systemic and recurrent public health service delivery problems, including that the under-resourced and over stretched acute mental healthcare sector operated in facilities that were not particularly suitable for their function (Garling 2008).

Despite multitudinous and increasingly complex technical risk management standards and processes, mishaps have not been eliminated and 100% reliability

has not been created anywhere in the acute healthcare system. The rate of errors across systems remains stable (Dekker 2005; Dixon-Woods 2010; Palmieri et al. 2008; Paull et al. 2015; Thomas et al. 2011; Travaglia & Braithwaite 2009).

‘Errors’ in acute inpatient mental healthcare are not generally mentioned in the generic patient safety literature, and the analytical models used in patient safety have not been applied in this domain. Reasons’ basic “*Swiss Cheese Model*” has not been used to understand or predict patient harm in acute inpatient mental healthcare. Nor is there evidence in the quality improvement literature that the ‘*organisational accident*’ model of safety, including Amalberti’s *practice migration* model or Weick’s *sense making* framework been applied to acute inpatient mental healthcare settings.

1.1.2 Organisational Accidents and Mental Healthcare

The systems thinking integral to patient safety initiatives in other healthcare contexts is foreign in this arena. Rather, safety initiatives focus on controlling the behaviour of the mental healthcare consumer. Understanding the interaction between systems, technology and people (including care providers), and the culture constructed in those interactions, is of little or no concern. Unsafe acts and poor outcomes, such as violence, suicide, self-harm, and sanctuary harm are not analysed from a systems perspective but as failings intrinsic to the consumer’s internal mental state. The consumer is perceived as posing the risk to people (including themselves), equipment and places (Curtis et al. 2013; Foucault 1975; Lamont & Brunero 2009). The socio-technical system is thus left undescribed and safety initiatives focused on controlling the behaviour of the dangerous and risky

consumer through the application of the apparatus of 'technical safety' and the physical technologies of security and surveillance (Curtis et al. 2013; Foucault 1975; Sine 2008; Sine & Hunt 2011).

The environmental implications of the risk management paradigm involve creating closed, gated institutions (to protect the public from consumers), installing closed circuit television monitors (CCTV) for constant surveillance (to protect consumers from themselves and others), the identification and elimination of all potential ligature points, including door handles and shower knobs (to protect consumers from suicidal acts), securely fastening furniture (to control violent actions), secluding/detaining people in solitary confinement (to control aggressive actions) and decorating in neutral, drab décor (to control sensory stimulation). Little attention is given to the underlying system complexities which may be creating the conditions for iatrogenic harms (Bowers et al. 2009; Flannery 2005; Flannery, Hanson & Penk 1994).

Countering the risk management model is an understanding that safety in acute inpatient mental healthcare is the outcome of a trusting therapeutic relationship in which the parties to the therapeutic relationship are simultaneously trustor and trustee. Therapeutic safety is founded on mutual trust between consumer and care providers (Change et al. 2010; Entwistle & Quick 2006; Psychiatrists 2010; Rousseau et al. 1998). Both must be prepared to be vulnerable to the risk posed by the other (Luhmann 1979; Möllering 2001; Royal College of Psychiatrists 2011; Seligman 1997).

The environmental implications of this paradigm involves creating *places* that are open, welcoming and inspiring; places that negate the fears of those suffering an acute episode of mental illness (and underlying trauma) and encourage interaction between consumers and their care providers, thereby building therapeutic trust and thus safety. The dialectic between therapeutic risk and dangerous patient is presented diagrammatically in the *Conflicting Conceptions of Safety* diagram at Figure 1.4 below.



Figure 1.4: Conflicting Conceptions of Safety

1.1.2.1 Adapting the Swiss Cheese Model

By not conceptualising safety from a systems perspective those ‘cheese holes’ in the system’s defences are left un-remedied, and when unsafe, upstream decisions introduce latent errors into the system, care providers may be forced toward policy violations that cause harm. For instance, upstream policies on funding, bed numbers or design can lead to social crowding, a known precursor for violence, which when it occurs sees Amalberti’s practice migration model enacted by ‘forcing’ care providers to restrain, or forcibly medicate or contain consumers in solitary

confinement, contrary to policies on recovery, respectful treatment and zero seclusion, and with the potential for causing the serious patient harms of physical injury and post-traumatic stress disorder (sanctuary harm).

Such responses by care providers to consumers are contrary to the UN principles on the care of the mentally ill, specifically the standard of care set down in Principle 8:

“..Every patient shall be protected from harm, including unjustified medication, abuse by other patients, staff or others or other acts causing mental distress or physical discomfort” (United Nations 1991)

The role of the material environment and its design in this process of practice migration leading to error in acute inpatient mental healthcare has not been investigated. By adapting the Swiss Cheese Model to this domain, and limiting it to the environmental conditions for practice migration, the environmental conditions in need of remedy in acute inpatient mental healthcare can be powerfully visualised.

1.2 RESEARCH QUESTIONS

The risk management approach to safety in acute inpatient mental healthcare is no longer sufficient or necessary to achieve therapeutic objectives given that client autonomy and the recovery model of care is the treatment modality recognised clinically, in policy and at law (Das & Teng 2004; Giddens 1990, 1999; Mayer, Davis & Schoorman 1995; Moon 2000; Smith 2005). Trust development strategies, as opposed to risk management strategies, are now needed. However, evidence as to the antecedents and moderators of the building of trust creating environments in acute inpatient mental healthcare settings remains limited and requires further investigation before trust development strategies can credibly replace, or at least complement, risk management strategies (Bacharach & Gambetta 2001; Sztompka 2006). It is this gap in the literature which led to my inquiry as to the role of the built environment in the development of trusting relationships, that is, the creation of therapeutic safety and avoidance of error in acute inpatient mental healthcare. Using a case study methodology I intend to investigate the role of acute inpatient mental healthcare *places* in trust development and therapeutic safety, and the environmental conditions which protect from practice migration and error. The research questions are:

1. *How does the built/material environment affect the development of therapeutic trust between consumers and care providers in acute inpatient mental healthcare facilities?*
2. *Are places conducive to trust-building in acute inpatient mental healthcare productive of safety with fewer adverse events?*

The associated inquiry arising from the *a priori* organisational accident theory was:

3. *How do latent erroring producing conditions introduced into the built environment cause harm in the care system?*

1.3 STUDY OVERVIEW

Using case study methodology, this mixed methods study investigated the relationship between the acute inpatient mental health care built environment and therapeutic safety. Seven sites across New South Wales participated in the study and a detailed cross case analysis was completed for four of the sites, using recognised approaches (Gibbert, Ruigrok & Wicki 2008; Miles & Huberman 1994; Yin 2009).

Case study sites were purposively selected for differences in:

- size (bed numbers)
- location (rural, inner city, regional, suburban)
- catchment (local, district, regional and state-wide tertiary)
- history of collocation with general, non-mental healthcare facilities
- procurement method
 - construct only (CO) – also known as documented design
 - design & construct (D&C)
 - design development & construct (DD&C)
 - design development, construct & operate (DD&O) under a private public partnership (PPP) financing agreement

One of the sites selected had seclusion practices that were outside state and national norms. Staff attributed the abnormal incidence to the built environment therefore data on the effect on behaviour of improvements to that environment were also collected.

Site visits were made to each of the units. Interviews were conducted with a total of forty key informants, which included clinicians, managers, architects, project managers and executives. Documentary and artefactual data were reviewed for the four sites.

Three of the facilities, labelled *Blue Waters*, *Greenslopes* and *The Farm* were recently commissioned facilities and an exploratory investigation into the design and planning of acute inpatient mental healthcare facilities was conducted.

Participants at those sites were interviewed in semi-structured format and invited to talk about the planning and design of the facilities. Using a critical incident interview technique, participants were asked what they would change about the process and outcome. *The Farm* was not fully operational at the time of the study so participants from that facility discussed their expectations of the new built environment in regard to therapeutic practice and safety.

Happy Shores had been commissioned ten years previously and had abnormal seclusion practices. Alterations were made to improve the site's built environment so data were also collected on comparative spatial densities, safety climate, and incident, seclusion and utilisation rates. The staff formed an embedded unit of analysis within the case study design to investigate the following additional propositions, that the built environment:

1. affects staff perceived consumer behavior.
2. affects staff work practices
3. affects staff perceived safety climate
4. affects staff perceived safety climate

5. affects staff reports of patient aggression and violence
6. affects seclusion practices of staff

1.3.1 Significance and Benefit

The significance and benefit of this research is its contribution to the evidence available for creating acute inpatient mental healthcare environments to support therapeutic objectives. Reconciling the conflicting paradigms of ‘risk management’ versus ‘trust development’, and striking a balance between objective risk reduction and the creation of therapeutic safety is the fundamental design issue in the procurement of these places. The research adds to the evidence that the built environment is implicated in hindering the capacity of clinicians to build therapeutic relationships with consumers and that ‘upstream’ decisions can introduce the latent conditions for error into the built environment itself.

1.3.2 Organisation of the Thesis

This introductory chapter sets out the patient safety paradigm and gives an overview of the concept of organisational accidents, shifting policy in mental healthcare, contested meanings of safety in inpatient mental healthcare units, and introduced Reason’s (1995) *Swiss Cheese Model of Accident causation* and the *Conflicting Conceptions of Safety* model. Study objectives and methods are outlined and an overview of the thesis provided. The chapter also includes definitions and a glossary of terms relevant to patient safety, inpatient mental healthcare, and environmental behaviour.

Chapter 2 reviews the knowledge base relevant to understanding the relationship between the environment, trust and safety in acute inpatient mental healthcare

using an elaborated scoping review methodology. It draws on a variety of disciplines to establish the evidence base for the planning, design and procurement of acute inpatient mental healthcare facilities. The models introduced in Chapter One are elaborated. The role of the *Environmental Determinants of Care* in signalling trustworthiness and the building of trust through the built environment is explored and applied to James Reason's (1995) *Swiss Cheese Model* before the integrating *Constructing Trust Model* is described. The chapter concludes with a discussion of methodological and quality issues in the literature.

Chapter 3 is the methods chapter and situates the study within the pragmatic philosophy of John Dewey, William James, Charles Pierce and Hilary Putnam (Putnam 2002) and realist methodology increasingly used in health policy research (Herepath, Kitchener & Waring 2015). The range of methods used to unravel relationships and processes in a complex system are set out in the chapter. The patient safety paradigm is also described in more detail. The chapter concludes with a table of methods linking the methods data sources and approach to analysis.

Chapters 4 to 6 presents data from three case study sites (*Blue Waters, Greenslopes and The Farm*) on the extent to which the facility supported the patient-centred recovery model of care, how the tension between *Risk Warriors* and *Trust Advocates* was reconciled in terms of the built environment, and whether decisions made upstream had introduced latent error into the care system.

Chapter 7 presents the data on the fourth case study (*Happy Shores*) in regard to the same three issues as studied in Chapters Four to Seven, and also discusses the

impact of \$63,000 worth of environmental alterations on staff reported social climate, staff perceived consumer behaviour and satisfaction, and seclusion usage by staff.

Chapter 8 presents a synthesis of the cross-case analysis, identifies patterns across the cases, discusses the limitations of the study, makes suggestions for future research directions, and raises further questions as to the level of evidence required to make policy decisions in this area.

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CHAPTER 2 – THE LITERATURE REVIEW

“Our perception is visceral. Reason plays a secondary role.”

Peter Zumthor, *Thinking Architecture* (2006) p77

2.1 Introduction

This chapter discusses the evidence relevant to the first two research questions:

- How does the built/material environment affect the development of therapeutic trust between consumers and care providers in acute inpatient mental healthcare?
- Are places conducive to trust building in acute inpatient mental healthcare facilities productive of safety with fewer adverse events?

The literature in relation to the *a priori* patient safety model, which gave rise to the third research question, was discussed in Chapter 1 and is not otherwise reviewed in this chapter.

As the study is focused on the nexus between trust, risk and acute inpatient mental healthcare environments the review is commensurately focused on the applied evidence based design literature, with the generic trust literature referenced within those parameters.

The review had to draw not only on the design disciplines (architecture and interior design) but the social and health sciences, including anthropology, psychology, sociology, health geography, nursing, psychiatry, and applied neuroscience. It included grey literature and professional publications (both opinion pieces and exemplars of tacit knowledge), as well as the peer reviewed literature. This diversity of methods and sources of knowledge demanded a systematic method of review which did not value one epistemological tradition over another but allowed a wide ranging identification of key concepts and gaps in the literature.

Given the complexity of the research questions, the heterogeneous and diverse nature of the evidence, and the lack of rigorous randomised control experimental studies, the review was conducted as a scoping study as described by Arksey & O'Malley (2005) and elaborated by Levac, Colquhoun & O'Brien (2010) in their critique of scoping reviews (Arksey & O'Malley 2005; Levac, Colquhoun & O'Brien 2010). Scoping reviews have been described as a map of *"key concepts underpinning a research area and the main sources and types of evidence available"* Arksey & O'Malley (2005, p 194).

In a review of the nature and status of scoping studies in the nursing literature Davis, Drey & Gould (2009, p 1) concluded that the approach enabled the extraction of the: *"essence of a diverse body of evidence giving it meaning and significance that is both developmental and intellectually creative"* (Davis, Drey & Gould 2009).

Colquhoun et al. (2014, p 1292) recommended the following definition be used:

"A scoping review or scoping study is a form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area or field by systematically searching, selecting, and synthesizing existing knowledge." (Colquhoun et al. 2014)

Scoping reviews are increasingly undertaken to address complex policy questions, which are not always reducible to a rigorous positivist study of outcomes, particularly where, as in this study the research aims have clear and urgent policy implications for health services planning and development (Davis, Drey & Gould 2009; Mays, Pope & Popay 2005).

The major limitation of scoping reviews has been that by concentrating on the breadth of available evidence the depth, or quality, of that evidence is rarely evaluated methodically (Arksey & O'Malley 2005; Colquhoun et al. 2014; Davis, Drey & Gould 2009; Grant & Booth 2009; Levac, Colquhoun & O'Brien 2010; Pham et al. 2014). To obviate this limitation, criteria for evaluating qualitative and quantitative methods were constructed and papers that meet the inclusion criteria were evaluated as well as charted against those criteria. The evaluation tools provided an indication as to the rigour of the available published evidence but did not exclude less rigorous studies from the scope of the review. A complete description of the evaluation tools is provided at Appendix 2.1 and 2.2.

2.1.1 Structure of the Review

The chapter begins with a description of the iterative search strategies used to capture the relevant evidence based design (EBD) healthcare and trust literature. The output is presented in PRISM format. Papers were charted using the qualitative and quantitative evaluation criteria, not as exclusion criteria but as analytical descriptive tools to more clearly identify relevant gaps in the literature in terms of both content and design.

Papers specifically investigating the impact of inpatient mental healthcare environments on consumers and clinicians were screened using exclusion and inclusion criteria developed *post hoc*. They were then thematically organised using the taxonomy described by Gesler (2004), in which healthcare environments are conceived as constituted of three distinct but interrelated environmental types: the physical environment of care, the social environment of care and the symbolic environment of

care (Gesler et al. 2004). These 'environments of care' were derived from a synthesis of the environmental behaviour literature and qualitative research on the subjective experience of consumers. They provide a consumer-centred way for conceptualising acute inpatient mental healthcare design and were the primary units of analysis for collating and reporting the results, leading to the *Environmental Determinants of Care Model* (Curtis 2010; Curtis et al. 2007a; Curtis et al. 2009; Gesler et al. 2004).

The chapter discusses the issues in acute inpatient mental healthcare design, summarises the design variables comprising the *Environmental Determinants of Care*, and describes the effects of changes to those environmental determinants on the behaviour and satisfaction of consumers and care providers. The chapter concludes with a discussion about the quality of the evidence and its reliability.

2.2 Developing the Search Strategy

The search strategy followed the established methodology for a scoping review, except that the final stage, consultation with stakeholders, was conducted on an ongoing, formative basis rather than as a summative exercise (Arksey & O'Malley 2005; Colquhoun et al. 2014; Levac, Colquhoun & O'Brien 2010; Pham et al. 2014), that is:

1. Identifying the research question
2. Identifying relevant studies
3. Study selection
4. Charting the data
5. Collating, summarizing, and reporting the results
6. Consultation with stakeholders

Of great importance was the iterative process of study selection as sources of literature were explored and alternative search strategies tested. Search terms were refined as familiarity with the area of enquiry grew.

2.2.1 Narrowing the research question

In a scoping review the research question needs to be clearly articulated and sufficiently specific and delimited to produce a manageable quantity of data. The outcomes of interest must be made clear and as specific as necessary to cover the breadth of the topic (Arksey & O'Malley 2005; Colquhoun et al. 2014; Levac, Colquhoun & O'Brien 2010). The overarching research questions in this study proved too broad given available resources and were refined to a single question with a narrower focus:

How do acute inpatient mental healthcare environments affect the development of therapeutic trust and safety as evidenced by staff reported consumer satisfaction, violence, aggression and use of seclusion?

2.2.2 Identifying relevant studies

The search covered two distinct domains of research - evidence based design and therapeutic trust - with the intention of identifying literature situated at the nexus between the two literatures. The initial search was completed in May 2010 with follow ups in December 2010 and August 2011. Updated searches were also made in April 2012, December 2013, January-February 2015, and a final search was made in September 2015. The search was limited to English language full text literature. It included not only peer-reviewed papers but also grey literature and professional publications. There were a great many trust studies across multiple disciplines but on

perusal most proved not to be relevant so very narrow exclusion criteria were developed *post hoc*.

A wide range of databases were searched and grey literature in the form of research papers and reports not available in the university's databases were found on institutional and proprietary websites, as well as through personal communication and consultation with stakeholders. The grey literature was a rich source of policy relevant material and produced crucial policy documents and studies not published elsewhere. Important studies were also identified by snowballing from reference lists and the results of other literature reviews. The sources of literature are set out in Table 2.1 below:

Sources of Grey Literature	Databases
<i>Australian Department of Health & Ageing</i>	AB/INFORM
<i>Centre for Health Design</i>	EBSCO
<i>Cochrane Collaboration</i>	Emerald
<i>Commonwealth Department of Health & Ageing</i>	ICONDA
<i>International Academy for Design & Health</i>	JSTOR
<i>National Health Service (United Kingdom)</i>	Ovid
<i>New South Wales Department of Health</i>	PAIS International
<i>United Nations</i>	Proquest
<i>World Health Organisation (WHO)</i>	Psych Info
	Scopus
	Science Direct
	Sociological Abstracts

Table 2.1: Sources of Literature

2.2.3 Study Selection

The Evidence Based Design Search

The initial search of the evidence based design literature (EBD) was limited to the design, architectural and project management peer reviewed literature published in the previous ten years (2000 - 2010). No peer reviewed papers were identified so the time de-limiter was removed. That strategy also failed to produce very many papers despite the use of many permutations of keywords. A few project management and technology conference papers were identified but the architectural design literature generally consisted of commentaries on favoured or award winning buildings, frequently supported by photographs, floor plans and perspective drawings. Almost no published research could be found in the databases, even when the peer reviewed criterion was removed.

On consulting stakeholders in the industry it became evident that potentially valuable research papers were just not being catalogued in the available databases. Research in this area was not a high priority at the tertiary institution where the study was started.

Design research, however, was in the purview of industry funded private academies, such as the *Centre for Health Design (CHD)*, a member funded group based in California (United States) that undertook, coordinated and published research into healthcare environments, and the CHD's European counterpart, the Stockholm based *International Academy for Design & Health (IADH)*.

The most comprehensive research initiative into the healthcare built environment in the United States – *the Pebble Project* – was planned, coordinated and studied through

CHD. The CHD published good quality research in its peer reviewed *Health Environments Research & Design Journal (HERD)* but it was not available at my then university. The IADH published the monthly *World Health Design (WHD)* journal, which included a small number of high quality peer reviewed papers in each issue. The WHD had never been catalogued in any database. Peer reviewed papers published by those bodies were obtained directly from the publishers.

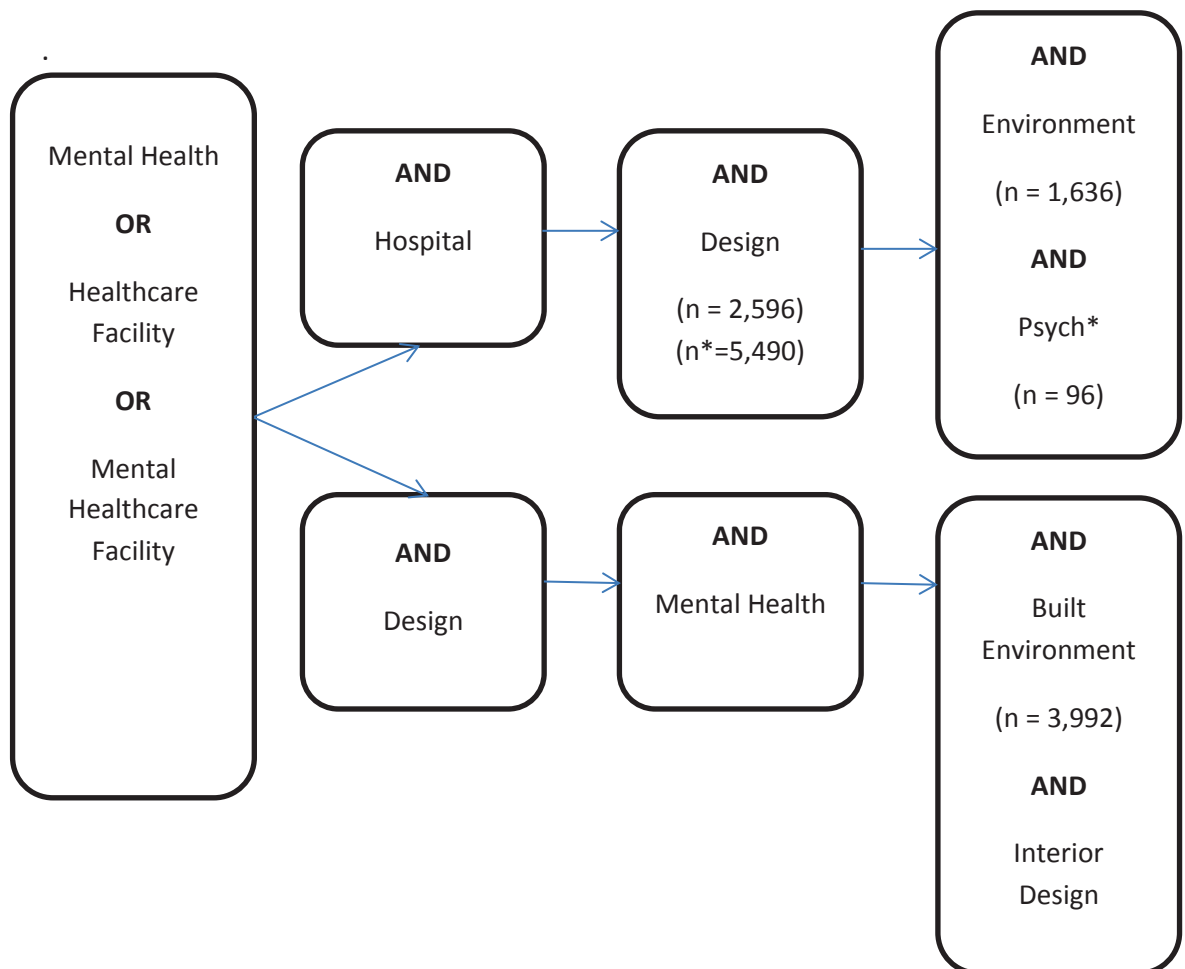


Figure 2.1: Evidence Based Design Keywords and Search Pathways JSTOR (n* = studies after 2010)

There were a number of literature reviews, including Cochrane Systematic Reviews, on the impact of health care built environments on patient outcomes and further papers were identified by snowballing from those, as well as other, reference lists (Codinhoto,

Tzortzopoulos, et al. 2009; Coombes 2005; Dijkstra, Pieterse & Pruyn 2006; Drahota et al. 2012; Muralidharan & Fenton 2006; Nanda et al. 2010; Nanda et al. 2013; Papoulias et al. 2014; Richter & Hoffmann 2014; Sailas & Fenton 2000; Tanja-Dijkstra & Pieterse 2011; Ulrich et al. 2008).

The research coming out of those bodies showed the eclecticism of research sources and methods in this area. Given the research aim of this study was to understand the impact of environmental design on behaviour in acute inpatient mental healthcare facilities, the search strategy was broadened to include the sociological, anthropological, psychological, and other health science databases. A broader concatenation of search terms was adopted until an adequate and manageable number of papers were identified. This approach was consistent with scoping review methodology.

The Trust Search

Searching the trust literature gave none of the problems experienced in the EBD searches. On the contrary, search strategies generated a completely unmanageable number of papers. Depending upon the database, 33,415 to 227,502 papers were generated on first pass. And follow-up searches for studies published after 2010 (n*) found an explosion of interest in 'trust' as a field of study, particularly in the finance and technology industries, where studies of virtual teams and cybernetics proliferated.

A great many papers were not relevant to the research question as they investigated institutional trust and its erosion, rather than interpersonal trust. Patient safety research that touched on trust issues was mostly concerned with theorising or

evaluating initiatives about building confidence in abstract systems (such as report cards and formal risk assessment tools), which presumed the erosion of the protective capacity of therapeutic trust. Emerging qualitative research in the nursing literature countered this trend, although therapeutic trust studies generally came out of non-mental healthcare settings.

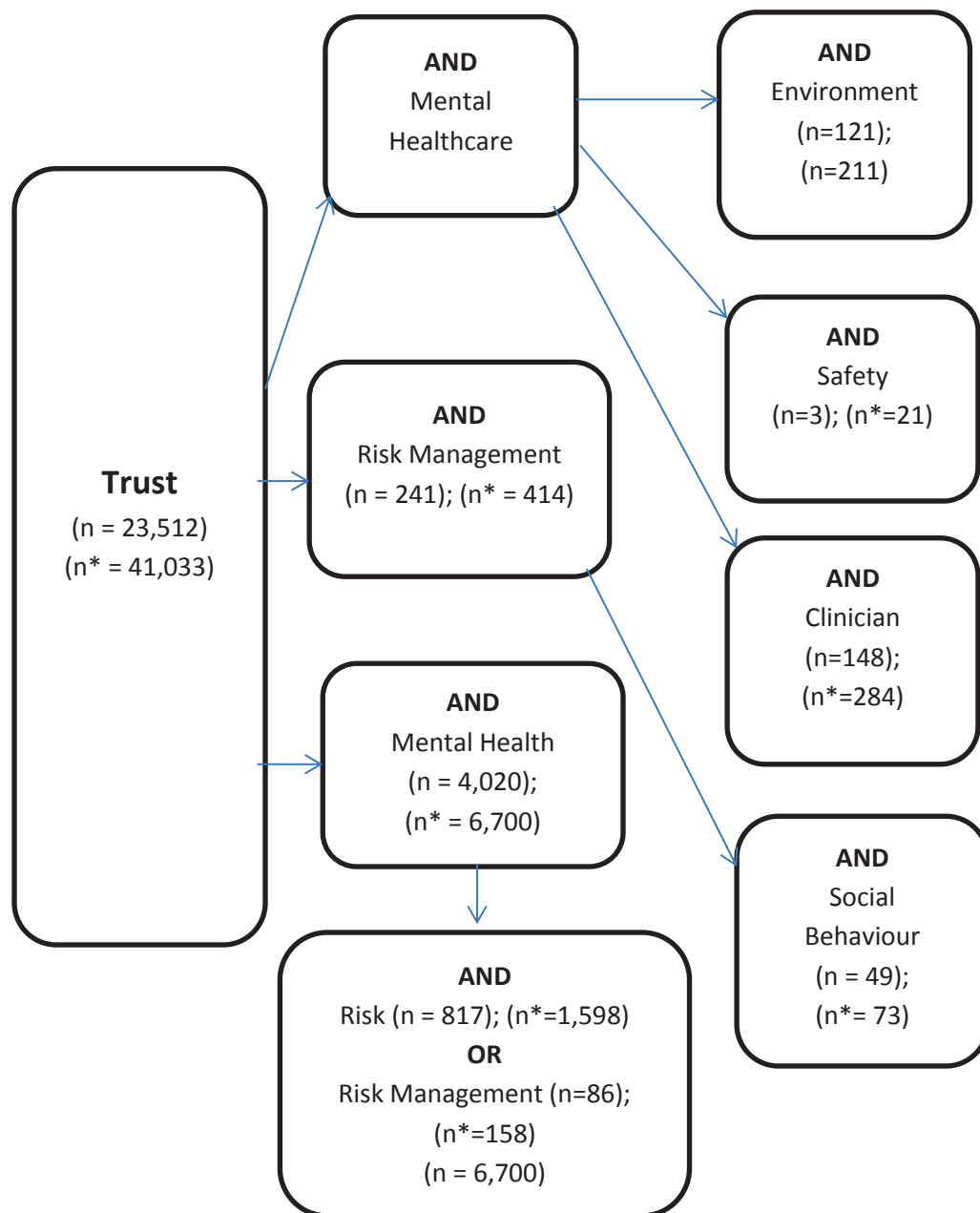


Figure 2.2: Trust Keywords and Search Pathways JSTOR (n* = after 2010)

Notably, despite the proliferation of trust research, in the period 2000-2010 one database only generated three papers when the keywords 'trust', 'mental healthcare' and 'safety' were concatenated in that order. Nineteen further papers were generated over the next five years but this still represented a very small sub-set of a voluminous literature. The keywords and search strategy are presented in Figure 2.2 above. The papers fell into three categories: theoretical models, laboratory trust games, and risk-trust dichotomy studies.

2.2.3.1 Inclusion and Exclusion Criteria

The original inclusion and exclusion criteria were not changed during the review, that is, all papers had to be full text and in the English language. As the study progressed, however in accordance with scoping review methodology, papers were filtered by further exclusion and inclusion criteria that had been developed *post hoc*.

Only papers reporting research from Australia or countries comparable to Australia, such as Western Europe (including the United Kingdom and Ireland), North America (United States and Canada) and New Zealand were included. Any studies conducted in resource limited countries were excluded because environmental conditions and clinical practices were not often comparable to those in economically advanced economies.

Papers were also excluded where they were not relevant, such as investigations into institutional rather than interpersonal trust, or where the EBD research was conducted in aged care or psychogeriatric facilities.

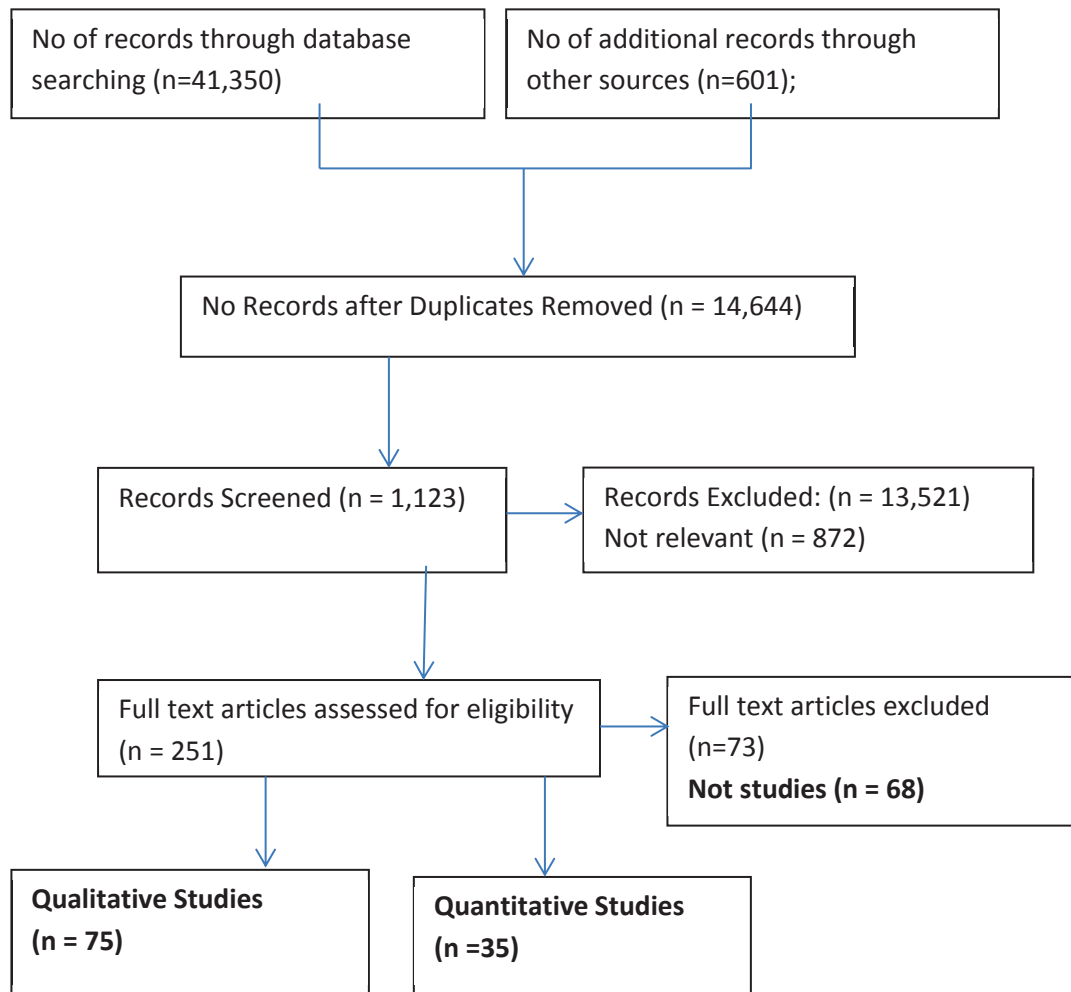


Figure 2.3: PRISMA Four Phase Flow Diagram (Liberati et al. 2009)

2.2.4 Charting the Data

Papers that met the inclusion criteria were first screened by title and then the abstracts were screened for relevance. Those deemed relevant were read and a final subset of 178 reviewed. Of the final 178 papers included in the Review, 68 were not original studies (*“Not Studies”*) but literature reviews, theoretical papers or policy documents. Trust studies accounted for 30% of the original studies (n = 36). The breakdown by category is shown below in Table 2.2 below. The Data Charting Form recorded information using five descriptors and was organised alphabetically by the surname of the first author.

Category (n = 178)	Studies	Not Studies
Qualitative	75 (42%)	
Quantitative	35 (20%)	
Literature Review		22 (12%)
Theoretical		35 (20%)
Government		6
Non-Study		4
Media		1
Totals	110	68

Table 2.2: Literature Categories

The descriptors used were:

- Citation
- Study/Source
- Findings
- Design/Method
- Strength of Evidence.

2.2.4.1 Strength of evidence

As noted earlier, although scoping reviews do not typically evaluate the strength or quality of the evidence, in this review evaluation criteria were used to further understanding of gaps in the literature but not so as to exclude any of the evidence.

The underlying constructs of research quality are trustworthiness and generalisability of the findings but these are evaluated differently in quantitative and qualitative epistemologies. In a quantitative study, reliability and reproducibility are the measures of trustworthiness. Reliability is determined by how well confounding

variables are controlled so that potential bias and the probability of random error are kept within a known level of statistical confidence. Higher quality (level 1) evidence means that further research is very unlikely to change confidence in the study's estimate. The strongest evidence is a meta-analysis of multiple well-designed double blind randomized control trials. The reliability of an estimate of low quality (level V) evidence, such as expert opinion, on the other hand, is quite uncertain. A complete description of the quantitative evaluation framework used in the Review is provided in Appendix 2.1 to this thesis (Coughlan M. 2007).

Trustworthiness in qualitative studies is evaluated along two dimensions: methodological rigour and interpretive rigour. Methodological rigour is concerned with the completeness and appropriateness of the research design. Interpretive rigour considers whether the data collection process allowed participants' voices to be heard and whether the interpretations placed on the data can reasonably be drawn from it. The qualitative evaluation tool is provided in Appendix 2.2 to this thesis (Fossey et al. 2002; Travaglia 2008).

2.2.5 Collating, summarising and reporting the results

The early environmental behaviour literature (1956-1989) and recent critical health geography literature on therapeutic landscapes (2004 – 2013) were found to have addressed similar research questions to those raised in this study, and those literatures generated useful insights and frameworks for investigating the complex phenomena under study. The evidence based literature was collated and reported in accordance with Gesler et al's (2004) taxonomy of three environments of care - the physical, social

and symbolic - which comprised the *Environmental Determinants of Care* (Curtis 2010; Curtis et al. 2007a; Curtis et al. 2009; Gesler et al. 2004).

2.3 Reviewing the Literature

2.3.1 Background

2.3.1.1 Evidence Based Design

Ten to fifteen years ago only around 600 reputable pieces of what Professor Roger Ulrich (2006, p. 538) referred to as “*credible research*” on evidence based design were published (Lawson 2002; Ulrich 2006). By 2013 the British Construction Research & Innovation Strategy (nCRISP) database held over 2,000 evidence based design research papers (Lawson 2013). In a rigorous review of 259 empirical studies the team at the Centre for Health Design (CHD) concluded that there was “*a reliable pattern of findings*” (Ulrich et al., 2008, p.63) in relation to the impact of environmental design factors on healthcare outcomes in inpatient healthcare settings, especially in regard to the effect of noise, light and images of nature (Ulrich et al. 2008). A 2006 systematic review on the psychological impact of healthcare built environments found positive results for sunlight, windows and odour (Dijkstra, Pieterse & Pruyn 2006).

On the basis of repeated empirical findings across healthcare settings the CHD team identified nine design characteristics that influenced healthcare outcomes: audio environment, visual environment, safety enhancement, wayfinding system, sustainability, patient room, family support spaces, and physician support spaces (Ulrich et al. 2008). Earlier work on counselling room interior design identified eight characteristics of a room that could affect the building of therapeutic relationships: accessories, colour, furniture & room design, lighting, smell, sound, texture, and

thermal conditions (Pressly & Heesacker 2001). Evidence has continued to accrue in support of these evidence based design models for safe, efficient and/or effective healthcare environments (Codinhoto, Tzortzopoulos, et al. 2009; Papoulias et al. 2014; Pati & Barach 2010; Ulrich et al. 2010; Zimring & Bosch 2008).

Consumers themselves have expressed higher levels of satisfaction when admitted to newer, purpose built wards, including greater satisfaction with the quality of care and treatment received from doctors, nurses and therapists (Lawson 2002). This relationship between environmental conditions and people's perceptions was studied by psychologists Abraham Maslow and Norbert Mintz in the 1950's. In one of their seminal control experiments participants exposed to three different types of aesthetic surroundings ('beautiful', 'average' and 'ugly') were asked to interpret facial expressions in a series of photographs. Participants in the 'beautiful' room gave more positive responses about the faces than those looking at the same photographs in the 'average' or 'ugly' rooms. In the 'beautiful' room the faces were (on average) interpreted as holding "*perceived energy*" and "*well-being*" while in the 'ugly' room, the same faces were (on average) perceived by subjects as "*fatigued*" and "*displeased*" (Maslow & Mintz 1956).

With prolonged and repeated exposure to the 'beautiful' or 'ugly' rooms participants continued to exhibit different reactions over time (Mintz 1956). Those in the 'ugly' room completed tasks more quickly and reported monotony, fatigue, headache, sleepiness, discontent, irritability, hostility, and avoidance, while those in the 'beautiful' room had feelings of comfort, pleasure, enjoyment, importance, energy, and a desire to prolong the activity (Mintz 1956).

These pioneering researchers elegantly demonstrated that the aesthetics of an environment had profound effects on the perceptions, judgement, feelings and well-being of participants. Such findings have clear implications for building trusting therapeutic relationships between clinicians and consumers in inpatient settings. Environmental conditions may be conducive or inimical to trust building depending on how places are experienced and perceived by those interacting within them.

Advances in neuroscience corroborate such findings and usher in a new evidence based era of understanding safety in acute inpatient mental healthcare facilities. Through the use of new technologies such as magnetic resonance imaging (MRI) and positron emission tomography (PET) researchers can now identify the sites of pre-cognitive response to somatic, haptic and aesthetic stimuli, and have been able to link hapticity with emotion (Barrett & Barrett 2010; Borge & Fagermoen 2008; Curtis et al. 2007b; Daykin et al. 2008; Edginton 1997; Johnson 2013; Nanda et al. 2013).

The difficulty for neuro-architectural study is, however, that while images of spaces, art and nature have elicited observable effects on brain activity, there is not yet technology that can capture responses to the experience of being in a whole, complex physical space (Drahota et al. 2012; Edelstein 2013; Nanda et al. 2010; Nanda et al. 2011; Nanda et al. 2013).

2.3.1.2 Trust

Trust is a complex concept (Arnott 2007), considered fundamental to dyadic human relationships and social engagement and variously described as an emotion fuelled act (Dunning, Fetchenhauer & Schlösser 2012; Morton 1958), a leap of faith or suspension of disbelief (Mollering 2006; Möllering 2001) or suspension of suspicion (Deutsch

1958), an assessment of trustworthiness (Kiyonari et al. 2006; Righetti & Finkenauer 2011), confidence in another, or a cognitive assessment of reliability (James 2002; Lewis & Weigert 1985), a willingness to cooperate (Yamagishi et al. 2005), or the obverse of risk (Das & Teng 2004; Deutsch 1958). It has been the subject of scholarly research across multiple disciplines, from philosophy and sociology to psychology and economics using multiple methodologies from interviews, through repertory grid techniques, to control laboratory and gaming experiments (Kramer 1999, 2006; Lewicki, McAllister & Bies 1998; Mayer, Davis & Schoorman 1995; Seligman 1997; Smith 2005).

There is agreement that trusting involves cognitive, affective and conative components, although different theorists emphasise one or other of the components, depending on the philosophical and epistemological biases they bring to their investigation. The literature describes trust as an action taken after evaluating the risk to the self, using uncertain information about the trustworthiness of the other, which is necessarily augmented by feelings and beliefs about the potential object of trust (Barbalet 2009; Jones 1996; Lewicki, McAllister & Bies 1998; Lewis & Weigert 1985; Luhmann 1979; Mollering 2006; Schoorman, Mayer & Davis 2007; Seligman 1997; Six, Nooteboom & Hoogendoorn 2010; Six & Sorge 2008).

The definition of organisational psychologists Mayer, Davis & Schoorman (1995, p 712), cited over 1,000 times in the literature parsimoniously states that trust is:

“..the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor,

irrespective of the ability to monitor or control that other party.” (Mayer, Davis & Schoorman 1995)

The most important characteristics of trust are generally considered to be a willingness to take risk in a relationship and to be vulnerable to the acts of the trustee (Luhmann 1979; Möllering 2001; Seligman 1997).

Deutsch (1958) was one of the first social psychologists to study ‘*trust*’ and he defined it as the obverse of ‘*risk*’ - as the other side of the same coin (Das & Teng 2004; Deutsch 1958). His insight into the mutuality of risk and trust is very useful for our understanding of safety in acute inpatient mental healthcare units.

Relevantly, for the recovery model of mental healthcare, both parties to the therapeutic relationship must simultaneously be trustor and trustee; both must be prepared to be vulnerable to the other. Trust in a therapeutic context is social and normative rather than individual and calculative (Becker 1996; Brown 2009; Cook et al. 2005; Costa & Bijlsma-Frankema 2007; Das & Teng 2004; Deutsch 1958; Earle 2010; Quick 2006; Snijders & Keren 2001). In acute inpatient mental healthcare facilities, instrumental conceptions of trust are less useful than understanding trust as communicative action (Ashleigh & Meyer 2012; Brown 2008; Calnan & Rowe 2008; Nooteboom 2011). As succinctly stated in early trust studies: “*Trust begins where prediction [and faith] ends*” (Lewis & Weigert 1985 p976).

The positions taken by *Trust Advocates* accords with this understanding of trust, while *Risk Warriors* take a more instrumental approach and exhibit a confidence in the rationality of abstract predictive tools to remove hazards and control of future risks

(Dolan 2000; Gray, Taylor & Snowden 2011; Grove & Meehl 1996; Monahan et al. 2000; Smith 2005).

2.3.1.3 Historical Visions of Trust, Risk and the Asylum

An early proponent of a trust based therapeutic model was John Tuke of the Society of Friends (colloquially known as '*the Quakers*' because of the nature of their prayer experience) who established a humane retreat for the mentally ill at York (The Retreat) in 1796. Many of the principles of care practised there are similar to those articulated in the contemporary recovery model of care (Edginton 1997; Scull 1975).

The physical environment of the York Retreat was considered a significant component of the treatment of the mentally unwell and was designed according to principles of '*moral architecture*', whereby the environment offered solace to assuage the spirit and allow for contemplation, self-reflection and healing. Privacy and control over one's time and activity, even eating times and foods, were fundamental to the philosophy of care practised at The Retreat. Residents were treated as guests and not prisoners.



The Retreat was harmoniously designed on a domestic scale, described by contemporaries as not presenting itself as a prison but rather as a large, rural farm, or estate.

Image 2.1: Interior of the lounge at *The Retreat*.

There were no bars on the windows but rather iron window sashes (Edginton 1997; Scull 1975). When writing about The Retreat in 1813 John Tuke described how the

Society of Friend's philosophy of care manifested itself in the design of The Retreat's built environment Excerpts of his writings are extracted from Scull (1975, p 635-640):

".....many errors in the construction, as well as in the management of asylums for the insane, appear to arise from an excessive attention to safety. People, in general, have the most erroneous notions of the constantly outrageous behaviour or malicious dispositions, of deranged persons [106-107].....in a childish, or what is worse, a domineering manner....the natural tendency of such treatment is, to degrade the mind of the patient, and to make him indifferent to those moral feelings, which, under judicious direction and encouragement, are found capable, in no small degree, to strengthen the power of self-restraint [159-160].....The comfort of the patients is therefore considered of the highest importance, in a curative point of view [178]...coercion, when requisite, is considered to have a tendency to retard the cure, by opposing the influence of the moral remedies employed. It is therefore used sparingly...The power of judicious kindness over this unhappy class of society is much greater than is generally imagined [168]...having rendered coercion necessary after previous unkind treatment[167]....to seek the good opinion of the patient, and to endeavour to govern rather by the influence of esteem than of severity [171]....."

Such a commitment to therapeutic design and belief in the trust-building potential of the environment is in contradistinction to the purported squalor of the notorious 'Bedlam' (Bethlem) Asylum of the time, or the dehumanisation of the modernist 'panopticon' (Curtis et al. 2013; Foucault 1975).

Bethlem was Britain's first asylum and has become synonymous with maladministration and the neglect and abuse of people incarcerated there, earning it the nickname 'bedlam', meaning chaos and confusion. People were reportedly kept in dark, unheated and unlit spaces, chained and naked. In the eighteenth and nineteenth centuries it was an accepted amusement for the general public to visit and watch the behaviour of those incarcerated there (Arnold 2008).

Jeremy Bentham's vision of the nineteenth century '*panopticon*' was equally disturbing but in a quite different and modernist way. Bentham envisaged an institutional layout (for prisons) giving panoptic vision to those overseeing resident populations, whereby a central observer would have uninterrupted lines of sight of all residents at all times. The panopticon was intended to instil a discomforting sense of constant, permanent surveillance in those watched. The intention was to encourage self-control through forcing a learned self-monitoring of behaviour, somewhat similar to John Tuke's objective, but Bentham's approach was not to achieve the goal through kindness, trust and insight but by fear, intimidation and surveillance (Curtis et al. 2009; Curtis et al. 2013; Curtis et al. 2007b; Foucault 1975; Kumar & Ng 2001; Lawoko, Soares & Nolan 2004; Lawson 2002; Moon 2000; Nolan et al. 2009; Qurashi et al. 2010; Rashid & Zimring 2008; Roberts et al. 2009; Scull 1975).

2.3.2 Effect of the Built Environment in Acute Inpatient Mental Healthcare

The literature indicates that the built environment influences organisational culture and climate, including safety climate, which have direct and indirect impacts on the experience of care, satisfaction and outcomes for both consumers and care providers (Borge & Fagermoen 2008; Christenfeld et al. 1989; Clive et al. 2011; Codinhoto,

Tzortzopoulos, et al. 2009; Connellan et al. 2013; Curtis et al. 2007b; Devlin & Arneill 2003; Dijkstra, Pieterse & Pruyn 2006; Dobrohotoff & Llewellyn-Jones 2011; Holahan & Saegert 1973; Lawson 2013; Middelboe et al. 2001; Payne & May 2009; Richter & Hoffmann 2014; Taylor 2008; Turton et al. 2010; Ulrich et al. 2008; Ulrich et al. 2010).

2.3.2.1 Sanctuary Trauma

Admission to an acute inpatient mental healthcare facility is now recognized as a significant trauma in itself, referred to as “*sanctuary trauma*” (Frueh et al. 2005).

Consumer narratives of experiences in acute inpatient mental healthcare units suggest a causative link between distrust and failure to recover (Frueh et al. 2005; Johansson, Skärsäter & Danielson 2009; Middelboe et al. 2001). Negative experiences during an admission, such as aggression, violence or solitary confinement (seclusion), have been known to trigger post traumatic stress disorder (PTSD) (Frueh et al. 2005; Middelboe et al. 2001; Steinert, Lepping, Bernhardsgrütter, et al. 2010; Strout 2010).



Image 2.2: Typical Seclusion Room

A cross-sectional study in South Carolina found high rates of lifetime trauma were associated with psychiatric settings. The 142 randomly selected participants reported traumatic events such as physical assault (31%) and witnessing traumatic events (63%). Frightening experiences include: violent patients (65%), seclusion (59%), restraint (34%) and handcuffed transport (65%).

Consumers spoke of their fear of both the nurses and other patients, and of feeling constantly anxious and afraid during an admission. They spoke of their terror in witnessing, or being the victim of violence during an admission (Frueh et al. 2005). In a British study 27% of respondents rarely felt safe and 50% of recent or current inpatients reported experiencing some form of aggression against them (Bowers et al. 2009).

2.3.2.2 Violence

Analysis of incidents of violence show that the nature of violence in mental healthcare settings is as situational as the violence experienced outside of institutions (Whittington & Richter 2005). All are associated with the person-place-event nexus of a situation (Flannery, Hanson & Penk 1994). A retrospective analysis of data from five years of a program to support staff who had been victims of consumer violence in mental healthcare settings found no specific pattern of consumer or staff characteristics precipitating violence and emphasized that it was the unique interaction of the effects of individual characteristics (staff & consumers), the event, and the environment (organizational and material), that caused violence. The most frequently occurring precipitants were: excessive sensory stimulation (ward busyness), staff restrictions on patient behaviour (control), and acute psychosis (personal state) (Flannery 2005). Consumers generally attributed conflict with staff to the frustration arising from the imposition of contested and/or seemingly arbitrary rules and policies. Including non-smoking policies, (Bowers et al. 2009; Flannery 2005; Flannery, Hanson & Penk 1994; Shattell, Andes & Thomas 2008) or to conflict with other consumers due to overcrowding (Kumar & Ng 2001).

Longitudinal studies into the incidence of violence and aggression in acute inpatient mental healthcare units show a correlation between poor environments of care and negative behavioural symptoms, such as aggression (Flannery, Hanson & Penk 1994; Kumar & Ng 2001; Lawoko, Soares & Nolan 2004; Olver et al. 2009). In an audit of 78 psychiatric facilities in Europe most of the serious sources of dysfunction and ill treatment were attributed to physical environments that encouraged the use of coercive measures, including seclusion and restraint (Niveau 2004). A comparison of violence in eight Swedish Health Districts and five Mental Health Trusts in England found that English nurses were more at risk than their Swedish counterparts, and this was partly attributed to the poorer physical environments of the English facilities (Lawoko, Soares & Nolan 2004).

A recent systematic review and thematic analysis of consumer experiences of aggression in acute inpatient mental healthcare units reported that consumers' feelings of being out of control were exacerbated by environments characterised as unpredictable, oppressive, and insecure (Gudde et al. 2015). Aggression and violence are known outcomes of psychological distress (Andes & Shattell 2006; Borge & Fagermoen 2008; Johansson, Skärsäter & Danielson 2009; Lawson 2002, 2013; Shattell, Andes & Thomas 2008). Lack of care and respect from staff, lack of privacy and space, rigid structures, lack of meaningful activity, an unpredictable and hostile milieu, and other environmental stressors, have been consistently identified as contributing to aggression and violence on the wards (Bowers et al. 2009; Codinhoto, Tzortzopoulos, et al. 2009; Flannery 2005; Flannery, Hanson & Penk 1994; Frueh et al. 2005; Gudde et al. 2015; Lawson 2002, 2013).

Aggression and violence on a ward could be considered a ‘*normalised deviance*’ response to incarceration and the resistance of an autonomous being to poor material conditions, fear and self-protection, and/or the imposition of rules perceived as arbitrary (Bowers et al. 2009; Flannery, Levitre, et al. 2011; Flannery, Staffieri, et al. 2011; Gudde et al. 2015; Lawoko, Soares & Nolan 2004; Merkel 2004; Nolan et al. 2009; Olver et al. 2009; Whittington & Richter 2005).

2.3.2.3 Trust

There is a generalised belief amongst clinicians that trusting relationships are crucial to the creation of safety. The Royal College of Psychiatrists (RPsych) has described safety (at page 14) as resulting from:

“.. a positive ward culture that nurtures good relationships and interactions between patients, carers and staff and the trust that is built up between them.” (Royal College of Psychiatrists 2011)

In a cross-sectional investigation into the relationship between the patient’s perceptions of real and ideal wards, 45% of variance was explained by two factors: *Support, Order & Organisation*, and *Autonomy*. These factors were the most valuable in creating a therapeutic milieu and allowing the rebuilding of self-efficacy. Notably, being under the control of the staff was very negatively correlated with satisfaction (Middelboe et al. 2001).

There is however little actual research on the relationship between therapeutic trust in acute inpatient mental healthcare settings and safety. One qualitative study on therapeutic trust included an account of the attitudes of acute inpatient mental healthcare consumers to the consumer-clinician interpersonal therapeutic

relationship. The primary concern expressed by participants was confidentiality of their data. It was a matter of trust.

There is research on the development of distrust (as opposed to trust) in acute inpatient mental healthcare units based on the double contingency work of Luhmann (1995) wherein Luhmann argued that people react to both their own expectations of the behaviour of another as well as their expectations of that other's expectations of their behaviour, and that these complicated mutual expectancies are communicated through actions and words (Luhmann 1979; Whittington & Richter 2005). This communicative action was described by Whittington & Richter (2005, p.1) as unfolding such that:

"Both patients and staff were coping with the perceived threat of the other in a context of uncertainty. The combination of misunderstanding, reciprocal anger, and need for safety underpin escalating tensions" (Whittington & Richter 2005).

Consumer perceptions of role violations by care providers, when care providers act as custodians and not carers, combined with the associated status asymmetry between jailor and jailed, create an over controlling and over sanctioning ward milieu which engender situations likely to escalate to aggression and violence (Luhmann 1979; Whittington & Richter 2005). Rigid and controlling practices communicate to consumers that the care providers expect them to need containment and control. Distrust develops between consumer and clinician in these situations because the milieu provides the context for incidents of 'aversive stimulation' which trigger aggressive, self-protective responses (Whittington & Richter 2005).

Such a communicative process was observed in the 1971 Stanford Prison Experiment, in which university students in a prisoner-guard experiment adopted abusive or recalcitrant role behaviours within two days of the start of the study (Zimbardo 1973, 2007) . Environmental behaviourists would argue that the ‘jail’ design of the communication space influenced social behaviours in a negative direction (Goffman 1961; Hall 1990; Saegert & Winkel 1990; Winkel, Saegert & Evans 2009); as would anthropologist Pierre Bourdieu, who described habitats as the symbolic projections of the most fundamental structures of culture and argues that places structure interactions between people (Swartz 2002; Webster 2011).

2.3.3 The Environmental Determinants of Care

In the design process, relatively permanent architectural features, malleable interior design features, and ambient features of light, noise, odour, temperature and humidity are combined to create spaces that exhibit the architectural patterns appropriate for the proposed purpose of the building (Alexander 1977).

From a therapeutic landscape perspective, in acute inpatient mental healthcare settings architectural patterns take the form of three distinct but interrelated ‘environments of care’: the physical environment of care, social environment of care, and symbolic environment of care (Borge & Fagermoen 2008; Dijkstra, Pieterse & Pruyn 2006; Gesler et al. 2004; Papoulias et al. 2014; Wood et al. 2013). These environments structured analysis of the literature in this section and are presented visually as the *Environmental Determinants of Care* at Figure 2.4 below.

Human responses to the environments of care are manifested physiologically, psychologically and emotionally, but the association between stimuli and response has

been inconsistently subject to scientific scrutiny (Codinhoto, Tzortzopoulos, et al. 2009; Connellan et al. 2013; Papoulias et al. 2014; Ulrich 1984; Ulrich et al. 2008). Most research has been focused on the impact of physical environments of care on physiological homeostasis, with little on the effect of the social and symbolic environments of care on psychological and emotional states.

The effect of discrete, measurable, independent variables in the built environment, such as light intensity, noise levels, and views on discrete, measurable dependent variables, such as heart rate and blood pressure, have been well studied in healthcare settings. Positivist methodologies are easily applied to these phenomena and the causative or correlational links between the physical environment, safety, efficiency and clinical outcomes in healthcare settings are generally well established (Anjali & Mahbub 2007; Becker & Parsons 2007; Codinhoto, Aouad, et al. 2009; Codinhoto, Tzortzopoulos, et al. 2009; Pati & Barach 2010; Ulrich 1984; Ulrich et al. 2008; Ulrich et al. 2010).

Less is known about the influence of the social and symbolic environments of care on consumer experience and outcomes, even though these two environments are central to behavioural responses, and figure prominently in the elicited preferences of both consumers (in all healthcare contexts) and clinicians (Barrett & Barrett 2010; Curtis et al. 2007a; Curtis et al. 2009; Devlin & Arneill 2003; Gesler et al. 2004; Papoulias et al. 2014; Payne & May 2009; Saegert & Winkel 1990; Scull 1975; Ulrich et al. 2008; Vaaler, Morken & Linaker 2005; Zeisel 2005).

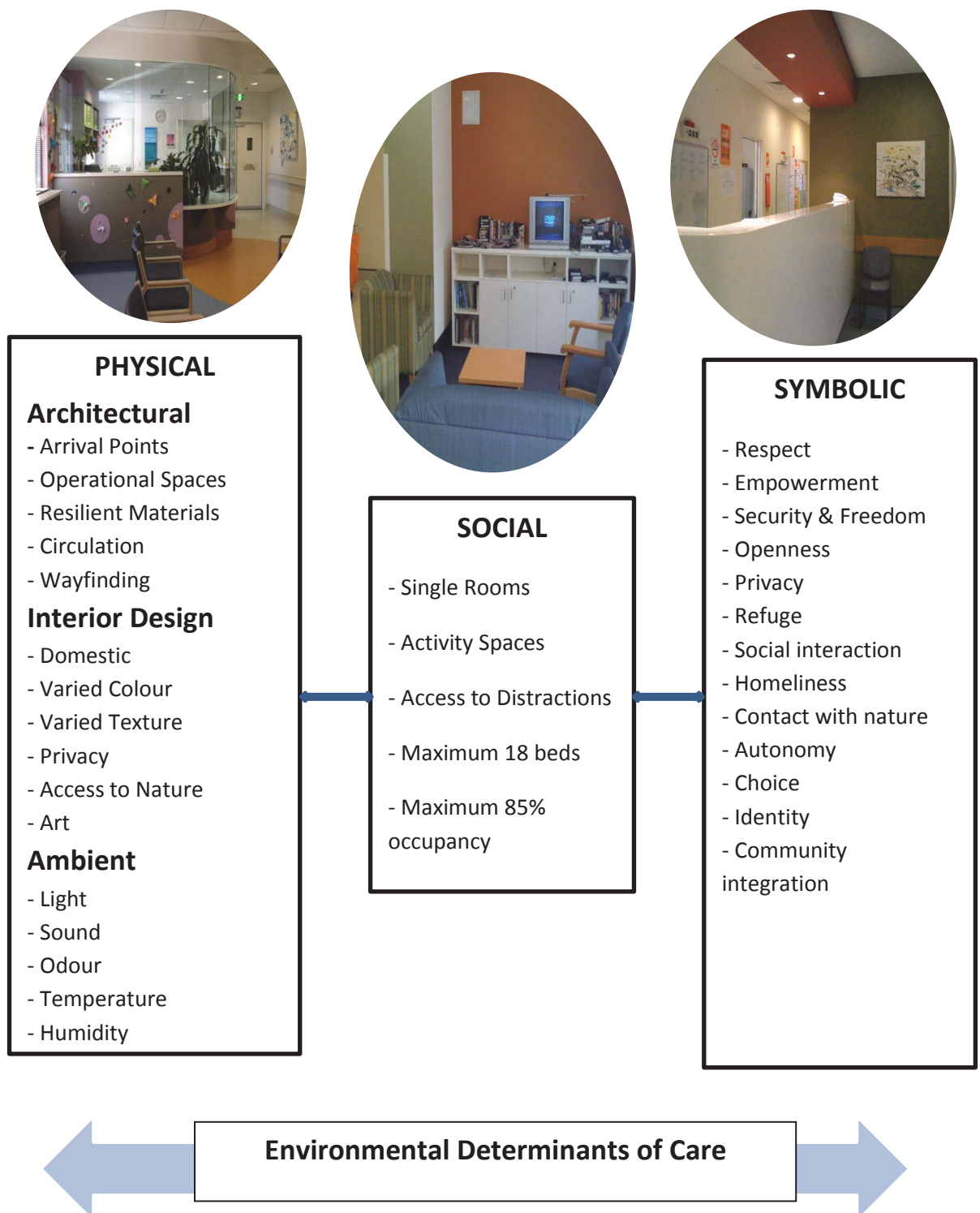


Figure 2.4: Environmental Determinants of Care Model

This paucity of rigorous evidence in regard to the social and symbolic determinants of care may be attributed to the methodological challenges of studying behaviour in dynamic, naturalistic settings (Dijkstra, Pieterse & Pruyn 2006), unstable consumer preferences, and the methodological bias of the health sciences toward quantitative, positivist methods of inquiry whereby qualitative methods are not accorded the same validity as quantitative methods.

Study of the more intangible elements of the built environment, that is, the social and symbolic *Environmental Determinants of Care*, require the application of idiographic epistemologies and hermeneutic methodologies, such as ethnomethodology, rather than the nomothetic epistemology of the physical sciences - and the health and medical sciences are not always at ease with such methods (Borge & Fagermoen 2008; Papoulias et al. 2014; Winkel, Saegert & Evans 2009).

2.3.3.1 Physical environments of care

As a first principle, physical environments need to be physiologically comfortable, safe, and legible. The literature consistently shows that appropriately combining architectural forms, interior design elements and ambient features to achieve therapeutic objectives is important to the recovery of acute inpatient mental healthcare consumers (Christenfeld et al. 1989; Codinhoto, Tzortzopoulos, et al. 2009; Connellan et al. 2013; Curtis et al. 2007b; Gesler et al. 2004; Golembiewski 2010; Holahan & Saegert 1973; Karlin & Zeiss 2006; Kumar & Ng 2001; Lawson 2002, 2013; Olver et al. 2009; Papoulias et al. 2014; Richter & Hoffmann 2014; Royal College of Psychiatrists 2011; Salonen et al. 2013b; Ulrich et al. 2008; Ulrich et al. 2010; Willis 1980; Winkel & Holahan 1985).

The design features of importance include:

a. Architectural form

The architectural form of a space involves the manipulation of the relatively permanent features of the built environment to achieve therapeutic purpose, including the following design elements: layout, dimensions and spatial allowances, orientation and wayfinding. These are the spatial adequacy, wayfinding system and safety enhancement criterion identified by Ulrich and his team (Ulrich et al. 2010). A facility's layout needs to be functional with adequate proportions for user populations and their activities (Curtis et al. 2007b; Gesler et al. 2004; Golembiewski 2010; Lawson 2013; Preiser 1983; Spivack 1967; Ulrich et al. 2008). It should:

- provide clear arrival points and pathways;
- create coherent spaces for operational and clinical practice, including:
 - admission spaces
 - consultation spaces,
 - family spaces,
 - bedrooms,
 - quiet rooms,
 - activity spaces,
 - therapy spaces, and
 - staff support spaces;
- use safe and resilient construction materials;
- devise effective way finding tools;
- design legible circulation patterns;

- devise subtle security features that do not just assert authority; and
- avoid features that create perceptual distortions (such as long, monochrome corridors).

b. Interior design elements

The interior design elements of a space are more readily modifiable than architectural features and include: furnishings, colour, views, gardens, and art (Nanda et al. 2010; Nanda et al. 2012; Nanda et al. 2011; Ulrich 1984). These features can reduce stress by inhibiting arousal of the fight-flight endocrinal response to threatening environments and uncertainty. Interiors can not just dampen fear and avoid exacerbating symptoms of stress, but also stimulate positive emotional responses in people (Christenfeld et al. 1989; Golembiewski 2010; Holahan & Saegert 1973; Papoulias et al. 2014; Pati & Barach 2010; Richter & Hoffmann 2014; Saegert & Winkel 1990; Salonen et al. 2013a; Scull 1975; Ulrich 1984; Vaaler, Morken & Linaker 2005; Willis 1980).

Research indicates that the interiors of acute inpatient mental healthcare units should be:

- homelike with welcoming arrival points,
- furnished in domestic style,
- use a varied colour palate,
- incorporate textural variety in furnishings,
- provide private spaces that can be personalized, and
- allow access to nature and outlooks onto nature

(Annerstedt & Währborg 2011; Connellan et al. 2013; Papoulias et al. 2014; Richter & Hoffmann 2014; Vaaler, Morken & Linaker 2005)

Visual art is to be encouraged, both the making of it and the cohabiting with it, but installed art should be naturalistic rather than figurative or abstract. Figurative and abstract art have both been associated with stress responses and negative behaviours during acute psychotic episodes of mental illness (Daykin et al. 2008; Nanda et al. 2010; Nanda et al. 2011).

c. Ambient features

Ambient features of an environment are experienced as sensory input and include: light, sound, odour, temperature, and humidity. A person's experience of ambient features affects all three response modes: the physiological, psychological and emotional. (Codinhoto, Tzortzopoulos, et al. 2009; Drahota et al. 2012; Rashid & Zimring 2008; Salonen et al. 2013a, 2013b; Ulrich 1984; Ulrich et al. 2008).

Ambient features need to be correctly balanced for homeostatic comfort, minimization of stress and an appropriate level of stimulation, which will differ between people experiencing different mental illnesses. These features are the most amenable to positivistic scientific inquiry as the human organism responds in clear, measurable ways to them. Physiological responses to somato-sensory stimuli include changes in:

- heart rate,
- blood pressure,
- cortisol levels,
- serotonin levels, and

- demand for *pro re nata* (PRN, as needed) pain relief.

Lack of control over the ambient features of an environment is very disempowering as one is unable to tend to basic physiological needs. Control over ambient features precedes the relearning of control over self, leading to recovery (Lawson 2013).

2.3.2.2 Social environments of care

Social environments can ameliorate or exacerbate the psychological stress of admission to an acute inpatient mental healthcare facility (Borge & Fagermoen 2008; Codinhoto, Aouad, et al. 2009; Codinhoto, Tzortzopoulos, et al. 2009; Curtis 2010; Curtis et al. 2007b; Frueh et al. 2005; Holahan & Winkel 1985; Lawoko, Soares & Nolan 2004; Lawson 2013; Pressly & Heesacker 2001; Saegert & Winkel 1990; Whitehead et al. 1984; Willis 1980). In a randomised control trial into the impact of changes to the built environment on consumers in a mental healthcare unit Winkel & Holahan (1985) identified aspects of the social environment that acted to prevent the psychological stress of the inpatient experience (Winkel & Holahan 1985), including:

- privacy,
- personal control and independence,
- hospital social relationships, and
- levels of environmental stimulation

Lawson (2002, 2013) came to similar conclusions, arguing that design elements needed to simultaneously promote privacy, company and dignity (Lawson 2002, 2013).

Control over privacy/social contact is expressed as the number one concern of consumers in all healthcare settings (Lawson 2013). The role of interior fixtures and furnishings as social organisers has been known since the early environmental

behaviour studies (Hall 1973, 1990; Preiser 1983; Sommer 1969). These research findings are very relevant to a recovery model of care where the object of therapy is increased self-efficacy and competence in the social world.

The adverse events of aggression and distancing behaviours (withdrawal) can be considered the outcome of environmental failure. Aggression is associated with locked wards, restraint and seclusion (Bowers et al. 2009; Gudde et al. 2015; Vaaler et al. 2011). It also occurs when spatial density is too great and there is a perception of encroachment across boundaries into personal territory (Goffman 1961; Hall 1990; Holahan & Saegert 1973; Sommer 1969), (Griffiths 2009; Gudde et al. 2015; Whitehead et al. 1984). Disordered thinking may cause a person to experience a distorted sense of social density such that up to four times more area is needed to feel psychologically safe (Brooks et al. 1994).

Social Density

Perceived crowding has been identified as a primary risk factor for violence (Gudde et al. 2015; Kumar & Ng 2001). The experience of social density violates autonomous control over social and other interactions causing people to respond defensively to perceived threats (Brooks et al. 1994; Kumar & Ng 2001; Sommer 1969).

Kumar & Ng (2001) assert that a reported increase in violence in acute wards in Australia and New Zealand may be attributable to the lack of acute beds to meet demand (because of the priority given to funding community care over acute care), leading to over-crowding in the available acute units (Kumar & Ng 2001). Self-reported stress, observed behaviours and elevated biochemical indices are associated with

uncomfortable levels of social density (Kumar & Ng 2001; Whittington & Richter 2005).

People need space for retreat and reflection, as well as places to interact and engage in meaningful activity. The research shows that people need to control their movement between the different types of spaces.

This problem of perceived spatial density and social density is recognized in the Australasian Health Facility Building Guidelines (HFBG), which provides for an extra one square metre of space in seclusion rooms (at 134.36.00).

Generous spaces, however, are also needed in other areas, especially in shared areas such as dining rooms and lounges, which have peak periods of usage when any intense feelings of social density can lead to defensive aggression and violence. Most episodes of violence are reported at the point of admission, particularly the index admission, when a patient's behaviour and internal state is most altered, their sense of social crowding is at its most intense, breaches of territorial boundaries are most likely, and patients are in the greatest state of distress and turmoil.

Another recurrent theme in the literature is the need for stimulation and meaningful activity to promote recovery and relieve boredom, which is something particularly intense in those admitted for lengthy periods of time (Gudde et al. 2015; Shattell, Andes & Thomas 2008), (Lawson 2013; Ulrich et al. 2008; Ulrich et al. 2010).

Various design solutions to address issues in the social environments of care have been postulated in the literature, including:

- Single or (at least) partitioned bedrooms (which can be personalized) to provide private space for retreat and the elimination of all dormitory style

accommodation (Christenfeld et al. 1989; Garling 2008; Holahan & Saegert 1973; Lawson 2002, 2013; Olver et al. 2009).

- Multiple activity spaces to reduce withdrawal behaviours, increase active social behaviours, and allow the therapeutically crucial exercise of control over the nature and timing of social contact (Christenfeld et al. 1989; Goffman 1961; Saegert & Winkel 1990; Sommer 1969; Winkel & Holahan 1985).
- Access to nature, informative views, distractions, and space for meaningful (including spiritual) activity to promote recovery (Connellan et al. 2013; Curtis et al. 2007b; Gesler et al. 2004; Ulrich 1984).
- Large, expansive, high ceilinged spaces accommodating no more than 18 beds at 85% occupancy to avoid social density (as well as spatial density) and allow for the building of therapeutic relations with care providers, thereby reducing the incidence of aggression and violence (Hall 1973, 1990; Royal College of Psychiatrists 2011; Sommer 1969).

2.3.3.3 Symbolic environment of care

The meanings and expectations conveyed by the environment are denoted 'the symbolic environments of care' (Curtis 2010; Gesler et al. 2004; Papoulias et al. 2014).

Phenomenological and ethnographic studies have shown that consumers of acute inpatient mental healthcare services perceive inpatient environments in terms of their symbolic elements (Andes & Shattell 2006; Borge & Fagermoen 2008; Curtis et al. 2009; Curtis et al. 2013; Curtis et al. 2007b; Johansson, Skärsäter & Danielson 2009; Lawson 2002, 2013; Shattell, Andes & Thomas 2008).

Signifiers denoting a place of '*haven*' and '*safety*', and not '*incarceration*' and '*punishment*' are particularly appreciated in acute inpatient mental healthcare facilities. Consumers expect the environment to signify care, safety and trustworthiness with the promise of positive relationships between clinicians and consumers, and consumers with each other (Ashmore 2008; Borge & Fagermoen 2008; Curtis 2010; Curtis et al. 2007b; Dijkstra, Pieterse & Pruyn 2006; Gesler et al. 2004; Gilbert, Rose & Slade 2008; Holahan & Winkel 1985; Lawson 2013; Moon 2000; Saegert & Winkel 1990; Salonen et al. 2013a; Scull 1975; Shattell, Andes & Thomas 2008; Tanja-Dijkstra & Pieterse 2011; Tyson, Lambert & Beattie 2002; Willis 1980; Winkel, Saegert & Evans 2009).

Oppressive material environments that are neglected and dreary promote feelings of hopelessness and failure. Avoiding environmental signs of neglect connotes trustworthiness, refuge, and respect, and provides hope and positive expectations for self-improvement. (Andes & Shattell 2006; Christenfeld et al. 1989; Curtis et al. 2009; Curtis et al. 2007b; Holahan & Saegert 1973; Papoulias et al. 2014). Holahan & Saegert (1973) attributed the depressed withdrawn behaviours of consumers to the overcrowded, barren, dirty, dark and neglected environment in which they were accommodated. Despair and withdrawal can be understood as a 'normal' response to a dingy, ugly environment (Maslow & Mintz 1956; Mintz 1956; Pressly & Heesacker 2001; Whitehead et al. 1976).

The symbolism of the modern unit needs to be in contradistinction to the symbols of domination, control and mutual fear of the "*total institution*", which Goffman (1961) described as places where residents were cut off from the wider society in an

enclosed, formally administered round of life, usually symbolized by barriers to social intercourse with the outside and restrictions on departure from the institution built into the fabric of the building (Goffman 1961).

Symbols evocative of containment and confinement, such as locked doors, secure walls, high walls, enclosed nurse stations and close circuit (CCTV) are to be avoided if a place is to invite therapeutic engagement between consumer and clinician (Ashmore 2008; Borge & Fagermoen 2008; Curtis et al. 2013; Gilbert, Rose & Slade 2008; Gudde et al. 2015; Johansson, Skärsäter & Danielson 2009; Papoulias et al. 2014; Scull 1975; Shattell, Andes & Thomas 2008; Tyson, Lambert & Beattie 2002).

Environmental elements introduced to assert or symbolize control over consumers have been found to exacerbate consumers' feelings of frustration, anger, fear and uncertainty, increasing the potential for intransigence to escalate into violence (Frueh et al. 2005; Gudde et al. 2015). Aggression, poorer satisfaction and more severe symptoms are all associated with locked wards, restraint and seclusion (Middelboe et al. 2001; Van der Merwe et al. 2009).

De-escalation training has produced no significant reduction in episodes of violence unless accompanied by improvements to the physical space, where such improvements were needed (Khadivi et al. 2004). A 2010 retrospective case note review found a 60% reduction in seclusions over 5 years (2002-2007) following the introduction of a seclusion reduction program that included environmental changes informed by consumer preferences. There was no increase in assaults over the same period (Qurashi et al. 2010). A non-randomized case control before and after naturalistic study found similar results three months after 25 long term patients were

transferred from a cramped, poorly lit, locked ward with shared rooms to a new, brightly lit, purpose built space with recreation areas, garden spaces for socializing and sporting activities, and private rooms (Olver et al. 2009).

The surveillance, control and domination model of mental health care is an artefact of the origin of the psychiatric institution as a warehouse for the subjugation and control of those perceived as dangerous to themselves and to society (Christenfeld et al. 1989; Curtis et al. 2009; Curtis et al. 2013; Edginton 1997; Moon 2000; Strout 2010). The environmental manifestations of the custodial model symbolize the *in situ* relational dynamic (Curtis et al. 2007a; Curtis et al. 2013; Edginton 1997; Whittington & Richter 2005; Willis 1980) and include:

- locked wards
- seclusion rooms
- overt, high perimeter walls
- keyed central access
- enclosed nurse stations and
- close-circuit television (CCTV)

A qualitative study of a new acute inpatient mental healthcare unit in East London (United Kingdom) found that clinicians were well aware of the impact on the therapeutic relationship of symbols of domination and control and were critical of the continued use of vision panels in the bedroom doors of the new Unit:

“They create a prison-like atmosphere....they shift focus from engagement, therapy and trust to disengagement and mistrust” (Curtis et al, 2007 at p.600)

2.4 Effects of improving mental healthcare built environments

The evidence suggests that while the physical environments of care are important to consumer well-being, the most important features of inpatient environments to consumers are those that evoke or balance the following concepts, most of which are concerned with the interior design (an aspect of the physical environment of care), social and symbolic environmental determinants of care (Curtis et al. 2007b), that is:

- respect & empowerment
- security & surveillance versus freedom & openness
- territoriality
- privacy, refuge and social interactions
- homeliness & contact with nature
- places for expression and reaffirmation of identity, autonomy, and consumer choice
- integration into sustainable communities.

2.4.1 Impact on consumers

Significant improvements in patient affect, behaviour and satisfaction have been reported when the acute inpatient mental healthcare built environment has been improved. Introducing natural light, colour, texture, and variety in spatial configuration to add aesthetic interest, providing consumers with the all-important

choice between privacy and social activities, and disguising overt symbols of security and surveillance, are reported to dramatically improve patient engagement, morale and sense of self-worth (Christenfeld et al. 1989; Holahan & Saegert 1973).

A 2004 post-occupancy evaluation of the new, spacious, multi-storied and light filled New York Psychiatric Institute in New York City found reduced emotional stress in the patients and a 99% reduction in the use of restraint (Merkel 2004). In another United States study, the reported incidence of violence and use of seclusion decreased by 70% in new model wards (Brooks et al. 1994). The incidence of violence reduced by 50% when patients were moved into new and renovated wards with more personal space, more activity space and/or more spaces for quiet social exchanges (Christenfeld et al. 1989). In the United Kingdom, environmental improvements to acute inpatient mental healthcare units have been reported as reducing lengths of stay by 14% and seclusion times by 70% (Lawson 2002)

In their seminal control experimental study, Holahan & Saegert (1973) consulted with both consumers and staff on the environmental changes to be made to a very drab, dirty and dour ward in a municipal psychiatric facility in New York. After the renovation, consumer affect and satisfaction was found to significantly improve. Trained observers recorded that the more thoughtful, cleaner and brighter environments invited fewer withdrawn behaviours, increased personalization of (new) private spaces, and encouraged more social interactions between consumers and between consumers and staff (Holahan & Saegert 1973). A later study found that the environmental redesign of a thirty bed unit correlated with behavioural changes in consumers in clinically desirable directions. The design solutions were labelled 'social

organizers' as they encouraged social interaction and participation in ward activities (Hall 1973, 1990; Whitehead et al. 1984)

In the mixed methods pre-test, post-test study of Christenfeld et al (1989), renovations in a long term unit produced positive significant change in the self-image of severely regressed consumers (Christenfeld et al. 1989). Outcome measures in the Christenfeld et al (1989) study included satisfaction with the physical environment, quality of life, and quality of care.

The design elements changed by the Christenfeld team in the experimental suite included:

- lowered ceilings,
- shaded lighting,
- soothing tones or brighter spaces depending upon purpose,
- smaller and quieter spaces around the unit,
- dayroom carpeted and curtained as a retreat,
- marked archways into bedrooms which had seating areas and wall hangings,
- ornamental ceramic tiles, vanity style sinks and full length mirrors (as well as non-weight supporting shower heads) in the bathrooms,
- private dressing rooms in the bathrooms,
- concealed dirty laundry by wood covered cabinets,
- ventilation of the smoking porch,
- patient areas decorated with paintings, posters and hanging baskets of flowers and plants,

- centralized nurse station

In all three of the above cited studies, consumers were reported as treating both refurbished and new spaces with more respect, there was less graffiti, and fewer assaults upon the building fabric (Christenfeld et al. 1989; Holahan & Saegert 1973; Whitehead et al. 1984). This finding was confirmed in a 2009 English study which found consumers did not damage their new, nicer environment (Payne & May 2009).

Reductions in assaults on the material environment were also observed in a Norwegian quasi-experimental study investigating the effect of different seclusion room environments on inpatient outcomes.



Image 2.3: Norwegian Seclusion Room

The interiors of a seclusion room were modelled on a Norwegian country lodge and consumer outcomes were compared with those of consumers who spent time in a standard seclusion room (Vaaler, Morken & Linaker 2005).

No relationship was found between room type and patient outcome, but two years and two hundred patients later, the 'country lodge' room had never been damaged whereas the 'standard' seclusion room had been damaged and repaired many times. The Vaaler team did not investigate this phenomenon further (personal communication, 2011).

2.4.2 Impact on care providers

The effects of environmental changes on the wellbeing and performance of inpatient mental healthcare staff have been measured in terms of satisfaction, stress level, mood, absenteeism, injury, fatigue and propensity for error (Christenfeld et al. 1989; Payne & May 2009; Tanja-Dijkstra & Pieterse 2011; Tyson, Lambert & Beattie 2002).

In the Christenfeld et al (1989) study, objective measures of staff satisfaction confirmed self-reported improvements in mood and job satisfaction: staff absenteeism was down and staff reported incidence of violence were also reduced by 50% (Christenfeld et al. 1989). There was a statistically significant elevation in the mood of staff in the intervention ward, compared with staff in the four control wards. Just like the consumers in the remodelled unit, staff also treated the new space with more respect. They were observed more actively ensuring the cleanliness and maintenance of the material environment. Staff attitudes changed dramatically over the period of the study, moving from scepticism and apprehension to relief and gratification (Christenfeld et al 1989, p 261):

"It's a lot easier to take care of....I haven't noticed any wetting on the rug. We put the wetters in the bedrooms nearest the bathroom. The patients are trying too...It's a lot quieter. There is no echo from the rowdy patients, which spreads...The clients keep the place cleaner. They're not so rough and ragged...It's more relaxing." (Staff Member)

Tyson et al (2002) reported that after moving to a new ward, staff satisfaction improved, the reported incidence of violence dropped, the use of seclusion decreased, and the amount of time staff spent interacting with patients increased from 14% to

97% (Tyson, Lambert & Beattie 2002). A 2009 UK study into the impact of remodelling an old institution also found that assaults on staff decreased (Payne & May 2009). In the East London study referred to above functionality was clearly improved for staff by the improvements in their material working environment, but staff interpreted the meaning of the new space from more than a functional perspective (Curtis et al. 2007b) at page 599:

“It’s new, and it’s tidy and it’s neat, and for me that’s important because it reflects...what you think of people and what you think of the service users you’re helping.” (Staff Member)

2.4.3 Interpersonal interactions and therapeutic environments

It is unfortunate that the Christenfeld et al (1989) study has not been replicated as research to date raises questions as to the direction of causation - do environmental conditions affect staff attitudes and behaviour which influences the behaviour of consumers? Or is it vice versa, or a reciprocal effect? Is there a building of mutual trust created by the potential of the habitat?

Where staff reported positive behavioural responses in those consumers moved to renovated or new environments, the mood and perspective of staff was also affected by the environmental changes. As the work of Abraham Maslow and Norbert Mintz demonstrated, the physical environment affects people’s perceptions of others (Maslow & Mintz 1956; Mintz 1956; Pressly & Heesacker 2001). Staff may be more tolerant of consumer behaviours, engage more with them, and be less prone to enforce rules and impose their authority on consumers, thereby avoiding aversive stimulations and fewer confrontational flash points between staff and consumers

(Christenfeld et al. 1989; Luhmann 1979; Tyson, Lambert & Beattie 2002; Whittington & Richter 2005).

The effect on nursing staff of reductions in custodial symbolism was explained in the East London study in the following way:

"..it's much less custodial, I think our feeling of power as nurses, and those things we experienced, having an unlocked door was quite un-nerving, but actually it's worked very, very, very well and I wouldn't want to work on a key ward that's got a locked door now....You can't walk into a ward; there is controlled access, but you can leave without unlocking the door, it's totally different." (Curtis et al, 2009 at p.344)

The evidence indicates that staff are less likely to define consumers as aggressive in remodelled wards that 'respect' both the care providers and consumers, and that custodial environments negatively affect the relationship between care staff and consumers.

A clinician at the East London facility referred to above observed:

"And the doors are unlocked and that's made a huge difference....the amount of violence I saw there [at a previous mental health centre]...and aggression, hostility, and sort of bad relationships between clients and staff....it's very, very different" (Curtis et al, 2007 at p.600).

Negative staff attitudes toward environmental changes are known to influence the social climate in mental healthcare units (Papoulias et al. 2014). Staff well-being is essential for delivery of quality therapeutic care. Positive staff

perceptions/experiences of the built environment are needed if they are to lead in the development of therapeutic, recovery orientated relationships with consumers, that is, if they are to trust consumers and build reciprocated trust with consumers (Baier 1986; Becker 1996; Brown 2009; Calnan, Rowe & Entwistle 2006; Change et al. 2010; Christenfeld et al. 1989; Deutsch 1958; Dickerman, Barach & Pentecost 2008; Dietz, Gillespie & Chao 2010; Griffin 1967; Hardin 1996, 2002; Huang & Murnighan 2010; Jones 1996; Jones et al. 2006; Lewicki, McAllister & Bies 1998; Lewicki, Tomlinson & Gillespie 2006; Lewis & Weigert 1985; Marner 2008; Mayer, Davis & Schoorman 1995; Mechanic & Meyer 2000; Morton 1958; Nooteboom 2011; Righetti & Finkenauer 2011; Ross 2011; Schoorman, Mayer & Davis 2007; Seligman 1997; Tyson, Lambert & Beattie 2002; Wout & Sanfey 2008).

2.5 Risk Management versus Trust Development

The challenge in mental health facility design involves resolving the tension between therapeutic and custodial models of care (Connellan et al. 2013; Curtis et al. 2013; Edginton 1997; Moon 2000; Scull 1975; Whitehead et al. 1976). Effectively, there has been over 200 years of arbitrage between the conflicting objectives in mental healthcare facility design of care versus custody, or haven versus jail. In today's risk society, the debate is couched in terms of risk (technical safety) versus trust (therapeutic safety) (Curtis et al. 2009; Curtis et al. 2013; Giddens 1990; Moon 2000).

2.5.1 Risk Management Safety Paradigm

From a risk management perspective acute inpatient mental healthcare risk is assessed from a disease or intra-personality approach in a "*structured clinical judgment*" model of decision-making that seeks to balance actuarial methods and clinical judgment

(Lamont & Brunero 2009). Successful identification of the intra-personality precursors of violence and self-harm has however proven problematic.

The 2001 United Kingdom *National Confidential Inquiry in Suicide and Homicide by People with Mental Illness* found that 86% of successful suicides were by people considered at low or no risk (NSW Health 2004). The death of an experienced 63 year old nurse at *The Farm*, one of the case study sites, (the same year as data collection) was at the hands of a voluntary consumer assessed as low risk (Sydney Morning Herald 7 Jan 2011). The male nurse had intervened in an escalating altercation between a young and inexperienced female nurse and the adult male patient.

Technical solutions to safety do not mitigate against adverse event risk and have been associated, with increased violence and not less (Bowers et al. 2009), that is, avoidable adverse events, such as aggression, violence, and seclusion, are associated with intrusive security and surveillance measures such as CCTV and high walls (Bowers et al. 2009; Buchanan 1999; Cowman & Bowers 2009; Flannery, Hanson & Penk 1994; Lanza et al. 1994; Lawoko, Soares & Nolan 2004; Moon 2000; Muir-Cochrane et al. 2013).

Policies on zero tolerance of aggression and violence in healthcare facilities to control aggression and violence against staff in general clinical areas (PD2005_315), when applied in the same way in acute inpatient mental healthcare units serve to undermine recovery strategies (NSW Health 2005). This has to some extent been recognised in the updated 2015 policy on zero tolerance (PD2015_001), which makes the policy consistent with the 2012 NSW Health policy on aggression, seclusion and restraint in mental healthcare facilities (PD2012_035), and in which it is mandated on page 3 that Chief Executives must ensure that:

“...the principles and requirements of this policy are applied, achieved and sustained” (NSW Ministry of Health 2012)

And that the managers must:

“promote a recovery oriented, patient-centred culture within the mental health service” (NSW Ministry of Health 2012)

The policy attempts to address the fundamentally different nature of the risks in acute inpatient mental healthcare and the nature of therapeutic care in a mental healthcare unit, which is to elicit cooperation through trusting relationships, and not to escalate tensions between consumers and care providers by imposing institutional order. (Secker et al. 2004; Wand & Coulson 2006).

Seclusion

A snapshot across systems and jurisdictions show a wide variation in clinical practice and use of seclusion, owing more to arbitrary compromises between priorities, local culture and history, risk perceptions, expediency and local human rights legislation, than any documented evidence of effectiveness or efficacy (Abderhalden et al. 2007; Ashmore 2008, 2010; Bowers et al. 2009; Bowers et al. 2010; Busch & Shore 2000; Cowman & Bowers 2009; Dye, Brown & Chhina 2009; Haglund et al. 2007; Irving & Saylan 2007; Niveau 2004; Qurashi et al. 2010; Roberts et al. 2009; Steinert, Lepping, Bernhardsgruetter, et al. 2010; Taylor et al. 2009).

The use of seclusion is not founded on any scientific evidence of efficacy or effectiveness. Two Cochrane Systematic Reviews found no published evidence of the effectiveness and efficacy of containment strategies (Muralidharan & Fenton 2006;

Sailas & Fenton 2000). Salias & Fenton (2000; 2009) did not find any randomized control trials in 2,155 peer-reviewed papers on the use of restraint or seclusion, or other containment strategies designed to reduce the need for restraint or seclusion in the treatment of serious mental illness. On the contrary, qualitative studies reported that serious harm was caused by the use of containment strategies.

Muralidharan & Fenton (2006) identified over 4,800 papers which looked at the efficacy of containment strategies and concluded that:

“clinical practice is based on evidence that is not derived from trials and continued practice entirely outside of well designed, conducted and reported randomized studies is difficult to justify.” (Muralidharan & Fenton 2006)

2.5.2 Trust Development Safety Paradigm

The critical geography literature links the built environment and the building of trust in acute inpatient mental healthcare. The recovery model of care is best implemented in practice grounded in collaboration between mental healthcare consumers and care providers. Interpersonal trust forms the basis of this collaboration.

Trust is relevant to social relations when one party is exposed to the behavioural risk of another (Das & Teng 2004; Lewicki, McAllister & Bies 1998; Smith 2005). Successful dyadic relationships between consumer and care provider involve a process whereby mutual trust is developed and maintained between the parties within a social context (Baier 1986; Brown et al. 2011; Gilbert, Rose & Slade 2008; Hester 1998; Lewicki, McAllister & Bies 1998; Lewis & Weigert 1985; Luhmann 1979; Mayer, Davis & Schoorman 1995; Savage 2011; Schoorman, Mayer & Davis 2007; Serva, Fuller &

Mayer 2005; Six, Nooteboom & Hoogendoorn 2010; Skirbekk et al. 2011). This process is considered critical to the recovery model of care, wherein the client is encouraged to reclaim their identity, autonomy, and dignity (Borge & Fagermoen 2008; Devlin & Arneill 2003; Gilbert, Rose & Slade 2008; Hester 1998; Mahoney et al. 2009; Middelboe et al. 2001; Muir-Cochrane et al. 2013; Turton et al. 2010).

Although changes to the built environment in inpatient mental health care have led to positive behavioural outcomes, whether there is a link with '*trust building*' is unclear (Christenfeld et al. 1989; Flannery, Hanson & Penk 1994; Holahan & Saegert 1973; Kumar & Ng 2001; Lawoko, Soares & Nolan 2004; Olver et al. 2009; Papoulias et al. 2014; Richter & Hoffmann 2014; Whitehead et al. 1984). Material signifiers of trustworthiness, such as domestic interiors and bright, spacious and warm admissions areas are the precursors to acts of trust in other contexts (Bacharach & Gambetta 2001; Dietz, Gillespie & Chao 2010; Hamill & Gambetta 2006; Möllering 2001; Seligman 1997; Sztompka 2006).

Built environments perceived as safe to inpatient mental healthcare consumers influence willingness to remain in the unit for treatment or intention to abscond (Muir-Cochrane et al. 2013). Perceptions of a unit as 'safe' or 'unsafe' arises from the dialectical relationship between the interpersonal, physical, social and symbolic environments of care in the unit. The development of therapeutic relationships in a comfortable environment avoids the 'aversive stimulation' that leads to aggression and violence (Muir-Cochrane et al. 2013).

2.6 Quality of the Evidence

Most of the research in this area has not been methodologically rigorous, although replications suggest the plausibility of a “*reliable pattern of findings*” (Ulrich et al. 2008).

Geographers have produced rigorous qualitative research (methodologically and interpretively) on the relationship between space, place and human interaction in acute inpatient mental health care settings (Conradson 2003; Curtis 2010; Curtis et al. 2007a; Curtis et al. 2009; Curtis et al. 2013; Curtis et al. 2007b; Gesler et al. 2004; Papoulias et al. 2014). Early experimental and quasi-experimental behavioural research on the effect of environmental changes in mental healthcare units on consumers and care providers produced good quality Level II and III quantitative evidence (Christenfeld et al. 1989; Holahan & Saegert 1973). There are also elegant qualitative studies in the nursing literature (Andes & Shattell 2006; Borge & Fagermoen 2008; Johansson, Skärsäter & Danielson 2009; Muir-Cochrane et al. 2013; Shattell, Andes & Thomas 2008).

Otherwise, the quality of both the qualitative and quantitative studies is not high. 47% of the papers reviewed were neither rigorous nor trustworthy and were evaluated as the lowest level of evidence (Level V). 20% were evaluated as level 4 evidence and 26% as Level III evidence. Only 8% of the papers were evaluated at the most rigorous levels of evidence.

Papers purporting to be research have frequently been reflections on professional design practice, or reports of the tacit understanding and opinions of professionals, without any pretence to scientific rigour (Connellan et al. 2013; Dobrohotoff &

Llewellyn-Jones 2011; Papoulias et al. 2014; Richter & Hoffmann 2014). For instance, Karlin & Ziess (2006) in a frequently cited paper, purporting to be a review of the literature, concluded with recommendations on ambient, architectural and interior design features stating at page 1376 that:

“Research findings and clinical conjecture reported over the past 50 years indicate that intervening environmentally through clinically informed, patient-centered design can improve functioning both among and between patients and staff” (Karlin & Zeiss 2006).

Similarly, on the basis of professional judgment alone, another frequently cited study described the design of a psychiatric facility as a *‘healing environment’*, which humanely but efficiently contained people while reducing severe psychopathology (Gross et al. 1998). No evidence is adduced to support the assertions, rather the authors refer to the design principles they adopted, which included: safety, comfort, non-threatening, sincere respect and sensitive concern for physiological and psychological well-being. The design avoided overcrowding and sought to create opportunities for patients to retreat physically or to form relationships with others. Other design elements were: good lighting and ventilation; residential furniture; and open nurse stations to encourage nurses to leave the station and interact with consumers. The environment was also intended to have a beneficial effect on staff well-being and professionalism. The design could have been informed by EBD literature but the paper itself does not report the findings of a scientific study but the insightful conjecture and knowledge of experienced professionals immersed in the philosophy of care.

A Cochrane Collaboration Systematic Review into the psychological effects of new psychiatric ward environments on the performance and well-being of staff (and which allowed for non-randomized study designs) found only one study out of the 851 studies retrieved from the databases rigorous enough to meet inclusion criteria. This was the Christenfeld et al. (1989) study (Tanja-Dijkstra & Pieterse 2011).

Only two papers (Christenfeld et al. 1989; Holahan & Saegert 1973) meet the inclusion criteria for a Cochrane Collaboration based review on the psychologically mediated effects of mental health facilities design on inpatient well-being (Dijkstra, Pieterse & Pruyn 2006). Dijkstra, Pieterse & Pruyn (2006) stated that studies with less rigorous methodology tended to show more positive results than more rigorously controlled trials. Out of 4,075 papers and 533 potentially relevant studies, only 30 experimental designs had sufficient control of confounding variables for statistical confidence in the findings (Dijkstra, Pieterse & Pruyn 2006). Most were studies of geriatric and dementia facilities with only two reporting on inpatient mental healthcare settings (Christenfeld et al. 1989; Holahan & Saegert 1973).

These seminal papers however do not seem to have had much impact on the design research community. According to the database APA PsycNET, in 2010 Holahan & Saegert (1973) has *only* been cited 13 times in the literature and Christenfeld et al (1989) study only 47 times. If these counts are correct across all databases, it suggests that there is little awareness of the most well-designed and rigorous studies and most importantly, the study designs have not been sufficiently replicated for verification or falsification.

Methodological deficiencies in the literature prevent definitive claims being made about the impact of the built/material environment on the development of the therapeutic relationship between consumer and care provider, and thus on the production of safety in acute inpatient mental healthcare facilities.

In many domains, a lack of rigorous double blind control trials would not be a major impediment to the use of the *Environmental Determinants of Care* identified in the literature. Philosophical pragmatism would allow that there is a sufficiently reliable pattern of findings to support decision making. However, given the positivistic epistemology that dominates the medical and biological sciences, decision makers trained in such disciplines are unlikely to be convinced, or at least can avoid making politically contestable decisions, unless the quality of the evidence is improved.

This research aims to address this gap in the literature by using novel approaches to strengthen the current pattern of findings and show that material conditions produce and reproduce social relationships of trust or mistrust, that is, therapeutic safety or harm.

2.7 Summarising the Literature - Emergent Models

This review has drawn on a broad and diverse range of sources that present a reliable pattern of evidence that the physiological, emotional and psychologically mediated effects of the material environment affect the process, experience and outcomes of a consumer admitted to an acute inpatient mental healthcare facility. The evidence shows that the *Environmental Determinants of Care* affect the nature and trajectory of an admission in ways that can be represented by adapting Reason's (1995) Swiss

Cheese Model to this context. The relationship between latent errors in the acute inpatient mental healthcare built environment and the consumer harms of violence and seclusion is shown diagrammatically in Figure 2.5 below.

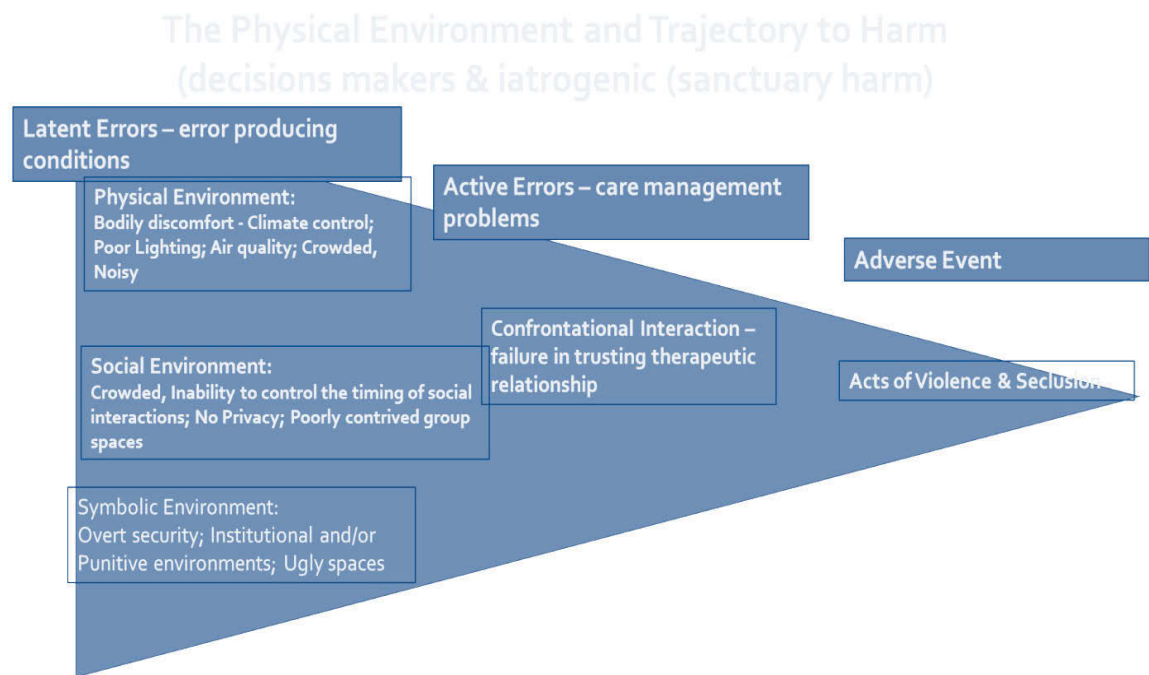


Figure 2.5: Trajectory to harm in acute inpatient mental healthcare

Latent error producing environmental conditions, that is, negative *Environmental Determinants of Care*, jeopardise therapeutic safety by undermining the development of therapeutic trust between care providers and consumers. Social density (or crowding) is perhaps the most obvious example of an environmental stressor which limits the potential for the development of therapeutic trust and is inimical to therapeutic safety.

Less clear is whether there is a positive or merely neutral relationship between positive *Environmental Determinants of Care* and trust development. The theoretical proposition emerging from the literature is, nevertheless, that physiologically

comfortable, socially adaptable and symbolically protective and calming environments, connoting care, trustworthiness and refuge, positively nurture the development of trusting relationships and thus therapeutic safety. The *Constructing Trust Model* (presented below at Figure 2.6) attempts to integrate the literature and postulates that the *Environmental Determinants of Care* moderate the saliency and valence of trust development in therapeutic relationships and that trust is the mediating variable of trust (a cognitive, affective and conative construct) leading to therapeutic safety in acute inpatient mental healthcare.

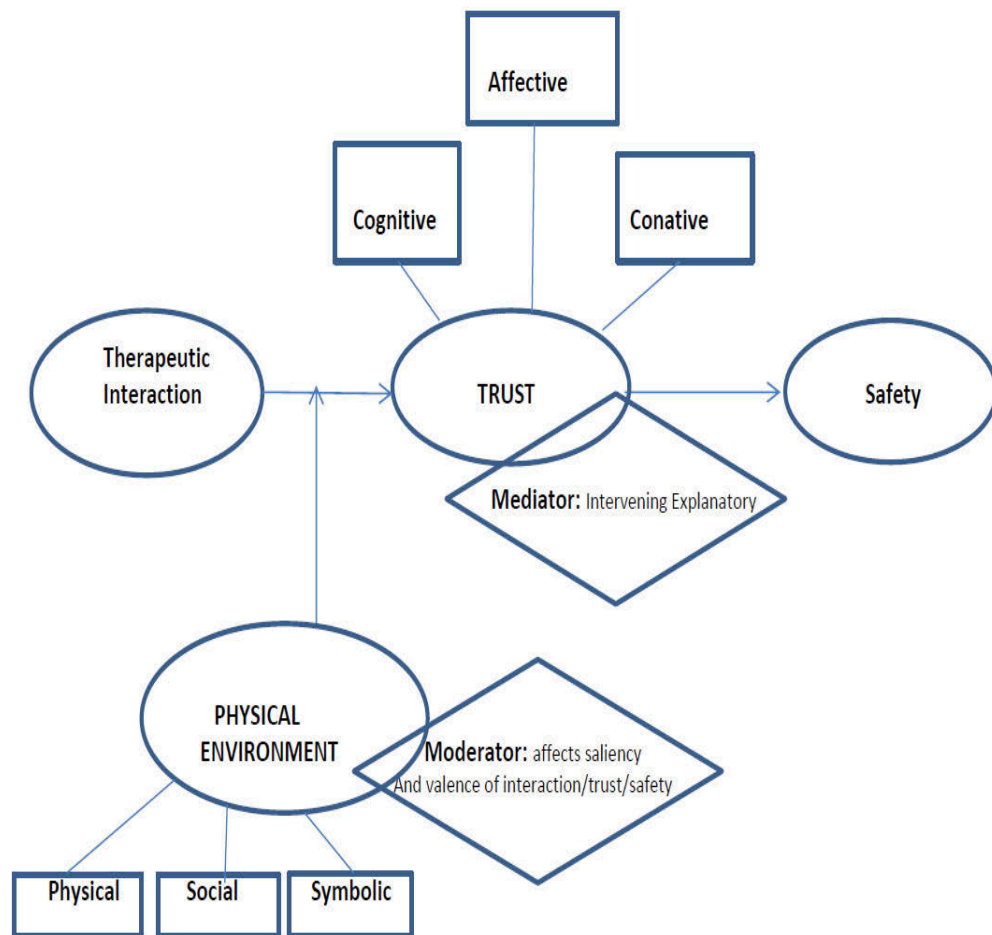


Figure 2.6: Constructing Trust Model

2.8 Conclusion

Contested decision making about the design of the acute inpatient mental healthcare built/material environments involves a dialectic relationship between the *Risk Warriors'* risk management ideal of hazard reduction (technical safety) and the *Trust Advocates'* trust development ideal of therapeutic relationships (therapeutic safety). Rigorous but pragmatic scientific evidence is needed to resolve a seemingly irreconcilable tension between the jail or refuge ideal model of these built environments.

The risk management model of safety has dominated the design of acute inpatient mental healthcare built environments. *Risk Warriors* have used the built environment to control and impose institutional order over consumers, as described by Erving Goffman and scrutinized by Michel Foucault (Curtis et al. 2013; Foucault 1963, 1975; Goffman 1961). The dominance of this design modality has continued even though in 1991 the United Nations set down design requirements for mental healthcare facilities, which included privacy, freedom of communication, facilities for recreation, leisure, education and work, and at Principle 13(2) living conditions:

"..as close as possible to those of the normal life of persons of similar age.."

(United Nations 1991)

Trust Advocates therefore approve of designs for acute inpatient mental healthcare built environments that retain some of the hazards the *Risk Warriors* strive to eliminate, such as open/exposed nurse stations and patient kitchens for relearning the activities of daily living (ADL). *Trust Advocates* aim to create spaces conducive to the

building of therapeutic trust (and therefore safety). This debate is not a new one. It has been raging since at least the eighteenth century.

Commentators have drawn parallels with Lewis Carroll's story *Alice in Wonderland*.

Scull (1975, p 1) found the following conversation between Alice and the Queen most pertinent to the dispute between *Risk Warriors* and *Trust Advocates*. And forty five years later, when this research was begun, nothing had changed:

“‘Well in our country,’ said Alice, still panting a little, ‘you’d generally get somewhere else - if you ran very fast for a long time, as we’ve been doing.’

‘A slow sort of country.’ said the Queen. ‘Now here, you see, it takes all the running you can do to keep in the same place.’” (Scull 1975)

This research aims to add to the reliable pattern of findings that show the effect of the *Environmental Determinants of Care* on the production of therapeutic trust, defined as equivalent to therapeutic safety by the British Royal College of Psychiatrists.

CHAPTER 3 - METHODOLOGY

3.1 Introduction

This chapter first discusses the ontological and epistemological assumptions underlying the study design, following which is a discussion of case study methodology. The details of the study design are then described in detail starting with case selection, participant recruitment, approaches to data collection and analytical methods. Following the detailed methods section the limitations of the research design are discussed and ethical and regulatory compliance processes described. The chapter concludes with a discussion of the ethical responsibilities of the researcher and how risks to anonymity and confidentiality were controlled in the study and the ethos of beneficence built into it. Data sources, data collection methods and analytical methods are summarised in Appendix 3.1.

3.1.2 Restatement of study

The **introductory chapter** discussed the theory of organizational accidents and applied it to the acute inpatient mental healthcare environment. It introduced the *Conflicting Conceptions of Safety Model*, wherein *Risk Warriors* conceive of risks in this setting as arising from the inherent characteristics of individual consumers and focus on the control of hazards to achieve technical safety, whilst *Trust Advocates* understand safety as an emergent characteristic of trusting therapeutic relationships and endorse domestic environments to nurture relationships and achieve therapeutic safety.

In chapter two the literature was reviewed in relation to the role of the built environment in creating places conducive to the development of trusting relationships and the production of safety. A reliable pattern of research findings corroborated the theoretical proposition espoused by *Trust Advocates* that there was a positive relationship. Two models were devised to navigate and understand the complexities

of the literature -the *Environmental Determinants of Care Model*, and the integrative *Constructing Trust Model*.

This **current chapter** describes the pragmatic study design, the approach to data collection, and the analytic methods employed to verify relationships and processes in the complex socio-technical system of acute inpatient mental healthcare units.

The **next four chapters (chapters 4, 5, 6, and 7)** present case study findings for each of *Blue Waters, Greenslopes, The Farm* and *Happy Shores* respectively. The thesis is brought together in **chapter 8** with a cross-case analysis, and a discussion of study findings and their implications for the planning, design and procurement of acute inpatient mental healthcare facilities. Chapter 8 concludes with a discussion of the limitations of the study, the usefulness of the various models proposed for navigating the complexities of this domain, that is, the usefulness of the *Conflicting Conceptions of Risk Model*, the *Environmental Determinants of Care Model*, the *Adapted Swiss Cheese Model* and the *Constructing Trust Model*, and suggestions for future research and policy development.

3.1.3 Positioning of the Researcher

As stated in the introduction, I came to this research as a consultant academic tasked with identifying best practice in acute inpatient mental healthcare facility design. I was not a mental healthcare clinician or administrator, nor was I architecturally trained. I was a nursing academic teaching clinical risk management, quality improvement and patient safety in a medical faculty and had once worked in health facility planning. I am also a practising lawyer. Thus I came with a multi-disciplinary understanding of the health care system, some knowledge about how public sector organizations work, and

a focus on patient safety - but with an etic perspective in relation to the mental healthcare domain. I brought a level of open mindedness and an intrigued naivety to my inquiry.

That is not to say that I did not have cause to reflect on the conflicting biases of my eclectic training as patterns in the data on practice, error and organisational accidents emerged. Progressively as my understanding deepened my legal identity and interest in the ethics of care, which holds that benevolence is a virtue central to moral action, and the Kantian ethics of duty as a Categorical Imperative, caused me to gravitate toward the world view of the *Trust Advocates*.

My lawyerly-self reflected on the unfair treatment of acute inpatient mental healthcare consumers, whereby their clinical needs seemed to be readily jettisoned to achieve broader organizational objectives; and jettisoned in ways which general hospital patients would probably never experience and would certainly not tolerate without complaint or resorting to litigation. The conditions in acute inpatient mental healthcare units suggested an institutional lack of respect for these consumers (and also for their care providers). Stigmatization of the mentally ill did not seem to be lessened by collocation on general hospital sites. It seemed to be quite the contrary.

At the most fundamental level, in other healthcare domains there is differentiation between disease types, for example, paediatric patients are not warded with infectious disease patients and cardiac surgical patients are not cared for in geriatric wards. In acute inpatient mental healthcare units, however, this was not the case. Not only are those with psychotic symptoms warded with those exhibiting depressive symptoms, mental health care units are generally multisex wards, such that, young anorexic

teenage girls, for example, are warded next to older males with predatory personality disorders.

As a lawyer I could identify any number of potentially actionable errors or omissions in the organization and delivery of services in these facilities. But that was not my task and I needed to reflect on the conflicting ethics of bringing a legal world view to a project intended to gather learnings for improved quality of care. I had not been admitted into the facilities to bring a heavy hand to force change but to gather evidence to inform decision making for change. I had to be cognizant of not allowing my evolving attitude toward the treatment of this vulnerable group to extend outside the scope of my research ethics approval (Kvale & Brinkman 2009). I needed to “*bracket*” my legal identity when searching for the meanings conveyed to me in the data.

3.2 Theoretical Framework

As an outsider seeking to understand a phenomenon and identify the impediments to effective implementation of evidence-based design I was engaged in a pragmatic exercise, ontologically realist rather than nominalist but epistemologically constructivist, which is an interactionist perspective on knowledge creation (Berger & Luckman 1966; Burrell & Morgan 1979; Grenfell 2014; Le Coze 2012). As a non-clinician I could not engage as a participant observer driving organizational change but needed to gather evidence to inform organizational change strategies. I was on a fact finding mission but the ‘*facts*’ I was seeking would mostly arise from interpreting the meanings participants attached to the material environment within which they attempted to deliver therapeutic care. I needed to learn about the life world of

participants in carrying out their therapeutic purpose within the built/material environment. From a pragmatic perspective, I wanted to identify how these world views influenced approaches to risk and environments productive of therapeutic safety (Hosking & Pluut 2010).

However, I needed a methodological approach that would withstand the scrutiny of the medical clinicians who dominate decision making in the healthcare sector and are schooled in the positivist sciences. Too ideographic an approach would invalidate any generalizability of my findings in the eyes of those trained in the epistemology of the natural sciences. Too positivistic an approach would make the meanings people attached to environments and what geographers' denote as "*place*" or Bourdieu labelled "*habitus*" inaccessible to me (Abel 2013; Andes & Shattell 2006; Conradson 2003; Curtis 2010; Travaglia & Braithwaite 2009; Webster 2011). I needed an inherently reflexive methodology. The case study methodology was the one most suited to my enterprise (Anderson, Pabey & Bevan 2010; Casey 2001; Gray 2017).

3.3 Case Study Methodology

A case study is a research methodology suited to the ecological study of a complex, dynamic environment. It involves an empirical enquiry into a contemporary, bounded phenomenon within its context, unlike experiments where the context is controlled, or surveys where the number of variables studied is limited (Yin 2009). Case study methodology is appropriate to research situations where "*the number of variables of interest far outstrips the number of data points*" (Yin 2009).

Perry (2001, p 306) states that case research (as he calls it) is explanatory, theory-building research, especially appropriate for the following practical situations (his emphasis):

- “1. a **contemporary** phenomenon **within** its, dynamically changing, real-life context; where*
- 2. the boundaries between the phenomenon and its context are not clear-cut; and*
- 3. multiple sources of evidence are used” (Perry 2001)*

Case studies may be distinguished from positivist research in that case studies seek to study phenomena in their context rather than independent of context and as such may be accorded less validity where appropriate research protocols are not followed (Gibbert, Ruigrok & Wicki 2008). Case Studies invariably use qualitative methods, although mixed methods will be used where data is available or can be collected without jeopardizing the stability of the phenomena under investigation. Mixed methods produce a richer and stronger array of evidence to address complicated research questions, such as the one under investigation in this study, and with sufficient triangulation will give more confidence in theories emerging in a cross case analysis (Yin 2009).

As explained in Chapter 2 the underlying constructs of research quality are the same as described for qualitative and quantitative research - trustworthiness and generalizability of the findings. Gibbert, Ruigrok & Wicki (2008) argued that the four criteria used to evaluate the trustworthiness and generalizability of positivist field research are also applicable to case study research and should guide study design, that is, case study research can be evaluated for internal validity, construct validity,

external validity and reliability. The design of this study applied the approach outlined in the literature (Eisenhardt 1989; Eisenhardt & Graebner 2007; Gibbert, Ruigrok & Wicki 2008; Yin 2006, 2009).

Internal validity, or logical validity, is concerned with establishing the causal relationship between variables and results. In this study the causal argument was strong enough to defend the conclusions as there was a clear research framework, significant pattern matching across studies, and verification through a triangulation of data sources and types. A clear research framework was developed inductively and recursively as the literature on evidence based design and trust structured interpretation of preliminary findings at *Blue Waters, Greenslopes and the Farm*. Matching patterns in the data identified themes in the data which added to the reliable pattern of findings reported in the literature. Internal validity was further strengthened through the triangulation of different data types and sources, particularly with the inclusion of incident, seclusion and utilization data in the *Happy Shores* case study.

Construct validity is concerned with how well the concepts studied are operationalized and actually investigate the concepts. This was done in each of the cases studied and models were produced to explain the concepts under investigation. In order to strengthen this validity a chain of evidence was produced showing how the work went from its initial conceptualization to final conclusion. And again triangulation of data types and sources strengthened construct validity by looking at issues from different perspectives.

In regard to the generalizability, or external validity, of the research, inferences cannot be drawn from the data to a population as in statistical research but *analytic* generalization can be achieved in going from observation to theory. As with most published evidence based design research, even that attempting quantification of effect, generalizability arises from a consistent pattern of findings because naturalistic data collection prevents the level of control associated with high level quantitative evidence (Gibbert, Ruigrok & Wicki 2008). The findings are generalizable to other settings where a built solution is proposed as part of therapeutic innovation.

According to Eisenhardt (1989) four case studies are sufficient for analytic generalization of patterns emerging in a cross-case analysis. Individual as well as cross-case analysis, further strengthened the generalizability of the findings, as did the clear description of, and justification for, the purposive sampling used in case selection (Eisenhardt & Graebner 2007).

In regard to the overarching criterion of the reliability of the study, this was achieved by ensuring transparency and accuracy of documentation. Replication of the study is possible because of the documented case study protocol and storage of raw case study data separately from the analysis (Yin 2009).

In this study, qualitative data were first collected on three of the case study sites, *Blue Waters*, *Greenslopes* and *The Farm*, and included interviews from thirty one key informants, document and artefact analysis. At *Happy Shores* a broader range of data could be collected given the opportunity to elaborate the environment-trust-safety theoretical proposition (Miles & Huberman 1994). The mixed method design was intended to adduce a sufficient triangulation of data to enrich the picture of the

complex interaction between material environmental conditions, staff perception, and recorded incidents of violence and seclusion. The varied array of evidence increased the construct validity of the study (Yin 2009). Combining data from interviews, focus groups, safety climate survey and incident data further strengthened the internal validity of the study and cross-case analysis.

3.4 Case Selection

Case selection was purposive with cases selected for differences in:

- size (bed numbers)
- location (rural, inner city, regional, suburban)
- catchment (local, district, regional and state-wide tertiary)
- history of collocation with general, non-mental healthcare hospitals
- procurement method
 - construct only (CO)/documented design
 - design & construct (D&C)
 - design development & construct (DD&C)
 - design development & construct and operate (DDCO)

The procurement method refers to the stage in the procurement process where responsibility is contractually assumed by the contractor. Particular procurement methods are associated with particular financing arrangements, for instance, Design Development & Construct & Operate (DDC&&O) procurement contracts will be tied to a Public Private Partnership (PPP) financing arrangements. Different procurement methods shift control over the design process from those with tacit professional knowledge about the impact of environmental conditions on behavior and “*place*” to

those primarily concerned with profitability and financial returns. Procurement methods are presented diagrammatically below at Figure 3.1 and explained more fully in the case studies.

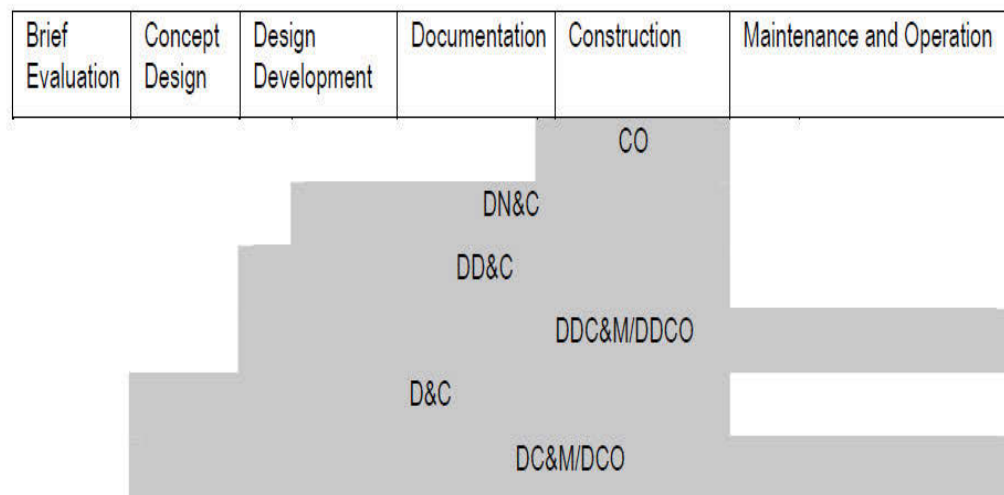


Figure 3.1: NSW government procurement methods (Construction Agency Coordination Committee 2005)

One facility, *Blue Waters*, had been fully operational for less than twelve months.

Greenslopes had been commissioned two years earlier and most construction issues had been resolved at the time of the study, while *The Farm*, on the other hand, was still in the middle of its commissioning process. These three cases were investigated simultaneously using key informant interviews, document and artefact analysis, and site visits (walkthroughs/talkthroughs) to learn whether and to what extent the planning process and built solution supported the patient centred recovery model of care espoused at each one of them. The final case study, *Happy Shores* was a ten year old facility and it was studied in more depth using mixed methods and an embedded unit of analysis – the staff. The same qualitative methods were used as at the other three sites but in addition front line clinical staff participated in focus groups and a

safety climate survey, and spatial, utilization, incident and seclusion data were collected from archival records. The characteristics of the case studies are summarised in Table 3.1 below:

Bed Nos/Unit	Blue Waters	Greenslopes	The Farm	Happy Shores
Bed Nos	30	174	225	50
Opened	2010	2008	2012	2000
Location	Regional Centre	Suburban	Rural	Inner city
Catchment	Local	Regional	Tertiary	District
Collocation	Moved to neighbouring general hospital site	Moved to existing general hospital site 10 kms away	General hospital moved to The Farm site from urban area	Always on general hospital site
Procurement Method	Construct Only/Documented Design	Design & Construct (D&C)	Design Development & Construct (DD&C)	Design Development & Construct and Operate (DDC&O) Public Private Partnership (PPP)

Table 3.1: Characteristics of Cases

Blue Waters, Greenslopes and *The Farm* were three of the six participating facilities in the quality improvement project conducted for the Authority that was the genesis of this study. The sites participated with the approval and support of the Authority.

Happy Shores not only had the unique demographic characteristics for selection but it also provided an opportunity to evaluate the effect of alterations to the built acute inpatient healthcare environment on staff perceived aggression and violence. The local health district approved its inclusion in the study.

3.5 Participant Recruitment

A different participant recruitment strategy was used at *Blue Waters*, *Greenslopes* and *The Farm* to that at *Happy Shores*. The strategies are described in the sub-sections below. Key informants came from a range of professions and those with state wide roles were interviewed in regard to more than one facility. Clinicians frequently operated in non-clinical roles and in order to protect their identities and maintain confidentiality cross-tabulations of roles and professions have not been included in this document. The roles and professions of participants are summarised by case study site in Table 3.2 below. There is double counting as some participants held multiple roles. Non-clinical roles in which clinicians acted are marked by an asterix.

	<i>State wide</i>	<i>Blue Waters</i>	<i>Greenslopes</i>	<i>The Farm</i>	<i>Happy Shores</i>
Clinicians	5	5	4	2	9
Administrators	4*	3*	1*	2*	5*
Planners	3*	3*	4*	1	0
Architects	4	4	3	2	1
Project Director	2	2	0	0	0

Table 3.2: Roles and Professions of Participants.

3.5.1 Blue Waters, Greenslopes, The Farm

Participants were approached to participate in a quality improvement project for the Authority by letter of introduction from the Chief Executives of Area Health Services. Meetings were organized by the Authority but people who decided not to attend a scheduled meeting were not followed up. Those who agreed to participate gave written consent. Participants represented a cross section of professions involved in

the planning and design of acute inpatient mental healthcare facilities from architects to front line care providers and government bureaucrats. The Authority gave written approval for the data collected in the quality improvement project to be used in this study.

3.5.2 Happy Shores

Key informants at this site were identified by the Local Health District (District).

Meetings were organized by phone and/or email. Participants included clinical staff, clinician managers and general managers. Unit managers were asked to distribute posters and flyers (approved by the ethics committee) inviting participation in the study. Focus groups were scheduled during In Service periods with notice being given to staff so only those staff who wished to participate attended those particular meetings. Those who agreed to participate in the focus groups gave written consent. Anonymous climate surveys were distributed across the unit and completion of the surveys was taken to constitute consent.

In the absence of an internal champion recruitment was slow and in relation to the planned photo-elicitation task (aimed at extracting the tacit meanings participants attached to spaces) failed to attract participants.

3.6 Approaches to Data Collection

3.6.1 Key Informant Interviews

Blue Waters, Greenslopes, The Farm

Data collection was carried out under the auspices of the Area and the Authority.

Most meetings were organized through the Authority. Participants were very keen to be involved and share their knowledge and experience and gave written consent to

being interviewed and having the interviews audiotaped (where sensitive comments were made the information was received “*off the record*” and only recorded in hand written notes).

Usually interviews were conducted one-to-one and face-to-face. Two interviews were multiparty interviews and two interviews were conducted by telephone. Hand written field notes were made of all interviews and 39 of the 40 interviews were audiotaped. All interviews were transcribed verbatim. Total interview time was 36 hours with interviews varying from between 40 to 120 minutes. The transcripts were loaded into NVivo v10 data management software and the narratives categorized by professional subcultures and coded using the thematic categories that emerged from the data.

3.6.1.1 Approach to the qualitative interview

In-depth interviews were conducted with the key informants to discover the framework of meanings surrounding their subjective reality of planning and designing an acute inpatient mental healthcare facility and the theories and sense making constructed by participants within their role and professional identities about that experience. To build a truly rich picture of the process and issues, a semi-structured critical incident approach was used to elicit the tacit knowledge of the interviewees about these places. The critical incident approach is useful to gather insights beyond subjective experience and is an appropriate method to use in a methodologically realist study (Flanagan 1954). The technique focuses on what actions the participants took, what they actually did and what they actually thought and felt. Achieving both subjective insights into participants’ world views and more practical information about objective reality of action is not contradictory but a pragmatic approach to

understanding a complex phenomenon in a naturalistic setting. The critical incident approach is also a powerful tool for eliciting narratives as it directly asks for subjective descriptions of a crises or trouble and the associated chronology and perceived causal sequence of actions and events (emplotments) (Greenhalgh, Russell & Swinglehurst 2005).

3.6.1.2 Designing the interview questions

Yin (2009) reminds us that a qualitative researcher holds two lines of questioning within them – the research line of inquiry stated in the case study protocol, and the interview conversation. Unlike a positivist survey, which demands rigid compliance with a structured study protocol for validity, a qualitative interview should have fluidity and allow the possibility of deepening knowledge (Yin 2009, p 109). In a qualitative interview, the interviewer is the instrument and the opening questions are an aid to dialogue to set the parameters of the interview. According to Patton (1987) questions should be open ended, neutral, sensitive and clear to the interviewee (Patton 1987). The interviews in this study were conducted in a very non-directive way, using reflective and probing techniques as described by Whyte (1982)(Patton 1999; Whyte 1982).

Blue Waters, Greenslopes and The Farm

A set of questions used to frame the interview and keep participants within the scope of the study were piloted and refined to ensure the questions actually elicited responses relevant to the area of inquiry. At the newly completed facilities of *Blue Waters, Greenslopes* and *The Farm* the framing questions used in the first phase of the study were:

1. What was your best experience in the planning and development of the facility? Why?
2. What was your worst experience? Why?
3. What would you change about the current process?

The questions allowed participants to speak broadly about their issues and concerns about current acute inpatient healthcare facility planning and design whilst garnering insights on how the process-in-action progressed as opposed to how it was documented. The questions meant that participants were not overtly and directly asked to focus on the critical issue identified in the literature review - the conflict between *Risk Warriors* and *Trust Advocates* in relation to the *Environmental Determinants of Care*. Participants were allowed to raise that issue themselves, and did so in all but one of these thirty one interviews. The only participant who did not identify the issue, or voice a position, was entirely involved in the business planning of support services, not the planning or delivery of clinical care. Further probing elicited the meanings different professional groups attached to the places and processes (Kvale & Brinkman 2009).

Happy Shores

At *Happy Shores*, in depth interviews of nine key informants were more directly targeted at the key issue that had emerged from first three case studies. Key informants were asked specifically about the problems at the unit and the reason the alterations/refurbishment was to be done, and about the process and outcome. These questions were also piloted and adjusted based on the feedback. The participant questions that framed the enquiry included a critical incident question and were:

1. What did you hope the refurbishment would achieve?
2. What other innovations have been introduced to improve the Unit?
3. How did the refurbishment go - both as a process and as an intervention?
4. Did any (other) memorable incidents occur during the refurbishment?

The university ethics committee would not allow a further proposed question, one often used in consumer research to garner participants' true attitudes towards a place or service, which was: "*Would you admit a family member to this facility?*"

3.6.2 Walkthroughs and Talkthroughs

Site visits were made to all of the facilities. *Blue Waters* and *The Farm* were visited only once for periods of three and six hours. *Greenslopes* was visited twice and *Happy Shores* on multiple occasions before, during and after the alteration works.

Each site was walked through with at least one accompanying clinician who could clarify any questions and provide commentary on operations and histories, further explicating the sense making of care providers. Problems and issues in the built solutions were shown and explained. The walkthroughs were not conducted as formal ethnographic studies as time was insufficient and ethics approval had not been obtained to involve consumers in the study, nor was a formal post-occupancy evaluation tool, such as the *Staff and Patient Environment Calibration Tool* (ASPECT)(DH Estates and Facilities 2008) used. Such a standard tool is too focused on concrete elements for an observer to gain an appreciation of the social milieu in a place. The *Australian Health Facility Building Guideline* (HFBG) was used as the minimum space standard.

Rather the walkthroughs were opportunities to experience a more visceral understanding of each facility in line with what the anthropologist Edward T Hall called “*the hidden dimension*”: the meanings people attribute to spaces and spatial configurations (Hall, 1990). Once again, a pragmatic mindset was also brought to this data collection as probing questions framed my observations in the walkthroughs and provided a script for eliciting the life world of the accompanying clinicians. The framing questions were:

1. *Did the facility meet the requirements of the users (in this instance being the needs of care providers and their perception of the needs of consumers)?*
2. *Would the facility help or hinder the delivery of a recovery model of care?*
3. *Did the project/intervention add value in the eyes of the key stakeholders and users?*

The walkthroughs and talkthroughs were recorded in photographs and field notes and referenced against the HFBG.

3.6.3 Document analysis

To ensure sufficient triangulation of data available corporate documents about the development and operations of the facilities were collated. Chronologies for each facility were constructed and issues and problems in regard to each facility described.

A number of common policy documents were used in structuring the case studies:

- National Health Service (UK) Institute for Innovation and Improvement.
Focus on Psychiatric Care Units
- NSW Health Infrastructure Procedure: PRC 102 – Project Risk Management
- NSW Health Infrastructure Procedure: PRC 102 - Project Risk Management
– Appendix B Health Infrastructure Risk Framework

- NSW Health Process of Facility Planning: guidelines for projects valued \$10 million and above. 26 May 2010
- NSW Government Procurement System for Constructions: procurement practice guide. Contracts used for construction projects. July 2008.
- Periera, S. & Clinton, C. National Minimum Standards for Adult Services in Psychiatric Intensive Care Units (PICU) and Low Secure Units. 2002; Department of Health (UK) Mental Health Policy Implementation Guide: London
- Royal College of Psychiatrists (UK), Do the right thing: how to judge a good ward. Ten standards for adult in-patient mental healthcare. Occasional Paper No. 9. June 2011; Royal College of Psychiatrists: London
- Royal College of Psychiatrists (UK), Accreditation for Inpatient Mental Healthcare Services (AIMS). Standards for Inpatient Wards – Working Age Adults. 4th Ed. January 2010.

3.6.4 Artefact analysis

Plans, photographs and historical documents were sourced where available. Where plans were provide spatial geographies could be mapped and a schedule of accommodation estimated. Extracts of historical utilisation, seclusion and incident data at *Happy Shores* were made available but were not available for the other sites because of political issues between the Authority and the central health department. *Happy Shores'* quantitative data could be mapped against the chronology but the complex and dynamic organizational environment made meaningful statistical analysis not possible. Where available, minutes of meetings and programs of work were perused and catalogued. Project management meetings for the intervention works at *Happy Shores* were made available.

3.6.5 Focus Groups (at *Happy Shores* only)

A focus group is a group interview of 6 to 12 volunteers, led by a moderator who instigates free flowing discussion using very broad questions about a topic, rather than structured, delimiting questions. It is intended to obtain information about how a topic is perceived within a peer group context, and to bring forth more spontaneous, expressive, conflicting and emotional viewpoints (Kvale & Brinkman, 2009).

Only front line clinical staff were invited to participate in the two focus groups to avoid the inhibitions that would potentially arise from within professional hierarchies (Clark, Maben & Jones 1996). There were insufficient recruits to separate participants into clinical peer groups so participants included nurses and allied health professionals, which provided the opportunity of gaining multiple perspectives from care providers working at similar levels of the organization and in association with each other.

To maintain the flow and focus of the groups the following prompt started the focus group meeting:

“We are going to talk about what it is like working at Happy Shores and whether you feel the refurbishment has made a difference to your experience and that of your patients.”

Prompt questions to facilitate group interaction and the engagement of quieter participants included:

- 1) *What is it like working at Happy Shores?*
- 2) *What would you change about Happy Shores?*
- 3) *What has been your best experience at Happy Shores?*

The following follow-up questions were prepared to ensure that the seclusion-environment nexus was explored in the focus group conversation:

- 4) *And the use of seclusion at Happy Shores....?*
- 5) *What about the environment....?*
- 6) *Is Happy Shores like other places....?*

3.6.6 Social Climate Survey (at *Happy Shores* only)

Social climate is the atmosphere experienced in a place and consists of the prevalent material, social and emotional conditions and the interactions between those things (Moos 1989; Moos & Houts 1968; Moos & Schaefer 1987). Studies have demonstrated statistically significant relationships between climate and consumer and care giver satisfaction, institutional violence and assaults on care givers, performance and morale, and treatment outcomes (Tonkin et al. 2012).

It is frequently measured in healthcare settings using a variety of instruments of which Rudolf Moos (1989) *Ward Atmosphere Scale* (WAS) is the most widely used. The WAS is a lengthy instrument comprised of 100 items to assess 10 features of the social climate but does not assess safety, or perceived freedom from aggression and violence, which was reportedly the defining characteristic of the social climate at *Happy Shores*. The WAS is also a lengthy instrument and as such not suitable for use in all healthcare settings, particularly acute inpatient mental healthcare settings, as the time and effort to complete it is not conducive to repeated clinical use (Howells et al. 2009).

To measure the crucial element of safety at *Happy Shores* I used the Essen Climate Evaluation Schema (EssenCES), which is an instrument developed in 1994 at Essen

University by Norbet Schalast to objectively measure the social climate in forensic psychiatric settings (Schalast et al. 2008; Schalast & Tonkin 2016). It includes the dimension of perceived safety (Howells et al. 2009; Schalast & Tonkin 2016). High scores on EssenCES are significantly associated with less behavioural disturbance in inpatient mental healthcare consumers (Tonkin et al. 2012).

The EssenCES also overcomes the content, length, and psychometric limitations of the WAS. The trait structure of the EssenCES is considered simpler and more stable than the WAS and it is also shorter than the WAS being only a 15 item instrument along 3 dimensions:

- Therapeutic Hold,
- Patient's Cohesion and Mutual Support, and
- Experienced Safety.

The EssenCES was administered to 15 front line clinical staff at *Happy Shores* to learn about staff perceived social, including safety climate at the high acuity facility. Even though *Happy Shores* is not a forensic facility the instrument was considered appropriate because of the problems with aggression and violence at the facility and staff reports that it was a very dangerous environment. A copy of the survey instrument is at Appendix 3.2.

3.7 Analytic Methods

Analysis involved a triangulation of methods and data sources to establish consistencies and inconsistencies in the data and to establish the degree of convergence between data sources and within data sources. At *Happy Shores* patterns that emerged in the data were considered against theoretical propositions (set out

below) informing the environmental changes and considered against rival explanations (Yin 2009).

Analysis of the qualitative data started at the beginning of data collection through the writing of memos whereby ideas and concepts were recorded and recursively explored. As Harold Becker (1998) wrote: *"...my favourite way of developing concepts is in a continuous dialogue with empirical data. Since concepts are ways of summarising data, it's important that they be adapted to the data you are going to summarize"* (Becker 1998 at page 109).

Writing allowed me to reflect upon my interactions with participants, documents and artefacts and see patterns in the things spoken and documented (Kvale & Brinkman 2009). The act of writing is itself an analytical process and allowed me to map out the *field* of enquiry and identify the social relations therein, particularly between the professional sub-cultures contesting meanings within the *field* (Grenfell 2014).

Following the analytical approach of Kvale & Brinkman (2009) to understanding the meaning of text, I began coding the data as it was collected. I attempted to *'get close'* to each interview and identified themes within interviews and across interviews. The documentary and artefact data were used to construct clear chronologies and identify critical events or differences which made sense of divergences in narrative streams between case studies. Through this close engagement with the data throughout data collection I constantly reflected upon the emergent themes and emerging concepts (Grenfell & Lebaron 2014).

Text and diagrams were both used to explore the concepts and themes. Each of the models presented so far emerged during this process of data analysis, starting with the

Conflicting Conceptions of Risk model, which emerged early and strongly in the literature review and was corroborated by the interview data, and the *Environmental Determinants of Care* model, the core model of the thesis derived from the literature and which informed the evidence based design changes made at *Happy Shores*. The *Environmental Determinants of Care* encapsulated the context specific data for the *Adapted Swiss Cheese Model* and was the foundation of the integrative conceptual model, the *Constructing Trust Model*.

The alterations at *Happy Shores* allowed for the testing of specific propositions about the impact of the *Environmental Determinants of Care* on staff perceived aggression in consumers, as measured by staff reported use of seclusion, that is, the built environment -

1. Affects staff work practices
2. Influences staff perceptions of consumer behavior
3. Influences staff perceptions of consumer satisfaction
4. Changes the frequency and duration of seclusion use

The findings at Happy Shores were tested against the following rival explanations:

1. Staff training in the de-escalation of aggression changed seclusion practices of staff
2. Reduction in the use of seclusion was attributable solely to the distraction of the refurbishment activity itself.
3. The opening of a Mental Health Intensive Care Unit on the hospital campus reduced the acuity of patients and lead to a reduction in the use of seclusion.

3.7.1 Thematic Analysis

Themes emerged during the process of collecting, organizing and searching the data which was stored in NVivo version 10. High level concepts ‘jumped’ out of the interview data as it consistently corroborated the findings of the literature review. Saturation was reached very early in the data collection process in relation to the key conceptual conflict at the centre of most narratives between *Risk Warriors* and *Trust Advocates*.

The multiple early themes became clarified and refined during the process of writing each case study and through the cross case analysis. It is through the recursive process of collecting, organizing, comparing, and writing that themes emerge and solidify. I was particularly concerned with making sense of the data by condensing the meanings encapsulated in such a large amount of data into manageable bites. So as to capture the meanings evoked in the data from the participants’ perspectives, the natural meaning units were labelled appropriately using the vernacular of the participants, or from a Bourdieusian perspective, participant representations of the *field* (Hardy 2014; Kvale & Brinkman 2009).

3.7.2 Narrative Analysis

Narrative data from the 40 interviews conducted in the first phase of the study at *Blue Waters*, *Greenslopes* and *The Farm* were analysed to identify patterns and commonalities. Narrative analysis is a form of phenomenological analysis that seeks to interpret the interview in terms of human experience and purpose. Greenhalgh, Russell & Swinglehurst (2005) at page 443 use the Aristotelean understanding of a story to describe a research narrative, that is, an “*unfolding of events and actions over time, emplotment (the rhetorical juxtaposition of these events and actions to evoke*

meanings, motive and causality) and trouble (peripeteia - the unexpected in the form of a surprise..)" (Greenhalgh, Russell & Swinglehurst 2005).

A '*narrative*' is not just a descriptive device to document the verbal and written responses of participants in relation to specific sets of questions. It is also an interpretive framework which allows charting of the meaning of these realist tales in relation to larger meta-narratives within which people negotiate social as well as professional relationships, thereby formulating and developing a sense of meaning, purpose and identity (Kvale & Brinkman 2009). This sense-making is most potent within professional communities of practice which come together in particular domains to achieve shared goals (Wenger 2000; Wenger & Snyder 2000). Narratives are the outcome of socially constructed realities within groups and these '*social facts*' create the *sense making* to inform and constrain identity and action (Weick 1990; Weick 1993; Weick, Sutcliffe & Obstfeld 2005).

Narrative Analysis, unlike content analysis, approaches interview data as an integrated whole, and not as discrete segments of text, amenable to frequency counts. The analyst seeks to understand the event from the life world perspectives of the narrators and identify any patterns that emerge from multiple accounts of the same story. The stages of narrative analysis as described by Greenhalgh, Russell & Swinglehurst (2005) include -

- Reading and preliminary coding of text
- Interpreting and reflecting upon connections in the data
- Verifying, confirming and disconfirming
- Representing in writing

- Illustrating with relevant extracts from the data

The chronologies and plots elicited from participants exposed participants' attitudes and beliefs about therapeutic safety, their position in the dialectic between *Risk Warriors* and *Trust Advocates*, and attitudes towards the *Environmental Determinants of Care*. It exposed professional acculturations and what Bourdieu calls "*habitus*".

3.7.3 Document and artefact analysis

Chronologies for each facility were constructed and issues and problems in regard to each facility described. The language of the documents was quite formal so no interior meanings could be extracted from the written word but factual data recorded in the Reports and Post Occupancy Evaluations (POEs) gave detail to the chronologies.

Policies and evolving approaches to care could be mapped over time. At some sites plans, photographs and historical documents, including media articles, were available.

These could also be allocated to the temporal timeline so that the shifting policy landscape could be visualised. Where plans were available spatial geographies were mapped and a schedule of accommodation estimated. Minutes of meetings and programs of work were also mapped against the chronology.

3.7.4 Social Climate Survey

The *Essen Climate Evaluation Survey* (Essen CES) was validated in seventeen German forensic facilities with over 300 care providers and over 300 consumer respondents. Its British version was validated in three high security settings leading to the development of local British mean and standard deviation norms (Howells et al. 2009). Australian norms have only been developed for prisons so the English norms are useful comparators in the Australian context, given the historically close

cultural relationship and comparability of healthcare delivery systems (Schalast & Tonkin 2016). Essen CES data was scored using the standard scoring key for staff and compared to the normative benchmarks available for forensic mental health institutions in the United Kingdom and low to medium risk prisons in Australia (Schalast & Tonkin 2016). Percentile ranks are used to describe the specific position of a score in the normal distribution, and quintiles are also useful for comparison with the benchmarks (Schalast & Tonkin 2015). The Scoring Key for groups of staff at forensic psychiatric facilities is at Appendix 3.3.

3.7.5 Utilisation, seclusion and incident data

The nature of the dataset meant that there are only tabulations of the data. These data could be mapped against the chronology but the complex and dynamic organizational environment made meaningful statistical analysis difficult. A statistician in the *School of Mathematics and Statistics* at UNSW was consulted about these data and advised that eye-balling and summarizing would adduce as much useful information as was possible. Given the competing rival explanations and dynamism of the environment a more complex statistical analysis was not feasible.

3.8 Ethics Approval and Regulatory Compliance

The study was conducted in accordance with the National Statement on Ethical Conduct in Human Research (National Statement) and the Australian code for the Responsible Conduct of Research (Code) (The National Health and Medical Research Council, the Australian Research Council & The Australian Vice-Chancellors Committee 2007, 2015) and assessed at low risk/negligible risk and not requiring a full HREC review. All participants gave written consent and were assured of anonymity.

Interviews were recorded but where confidentiality was requested taping was stopped and hand written notes taken instead. All interview data were transcribed in accordance with a coding protocol and stored by code. The key code was stored securely and separately from the data. Data was stored securely in a keyed cabinet and on a remote hard drive.

Data was collected at *Blue Waters*, *Greenslopes* and *The Farm* as part of a quality improvement project for NSW Health Infrastructure, which gave its full support to this PhD research study and approved use of the data in it. The UNSW Medical and Community HREC Advisory Panel (Ref 2013-7-12) determined that the project was of minimal ethical impact and met the requirements set out in the National Statement on Ethical Conduct in Human Research. Approval for the research was given on 8 April 2013 (Appendix 3.4). An application in relation to *Happy Shores* was also made to the South Eastern Sydney Local Health District (SESLHD). The SESLHD HREC Executive Committee assessed the project as low/negligible risk and exempt from full HREC review. Approval for the research was given on 2 May 2013 (HREC: 13/083 (LNR/13/POWH/177). Site specific approval was separately obtained (SSA re no: 13/G/095). These approvals are at Appendices 3.5 and 3.6.

3.8.1 Values and Principles of Ethical Conduct

In accordance with the 1964 Helsinki Declaration on the ethical conduct of research on humans, the National Statement and the Code, this research was conducted in mindfulness of the ethical values of -

1. Respect for human beings;
2. Research merit and integrity;

3. Justice, in particular, an equal distribution of benefits;
4. Beneficence.

Respect

Interviewing of consumers was not planned as an aspect of the data collection and so care providers were used as proxy informants for consumers, speaking both for themselves and for consumers. While this limited data capture and the personal voice of the consumer was not directly heard (although the mural artist at *Happy Shores* was a former consumer and the artist liaised with consumers on the design), as a non-mental healthcare clinician, unfamiliar with the consumer group as well as the acute inpatient mental healthcare field, I was inadequately trained to suitably address all potential vulnerabilities of consumers. Ethical priority was given to the protection of consumers and surrogates spoke for them.

The intervention study at *Happy Shores*, however, provided an opportunity to indirectly understand the impact of the built environment on consumer behavior and satisfaction, as measured by staff reported violence and use of seclusion. The research aimed to look at the relationship between care providers and consumers so insight into the effect of the environmental changes on staff was relevant. The triangulation of multiple sources of data was intended to give presence to consumers.

The research findings indicate the importance of involving consumers in future research. Former consumers are already involved in the design planning process. Current consumers also need to be afforded the opportunity of being heard.

Research Merit and Integrity

The merit of the research lay in its overt intention to benefit consumers and care providers by identifying best practice in acute inpatient mental healthcare design, and seeking to understand how the built/material environment might support therapeutic safety. It was intended to add to the validity of research into therapeutic environments so as to improve the welfare and opportunities for recovery of acute inpatient mental healthcare consumers.

Justice

Participants were not exploited but approached with respect and a keen interest in understanding the effect of the material/built environment on service delivery and relationships in acute inpatient mental healthcare. The research adds to the evidence base to improve the therapeutic and work environments of both consumers and care providers.

Beneficence

The ethical intent of the research was beneficence through the improvement of the material environment and this ethos permeated all parts of the study. The benefit to those participating, consumers at the case study sites, and the broader acute mental healthcare community far outweighed any perceived discomfort or inconvenience associated with participants giving their time to the research. Vulnerable consumers did not directly participate in the study but were to be beneficiaries.

3.8.2 Risk Assessment

Although the research was categorized as negligible/low risk, risk assessments were conducted throughout study design and data collection. Design strategies could then be developed to ensure participants and consumers were protected from risk of harm. The identified risks were:

People in Unequal Relationships - Participant Employees

Many participants were working in, or provided consulting services to, the government organisations responsible for the procurement and management of the case study sites. There was a risk that candour by participants could negatively affect careers where information critical of the organisation, its executive, or professional supervisors was conveyed. This was a particular risk at the first three sites as the study was conducted under the auspice of area chief executives and the Authority.

Whilst most of the participants at those sites were very keen to be interviewed, in the hope that the information would effect change, at the intervention site, *Happy Shores*, clinicians were much less enthusiastic to be involved. The probability of the risk eventuating was very unlikely (at the lowest level of probability) but to protect participants the following risk management strategies were implemented -

1. Interviews were organized directly with participants and they were able to cancel or not attend without any questions or follow-up;
2. Potential participants who did not want to be involved were not followed up.
3. Written consent was obtained from, and information on how to withdraw that consent provided to, participants before the start of interviews;

4. Staff at *Happy Shores* were advised by email when the focus groups were scheduled so that they could choose whether or not to attend.

Anonymity and Confidentiality (also associated with unequal relationships)

1. Audiotapes of interviews and focus groups were not made available but kept securely in safe custody. Transcribed data were coded so that participants could not be identified and the key code was stored separately from the data and only available to me as the researcher;
2. Where a participant requested, conversations were not audiotaped and only interview notes were made;
3. The actual names of the case study sites were not used and replaced with uninformative pseudonyms;
4. Photographs taken during the walkthroughs were taken in such a way as to not have any identifiable people in them;
5. Essen CES surveys were completed anonymously. Participants were advised that the return of completed surveys would be taken to constitute consent. No names or other identifying data were collected on those participants who completed the survey. There was complete anonymity.

Consumer Privacy

The privacy of consumers admitted to the facilities during the study period needed to be protected. This was achieved by -

1. photographs were taken in such a way that the dataset does not contain any identifying pictures of consumers;
2. not interviewing consumers; and

3. not divulging the identity of the mural artist who was a former consumer.

3.8.3 Letters of Support

The study was conducted in compliance with the ethical and research requirements of the participating organisations and was conducted with the full support of NSW Health Infrastructure and the Eastern Suburbs Mental Health Service of South East Sydney Local Health District. Letters of support are at Appendices 3.7 and 3.8.

CHAPTER 4 - BLUE WATERS CASE STUDY

“That high level of security....

I’m sure it doesn’t make the patient feel 100% safe.”

(clinician)

4.1 Introduction

Chapter 4 is the first of four chapters (chapters 4, 5, 6 and 7) which present the individual findings for *Blue Waters*, *Greenslopes*, *The Farm*, and *Happy Shores* acute inpatient mental healthcare facilities in relation to their fitness for purpose in the delivery of the recovery model of care and building of therapeutic trust, how the tension between *Risk Warriors* and *Trust Advocates* was reconciled in terms of the built environments, and whether decisions made upstream had introduced latent error into the care system. A cross-case analysis of the four studies is presented separately in Chapter 8 where the themes emerging from the data are further explored, the limitations of the study discussed, and future directions for research identified.

4.2 Background to the Setting

Case Study 'A', designated *Blue Waters*, is a public mental healthcare unit situated on the outskirts of an urbanising, coastal area in regional NSW. It was opened in 2010. The facility was procured under a Design Development & Construct (DD&C) contract, which meant that the building contractor took over responsibility for the detailed design development once healthcare architects had completed the schematic design in consultation with the users. The original architects did not work on design development and were not involved in decisions about design priorities, building methods, materials selection and construction details. This schism between the personnel involved in the early facility planning and the later procurement process had repercussions for the fitness-for-purpose of the final facility.

Service planning was completed by the State Health Department (Department) over a ten year period and had followed the Department's detailed planning guideline, the *Process of Facility Planning* (POFP). Procurement however was managed under the direction of a newly established statutory authority (the Authority) which took over all health sector procurement projects valued at over five million dollars from the Department in 2009. *Blue Waters*, with an approved budget of \$12.6 million, was the Authority's first major procurement project. It proved to be a difficult and acrimonious learning experience for the organisation which led to industrial action by the NSW Nurses' Association.

The creation of a new statutory Authority with its own Board to take over work previously performed within the Department of Health created political problems for the new Authority as bureaucratic fiefdoms were threatened (and that also made access to documents for case study analysis difficult). The Authority's difficulties were exacerbated by the decision of its Board to staff the Authority with project managers who had never worked in the health sector or delivered a healthcare facility project. Health professionals involved in the project very quickly came to distrust the ability of the Authority to deliver a 'fit-for-purpose' facility.

The new facility replaced a decommissioned 25 bed unit in a 1980's building which had been administratively independent of the general hospital, although located just across the road from the general hospital campus. The building had been refurbished in 2001 and the bed numbers reduced to 25 from 30, pursuant to a Coroner's Report on a consumer death which recommended population density at that site be reduced by five beds.

4.3 General Description

The new *Blue Waters* acute inpatient mental healthcare unit was commissioned as a 30 bed standalone public hospital facility collocated on the *Blue Waters* general hospital campus. The Unit consisted of 24 adult acute beds and a 6 bed High Dependency Unit, with the potential for a further 4 beds to be designated as a Vulnerable Persons Unit should funding become available. The Unit provided acute inpatient treatment and management for mental healthcare consumers who required intensive therapeutic intervention when less restrictive options have been deemed unsuitable or unavailable. Its target population included consumers requiring assessment and/or involuntary admission under the State's Mental Health Act. At the time of data collection in August 2010 all consumers were voluntary admissions. The new building also housed the acute home-based treatment/outpatient team and the Mental Health 24 hour Telephone Access Line (MHTAL).

A covered walkway connected the new building to the general hospital's Emergency Department (ED), in accordance with Department policy on the mainstreaming of mental healthcare services whereby admission to the acute mental healthcare unit was to be through the ED. Direct admission to the unit was discouraged.

The facility was officially opened by the Minister for Health on 17th May 2010.

4.3.1 Documentation Reviewed

As well as state-wide policy document such as the *Process of Facility Planning* (POFP) a number of site-specific corporate documents were made available:

- Change Management Committee minutes 2009

- Operations Manual 2010
- Project Planning Procedures Manual
- Economic Appraisal 2007
- Incident Information Management System (IIMS) reports 1 January 2007 to 31 December 2009
- Priority One Variation Lists for 2008

4.3.2 Description of Participants

Thirteen key informants (participants) involved in the design and development of the facility were interviewed. They had a variety of roles in the planning and procurement process and came from a cross section of professions including: a senior project director at the Authority, project directors new to the health sector, registered nurses in clinical, administrative and planning roles, health administrators, specialist architects and central government health facility planners, all of whom provided expert insight into the operation of the POFP and design development at *Blue Waters*.

The non-clinical Occupational Health & Safety (OHS) Manager on the general hospital campus was not available for interview despite being an influential member of the project's design development team. Psychiatrists at the Unit were not interviewed either, as none of them were available and in any case they had not participated in the design development process.

4.4 Planning & Design of *Blue Waters*

The 2006 Project Definition Plan (PDP), which described the scope of the service to be delivered by the facility, specified a collaborative, recovery model of care. The

PDP was then used by the healthcare architects to prepare schematic design in consultation with the clinical staff. Consumers were not involved.

None of the original planning team involved in development of the PDP and schematic design were involved in project implementation, so design development was marked by dissension and an unravelling of the original model of care and vision for a recovery inspired design. The clinician responsible for developing the recovery model of care and translating this into space and flows with the architects during the schematic design stage was on a twelve month leave of absence during design development stage. This had repercussions for the process and outcome.

This lead clinician was not the only member of the implementation team to be replaced during the procurement process. There was a constant turnover of health personnel throughout the process and each new member of the planning team brought their own priorities and perspectives with them. Changing decisions made by the changing team(s) during design development compromised the capacity of the building to support the originally proposed model of care, and the different priorities of the constantly changing participants led to 91 costly variations during construction. Participants from the Authority expressed frustration with the process:

“What I found difficult, for example, was that there were some various changes in the senior management team in Mental Health, so throughout the project I had difficulties in terms of how many times I had different personalities to deal with. I found that quite difficult from my perspective. I felt that it probably would have run a little bit better from my perspective

if they had a position that I actually reported to the whole way through.

...but that position changed about four times during the project.” (project director)

4.4.1 Clinical Leadership

Informants noted an absence of clinical leadership during project implementation, particularly as the dominant team member became the general hospital’s OH&S Manager whose priority was managing risks to staff and not the creation of a therapeutic mental healthcare environment:

“....There were no clinical people that I dealt with or that ever spoke to me.....

If Security says this is what we must have for OH&S then they just say that’s what we must have. Even when we had the meeting talking about where the access control points were to go there were people from Security there leading the way.” (project director)

There was a focus with controlling concrete hazards and the technical safety of staff. The world view of the *Risk Warriors* was not contested. Innovations in mental healthcare facility design, as intended by the initial design team, were dismantled by the project implementation teams:

“It is very much about the model of care and how the staff interact... I’m anti a lot of what Mental Health does but it’s not my call. Take the staff station, for example – a huge new facility is being done in [another state] and they have no enclosed staff stations. But our staff experience is that they’ve had staff physically attacked and that’s been the area they’ve been

able to come back to as a safe haven, so therefore we have standard Lexan [strengthened glass] on our staff stations.” (project director)

The concerns of frightened front line nursing staff, rather than senior clinicians implementing a recovery model of care drove the procurement process. A key informant reported that the Nursing Unit Manager (NUM):

“.... ..had a very close relationship with the staff, was very focused on things that the staff may have wanted rather than needs, for example.” (facility planner)

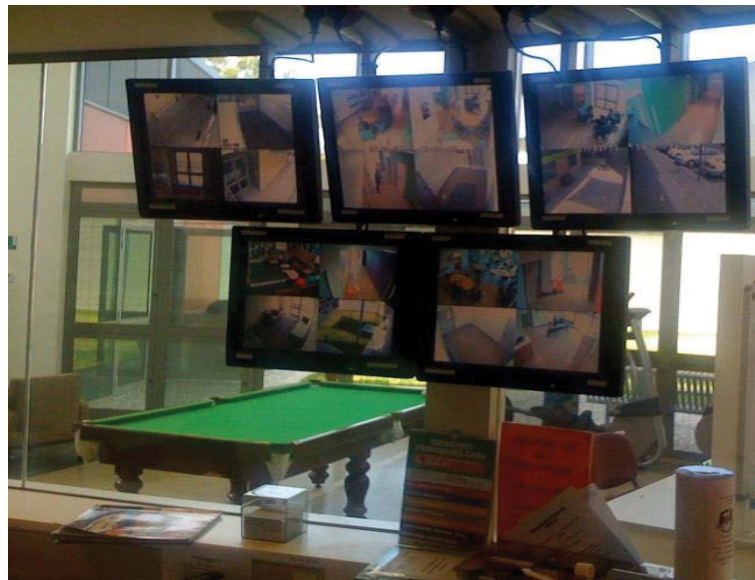


Image 4.1: Enclosed Nurse Station with CCTV

“And we have a lot of CCTVs.....My argument is why do we need all that CCTV because why aren’t you out interacting with your patients. Why does the staff station need to be so big, you come and go out of it, it’s not where you sit and manage your patients, you’re supposed to be out there.” (project director)

The Authority entered an environment where previous poor experiences during procurement had sowed the seeds of distrust. In particular, the built solution for the first Mental Health Intensive Care Unit (MHICU) in the state, although built

according to the 2002 HFBG, had been so under-specified in the construction documents that the Facility had to be closed for refurbishment only three months after opening, with repairs valued at \$500,000 and a great deal of negative publicity in the local media.

Blue Waters was situated within the same health care delivery service and the Executive wanted to avoid a similar outcome at *Blue Waters* so did not stop the design of a strong, secure facility (akin to a forensic facility), even though *Blue Waters* was only ever going to service the local population. The covert planning priorities were the protection of staff, preservation of property, and avoidance of negative publicity.

The iterative nature of the design process was demonstrated at *Blue Waters*. From the beginning of the project staff felt ignored by the Authority, particularly when site constraints lead to changes being made to the layout without consultation. The changes not only affected the envisaged model of care but had flow-on repercussions for the staffing model, leading to industrial action by the NSW Nurses Association:

"I guess it suffered because the actual end design of the building changed the model of care. So the initial allocation of funding for staffing, recurrent funding was inadequate for the new model of care because of the change in the design of the building." (clinician)

The mistrust between participants became so intense that there was no shared recollection of some of events during design development. According to the facility planner at *Blue Waters*:

“... If they had listened and we’d had a standard cat-and-kitten door¹, no pivots, large leaf opens in, small leaf opens out, security issues, bed access – no problems. But would they listen? No.” (facility planner)

The Authority’s Project Director had an entirely different recollection as to which party refused to use ‘cat-and-kitten’ doors:

“.. But they knew – this is what was really frustrating – they knew the issues they’d already had at the MHICU [Mental Healthcare Intensive Care Unit] with the [wide pivot] doors, then they said they needed the one wide door, not the cat-and-kitten door and that was documented early in the process because it was one of the things the contractor wanted to know. So then as we went through this whole frustrating process, obviously their memories were not as long as others, because they then turned around and said well, if you’d given us cat-and-kitten doors we wouldn’t have this problem...” (project director)

4.5 Change Management

The change management process was not started until a year before completion of the building works, which is contrary to the policy set down in the Department’s POFP which states that the Change Management Strategy is:

“a key requirement across all POFP stages .. to ensure that the changes arising from a project are clearly documented, understood..., and processes are implemented to facilitate change.”

¹ Cat and Kitten doors are hospital doors consisting of one standard door plus a much narrower one, which is only opened for the movement of large pieces of equipment or furniture such as beds. The doors avoid the need for a single, large, heavy door.

The first meeting of the Change Management Committee was not held until 26th May 2009, only one year before final handover. The process was not conceived as part of a wider strategic plan for the delivery of mental healthcare services, or as an opportunity to change clinical practice to a recovery model of care. According to one key informant, the project failed because the POF and the change management strategy should have been linked directly to the Clinical Services Plan (CSP), but they were not:

“Right, the health planning process is an excellent process, but the key to achieving the outcome is all of those steps being followed properly. The key step in all of that is the service plan at the front, and if that’s put together by one individual quickly in a week and a half – the rest of the project follows suit and suffers. So it needs to be a well thought through ...and staff have accompanying that a change management process. So the two go hand in hand, and the change management process needs to start day one from concept. As soon as someone has the light bulb go on, the change management process needs to start.”(project director)

At *Blue Waters* there was no Change Management Strategy but only a Commissioning Plan, which was developed in isolation by a non-clinical administrator. This approach reflected the loss of clinical leadership early in the implementation process. Any potential for changing practice and preparing clinical staff for changes in the practice model was lost without a coherent change management strategy.

4.6 Safety and Security

Policies and procedures in the new facility were comprehensively documented in an Operations Manual as part of the Commissioning Process. The documentation reflected a custodial practice model. The emphasis had shifted from the PDP's collaborative, recovery model such that the consumer's risk status needed to be balanced against the recovery principles of privacy, dignity and least restrictive care, to a policy of ensuring a technically safe environment to protect consumers from self-harm and care providers from aggression.

Key informants reported that the approach was justified by the general hospital's OH&S manager, with the support of the front line nursing staff, on the basis of the Department's policy of *"zero tolerance of all forms of violence on health services premises..."* (NSW Health 2005). The approach was to achieve general hospital safety standards by intensifying conspicuous custodial design elements and increasing the use of technologies of surveillance in the acute inpatient mental healthcare unit. In accordance with the zero tolerance policy the planning intent became to apply the utmost rigour in controlling violent behaviour, rather than ensuring utmost rigour in creating a therapeutic environment.

The excessive emphasis on surveillance hindered the potential for the development of a therapeutic alliance between consumers and care providers:

"... .. but in terms of the model of care – no.....you will have seen the level of security, it's like a high-level prison quite frankly – and I'm not so sure we got that part of it right. I think there could have been significant savings,

for example, in reducing the number of CCTVs. My professional point of view is you limit CCTV to those areas that could potentially be a black spot within the unit....there's nothing that beats personal and close observation rather than looking at a TV screen... so I would caution any future developments to limit that high level of security because I'm sure it doesn't make the patient feel 100% comfortable.” (clinician)

Two seclusion rooms were built at *Blue Waters*, contrary to recommendations of government and professional bodies on the reduction and elimination of the harmful practise of seclusion.



Image 4.2: Seclusion courtyard

The seclusion room courtyard was an attempt to alleviate the dour environment. The yard was not, however, particularly hospitable and emphasized the entrapment of the person locked in seclusion.

Commitment to electronic surveillance was so strong at *Blue Waters* that two CCTVs were built into each seclusion room, which were but 14 square metre boxes devoid of any nooks and crannies.

“I think the more technology we put in is taking away that personal observation from nurses and the wider the gap and I think that’s a dangerous and slippery slope.”(clinician)

Yet despite these technologies of surveillance, a patient managed to escape from one of the seclusion rooms unobserved:

“The latest incident was ... where clearly there is CCTV within – a man escaped from seclusion. popped the top off the seclusion air intake vents and move air intake equipment out of the way and escape through the roof space – all with two or three cameras all lined up at him and a staffing ratio of two to one. Where’s the close observation? This is what I’m trying to impart...”(clinician)

And the surveillance model of care means that there are few places for people to retreat to when feeling stressed by the social world of the Unit. There was an outdoor area, but it was dominated by a high security wall and the ubiquitous CCTV cameras. Patients were only allowed into the courtyard under supervision. The safety of the excessively high walls was of great concern to clinicians and facility planners given consumers intent on absconding had been known to try and scale the wall. One informant thought the intermittent slabs of coloured brick work in the courtyard wall signposted a climbing route out of the facility. A number of informants made similar comments to this:



“And so you think what kind of injury? Are we going for an orthopaedic injury? That’s it. Do you want them just to fall a little bit or a long way? What harm minimization are we doing and what assessment is appropriate for the expected use?”
(facility planner)

Image 4.3: Courtyard wall

4.7 Built model of care

One impact of building a facility with a level of security comparable to a forensic hospital was the reported increase in the number of incidents of aggression.

Reported incidents had been falling in the old facility before the move, coinciding with changes in the care regime to what was then called a ‘collaborative model’ and a reduction in the number of beds, which had reduced social density. The number of incidents fell from 73 in 2007 to 51 incidents in 2008, and to 41 until August 2009. Incidents of aggression leading to harm also fell from 6 in 2007 and 2008 to 1 up until August 2009.

For the three months following the move to the new facility no incident data was available. None seemed to have been collected but that would have been contrary to policy. Nursing staff interviewed reported that the seclusion rate had actually increased at the new facility:

“The seclusion rate has certainly increased since we moved over here. I think that’s because the old unit only had four high-dependency beds. So what we normally did was anyone who was particularly aggressive we’d

transfer them up to [a larger facility] where we've got a ten-bed high-dependency unit. Now of course we have a six-bed high-dependency unit here that's fully staffed, we tend to keep more of the aggressive people here. So that has increased the seclusion rates.” (clinician)

At Blue Waters increased surveillance did not reduce absconding or self-harm:

“Certainly since we've opened, which is quite strange, there have been two incidences of absconding, and one was fairly questionable. One person climbed up onto the sail and was able to escape via the roof. You'd think with the amount of technology and CCTV that should have been picked up long before that – he walked out with a sheet which he ripped up and tied in knots to make it like a rope.” (clinician)

4.8 The Outcome: fitness-for-purpose

A senior clinician called the final building “*stunning*” but did not think it could support delivery of the collaborative, recovery model of care originally intended. Many of the architectural elements were impressive in terms of colour, space and light and the quality of construction was excellent but the over-emphasis on security and safety expressed a custodial model of care, and interfered with the staff's ability to interact with consumers appropriately. The outcome was quite contrary to the original vision and plan.

“[The plan] had the patient firmly centred in the middle with a number of multi-disciplinary staff responsible for their daily careif we'd vigorously followed that model of care the patient would have been occupied for most of the day and redirected away from thoughts of perhaps self-harm,

perhaps thoughts of absconding and those sorts of things that patients have and can do when the level of personal observation or contact is limited.” (clinician)

Operational policies of distrust, such as the 2004 Departmental policy on *Suicide Risk Assessment and Management Protocols*, moved the model of care further away from one of recovery. Patients were searched, valuables and mobile phones confiscated and stored in a location inaccessible to the consumer and controlled by the staff.

4.9 Walkthrough/Talkthrough Evaluation

Evaluation of the facility was informed by the *Environmental Determinants of Care* model, synthesized from the literature and assessed against the current HFBG. During the walk-through the consequences of an over-securitized facility for a low risk consumer population were observed.

4.9.1 Physical Environment

a. Architectural Form

- **Arrival points:**

The entrance was clearly marked as an arrival point and there was undercover access from the Emergency Department.

- **Operational spaces:**

There was a medical consultation space and medication room but no private therapy spaces within the locked ward. A family space for child visitors, appropriately decorated, was provided just outside the secure area. There

were staff support spaces, offices and meeting rooms. There were, however, limited activity spaces for consumers.

A single, central space was lounge, television, exercise and dining room all in one. It was the only space freely available to consumers. In the middle of the room was a large whiteboard used by nursing staff for rostering and other staff related communications. The area was overlooked by a full length enclosed nurse station, which had multiple CCTV monitors adding to the sense of demarcation between staff space and consumer areas.

Over a period of twenty minutes none of the nursing staff at the station were seen to look at any of the monitors (or at the consumers). They were busy talking with each other and doing non-clinical tasks. No staff were engaged on the floor with any of the consumers. All but two consumers were watching the television that dominated the living/dining/activity/exercise space.



The original plans had included a full size gymnasium but this was lost at some point during the planning process. This combined living, dining, activity and exercise room was the only living room space in the facility.

Image 4.4: Gymnasium

There was a table tennis table and two exercise bikes (facing each other) against one wall of the multipurpose room. It was a cluttered area which could have given direct access to the courtyard but that door was kept shut.

A clerestory window overlooking the yard provided some increase in the sense of space and volume.



Image 4.5: Clerestory ceiling

The clerestory ceiling provided good light and a sense of space; air quality and sound absorption were also good; and the air conditioning worked very effectively. These technical features of the building were what one key informant called “*stunning*”.

- **Resilient materials**

The construction was of superior quality using safe and resilient materials.

One clinician called the technical features of the building “*stunning*”. It was a very high quality build.

- **Circulation space**

There was an ample circulation allowance in staff areas and the outpatient consultation area. The lounge area, on the other hand, was relatively small and social density a potential problem.

- **Wayfinding**

It was only a relatively small unit with clear signage and comprehensible relationships in the layout. The circulation pattern was legible and easy to

navigate. Admission spaces were clearly identified with a clear flow from admissions and clinical assessment to the inpatient areas.

- ***Interior Design Elements***

- **Domestic with welcoming arrival points**

The unit was devoid of domestic elements. It was institutional. Consumers had limited opportunities to personalize their private space. Fixtures and fittings were ligature proof and not domestic in style.

- **Varied Texture**

There were no soft furnishings. The building materials did provide some variegation but did not distract from the custodial environment.

- **Art**

There was no art work exhibited.

- **Privacy**

All patient rooms were single rooms. There was nowhere else for a consumer to retreat when wanting privacy; other than the seclusion room. There were examination and consultation rooms for private therapy.



Image 4.6: Internal Corridor

- **Varied Colour**

Some attempts to alleviate the oppressive design elements had been introduced with coloured brick work in the courtyard and coloured doors in the staff corridors (which visitors would pass through but not inpatients). Nothing distracted from the custodial tone and overt symbols of surveillance.

- **Access to Nature**

Access to the courtyard was controlled by staff and monitored by CCTV. The yard could be seen through glass doors from the lounge area but the consumers could not access it independently. The view to the outside was of the grass and the high security wall. There were no plantings or trees.

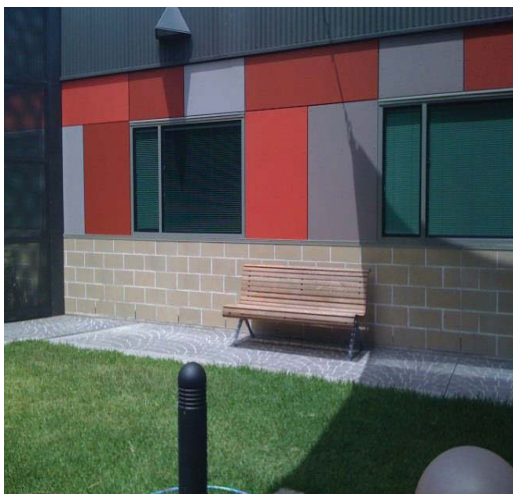


Image 4.7: External seating area

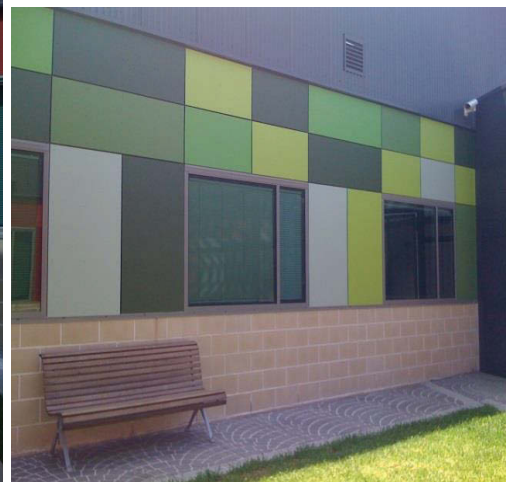


Image 4.8: External seating area

- **Ambient Features**

The ambient features - light, sound, odour, temperature and humidity - were excellent and exceeded the HFBG of the time. The clerestory ceiling provided good light and a sense of space; air quality and sound absorption were also good, and the air conditioning worked very effectively.

4.9.2 Social Environment

- **Single Rooms**

All the bedrooms were single rooms

- **Activity Spaces**

Despite all admissions being voluntary, consumers had almost no control over their environment as the only living space outside of their bedroom was the multipurpose living/dining/television/activity/exercise room. Social density at meal times was considered a problem causing escalation of tensions between consumers. Consumers could only go into the inhospitable yard (with its imposing wall and CCTV) escorted by a staff member.

- **Access to Distraction**

There were few distractions and limited opportunity for physical exercise or any productive or spiritual activity. ". Therapeutic services were only provided for 2.5 hours Monday to Friday. On weekends consumers had nothing to do. No active therapy sessions were provided on weekends. The programmed amount of "*free time*", "*medication time*" and "*meals*" totalled 12 hours of the day. There were no views or art works. Distractions were limited to television, the single table tennis table and the exercise bicycles,

which I did not see used. There were no activities in the courtyard other than sitting and it was only used by consumers under direct supervision of staff and were otherwise *“kept locked at all times*

- **Maximum 18 beds**

Contrary to the recommendations of the Royal College of Psychiatrists the unit held 30 beds, of which 24 were acute beds.

- **Maximum 85% occupancy**

Unknown. Data was not available.

4.9.3 Symbolic Environment

- **Respect, Empowerment, Openness, Refuge, Autonomy, Choice**

The spaces were beautifully built and to that extent exhibited some respect for the occupants (staff and consumer) but the unit was entirely designed from a security and surveillance perspective. There were no environmental signals connoting trustworthiness, refuge, or recovery. Personalized spaces in the new facility were minimal.

- The symbolism was that of the *“total institution”* where residents are cut off from the wider society in an enclosed formally administered round of life by obvious signs of containment such as locked doors, secure walls, enclosed nurse stations (observational post) and close circuit television (CCTV).



Image 4.9: Secure entry from outpatients

- **Security & Freedom**

Security was overt, with the locking of the wards, the refusal to allow consumers in the garden without supervision, the imposing high wall surrounding the garden area, the multiple CCTV at the nurse station, the two CCTV in the seclusion rooms, and the lack of private space.

- **Privacy**

Privacy was only possible in the bedrooms. There were no other spaces a consumer could withdraw to when desired. There was no quiet room for voluntary withdrawal.

- **Social Interaction**

Social proximity was forced at the unit. Consumers had no control over the timing or nature of social contact as the only living space was the multipurpose room.



Image 4.10: View from seclusion room

The environment was akin to a high security prison. There was nothing subtle about the security features in the building. They just asserted the authority of the staff and institution. It was designed as a secure facility on risk management principles for the protection of staff, property and reputation.

- **Homeliness**

The environment did not denote 'home'.

- **Identity**

There seemed to be an enforced passivity in the resident population as they had very little to do, no productive work to do, and were under constant surveillance.

- **Community**

The unit fitted Goffman's description of a '*total institution*' and was physically and organizationally cut off from the community. It was not conterminous with community care despite the collocation of community services in the building.

4.10 Issues Emerging

A number of issues emerged from the data:

1. The recovery model of care set down in the Clinical Services Plan did not underpin the design of the facility. The model of care was adapted to the highly securitized built environment.
2. Risk management priorities overwhelmed intentions for a trust based recovery model of care and drove facility design.
3. Collocation on a general hospital site increased the propensity for *Risk Warriors* to dominate design decision making as the OH&S priorities of the general hospital took precedence.
4. To ensure changes in clinical practice and recovery-oriented clinical thinking, a coherent change management strategy needed to be implemented in parallel with the planning process.
5. Management decisions to privilege one set of risks – OH&S – over risks to consumers lead to a high security facility for a voluntary population.

CHAPTER 5 - GREENSLOPES CASE STUDY

*"I think our rates of seclusion...have gone up, and I think there
is a design reason for that."*

(clinician)

5.1 Background to the Setting

Case Study 'B', designated *Greenslopes*, is a 174 bed public mental healthcare precinct which was collocated in 2008 onto a suburban tertiary public hospital site. The development was part of a much broader state-wide resource planning effort to rationalise state government land holdings. The new facility was moved from a low rise nineteenth century asylum situated in parkland on an increasingly valuable 61 hectare waterfront property in the inner city. The original facility had been designed specifically (and innovatively at that time) for the needs of those who would live and work at the asylum, including separate pavilions for different classifications of patients.

The move was the outcome of a high level strategic planning process, called a *Resource Transition Plan*, which was strongly resisted by community groups, mental health care clinicians and consumer groups. The move was unpopular with the local community which had developed around the asylum over the course of the twentieth century. Clinicians and consumers were concerned about the loss of cultural identity and the community feared a loss of green space in the inner city. A Parliamentary Select Committee recommended the retention of part of the site for mental healthcare purposes, specifically low risk rehabilitation for those who would not otherwise be accommodated elsewhere. Due to intensive community lobbying, the government has to date (eight years later) been unable to sell off the site for redevelopment as it had wished, although the mental healthcare facility has been relocated.

The new facility was procured under a traditional Design & Construct (D&C) contract, with the government funding body being responsible for design development and procurement.

5.2 General Description

The new 174 bed precinct has been described as state of the art to deliver the *phase of illness* model of care (which presumes a linear progression to recovery) and to increase integration with community mental healthcare teams. It consists of twelve separate buildings at the end of a peninsular, poorly serviced by public transport, and it is generally lacking in the amenity available in a more densely populated and affluent area, such as found at its former home. The twelve separate buildings in a self-contained precinct reflects the pavilion structure of the facility's original home, but under current government policy of prohibiting residential accommodation on general hospital site, the rehabilitation cottages have been enclosed in a lockable building envelope. The relocated Mental Health Hospital precinct consists of:

- Acute adult and adolescent unit – 60 beds
- Acute adult Intensive care unit – 20 beds
- Acute psycho-geriatric unit – 30 beds
- Extended care units – 29 units
- Rehabilitation and recovery ward/hostel – 27 beds
- Rehabilitation cottages – 8 beds
- Outdoor pool
- Volley ball court

- Outdoor Amphitheatre

The precinct is quite remote from the main campus, which it accesses along numbers of old covered walkways (a known source of asbestos hazard which has caused harm). The access road to the new precinct is a cul-de-sac which ends at free standing adolescent intensive care mental health care unit unrelated to *Greenslopes*. It is approximately one kilometre to the general hospital car park and a little further to the two or three nearby shops and the bus stop. Construction of the precinct began in 2006 and the development was handed over in March 2008 and officially opened in May 2008.

5.2.1 Documentation Reviewed

Because of the anomalous procurement methodology, and both planning and procurement being responsibilities of the Health Department (and not the new procurement Authority), little documentation was available for review, and those documents that were available were only general state-wide policy documents such as the *Process of Facility Planning* (POFP).

5.2.2 Description of Participants

Eleven key informants with knowledge about the development and collocation of the facility were interviewed. They had a variety of roles in the planning and procurement process and came from a cross section of the professions involved. Those interviewed included central government health planners, psychiatrists, registered nurses, managers, facility planners and specialist health facility architects. All provided insight into the operation of the POFP and design development and procurement at *Greenslopes*.

5.3 Planning & Design of *Greenslopes*

Planning for the facility had a long genesis of 12 or 13 years but documentation for the development of the site was not as detailed as would usually have been expected because it was part of the *Resource Transition Plan* (which was not available for review) of the state government, which was a procurement process clinicians did not perceive as prioritising the needs of acute mental healthcare consumers:

“...the budget for building the mental health is linked to some other developments, and so it appears to us that they sort of robbed Paul to pay Peter sometimes.” (clinician)

Facility planning was therefore left until quite late in the process, and after a revision of the Clinical Services Plan to meet Executive (not clinical) priorities:

“....mental health did not sign them off, the area execs signed them off, with that there were lots of problems with them, and wasted our money, and just problems with the design because they didn’t come back to us...”

The model of care was undefined early in the process and did not underpin facility planning but was devised after the acute building was completed:

“..when I came across here it was apparent that for various reasons there didn’t seem to be a clear model of care...” (clinician)

The model of care was devised on the basis of the final buildings *post hoc*:

“..when the planning began for this set of facilities, the idea of an acute recovery unit was not in the mix at all, so it was once the building was built, they sort of thought okay, how can we organize services given that we’re

moving a whole lot of services from [the old site] to here, and they moved away from a geographically organized set of units....” (clinician)

The idea of a *phase of illness* model of care was alien to the clinical team and imposed by the Executive without consultation:

“...not a model that at the clinical level that people particularly understood or brought with them. It was being declared and it’s complex to break up a psychotic person’s life experience of their illness into a phased model....”
(planner)

Given the resistance to the collocation, and the impact of collocation policies on the philosophy of care at the facility, detailed design development was led by the funding body which carefully controlled user input into the planning process. Area wide budgetary considerations overrode clinical input into the planning process:

“..it’s easy to make the case [for beds and services] it’s just it gets over-riden...My impression is somewhere it gets distorted and sort of peeled back between area and the department....the budget for building the mental health facility is linked to some other developments.” (clinician)

In the end the model of care imposed by the Executive was not considered by clinicians to even reflect the generic model incorporated in the health facility building guidelines available at the time, the 2002 DS-26 Mental Health Facilities Planning Guide (2002 Guidelines) (NSW Department of Health 2002).

5.3.1 Clinical Leadership

Despite the lack of consultation, there was nevertheless strong clinical leadership in contesting the decisions made about clinical matters by the Executive. One creative

solution to the imposed *phase of illness* model was for the clinician tasked with working out “*what it was going to be*” to define acute mental illnesses in terms of responsiveness to treatment, rather than, as was intended by the Executive, to apply the linear clinical pathway taxonomy as used in the general hospital for physical illnesses (Cleary et al. 2010; Davidson et al. 2010; Gray 2010). The resultant ‘*phase of illness*’ model conceptualised care as:

- “*recent onset*”
- “*relapsing*”
- “*treatment resistant*” (sic)
- “*recovery of those with persistent and enduring illness*”.

Nevertheless, clinicians were very frustrated by the lack of consultation and tendency for their advice to be ignored by the executive and central health planners, for instance, a clinician provided an example in regard to the circumstances surrounding escalation of aggression and violence between consumers at meal times:

“..And the thing that I think that people have failed to realise is just sometimes the clinicians do know better, and if there’s time where people are going to agitate it will be when they’re in a confined spaces being served food at the same time, or when...and psychotics (sic), so still wanting to be able to....you know, hungry and wanting to eat, but agitated....I guess it would be like going into Westfield, into one of the food courts, and being obliged to share a dining room table with somebody you don’t know in a confined space.....for somebody with no mental health problems that would cause you a great deal of anxiety.”

One of the clinician's interviewed reported upon a staff survey that has been conducted to produce evidence of the lack of viability of the *phase of illness* concept in mental healthcare settings from a clinical perspective:

"...this idea of the phase model, and how that relates, but in the surveys of staff one of the things that seemed to emerge was that this compartmentalisation to these various units has hampered relationships with the community, and has undermined the larger philosophy of building it on community based services." (planner)

Conflict between clinicians and the Executive was reported by key informants as quite acrimonious. *Greenslopes* clinicians wanted to retain their collaborative model of community integrated care and wanted the new spaces to be designed according to the evidence. The clinicians fought for changes they considered essential to a therapeutic environment.

Clinicians were annoyed that the recovery model of care was jeopardised by rigid reliance upon the 2002 Guidelines:

"They say the guidelines say this and say that, I say well that's fine but it's the guideline, it's not the prescription." (planner)

Clinicians considered the 2002 Guidelines, even though only applied at the discretion of the executive, to be deficient in any case:

"..that's not how we do business, that's not our model of care, we've been told well that's the way it is, and we these arguments in our discussions constantly because we say they're only a guideline...but a lot of people use them as if they are the bible, and it is going to lead to very poor design.."

At a very fundamental level, clinicians strongly objected to the failure of the 2002 Guidelines to specify air conditioning in consumer areas given windows were permanently sealed as a risk management measure. There was no possibility of air exchange, or temperature control, in consumer areas. Staff areas were air conditioned as per the 2002 Guidelines, but central planners refused to deviate from the 2002 Guideline. Consumers, who could be living for months at a time, twenty four hours a day, in the locked wards, had to endure extremes of temperature and ambient conditions over which they had no control. Key informants reported that after the unit was opened in 2008 a costly retrofit of air conditioning into consumer areas was needed but was only one following concerted agitation on their part.

5.3.2 Organisational Trust

The history of the development bred a very high level of distrust between clinicians and the Executive:

"..And the shame of it is that we now have to plot and plan in order to get what we want, which is...you know, by absorbing circulation space into our dining areas in order to get past [the executive] , who tell us no, the facility planning guidelines say this." (clinician)

Clinicians thought that they had been deliberately lied to about the whole procurement process:

"...we were absolutely amazed to discover in fact that \$54 million worth of redevelopment went into this site. So to us that was a really amazing thing.

Here we are cutting down on what was going in the facility, only to discover that in fact there was a fair margin really.” (clinician)

Clinicians were kept out of the process from the design development phase, especially during the construction phase:

“...it was a lock-out until handover...I think it is really lousy. If you do a renovation yourself you meet with the builder on a regular basis and you talk things through...” (clinician)

And:

“..the real issue was not being able to be involved in the process as the construction occurred and I think some minor tweaking could have occurred there....[for example] we’ve got two units where they sort of conjoin the staff station, one’s a high dependency unit and one’s just a general unit, and we work quite hard to try and get as good a flow with that, they dumped the door in the middle where we definitely didn’t want one, which opened in the wrong sort of angle ...it was obstructive to staff flow...we were not consulted about it and they changed it...” (clinician)

5.4 Change Management

The development and relocation of the hospital from the inner city site was part of state government resource transition strategy, and despite the requirement in the Department of Health’s POFP for a parallel change management strategy, those interviewed were not aware of any efforts to prepare staff for the new facility. Care providers at *Greenslopes* were well aware of the need for a coherent strategic planning process:

“One of the things they do in [other area] is that they had a very careful change management structured plan that anticipated 20 years down the road, which then allowed the mental health facilities to flow from the larger health strategy...the horizon for most strategic planning ...here is about five years...” (clinician)

On the contrary, staff reported immense dissatisfaction with centrally imposed changes in the model of care which they felt were contrary to their therapeutic goals. If anything, key informants were of the view that the facility was forcing changes in patient-centred practice to a less therapeutic one:

“..I think a lot of staff aren’t happy with it, but I think the current trend in fashion is one of less tolerance of people’s idiosyncrasies...”

A particular annoyance to clinicians was that although the rehabilitation cottages were planned to replicate the small group houses on the inner city site, the Department of Health prohibited residential units on a general hospital site so these key physical spaces for recovery and the re-learning of the skills of daily were added onto a rehabilitation ward and enclosed with a single building envelope. From a clinical perspective the result was very unsatisfactory:

“..a decision was made at the Department of Health level to change the rehab unit from cottage-style living to a 35 bed unit, and that’s probably caused the most dissatisfaction..... It has lasting effects on how service is delivered there.”(clinician)

It was the most disliked change to the model of care:

“It’s the 35 bed rehab ward. That’s probably the least homely. It probably should be the most. So it was designed to be a ward. 15 beds plus a number of cottages, 5 beds again at late notice. It changed to the one unit because they wish to get rid of any cottage type environments as part of the policy directive.” (planner)

5.5 Safety and Security

There was a general feeling amongst clinicians at all levels that the model of care practised at the old site was under threat from externally imposed risk management strategies. Care providers did not feel safe at the new location:

“No. One of the interesting things for me is that as a clinician 20 years ago, if somebody was in a unit, in one of the key units, and you could see that their behaviour was escalating, the idea of come on, out you go, come with me and we’ll go for a walk [in the parkland] and we’ll talk. There isn’t space of the same sense of parkland.....[here] you are walking along roads....staff don’t do it now the doors are closed. So there isn’t the same level of engagement.” (clinician)

For a start, the precinct became a fully locked facility after the move, even the rehabilitation ward became a locked ward:

“...mental health needs to think about what it is doing in electing to lock all units in order to manage risk of people absconding and perhaps either self-harming or harming others....I sometimes wonder though about time taken for better engagement versus locking the door in order to keep someone here.” (clinician)

This had not been the case in the facility's old inner-city precinct, where the local business community was acquainted with long term residents from the precinct who moved freely around the site:

"..they were tolerated in the local shops.." (clinician)

And there was a lot for space for both consumers and care providers to get away from each other:

"..going from what was open units and pretty much open public and consumer access to the outdoors, that's now locked and fenced around all the units...probably why this facility in its outside spaces feels like a bit of a ghost town sometimes.... a lot of the outdoor space was designed to be used so it was only very shortly before our move across here that it was decided all units would be fenced and locked...."

And:

"... [open space] they didn't feel like a safe area for them anyway....It's more of a loss for staff.."

At the new site, staff members had to open exit doors for voluntary consumers wishing to exercise their right to leave the unit and move freely around the site but they were not always available to do so:

"...[at the old site]...a higher level of patients were absent without leave than we do now....Whether we are delivering a better service to those contained patients is questionable at times, and I do think that mental health....." (clinician)

Clinicians were quite aware of the risk-therapy trade-off incurred by the locking of the wards:

"It's not particularly therapeutic, the instances of sort of major adverse outcomes from people leaving open units whilst not numerous, there were a few people who harmed themselves in significant ways and in some sense my view is that we've become more custodial, we've lost some of the therapeutic element, and straight off you know, have we saved more lives? I don't know, we've had fewer adverse events from people absconding, but we're still not a secure place, I mean people who are desperate to go can do it. We've had more probably adverse outcomes of people clambering over walls and coming down, you know, there's more ankle fractures, we've got a bit more of those adverse events."

The environmental design of the facility was considered to be responsible for an increase in the use of seclusion:

"it's a big debate anyway, about risk versus engagement.....I think our rates of seclusion in the intensive psychiatric care unit have gone up, and I think there is a design reason for that...where we put the seclusion room...It's off the main area in the intensive psychiatric care unit, and it's a suite and I just think that staff at night are leaving patients who are asleep in seclusion." (clinician)

A number of staff expressed their concern that the Health Facility Building Guideline (HFBG) did not allow for sufficient space in the shared areas and that these

upstream decisions increased the risk of violence and use of seclusion at the facility (NSW Department of Health 2002):

"...space is paramount. Certainly within our IPCU [intensive psychiatric care unit] here the dining room is way too small, and I think from a design perspective the risk of escalation or agitation by people around sort of food times is really important....it was the guidelines at the time" (clinician)

Clinicians at the facility remained committed to a recovery model of care, as practised at the original site, but felt the risk management constraints of being on a general hospital site most strongly:

"We're trying to avoid too much use of CCTV because unless you want to just record it for the purposes of having a record of what's gone on, CCTV for monitoring clinical situations, you've either got to have someone watching the CCTV, and that's pretty mind numbingly.....We use CCTV in certain areas where we've had a couple of incidents where there's been allegations made against staff and their conduct, which in fact, a couple of incidents where it's been psychologically and humanly impossible, a human animal couldn't do what had been alleged, however, just to protect staff."

The sexual safety of consumers was improved at the new site because there was duplication of some functions at the site and single sex wards could be introduced.

"One of the big things we did here, which has been an absolute god-send, was for our 2 HDUs we actually did a gender separation, and the sex separation has worked beautifully.....We were the first people to do it actually, and it came out of a lot of the user groups.....But there was also

fear that in an all-male HDU there might be an increase in the level of aggression. Instead our sexual assaults or even consensual sex with people who are psychotic has dropped, and it's been great. So from a model of care perspective it's been something that's worked well." (clinician)

Comments across the board were about the dangers inherent in technological approaches to technical safety:

"And the other thing is movement sensors, motion sensors. I think to some extent they are a fact of life in an acute inpatient setting, but I worry that they become a substitution for engagement." (clinician)

Engagement and the development of therapeutic trust were in the forefront of the minds of all clinicians interviewed:

"..I have great issue with...is fishbowl nurses stations and things, but we haven't got the idea of an external counter right...I hate the idea that patients have to come to a closed door and knock on it or be able to see people through a venetian.....they [could] just have a table that the staff often sit at.."

The clinical view overall about the enhanced security and surveillance at the unit was not favourable:

"..There would have been homicide in the past, suicides and things like that....But...I don't think they've actually reduced that as such by locking a lot of the units [across the state]."

And in regard to seclusion usage:

“..our seclusion rates are higher than they used to be....open units have lower occasions of seclusion and also either have the same or lower absconding. So it’s something that about locking the unit, I think it was more of meeting public demand rather than research..”

5.6 Built Model of Care

Despite the concerns of staff with the *process*, wherever it was possible, spaces applied evidence based design principles reflective of the *Environmental Determinants of Care*.

In the acute wards, staff strove for a recovery, collaborative oriented model of care. The principles were reflected in a number of the physical spaces. Nurse stations in the general acute wards were open. There were no barriers. Patients had ready access to domestic style telephones.

The seclusion room was located near the nurse station; it had light; no CCTV just a convex corner mirror; a clock could be seen from anywhere in the room. The facility used colour and structure to provide orientation. The disorientation caused by vanishing points at the end of corridors was overcome by breaking up the corridor at points and using primary colours to define the end wall.



Image 5.1: Corridors - Adult acute units

The ethos of care at the Hospital reflects the institution's history as an open facility embedded within an urban community. This was difficult to maintain now that the facility was situated in an isolated suburban area, and given government policy required all mental health units on a general hospital campus to be locked.

The clinicians were as involved as possible in the planning and attempted to ensure the building meet their needs, for instance, patient rooms were smaller than usual, so that more activity and quiet spaces could be introduced. Informants considered ample space in shared areas essential to reduce perceptions of crowding. Spaces for activities and engagement were considered more important than large bedrooms:

"...I think that if I could get an extra group room out of something or put a gymnasium in for the longer term patients, that's got more value for them than having their own loo.." (planner)

5.7 The Outcome: fitness-for-purpose

The new facility reflects a quantum improvement in accommodation from the ancient spaces at the inner city site and staff felt that led to the increase in demand for service:

“...the admission rate has gone up significantly and we’re a bit surprised, we’re wondering where all these people were....”

Occupancy was reportedly well over 85% at all times. Shared spaces were crowded. Staff were not happy about the locking of the ward and the imposed *phase of illness* model of care, remarking that:

“..I think whatever your model of care is shouldn’t be driven by the structure, if you’re designing a new facility you should try and think about the model of care.” (clinician)

Staff were nevertheless successful in having design elements introduced that were firmly grounded on the salutogenic and biophilic principles of healing architecture, conducive to a recovery-oriented model of care:

“..one of the things that we noticed when we moved.... was that the number of incidents in general units dropped significantly.....I’d go read nursing reports [at the old site] Fred and Joe had an argument in the lounge and... developed into fisticuffs and staff had to break it up and what it was about no one would ever know, and now you read reports saying two individuals one of them had an argument and one just went off to their room, that’s the norm here you have somewhere to go, you had your own room to go, so a lot of the events where the same sort of scenario would

end up in a fight now people just have a verbal spat...without staff even intervening....people feel I can withdraw somewhere safe, when you had a dormitory you didn't have anywhere that was your own. So I think single room accommodation has been quite helpful..” (clinician)

The balancing of the conflicting demands of technical safety and therapeutic safety seemed to have been achieved:

“..done a lot of work on making staff feel safe, and if staff feel safe it's actually very therapeutic for patients, because they know the staff aren't frightened and bunkered down and hiding away from them so it's more clinically approachable..” (clinician)

5.8 Walkthrough/Talkthrough Evaluation

Despite the acrimonious relationship between clinicians and the Executive the quality of new precinct was excellent and many of the internal spaces demonstrated an application of evidence based design principles and staff were actively about the wards. Even in the adult intensive care unit, staff were out and about actively engaging with consumers. This was not something I observed at the other sites. Consumers were friendly and engaged. They played basketball together – and voluntarily came up and introduced themselves during the walkthrough. The ambience was very positive and open.

5.8.1 Physical Environment

a. Architectural form

○ Arrival points:

There were clear arrival points to all buildings. An attractive water feature greeted people at the entrance. The site was however quite a distance from the Emergency Department.

- **Operational Spaces:**

There were fully furnished lounge areas and well equipped outside spaces. There were sufficient operational spaces especially as private bedrooms were two square metres less than recommended in the 2002 Guideline so that more activity and shared space was available. Still, however, the shared spaces, dining areas and lounges were undersized for the number of inpatients. Spatial and social crowding was high because the unit operated at nearly 100% occupancy.

In the acute ward

The adolescent acute unit had exceptional volume in the shared spaces. It had expansively high ceilings and a spacious eating area. Corridors were broken up through the use of primary colours and high ceilings.



Image 5.2: Adolescent Dining Room

- **Resilient Materials:**

The construction was sound.

- **Circulation space**

There was sufficient circulation space in most buildings, although in the acute area a portion of it was absorbed into activity space. The rehabilitation unit, however, which had originally been planned as cottages, were encased a small *ad hoc* building envelope and the corridor was half the width elsewhere. It was very tight and one could not pass.

- **Wayfinding**

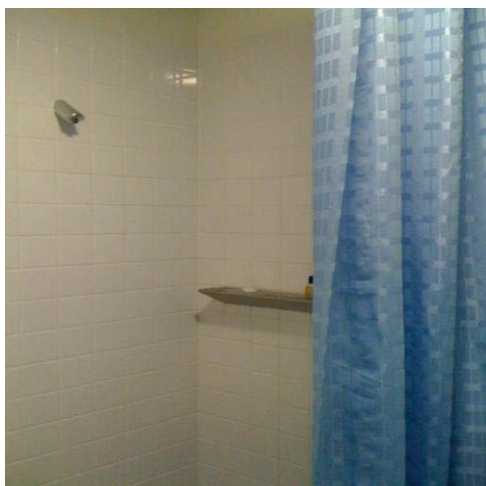
Wayfinding was exceptional on the site, and essential given the number of buildings. In the adult acute unit corridors were broken up using a coherent and attractive colour scheme.

b. Interior Design Elements

Most of the buildings were exceptional. Evidence based design principles were clearly in evidence in the acute adult units.

- **Domestic with welcoming arrival points**

The function of spaces was clearly identifiable. The use of colour, texture and spatial volume created a pleasing environment.



Fixtures and fittings were quite domestic and not intrusively designed to be ligature proof. Showers had shower heads, mirrors and shower curtains, although the curtain rails was non-weight bearing.

Image 5.3: Bathroom Interior

Staff stations had domestic telephones on the open counter, like a concierge desk at a hotel, and were not used for surveillance but as a barrier between back office functions (which could not be seen) and customer spaces. CCTV cameras were not ubiquitous; there wasn't even one in the seclusion room of the acute unit.

- **Varied texture**

A wide range of materials were used to create domestic like environments.

- **Privacy**

All bedrooms were single rooms and there were other spaces to which people could withdraw as well as the garden areas.



Image 5.4: Adult Acute Visitor Lounge

- **Varied Colour**

There was an excellent use of colour to break up spaces and add interest.

Colour was used to enliven the spaces. The interesting interior design gave viewpoints to consumers.

- **Access to Nature**

Courtyards within units had sporting equipment, such as basketball hoops, gardens, seating and barbeques. Consumers could move in and out of spaces and places. There was access to nature and very pleasant courtyards. There were larger shared outside spaces on the

campus, including an amphitheatre, but these were generally not used given government policy on locked units.



Image 5.5: Outdoor courtyard & hoop

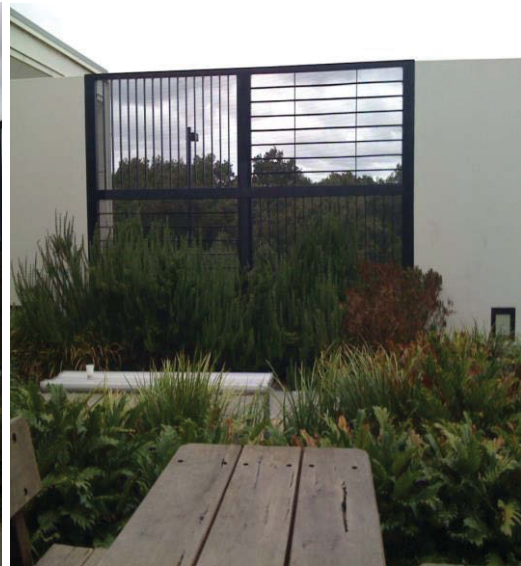


Image 5.6: Outdoor courtyard outlook

- **Art**

Colourful artistic works were throughout the units. Sometimes it was abstract art, which is not recommended for those with psychosis (Lankston et al. 2010).

- c. Ambient Features**

The ambient features - light, sound, odour, temperature and humidity - were acceptable, although that had not always been the case. Clinicians had to lobby for air conditioning in consumer areas. Except in the Rehabilitation Unit, spaces were light and bright with high ceilings.

5.8.2. Social Environments

- **Single Rooms**

All the bedrooms were single rooms

- **Activity Spaces**

There were multiple activity spaces and the design attempted to give consumers control over interactions, however, the acute adult wards were so overcrowded, with occupancy hovering around 100% every day, that social density was a problem.

In the acute dining room consumers were given some level of control by providing a cafeteria style service rather than plated food:

"We work hard now to maintain a cafeteria-style model of food delivery here, just to normalise it rather than pre-plated hospital things, and it was also around the fact that hospital servings are generally not big enough for big people who are ambulant and you're not confined to bed." (clinician)

Dining areas, however, were flashpoints for disputes at meal times. Staff were particularly concerned that the dining space in the adult intensive care unit was too small:

"..In somewhere like an intensive psychiatric unit that space is paramount. Certainly, within our PICU here the dining area is way too small, and I think that from a design perspective the risk of escalation or agitation by people around sort of food times is really important, and I think that we are designing our dining rooms way too small.....if there's time where people are going to agitate it will be when they're in a confined space being served food at the same time,hungry and wanting to eat, but agitated." (clinician)



Image 5.7: Basketball Hoop in Garden

- **Access to Distraction**

There were multiple activity spaces and activities available from basketball to piano. There were opportunities outside for physical exercise. Staff were actively out and about the unit and the spaces were conducive to patient engagement with their care provider.

DVDs were available in the shared lounge of the acute ward. There was socializing around barbeques as well as attractive lounges in which to socialize. There were music therapy spaces and quiet spaces for withdrawal and retreat. The swimming pool and amphitheatre were positive additions but as the wards were locked were underutilised.



Image 5.8: Consumer lounge and passive recreation area

The fitness-for-purpose of the open rehabilitation ward and “cottages” was questionable. The therapeutic intention for the building to support the relearning of the activities of daily living to enable reintegration into the community was compromised. It was the most institutional of all the buildings in the complex and held too many residents to facilitate preparation for stepping back into the community. Staff were unhappy with the prohibition on rehabilitation cottages on hospital sites, and attributed the decision to political frailty and fear of community backlash from the collocation of the facility in more suburban area.

The value of concentrating units on one site does is also questionable, and does not accord with the community based model of care. Smaller

units spread across multiple general facilities would seem to implement government policy more appropriately.

- **Maximum 18 beds**

Ward sizes were contrary to the recommendations of the Royal College of Psychiatrists and this was a problem given the occupancy rate was reportedly generally 100%. There was some spatial and social density reported in the shared spaces of the adult acute wards as not only was the facility large, and it usually operated at around 100%.

- **Maximum 85% occupancy**

It was reported as routinely around 100%.

5.8.3 Symbolic Environments

- **Respect, Empowerment, Openness, Refuge, Autonomy, Choice**

Despite staff dissatisfaction with the they had managed to ensure the physical environment clearly spoke the language of the collaborative, recovery model of care. And the staff clearly practised from that modality.

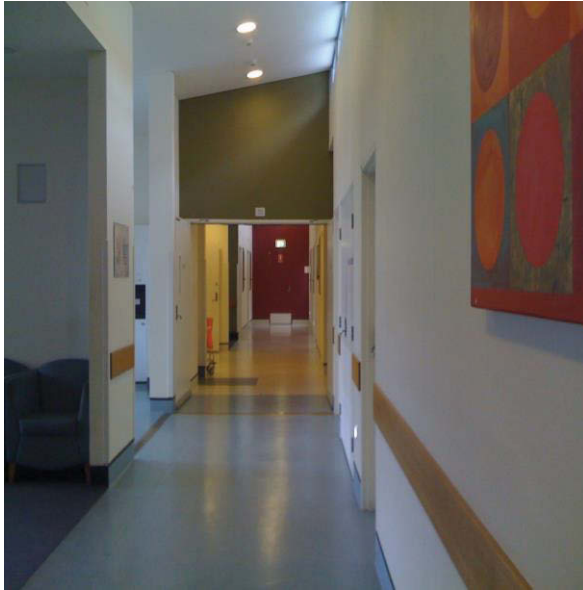


Image 5.9: Colourful corridor and art work

The architecture connoted trustworthiness, refuge, and recovery. The architectural symbolism was definitely not that of the “*total institution*”, despite being locked wards, but of a place where the individual could reclaim their sense of self and identity in a respectful environment.

- **Security & Freedom**

Security was discrete and it was through the building of trusting relationships that safety was achieved.

- **Privacy**

There were private, quite, and therapy spaces, as well as public shared areas.

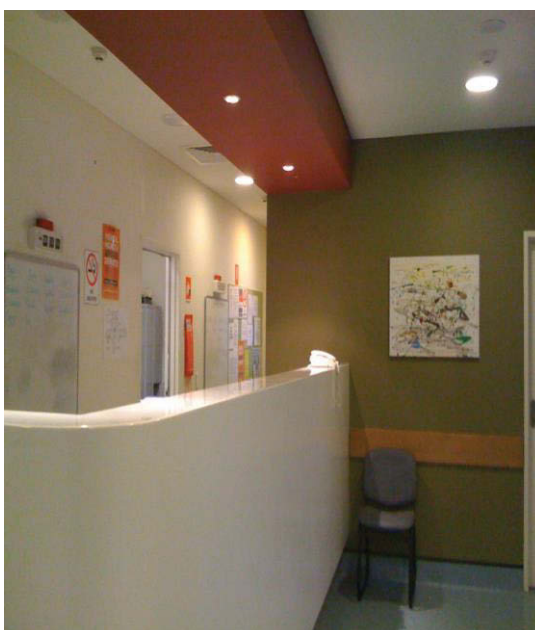


Image 5.10: Open nurse station with domestic phone

- **Homeliness**

One outstanding feature was the open nurse station, even in intensive care, and its freely available telephone. The stations were like hotel desks and invited interaction between the consumer and care provider. Staff stations did not dominate and were not used for passive surveillance.

- **Identity**

Consumers were quite interactive.

- **Community**

The new facility was not as permeable to the community as the unit had been at the old site. Demand for the services had increased in the surrounding community. The location at the end of a peninsular with poor public transport and few shops changed the nature of the institution. Its geographical community had grown around it at its old site; here it was the interloper and the general hospital made that fact felt.

- **Social Interaction**

The lounge area in the acute unit was particularly encouraging of interpersonal interaction, recovery and reintegration of the self. Not all the spaces in such a large campus achieved the homeliness but where it was done it was done well

5.9 Issues Emerging

1. Procurement decisions about the acute inpatient mental healthcare built environment had not been based on any particular model of care.
2. Despite the emphasis on the process of facility planning (POFP) the Executive ignored the process when convenient.

3. Clinicians were not involved in the development of new models of care and their expertise was ignored during procurement processes.
4. The effect of the environment on the delivery of care was not taken into consideration in procurement decisions.
5. Strong and committed clinical leadership was needed to advocate for consumers.
6. Upstream Executive decisions radically changed models of care.
7. Design which reconciled the concerns of *Risk Warriors* and *Trust Advocates* was possible.

CHAPTER 6 - THE FARM CASE STUDY

6.1 Background to the Setting

Case Study 'C', designated *The Farm*, is a state-wide tertiary facility completed in 2011 to replace an existing 85 year old facility on the same site. It is situated on 71 hectares of land in a rural area close to a regional city. The region's new general hospital was being collocated onto *The Farm* site at the same time as *The Farm* redevelopment.

In July 2006, Expressions of interest (EOI) were called, three years after the completion of the *Procurement Feasibility Plan*, but before the Clinical Services Plan (CSP) had been finalised, or the number of beds and model of care determined. The originating EOI acknowledged that the scope of work was not finalised and after the tender determined an 80 bed tertiary unit was added to the project; a very significant addition to an expensive project. The EOI states:

"The provision of tertiary mental health services at the [Hospital] site is currently being assessed. Subject to government approval, a new tertiary mental health may be included within the PPP project" (NSW Health Issue Reference No: DOH 06/23at p 11)

Issuing an EOI of uncertain scope marked a tender process that seems to have been precipitously begun without any review of the currency of the PDP. The Scope of Work was underspecified for a Level 5 tertiary service and significant revision in the PDP lead to a major contractual variation (Variation 8) that added significantly to the cost and reduced the estimated savings of the procurement PPP method to only a couple of million dollars.

Both facilities were constructed as a Design Development, Construct & Operate (DDCO) contract, under a Public-Private Partnership (PPP) financing arrangement, whereby a contracting consortium finances, designs, builds, maintains and partially operates the new facility. The contract with the preferred consortium, consisting of a financier, contractor, and facilities management group, was executed in December 2007.

During 2008 it became apparent that the facility programming was flawed and would be unable to deliver treatment at the requisite level of service. NSW Health conducted a planning review to ensure the facility could fulfil its delineated role. The Scope of Work needed to be significantly varied and extended, and contractual terms re-negotiated. The amended Deed became effective on 30th June 2010. The final cost was \$262 million for the acute service and \$34 million for the additional 80 bed tertiary mental health care facility.

6.2 General Description

The tertiary mental healthcare facility consists of two new buildings, housing a 145 bed acute unit and 80 tertiary mental health beds. The tertiary unit consists of:

- 20 forensic beds (including 5 designated forensic assessment beds)
- 8 intensive care beds
- 12 specialist beds for older persons
- 40 non-acute rehabilitation beds

10 acute child and adolescent beds were included in the collocated Level 5 general hospital and not at *The Farm* itself.

The new construction was completed in March 2011 and the entire project was completed in November 2011. I visited the site before the facility was fully commissioned.

6.2.1 Documentation Reviewed

The documentation made available included:

- NSW Health – Invitation for Expressions of Interest – [Area] and associated health services PPP Project – DOH 06/23 – July 2006
- NSW Health Infrastructure – [Area] and Associated Health Services Public Private Partnership. Updated Summary of Contracts as at 30 June 2010
- NSW Government. Department of Planning. *The Farm* Redevelopment ([Area]Base Hospital) Modification MP06_0111 Mod 1. September 2008
- Redevelopment of [Area], [*The Farm*] Health Service. Design Briefs – *The Farm* Health Campus
- [*The Farm*]: an introduction 5/7/73
- “The first patients at [the Hospital] lived in a tent town” *The [Town] Leader* Saturday Nov 28, 1987
- Pinnacle Healthcare. Hospital Redevelopment. Part 3A –Preferred Project Report. 11 August 2008
- Department of Planning. Modification of Major Project Approval. MP 06_0111 Mod 1

6.2.2 Description of Participants

Seven key informants with knowledge about the development were interviewed.

They had a variety of roles in the planning and procurement process and came from a cross section of professions and included the change managers on the site, project manager and central facility health planners. At least three of the informants had a nursing background. All provided insight into the operation of the POFP and design development and procurement at *The Farm*.

6.3 Planning & Design of *The Farm*

As noted above, while contractual relations had been entered into for the PPP in 2006, by 2008 it had become apparent that facility programming was flawed and would be unable to deliver treatment at the requisite level of service, particularly a comprehensive, integrated, and mainstreamed mental health service. After a government planning review the Scope of Work was varied and extended, and contractual terms re-negotiated.

Problematically, and despite the policies set down in the POFP, the revised Clinical Services Plan (CSP) was (reportedly) prepared over only a six week period without clinical or consumer consultation and the PDP was also a rushed and incomplete document. Clinicians reported that:

“...the room design sheets that they included in the original, in the PDP which again was changed later on, that’s where some of the issues happened, but they were very good. They actually reflected clinical operations so they were very clear about who needed to be with who, near where, why, who it involved and everything. It disappeared

completely.....You get a schedule of accommodation which is a spreadsheet. You can't tell anything from that.....reading a schedule of accommodation that says you have 20 units of 20 square metres and circulation of 35 metres means nothing...." (clinician)

Of some confusion was the allocation of “*forensic assessment beds*” to *The Farm*. The clinicians at *The Farm* did not know what the term meant:

“No-one I’ve found in the State yet who can tell me what they are for...”
(clinician)

The local area appointed a clinical change manager and a clinical project manager liaison officer and they gave extremely positive feedback about the process and outcome of the project. The success of the project was attributed to the excellent working relationship that had been established by them with the contractor from the very beginning; a relationship that arose because the contractor needed to avoid further bad publicity following a poorly implemented PPP process in a neighbouring town.

The managers stressed that they framed their needs as problems to be solved, working collaboratively with the contractor, rather than as demands for a pre-determined solution. They understood the DDC&O procurement methodology and the difficulty of conveying what they were trying to achieve to the contractor, without the mediating architect (who is removed from direct consultation with the users under a PPP financing contract) to translate functions into spaces. The managers secretly sought the advice of the original architects so that they could correctly articulate issues for the contractor. The managers wanted to make sure spaces would work as needed and that the contractor understood the therapeutic

use of the space. The relationship with the contractor was very smooth and that made the change management process much easier for the clinicians involved:

“..it goes back to the design and construct thing and that is that we would be saying: we need to make sure people can’t get out. You’re the builders. You’re the architect. You design it so that they can’t.....in many ways, the way they built the building was overkill....But they also know the building is going to be fine. [The facilities management firm] won’t be suing them as part of their little partnership.” (project manager)

6.3.1 Clinical Leadership

In this development there was strong clinical leadership that was listened to by the contractor. Clinical leadership was not absent. The Director of the service had placed a great deal of importance on active stakeholder management throughout the project and had allocated a budget for two full time project staff from the beginning of the project. Both were clinicians.

6.3.2 Organisational Trust

Internal organisational trust was demonstrably strong. As a process the facility did very well building trust with the staff and the local community. Staff were encouraged to tour the emerging facility at scheduled times over the length of the project. They were also given access to the building over a three week period prior to commissioning to make comments, an engagement strategy quite contrary to contractual obligations of the PPP:

“.....I needed to get people to understand the physical environment we were talking about building from the plans so that they could make

strategic decisions about how it works....So I took a tape measure down to the courtyard they were in and actually mapped out what ten metres is and they were terrified. Well, we can't operate with that. Well, that's what's been on the plans, and they had no idea..." (clinician)

A professional marketing strategy was developed to engage with the community and the local community was able to tour the facility. The local community was also able to tour the facility: two hour tours, three times a fortnight. Feedback was actively sought.

6.4 Change Management

Senior management were committed to a coherent and effective change management strategy, which was implemented from the inception of the project. Although it was a PPP procurement methodology the project succeeded because of the integrated change management strategy and engagement with staff and the community. One key informant made the following observations:

"..we needed to do some big picture things. One of those was around the change management process for our guys and probably the key part of the change management was actually bringing clinical groups from old environments which weren't....functional in a way, to a new environment where we could actually change some of the culture around how we worked.....and actually got the whole campus thinking about: well, I mightn't be moving but here's the opportunity to think about what I can change." (clinician)

Despite the rhetoric, clinicians at the facility were not planning to change the model of care significantly, but to prepare staff for far newer premises and better quality material environments. Their focus was not on a recovery model of care but the *Risk Warriors* concern for safety and security, for instance, usability testing in the mock-up rooms provided by the contractor involved testing the strength of ligature points and the solidity of walls:

“...the way they’d mounted the anti-ligature correction taps on the hand basins weren’t anti-ligature....me and one of the builders taking our belts off and literally trying to hang our weight off it...We’ve got a couple of funny photos of one of our nurses with a sledge hammer putting holes in the walls.” (clinician)

6.5 Safety and Security

Policies and procedures in the new facility were comprehensively explored through this process and well documented by the project managers during the Commissioning Process. The balancing of recovery planning and forensic security was complicated by the death of an experienced 63 year old nurse at the hands of a voluntary patient assessed at low risk and admitted to one of the low risk cottages. The male nurse had intervened in an altercation between a young and inexperienced female nurse and the male consumer.

6.6 Built Model of Care

The Farm was a large enterprise with a number of different models of care depending upon the profile of the ward. It had been a mental healthcare institution

for over 85 years and had a long history of practices and expectations. Its role as a tertiary referral centre meant it housed long term consumers undergoing intensive rehabilitation, as well as older persons who were to be effectively 'in care'. And it was now allocated forensic beds.

Although the change management strategy tried to encourage openness and transparency with staff and the outside community, a recovery model of care was not evident in the design of the facility. And security, safety and resilience were the language of the key informants. The priority of staff was their personal safety, particularly given the recent critical incident. The organisation and its staff were hesitant to embrace a less custodial model of care. Effectively, the Hospital was continuing its traditional role as a long term residential facility with a state-wide catchment. The rushed and inchoate planning process ensured that the influence of progressive models of care had little influence over the design and procurement process. Upstream executive decisions ignored the *Process of Facility Planning* and rushed forward to procurement.

Nevertheless, some changes were being implemented and incorporated into the new buildings. Operational procedures were being revised to encourage staff to be out and about in the units with consumers and not isolated in a nurse station. Two of the acute wards and the older persons units were trying to implement less custodial practices. Nurse stations had high counters but they were open, unlike all the other units on the site which were enclosed with strengthened glass.

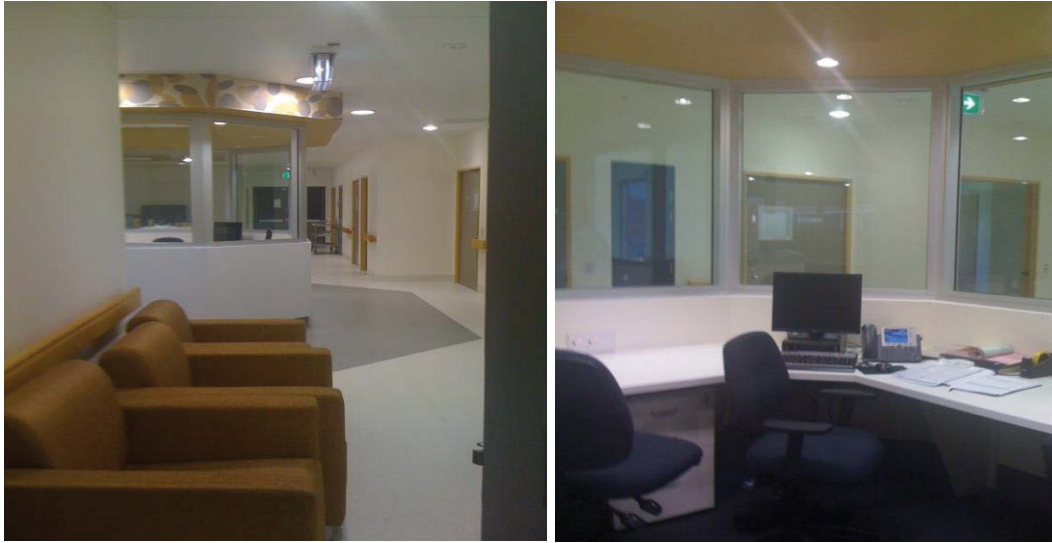


Image 6.1: Nurse Station Forensic Ward. Image 6.2: Nurse station Forensic Ward.

In the forensic unit the nurse 'gold fish bowl' was fully enclosed with strengthened glass, but as it was located in the centre of the unit, and whilst access and egress might be potentially dangerous, it required staff to travel through the unit to reach it. In that ward it was the staff who would feel under surveillance. The intention was that the discomfort would force staff out into the ward, interacting with consumers.

6.7 The Outcome: fitness-for-purpose

The new facility represented a quantum improvement in the quality of accommodation for consumers who were coming from nineteenth century dormitory accommodation to spacious private rooms, giving greater privacy and cleaner, brighter spaces. The quality of the finishes was excellent. Seclusion rooms were installed but the hospital reported very low seclusion rates (second lowest in the state) and maintained a very rigorous protocol of five minute interval observations, however, in the two fully commissioned wards the use of seclusion had declined dramatically.



It was reported that one patient, who had been in seclusion 36 times prior to moving to the new purpose built space, had not been secluded once since moving to his own private room in the new space. Although there was no change in seclusion protocols, there was an observed change in the way staff were able to interact with the patients and the environment.

Image 6.3: New consumer bedroom.

Whether any of the spaces will be effective in encouraging a recovery model of care in the long term is uncertain. The change management process certainly had a significant impact on that possibility as staff, consumers and the community were all involved with the new development, and there has been a lot of time spent trying to make sure the spaces worked and the building fabric was resilient. The process, at the very least, had built a commitment to the new facility and new ways of doing things, while bringing down significant barriers to change.

6.8 Walkthrough/Talkthrough Evaluation

When I visited the site, commissioning of the facility had not been completed and given the recent incident there was a reluctance to allow me to visit the new wards that were in use. I could only observe the psychogeriatric ward in use. I was not permitted to visit the original buildings, where consumers were still living, or the

populated high acuity areas. In this evaluation I can only remark upon the building quality, technical aspects of functionality and the world view of key informants.

The design of the campus did not seem to embrace recovery-oriented principles, especially in terms of colour, orientation and way finding. Spaces were coherent but all units, apart from the Child & Adolescent Mental Healthcare Unit (CAMHU) in the new general hospital, were uninspiring and extremely institutional. Although the facility was built to a high standard, there was little accommodation of salutogenic principles in the design.

6.8.1 Physical Environment

a. Architectural Features

- **Arrival points:**

The arrival points to each of the buildings in the precinct were very clear and connected by clear pathways. Each building was clearly identified by large size numbers, below which were names in much smaller letters, giving a very institutional feeling to the place. The arrival area in each ward had a spacious reception area but all were very bland.

The garage bay for police presentations was in the general hospital and disturbed consumers then needed to be transferred across the open pathways to the acute mental healthcare unit before they could be calmed. It was far from private and would not be orderly. It was also not ideal traversing the site in an area with extremes of temperature and climate. There was no seclusion room in the bay.



There were gun safes for police weapons in the garage bay but it was unclear where a disturbed person would be stabilized prior to transfer to the acute units.

Image 6.4: Garage admission with gun safes.

- **Operational spaces**

The layout and spaces met the requirements for practice. All required rooms were provided. From a clinician's perspective the spaces were very functional.

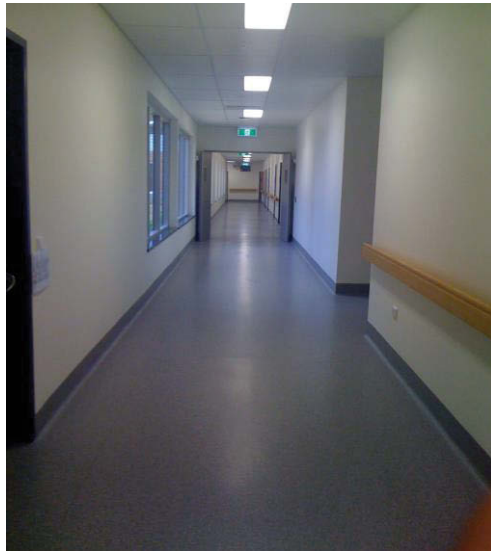
- **Resilient materials**

The construction was of superior quality.

- **Circulation space**

The circulation allowance seemed very generous and as long as the occupancy rate was kept at 85% consumers would be unlikely to experience a sense of social density.

- **Wayfinding**



Wayfinding was simple, as there were few separate spaces in the units, however long corridors in a monochrome of white were disorientating and nothing was done with roof spaces to amplify the space.

Image 6.5: Staff Corridor

b. Interior Design Elements

- **Domestic with welcoming arrival points**

The interior design elements did not evoke domesticity. There was a strict attention to the control of ligature points and other physical hazards.

- **Access to Nature**



Outside spaces were clearly demarcated by high metal fences, although new trees had been planted in the acute and rehabilitation areas, and would grow to obscure those fences.

Image 6.6: General Courtyard

The Farm was located in a rural area and had been noted for its gardens and open grounds. The grounds were extensive but these new units were all fenced.



Image 6.7: Garden Courtyard



Image 6.8: Secure Courtyard



Image 6.9: Consumer Garden

Consumers had made early attempts at planting gardens in the new, enclosed courtyard areas.

- **Varied colour**

All interiors of all units were monochrome, although the Forensic Unit had some leopard skin colours splashed across the staff station. Colour was not otherwise used to make the spaces interesting at the *Farm*. The ten bed Child & Adolescent Mental Health Unit (CAMHU) in the new

General Hospital, however, was innovative in its interior design and used bright colours and light to enliven the space.

- **Art**

There was no art work in the main precinct, and given the works were procured under a PPP financing arrangement it would most likely stay that way over the projected period of the operating contract, depends upon the terms of the contract.



The CAMHU, however, contained many decorative elements.

Image 6.10: CAMHU Decorative wall element

- **Varied texture**

Uninspiring textures except in the CAMHU

- **Privacy**

All bedrooms were single rooms which was a vast improvement on the old nineteenth century dormitories.

c. Ambient Features

The ambient features – light, sound, odour, temperature and humidity - seemed to be acceptable, although forensic patients were housed entirely in internal spaces. The units mostly depended upon air

conditioning, and despite the 2002 HFBG not allowing the air conditioning of consumer spaces, the project management team had managed to have those services funded in all units.

6.8.2 Social Environments

This was difficult to evaluate as the only occupied space open for evaluation was one of the acute units but the older persons unit was temporarily accommodated in it. The units were not designed in an innovative manner and it was hard to see how consumers would be able to control their active engagement with others. Still, as noted previously the vast change in quality of the building fabric, could be expected (according to the literature) to change consumer behaviours in a positive direction.

- **Single rooms**

All the bedrooms were single rooms.

- **Activity spaces**

The units were very basic and built according to the AHBG.

- **Access to distraction**

Unclear as no residents.

- **Maximum 18 beds**

This was not done, in general, and spatial volumes were also kept to a basic standard.

6.8.3 Symbolic Environments

- **Respect, Empowerment, Openness, Refuge, Autonomy, Choice**

The physical environment clearly spoke the language of institutions and not a collaborative, recovery model of care. The facility was very secure

and prison-like and with the collocation of the general hospital was now more secure, and less integrated with its environs, than previously. Nevertheless, although new environments signalled institutional care, it was an improvement over the former nineteenth century buildings and their drab dormitories. To consumers the spaces may well have connoted enhanced respect, trust, trustworthiness, refuge, and recovery. The staff were certainly excited and expressed more satisfaction with the environment and their organization.

- **Security & Freedom**

It was a locked and secure facility with a forensic unit.

And as the CAMHU was located on the first floor of the new building, the only outdoor space was a very small and “caged” courtyard, which created a jail like ambience. Caging the outside verandah was a *Risk Warrior* response to the unit’s first floor location.



Image 6.11: CAMHU 1st Floor courtyard 1 Image 6.12: CAMHU 1st Floor courtyard 2

- **Privacy**

Consumers had their own rooms. There were no other dedicated quiet rooms for retreat.

- **Social interaction**

There were lounge and activity spaces but they were not homely or otherwise of good interior design.

- **Homeliness**

The numbering of wards was an institutional response to the naming of places. There was nothing in the facility to denote domesticity and even the colourful CAMHU, remote from the adult services in the new general hospital, was only colourful at the entrance and in the lounge, otherwise the unit was extremely institutional and had handwashing stations every few metres.

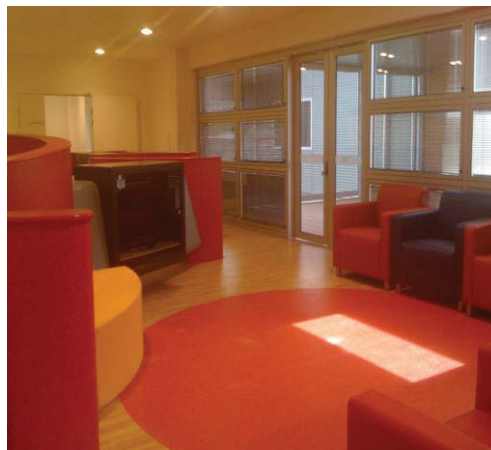


Image 6.13: CAMHU lounge



Image 6.14: CAMHU corridor

- **Identity**

The symbolism was definitely that of the “*total institution*” and not of a place where the individual could reclaim their sense of self and identity in a respectful environment.

- **Community**

The facility had been in its current location for 85 years and it was a part of the local community. Change management strategies aimed to keep it that way but a seamless integration with community mental healthcare services was not apparent. The implications of having the new general hospital collocated on *The Farm* site were not clear but the units were now individually fenced and locked under NSW government policy.

6.9 Issues Emerging

A number of issues emerged from the data. The issues were:

1. The recovery model of care set down in the Clinical Services Plan did not underpin the design of the facility. The model of care was compromised by the size of the facility and the diversity of the consumer population.
2. Risk management priorities overwhelmed intentions for a trust based recovery model of care and drove facility design.
3. Executive decisions upstream did not involve local clinicians.
4. To ensure changes in clinical practice to recovery-oriented clinical thinking the change management strategy had to be implemented in parallel with de-escalation training procedures.

CHAPTER 7 - HAPPY SHORES

“Thing about [Happy Shores]...it is difficult to talk about the positives.”

(Focus Group #2)

“They think: ‘Oh My God! My life has come to this!’”

(clinician)

7.0 Introduction

This chapter is organised differently to the preceding three case study chapters (4, 5 and 6) because at this case study site AUD \$63,000 worth of refurbishment works, informed by the *Environmental Determinants of Care*, were made to the Unit and the effect of those environmental changes could be evaluated. The chapter starts as usual with background information to the site, the documents reviewed and a description of the study participants. A new section (Section 7.3) is then inserted to describe the issues and problems in the material/built environment at this ten year old facility. The usual structure is then returned to with sections on the original planning and design of the facility, change management, safety and security, model of care, fitness for purpose, and the walkthrough/talkthrough evaluation. The alterations are then described in section 7.10 and evaluated in 7.11. Section 7.12 concludes the chapter with an outline of the issues emerging from the data

7.1 Background to the Setting

Case Study 'D', designated *Happy Shores* was a 50 bed public acute inpatient mental healthcare unit situated within a densely populated and affluent suburb of the state capital. It serviced a diverse community of approximately 280,000 people, including a substantial Australian indigenous community, in a catchment area of around 5.8 hectares.

Happy Shores was notable for its seclusion practices whereby consumers were repeatedly secluded and for extended periods of time. Practices were intractable to best practice clinical training in interpersonal aggression management techniques. Both the number of patients secluded more than once during an admission and the

length of time people were secluded (over four hours), were greater than comparable hospitals, counter to government policy, and contrary to international obligations in relation to the care of the mentally ill. In May 2012, one consumer was placed in seclusion on seven occasions and for periods of time in excess of four hours.

The Unit was procured under a Construct Only (CO) contract, also known as a Documented Design contract, which meant that the building contractor took over responsibility once detailed design documentation had been completed. Functional planning was completed in 1994 but the Executive decided that the initial Project Feasibility Plan (PFP) was too expensive. Available funds were split between *Happy Shores* and another facility within the same service area about 15 Kilometres distant, designated *Inland Oasis*. This decision of the Executive came after clinicians had already signed off on the schematic design for the works, which had been the output of user group meetings with specialist healthcare architects:

"...what was signed off on was not the building that was affordable at the time." (clinician)

Without clinician involvement in the ensuing redesign of the Unit, the model of care was forgotten. It was not clear who had been involved in the redesign and who had made the decisions. The key informants did not know and the documentary and artefactual data made available to me did not shed any light on this question.

Clinicians complained that the final building was dysfunctional and not fit-for-purpose, a complaint corroborated by a rigorous post-occupancy evaluation conducted in 2003, only two years after the facility was fully commissioned (Colleen

Wilson Health Strategies 2003). Staff who had been involved in the early planning of the facility reported their shock on touring the building when it opened in 2000.

“Absolutely heart breaking. For the staff.” (clinician)

They were aware that the drawings signed off by them after an extensive consultation process had been discarded and extensive changes made to the design and size of the building:

“I just remember the despair we felt when we first walked into this building on the first day – “Oh My God, look at it. It’s awful.” It’s all this hard green lino. It was just hideous in terms of colour.... Everything was green, luminous green. Then there was pink, that sickening ward pink, pale pink.....the Mental Health Director, went for walk around about six months after it opened and ...went – ‘Oh my God; it looks like 1950’s bedlam’.” (clinician)

The building was half the size clinicians had expected from their involvement in the initial user groups, and without any of the therapy spaces originally planned. Staff complained about the unappealing environment, poor building quality and reverberant noise, lack of space and amenity, and the dysfunctional layout of the new building. It was not what had been expected:

“My memory of those [user groups] was great - getting a new Unit - how exciting - what do we all want?.....but when the tender got put out there, ... they dropped a million dollars off it, everything that the staff had been involved in - what had been such a lovely idea in this beautiful new Unit - they were the first things that fell off. So none of those things that the

staff had wanted to happen - facilities and things like that, lecture theatre dadadah, everything. It came back to very bare bones and to the shrinking of the size of the rooms.....Same number of patients. Every room was a bedroom.” (clinician)

To some extent, the key Informants blamed the then Australian Health Facility Building Guidelines (HFBG):

“..the guidelines don’t address whether a building is attractive, beautiful, and whether the spaces really work.” (clinician)

The lowest price contractor was appointed in March 1999 and the facility was commissioned in April 2000 and fully operational from February 2001.

7.2 General Description

Happy Shores was commissioned as a 50 bed standalone unit collocated on a greenfield site on the *Happy Shores* general hospital campus. The building was adjacent to a commemorative grave site.

“Yeah the issue about the graves - it is not that easy for people - a big issue..... It was hard for the aboriginal community. They found it very difficult to want to come to here knowing that it was on a grave site. When they relocated all the graves . It is quite disturbing to people.”
(clinician)

The Unit consisted of a 20 bed adult Acute Ward, managed as an 8 bed High Dependency section and 12 bed Observation section, and a 30 bed General Ward. The free standing Unit was connected via a corridor around central courtyards. In

the General Ward two internal lifts went to a basement, which had originally been intended to house therapy spaces but which was only used as a loading dock and storage area because the redesign had made the area unsafe. The Acute Ward had two small, separate outdoor courtyards while the General Ward had a larger garden courtyard. Both wards were locked units as per State Health Department policy.

A large outpatient reception area was located at the front of the building, and looked like the main entrance, but a difficult layout meant it had never been used as the entrance to either the observation or general ward. Professional offices were immediately above the reception area. The outpatient reception area was the most attractive space in the building.

7.2.1 Documentation Reviewed

As well as state-wide policy document such as the *Process of Facility Planning* (POFP) a number of site-specific corporate documents were made available to me:

- Post Occupancy Evaluation Report 2003
- Operational Review Issues (19 November 2003)
- Summary of Factors Contributing to lack of therapeutic environment (4 June 2008)
- Capital Works - Staff List (30 July 2008)
- Renovation Inception Report (15 May 2012)
- Report of Potential Work for Alterations (15 June 2012)
- Mental Health Activity Data - Jan 2013 to June 2013
- Information Incident Management System - Clinical Incidents - Jan 2012 to Dec 2013

- Seclusion Reports Jan 2012 to Dec 2013
- Official NSW Health Seclusion rates 2011 and 2012

7.2.2 Description of Participants

Nine key informants at the hospital were interviewed, including the Director of the Service, Chief Psychiatrist, Clinical Nurse Consultants, Nursing Unit Managers and allied health personnel. Fifteen front line clinical staff including nursing and allied health staff participated in focus groups and the safety climate survey. Five of the staff had worked at the Unit since its opening in 2000.

Recruitment to the research project was difficult, despite frequent meetings of the Steering Committee and Inpatient Service Managers. Initially, staff were very enthusiastic about the project but hospital risk management protocols and site induction processes delayed the start of the refurbishment by six months, by which time the new Mental Healthcare intensive Care Unit (MHICU), commissioned on the same hospital campus, had been opened and the nurse champions had either moved to the MHICU or left entirely.

Research information sheets and posters were left with managers at the unit but it took a number of reminder calls and visits by me before they were distributed to staff. Posters were not displayed prominently at nursing stations and despite that they clearly targeted only at staff, one poster was displayed in a consumer lounge. It was not until a new Clinical Nurse Educator was appointed in late 2012 that opportunities to conduct the Essen CES survey and collect focus group data became possible. That educator, however, was transferred soon to the community team before much progress had been made.

The difficulty in recruitment caused the proposed photo-elicitation part of the study to be discontinued. The tool was piloted on four colleagues who did not have a mental healthcare background but in the absence of participant volunteers no data were collected.

7.3 The problems at *Happy Shores*

From the outset *Happy Shores* was deficient in terms of social density (overcrowded), lack of noise control, acoustic privacy, privacy, aesthetics, access to nature and functionality.

Staff attributed the intractable usage of seclusion to the stressful conditions, particularly the cramped and unfit admissions point, the overcrowding with too many consumers in too small a building, the lack of therapeutic spaces, lack of opportunities for privacy and quiet, excessive reverberant noise and echoing throughout the building.

Bed occupancy in the General Ward was well over 100% between January 2011 and December 2012. Day only admissions make it possible to have over 100% occupancy as two people can occupy the same bed in a twenty-four hour census period. The recommended occupancy for acute inpatient mental healthcare units is no more than 85%.

The Post Occupancy Evaluation (POE) conducted in 2003 corroborated the concerns of clinicians and recommended a complete service and design review to remedy the problems. The POE specifically criticised the assumption of control over the

planning process by the Executive and its failure to justify the changes made to the service model and design (Colleen Wilson Health Strategies 2003).

(a) Functionality

In the view of the care staff the entire Unit was dysfunctional and the problems had been enumerated to management on a number of occasions, particularly after confirmation by the independent 2003 POE. In November 2003, clinical staff prepared a report entitled *Operational Review Issues*, which seems not have been acted upon, and in June 2008 a further report entitled *Summary of Factors Contributing to a Lack of Therapeutic Environment* shared the same fate.

- ***No admissions area - only an admissions point***

The point of admission to the Acute Ward was not fit for purpose because there were no dedicated spaces in which patients could be assessed at the time of admission. The admitting area was a cramped corridor entered directly from a driveway that ran along the side of the Unit, between the Unit and the commemorative burial site. Consumers, visitors and suppliers entered the ward -

“...through a nasty pokey little door which is really not safe...” (clinician)

There was no internal garage and people brought in by police or ambulance could be seen from the street. There was no gun safe for police weapons to be safely stored so the police entered the unit armed. There were no toilets, no waiting area and no secure outdoor area. Aggressively reluctant consumers had to be dragged through a single width glass door from the driveway. A plan of the facility is provided at Figure 7.1 below.

“What there was supposed to be was a garage so patients were supposed to be driven in in the ambulance or police truck, privately, and then released from it into the inside of the Unit. They only built the thing half size with the reduction of everything, and the trucks couldn’t get into the garage so we had to - we reclaimed the garage and turned it into an interview room, because we only had one other interview room, which was a dark airless, windowless, room next door to it.” (clinician)



Images 7.1: The Driveway

7.2: Main Entrance

All acute admissions were admitted through the Acute Ward, even if the consumer attended the Emergency Department (ED), or were in need of psychiatric intensive care. The building was located 500 metres from the ED, adjacent to the main entrance to the general hospital. There was no covered walkway between the two units. Admissions to the Acute Ward from the ED, the police and the ambulance, shared the same entrance as the general public seeking admission or visiting the Acute Ward:

“But the ward, the Acute Ward was also the area for the receiving police. So people would come in, banging and kicking and screaming in a paddy wagon.... taken straight onto the ward if they were aggressive into the seclusion room for some safety and treated so nowhere they could lay down or actually be given a proper assessment or being given treatment or settled down or discussed what the world is about or at leisure. Nowhere - we had to put a sofa out in the corridor for somewhere for the families to sit while you tried to assess the patient.” (clinician)

The cramped admissions point was frequently the site of aggression and violence with consumers frequently restrained and bundled into the seclusion room located immediately adjacent to the corridor, just inside the double doors to the Acute Ward from the vestibule:

“I am down there a lot. Helping out. We have restrained many a person in that corridor. Down there.” (clinician)

In a focus group, one staff member gave this graphic description of the chaos at the admissions point which engendered fear and terror amongst consumers and their families:

“A guy was admitted and he ended up in a pretty horrible, resisted restraint, just in the corridor out there and eventually just as we started to take him into seclusion, another admission arrived from PECC who was a 17 year old boy who looked absolutely terrified, and with him was his mum, who looked equally as terrified. And they were told to go wait

outside [in the driveway] – “stop looking, stop looking through the glass - go around the corner!” And we took this guy into seclusion and then them in with the banging and the swearing coming from the seclusion room. They were absolutely terrified.” [Focus Group #2]

One clinician recalled feelings of shame in regard to the admissions point:

“There was a, last week two or three admissions turned up at once, one of them potentially extremely violent and he was locked in the area in the corridor down there along the entrance. So I was bringing people through to do an in-service [nursing in-service had to be held in the Magistrate’s Room off the entrance corridor to the acute ward as there were no staff spaces] and we had to walk past this potentially violent gentleman as he shouted at us. And for a guest speaker to be coming in from outside, it was just embarrassing really. “Welcome to, this is [Happy Shores]”...just because we don't have rooms to put people that are safe to be in while they're waiting to be assessed.” (clinician)

After assessment consumers would stay in the Acute Ward for observation and stabilisation before being transferred to the General Ward, if indicated. In May 2013, a new purpose built Mental Health Intensive Care Unit (MHICU) was opened and seriously disturbed consumers could be transferred to the MHICU after assessment in the acute ward (although not always):

“The MHICU is a tertiary facility so [the consumers] have to first come to [the Unit]. They are first here. So those who need intensive care are

transferred out. It [opening of the MHICU] makes no difference to [the Unit] in terms of presentations in real terms.” (clinician)

After the MHICU opened the profile of consumers staying at *Happy Shores* was expected to change but as admissions still went through the unit for initial assessment, seriously ill people were still in the Unit. After twenty four hours those determined to be in need of intensive care could be, but were not always, transferred to the new MHICU. Staff expressed frustration about the tiered admission process to the MHICU:

“...once that minimum of 24 hours for a referral to be acted by the MHICU, presuming it happens, then we order an ambulance and the patient comes into the ambulance and goes 50 or 60 metres to the MHICU – admitted via ambulance. ” (clinician)

- ***General layout and lack of space***

The layout and large number of inpatients made observation and monitoring of patients extremely difficult, especially in the overcrowded General Ward:

“...and a lot of your time is spent running around looking for people and it is not safe in such a large ward. The black spots!...” (clinician)

The excision of assessment, consultation and therapy spaces from the building during the replanning made it difficult for staff to deliver therapeutic care, and environmental conditions were also physiologically stressful:

“And on the General Ward, 30 beds, one real interview space, that little glass room. It’s a furnace! Yeah the balconies - you can never open the

door because it is a suicide spot. So 30 beds; one little glass room, a room that doubles as their music room, doubles as their time out room. To interview a patient, to do a ward round, you often have got more than one person - nurse, registrar, anybody else forget about it; in that little tiny glass room. If you have 30 patients you have doctors and nurses competing for that space or OTs trying to do an assessment or whatever. So mostly you are in their rooms or the garden” (clinician)

Assessments were done in patient bedrooms or public areas where conversations could be overheard. Privacy was further compromised with modifications made to deal with the absence of air conditioning in a poorly ventilated building.

“And having to raise the level of the doors - because there was no air conditioning in the original - air conditioning was one of the other things cut out. ...I remember we had a social worker who used to keep a thermometer in his room to get the temperature. The rule was that if it goes over 33 degrees in his office - you know - people should be going home because of the OHS. It was forever 35, 36. It was hell.” (clinician)

Consumers regularly admitted to the General Ward had expressed concern to staff about the lack of meaningful activities:

“Very boring. That is their main complaint. And I do understand the rationale for low stimulus but when there are depressed people who need stimulus. And because the ward is large we don’t section people off according to diagnosis” (clinician)

(b) Overcrowding

The 2003 POE estimated population density at *Happy Shores* at 56 m² per person, but this calculation included non-inpatient areas such as the Outpatient Reception, Admissions Point, Magistrate's Room, and the first floor staff offices (out of bounds to inpatients). Nevertheless, it was still far below the 85 m² per person provided at *Inland Oasis*, constructed at the same time as *Happy Shores* (and seemingly to a much higher standard), using funds removed from the *Happy Shores* project.

Architectural drawings (ArchiCad) completed in 2012 estimated total gross floor area of the 50 bed *Happy Shores* at approximately 2,500 square metres. If however, outpatient spaces are excluded, the inpatient area at the 50 bed *Happy Shores* is the same as at its 28 bed contemporaneous sister facility *Inland Oasis*. In the same amount of space, *Happy Shores* would have had to accommodate, treat and care for 22 more consumers than *Inland Oasis* and. Removing the first floor office space from the calculation, however, makes the situation even worse. It turns the 2003 POE estimated area per bed into 48 m²per bed at *Happy Shores* compared to 62 m²per bed at *Inland Oasis*.

Disturbingly, the courtyard area in the Observation Unit at *Inland Oasis* is almost 60 square metres greater than at *Happy Shores*. Bedrooms at both facilities were the same size at 9 m², which was smaller than the quite inadequate 1992 HFBG and significantly below the 2002/2012 guideline of 14 m² for a standard bedroom and 15m² for a seclusion room.

Data in Table 7.1 below is extracted from the 2003 POE and compares the spatial densities at the two facilities with the 2002 HFBG, which were the guidelines

available at that time. (There is a disparity between the ‘rule of thumb’ estimates made in the 2003 POE and the measures I caused to be entered into ArchiCad in 2012).

	HFBG (2002)	HFBG (1992)	Happy Shores	Inland Oasis
Parameter	20 beds	20 beds	50 beds	28 beds
TOTAL FLOOR AREA (2003 POE)	1220	835	2787	2374
<i>TOTAL FLOOR AREA (2013 ArchiCad)</i>			2499	
m²/BED (overall)	61	42	56	85
<i>ArchiCad m²/Bed</i>			50	
m²/BED (deleting office spaces)	56	39	48	62
<i>ArchiCad m²/Bed</i>			37	

Table 7.1: Comparative Floors Areas at *Happy Shores* - adapted from Colleen Wilson Health Strategies (2003) Part A, p12.

The Acute Ward dining room at *Happy Shores* is only 25.8 m², equivalent to 1.29m² per inpatient. The 2012 HFBG required 10m² per person in lounge/dining/activity rooms of high dependency units.

At an area of 76.5m² the General Ward dining area allows only 2.5m² per person at peak usage times (assuming only 100% occupancy but utilisation statistics show occupancy rates of up to 200% on the official bed count, attributed to both the numbers of short stay and the use of unauthorised beds to meet demand). This area is vastly below the accepted norm of 7.5m² per person for General Wards.

The 2003 POE estimate of the area of the General Ward dining was even less, with only 1m² per person or 3m² per person if the adjacent multifunctional activity area was included in the calculation. Given such spatial and social density the high level

of tension and aggression in the Unit, particularly around meal times, was predictable.



These levels of social density are well known to be unsafe and likely to lead to aggression and violence (Flannery, Hanson & Penk 1994; Kumar & Ng 2001; Papoulias et al. 2014; Richter & Hoffmann 2014). They are not conducive to the building of therapeutic relationships.

Image 7.3: Acute Ward Dining Room

The social density induced high levels of fear in admitted consumers:

“Most of the complaint is the noise. A lot of them say: ‘I don’t want to come out of my room. I am frightened by the amount of people.’”(clinician)

(c) Noise Levels

The dysfunctional layout, social density and the type and quality of building materials used in the construction of the low cost *Happy Shores* Unit all contributed to an excessively noisy environment marked by intense reverberant noise and echoing. Shouting, screaming and yelling from the admissions area and seclusion rooms in the Acute Unit resounded throughout the facility. Not only were noises of aggression and resistance heard but screaming and shouting at particular frequencies would be on average 80 decibels, in excess of the human level of

comfort at around 40 - 45 decibels (Geneva International Organisation of Standards 2009).

One clinician recounted the chaos and bedlam created by the noisy environment:

“But the last 10 years here have been very difficult.....trying to do an interview with a patient you know no acoustics or anything anywhere, with people yelling and screaming and banging on doors and you are trying to assess a new patient in the entrance here. Very difficult. Even up here [upstairs clinical office area entered off the outpatients reception area] trying to see a patient as an outpatient you can hear everybody. So you are trying to do something with supportive psychotherapy, discuss abuse, you can hear everything. And downstairs!” (clinician)

7.4 Planning & Design of *Happy Shores*

A Construct Only (CO) - or Documented Design - contract gave the Health Service ample opportunity to vary the PDP design brief before appointing the contractor.

The scope of services and spaces were drastically reduced as the project progressed while those at *Inland Oasis* 20 kilometres away were commensurately increased. A key informant reported that the allocated budget for 70 beds at *Happy Shores* was reduced by almost 40% to allow for the development of the 20 bed *Inland Oasis*, servicing a different population.

“Originally we were meant to be building this for \$13 million. Then they took it down to say \$9 million. Then there was some problem with Inland Oasis finishing there - we lost, I don’t know, I understood that we lost

\$600,000 that went over to Inland Oasis to finish a building over there at the time that was being built.” (clinician)

The 2003 POE reported that the revised budget of \$9.5 million was eroded further to only \$8.88 million at tender. According to the 2003 POE the accepted tender was much lower than expected, that is, it was an offer for less than the Executive had estimated would be the cost of construction (Colleen Wilson Health Strategies 2003). This suggests that the Executive knew, or chose not to know, that the building could not be built to an adequate standard for the tendered price.

As the budget was squeezed inpatient numbers were reduced, but not so as to ensure implementation of the collaborative model of care intended in the Service Procurement Plan (SPP). Bed numbers were not reduced commensurately in response to the reduced budget. The Unit had to accommodate 50 inpatients while going from two floors to one floor on the same footprint. Virtually all treatment and activity spaces were omitted from the Unit in favour of beds, and rooms were reduced in size to the bare minimum required in the HFBG at that time. Bedroom doors open inward (instead of outward as required in mental healthcare) and are not standard mental healthcare doors with vision panels. They are therefore frequently left open for observation purposes, making them an insecure rather than a safe place to which consumers might retreat.

The environmental outcome of the redistribution of resources was a dysfunctional, and cheaply built building, which meant that the Unit has never been able to deliver services in a safe, effective or efficient manner, or at a level of quality expected by consumers and staff. From the day it opened in 2000 staff raised multiple concerns

about the functional and physical aspects of the facility. At *Happy Shores'* sister facility *Inland Oasis*, on the other hand, space was more generous in all areas and utilisation was within the norm of between 80% to 90% occupancy.

Of particular concern at *Happy Shores* was the cramped admissions area to the Acute Ward:

"Originally, in the original building, the police were supposed to be able to enter the drive down here and they would use the turning circle - a lot of money wasted on that turning circle never been used - the policemen used to quite enjoy having ride on it occasionally - never been used for a patient purpose, hardly - a waste of time. We had to put gates in for instance here. There was no privacy for the patients.

In regard to the lack of a proper assessment area:

"We've said can we please put an assessment area in, can't we get a donation to drop in a couple of demountables. Anything. [Executive] doesn't want to do anything more to the building. We could put another whole storey on the east wing ... for staff offices and staff facilities, interview rooms for patients, turn some into occupational therapy spaces, just to quickly digress once more - there is one toilet up here for the entire floor." (clinician)

The lack of consultation with clinical staff during the development of *Happy Shores* constantly emerged as an issue. During the redesign clinicians were not consulted about their therapeutic practice and what environmental characteristics would support the building of therapeutic relationship:

“There were three villas down this end of campus..... They were the oncology villas and what they had been was around a central courtyard with lovely grassy spaces, slightly domestic space for people.... We got one of the villas- used it as it was; it was adapted as it was. .. while it was maintained it was actually not an unattractive building but then they stopped maintaining it; then the water was coming in, the carpet was smelly - any high industry area just change the carpet every 2 or 3 years.Hopeless! Let’s put down some dirty old lino cause the patients might urinate. So everything had to be back to the lino and the wash down ...”
(clinician)

Few of the remedial works recommended in the 2003 POE Report had been implemented at the time data collection for this study started, despite concerted agitation by senior clinicians, who had been making ad hoc changes to the material environment for ten years:

“It’s almost the unfixable place.....And that has been the trouble, always patching, patching, sort of up over all these years.” (clinician)

7.4.1 Clinical leadership

Staff perceived a distinct lack of effective clinical leadership at the Unit.

Professional hierarchies were entrenched and cross-disciplinary teams appeared non-existent. Consultant psychiatrists operated six separate clinical teams, none of which apparently met with each other. Coordination and communication between professions and teams was reported to be poor. There was so little communication between nursing and medical staff that some nurses reported having no idea what

medical clinicians thought of the space. The perceived lack of collegiality between clinical professions bred distrust:

"You know we have consultants who are here only 30 minutes a week and they have patient loads. I guess they have a lot of faith in their Registrars....it is not monitored so we have doctors who have written reviews of their patient sitting in the office and they haven't seen a single patient. I have patients who have said to me: 'I haven't seen a doctor in 4 weeks'...- there is a review in there. It took a while before the penny dropped. My god, the patients are right. The doctor has written all her reviews right now and hasn't gone onto the ward. It's not screened or monitored - the quality or the time that is put in. Yeah and they are meant to ask and invite the nurse to each meeting and that doesn't happen." (clinician)

Management of the Unit was further complicated with a rapid churn in nurse management staff, and decision making authority spread across multiple disciplines. Turnover was high:

"...we've had a period of about 2 months when about 27 people left....two years before we lost 27 in two months. It was because of dissatisfaction with management and new policies, I think." (clinician)

Nursing staff found themselves in one role one day, and another the next. Titles and roles kept changing and there was no-one ultimately responsible for operations at the Unit.

"The Inpatient Service Manager whose office we are in, [is] nominally responsible [for the Unit] in an Acting Role because the person in that role has decided to go and help establish the MHICU....which puts a lots of

things on hold in terms of people just minding the shop It can be very disruptive but that is an issue. It is a health services manager's role. And there is a conflict I believe. If he is in charge of this role .., when there is an issue between the two wards, he can't be objective.

We need someone who's a Director of this Unit. [A Psychiatrist] used to be the Director of this Unit but ... now has an expanded role within the organisation. The MHICU has a Director. The Mental Health Rehab Unit has a Director: a Medical Director. ... the aged care facility has a Director, but the [Unit] doesn't. And it is the largest - and it doesn't have a Director responsible for directing. in terms of specific policies, directions and leadership and passionate commitment to one particular environment and ensuring that it shines, we don't have a Director, which I feel is catastrophic in terms of the built environment.” (allied health)

This perceived conflict of professional identity amongst nurses holding management roles was aggravated by the organisation allocating nursing related tasks to these managers:

“So we have this overarching of a Health Services Manager [Acting] ...at the moment. And they are all nursing positions which means a lot of nursing jobs are given to them or things about safety and regulations from the administration but we don't actually have a Director of this unit. I think it's ridiculous....[The Medical Superintendent] ...only responsibility is for medical responsibilities to do with the Mental Health Act and involuntary care of people ..[but] if there is a staff member who is out of

line or that people have complaints about, he doesn't handle any of those things providing leadership and direction. I am not suggesting he doesn't try to do his bit, we all agree he is very conscientious and very good about trying to do what he can in that role but the fact that we don't have a Director who directs is I think most unacceptable." (allied health)

The difficulties at the Unit contributed to its inability to fully achieve the seclusion reduction objectives of the Commonwealth Department of Health & Ageing's (DoHA) National Mental Health Seclusion Project (NMHSRP) and NSW Health's Seclusion Reduction project. At the Unit, both decisions to use seclusion, and the ongoing management of the patient after seclusion did not comply with the NSW Health Policy Directive, *Aggression, Seclusion & Restraint in Mental Health Facilities in NSW* (PD2012_035) which states that seclusion should only be used for the minimal time necessary and may only be used when there is a risk of serious imminent harm, and not just when a patient is being "abusive, threatening or destructive of property."

The recorded reasons for aggression leading to a SAC report (SAC 3) in 2012, as recorded in the AIMS clinical incident data (Aggression-Aggressor Incident Type Summary Report) were for abusive behaviour, physical violence against staff or other patients or physical aggression toward property, and were generally associated with the imposition of rules by staff, for instance, searching for contraband or refusing to facilitate smoking (as per general hospital policy).

Although the NSW Health Report states that the average time in seclusion across the state was six hours, the average time at *Happy Shores* was frequently in excess

of six hours. Between July 2012 and November 2012 the average number of hours in seclusion ranged from eight hours to eleven hours.

Government policy is to end the use of seclusion or to at least reduce seclusion times to an average of less than four hours. At *Happy Shores* old clinical practices may be resistant to change but staff attributed poor seclusion practices almost entirely to the environmental conditions. The environment was universally considered to be a major impediment to practice change. Clinicians said that attempts to implement appropriate models of care were thwarted by the environmental conditions at *Happy Shores*:

“We have lots of ways how to put teams together and how to make it work in some more meaningful way. But this constant issue of the environment always is a big problem behind the whole thing.” (clinician)

The lack of consultation about the unit’s built environment annoyed and aggravated clinical staff:

“.. I’ve mentioned this before in a couple of other forums, in terms of the built environment, I would like to see a less piecemeal approach to its management. And I would love to see a Built Environment Committee, almost that disbands and meets on a regular basis so that when there is some funding coming up, or there is - really the people who know most about the environment have significant input into it.” (allied health)

7.4.2 Organisational Trust

Staff felt betrayed and ignored by the Executive since the unit opening in the year 2000. In November 2003, after the 2003 POE recommended urgent remedial work

at the Unit, clinicians prepared an Operational Review which set out how the Unit could deliver a recovery service model within the existing building envelope. The intention was to move away from a custodial model to a supportive, therapeutic environment. Again in 2008 clinicians documented building defects that were impacting negatively on ward milieu and program infrastructure, and complained about the prison-like exteriors of the building in a formal report to the Executive. The factors identified in the report as contributing to the lack of a therapeutic environment parallel the social, physical and symbolic *Environmental Determinants of Care* and included:

Milieu (equivalent to the *Social Environmental Determinants of Care*):

- Noise
- Lack of Privacy
- Negative stimulation
- Lack of purposeful activity
- Poor lighting
- Cold uncomfortable sitting areas

Program infrastructure (equivalent to *Physical Environmental Determinants of Care*):

- 30 bed general ward needs to be split into two wards
- 20 bed observation ward improved by splitting into separate 12 and 8 bed wards.
- Lack of space for therapeutic programs
- Lack of recreational rooms
- No interview rooms
- No examination rooms
- No storage for staff lockers
- No storage for patient belongings

- No clinical areas for clinical treatments
- Lack of assessment areas
- Lack of staff facilities inside the units

The external building (equivalent to Symbolic Environmental Determinants of Care):

- Harsh entrance to the acute ward
- Lack of privacy for police presentations
- Prison like appearance of exterior
- Awkward narrow entrance to the general ward
- Exposed staff balcony
- Unsafe climbing areas
- Lack of outside sun and shade shelters

Key informants reported that they had been told that the long term plan was to collocate all mental health services in a high rise block on the site - but at some undisclosed time in the future. Clinicians had not been involved in the strategic planning process leading to this masterplan solution. And in the meantime they were to try and deliver care in an environment about which one clinician said:

“It should be bulldozed. Can you imagine what people think when they find themselves here? They think: ‘My God, my life has come to this’....that’s not conducive to therapy.” (clinician)

Staff did not feel that the Executive listened to them or understood the harm caused to consumers (and themselves) by the overcrowded, noisy and dysfunctional environment.

“I would have an admissions area.... but it’s not the priority of management, executive management, but to me, especially now ED has this 4 hour pressure – to put people out in 4 hours; what we would

probably facilitate here is to have an admissions area, where people, they are not actually admitted but they can be provided with treatment, if they come in through a community team, ... or they have come in for a magistrate's assessment ... a lot of these things happen in community health centres in other areas. They don't happen here though..."

(clinician)

Key informants reported that things had not improved since the facility was opened:

"...And the other problem is where there is a master plan now to rebuild, the desire to add buildings [for an admissions area] has actually been decreased. Not very supported by the CEO... He would rather think about waysto build a new building...." (manager)

And key informants reported that it was getting worse:

"They haven't had any one in [outpatient] reception for months and months – so they all come around to [the acute admissions area] as well – all the deliveries come round there, the storeman come round there, builders come round there" (clinician)

Operational decisions that were applicable to the main hospital were not seen as conducive to therapeutic practice in a mental health unit:

"But now [the Executive] have implemented uniforms and even the patients are talking about the stigma. ...they have already told me that you can't wear hairclips or anything brightly coloured. I got told off for wearing a hair extension....But I use it as a bond for the patients...you talk

about it and it gets them started...I want to give them the power and the choice.” (clinician)

Clinical staff felt they were forced to comply, without consultation, with what they considered to be absurd directives:

*“The hospital has dictated that all fire doors be painted red. They came down to us and said this is the edict from the top, not the mental health top, the hospital top. And the poor painter said: ‘this is my 1,030 door’.
...Up here, it was ‘oh my God, lilac and red, God almighty.....Horrendous..”
(clinician)*

And

“No consultation whatsoever.” (allied health)

There is no fire safety requirement for red fire doors. The abrasive colour interferes with interior design colour schemes.

7.5 Change Management Strategy

There was no change management process during the planning and development of the Unit, which is contrary to the policy set down in the Department’s POFP which states that the Change Management Strategy is:

“..a key requirement across all POFP stages .. to ensure that the changes arising from a project are clearly documented, understood..., and processes are implemented to facilitate change.”

Rather, staff were handed over a building in which the planned model of care could not be delivered because of the lack of space and the unpleasantness of that space. Staff had to adapt their therapeutic practice in an ad hoc fashion.

Future plans for the mental health service were also being made without direct consultation with clinicians and other service deliverers. Even the radical plan for the centralisation of the Area's mental health services on the site and establishment of a multi-storey '*Mental Health Precinct*' was driven by the Executive with limited clinical consultation:

"I don't know. I am very concerned about being in a high rise building, with the inpatient unit, everything being in there. It offers very limited outdoor space....I don't really like the idea. I do think there is a real benefit for integration of the program for collocation." (clinician)

7.6 Safety and Security

The safety and security of consumers, staff and visitors has been seriously compromised in this Unit. The redesign introduced latent and active errors into the patient care environment. *Happy Shores* acute inpatient mental healthcare unit was made unsafe by the upstream decisions of the Executive.

"So with the cheap design what happened was part of the redesign that nobody really knew about, was that they put the loading dock for the food to come into the building right at the point where there was supposed to be shared access [to an adjacent research and day clinic], so what that did was the access to that building became very, very difficult. So suddenly you had a situation where you had a young occupational therapist, you

know 25 years old maybe, trying to take a group of patients under the Mental Health Act down through the lift, down all the stairs, down into the basement, across the ramp and back into that building. Now it was a laugh. Nursing staff would hear an alarm and run but it was quite rough. Quite difficult. So to have a whole group of patients in an art room down there or doing a cooking activity. The occupational health and safety issues were just prohibitive and it was completely prohibitive and destroyed any capacity [to use the spaces].” (clinician)

The General Ward was also judged by clinical staff to be as unsafe as the Acute Ward:

“To me the whole place is dangerous because there are so many blind spots.; areas where people can be cornered and attacked without people even noticing, especially by the pay phone going toward [outpatient] reception and toward the laundry. The area is just too big. It should be split in half. It is more productive to have smaller patient groups. It is better for the patients and better for the staff.”

In particular the entrance area to the General Ward came in for concerted criticism from clinicians:

“You can’t actually get onto the ward without going through the communal areas for the patients; which is high risk for staff. You are walking in cold; you don’t know what the environment is like; who to watch out for; it is just outright dangerous.” (clinician)

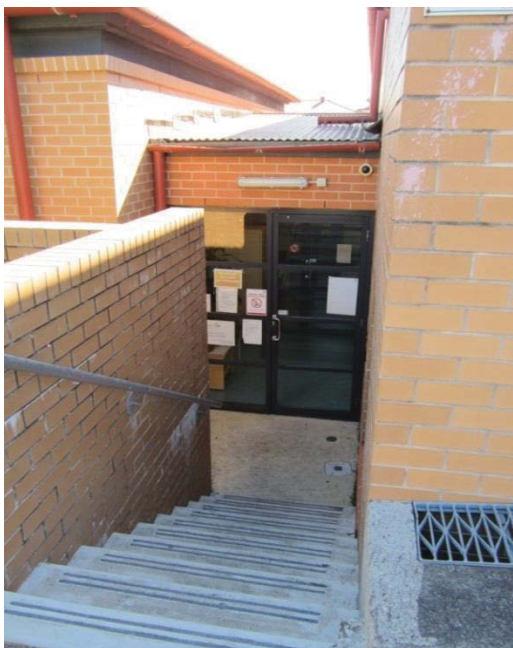
And:

“And the big problem with that is it is also where staff enter to begin their shift. So you walk straight into a patient area and you've got no idea, there could be someone with a knife in that area. You would have no idea, you walk straight in there. And the staff area is down there and there's no other entrance or exit except through the patient area. I just think that's ridiculous.”

Staff perceived the entrance to be a dangerous place for both staff and patients:

“There is no camera in there. There is no intercom in there if you are stuck in there, and I have actually been in there when a visitor threatened to punch me and hit the lock right near my face. And you do not get help in that locked area, and no one can see you, none of the staff are actually at that door watching.”

(clinician)



Staff and visitors shared the same entrance to the General Ward. Access is via a flight of steep, uninviting steps that were variously referred to as ‘*leading underground*’ and ‘*a back entrance*’. The ten narrow steps ended at a glass vestibule where staff and visitors could gain entry to the Unit.

Image 7.4: Staff and Visitor Entrance to General Ward (post-admission)

Fifteen clinical staff at *Happy Shores* completed the Essen CES, which is a 15 item instrument measuring three dimensions of care labelled: *Patient Cohesion & Mutual Support, and Experienced Safety* (as opposed to aggression and violence) and *Therapeutic Hold*. Scores were compared with normative standards from England and Australia. English normative data were collected from 441 consumers and care providers in 33 wards across 7 forensic mental healthcare services. German data were collected from 660 consumers and staff in 46 wards across 17 forensic healthcare services. Australian normative data was collected from 299 consumers and care providers in minimum to medium secure prisons.

A comparison of the climate at *Happy Shores* against the published benchmarks indicated that staff perceived the threat of aggression and violence at *Happy Shores* **as greater** than in forensic units in the United Kingdom or low to medium risk prisons in Australia, that is, average “*Experienced Safety*” was lower at *Happy Shores* than any of the available normative benchmarks.

	Descriptive	Descriptive	Normative
Dimension	<i>Happy Shores</i>	UK Forensic	Aus Prison
Patient Cohesion			
Mean	10.3	7.3	10.9
SD	3.3	3.8	3.9
Median	10.0	7.5	11
Experienced Safety			
Mean	7.9	9.8	11.7
SD	3.9	4.3	3.7
Median	9.0	9.0	11
Therapeutic Hold			
Mean	15.2	15.8	15.2
SD	2.7	2.9	3.1
Median	15.0	16.0	16

Table 7.2: *Happy Shores* Essen CES benchmark comparators

The mean score for *Experienced Safety* fell into the first quartile for Australian prisons. Staff at Australian prisons felt safer than staff at *Happy Shores*. The benchmark comparison of the results of the Social Climate survey conducted at *Happy Shores* is presented in Table 7.2 above. These data are also presented below at Table 7.3 in bar chart format.

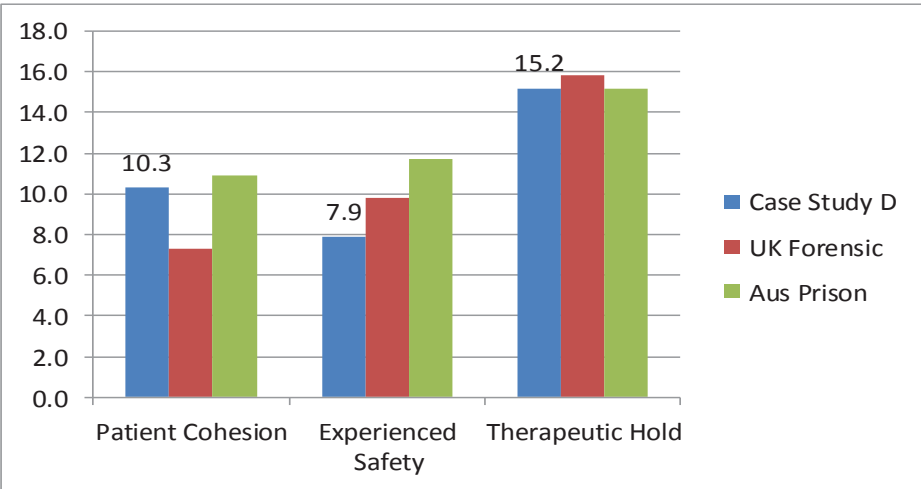


Table 7.3: *Happy Shores* Essen CES comparison bar chart

The key informants viewed the ward as an unsafe place and said that environmental conditions were implicated in the escalation of aggression and violence:

“..People with very low frustration tolerance being expected to share that environment; you know, because of their illness processes. They have lower frustration tolerance, less cooperation, in terms of just their basic interpersonal interactions. So there is a lot of confrontation between the clients but there is also confrontation with staff.” (allied health)

And the basics of recovery were not encouraged by environmental decisions:

“In the meantime the built environment provides no assistance to people being able to hold onto their possessions and being able to perform a

basic functional aspect of their care here- being able to keep their possessions, wash them, some people for the first time have had access to a machine because they have been living on the streets. I mean it's a great thing to do.

Or people are slammed for not looking after their clothes - you know - oh all their stuff is on the floor, oh they are not well, oh they can't go home. If they had something to put them in...And a built in closet with shelves but because of safety again, they are not allowed to have coat hangers, you have to fold everything. You know as well as I do that even the most functional person likes to hang a coat and not fold it and stick a tee shirt on top of it. Now I am not suggesting that we should have coat hangers but the built environment is constantly our enemy.” (allied health)

And

“..whilst I feel safety is very important, and I wouldn't minimise that for a moment, ..it is a balance constantly but in some ways because with the built environment we are so concerned about risk management, it does institutionalise people or dehumanise them in a way that I find very distressing at time, but more importantly that they find distressing.”
(allied health)

In the Acute Ward these things are made worse by the two seclusion rooms:

“...you can't escape the fact that the seclusion room is right next door to someone's bedroom and right next door to the entrance where the visitors are coming in - that's not designed or thought about. You can't get rid of

someone banging on that door when you are trying to talk to a visitor about their son banging on the door next to them...and the person in the bedroom opposite you can't de-escalate because of the person in the seclusion room."." (Focus Group #2)

A general comment about understanding of risk in the mental health context made by one clinician was:

"This place seems to be built somewhat for, rather than a therapeutic environment it has been angled at more targeting risk. Like it is not - we will minimise the risk, we won't have showers that could be hanging spots and all this sort of business. It is all based on risk, it is all very clinical. Not that you want to keep people in hospital or whatever but it is not a therapeutic based design.... What happens now - we get a lot of stuff - an absolute classic, in principle I agree if you are looking at that risk based - we used to have garbage bins around the ward with plastic bags in them. A patient suffocated themselves with a plastic bag - it wasn't a bag from the bin, it was one they had taken out shopping. But from that point on there was no plastic bags in the bins. From a risk perspective that is fairly sensible. 2 or 3 weeks down the track you just had garbage bins reeking of rubbish, flies, maggots. It was just - all because of risk. You are moving the risk from one form to another." (clinician)

Despite all the risk management constraints, the General Ward was not secure:

"Well there was a man who actually got down an elevator, and got out of the building via a fire escape downstairs and then he later just walked

back around and came in the entrance and said: 'hello, I just managed to escape.' So that was that. We get a lot on the roof - one has actually come back and through after being discharged - got a bit lonely and climbed back in through the roof." (clinician)

It was also unsafe. Hazards not directly related to the control of suicide or violence went unidentified. An instantaneous hot water system put into the General Ward servery is patently dangerous with this consumer group, one clinician reported:

"...left the boiling water for the patients. I have had two patients really burn themselves by putting their mouth under them." (Focus Group #2)

The instantaneous hot water system is placed at arm level for a person of 165 cm in height. It is too high to be safe for shorter people. One of the 2012 adverse events reported in AIMS was a consumer pouring boiling water over a staff member.

7.7 Built model of care

The attempts of clinicians to move toward a collaborative, recovery model of integrated care were compromised by the existing facility, at the most basic level because of the lack of space.

"It's actually always played a role in it - well, you haven't got anywhere to see people, you've only got one team meeting room, sort of thing."
(clinician)

7.8 The Outcome: fitness-for-purpose

The Unit failed to meet the expectations of staff that they would be delivered a therapeutic built environment. The building did not, even comply with the basic standards of the HFBG. As one General Ward staff member said:

“This ward is diabolical. It’s huge. It’s dangerous. Poorly planned...It’s dirty, even when you clean it, it’s dirty. These poor women work their tails off every day. There’s rats. There’s roaches...We don’t have proper access for disabled patients. The stairs we came down are dangerous. I almost done a header down one....It’s disgusting...There are way too many patients in the one space. There shouldn’t be more than 20...30. It’s ridiculous... But for a reasonably new building it is just disgusting. It wasn’t constructed very well. There are holes in the ceiling that leak. Not enough toilets....the forensics hospital is brand new and purpose built. That thing is gorgeous.....There’s just too many people. There are too many blind areas here. We are just very fortunate nobody’s been hurt.” (clinician)

7.9 Walkthrough/Talkthrough Evaluation

7.9.1 Physical Environment

a. Architectural Features

○ Arrival Points

There was no clear arrival point.

The apparent entrance from the front street was the unstaffed outpatient waiting room. General admissions, police and ambulance presentations, and visitors to the Acute Unit had to walk or drive down

the side of the building (past bedrooms and seclusion rooms) to a single door opening onto a corridor. It was cramped, unwelcoming, and without waiting areas or a proper assessment area. The entrance to the General Ward was down a step flight of narrow (and hidden) stairs.

- **Operational Spaces**

The unit was completely dysfunctional without assessment rooms, consultation rooms, quiet rooms or adequate consumer or staff areas.

Clinicians described it as dangerous and unsafe.

- **Resilient Materials**

The building was constructed of masonry.

- **Circulation space**

Inadequate. Cramped.



Image 7.5: Staff Lockers outside by bins

- **Wayfinding**

The Unit was very confusing with multiple entrances, flows that did not work, and adjacent relationships that did not work.

b. Interior Design Elements

- **Domestic with welcoming arrival points**

No.



- **Varied Colour**

The colour palette was mismatched and uncoordinated.

- **Varied Texture**

No.

Image 7.6: Lounge in corridor with discordant colours



- **Privacy**

The wards were overcrowded without therapy spaces. One multipurpose space served as gym, therapy room, music room (with piano) and store. The only private spaces available to consumers were their bedrooms.

Image 7.7: Multipurpose Room with Discordant colours

- **Access to Nature**

There were three courtyards in the unit. One was in the general ward and it was not unattractive, with a pagoda, grass and shrubs. In the Aucte Ward there were two courtyards, both of which were neglected and unpleasant with deteriorating rubber flooring and blank walls.



Image 7.8: Acute Ward Courtyard



Image 7.9: General Ward Courtyard

- **Art**

There was no art.

c. Ambient Features

The ambient features – light, sound, odour, temperature and humidity – were not good. Some internal spaces had limited no direct sunlight, notably the 12 bed Observation ward of the Acute Ward. The masonry building was not acoustically sound. Noise was a major problem.

7.9.2 Social Environment

- **Single Rooms**

All the bedrooms were single rooms but the solid inward opening doors meant that doors were kept open at all times to allow for staff observation, which was not very private or safe.

- **Activity Spaces**

There were the three courtyards and lounge areas but the only activity room was a music/gym/counselling/store room.

- **Access to distraction**

There were few distractions apart from the classes run by the occupational therapist in the General Ward lounge. Consumers complained of boredom.

- **Maximum 18 beds**

The Unit had 50 beds and was spatially and socially overcrowded. The General Ward in particular was overcrowded with spatial density far in excess of safe norms.

- **Maximum 85% occupancy**

Utilisation data showed occupancy rates were over 100% and approaching 200% in 2012-2013.

7.9.3 Symbolic Environment

- **Respect, Empowerment, Openness, Refuge, Autonomy, Choice**

No. It was a dysfunctional, poorly maintained, excessively noisy and overcrowded place. A senior psychiatrist described it as 'bedlam'.



Image 7.10: Worn, hazard controlled bathrooms/shower detail

- **Security and Freedom**

No. It was unsafe, overcrowded and both consumers and care givers were frightened.

- **Privacy**

No. The small bedrooms were the only private place but were not secure because of the need to leave doors open. There were no spaces for a person to retreat to voluntarily.

- **Social interaction**

The units were overcrowded and consumers had little control over the timing of social interaction.

- **Homeliness**

No

- **Identity**

No

- **Community**

No



Image 7.11: Nurse Station (a) looking out along corridor (b) looking in from corridor

7.10 Interventions

At the end of the 2012 financial year *Happy Shores* was allocated funds of AUD \$63,000 for remedial works. A healthcare architect, healthcare artists and a builder were contracted to design and implement changes to the unit based on the *Environmental Determinants of Care* extracted from the literature review.

The specific changes agreed upon were -



- Sound reduction - acoustic dampening in both units (two seclusion rooms; General Ward dining/lounge area; and corridors). Installation of 90 acoustic ceiling panels, covering around 80 m² of ceiling, to reduce reverberant

Image 7.12: Acoustic ceiling tiles

- Changes to the courtyard in the General Ward comprised of -
 - new pathway
 - planting of shrubbery
 - installation of a second gazebo



Image 7.13: Replanted General Ward Courtyard

- Refurbishment of the two small courtyards in the Acute Unit by:
 - Painting two naïve murals - a parkside scene and a seascape. The murals appear below as Images 7.14 and 7:15. In accordance with the evidence, the murals had to be nature scenes and not abstract or figurative images. The designs were determined in consultation with care providers and consumers. The indigenous mural artist had been admitted to the unit in the past and liaised with consumers about the design.
 - the resurfacing of the ground with artificial turf
 - new outdoor seating
 - shade cloth



Image 7.14: Parkside scene mural in Acute Courtyard 1

- One internal wall in Observation Ward was removed to open up the dining area and improve circulation
- A new colour scheme was implemented to enhance the interiors – the sample colour board is exhibited below as Image 7.16 below.



Image 7.15: Seascape mural scene in Acute Courtyard 2



Image 7.16: Colour Board for *Happy Shores* alterations

Originally the Scope of Work was to include a new assessment space, the things clinicians thought most important to improve operations and care. Funding constraints prevented refurbishment of this area.

The general hospital's risk management procedures delayed the commencement of the project for six months, from the first meeting with staff on May 2012 until November 2012, and early momentum for the research was lost, particularly as staff continued to turnover, including relocating to the new MHICU. Key informants remained keen to talk but there was little enthusiasm from front line staff, in the absence of a nurse champion.

7.11 Evaluation of the interventions

Remedial works were completed over three months between November 2012 and February 2013, with the second mural being completed in June 2013. Key informants and focus group participants provided feedback. The building works themselves seem to have had a therapeutic effect, possibly as a diversion:

"..remarkable and I am sure there was remarkable things when they were doing the courtyard before, last week, they hear the jack hammering, and it was significant, it was all day the builders were jack hammering, just ghastly. However, and I thought we are going to be in a lot of trouble here, patients the noise will agitate the patients and things, NOT A PEEP OUT OF ANYBODY. They stayed in their rooms, watched the television, gone out to the courtyard to play a bit of table tennis; kept a low profile throughout the whole thing. They had a hoarding up around it. Just amazing - all that disruption and patients just went about their business,

kept out of the way, no problem at all. It was amazing to see. I thought it would work the other way.” (clinician)

The informant’s recollection is corroborated by the clinical incident data as entered into the incident management system. Staff did not report *any* incidents of aggression or violence in November 2012 and December 2012, during the jack hammering stage of the refurbishment. Further, after the refurbishment the number of incidents reported did not return to pre- refurbishment levels and in May 2013 and June 2013 there were no reported incidents of aggression in the Acute Ward.

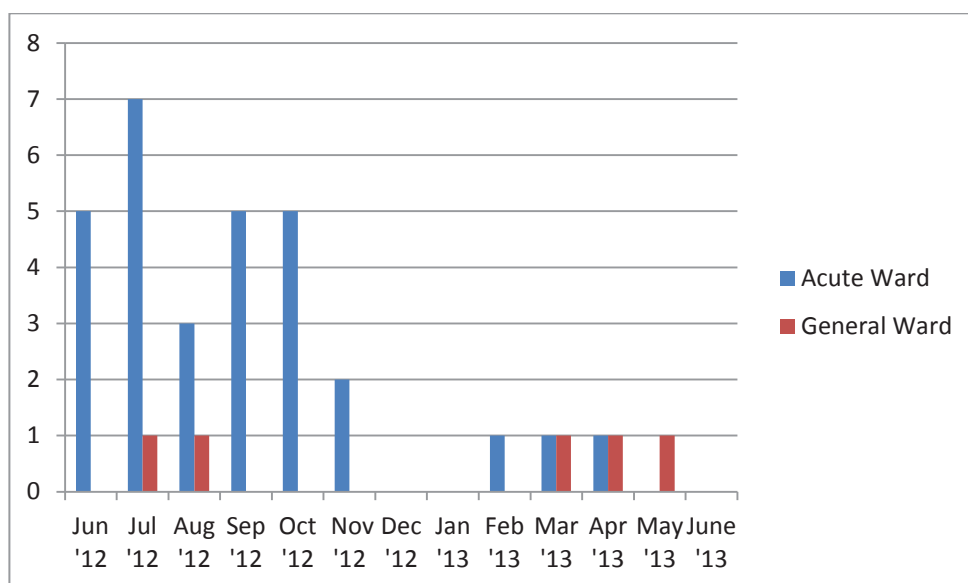


Figure 7.3: Incidents of Aggression 1 June 2012 to 30 June 2013

The following six months from 1 July 2013 to 30 November 2013 continued the trend with only 1 incident in the General Ward and 7 in the Acute Ward, which had no reported incidents in August 2013 or November 2013.

The picture is, however, confusing because staff use of seclusion does not reflect the incident data.

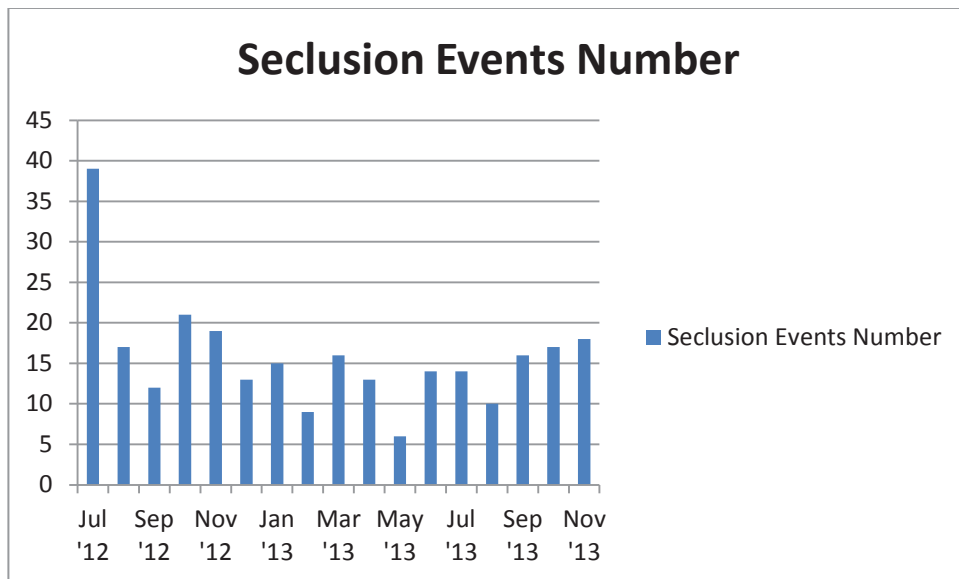


Figure 7.4: Seclusion events per month July 2012 to November 2013

The number of seclusions per month dropped after July 2012, before the refurbishment work and began to rise again after May 2013, when the MHICU was opened. The reason for the increase is not clear but *Happy Shores* remained the admissions Unit for assessment so it is possible as more seriously agitated consumers were referred to the hospital after the opening of the MHICU, seclusion use increased at the admitting Unit. There was however a steady decline in the average number of minutes in seclusion from July 2012, continuing during the refurbishment period, but sharply rising between March 2013 and May 2013 to an average of around 21 hours after the refurbishment, before dropping sharply again reaching a low of an average of only 1.9 hours in seclusion in February 2013. By August 2013, average seclusion time was only 40 minutes.

Given the many changes occurring in this complex environment the reasons The reasons for the reduction are multiple and cannot be easily attributed to the changes in the environment. Of most significance was the opening of the MHICU,

the policy on seclusion reduction, staff changes, and ongoing staff training in de-escalation techniques.

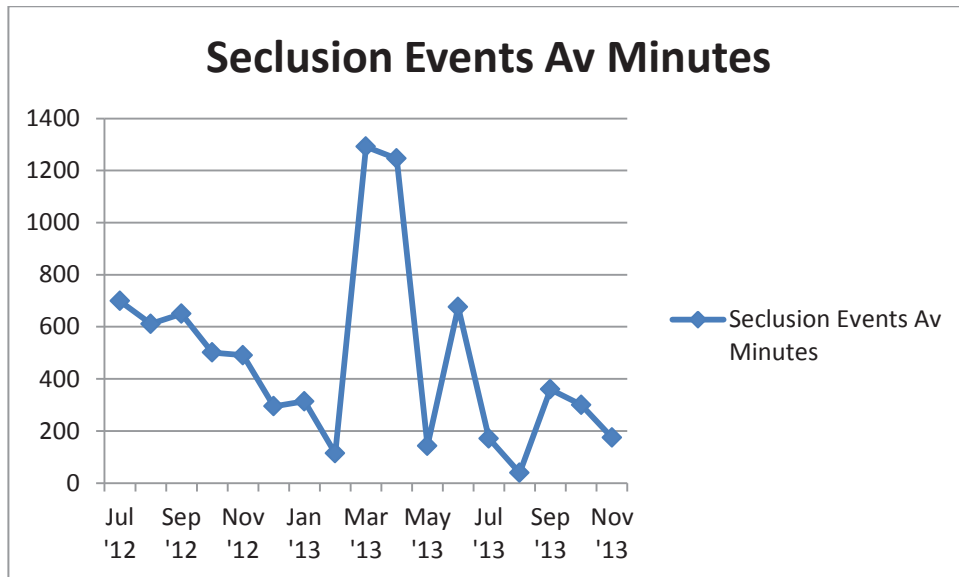


Figure 7.5: Average Minutes in Seclusion July 2012 to November 2013

Nevertheless, after completion of the refurbishment, the staff were very positive about the interventions. They were particularly enthusiastic about:

- the opening up of internal space in the Observation ward through removing the wall separating the dining room from the corridor outside the 12 bed Nurse Station
- dampening the noise in both wards through the use of acoustic tiles
- painting naïve murals depicting ocean and park scenes
- resurfacing Observation ward courtyards

The global assessment of one staff member was:

“Operationally makes it more conducive for people to get well, from the client point of view; and functionally to make it better for staff to actually

perform their full range of duties in a more effective, co-operative manner.” (allied health)

Specific comments for each of the areas were:

a. Removal of dining room wall in the Acute Ward

“So the walls that in that area are coming out to open it up, so outside the nurse’s station it will look straight out into the lounge room and parts of the courtyard and gives it that open sort of thing. So it is giving it a much more open perspective of the patients and staff down there. I don’t know what the feedback from the patients is at this stage because it is only half completed, The staff think it is a lot better than what it was - the more open area” (clinician)

And later after that part of the refurbishment has been completed:

“Because that to me has made a massive difference down there, for me you know ... that twelve bed was very dark and gloomy before, I hated that twelve bed, there was no natural light. You couldn't see the dining room. So just getting rid of that wall, for me, has just opened up the whole thing in terms of both, you know, having that light in that space really, and just it feeling open, it doesn't feel quite so closed in and confined as it used to. And I think that's been a big improvement.”
(clinician)

And another:

".....not enlarge the dining space but opened up, what was happening previously was that patients were coming to the nursing station to a closed door, a dead end, so it was a very tense space." (clinician)

All professions applauded the opening up of the space, particularly in terms of the symbolism involved:

"And the moving of the wall that is also part of the scenario. Yet again it extends the space and provides more of a welcoming entry point to discussions with staff, because you can come straight to the doorway. I think that sends a message that technically there's more approachability and openness - but it is also utilising the space better. It does give more space, by opening it up. It increases the square footage of usable space, which I think in such a contained environment is really fabulous" (allied health)

And:

"Removing dining room wall in obs ward made a huge difference because light comes through the corridor now. And that office window you used to just have all the patients queuing up and banging on the office window and there was just a wall behind them. A closed off little bit. But now there is an opening through to the dining room. For me that has made it feel much better, feels more open....[Consumers] spend a lot of time up at the nurse station glass, banging, trying to ask questions. They still do it but it just doesn't feel as cramped in. Like it just felt really oppressive before, really dark." [Focus Group #2]

b. Acoustic dampening acoustic readings

Acoustic changes were made in a number of places.

Ceiling acoustic panels to reduce reverberant noise were mounted in the corridor ceiling outside the seclusion rooms and the staff base. Acoustic panels were also placed over the dining room ceiling of the general ward. . The seclusion rooms had not only acoustic absorption panels installed but also a plywood covering to protect the panels, and which also had small perforations to absorb sound.

A normal domestic situation would on average have an acoustic reading of 40 - 45 Decibel Absolute units (DBA), the standardised measure of sound intensity (Geneva International Organisation of Standards 2009). Because of the range of sound frequencies in the building, from screaming to whispering, measuring the level of noise prior to the installation of the panels was unpredictable. It was estimated that with people shouting and screaming the level of noise in the observation ward reached in excess of 80 DBA. The contractor described the noise levels only in terms of the reductive capabilities of the panels.

Decibel measurements using a sound level metre were made after installation had been completed. The test results showed that 40- 45 DBA was still not attained, despite the remedial works. Post installation readings made over a ten minute period in the middle of the day, but not at meal time, and when talking in normal voices, recorded:

In the Acute Ward -

- in the seclusion room, a minimum of 45.7 DBA and a maximum of 57 DBA;

- in the lounge, a reading of 59.5 DBA, with five people present; and
- in the corridor, a minimum of 47.1 DBA and a maximum of 68.3 DBA.

In the General Ward -

The sound proofing installed in the General Ward lounge/dining room produced a minimum of 51.8 DBA and maximum of 63.4 DBA with thirteen people present.

Informants reported some improvement but as the relevant interviews were at least six weeks after the panels had been installed the initial effect of the intervention may have decayed (been forgotten) at the time of the interviews:

“Recently in the general ward and the observation unit we had - sound proofing was put in, on the ceilings. That’s substantially reduced the noise. That is a lot better than what it was... the staff reports its better. The patients wouldn’t tell you, they are too busy being occupied with what else is going on but I think it probably would affect them as well. Giving that calming sort of environment, that noise was just shocking before.”
(clinicians)

Others had observed changes in consumer behaviour after the installation:

“... I can certainly remember sitting on that eight bed area and someone just banging away on the seclusion door and it just echoes down the hall. I honestly can’t say whether I’ve been there while someone was banging the door since we’ve got the sound proofing.” (clinician)

And staff on the General Ward have commented:

“Some things, like the sound proofing; is that one of the points? I feel that there’s a much less institutional echoing in the dining room area. It is just more conducive to a slightly more pleasant environment for people to be in. And so particularly when people are yelling or in confrontation, or they’re upset, that it is not as echoey and not as unpleasant for everybody.” (allied health)

c. Courtyards

There was a lot of approval about changes to the Acute Ward courtyards:

“..I have had a few patients that have been in and out over the years and they do say they much prefer the courtyard and they do like it...much nicer now. It was pretty horrible before. The floor was all breaking up, pieces coming off, and the walls were covered in graffiti.” [Focus Group #2]

d. Murals in the Acute Ward Courtyards

There was a diversity of opinion in regard to the murals, with the personal aesthetic of some offended by the naïve style:

“Personally? Well I think they’re dreadful. Hideous. [patients] never comment, really....I am not entirely sure - well I wouldn’t know what the patients think. They never really, sort of comment and I’m really not in that position to ask them what they think.” (clinician)

Whereas clinicians who had asked consumers for their views reported that:

“Clients have said that ‘they expand the space.’ When you are getting particularly contained and – that is a good thing...And it provides all that

without the burden we are constantly having to deal with - which is safety. We are delighted by those.” (allied health)

And:

“I love the murals. I think they have been very effective in what has been an even more contained, stressful environment. I think the content of the murals has been excellent, there was some good consultation in terms of the subject matter.. On both of those and the feedback from clients and from my colleagues as well has been that they have been pretty good... So there is an element of not just visually more stimulating, they’ve also provided some sense of optimism and altruism because they are pleasant. There is some ray of hope for the future. Some of the perspective is also excellent because it provides a dramatically – it doubles the space. It is almost like trompe l’oeil, I think. It doubles the space. Clients have commented on that as well. It is not just my opinion.” (allied health)

The murals had never been defaced eight months after the painting of them.

e. Seating in the Observation Ward Courtyards

“New seating, the seating is a lot better. It seems to be more robust. Screwed to the ground - a lot safer....And of course they have got that sail thing over the courtyard, which is good. There was no shade there for a while. ...The old medications wreaked havoc on people’s skin. They get this photosensitivity - they get this burn” (clinician)

f. Gazebos in the General Ward Courtyard

There was a mixed response about the gazebos, mostly attributable to the lack of pest control in the Unit.

"I personally feel that the only good thing about the [general ward courtyard] renovation is the addition of another gazebo seating area. I feel that so much money was spent on pathways, and things like that. I think the lawn area would have been much better to keep; and that much more emphasis should have been on the verandah areas. Again, zone them more appropriately; again, other than the gazebos there is zero outdoor furniture except bits and pieces that have been bent, borrowed, broken" (allied health)

But it was reported that there are rats to deal with:

"..in giving extra gazebos was all very lovely but there's a rat's nest under one. It didn't address the issue that we might want to get the nest out of there." (clinician)

And:

"Huge Rats. Hear them screaming at night.... Other parts of the hospital don't have these courtyards..." [Focus Group #2]

g. Paths in the General Ward Courtyard

"I like the concrete footpaths because we are always walking in mud."
[Focus Group #2]

h. New colours and paint

The minor changes to the colour scheme were met with universal praise.

“The new colours - the best thing ever because this whole ward was green and dank and ugly. And the new great colours just make the environment more vibrant and more uplifting....It’s just beautiful. Patients all love it.”

(clinician)

And:

“Colouring on the other walls – on the wall of the [general ward] dining room, has been excellent. Whilst there has been some controversy about people liking the colour or not, I feel, personally, it’s provided some warmth and depth to the room; a little ray of sunshine. Just added to the more domestic style, I mean, I know that’s it. You probably think I am bizarre for saying that, but it changes not just the proportions but the scale of the room slightly. It just provides a slightly more domestic style – a feature wall rather than four white hideous institutional walls.” (allied health)

One of the allied health staff was very enthusiastic about the colour changes:

“.. we have an art person who comes a couple of days a week and clients have been very, very proactive in wanting their art displayed. They have been putting up their work on that wall, that yellow wall. If you go down now you will see there’s maybe 30 pieces of art, just on A4, that have gone up; and are changed on a regular basis. It is just like almost a story board for some people, in terms of the material that they have put up there, inspirational quotes, or it might be something from their childhood,

and becomes a little bit of a talking point for other people so interactional stuff has improved a bit, I think.... one of our biggest issues with clients is the complete lack of homogeneity with regard to our clients, we have a massive range of ages, interests, abilities, backgrounds, educational, cultural, you name it – as well as functional, diagnosis. All in together expecting to be able to cooperate, so any stimulus which provides people an opportunity to ask each other about their experiences or about their background, even on a fairly superficial level with regard to what they’ve drawn.”

“I think they also receive tremendous positive feedback – people have been kinder to each other. Those things are nice, but also people who have a massive amount of disregard for themselves, not feeling particularly good about themselves, it’s lovely to receive some feedback about what they have done in a positive way.” (allied health)

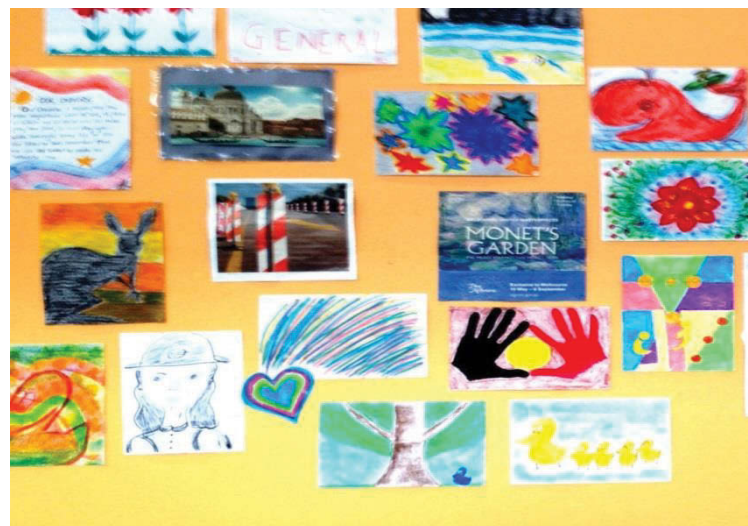


Image 7.17: Consumer art works on new yellow wall

7.12 Issues Emerging

While the data adduced after the alterations to the building suggested that the built environment did effect the development of therapeutic relationships and the production of safety, the mechanism still needs to be explicated. The case study, however, clearly demonstrates the '*trajectory to harm*' model in action, providing insight into the mechanism by which latent error producing conditions are introduced into the built environment leading to harm.

The issues that emerged in the data analysis were:

1. All data converged on the one point – *Happy Shores* was an inhospitable, dysfunctional place perceived as unsafe by staff.
2. No model of care underpinned the design of *Happy Shores*. It had been lost by upstream executive decisions.
3. The Executive did not consult clinicians on decisions about the material/built environment critical to therapeutic care, and ignored their concerns about patient safety.
4. Collocation on a general hospital site had not produced tangible benefits for *Happy Shores*, only dis-benefits.
5. General hospital approaches to risk management made no allowance for the different needs of acute mental healthcare consumers.

CHAPTER 8 - DISCUSSION

“It may seem a strange principle to enunciate as the very first requirement in a Hospital, that it should do the sick no harm.”

Florence Nightingale, Notes on Hospitals (1859)

8.1 Overview of the study

8.1.1 Structure of the Chapter

This chapter brings together the issues that emerged from the literature review and four case studies and discusses the commonalities and differences between the cases.

The background to the research and the research problem is first restated, followed by a discussion of the dialectic between *Risk Warriors* and *Trust Advocates* and the emergent theoretical proposition that emerged from the literature review, that is, that the *Environmental Determinants of Care* moderate the development of therapeutic trust and therefore safety in acute inpatient mental healthcare units. The key emergent findings from the cross case analysis are then presented in Table 8.1 and discussed, with the consistent findings across cases being summarised in Table 8.2. Key themes identified in the cross case analysis are presented in a cross-case comparative table (Table 8.4) and discussed in detail. The narrative analysis is also presented in tabular format (Table 8.5).

In the penultimate section of the chapter, the limitations of the study are discussed and opportunities for future research suggested, including the further work needed to validate the integrating *Constructing Trust Model*, which the data could neither verify nor falsify. The model, built on past research and drawing on diverse literatures, remains at the conceptual stage and is in need of elaboration and testing.

The chapter concludes with reflections on the policy implications of the study findings for the management, planning and design of acute inpatient mental healthcare facilities.

8.1.2 Background

This research arose out of an investigation into the characteristics of 'fit-for-purpose' acute inpatient mental healthcare units for a quality improvement project and the evaluation of environmental changes to an acute inpatient mental healthcare unit. It inquired into the meaning and approach to safety in acute mental healthcare given that the organisational accident model of patient safety had not informed research or practice in this area of healthcare delivery. The patient safety model for the trajectory of an organisational accident was adapted to the acute inpatient mental healthcare environment from the findings of the literature review. The negative trajectory caused by latent errors in the physical, social, and symbolic *Environmental Determinants of Care*, leading to the iatrogenic harms, such as, violence, seclusion and post-traumatic stress disorder (sanctuary trauma) is depicted at Figure 2.5 of the literature review (Chapter 2).

8.1.3 The research problem

A scoping review of the literature identified that the fundamental design issue in the design of acute inpatient mental healthcare facilities is the balance between controlling concrete hazards whilst creating a therapeutic milieu for consumer recovery.

It was clear from the literature that a risk averse or otherwise inappropriate material environment reinforced unhelpful relationships of domination and

submission, subverted therapeutic recovery objectives, and encouraged distrust between consumers and care providers, thereby jeopardising the safety of both (Andes & Shattell 2006; Borge & Fagermoen 2008; Holahan & Saegert 1973; Shattell, Andes & Thomas 2008).

The scoping review also established that a risk management focus on the control of physical hazards alone will not create a safe environment. While control of physical hazards works toward technical safety, in the absence of trust between consumers and care providers recovery oriented therapy is thwarted. The evidence indicated that the environment could be involved in the development of trusting relationships for safety to be achieved. The requisite acts of mutual trust are unlikely, however, without appropriate environmental signifiers of care, trustworthiness, and opportunities for risk taking.

In the literature, 'risk taking' has been described as synonymous with 'trust behaviour' and providers need to be able to trust that consumers are capable of taking risks in service to their recovery (Das & Teng 2004; Deutsch 1958). The latest edition of the Australian national mental healthcare policy recognizes the need for mutual risk taking in order for recovery to be possible (National Health Ministers' Advisory Council 2013). However, the role of the built environment in enabling this risk taking is not clear.

This research aimed to understand the effect of a building's physical, social and symbolic *Environmental Determinants of Care* on the building of trust and attainment of therapeutic purpose, and to determine whether environments conducive to trust building were also productive of safety and the prevention of

the adverse events of violence and aggression leading to seclusion (solitary confinement).

The antecedents and mediating factors involved in trust building and the maintenance of trusting in action are recognised as context dependent and environmental factors, including physical/material factors, are implicated in perceptions of the trustworthiness of people and institutions. Whether the manipulation of the built environment could enhance perceived trustworthiness or otherwise create spaces conducive to the building of therapeutic trust (and therefore safety) in acute inpatient mental healthcare units is less clear. This was the genesis of the research questions of this study -

1. How does the built/material environment affect the development of therapeutic trust between consumer and care providers in acute inpatient mental healthcare facilities?
2. Are places conducive to trust-building in acute inpatient mental healthcare productive of safety with fewer adverse events? and,
3. How do latent error-producing conditions introduced into the built environment cause harm in the care system?

The comprehensive scoping review of the literature unearthed a reliable pattern of findings on the behavioural impacts of acute inpatient mental healthcare environments but nothing directly addressed these questions. Most fundamentally, the premises underlying the questions could not be verified or falsified. While the literature supported the proposition that the habitats favoured by *Trust Advocates* may do no harm and may be beneficial, it did not

answer the actual research question into the mechanism by which this benefit is achieved, that is, how does facility design influence the building of therapeutic trust and the creation of safe places for recovery? How are these habitats productive of trust?

8.1.4 The theoretical propositions

A number of theoretical propositions emerged from the literature review -

1. That there are conflicting conceptions of risk in relation to safety in acute inpatient mental healthcare facilities;
2. That the dialectic between *Risk Warriors* and *Trust Advocates* is irresolvable in the absence of more rigorous scientific evidence;
3. That trust development is needed for delivery of safe, recovery-oriented acute inpatient mental healthcare;
4. That the physical, social and symbolic *Environmental Determinants of Care* (Figure 2.4 of the chapter 2 literature review) define the material environment in an acute inpatient mental healthcare facility;
5. That the *Environmental Determinants of Care* moderate the saliency and valence of trust development; and
6. That the *Constructing Trust Model* which emerged from the literature usefully describes the relationship between the *Environmental Determinants of Care* and safety in acute inpatient mental healthcare facilities (presented below at Figure 8.1 and at Figure 2.6 in the chapter 2 literature review.)

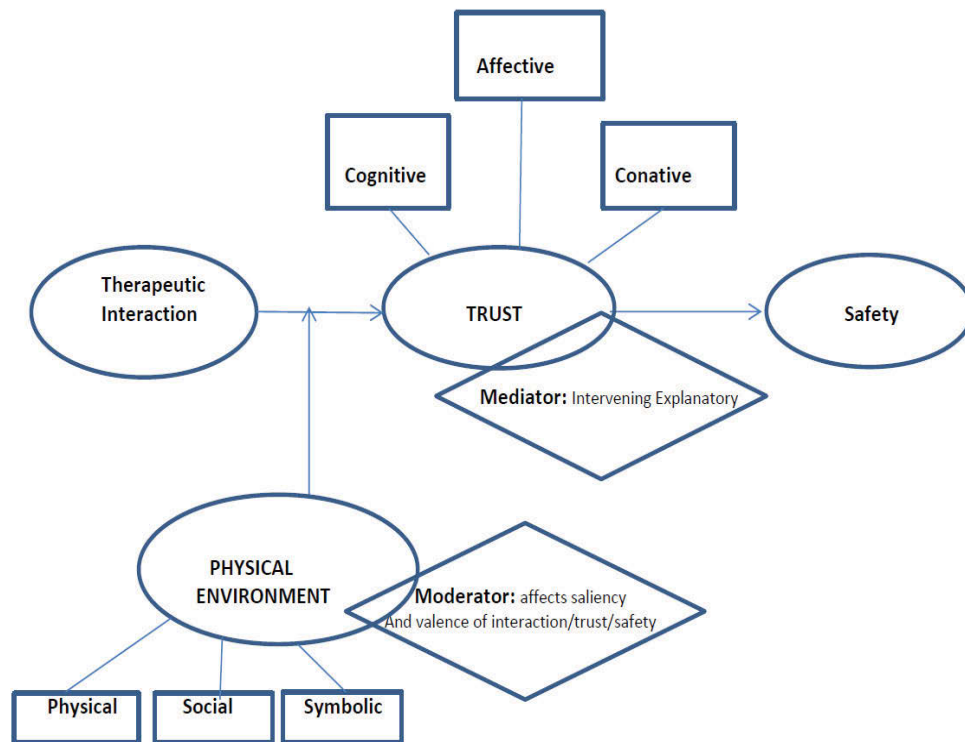


Figure 8.1: Constructing Trust Model

8.2 Summary of cross-case analysis

Findings across case studies were remarkably consistent even though each site had been selected for its uniqueness in terms of location (rural, regional centre, suburban, and inner city), catchment area (local, district, regional, or tertiary), collocation history (always, former neighbour, distant campus, general hospital moved to mental healthcare site) and procurement method (construct only (CO) (also known as Documented Design), design & construct (D&C), design, develop & construct (DD&C), and Design Development Construct & Operate (DDC&O)).

The same issues and themes emerged in the case studies, but were only broadly supportive of the theoretical propositions and only partially answered the research questions. Firstly, the built/material environment influenced the interaction between consumers and care providers but the mechanism remained

opaque and the *Constructing Trust Model* could not be verified or falsified.

Secondly, latent errors were introduced into care systems by upstream executive decisions, with unintended harm caused to consumers and care providers.

The comparison of the emergent findings in each of the case studies is summarised in Table 8.1 below -

	Blue Waters	Green slopes	The Farm	Happy Shores
The built environment influenced staff perceived consumer behaviour				
Collocation caused Colonisation by <i>Risk Warriors</i>				
Risk Management Priorities Rule				
Executive Driven Model of Care				
Executive priorities conflict with clinical model of care				
Insufficient Clinical Involvement in Design				
Distal executive decisions introduced latent error producing conditions				
Collocation brought dis-benefits				
Collocation Stigmatised mental illness				
Process of Facility Planning ignored by Executive				
The environment foresworn as <i>habitus</i>				
Scope to balance <i>Trust Advocates</i> and <i>Risk Warriors</i>				
No change management strategies				
Executive ignorant of how safety is achieved in Mental Healthcare				

Table 8.1: Cross Case Emergent Findings

The embedded case study at *Happy Shores*, where the effect of alterations to the built environment could be studied, produced a triangulated pattern of evidence supporting the following propositions that the built environment affected:

1. staff perceived consumer behaviour
2. staff work practices
3. staff perceived safety climate
4. staff reports of consumer aggression and violence
5. seclusion practices by staff

8.2.1 Consistent findings across cases

Consistent issues in the planning and design of acute inpatient mental healthcare facilities emerged out of all case studies but not all were predicted. Table 8.2 below summarises the consistent findings across all cases.

	Blue Waters	Green slopes	The Farm	Happy Shores
The built environment influenced staff perceived consumer behaviour				
Distal executive decisions introduced latent error producing conditions				
Collocation brought dis-benefits				
Collocation caused Colonisation by <i>Risk Warriors</i>				
Executive priorities conflict with clinical model of care				
Process of Facility Planning ignored by Executive				
Executive ignorant of how safety is achieved in Mental Healthcare				

Table 8.2: Consistent findings across cases

- **The built environment influenced staff perceived consumer behaviour and experience of care.** Notably -

- a. Staff at *Greenslopes* and *The Farm* reported decreased use of seclusion when consumers moved from dormitory accommodation to private bedrooms. Staff observed consumers avoiding or withdrawing from conflict situations and voluntarily going to their personal private spaces. These observations corroborate evidence in the literature that consumer behaviour and experience of care is influenced in a positive direction when consumers are rehoused from dormitories to single rooms. Giving consumers their own private space significantly reduces the incidence of violence and the use of seclusion, and increases the satisfaction of both consumers and care providers.
- b. Staff at *Happy Shores* reported fewer complaints and conflicts during the renovation and reduced violence toward the material environment afterwards. Eight months after installation the two colourful, naïve murals installed in the observation ward were not vandalised, whereas at the new MHICU the pale, uniform walls were defaced almost immediately. (MHICU patients are admitted to the Acute Ward at *Happy Shores* for assessment before being transferred to the MHICU so the different behaviour in the two separate units is noteworthy.)

- **Distal executive decisions introduced latent error into the care system that lead to consumer harm of violence, aggression and seclusion.**

Environmental decisions were made by non-clinical executives, heedless of the model of care clinicians were seeking to implement, and without

consultation. At both *The Farm* and *Greenslopes* policy directives on spaces and models of care were sent down without consultation or understanding therapeutic practice at either institution. The impact of these latent errors was least harmful at *The Farm* and most detrimental at *Happy Shores*. *The Farm* was not fully commissioned at the time of data collection and consumers were not fully using the new facilities so there was limited data but as with the other three facilities.

- **Collocation brought dis-benefits**

Collocation on hospital sites was meant to be de-stigmatising for mental healthcare consumers but in practice the policies protected the interests and sensibilities of the general hospital. Permeability with the community was threatened because risk management protocols intended for the management of physical disease and protection from iatrogenic events in that context were also applied to the mental healthcare units.

- **Collocation caused Colonisation by *Risk Warriors***

The government policy of collocation on hospital sites increased the dominance of the risk management paradigm. Mental healthcare was no longer independent and its therapeutic practices were threatened by *Risk Warriors* who sought to contain 'risk' behaviours. Problematic government policies arising from collocation included the policy of making all mental healthcare units locked units, and the policy that domestic (rehabilitation) accommodation was not allowed on hospital sites. Physical barriers were put in place to stop consumers wandering freely around sites or environs.

Even at the 83 hectare *The Farm*, once the general hospital was collocated on the site, *The Farm's* consumers were contained in their units behind walls and high fences. The extensive grounds were no longer freely accessible to consumers.

- **Executive priorities conflict with clinical model of care**

Models of care at all facilities were the result of upstream executive decisions unrelated to the preferred models of care championed by clinicians. Both at Greenslopes and The Farm were meant to create meaningful programs of care out of 'labels' issued from central government, such as '*phase of illness model of care*' and '*forensic assessment beds*'. Clinician involvement in design and planning was respectively: avoided, discouraged, not sought, or ignored.

- **Process of Facility Planning ignored by Executive**

At all facilities, Executive government ignored and did not comply with its own detailed *Process of Facility Planning*. Clinical models of care did not drive facility design but were either fully developed *post hoc* or adapted to the procured facility *post hoc*.

- **Executive ignorant of how safety is achieved in Mental Healthcare**

Despite the reliable pattern of findings in the literature, as to the role the *Environmental Determinants of Care* played in the creation of therapeutic spaces, *Risk Warriors* still dominated design decisions. In the planning and design of acute inpatient mental healthcare facilities risk management

priorities dominated trust development strategies. Given this was a common experience across all four sites, there was clearly a lack of organisational learning which suggested that executives were not accountable for decisions that lead to consumer harm of violence, aggression and seclusion.

8.2.2 Emergent findings in three cases

These key issues emerged in three interrelated ways and are summarised in Table 8.3 below in the Site-Risk Element Matrix.

Site/Aspect	Insufficient Clinical Involvement	Colonisation by Risk Management	Upstream Fiscal Priorities
<i>Blue Waters</i>			
<i>Greenslopes</i>			
<i>The Farm</i>			
<i>Happy Shores</i>			

Table 8.3: Site-Risk Element Matrix

8.2.3 Summary of Thematic Analysis

A number of themes emerged in the individual and cross-case analysis, and which are discussed in depth in the pages that follow. The themes are summarised in Table 8.4 below, which includes narrative extracts from the key informant interviews.

Site	<i>Blue Waters</i>	<i>Greenslopes</i>	<i>The Farm</i>	<i>Happy Shores</i>
Theme				
Conflicting conceptions of risk.	Risk Warriors drove technical safety. <i>"..that high level of security...I'm sure it doesn't make the patient feel 100% safe"</i>	Trust Advocates battle to retain openness and trust. <i>"..Open units have lower occasions of seclusion and also either have the same or lower absconding."</i>	Risk is everywhere. Whose safety?	The problem is the consumer. <i>"They think: 'Oh, my God! My life has come to this!' 'It should be bulldozed..."</i>
Planning & Design not informed by models of care.	OH& will protect us. Zero tolerance of violence is guaranteed <i>"...very focused on things the staff may have wanted rather than needs."</i>	We had to implement a phase of illness model of care: <i>"I had no idea what that was but it was my job to design it."</i>	<i>"No-one I've found in the State yet who can tell me what [forensic assessment beds] are for..."</i>	<i>"It should be demolished; it's virtually the unfixable place; patching, patching, always patching."</i>

Site	<i>Blue Waters</i>	<i>Greenslopes</i>	<i>The Farm</i>	<i>Happy Shores</i>
Theme				
Local action without systems thinking.	It is our (staff) safety that matters.	We advocate for consumers and change what we can ourselves because no one in authority will listen.	We are the system.	The problem is the individual consumer (who will settle down in seclusion). And the individual nurse (who just needs more training).
Collocation on general hospital sites.	Locked in. Kept out. What community?	Permeability has gone. What is stage of illness?	General hospital rules apply.	General hospital rules apply.
Inadequate clinical input.	What clinicians? <i>"Security was there....leading the way."</i>	They don't bother to consult us. We have to fight every step of the way.	We are at risk. We work together.	Clinicians should go away and stop complaining. You only need half the space.

Site	<i>Blue Waters</i>	<i>Greenslopes</i>	<i>The Farm</i>	<i>Happy Shores</i>
Theme				
The dignity of mental healthcare consumers at the discretion of the Executive.	We are in charge. Our facility is stunning. What's patient-centred?	We are advocates for our consumers. We want to aid their recovery.	We are changing but risk is everywhere. It will be much nicer for all of us.	You only need half the space. Consumers will settle down in seclusion.
Those with quite different care needs bundled together.	Keep all of you together under surveillance.	We try to separate psychosis from eating disorders.	Different spaces for different risks.	You are all the same. What's differential diagnosis? <i>"Separating the sexes in different corridors has worked really well; sexual assaults are down."</i>
Total Institutions.	Lock up the dangerous ones.	Locked wards are not our care model.	Risk is everywhere.	Lock them up. There is no way out.
Not fit for purpose.	"Stunning" But can't deliver the model of care: <i>"Didn't get that right."</i>	What is phase of illness? <i>"Not our model of care."</i>	Business as usual.	<i>"The environment gets in the way of any program of care."</i>

Site	<i>Blue Waters</i>	<i>Greenslopes</i>	<i>The Farm</i>	<i>Happy Shores</i>
Theme				
Where's the research?	We know what happens and what needs to be done to protect us. We work here.	We must build trust.	Risk is everywhere.	Who cares? <i>"How would I know what the patients think?"</i> Consumers will settle down in seclusion.

Table 8.4: Summary of thematic cross case analysis

8.3 Discussion of themes

8.3.1 Conflicting conceptions of risk

“The importance a building has in creating the spirit within it should not be underestimated.” Bruno Bettelheim, *A Home for the Heart* (1974, p 97)

Data from the four case study sites *Blue Waters*, *Greenslopes*, *The Farm* and *Happy Shores* confirmed the conflict between the risk management and trust development modalities of safety. This clash of views about the purpose and functioning of acute inpatient mental healthcare units, which most fundamentally reflected differing attitudes towards, and beliefs about, mental illness, and the role of the facility and care providers, was a most resounding theme across all case studies.

There were irreconcilable differences in the attitudes toward safety by *Risk Warriors* as opposed to *Trust Advocates* dating back to at least 1796. In 1796 in Britain, John Tuke, a member of the Religious Society of Friends built the York Retreat and effectively implemented a recovery model of care, reflecting the ethical and spiritual principles of the Society. Refuge was provided for those with disordered minds in the spacious, domestic surroundings of a well-furnished country farm/estate (Edginton 1997), (Scull 1975). The effectiveness of such an approach to managing acute mental illness is now well supported in the literature, suggesting that the psychologically mediated effects of the social and symbolic elements are strongly implicated in mental healthcare therapeutic outcomes (Borge & Fagermoen 2008; Dijkstra, Pieterse & Pruyn 2006). The

philosophy of care at the York Retreat was respectful and person-centred and, as reported at the time, it:

“...seems rather to consult the case of the patient than the case of the keeper.” (Scully 1975, p 634)

It is unlikely that built environments designed from the *Risk Warrior* perspective, intended to assert control over consumers and to contain and restrain their behaviours can be places of therapeutic trust building conducive to recovery. As Bourdieu argues, habitats are the most fundamental expressions of culture. Structuring an acute mental healthcare inpatient unit to meet concrete risk management priorities reproduces social relations of dominance, control and distrust, and not trust, empowerment (risk taking) and recovery. The evidence is that redesigning the built environment to accommodate a trusting, recovery oriented model of care, results in transforming the cultural system within the organisation creating a therapeutic environment (Curtis et al. 2013; Swartz 2002; Webster 2011). Neuro-architects concur with the aphorism: *“Emotions follow form”* (Nanda et al. 2013).

The absence of clinical leadership (as opposed to ineffective clinical leadership) was most apparent at **Blue Waters** where enforcement of OH&S general hospital policies, such as the ‘zero tolerance of violence’, did not allow for therapeutically necessary opportunities for risk taking and the building of trust in acute mental healthcare. Without informed clinicians being involved in the planning process, risk was conceived entirely from the OH&S risk management perspective. This was particularly problematic at *Blue Waters* because there was no parallel

change management strategy and frontline staff did not benefit from best practice training in de-escalation techniques during facility development. Traditional practices were not contested during design development and being collocated on the general hospital site led to the design intent becoming one of asserting control over the consumer and their perceived potential for violence.

8.3.2 Planning and design not informed by models of care

“..intimate surroundings that tell the patient he is just like you or me, only more so.”

Bruno Bettelheim, *A Home for the Heart* (1974, p 634)

Despite the elaborate *Process of Facilities Planning* (POFP) none of the four facilities were built to deliver any particular model of care. This was not just because of the Health Department’s adherence to its standard design solutions and schedules of accommodation, as set down in the *Australian Health Facilities Building Guidelines* (HFBG). In every instance the POFP was overridden by the Executive and the built solution became a political solution, influenced by local historical issues, and/or subject to resource demands elsewhere in the system, as at ***Greenslopes*** and ***Happy Shores***.

At ***Greenslopes***, clinicians, consumers and the community lost their battle to remain at their original site and the facility was collocated onto a general hospital site. Clinicians were directed to deliver a phase of illness model of care after the acute unit was built. The model of care had to be given meaning and it was written around the design and layout of the new campus. Design elements fundamental to the original *Greenslopes* model of care, such as self-contained

rehabilitation cottages to relearn activities of daily living were enclosed and the unit was locked.

At ***Happy Shores***, all decisions on design that fundamentally affected the model of care were made at the Executive or general hospital management level. The clinician's model of care was lost during design development when the budget was cut; and cut after clinicians had signed off on a building to deliver a recovery model of care. The shriven building was overcrowded and dangerous. The control of violence, self-harm and suicide were constant problems leading to more repeat episodes of seclusion and more episodes of seclusion in excess of four hours, than most other units in the acute mental healthcare system.

Clinicians were left in no doubt as to their powerlessness. Even a post occupancy evaluation commissioned by the Executive was ignored by the Executive, as were proposals made by clinicians to redress the patent dysfunctions of the new building. Clinicians were merely told that the building would come down and then services would be provided from a yet to be designed multi-storey building. Clinicians felt actively ignored by the Executive.

The finding that planning processes are not informed by models of care raises fundamental issues about Executive decision making processes and the unprecedented potential to introduce latent error producing conditions into the built environment. At a technical level, it raised questions as to the value of an elaborate health facilities planning process when it is so readily discarded by the Executive for pragmatic ends.

Despite espoused government policy, there was no indication in any of the case studies that a recovery model of care was of interest to the Executive at all. An indicative Executive decision was the policy of 'locked only' wards on acute hospital sites, ostensibly to prevent absconding, but even voluntary inpatients were unable to freely move between the unit and community, becoming effectively incarcerated, frequently without their consent. This policy not only raises serious legal and ethical issues (Cleary et al. 2009) but its effect is in conflict with policies on the therapeutic objective of recovery, whereby autonomy, self-management and self-control are meant to be encouraged by involving consumers in their own treatment planning and policy decisions (AHMAC National Mental Health Working Group 2004; Commonwealth of Australia 2009; Commonwealth of Australia 2010; Mental Health Drug & Alcohol Office 2011; National Health Ministers' Advisory Council 2013; Royal College of Psychiatrists 2011).

Under this modality, acute units are supposed to be integrated with, and not separated from the consumer's community life. The modern institution is meant to be coterminous with community mental healthcare (Arya 2011), (Curtis et al. 2007a; Edginton 1997; Gesler et al. 2004; Mahoney et al. 2009; Royal College of Psychiatrists 2011).

At ***The Farm*** the model of care did not really change. Security and risk reduction were the priorities. The new spaces were a vast improvement on the nineteenth century buildings but did not seek to implement a recovery model of care. There was an elaborate change management process to ensure the quality of the build

and support of the community while secure ways of the 'carceral' were maintained.

8.3.3 Local action without systems thinking

"Rather than being the instigators of an accident, operators tend to be the inheritors of system defects....their part is usually that of adding the final garnish to a lethal brew whose ingredients have been long on the cooking."

James Reason, Human Error. (1990)

It was evident both that the lack of systems thinking maintained the schism in attitudes between *Risk Warriors* and *Trust Advocates*, and that upstream Executive decisions on resourcing and environmental design had led to the potential for introducing latent errors into the care system. Approaching acute inpatient mental healthcare from an organisational accident perspective (as occurs in the general hospital environment) would encourage a more productive dialogue, and make iatrogenic-causing upstream executive decisions more transparent.

At **Blue Waters** the original intention of a creating a building conducive to the delivery of a recovery model of care was lost with the loss of clinical expertise in the design development team and the dominance of OH&S issues during planning. Staff safety had priority over consumer recovery. The approach was reportedly justified by the general hospital OH&S Manager, who was included in the project as the building was now on a general hospital site, and with the support of the front line nursing staff, on the basis of the Department's policy of *"zero tolerance of all forms of violence on health services premises..."*

(PD2015_001). Little consideration was given to how the policy should be implemented in the unique environment of a mental healthcare unit given conflicting policies in the mental health context, such as policies on the use of seclusion and restraint in mental healthcare units.

Instead the approach was an attempt to achieve general hospital safety standards by intensifying conspicuous custodial design elements and increasing the use of technologies of surveillance. The risk management paradigm masked the need to strike a balance between risk and therapy, and is neither effective nor sufficient to ensure safety in acute mental healthcare facilities (Hewitt 2008; Moon 2000; Moon, Kearns & Joseph 2006).

The *Conflicting Conceptions of Safety* model summarises the divide in perceptions between the perceived source of iatrogenic harms in non-mental health care and the perceived source in mental healthcare. In the former, it was widely accepted that it was the interaction between the components of the socio-technical system which created situations conducive to harmful events, whilst in the latter risk was perceived as intrinsic to the acute mental healthcare consumer. It was the consumer who was dangerous *in toto*.

Current reform in the mental healthcare sector has led to an increased emphasis on recovery strategies, and in 2013 the positive relationship between recovery and risk taking was accepted in government policy. But rather than being approached from a systems perspective, the focus in the new *National Framework for recovery-oriented mental health services* remains at the individual level of service delivery - what Charles Reason called 'the pointy end' - wherein

interventions are targeted at improving the capability of frontline clinical care providers to deliver a recovery model of care through the learning of de-escalation techniques.

The socio-technical system is not described and organisational efforts are directed entirely toward staff development and training in supportive recovery.

While extremely important, improving the skills of ‘operators’ alone is an insufficient organisational response to the avoidance, identification and mitigation of latent error producing condition. The trajectory to harm, however, can be described from a systems perspective and Reasons’ model was adapted to the acute inpatient mental healthcare environment by incorporation of the *Environmental Determinants of Care*. It was first presented in the literature review chapter but for ease of reference is presented below at Figure 8.2.

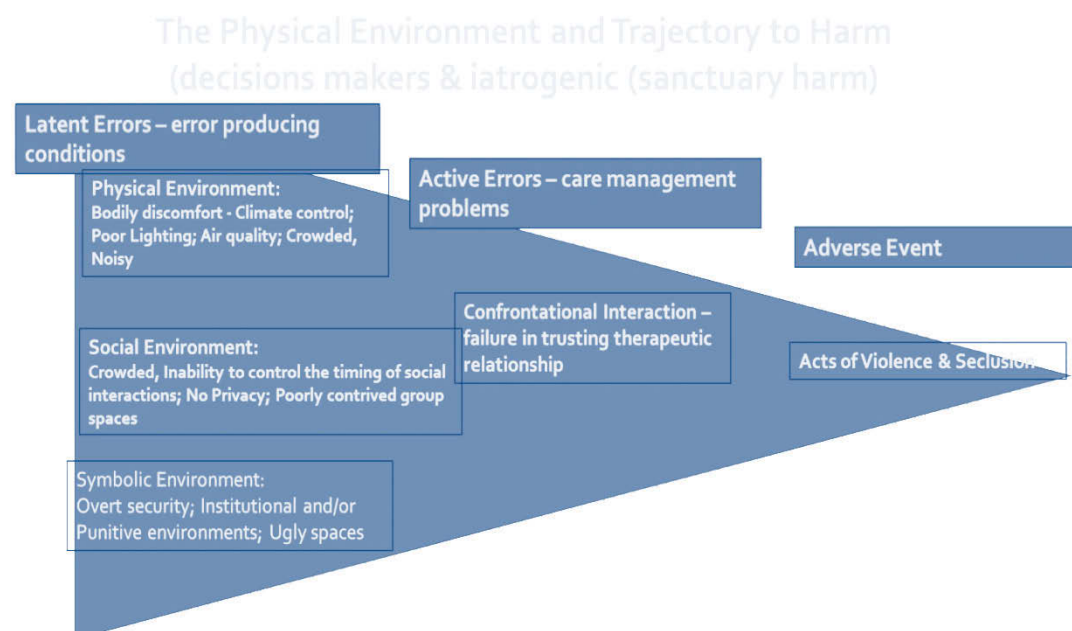


Figure 8.2: Trajectory to harm in acute inpatient mental healthcare

Safety needs to be addressed from the perspective of the socio-technical system, which includes the built environment yet only three lines in a ninety-six page

document outlining the new *National Framework* comment on the importance of 'home-like' facilities. Without more direction the risk management paradigm remain dominant in acute inpatient mental healthcare facility design. Where the acute inpatient mental healthcare unit is understood from a systems perspective, the interaction between people, activities and technologies (including the built environment) within the microsystem becomes the focus of enquiry.

8.3.4 Collocation on general hospital sites

"..shouldn't be too small, so that it seems confining, nor should it be so large that it appears overpowering. It should fit unobtrusively and harmoniously into the neighbourhood but without any loss of individuality.... a comfortable home that fits for living as an old shoe fits for walking. "

Bruno Bettelheim, *A Home for the Heart*. (1974 p. 98)

Collocation on general hospital sites was detrimental to the safety and recovery of consumers. **Blue Waters** was a stark example of collocation whereby general hospital policies overwhelmed the therapeutic milieu of an acute inpatient mental healthcare unit. **Greenslopes** could not fully deliver its model of care and was forced to comply with general hospital policies. **Happy Shores** suffered administrative decisions on funding and operations inimical to the intended model of care and inimical to the recovery of acute inpatient mental healthcare consumers. Despite mental healthcare being different from general hospital care, mental health clinicians had little control over policies that were made across the entire institution. For instance, the central administration had all the fire doors in the hospital painted red for no valid reason, introducing a discordant interior element into *Happy Shores*, whilst during the same period not

doing anything to deal with the rats infesting one of the pagodas, reportedly on the grounds that baits would create a suicide risk. The building was dysfunctional whilst surrounded by state of the art research and general hospital facilities.

Problematically for mental healthcare consumers in need of acute care, collocation on general hospital sites has seen an assertion of the *Risk Warrior's* ideals for acute inpatient mental healthcare units. This may well be exacerbated by the emerging belief that the therapeutic relationship is becoming an outmoded safety strategy in general healthcare and general hospitals. Current strategies in those contexts are focusing on the building of institutional trust through such bureaucratic devices as score cards, check lists, and formalised risk assessment and audit tools (Smith, 2004). Confidence in abstract systems is on the agenda of general hospitals and not the building of interpersonal therapeutic trust, particularly as clinicians in general hospitals are now being considered as interchangeable; as 'equivalent actors' (Amalberti et al. 2005).

In mental healthcare, however, the building of therapeutic trust is held to fundamentally underpin any successful transition from psychic trauma to recovery, and is fundamental to the production of safety. Interpersonal relationships between consumer and clinician matter in acute inpatient mental healthcare, whereas they may not in the operating theatres of general hospitals.

8.3.5 Inadequate clinical input

Related to the issue of insufficient clinical involvement in planning and procurement was the lack of respect accorded clinicians and the tendency for

upstream decision makers to override agreed building plans and/or models of care. Clinicians were left in no doubt that funding and policies on mental healthcare were easy for managers to shift and change, leading to disillusionment with the procurement process.

At **Happy Shores** clinicians were at best kept at bay, at worst entirely ignored. They had been involved in the initial planning of the new facility but the procurement methodology had made it quite easy for the Executive to override those decisions and slash spaces and services without consultation with clinicians or consumers. Even after an independent post-occupancy evaluation recommended an immediate redevelopment, followed by two written reports from clinicians, little was done. A new mega facility was promised, at some unspecified time in the future, and evidence of current consumer suffering and harm in the less than therapeutic conditions were ignored by the Executive.

Greenslopes was the part of the state government's bigger '*Resource Transition Plan*' which involved removing funds from acute inpatient mental healthcare. As one *Greenslopes* clinician described it, the entire process was one of "*robbing Peter to pay Paul*". The relocation decision was made independently of recommendation 10 of the Legislative Council's 2002 *Select Committee on Mental Health*, that the original inner city mental healthcare site should be redeveloped for long term rehabilitation care and as a place of refuge for service users without support structures (Legislative Council 2002).

8.3.6 The dignity of mental healthcare consumers at the discretion of the Executive.

“A mental health facility shall have access to the same level of resources as any other health establishment...”

United Nations Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Health Care. Principle 14 (1991)

The most vulnerable of hospital patients, acute mental healthcare consumers, were expected to tolerate intolerable conditions - inappropriate levels of surveillance at **Blue Waters**, stifling ambient conditions at **Greenslopes** (no air conditioning of sealed buildings) and inhumane conditions at **Happy Shores**. This was most poignantly evident at *Happy Shores*, where clinicians, architects and managers all agreed the facility was virtually uninhabitable and should be demolished forthwith, but no coherent plan for care of the consumers was immediately forthcoming.

This would not happen in this way in any other domain of health. For example, in planning surgical services a needs based model would be used to estimate the number of operating theatres needed to meet demand, and those would be built in accordance with the agreed standards for a safe, effective and efficient surgical suite. *Happy Shores* was in breach of guidelines and clinical standards and could only cause consumer and care provider harm. It was overcrowded, poorly built, with dysfunction designed into the fabric of the building. The Executive was unresponsive to the potential for harm that was built into the building. It was as if mental healthcare consumers just did not matter.

At a very prosaic level, while non-mental healthcare units were routinely air conditioned and had cafes, gardens and outdoor spaces, the HFBG did not allow for air conditioning of patient areas in acute inpatient mental healthcare units, which were secured areas with permanently closed windows and residents who could be in the facility for many months. At *Happy Shores*, *Greenslopes* and ***The Farm*** costly retrofitting of air conditioning in patient areas was needed.

8.3.7 Those with quite different care needs bundled together

“Every patient is entitled to care and treatment in accordance with the same standards as other ill persons.”

United Nations Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Health Care. Principle 8(1), (1991)

In accord with the lack of empathy for acute inpatient mental healthcare consumers generally demonstrated was the ongoing practice of bundling all forms of mental illness together in the one small, sometimes very small, space. Whereas in general hospitals, care is provided in specialised, dedicated units, such that infectious disease cases are not cared for in the same ward as new born infants, or cardiac surgical patients are not cared for in the palliative care unit, in acute mental healthcare units people with psychosis cohabitated the same places as those with eating disorders or depression. There was no segregation of people by type of illness. There was no segregation of genders. When ***Greenslopes*** implemented single sex wards they discovered that the rate of violence and sexual assault went down. There had been a presumption (not based on evidence) that male only wards would be more dangerous for women.

There was a complete disregard for the potential exacerbation of symptoms arising from traumatic experience by the lack of streaming, even the ‘phases of illness’ model, dictated by the executive, presumed just one form of mental illness and was referable only to ‘phases’ of recovery. Indeed the entire “*phases of illness*” model imposed at *Greenslopes* can be understood as the mainstream health sector’s commitment to clinical pathways and efficiency methodologies. In the United Kingdom the Institute for Innovation and Improvement developed a mental health intensive care pathway but then cautioned that the approach may be problematic in mental healthcare as:

“...adequately describing the process of care for acute mental illness is more problematic. There are identifiable stages between referral for care and discharge but the pathway metaphor....does not fully reflect the complexities of inpatient psychiatric care.” (Kearney & Dye 2010, p 60)

8.3.8 Total Institutions

“Every patient shall have the right to be treated and cared for, as far as possible, in the community in which he or she lives.”

United Nations Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Health Care. Principle 7(1), (1991)

The rationale given for relocating acute inpatient mental healthcare units onto general hospital sites was that this would destigmatise mental illness. The issues emerging from the data suggested quite the opposite. There was a re-emergence of the clinic as a total institution with consumers cut off from the

wider society, barriers to social intercourse with the outside, and restrictions on departure from the institution built into the fabric of the building (Goffman 1961). These institutions were not permeable and contiguous with community care as expected in a recovery model of care.

Blue Waters had only voluntary admissions but it was reportedly more secure than the forensic hospital and no-one was allowed to leave. And unlike the general acute care setting, inpatients in mental healthcare settings are generally physically well and may spend months living in the facility, even with delivery models in which the mental healthcare facility is intended for short-term crises stabilization only. The move toward closed and locked wards aggravates problems as it means that physically well and able people spend 24 hours a day for perhaps six months effectively in detention. In the absence of a valid and promulgated evidence base to guide design it is possible that environments built to meet old practice models may re-introduce additional stressors that exacerbate consumer ill health, even leading to sanctuary harm.

The decision to collocate the 174 bed, 12 building **Greenslopes** mental healthcare precinct adjacent to, but not integrated with, a large teaching hospital, did not accord with the spirit of the 1983 Richmond Report and its recommendation to focus care in the community and break down large institutions (Richmond 1983). The new precinct on the new site was not integrated with either the general hospital or the community.

At **Greenslopes** the clinicians, consumers and community members had actively fought to remain on their original riverside site. A Select Parliamentary

Committee had supported the retention of the site for rehabilitation buildings but the government of the day ignored the committee, clinicians, consumers and community members. *Greenslopes* was collocated onto a suburban general hospital site as a locked facility, thereby freeing up valuable inner city river frontage for the government to sell for development. Fiscal priorities overrode retention of a model of care founded on recovery principles. Clinicians were also directed to accommodate practice to new buildings about which they had not been consulted.

8.3.9 Not fit for purpose

“Every patient shall be protected from harm, including unjustified medication, abuse by other patients, staff or others or other acts causing mental distress or physical discomfort.”

United Nations Principles for the Protection of Persons with Mental Illness and for the Improvement of Mental Health Care. Principle 8(2), (1991)

A modernist architectural maxim is that *‘form should follow function’* and the corollary may be that *function is affected by form*, which means that design could inhibit therapeutic purpose and potentially influence behaviour negatively.

None of the facilities in this research met fitness for purpose criteria as well as they should have, given the oldest facility was only 10 years old and the newest not yet fully commissioned. ***Happy Shores*** in particular breached all departmental policies and guidelines and could not deliver a recovery model of care.

Blue Waters and *Happy Shores* both showed failures in planning and design for the recovery model of care but *Blue Waters* was built to a high standard, while *Happy Shores* was not because of upstream Executive decisions to save money, heedless of the needs of consumers. The prevailing view of the clinicians was that after fourteen years of inaction the unit should be bulldozed.

Custodial practice norms in mental healthcare have proven resilient over time. It is difficult to change clinical practices, particularly when professional training has occurred in environments with inappropriate physical, social or symbolic elements structuring relational dynamics and expectations (Bowers et al. 2009), (Ashmore 2008), (Whittington & Richter 2005).

Plexi-glassed, closed nurse stations are not conducive to the building of trusting relationship between staff and consumers (Shattell, Andes & Thomas 2008), (Curtis et al. 2007a). Dreary, damaged spaces are not conducive to energized social participation (Christenfeld et al. 1989), (Holahan & Saegert 1973). The mental models held about security and safety by stakeholders who have been trained in therapeutically impoverished environments are brought to the health facility briefing process. That tacit knowledge can lead to the inclusion of inimical design elements in new facilities that reflect the 'ghosts of the past'.

'Zero tolerance' policies to control aggression and violence against staff in general hospital areas, when applied in the same way in an acute inpatient mental healthcare unit, served to undermine recovery strategies. The imposition of such general hospital policies interfered with the learning and practice of clinical de-escalation techniques that do not jeopardise steps towards recovery

and a reclaiming of autonomy and identity (Secker et al. 2004; Wand & Coulson 2006).

Clinicians at *The Farm* had a much better opportunity to engage with the development process than they would otherwise have had because of the political fallout associated with a disastrous DDC&O at a neighbouring country town. The contractor worked collaboratively with the clinical change management and implementation team in a manner not usually associated with PPP financing arrangement, in that, clinical priorities were allowed to influencing planning during design development, sometimes contrary to contractual obligations. That did not mean that innovative changes were implemented at *The Farm*. It had a state wide tertiary catchment and a recent staff death at the hands of a low risk patient encouraged a defensive model of care to be built into the building fabric. The buildings were clinical buildings reflecting *Risk Warrior* design priorities.

8.3.10 Where's the research?

The paucity of good quality quantitative research in the literature is indicative of the challenges faced in the naturalistic study of complex phenomena not amenable to positivist methodologies (Richter & Hoffmann 2014), (Connellan et al. 2013). Rather than being the result of explanatory pre-test post-test studies, quality research has usually been generated using constructivist and phenomenological methods (Connellan et al. 2013). This is particularly the case when studying the social and symbolic environmental elements of a building. But according to the positivist epistemological paradigm favoured in the health

sciences, such methodologies lack rigour or power, and their findings are not generalisable. And psychiatry, as with medicine generally, pursues definitive evidence of causation through the use, in particular, of the randomised double blind control trial. Thus, from the perspective of the dominant stakeholder in the healthcare system (medical clinicians), the evidence linking environmental design and environmental behaviour is poor, and designers do not gain advocates for evidence based design solutions (Pati & Barach 2010).

Bryan Lawson (1997, 2013) attributes the lack of scientific rigour in design studies to the different ways designers and scientists think. He calls the application of scientific knowledge in the design process “uncomfortable” because the way designers hold and apply knowledge is different. Science defines the problem and then studies it, whereas in design, problems emerge throughout the process of design (Lawson 2013), (Lawson 1997). It is not so much ‘*a way of knowing*’ as ‘*a way of creating*’. And particular loci of design, such as acute inpatient mental healthcare units, are integrally part of a human socio-technical system which must be well understood to ensure that the purpose of the system permeates the design.

Designers act more like ethno-methodologists and anthropologists than positivist scientists when attempting to understand the required design milieu. The design process itself involves the recursive refinement of solutions as problems and constraints emerge through the process. In particular, any attempt to incorporate an atomistic research finding late in the design process may unravel

the knitted together solution that was developed during the design process (Lawson 1997; Lawson 2002a).

The increasingly humane design solutions of today are grounded in the tacit knowledge of professionals rather than definitive research, and as such remain contestable. Thus, while innovative changes have been implemented, and are government policy, there is constant pressure to retain (or return to) custodial models of practice (Qurashi et al. 2010), (Lamont & Brunero 2009), (Curtis et al. 2009), (Curtis et al. 2007b), (Abderhalden et al. 2007), (Woods 2007), (Stolker, Nijman & Zwanikken 2006), (Lawoko, Soares & Nolan 2004), (Khadivi et al. 2004), (Scull 1975).

Given the absence of rigorous positivist evidence, design and planning decisions, even when informed by the available qualitative evidence, hold a somewhat provisional status in health care. Designs are vulnerable to business pressures for change, leaving the procurement process open to seemingly arbitrary and counter-productive decisions by the executive, and at all four case study sites, distal business decisions by the executive introduced error into the care system, with potentially tragic consequences.

Upstream decisions of the Executive may not be influenced by even a reliable and coherent pattern of design evidence when the methodologies are not respected by key stakeholders. Most well-designed quasi-experimental studies on the impact of inpatient environments on consumers and staff have been conducted in general hospital settings. There are few trustworthy and generalizable studies of the impact of environmental design on outcomes in

acute inpatient mental healthcare units (Andes & Shattell 2006; Borge & Fagermoen 2008; Connellan et al. 2013; Dijkstra, Pieterse & Pruyn 2006; Lawson 2013; Papoulias et al. 2014; Richter & Hoffmann 2014; Shattell, Andes & Thomas 2008; Tanja-Dijkstra & Pieterse 2011; Taylor et al. 2009; Ulrich et al. 2008).

As consumers perceive care and safety in terms of the physical, symbolic and social environments of *Environmental Determinants of Care*, in order to deliver the recovery model of care the built environment needs to address the *Determinants* (Gesler et al. 2004), (Dijkstra, Pieterse & Pruyn 2006), (Codinhoto et al. 2009).

The revolution in neuroscience research challenges the ontological foundation of positivist science, Cartesian dualism, wherein rationality and somato-sensory experience are not accorded the same validity, reflected in Rene Descartes' famous seventeenth century aphorism: "*I think; therefore I am.*" (Abel 2013).

Medical care is founded on this positivist tradition and has understood behavioural responses to environments as idiosyncratic to the particular person and their illness, rather than having an identifiable biological basis in the brain. Evidence that there are biological pre-cognitive responses to somato-sensory experience confirm the findings of behavioural studies into the psychologically mediated effect of environments on behaviour and outcomes (Dijkstra, Pieterse & Pruyn 2006; Maslow & Mintz 1956; Mintz 1956; Pressly & Heesacker 2001; Richter & Hoffmann 2014; Tanja-Dijkstra & Pieterse 2011).

8.4 Results of the Narrative Analysis

The dialectic between *Risk Warriors* and *Trust Advocates* identified in the literature review was confirmed in narrative analysis of the interview data, which showed that professional and managerial subcultures strongly influence conceptions of safety about acute inpatient mental healthcare facilities. The dialectic between *Risk Warriors* and *Trust Advocates* was determined by organisational culture, professional subcultures and level of involvement in management.

Each site was distinctively marked by a particular sense making to explain/justify the manner in which care was delivered, often without consideration of the implications for consumers. The sense making narratives of clinicians at the front line are summarised in Table 8.5 below -

Site	Organisational Narrative	Outcome
<i>Blue Waters</i>	A nurse was seriously assaulted by a consumer the previous year in the old unit. The front line staff needed to feel safe and demanded maximum security and surveillance in the new unit. The material environment was seen as an OH&S tool to protect the staff and control the behaviour of consumers. Protection of staff was strongly championed by the Risk Manager from the General Hospital.	A totally secure unit with an emphasis on surveillance CCTV rather than therapy, even though admissions were predominately voluntary. And consumers still managed to abscond.

<i>Greenslopes</i>	The clinicians here struggled to keep the open community model of care enjoyed at their old site. Macro level organisational directives from government required all wards to now be locked. Clinicians were particularly distressed that on site rehabilitation housing was hastily enclosed to conform with a new policy prohibiting residential accommodation on hospital sites (after mental healthcare units had been moved to hospital sites). The meaning the organisation attached to these policies was that politicians were catering to irrational community fears about consumers. The government was viewed as wanting to be seen as keeping the community in the new locale safe by locking up consumers. The large site had been designed with a lot of outside spaces, like the previous site, but it could never be properly used by consumers as they were not allowed to wander freely in the grounds. The general hospital was averse to any consumers wandering around 'its	Clinicians adapted and changed the material elements that they could, for instance, refusing to have any CCTV in the seclusion room, not enclosing the nurse station, and providing a readily accessible and free domestic style phone. Practices of trust, such as leaving the seclusion room door open when in use, were the norm. Nevertheless, the move to the new site had not been a popular one and was seen clinically as regressive.
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	campus', even to go to the shops. The facility had previously had a supportive community around it. Not now. It and its consumers were pariahs.	
<i>The Farm</i>	The clinicians talked a lot about collaboration, recovery and engaging with community. Yet as a tertiary facility the talk was more about allaying community fears while building for security and the safety of staff. A death of an experienced staff member the previous year at the hands of a voluntary admission classified as low risk underpinned the sense of everyday threat felt by clinicians at the facility.	A modern secure space, much improved from the nineteenth century accommodation that had previously existed, but very clinical and orthodox in layout and the colour template used.
<i>Happy Shores</i>	The clinicians despaired of the place and the budgetary cuts that had led to an overcrowded and inadequate facility, devoid of therapeutic spaces. They were demoralised and divided between, on the one hand, those who saw themselves as compassionately soldiering on in adversity to protect their consumers as best they could. And on the other hand, those who	Old practices were entrenched as the staff saw themselves as coping with dangerous consumers in a dysfunctional and dangerous physical environment.

	struggled to cope with pressures to change practice when the physical environment was inimical to anything other than a custodial approach.	
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Table 8.5: Sense Making by Site

8.5 Impact on Incidents and Use of Seclusion

The only site for which incident and seclusion data was available was *Happy Shores* but confounding alternative explanations made interpretation of even simple count data problematic. The extended delay in commencing data collection, because of general hospital risk management protocols, saw significant management and staffing changes associated with the opening of a Mental Health Intensive Care Unit on the site and confounded interpretation. As a result these data were useful to the analysis.

8.6 Current trends in inpatient mental healthcare facility design

“..intimate surroundings that tell the patient he is just like you or me, only more so.”

Bruno Bettelheim, *A Home for the Heart*. (1974, p 634)

“our intentions ...are conveyed by the smallest details of our behaviour and of the physical environment with which we surround our patients.”

Bruno Bettelheim, *A Home for the Heart*. (1974, p 9)

Traditionally the performance of a healthcare building has been gauged by its functionality from the perspective of clinical staff. In mental healthcare facilities this has been reflected in the choice of social and symbolic design elements including: large institutions; intrusive surveillance; and, impersonal dormitories

for the 'passive' bodies awaiting a medical intervention (Foucault 1963), (Foucault 1975). This clinician-centric approach exerts influence, for example, although the HFBG recommends, in line with the espoused recovery model of care, the provision of domestic beds for psychiatric patients, compliance is made subject to the *"needs of the staff who may still have to make beds"* (AHFG at 134.32.00).

Implementation of consumer-centred design means that hospital designs are to be devised from the consumers' perspective, and address their anxieties and concerns about their illness, treatment, and well-being (Turton et al. 2010), (Borge & Fagermoen 2008), (Andes & Shattell 2006), (Shattell, Andes & Thomas 2008), (Curtis et al. 2007a), (Middelboe et al. 2001), (Christenfeld et al. 1989). Hence, healthcare providers are now meant to routinely include consumers in the planning and design process, drawing on their experiences to inform policies and design (Carr et al. 2011) to ensure their perspective and experiences are taken into account (Carr et al. 2011).

In the seminal Holahan & Saegert (1973) study, remodelling of the experimental ward was based on the preferences and dislikes of both consumers and staff, as elicited in interviews (Holahan & Saegert 1973). Involving consumers in the development of policy and care programs that affect them is expected to have significant benefits for recovery and is in line with state and national government priorities (NSW Health 2006), (Commonwealth of Australia 2010; National Health Ministers' Advisory Council 2013).

The interdependency, and what Curtis et al (2009) calls the “permeability”, between the components of today’s delivery care model should be reflected in the architectural symbolism of mental healthcare buildings. Humanistic and therapeutic interactions with consumers are encouraged through appropriate design of the physical environment of care, the social environment of care, and the symbolic environment of care (Gesler et al. 2004), (Curtis et al. 2009), (Curtis et al. 2007b), (Curtis et al. 2013), (Mahoney et al. 2009), (Whittington & Richter 2005), (Scull 1975), (Moon 2000).

Preservation of an archaic design language signifying the institution as a bounded site of incarceration, rather than one of respect, respite and stabilization *within the community*, is counterproductive (Curtis et al. 2009), (Middelboe et al. 2001).

Experienced architects now recommend units be designed to be open but lockable and with embedded security, leading to an architecture that isn’t hidden behind walls and obvious approaches to containment (World Health Design, 2010).

When a consumer-centred care approach is adopted metaphors of domesticity and nurture dominate design solutions (National Health Ministers' Advisory Council 2013; Scull 1975). The latest metaphor from this perspective is the “*urban village*”, with any required security elements adaptable and hidden from consumer view, to avoid detracting from the therapeutic symbolism of home, hearth and community.

A number of new mental healthcare facilities (outside the jurisdiction of the NSW Ministry of Health) have attempted to move away from building designs

evocative of a custodial model of care. Rather, they attempt to apply evidence based design and recovery principles to create patient centred therapeutic spaces for healing damaged minds. Architectural innovators attempt to reconcile 'security' and 'perceived openness' so that risks of violence and self-harm do not overwhelm the need for a therapeutic environment. The ideal architecture of the 21st century's acute inpatient mental healthcare facility is the architecture of community living spaces and healing environments (Dobrohotoff & Llewellyn-Jones 2011), (Curtis et al. 2009), (Payne & May 2009), (Codinhoto et al. 2009), (Mahoney et al. 2009), (Lawson 2002b, 2013), (Dijkstra, Pieterse & Pruyn 2006), (Gesler et al. 2004), (Devlin & Arneill 2003), (Gross et al. 1998), (Willis 1980).

8.7 Limitations of the Study

This study set out to examine the theoretical proposition that the physical, social and symbolic environments of care, summarised in the *Environmental Determinants of Care* model, was implicated in the trust building needed for the creation of safe, recovery oriented acute inpatient mental healthcare environments. Using the mixed methods of interview, focus group, survey, document & artefact analysis, including utilisation, seclusion and incident data, a rich picture of the relationship between trust, the built environment and safety could be synthesised and summarised in the *Constructing Trust Model*.

While the study provides a new approach to this very old question, it suffers from a number of the same limitations as those identified in the scoping review of the literature – data collection and timing issues.

Firstly, however, the consumer voice is absent from the study as interviewing consumers was not planned as an aspect of data collection.

Secondly, there were the usual problems associated with the naturalistic study within a dynamic, contemporary context, which most is fundamentally that the context keeps shifting and changing, and an *a priori* theory is required to allow interpretation of the phenomena under investigation, such as the organisational accident theory of patient safety used in this study. Particularly at the *Happy Shores* site, where the opportunity arose to study the effect of alterations to the built environment on staff reported consumer behaviour and satisfaction, only provisional conclusions could be made about the effect because of the number of rival explanations available, such as:

1. Concurrent staff training in the management of aggression reduced staff reported aggression, violence use of seclusion.
2. The distraction of the refurbishment activity itself led to a reduction in staff reported aggression, violence use of seclusion, but only during the refurbishment.
3. The opening of a mental health intensive care unit on the same site reduced the acuity of *Happy Shore* consumers thereby reducing staff reported aggression, violence, and use of seclusion.

Other limitations of the *Happy Shores* case study included:

1. The *Happy Shores* refurbishment did not affect the building envelope so the building was as overcrowded as ever, with both absolute (spatial) and social density, the known precursors of violence, unchanged.
2. The inadequate, cramped and confusing arrival area was not altered so all the arrival problems, which lead to a practice of seclusion on admission, remained unchanged.
3. The alterations that were made may have been too subtle and limited to have an effect.
4. There was no baseline safety climate survey against which to compare staff perceptions after the alterations were made with those before the alterations.
5. Any effect can be expected to decline over time but the study will not be able to determine whether the decay is due to the deterioration of the environment over time, or simple regression to the (unchanged) norm.
6. Staff turnover at the site was frequent and rapid for internal organisational reasons as well as the poor quality of the built environment and unsatisfying work environment.

Thirdly, data collection at *Blue Waters*, *Greenslopes* and *The Farm* was hampered by internal political tensions between the commissioning Authority and the Department of Health, as most sources of evidence were held by the Department and not the original commissioning Authority. At *Happy Shores* the amount of time that elapsed between inception of the project on 29 May 2012

and its commencement in November 2012 (so that general hospital risk management protocols could be followed and technical safety at the site made certain) caused initial enthusiasm for the project falter, particularly as staff turned over rapidly at the site. Without an internal clinical champion the process of data collection was stymied. Even with the support and encouragement of senior clinicians, on the ground data collection was very slow until an internal champion re-emerged.

In the end there was an over-reliance in all cases on interview data, which had not been intended when the study was first designed.

8.8 Future Research

Following on from the discussion of the limitations of the research are many possibilities for future research, including the further work needed to validate and elaborate the *Constructing Trust Model*. Of particular interest would be investigating the personal constructs of staff and consumers in relation to how they perceive spaces in the acute inpatient mental healthcare environment. Preliminary work using repertory grid technique suggests that a vocabulary of trust building design elements could be devised to guide the balancing of the conflicting conceptions of safety in planning and design of acute inpatient mental healthcare environments.

Further quantitative work, using interrupted time series analysis, needs to be conducted to study the link between environmental changes and incident data, and the use of seclusion. Any link between environments and cleaning and

maintenance costs could be quantified in a cost-benefit analysis of the impact of the built environment on violence to the material environment.

8.9 Conclusion

This realist study set out to understand how the physical habitat/material environment of acute inpatient mental healthcare units supported or hindered the creation of trust and therapeutic safety, and not simply the technical safety of hazard reduction. This dialectical approach to the research problem structured the research design, development of the research questions and approach to data collection.

The case study was chosen as the most appropriate methodology for naturalistic study of this problem as it allows study of operational links over time and addressed the questions of '*how*' and '*why*'. It did not privilege one type of method over another but allowed the use of a wide range of methods to ensure sufficient triangulation of data for testing of consistency and convergence in the themes that emerged from the data. Data was collected from four case studies, including a site where alterations to the built environment could be evaluated for their effect on staff perceived consumer behaviour as elicited in interviews and focus groups, and more objectively in staff reported incidents of aggression, violence and use of seclusion.

While the research questions and theoretical propositions were only somewhat supported by the evidence adduced in this study, the policy implications

emerging from the thematic analysis were very important for the procurement of acute inpatient mental healthcare buildings.

The data clearly shows that upstream executive decisions introduce latent error into the material/built environment. More surprisingly, in all case studies executive decisions determined, or profoundly affected, the model of care, with senior clinicians at the facilities not noticed, ignored, avoided or opposed. The implications for mental healthcare consumers are quite serious, as are the implications of collocating acute inpatient mental healthcare on general hospital sites, which are governed by the risk management ideology of *Risk Warriors*. In the recovery-oriented model of mental healthcare, risk taking by consumers is a fundamental part of therapy, and mutual risk taking essential to facilitate recovery. According to *Trust Advocates*, therapeutic trust relationships and the interpersonal trust that is built up between consumer and care provider is the firmament of the recovery model of care. The therapeutic relationship matters in acute inpatient mental healthcare.

Appendix 2.1: Quantitative Research Evaluation Tool

Criteria	Consequences
Credibility of Research	
Credentials of the research team	Is there ability to undertake the research and would it have been funded adequately to achieve its results?
Integrity and Potential for Replication	
Clarity of intentions	Purpose and aims are clearly identified and stated with a doable research question for a quasi-experimental or experimental designs
Relevance to literature	Balanced and critical review of most current literature Identify gap in the literature and refine the research question Identify types of resources and if primary sources are not used, why not.
Conceptual framework	Is there an appropriate theoretical or conceptual framework (including themes from the literature) that sets the boundaries of the study?
Ethical considerations	Is good, ethical research practice evident: non-maleficence, beneficence, autonomy and justice
Research design	Appropriate for the aims of the research and doable Experimental (random assignment with control seeking causation), Quasi-experimental (limited control over variables, causation), Non-experimental (descriptive: cross-sectional, correlational, comparative, longitudinal – discovers relationships and provides insights for further research; tentative explanations)
Measurement	
Validity of Instrument (Internal validity)	Accuracy: measures the concept it is intended to measure. If an indicator contains little error it is valid. Face Validity, Consensual (Agreed-Expert) Validity, Correlational (correlates with valid others) or Predictive (predicts outcome of interest)
Reliability of instrument	Objectivity: Consistently assigns the same numbers to some phenomenon in time and space and when measured by different people. Subjectivity (when?), level of precision ($p < 0.05$) Pr error, Corroboration (repeated measures give same value)
Generalizability (External validity)	
Power	Sample size to avoid sampling error. Case selection from target population.
Probability sample	Representativeness of sample
Level of Evidence	Level 1: strong evidence from at least one systematic review of multiple well-designed randomized controlled trials; Level 2: strong evidence from at least one properly designed randomized controlled trial of appropriate size Level 3: Evidence from well-designed trials, such as pseudo-randomised or non-randomised trials, cohort studies, time series or matched case-controlled studies Level 4: evidence from well designed non-experimental studies from more than one centre or research group or from case reports. Level 5: opinions of respected authorities, based on clinical evidence, descriptive studies or reports of expert committees.

Adapted from: Royal Melbourne Hospital. Evidence Direct – Levels of Evidence. http://mh1.mh.org.au/library/eds/levels_of_evidence2.htm Accessed 1/02/2011; Coughlan, M.; Cronin, P.; Ryan, F. Step-by-Step guide to critiquing research. Part 1: quantitative research. British Journal of Nursing 2007 16(11): 658-663

Appendix 2.2: Qualitative Research Evaluation Tool

Criteria	Considerations
A. Methodological rigour (trustworthiness of practice)	
Congruence (validate methods)	Research design: (i) methodology/approach/paradigm fits issue (ii) methods fit methodology (iii) conduct fits methodology. [Clarity of research questions/aims assists understanding of intention, evaluate congruence with methods, researcher's permeability and learning from encounters suggests voices have been heard.]
Responsiveness to social context (evidence of Δ design)	(i) Emergent research design: developed, adapted and responsive to real-life situation under scrutiny. (2) Sampling, data collection and analysis: engaged with participants and familiar with study context. [Purposive sampling: aims to select appropriate information sources to explore meanings. Theoretical sampling:
Appropriateness (validate methods)	Sampling: (i) Were sampling strategies suitable to identify participants and sources? (ii) Were data gathering methods suitable for research question?
Adequacy (validate methods)	(1) Sampling: (i) Sufficiency for full description (ii) Descriptors of participants, how sampled, level and type of participation (2) Data collection and analysis: (i) Description of process (ii) Did analysis inform subsequent data collection iteratively (iii) multiple sources of information (iv) were methods of collection sensitive to participants' language and views (v) Were corroborating, illuminating and rival accounts gathered and analysed to explore multiple aspects of the issue (3) Written Report: Is the description of the methods detailed enough to enable the reader to understand the context of what is being studied?
Transparency (evidence of Δ design)	Data collection and analysis: (i) transparency of processes (ii) how are rival/competing accounts dealt with (iii) did the process privilege participants' knowledge
B. Interpretive rigour (trustworthiness of interpretations)	
Authenticity	Presentation of findings and interpretations (i) participant voices (quotes) (ii) range of voices including dissenters (iii) would descriptions and interpretations be recognizable to participants (iv) were researcher-researched power relations handled?
Coherence	Presentation of findings and interpretations (i) do the findings plausibly 'fit' the data? (ii) how much of the data is taken into account (iii) have perspectives of researchers been taken into account?
Reciprocity	(1) Data analysis, findings and interpretations: were interpretations shared/negotiated with participants? (2) Written report: were participants involved?
Typicality	Written report: what are the claims of generalizability?
Permeability of the researcher's intentions, engagement, interpretations	Findings and interpretations: (i) is researcher's role transparent (ii) was the researcher's understanding of that social world develop/change (iii) are the researcher's intentions, preconceptions, values or preferred theories revealed (iv) is the researcher's personal experience made explicit? (2) Written Report: (i) are researcher's intentions, preconceptions, values or preferred theories revealed? (ii) is researcher's personal experience in the research process apparent?

Adapted from: Fossey, E.; Harvey, C.; McDermott, F.; Davidson, L. Understanding and evaluating qualitative research. Australian and New Zealand Journal of Psychiatry 2002 36:717-732; Travaglia, J.; Braithwaite, J.; Debono, D. Protocol for the Rapid Assessment, conceptualization and timely, concise analysis of the literature [PRACTICAL] 2008 Centre for Clinical Governance Research in Health, Faculty of Medicine, University of New South Wales

Appendix 3.1: Table of Methods

Evidence	Data Sources	Participant/Data Collected	Analytical methods
Documents	Area Authority	a. Annual reports b. Briefing documents prepared for the refurbishment c. Minutes of refurbishment meetings d. Drawings and schema developed during refurbishment planning and procurement e. Emails pertaining to the refurbishment f. Project Progress Reports g. Relevant media reports h. Other data collected on acute inpatient mental healthcare facility design in NSW.	Prepared a chronology of the Unit's history and the refurbishment. Thematic analysis of available documents
Archival Records	Area Authority	a. Architectural plans and schedules of accommodation as built and with alterations and changes in use identified; refurbishment changes marked on the drawings. b. Post-occupancy evaluations c. Weekly <i>Happy Shores</i> utilization data d. Weekly <i>Happy Shores</i> seclusion incidents and durations e. Weekly incident reports	1. Comparison of Spatial Densities against Benchmarks: Calculate average person densities from the schedule of accommodation, utilization data and staffing norms; and compare with the Australasian Health Facilities Building Guidelines, other NSW Mental Health Units. 2. Description of workload and activity at <i>Happy Shores</i> 3. Description of Unit adverse events mapped against the progress of the building works at <i>Happy Shores</i>
<u>Physical Artefacts</u>	Area	Photographs of spaces and design elements	Visual data sorted by the spatial taxonomy
<u>Interviews</u>	In-depth interviews	Key informant interviews	Narrative and thematic analysis: Interviews were audio-taped, transcribed and loaded into NVivo version 10 for analysis. The text was analyzed to identify general themes and

			perspectives on the relationship between environmental conditions, safety and work processes.
	Focus Groups	Front-line clinical staff only. Prompt: <i>“ We are going to talk about what it is like working at Happy Shores and whether you feel the refurbishment has made a difference to your experience and that of your patients”</i>	Narrative and thematic analysis: The groups were audio-taped, transcribed and loaded into NVivo version 10 for analysis. The text was analyzed thematically and the narrative analysed to understand how the group interpreted and made sense of the relationship between environmental conditions, safety and work processes.
<u>Survey</u>	Essen CES	15 front line staff completed the 15 item questionnaire	Scoring and comparison The initial set of EssenCES scores was summed and compared against available norms.

Appendix 3.2: Essen Climate Evaluation Schema (EssenCES)



Essen CES[®]
 Essen Climate Evaluation Schema (rev. 2010)



I agree

		not at all	little	somewhat	quite a lot	very much
1	This ward has a homely atmosphere	☐	☐	☐	☐	☐
2	The patients care for each other	☐	☐	☐	☐	☐
3	Really threatening situations can occur here	☐	☐	☐	☐	☐
4	On this ward, patients can openly talk to staff about all their problems	☐	☐	☐	☐	☐
5	Even the weakest patient finds support from his fellow patients	☐	☐	☐	☐	☐
6	There are some really aggressive patients on this ward	☐	☐	☐	☐	☐
7	Staff take a personal interest in the progress of patients	☐	☐	☐	☐	☐
8	Patients care about their fellow patients' problems	☐	☐	☐	☐	☐
9	Some patients are afraid of other patients	☐	☐	☐	☐	☐
10	Staff members take a lot of time to deal with patients	☐	☐	☐	☐	☐
11	When a patient has a genuine concern, he finds support from his fellow patients	☐	☐	☐	☐	☐
12	At times, members of staff are afraid of some of the patients	☐	☐	☐	☐	☐
13	Often, staff seem not to care if patients succeed or fail in treatment	☐	☐	☐	☐	☐
14	There is good peer support among patients	☐	☐	☐	☐	☐
15	Some patients are so excitable that one deals very cautiously with them	☐	☐	☐	☐	☐
16	Staff know patients and their personal histories very well	☐	☐	☐	☐	☐
17	Both patients and staff are comfortable on this ward	☐	☐	☐	☐	☐

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Appendix 3.3: Standard Essen CES Scoring Key



Essen CES[®] | Scoring Key

Essen Climate Evaluation Schema (rev. 2010)



Qualität für Menschen

PC	Patients' Cohesion	Σ =
ES	Experienced Safety	Σ =
TH	Therapeutic Hold	Σ =

I agree

not at all

little

somewhat

quite a lot

very much

1	not scored		
2	The patients care for each other	PC1	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
3	Really threatening situations can occur here	ES1	☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0
4	On this ward, patients can openly talk to staff about all their problems	TH1	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
5	Even the weakest patient finds support from his fellow patients	PC2	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
6	There are some really aggressive patients on this ward	ES2	☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0
7	Staff take a personal interest in the progress of patients	TH2	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
8	Patients care about their fellow patients' problems	PC3	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
9	Some patients are afraid of other patients	ES3	☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0
10	Staff members take a lot of time to deal with patients	TH3	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
11	When a patient has a genuine concern, he finds support from his fellow patients	PC4	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
12	At times, members of staff are afraid of some of the patients	ES4	☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0
13	Often, staff seem not to care if patients succeed or fail in treatment	TH4	☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0
14	There is good peer support among patients	PC5	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
15	Some patients are so excitable that one deals very cautiously with them	ES5	☐ 4 ☐ 3 ☐ 2 ☐ 1 ☐ 0
16	Staff know patients and their personal histories very well	TH5	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4
17	not scored		☐ ☐ ☐ ☐ ☐

• print out and copy on an OHP transparency •

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Medical and Community Human Research Ethics Advisory Panel

8 April 2013

Ms Potter Forbes

Reference: *"Constructing Trust in Mental Healthcare: the role of the built environment"*

Reference Number: 2013-7-12

Reference: Potter Forbes, Johnson, Travaglia

At its meeting of 2 April 2013 the Medical and Community Human Research Ethics Advisory Panel was satisfied that this project is of minimal ethical impact and meets the requirements as set out in the National Statement on Ethical Conduct in Human Research. Having taken into account the advice of the Panel, the Deputy Vice-Chancellor (Research) has approved the project to proceed subject to the following amendments .

This approval is valid for 12 months from the date of the meeting. Please provide a copy of this letter to your Head of School.

Yours sincerely

Dr Heather Worth
Chair
Medical and Community Human Research Ethics Advisory Panel

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2 May 2013

Ms Potter Forbes
Australian Institute of Health Innovation
Level 1 AGSM building
University of NSW
KENSINGTON NSW 2052

Dear Ms Potter Forbes

HREC ref no: 13/083 (LNR/13/POWH/177)
Project title: Constructing Trust in Mental Healthcare: the role of the built environment

Thank you for submitting the above Low/Negligible Risk Application for review by the Human Research Ethics Committee (HREC). Based on the information you have provided and in accordance with the NHMRC guidelines [National Statement 2007 – Section 5 Institutional Responsibilities and “*When does quality assurance in health care require independent ethical review?*” (2003)], this project has been assessed as low risk and is therefore exempt from full HREC review.

The project was considered by the HREC Executive Committee on 2 April 2013. The Committee asked for clarification of certain matters/modifications and delegated authority to grant final approval to the Executive Officer.

I am pleased to advise that with your correspondence dated 2 May 2013 the requested information and revised documents were received incorporating the recommendations of the Executive. Ethical approval has been granted for the above project to be conducted at:

- Prince of Wales Hospital

The following documentation has been approved:

- Low/negligible risk application, submission code AU/6/FFB1112, dated 21 March 2013
- Response to HREC queries, dated 26 April 2013
- Summary and table of methods, not dated
- Participant Information Sheet and Consent Form, version 3, dated 2 May 2013
- Interview Questions, not dated
- Focus Group Questions, not dated
- Essen CES Safety Climate Survey, not dated
- Triad of Visual Stimuli (repertory grid technique), not dated
- Recruitment Poster, not dated

Prince of Wales Hospital
Community Health Services
Barker Street
Randwick NSW 2031

51777 290711

Conditions of approval

1. This approval is valid for 5 years from the date of this letter.
2. Annual reports must be provided on the anniversary of approval.
3. A final report must be provided at the completion of the project.
4. Proposed changes to the research protocol, conduct of the research, or length of approval will be provided to the Committee.
5. The Principal Investigator will immediately report matters which might warrant review of ethical approval, including unforeseen events which might affect the ethical acceptability of the project and any complaints made by study participants.

Optional It is the responsibility of the sponsor or the principal (or co-ordinating) investigator of the project to register this study on a publicly available online registry (eg Australian New Zealand Clinical Trials Registry www.anzctr.org.au).

For NSW Public Health sites only: You are reminded that this letter constitutes ethical approval only. You must not commence this research project until you have submitted your Site Specific Assessment (SSA) to the Research Governance Officer of the appropriate institution and have received a letter of authorisation from them.

Should you have any queries, please contact the Research Support Office on (02) 9382 3587. The HREC Terms of Reference, Standard Operating Procedures, membership and standard forms are available from the Research Support Office website:
<http://www.seslhd.health.nsw.gov.au/POWH/researchsupport/default.asp>.

Please quote **HREC ref no: 13/083** in all correspondence. We wish you every success in your research.

Yours sincerely

Deborah Adrian
Executive Officer, Human Research Ethics Committee

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*, NHMRC and Universities Australia *Australian Code for the Responsible Conduct of Research (2007)* and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.



Health
South Eastern Sydney
Local Health District

RESEARCH SUPPORT OFFICE

Room G71, East Wing
Edmund Blacket Building
Prince of Wales Hospital
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RANDWICK NSW 2031
Tel: 02-9382 3587
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15 May 2013

Ms Mary Potter Forbes
Australian Institute of Health Innovation
Level 1 AGSM building
University of NSW
KENSINGTON NSW 2052

Dear Ms Potter Forbes

SSA ref no: 13/G/095

HREC ref no: 13/083 (LNR/13/POWH/177)

Project title: Constructing Trust in Mental Healthcare: the role of the built environment

I refer to your Site Specific Assessment application for the above titled Low/Negligible Risk research project. I am pleased to advise that on 15 May 2013 by the delegated authority of the Chief Executive, I granted authorisation for the above project to commence at the Prince of Wales Hospital.

The following conditions apply to this research project. These are additional to any conditions imposed by the Human Research Ethics Committee that granted ethical approval:

1. Proposed amendments to the research protocol or conduct of the research which may affect the ethical acceptability of the project, and are submitted to the lead HREC for review, are copied to the Research Governance Officer.
2. Proposed amendments to the research protocol or conduct of the research which may affect the ongoing site acceptability of the project are to be submitted to the Research Governance Officer.

If you have any queries relating to the above please contact the Research Support Office on 9382 3587.

Yours sincerely

Helen Fraser
Manager Research Support Office

Prince of Wales Hospital
Community Health Services
Barker Street
Randwick NSW 2031



Health
South Eastern Sydney
Local Health District

EASTERN SUBURBS MENTAL HEALTH SERVICE

16th August 2012

A/Professor Johnson
Deputy Director
Centre for Clinical Governance Research
Australasian Institute of Health Innovation
Level 2, AGSM Building
UNSW 2052

Dear A/Professor Johnson

I refer to the research project entitled *Constructing trust in mental health: the role of the built environment* by *Mary Potter Forbes*.

This project has the full support of *Eastern Suburbs Mental Health Service, South Eastern Sydney*, subject to the individual consent of the potential participant(s).

DR ANN HODGE
SERVICE DIRECTOR
MENTAL HEALTH PROGRAM EXECUTIVE

cc. *Mary Potter Forbes*

ESMHS | Mental Health Executive
The Euro Centre
POWH
Barker Street
Randwick NSW 2031
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Fax: 02 938 22389

1



1st March 2013

A/Professor Johnson
Deputy Director
Centre for Clinical Governance Research
Australasian Institute of Health Innovation
Level 2, AGSM Building
UNSW 2052

Dear A/Professor Johnson

I refer to the research project entitled *Constructing trust in mental health: the role of the built environment* by Mary Potter Forbes.

This project has the full support of *NSW Health Infrastructure*, subject to the individual consent of the potential participant(s). Ms Potter Forbes may use the data collected on the quality improvement project, *Health Facility Planning and Procurement: A NSW Health Infrastructure Quality Improvement Project*, subject to the individual consent of participant(s).

Yours sincerely

.....

Robert Rust
Chief Executive Officer

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