FRACTURED MINDS TO... FLOURISHING MINDS

REBECCA WALLACE

FRACTURED MINDS TO... FLOURISHING MINDS

REBECCA WALLACE



A 120 POINT THESIS SUBMITTED TO VICTORIA UNIVERSITY OF WELLINGTON IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTERS OF ARCHITECTURE.

VICTORIA UNIVERSITY OF WELLINGTON, SCHOOL OF ARCHITECTURE, 2019

Abstract

Youth suicide and self-harm are major public health concerns worldwide. The high rate of youth suicide and intentional self-harm in New Zealand, illustrates that there is a large amount of youth experiencing severe mental illness, as mental illness corresponds to suicidal/harmful behavior. Although more youth are seeking and receiving help, a large portion who are suffering are unwilling to engage in services, due to stigma surrounding mental health. Characteristics of the built environment can effect wellbeing and therefore architecture holds significant implications for the mental health of individuals.

Inpatient environments are an effective intervention for the treatment of a range of severe mental illnesses, however there is a definitive lack of acute inpatient facilities for youth in New Zealand. A shift in the way mental healthcare services are provided has meant that large psychiatric hospitals have been closed or downsized and compulsory inpatient treatment has given way to voluntary engagement with community mental health services. This has not eliminated the need for inpatient care and there still remains a need for these highly specialized environments. These current specialized environments are generally not designed to benefit the mental health and wellbeing of patients, but are just regarded as settings in which recovery takes place.

This thesis aims to explore how architecture can act therapeutically to support the wellbeing of individuals suffering mental illness. It looks at how architecture can retain the dignity of these patients, and challenge conventional norms of prior mental healthcare environments. This thesis aims to integrate Maori and Pacific models of health and wellbeing in order to allow improved care and treatment for Maori and Pacific groups. It responds to the lack and unsuccessful architectural responses for youth in New Zealand and in particular, the central region and aims to design a new mental health inpatient and outpatient facility specifically for youth suffering mental illness.

Acknowledgements

Thank you to my parents and my lovely friends for all the emotional support, encouragement, reassurance and words of wisdom. Thank you to the CREDS for helping me through an immensely tough year and getting me to where I am today. I am forever grateful for you all. Lastly thank you to my supervisor Jackie McIntosh, for the knowledge and guidance throughout this research. This research is extremely close to home for me and I am pleased to hear that it will be built on in the future.

Contents

- 1 Introduction
- 2 Literature review
- 3 Case studies
- 4 Site
- 5 Preliminary program
- 6 **Preliminary form**
- 7 Preliminary design
- 8 Preliminary design reflection
- 9 Developed program
- 10 Developed form
- 11 Developed design
- 12 Developed design reflection
- 13 Exterior details
- 14 Interior details
- 15 Final design
- 16 Construction and services

- 17 Conclusion and final reflection
- 18 Bibliography and Figures
- 19 Appendices

1.0 Introduction

The introduction identifies the problem of this research in relation to four key areas. The decline in the mental health of New Zealand's youth in 'A social perspective'. The mental, physical, social and spiritual effects of mental illness in 'Mental illness effects'. The lack of architectural facilities for youth suffering severe mental illness and the inadequate nature of these facility's in 'An architectural perspective'. Lastly how stigma has arose from these inadequate facilities in 'An architectural and social perspective'. This chapter finally identifies key statistics and poses the research question, "How can architecture act therapeutically to support the healing and wellbeing of youth suffering mental illness?"



A social perspective

The mental health of youth is a major public health concern worldwide. This is a large concern in New Zealand as statistics show youth aged 15-24 hold the highest rate of hospitalisations for intentional self-harm and suicide amongst all age groups (MOH, Suicide facts: Deaths and intentional self harm hospitalisations, 2013, pp. 1-2). This illustrates that there is a large amount of youth experiencing severe mental illness, as mental illness corresponds to this harmful behaviour. More specifically out of the proportion of victims "who die by suicide, over 90% suffered an associated psychiatric disorder at the time of their death" (MOH, Best practice evidence based guideline: The assessment and management of people at risk of suicide, 2003, p. 4). The most common psychiatric disorders associated with this are depression and anxiety disorders, however ADHD, psychosis and schizophrenia also common (MOH, Best practice evidence based guideline: The assessment and management of people at risk of suicide, 2003, p. 4). Youth are at a vulnerable age full of rapid change and are at the greatest risk of developing a mental disorder, in fact "the greatest vulnerability for developing a mental disorder occurs between the ages of 15-18" (MOH, Te Raukura: Mental health, alcohol and other drugs. Improving outcomes for children and youth., 2007, p. 3) Therefore it is important to support youth experiencing mental illness in order to potentially prevent suicide and intentional selfharm.

In regards to mental illness associated with ethnic groups the rate of suicide among the Māori population is the highest followed by European, pacific and other (MOH, Suicide facts: Deaths and intentional self harm hospitalisations, 2013, p. 1). Maori are over represented in mental health services and an improved care and treatment for Maori is needed. Improved care and treatment is also needed for Pacific populations as hospital admission statistics have shown Pacific people's delay or avoid seeking treatment from mainstream psychiatric services (Tamasese, Pereru. Waldegrave, & Bush, 2005, p. 301). Mental health facilities have also been criticized for often ignoreing cultural and local contexts and therefore failing to respond to patient's needs (Bil, 2016, p. 499).

The nationwide concern in the mental health of youth has initiated an increase in Child, Adolescent, Mental Health Services and Nongovernment organisations. This has resulted in more youth being able to seek and receive mental health services. Although more youth are able to access mental health services, studies have shown that only a minority of suicide victims received treatment, even after expressing mental difficulties or suicidal intent (Marttunen, Aro, & Lonngvist, 1993, p. 13). More specifically only 25% of people who die by suicide had been in contact with mental health services in the year before their death (MOH, Best practice evidence based guideline: The assessment and management of people at risk of suicide, 2003, p. 4). This concludes that there a still a portion of youth experiencing severe mental illness that are not receiving help. Durie highlights the importance of the development of youth mental health services stating "Rather than trying to add on a youth program to an otherwise fairly conventional mental health service, more attention need to be given to services which are primarily aimed at youth." (Durie, 1999, p. 10).



Figure 1.01 - Mental effects of mental illness.



















1.3

An Architectural perspective

Prior to the 1970's, psychiatric institutions provided long term care for individuals suffering mental illness, with the role to treat and manage symptoms. Deinstitutionalisation enabled a shift in mental healthcare from being based in these psychiatric institutions to becoming primarily outpatient services (Kritsotaki, Long, & Smith, 2016, p. 4). Due to this, compulsory inpatient treatment gave way to voluntary engagement with mental health services in the community and enabled large psychiatric institutions to be closed or down sized (MOH, Office of the Director of Mental Health Annual Report 2016, 2017, p. 2). The closure of these psychiatric institutions did not eliminate the need for inpatient care and a renewed interest towards the end of the 1990's emphasised its value, as community care may not be suitable for all patients. The acute mental health ward is now the equivalent of these psychiatric institutions. These smaller specialist units however have not met expectations, with criticism that the negative traits of asylums, including living in a confined space with strangers and inadequate facilities have persisted, while positive traits of large open spaces grounds have been neglected (Chrysikou, 2014, p. 33). There has also been critique that many look battered and makeshift with inadequate finishing's, shocking overcrowding, and lack of creative thinking that does little to lift patient's spirits . There are three acute mental health inpatient facilities in New Zealand specifically for children and adolescence. Regional Rangatahi inpatient services located in Kenepuru Hospital consists of 17 beds with referrals from all over the central region including Hawkes Bay, Palmerston north, Wairarapa, Kapiti, the Hutt Valley and Wellington. Due to this lack of accommodation, patients have often had to travel to other DBHs or stay in adult inpatient units. These young people often found these adult inpatient units traumatic, however being sent to other inpatient units in other regions meant separation from their families and friends (MHC, 2011, p. 21).



Figure 1.05 - Regional Rangitahi child and adolescence inpatient unit exterior.



Figure 1.06 - Regional Rangitahi child and adolescence inpatient unit garden.

1.4

An Architectural and social perspective

Not only did deinstitutionalisation enable a shift in the way mental healthcare services were provided, but it also intended to initiate a transformation in the relationship between society and the mentally ill. By integrating the mentally ill into society with community based services, it diminished the idea that the mentally ill had to be set apart from society, with the hope to also diminish stigma (Kritsotaki, Long, & Smith, 2016, pp. 4-5). This was unsuccessful and instead of uniting people who suffered mental illness with their communities, barriers were formed based on stigma, discrimination, inadequate social functioning and limited financial means (Durie, 1999, p. 7). The shift from these psychiatric institutions to smaller acute mental health facilities which were integrated into general hospital sites, was intended to normalise mental illness by treating it in the same way physical illness was treated. Mental healthcare environments are however, still linked with negative connotations relating to the formal elements and the guality of the built environment adding to this stigma (Bil, 2016, p. 499). The quality of the built environment is often inadequate with inappropriate spatial/functional components which result in architecture that does not provide suitable environments for patient. The formal elements of mental healthcare settings are linked with asylums and prisons and therefore holds negative connotations of isolation and captivity (Bil, 2016, p. 499). Stigma has a strong presence in society, especially in the adolescent population and those who have received inpatient treatment. It has been confirmed that stigma is a major concern and barrier for youth who are seeking help for self-harm or are being diagnosed with a mental illness (Saunders, Hawton, & O'Connor, 2012, p. 2379).



Figure 1.07 - Regional Rangitahi child and adolescence inpatient unit back entrance.



Figure 1.08 - Regional Rangitahi child and adolescence inpatient unit main entrance.

1.5 Key statistics



Figure 1.09 - Suicide vs age group.

Figure 1.10 - Self-harm vs age group.



Figure 1.11 - Ethnicity vs suicide.







1.6 Conclusion

"Characteristics of the built environment can effect wellbeing and directly influence mental health" (Evans, 2003, p. 536), therefore mental healthcare environments hold significant implications for the success of treatment, overall recovery of individuals, along with their broader wellbeing. This thesis aims to explore how architecture can act therapeutically to support wellbeing and restore mental health. It looks at how architecture can retain the dignity of patients, and challenge conventional norms of prior mental healthcare environments. This thesis aims to integrate Maori and Pacific models of health and wellbeing in order to allow improved care and treatment for Maori and Pacific populations. It responds to the lack and unsuccessful architectural responses for youth in New Zealand and in particular, the central region and aims to design a new mental health inpatient and outpatient facility specifically for youth suffering mental illness.

How can architecture act therapeutically to support the healing and wellbeing of youth suffering **Mental illness?**

2.0 Literature review

An initial literature review revealed three key topics and from these an architectural design criteria was established to address problems identified in chapter one. 'Architecture as therapy' explores how the mental and physical properties of architecture can contribute to wellbeing and allow therapeutic space. 'Architecture for dignity' explores how to design for privacy, safety/security and autonomy/choice while keeping the patients dignity intact. 'Architecture for diversity' explores how Maori and Pacific models of health and wellbeing can be integrated into the program to allow for a culturally diverse design.

2.1 Design criteria



Figure 2.01: Design criteria established from initial liturature review.



Architecture as therapy

Multisensory stimulation

Phenomenology in architecture is the study of the experience of space. In phenomenological thinking the physical world and the mind are interwoven. Pallasmaa enforces that architecture infuses both physical and mental structures and that when designing physical space, we are also designing mental space as it guides our actions, stimulates our interests and evokes specific moods (Pallasmaa, 2014, p. 82). Pallasmaa further elaborates on the relationship between physical and mental space and concludes that due to this merging, the experience of architecture is unique upon each individual. The perception of architecture strongly relies on the imagination, as this is how we evaluate and judge environments and acknowledge our behavioural choices within the space. Unconscious projections, experience, memory and empathy also play a key part in the mental projection of architecture, contributing to how we use a space, feel about it, and relate to it (Pallasmaa, Mind, Body and Imagination: The Mental Essence of Architecture, 2015, p. 59). Due to this interaction the physical design of Mental Healthcare environments significantly influence an individual's experience and can either allow or discourage therapeutic action (Howard, 2004, p. 69). Critical to this experience of space and the projection of architecture in the mind is the body and senses. This is highlighted by Pallasmaa who states "Every touching experience of architecture is multisensory: Qualities of space, matter and scale are measured equally be the eye, ear, nose, skin and tongue" (Pallasmaa, The Eyes of the Skin : Architecture and the Senses, 2012, p. 45). The dominant approach to architecture that focuses on the visual interpretation does not address integrated sensory experience. This sensory deprivation can have harmful effects on physiological, psychological and social wellbeing, furthermore restricted sensory dimension of modern buildings are resulting in people feeling a detachment from their surroundings. The mentally ill can often feel a detachment from themselves or their environments and therefore this multisensory experience of architecture could enable a

reconnection. Multisensory interaction with architecture directs consciousness back to the world and allows the user to fully engage, strengthening "ones sense of being in the world, and this is essentially a strengthened experience of self" (Pallasmaa, The Eyes of the Skin : Architecture and the Senses, 2012, p. 45).

Evidence based design

Medicine is moving towards evidence based medicine where choices are informed by research, therefore it is only fitting that healthcare architecture is moving towards evidence based design and is guided by research linking healthcare environments to healthcare outcomes. An influential figure in evidence based design is professor and research academic Roger Ulrich, who has identified a number of design strategy's that can improve healthcare outcomes. It is important to consider design strategy's that are linked with positive outcomes related to wellbeing in the design of mental healthcare environments. The number one design strategy which has been shown to have the largest number of positive outcomes involves designing for privacy with the provision of single bed rooms. Outcomes related to mental health and wellbeing include, improved patient sleep, improved privacy allowing better communication and openness with staff/ patients, improved social support and patient satisfaction and a reduction in patient and staff stress (Ulrich, 2008, p. 107). Another design strategy involves access to daylight and appropriate lighting. Quality and quantity of daylight exposure and artificial lighting is associated with various outcomes which include improved patient sleep, reduced depressive symptoms and increased mood, shorter lengths of stay, improved communication with patients and families, and improved patient and staff satisfaction. Therefore, planning of mental healthcare facilities should consider how sufficient day lighting can be achieved (Ulrich, 2008, p. 109). Noise reducing finishes and sound absorbing materials can reduce noise and allow positive outcomes which include improved patient sleep, improved patient satisfaction and

reduced patient stress, along with staff stress (Ulrich, 2008, p. 110). Lastly considerable amount of research has examined the psychological/ physiological effects of views to nature and have found that exposing patients to nature lessens stress and anxiety and improves concentration (Ulrich, 2008, p. 110)

Nature

Interacting with nature, either passively or actively can have benefits on an individual's mental health (Sachs & Cooper Marcus, 2014, p. 179). Natural environments awaken senses, encourage physical movement, facilitate social interaction, reduce stress/depression and generate positive physiological and psychological responses. Therefore encouraging relationships with nature in mental health settings is essential, as often patients isolate themselves from the outside world or are disconnected from reality and their environment. A reconnection with the natural environment can allow a reconnection to others and themselves through opportunity's to interact with others and connect with their senses (Paget, 2004, p. 79). Firm boundaries in these environments provide a place of safety that patients may not have experienced in their homes or communities and also allow a place for patients to learn, play, dwell interact with others and exercise (Paget, 2004, p. 79). A visual/ physical connection with nature is especially important in inpatient settings as they tend to have limited access to outdoor space. Due to the vulnerability of specific clients these

gardens must be designed to allow for specific provisions that suit their needs. A non-institutional environment is important as a homelike environment provides the feelings of normalcy (Sachs & Cooper Marcus, 2014, p. 182). The primary concern however, is the safety of users. This involves avoiding the use of objects that could be used to harm oneself/others (Sachs & Cooper Marcus, 2014, p. 181). Security is also a primary concern where the patient is confined against their will. This involves avoiding opportunity's that could allow elopement (Sachs & Cooper Marcus, 2014, p. 182). Privacy and security must be balanced and although allowing staff supervision may be necessary, this should not completely disrupt privacy. Comfort is also an important consideration and therefore providing areas of shade is essential as patient's conditions/medication may mean sensitivity to sunlight. Comfort also relates to a human scale as this is much more relaxing (Sachs & Cooper Marcus, 2014, p. 182). As the unknowing can be particularly daunting for those suffering mental illness, outdoor spaces must be understandable for patients and not cause confusion. Material selection is also important as patterns and texture of materials could cause delusions for patients (Sachs & Cooper Marcus, 2014, p. 183). These provisions are all essential to create an outdoor space that is safe, secure, private and comfortable for patients so they are able to gain the therapeutic benefits.



Figure 2.02: Architecture as therapy design criteria.



Architecture for Dignity

Safety and Security – Observation

Safety and security is essential in mental health settings as patients are at risk of harming themselves or others, however this should not come at a cost of the patient's dignity. Conventional approaches to designing for safety and security include details such as flush mounted and unbreakable fixtures/fittings and safe glass, along with the inclusion of stable, fixed or heavy furniture without sharp corners, and a clutter free interior with adequate storage (MOH, Criteria for the Design and Refurbishment of Psychiatric Acute and Intensive Care Facilities, 2002, p. 7). An alternative approach concludes that the best way to reduce risk and allow safety/security is by forming a mutually satisfying trusting relationship with patients. When a psychiatric system has a low tolerance of risk, there is more restriction and less autonomy as staff are obligated to take on a more assertive role. However, when a psychiatric system has a higher tolerance of risk it allows more obligations, possibilities and responsibilities (Firth, 2004, p. 174). This mutually trusting relationship can be established through less intrusive forms of security for instance visual exposure. The ability to maintain observation is vital in the design of psychiatric facilities to prevent violence and suicidal/harmful behaviour. This can be achieved by a clear layout that minimises the need for intrusive forms of security (Chrysikou, 2014, p. 45).

Folocault was a philosopher who was concerned with the nature and role of the prison system which translated to how discipline works in a modern society. Folocault's architectural examples have made his work translatable to architectural discourse, with the themes of continuous surveillance and general visibility. His work has supported the idea that architecture has the power to affect behaviour through surveillance. In discipline and punish, Foucault explains how we have shifted to a society of surveillance and as a metaphor uses the panopticon as a general model to describe the power relations achieved not only in prisons but schools, factory's and hospitals (Foucault, 1995, p. 205). The panopticon utilizes light and exposure as a means of observation as "Full lighting and the eye of a supervisor capture better then darkness" (Foucault, 1995, p. 200). In his design of the panopticon, Bentham established the principals that power should be visible and unverifiable. Visible as the prisoners will constantly have the tower in view and the understanding they are being watched and verifiable as the prisoners must never know whether they are being watched. These ideas mean that the number of guards who occupy the tower can be reduced, while the number of those being observed can increase. It also ensures that intervention is possible at any moment and without any physical measures it gives "Power of the mind, over the mind" (Foucault, 1995, p. 206). While the panopticon was guite an intrusive form of security, the idea that architecture has the power to affect behaviour through observation and the principals that power should be visible and unverifiable can correspond to mental health environments.

Privacy - Flexibility

Designing for privacy is important for patient's dignity. Conventional approaches includes single bedrooms with en-suites or in close proximity to gender specific bathrooms, private family space and private consultation rooms (MOH, Criteria for the Design and Refurbishment of Psychiatric Acute and Intensive Care Facilities, 2002, p. 6). Chrysikou concludes that designing for privacy is more than just the provision of personal space and that patients must be able to control their desired levels of personal space. Privacy in this instance involves the consideration of flexible design with the provision of private, semi-private and public space that could serve the patients changing needs and desired levels of personal space (Chrvsikou, 2014, p. 54). Privacy from visitors, staff and other patients should be considered and integrated, especially in situations of crisis. However social support is also an essential aspect and the built environment can have a large impact in forming these social ties. Due to the intensity of

inpatient environments, strong bonds can develop between peers that enable them to feel understood and share experiences which can lead to a sense of validation and belonging (Gil, Butler, & Pistrang, 2016, p. 60). The built environment can promote social interaction allowing opportunity's for individuals to have informal contact. The building arrangement of common areas, visitor area, amenities and between spaces can allow interaction, moveable seating and features that generate activity and interaction. A shared space that is not noisy or crowded is shown to promote face to face contact and therefore allow interaction and the provision of social ties (William & Chang, 2011, p. 109). Flexible design is essential to allow for varying levels of privacy for instance personal space along with space to promote social interaction.

Autonomy and choice - Variety

Designing for Autonomy and choice aims to give the patient dignity by allowing them control. Designing for Autonomy and choice corresponds to the ideas discussed in designing for privacy as patients must be able to control their desired levels of personal space, however it also extends to choice over particular spaces/activity. This involves incorporating a variety of indoor and outdoor spaces for a range of activities.

For instance, social, family, quiet, artistic and exercise space, along with space for cultural and spiritual activities (MOH, Criteria for the Design and Refurbishment of Psychiatric Acute and Intensive Care Facilities, 2002, p. 6). More specifically spaces for activities such as art, music and drama are essential as they are significant in adolescent culture, along with space for education and exercise (Rose, 2004, p. 220). The unpredictability of the illness, relapse episodes and the variety of illness creates varying needs and behaviours. Due to the changing behaviours and desires of patients, there is a need for a variety of spaces with varying characteristic. The design must accommodate the conflicting needs of patients to stimulate patients who are withdrawn or depressed without overstimulating patients who are manic and agitated (Karlin & Zeiss, 2006, p. 1377). Loud noise, bright light, unusual or strong smells and bright colours all appear to increase stimulation, whereas quiet and coherent spaces and colours of shorter wavelengths allow calming areas (Karlin & Zeiss, 2006, p. 1377). Allowing autonomy and choice means designing a variety of spaces with a variety of characteristics in order to give patients the chance to make their own choices and gain a sense of control.



Figure 2.03: Architecture for dignity design criteria.

2.4

Architecture for Diversity

Integration

Research academic and professor of Maori studies Mason Durie, is known for his contribution to Maori health. He highlights that previous mental healthcare environments were not capable of addressing Maori needs and did not incorporate Maori world views, therefore alienating Maori patients (Durie, Indigenizing mental health services: New Zealand experience, 2011, p. 29). Due to this Durie developed the 'Whare tapa wha' which summarises a Maori view of health and wellness. In this model the four dimensions of health are "seen as platforms for an integrated approach to the delivery of health services to Maori, especially mental health services" (Durie, Indigenizing mental health services: New Zealand experience, 2011, p. 29). The model is based on the traditional Maori Wharenui where each of the four walls represents a different dimension, including taha wairua (spiritual health), taha hinengaro (Mental health), taha tinana (physical health), and taha whanau (extended family health). These four dimensions are all connected to form a whole and cannot be looked at separately. Wellbeing is related to the balance of these interrelated factors and if one of the four dimensions is damaged, then the individual or collective may become unbalanced and unwell (Anae, Moewaka Barnes, McCreanor, & Watson, 2002, p. 10)

Pacific concepts of health revolve around the relational self. This is reliant on relationships occurring in the space between their extended family members and themselves in the context of New Zealand, the homeland abroad, along with neighbourhood communities (Anae, Moewaka Barnes, McCreanor, & Watson, 2002, p. 11). Tamasese highlights that there is no such thing as a Samoan who is independent of others, with immense value placed on connections and collectiveness. Similar to the Maori culture. "Samoan people believe that the person is 'itu lua', that is the person has mental, physical and spiritual aspects" and these aspects cannot be separated or treated as separate entities (Tamasese, Pereru, Waldegrave, & Bush, 2005,

Whare tapu wha Maori model of health



Figure 2.04 - Whare tapu wha - Maori model of health developed by Mason Durie.

Fonofale Pacific model of health



Figure 2.05 - Fonofale - Pacific model of health developed by Fuimaono Karl Pulotu-Endemann.

p. 303). Research academic Fuimaono Karl Pulotu-Endemann developed the 'Fonofale' as a Samoan model of health for the New Zealand context. The Fonofale model also incorporates the values and beliefs of many Cook Islanders, Tongans, Niueans, Tokelauns and Fijians (Anae, Moewaka Barnes, McCreanor, & Watson, 2002, p. 11). The model is based on the traditional Samoan meeting-house. The roof represents cultural values and beliefs which are a symbol of shelter for life. The foundations represent social organisations, including extended family that are a symbol of the base that supports the four house posts (pou). These house posts represent, the physical, spiritual, mental and lastly other (gender, sexual orientation, age, social class etc.). The Fonofale is surrounded by context including time and environment. These dimensions represent the best conditions for mental health and wellbeing (Anae, Moewaka Barnes, McCreanor, & Watson, 2002, p. 11).

Western theoretical approaches to health reflect the mind and body, emphasising the individual and classify human functioning into mental and physical dimensions (Anae, Moewaka Barnes, McCreanor, & Watson, 2002, p. 7). Maori and Pacific concepts of health embodies a much more holistic and multidimensional philosophy. These dimensions are seen as a foundation for health and Durie enforces that mental health services "Should not be so narrowly focused on the psyche that physical health, spiritual dimensions, or social relationships were ignored. A whole-person approach to healing was advocated" (Durie, Indigenizing mental health services: New Zealand experience, 2011, p. 30). Cosmic balance was shared by many other ethnic indigenous groups and therefore it is important that mental healthcare settings adapt to this holistic model of health and recognise the importance of balance between the mind, body and soul for the health and wellbeing of Maori and Pacific individuals.

Identity

Durie states that identity is a necessary

prerequisite for mental health and has concluded that where identity is most secure and where access to Maori culture and resources is assured, health is best (Durie, Transcultural psychiatry: Mental health and Maori development, 1999, p. 8). Therefore, the Incorporation of Maori processes and practices to promote wellness, alongside biomedical models of care are essential in mental healthcare. This involves Tohunga (Maori healers) and Rongoa (Maori medicine). Incorporating Maori practice and processes into the architectural program can allow Maori to acknowledge their identity and reinforce positive mental health, however it is also a key strength in building relationships with Maori. Trust and relationships are fundamental for Maori to be willing to engage in services (O'Brian & Sokratov, 2014, p. 16).

For successful engagement with Pacific people a cultural approach, rather than clinical is vital (Tiatia-Seath, 2014, p. 116). Tamasese highlights weaknesses of mental health services for Pacific people and states that that "Psychiatric treatment of Samoan people in New Zealand was based on western medical beliefs" (Tamasese, Pereru, Waldegrave, & Bush, 2005, p. 305), and that "Language and a lack of familiarity with important cultural issues were identified as a problem with current mental health services" (Tamasese, Pereru, Waldegrave, & Bush, 2005, p. 305). The importance of identity is fundamental to maintain wellbeing in Samoan society and therefore traditional Samoan medicine and healing processes should be recognised in the treatment of Samoan people. This involves Tualasea (Samoan healers) and Fofo Samoa (Samoan healing methods) (Tamasese, Pereru, Waldegrave, & Bush, 2005, p. 306). Incorporating Pacific practice and processes into the architectural program can allow Pacific people to acknowledge their identity and reinforce positive mental health, however it is also a key strength in building relationships (Suaalii-Sauni, et al., 2009, p. 23).

Participation

While the goal of deinstitutionalisation and community care was intended to integrate the mentally ill into their community, it did not lead to a greater community cohesion or enhanced sense of belonging (Durie, Transcultural psychiatry: Mental health and Maori development, 1999, p. 8). Therefore, Maori suffering mental illness were not only alienated from their culture but also their communities. Durie highlights the importance of participation of family and the community in the recovery of Maori patients. The family dimension in the whare tapu wha model recognises the importance of the role of family to provide nourishment, support and an environment that encourages good health. This includes the whanau (family) and extends to the hapu (sub tribe), which belongs to an iwi (Tribe) and links back to their ancestral waka. These whanaungatanga (kinship ties) Provide a sense of belonging and identification (Anae, Moewaka Barnes, McCreanor, & Watson, 2002, p. 11).

Tamasese highlights the importance of Samoan social arrangements in the healing process and the critical role of the family. "The Samoan belief is that in need, we look to each other" (Tamasese, Pereru, Waldegrave, & Bush, 2005, p. 303).

Therefore, individuals who receive treatment without regard to thier communities and families are denied a vital aspect of the Pacific culture that supports their healing and recovery. The foundation of the Fonofale model represents family which is the foundation to life for all pacific island cultures. This involves immediate and extended family, along with constituted family that are bound by kinship, titles, marriage, and partnership. History and genealogy is the foundation which ties them to titles, lands, the island, sea and gods of the pacific. Therefore Family engagement and inclusion is also recognised as vital for Pacific patients healing and recovery, as family plays a significant role in the health and wellbeing of Pacific people collectively and individually (Anae, Moewaka Barnes, McCreanor, & Watson, 2002, p. 11).

The importance of family in the recovery of Maori and Pacific patients is vital. Therefore allowing spaces for family involvement and not isolating patients from their community's is essential in mental healthcare settings.



Figure 2.06: Architecture for diversity design criteria.

3.0 Case studies

A number of international precedents where examined, however of these four precedents have been selected and analysed as many of their guiding principles correspond to the design criteria established in chapter two. These precedents have helped to inform design decisions and show how the design criteria established in chapter two could be achieved. 'Manchester Maggie's centre' is a place of refuge for cancer patients, to provide emotional support, information and advice to patients, their friends and families. 'Dandenong mental healthcare facility' is an acute inpatient facility for adults suffering severe mental health issues. 'Trillium secure adolescence inpatient facility' is an inpatient facility specifically for adults suffering severe behavioural or mental health issues. Lastly 'Kingfisher Court' is an acute inpatient facility for adults suffering severe mental health issues.

3.1

Maggies Centre Manchester



Figure 3.01 - Maggie's centre Manchester exterior garden.



Figure 3.02 - Maggie's centre Manchester exterior garden.

Figure 3.03 - Maggie's centre Manchester Lounge.

Maggie's centre's overview

Margaret Keswick Jencks was terminally ill when she had the idea that cancer treatment could be drastically improved through good design and quality of the built environment. The Maggie centres are a legacy of Margaret Keswick Jencks and are a place of refuge for cancer patients, to provide emotional support, information and advice to patients, their friends and families. The Maggie centres create an environments to interact with others dealing with similar experiences and give support to one another. The Maggie centres challenge the norms of conventional health care design with great value placed upon the power of architecture to lift spirits of patients. Each design while all completely different includes an open kitchenette, sitting rooms with access to gardens, along with private rooms for consultations.

Manchester Maggie's centre

The Manchester Maggie's centre challenges the conventional norms of healthcare architecture by avoiding all institutional references to create a welcoming, friendly and domestic atmosphere.

Natural connections

The design places great emphasis on daylighting and the therapeutic qualities of nature by including various natural connections. The rectilinear form is surrounded by various gardens to allow views of nature but access to a large garden, private garden from the treatment rooms, a large covered outdoor space, and a greenhouse. This not only provides spaces for retreat, but also spaces for people to socialise and get involved in gardening. The timber frame also connects the building with the surrounding greenery and allows the architecture to blend into the gardens.

Domestic scale

The design is arranged over a single story which allows a domestic scale and sense of intimacy. The low profile also reflects the residential scale of the surroundings buildings.

Flexibility

The centre includes a range of spaces, with consideration of flexible design by the provision of private and public spaces. Private intimate niches provide a space for retreat, and public group spaces such as a library, exercise room and provide spaces for social interaction and rehabilitation.

Observation

The roof rises to create a mezzanine and separate staff zone. This allows unobtrusive observation over the facilities and allows staff to be close by if needed.

Summary

The key qualities of the design are the natural connections, a domestic scaled environment, a sense of intimacy, design flexibility, along with unobtrusive observation.



Dandenong mental health facility

Architect – Bates Smart in association with Irwin Also Architects Location - Dandenong, Melbourne, Victoria, Australia Year – 2011

This content is unavailable

Figure 3.04 - Dandenong mental health facility courtyard.


Dandenong overview

The Dandenong Hospital Mental Health Facility is an acute inpatient facility for adults suffering severe mental illness. The design challenges the conventional norms of psychiatric care with its non-institutional design.

Natural connections

The design places great emphasis on the therapeutic qualities of nature by integrating an internal courtyard. The glazed façade of the internal courtyard creates an ambiguous connection between interior and exterior, providing garden views and a secure connection to nature. The courtyard creates a simple but effective outdoor space to dwell, reflect and interact with others.

Landscaping between the perimeter fencing and the building also allows views to nature, but also privacy from the road.

Timber is used extensively throughout the building on the exterior, interior detailing and fencing to create a cohesive design, while also enhancing this connection to nature. The soothing and reassuring qualities of timber contribute to a soothing and reasuring environment.

Domestic scale

The large building has a sense of intimacy due to the building height and detailing which allows a domestic scale. A datum line cuts through the single story facilities in two levels near the ground and ceiling which achieves separation of the large form. A change in scale of cladding with larger and smaller section widths of timber also achieves this break down of form.

Flexibility

Flexible design is considered with the provision of private and public spaces. This includes single bedrooms which are clustered within a stream to create a sense of place and identity for each stream. These clusters allow patients to form social ties and support systems with other patients, while the single bedrooms allow a space for retreat.

Summery

The key qualities of the design are the natural connections, a domestic scaled environment, a sense of intimacy and levels of intricacy and design flexibility.

Trillium secure adolescence inpatient



Figure 3.07 - Trillium secure adolescence inpatient courtyard.



Overview

The Trillium secure adolescence inpatient facility is an inpatient facility specifically for adolescent suffering severe behavioural or mental illness. The aim of the design was to create a facility that would match the performance and safety of previous precedents, but also create a warm, welcoming, recuperative atmosphere. While safety and security is a large concern, the facility still challenges the conventional norms of psychiatric care.

Natural connections

Natural lighting is maximised through various skylights and exterior windows. This allows a connection to the surrounding vegetation.

Domestic scale + detail

Bringing the building out of the hospital in a single story facility allows a much more relaxed human scale. The incorporation of colour and texture throughout the design allows a less institutional feel and contributes to a much warmer environment.

Safety and security

An important consideration in the design of Trillium is safety and therefore unique fixings are considered. Institutional grade fixtures and hardware were integrated into the design, however they were specially designed in a manner that would not feel oppressive.

Unobtrusive observation is achieved through nursing stations at the centre of bedroom pods to subtly watch over the bedrooms and communal living space.

Flexibility

The design offers flexibility with moveable partitions. The use of operable partitions and the eight-bed pod allows units to be scaled down to four-bed units with their own living room, or left open where all 16 patients can occupy one room.

Summary

The key qualities of the design are the natural connections, a domestic environment, safety and security and design flexibility.

Kingfisher court inpatient facility

Architect – P+HS Architects Location – Radlett, Hertfordsshire, UK Year – 2014

This content is unavailable





Figure 3.11 - Kingfisher court exterior.

Figure 3.12 - Kingfisher court courtyard.

Overview

The Kingfisher Court is an acute inpatient facility for adults suffering severe mental illness. The design challenges the conventional norms of psychiatric care with its non-institutional design.

Natural connections

The design places great emphasis on day lighting and the therapeutic qualities of nature. The building not only provides an internal courtyard allowing a safe connection with nature and place to dwell, reflect and interact with others, but also works with the contours of the site. The building is nestled into the surrounding green belt which has meant the arrangement of two connected sections sitting at different levels. The form also mimics nature as the varying roof pitches are designed to create movement and illustrate the form of hills.

Natural materials are used which further allow natural connections. Timber is the predominant material the flows throughout the architecture.

Variety

The design keeps patient's dignity intact by providing a variety of spaces for a variety of activities. This include educational, creative, recreational activities, sporting, and spiritual activities. The two large internal courtyards vary with one for activity and social interaction and the other as a quite space for contemplation, meditative activities, relaxing and smaller/ individual therapeutic sessions.

Summary

The key qualities of the design were the natural connections, a domestic environment and variety.

4.0 Site

This chapter establishes an appropriate site and identifies key information about the site. 'Central region clients per area 'identifies the area which currently holds the most youth patients suffering mental illness. 'Site selection' identifies the key factors that need to be considered when selecting a site for a mental healthcare facility. 'Wellington Vs Kenepuru' compares Wellington and Kenepuru hospitals in order to establish which hospital location would be a more beneficial site. 'Wider site context' and 'Surrounding amenities' examine the site to identify important information at a larger scale. 'Surrounding healthcare' and 'immediate site context' examine the site at a smaller scale to determine aspects of the site that will inform design decisions.

Central region clients per area



Figure 4.01 - Clients per area in the central region 0-19 of the North Island, New Zealand.

4.2 Site selection

The change in setting of mental health facilities to general hospital sites, intended to improve efficiency of mental health services. This also shifts the focus towards a medical model of care. Medicine is evolving as an approach to treatment and therefore this corresponds well to cater for a wide range of patients including those with psychosis of affective disorders.

There has been large debate in literature on whether the location of a psychiatric unit should be placed within a community or hospital setting. Some argue that the hospital campus site is preferred, having a standalone unit with its own entrance or integrating it with the existing health care system to co-ordinate their programmes. Others have argued that a relationship to community networks, for instance shops, leisure centres and public transport are important. The location is however dependant on the competence of the patient and their situation (Firth, 2004, p. 174).

As the role of the design is an acute inpatient facility for youth, a high dependency of care is required and therefore a site in close proximity to a general hospital is necessary to support dispersed services and house more highly specialised services. There are two general hospital sites in the Wellington region, Wellington Hospital in Newtown and Kenepuru Hospital in southwest

Porirua. Kenepuru Hospital has other Mental Healthcare facilities on site or in close proximity to the site. These include the Community Mental Health Services, Health Pasifika (specialist Pasifika Community Mental Health team), the Crisis Resolution Services (CRS), along with the Secure Youth Forensic inpatient facility's (Nga Taiohi), and the Psycho geriatric community and inpatient services (Te Whare Ra Uta). The Child Adolescent, Mental Healthcare services and Te Whare Marae (Maori specialist mental health services) are also relatively close by. Kenepuru Hospital offers rich history as it is the location of a former lunatic asylum. A large amount of undeveloped open space adjacent to the Kenepuru hospital offers potential for residential intensification and the close proximity to public transport can cater for a wider range of the central region which are great benefits, along with the more diverse population in the area. For these reasons Kenepuru is well suited as the site. The surroundings low density residential area and vast natural landscape also allow a much more serene and tranquil environment than the Wellington city hospital. The site has an existing Child and Adolescent Mental Health inpatient unit, however with 17 beds for referrals all over the central region including Hawkes Bay, Palmerston North, Wairarapa, Kapiti, the Hutt Valley and Wellington, it was concluded that there is insufficient capacity for the region.



Wellington vs Kenepuru



Figure 4.02 - Wellington and Kenepuru hospital comparison.

Wider site context





Surrounding amenities





Surrounding healthcare







Immediate site context

The immediate site is positioned opposite Kenepuru Hospital, situated on top of the hill. This was selected due to sunlight, views, transport loops, and lastly residential integration. The site was positioned on higher ground to allow maximum sunlight exposure and potential views to the Porirua Scenic Reserve and Trust Porirua Park. The site was positioned in close proximity to the highway and railway for wider transportation loops and also in close proximity to the hospital for shared resources and to support dispersed services. Lastly the future residential development allows the design to be integrated into a more residential setting in the future.



Green space

Figure 4.06 - Selected site.



5.0 Preliminary program

The Preliminary program planning necessitates exploration in six key areas. First establishing the general program in "Stepped model of care". Program requirements are then identified in 'Preliminary program requirements'. Consideration of how these spaces are accessed by key stakeholders is established in "Stakeholder access". A series of iterations exploring the organisation of program is considered in 'Preliminary program planning'. The development of the program as a result of what was learned in the iterative process, along with how it could be developed in relation to the site in 'Preliminary program development'. Lastly the selection of a final programme and its arrangement in 'Preliminary program conclusion'.

5.1 Stepped model of care

In the preliminary design, form followed function. The initial program was established after examining the floor plans of overseas precedents and New Zealand precedents, for instance Te Awakura in Christchurch and Te Whare Ahuru in Lower Hutt. While these New Zealand precedents are adult inpatient units and are not very successful in regards to the design criteria established in chapter two, they provide information on space requirements. From this it was concluded that the program would be based on a stepped model of care where patients can gradually move through the varying levels of care from higher dependency care to low dependency care and then outpatient care. It was also concluded that the design would be split into three zones of public, private and semi-private. The private as the inpatient accommodation, the semi-private as the outpatient facilities and the public as the initial assessment.



Preliminary program requirements

Accommodation zone	Group home
-Family accommodation units -Group home entrance -Entrance -Waiting room -Reception office -Records storage -Interview room -Examination room -Bathroom -Patient property -Cleaning storage	-Bedrooms (High dependency/risk) -Bedrooms (Lower dependency/risk) -Communal Bathrooms -En-suites -Staff base -Communal dining rooms -Large group lounge/Small lounge -Family rooms -Therapy rooms -Classroom -Music studio -Art studio -Multipurpose rooms
Staff zone (Within	Staff zone
accommodation)	-Staff Hub
-Laundry -Linen storage -Large commercial kitchen -Small domestic kitchen -Rinsing and cleaning -Disposal -Legal Court	-Facility manager's office -Support worker offices -Administrative staff offices -Social worker office -Security office -Meeting rooms -Staff Bathroom -Cleaning storage
-ICU -Sensory deprivation rooms -Bathrooms -Staff base	-Drug storage -Staff lockers -Plant room -Electrical room
Recovery zone	-Waiting space
-Music studio -Art studio -Library	-Individual therapy rooms -Group therapy rooms -Complementary therapy rooms
-Multipurpose room -Youth common room -Seminar room -Toilets -General Storage	 Public healthcare facilities Staff faculties Outpatient conventional care Outpatient alternative care Inpatient accommodation facilities

Stakeholder access



Storage

Exterior Amenities

Preliminary program planning

Public healthcare facilities

- Staff faculties
- Outpatient conventional care
- Outpatient alternative care
- Inpatient accommodation facilities





Preliminary program development

Public healthcare facilities

- Staff faculties
- Outpatient conventional care
- Outpatient alternative care
- Inpatient accommodation facilities



Figure 5.02 - Prelminary program development.



Preliminary program conclusion





6.0 Preliminary form

The Preliminary form planning necessitates exploration in two key area. First establishing four identity's which the form would potentially be based upon in 'Form identity's'. These were established to express ideas surrounding mental illness and subtly inform or educate the public. The selected identity was than developed further.

6.1 Form identities



Figure 6.01 - Vernacular camouflage form identity.

Vernacular camouflage

New Zealand's vernacular form and materials allowing architecture to be disguised and hidden, appearing as a residential setting.





Flourish

Expressive qualities of form and materials to express the purpose of the architecture. This is the intent of recovery in a subtle and poetic manner.



Figure 6.03 - Fractured form identity.

Fractured

Expressive qualities of form and materials to convey the fractured mind of inhabitants in a subtle and poetic manner.





Exposure

Expressive qualities of form and materials allowing the architecture to stand out in its setting and promote more openness about mental health.

Vernacular camouflage

"The public see madness through the lense of the vernacular

- It is insanity, foolish, its wild and uncontrollable" - Mary O Hagen Takapuwahia Marae Location: Porirua Hongoeka Marae Location: Plimmerton Orongomai Marae Location: Upper Hutt Te Tatau o Te Põ Marae Location: Alicetown, Lower Hutt Waiwhetű Marae Waiwhetű, Lower Hutt Păpăwai Marae Location: Greytown Hurunulorangi Marae Location: Gladstone Te Ore Ore Marae Location: Masterton Whakarongotai Marae Location: Waikanae Raukawa Marae Te Pou o Tainui Marae Katihiku Marare Location: Otaki Location: Otaki Location: Otaki Huia Marae Wehiwehi Marae Tükorehe Marae Kohuturoa marae Location: Levin Location: Levin Location: Ohau, Levin Location: Levin

Figure 6.05 - Vernacular camouflage development.

7.0 Preliminary design

The preliminary design was based on the concept of vernacular camouflage. Sanity is seen as the dominant state of the mind and therefore it is seen as the vernacular state of the mind. The design was based on the vernacular architecture of New Zealand as a subtle reminder that those suffering mental illness are just like everyone else. The vernacular form, materials and details allow the architecture to be disguised and appear as residential, fitting into the future residential development. This chapter illustrates key images of the preliminary design.



Figure 7.01 - Vernacular camouflage entrance.





Figure 7.02 - Vernacular camouflage rooftop garden.



Figure 7.03 Vernacular camouflage large group lounge.



Figure 7.04 - Vernacular camouflage garden.



Figure 7.05 - Vernacular camouflage waiting room.



Figure 7.06 - Vernacular camouflage exterior.



Preliminary design reflection

The preliminary design was presented to professionals and academics staff and practitioners where key issues in the design were highlighted. This chapter reflects upon these issues and identifies areas which need further consideration and development.
8.1 Design issues

Form

The preliminary design was based on the concept of vernacular camouflage. The vernacular form, materials and detailing allows the architecture to be disguised and appear as residential, therefore fitting into the future residential development. However, upon reflection it was concluded that rather than trying to disguise mental illness it would be more beneficial to create an architectural form that was based around the triumphant recoveries of these individuals. The idea of a discrete place of refuge was still incredibly important, however exploring a more dynamic architectural form would allow an architectural form that these patients could be proud of.



Figure 8.01 - Preliminary design issue - form.

Site

Upon reflection it was concluded the immediate site was not appropriate for the purpose of the design. It was revealed that while inhabitants can see out, the society can also see in and the architecture becomes extremely visible. While the vernacular qualities of the architecture intended to disguise the building as residential, the site may actually make the design stand out and therefore contribute to stigma.



Figure 8.02 - Preliminary design issue - site.

8.2 Site re-location

As the site was incredibly exposed, it was re positioned down the north bank of this hill. This site was much more successful as it still allowed all the benefits of the previous site, plus additional benefits. The site allowed the design to still have potential views to the Porirua Scenic Reserve and Trust Porirua Park and maximum sunlight exposure due to the orientation facing north. The site also had many other great benefits such as the serene and tranquil qualities from the nearby stream, discrete qualities due to the bank, several points of access, and subtle separation from the hospital and residential development by the stream and steep typography. This also allowed the design to have the potential to be tucked into the landscape and not so easily identifiable.





9.0 Developed program

The developed program necessitates exploration in three key areas. A series of iterations exploring the organisation of the programme in 'Program iterations'. The development of the program as a result of what was learned with the iterative process in 'Program development'. Lastly the selection of a final programme and its arrangement on the site in 'Program conclusion'.

9.1 Developed program

The new site came with new constraints and therefore the program was reshuffled depending on the new site's conditions. In the developed design form continued to follow function and the program was developed through iterations which examined the relationship of internal spaces and their relationship to the site. The program was readdressed and extended the public zone to include primary health services for mental health patients. Mason Durie highlights that "A continuing trend to separate mental and physical domains presents a barrier to any sense of holistic health. Incorporating mental health care into primary health care might have greater likelihood of fostering an integrated approach where all four dimensions of health can be addressed simultaneously" (Durie, Indigenizing mental health services: New Zealand experience, 2011, p. 33).









Figure 9.02 - Program 2 iteration.



























9.3

Program development

Program development 1







Figure 9.10 - Program development 2.



Program development 3







Figure 9.12 - Program development 4.

Program development 5









Program development 7













Figure 9.17 - Program final basement.



Figure 9.18 - Program final level one.





Figure 9.19 - Program final ground floor.

Research through design tested various arrangements of programme by looking at the relationship of public, private and semi-private spaces in relation to the newly proposed site. Iterations to find the most successful solution were tested based on the design criteria of natural connections (In regards to a visual connection with nature), Evidence based design strategy's (In regards to access to sunlight), and lastly community connections (In regards to a visual connection to the community). It was important that all zones met this criteria in order for patients to not feel excluded from the community and gain the therapeutic benefits of nature.

It was concluded that all zones would overlook the future residential development to allow a visual connection with the community. All zones would also face the stream allowing serene and tranquil qualities for spaces and a connection with nature. Lastly all zones would face north allowing maximum sunlight exposure. These iterations were then further developed based on observation. It was concluded that the most successful way to allow observation would be to design the architecture around a garden courtyard. The staff zone is located between this courtyard and over the main entrance. This way the architecture itself would create barriers and the staff would have full observation.

10.0 Developed form

The developed form moved away from the identity of vernacular camouflage and towards the identity of flourish. The development of form necessitates exploration in eight key areas. A series of physical model iterations explored the concept of flourish in 'Form exploration'. The design was then considered in section and a series of iterations explored the design in relation to the site in 'Section iterations'. The development of the design in section as a result of what was learned from this iterative process, along with how the design could best relate to the site and express the concept of flourish was explored in 'Section iteration'. Lastly the selection of the final design is presented in section in 'Section iteration'.

The design was then considered in plan and a series of iterations explored the design in plan with consideration of how the design could best relate to the site and express the concept of flourish in 'Plan iterations'. The selection of the final design in plan is presented in 'Plan conclusion'. Lastly the design was modelled digitally with a series of iterations explored how the design could best relate to the site and express the concept of flourish in 3D form.

10.1 Form exploration



Figure 10.01 - Form exploration.

Figure 10.02 - Form exploration.



Figure 10.03 - Form exploration.

10.2 Section iterations

Section Iteration 1



Section iteration 2



Figure 10.04 - Form iteration in section 1.

Figure 10.05 - Form iteration in section 2.

Section Iteration 3

Identity: EBD Strategies:



Section iteration 4

Identity: EBD Strategies:





Figure 10.06 - Form iteration in section 3.

Figure 10.07 - Form iteration in section 4.

10.3

Section development



Figure 10.08 - Section development 1.

Figure 10.09 - Section development 2.

Section development 3



Section development 4





Figure 10.10- Section development 3.

Figure 10.11 - Section development 4.



Figure 10.12 - Section development 3.

Figure 10.13 - Section development 4.

Section development 7



Section development 8





Figure 10.14 - Section development 5.

Figure 10.15 - Section development 6.





Figure 10.16 - Section conclusion.

Research through design tested different arrangements of form. Iterations to separate the mass were explored in section to see the how the form could be manipulated and fit the slope of the site. Iterations to find the most successful solution were tested based on the design criteria of identity (In regards to connecting the architecture and the bank/nearby stream) and evidence based design strategies (In regards to making sure sunlight is not blocked). These iterations were then developed based on Natural connections (in regards to a natural form). Iterations that failed potentially blocked sunlight, would not work with the program or did not allow a connection to the stream. It was concluded that the form would be split so it was situated on the slope better.

10.5 Plan iterations

Form Iteration 1

Identity: Natural connections:



Ground floor

First floor



Figure 10.17 - Plan form iterations 1.



Figure 10.18 - Plan form iterations 2.



Figure 10.19 - Plan form iterations 3.



Figure 10.20 - Plan form iterations 4.







Figure 10.22 - Plan form iterations 6.



Figure 10.23 - Plan form iterations 7.



Figure 10.24 - Plan form iterations 8.

10.6 Plan conclusion



Figure 10.25 - Basement plan conclusion.



Figure 10.26 - Level one plan conclusion.



Figure 10.27 - Ground floor plan conclusion.

The design was explored in plan to see how the form could be manipulated. Iterations to find the most successful solution were tested based on the design criteria of identity (In regards to connecting the architecture and landscape) and natural connections (In regards to allowing a natural form). The final plan iteration was a natural form that that was able submerge the architecture within the landscape, yet still work programmatically.

10.7 Digital development

Form iteration 1

Identity: Natural connections: EBD Strategies:





Figure 10.28 - Digital development 1.

Form iteration 3







Figure 10.30 - Digital development 3.

Form iteration 2



Figure 10.29 - Digital development 2.

Form iteration 4



Figure 10.31 - Digital development 4.

Form iteration 5

Identity: Natural connections: EBD Strategies:





Figure 10.32 - Digital development 5.

Form iteration 7

Identity: Natural connections: EBD Strategies:





Figure 10.34 - Digital development 7.

Form iteration 6



Figure 10.33 - Digital development 6.

Form iteration 8



Figure 10.35 - Digital development 8.

Form iteration 9

Identity: Natural connections: EBD Strategies:





Figure 10.36 - Digital development 9.

Form iteration 11

Identity: Natural connections: EBD Strategies:





Figure 10.38 Digital development 11.

Form iteration 10



Figure 10.37 - Digital development 10.

Form iteration 12



Figure 10.39 - Digital development 12.

Form iteration 13

Identity: Natural connections: EBD Strategies:





Figure 10.40 Digital development 13.

Form iteration 15

Identity: Natural connections: EBD Strategies:





Figure 10.42 - Digital development 15.

Form iteration 14



Figure 10.41 - Digital development 14.

Form iteration 16



Figure 10.43 - Digital development 16.

Research through design tested different arrangements of form in 3D. Iterations to find the most successful solution were tested based on the design criteria of identity (In regards to connecting architecture and landscape), Natural connections (in regards to a natural form) and evidence based design strategy's (In regards natural sunlight). Iterations that failed potentially blocked sunlight. The most successful iterations achieved a natural form that connected with the landscape.

11.0 Developed design

The developed design was based on the concept of flourish. The concept of flourish intended to represent the buildings purpose of recovery. Flourish means to grow and develop and therefore the form would grow from the hillside to represent the growth and development of inhabitants. It was also important to have a form that would resonate with a more diverse population. When considering Maori values, the most important consideration is the relationship between Maori and the land. The land holds great significance to all Maori, specifically Papatūānuku (Mead, 2016, p. 27). Therefore allowing a connection between land and architecture became extremely important and the concept of a flourishing form that merged landscape and architecture arose.
11.1 Developed design



EBD Stratergies



Figure 11.02 EBD strategies through single patient rooms. Multisensory stimulation

Figure 11.03 Multisensory stimulation through water features.



Figure 11.01



Figure 11.04 Flexibility through public and private spaces.







Figure 11.06 Variety through calming or stimulating spaces.



Figure 11.07 Integration through consultation rooms.

Figure 11.08 Ildentity through Rongoa garden. Figure 11.09 Participation through seminar/group spaces.

PAGE 109

Developed design



Figure 11.10 - Flourish developed design exterior.



Developed design



Figure 11.11 - Flourish developed design exterior.



12.0

Developed design reflection

The developed design was presented to professionals, academics staff and practitioners where key issues in the design were highlighted. The developed design reflection reflects on these design issues and identifies areas which need further consideration and development.

12.1

Developed design reflection

Scale

Upon reflection the first issue was that the scale was too large and it appeared quite intrusive. In regards to scale, the design is much larger than the current Regional Rangatahi inpatient unit in Kenepuru. However due to that lack of accommodation it was concluded that a larger scale was needed to accommodate more patients. A larger scale was also needed to accommodate the varying degrees of separation of age, gender and level of competence and risk. In New Zealand, acute inpatient units are typically 15 to 60-bed wards. The developed design accommodates 28 patients and therefore fits within this scope. While the design varies from 1 to 2 stories and therefore is a relatively small scale horizontally, the design does span across a large area vertically. To reduce the size of the building, the grids of the design were decreased. From this test however, bedrooms became too small to fit en-suits and communal areas also became too tight. Many inpatient units have been criticised for overcrowding and therefore a spacious design was important. It was concluded that the original grids would remain. Rather than trying to shrink the building or remove programmatic elements, the next step was to reduce the scale of the building by separating the large mass and breaking down the form.

Participation

The second issue was that while the design included spaces for community participation for instance a seminar room and spaces for youth workshops. There was little that would draw the community into the building and therefore the design was lacking in participation. Upon reflection it is incredibly important in the Maori culture that patients do not feel excluded from there community's therefore this participation is essential. To combat this the next steps would be to establish walking tracks around the building perimeter and potentially through the building to allow the community to be brought around and into the architecture.



Figure 12.01 - Developed design issue - Scale.



Figure 12.02 - Developed design issue - Participation.



Further program development

Program iteration 1

Identity: Observation: Participation: **First floor Construction: Construction:**

Third floor









Program iteration 2















Figure 12.07 - Program conclusion basement.







Figure 12.09 - Program conclusion ground floor.

Research through design tested different iterations to separate the mass. Iterations to find the most successful solution were tested based on the design criteria of identity (In regards to connecting the architecture and the bank/nearby stream), observation (In regards to allowing a visual connection and observation between each block) and participation (In regards to allowing a connection between each block). First shifting was considered, however this meant that part of the building was brought out from the hillside and did not merge into the landscape. This also created separate outdoor spaces for each unit and really isolated these spaces not allowing a connection between zones. Then pulling the building apart was explored. This allowed the building to be separated into three smaller scaled units, while still be submerged into the landscape and allowed a connection between each zone.

12.4

Walking track iterations

Walking track Iteration 1

Participation: Privacy:





Figure 12.10 - Walking track iteration 1.

Walking track Iteration 2

Participation: Privacy:



 $\bigcirc \bigcirc \bigcirc \bigcirc$

Figure 12.11 - Walking track iteration 2.

Walking track iteration 3

Participation: Privacy:





Figure 12.12 - Walking track iteration 3.

Walking track iteration 4

Participation: Privacy:



Figure 12.13 - Walking track iteration 4.

Walking track iteration 5



Figure 12.14 - Walking track iteration 5.

Walking track iteration 6

Participation: Privacy:





Figure 12.15 - Walking track iteration 6.

Walking track iteration 7

Participation: Privacy:





Figure 12.16 - Walking track iteration 7.

Walking track iteration 8

Participation: Privacy: 

Figure 12.17 - Walking track iteration 8.



Walking track conclusion



Figure 12.18 - Public walkway.



Figure 12.19 - Private walkway.



Figure 12.20 - Semi private walkway.

Research through design tested different iterations to allow participation from the wider community by establishing walking tracks. Iterations to find the most successful solution were tested based on what would allow a community connection while still allowing privacy for patients. Public walkways were established around the perimeter of the building and between the family accommodation and main building. This led through a therapeutic garden which allowed a social space open to all. Semi private walkways for outpatients were established through the recently separated gaps in the building to allow a more discrete access point. A private walkway for inpatients was established through the courtyard garden to allow a therapeutic and calming entrance upon their admission.

13.0 Exterior details

Exterior details necessitates exploration in three key areas. A selection of planting that will be integrated into the final design in 'Planting planning'. A series of iterations determining which areas of the design will be accessible green roof space in 'Green roof iterations'. Lastly the selection of a final green roof arrangement consideration with who will access this in 'Green roof conclusion'.

13.1 Planting planning



Asplenium bulbiferum

Carrex

Blechnumb



Libertia Grandiflora

Figure 13.01 - Planting plan.

13.2 Green roof iterations

Green roof Iteration 1

Observation: Privacy:





Figure 13.02- Green roof iteration 1.

Green roof Iteration 2

Observation: Privacy:





Figure 13.03 - Green roof iteration 2.

Green roof iteration 3

Observation: Privacy: 

Figure 13.04 - Green roof iteration 3.

Green roof iteration 4

Observation: Privacy: 

Figure 13.05 - Green roof iteration 4.



Figure 13.06 - Green roof iteration 5.

Green roof Iteration 6

Observation: Privacy:





Figure 13.07 - Green roof iteration 6.

Green roof iteration 7

Observation: Privacy:





Figure 13.08 - Green roof iteration 7.

Green roof iteration 8

Observation: Privacy: 

Figure 13.09 - Green roof iteration 8.

13.3 Green roof conclusion

Research through design tested various iterations when considering which areas of the roof would be accessible. Iterations to find the most successful solution were tested based on the design criteria of observation (In regards to observation onto the roof gardens by staff) and privacy (In regards to allowing a therapeutic garden space that was private from the public). Green roofs were established on the first story of the design to allow for observation, and set further back to allow for privacy.



Figure 13.10 - Private green roofs for patients.



Figure 13.11 - Private green roofs for staff.



Figure 13.12 - All Green roofs.

14.0 Interior detailing

Interior detailing necessitates exploration in eight key areas. A series of iterations on how columns could become an architectural feature in 'Structure'. A series of iterations of wall materials in 'Wall material iterations.' A series of ceiling material iterations in 'Ceiling material iterations'. A series of floor material iterations in 'Floor material iterations'. A series of 'Door iterations', 'Window iterations', 'Lighting iterations' and lastly 'Built in furniture iterations'. All interior details are selected based on relevant design criteria.





Figure 14.01 - Totora tree mold.



Figure 14.02 - Cabbage tree mold.

Figure 14.03 - Rimu tree mold.

Rather than conventional structure, the columns could become an architectural feature and in doing so, this could contribute to the design criteria of multisensory stimulation and identity.

14.2 Wall material iterations

Wall material iteration 1



Figure 14.04 - Wall material iteration 1.

Wall material iteration 2



Figure 14.05 - Wall material iteration 2.

Wall material iteration 3



Figure 14.06 - Wall material iteration 3.

Wall material iteration 4



Figure 14.07 - Wall material iteration 4.

Wall material iteration 5



Figure 14.08 - Wall material iteration 5.

Wall material iteration 7

Multi-sensory: EBD Strategies:



Figure 14.10 - Wall material iteration 7.

Wall material iteration 6



Figure 14.09 - Wall material iteration 6.

Wall material iteration 8

Multi-sensory:

EBD Strategies:



14.3 Ceiling material iterations

Ceiling material iteration 1





Figure 14.12 - Ceiling material iteration 1.

Ceiling material iteration 2



Figure 14.13 - Ceiling material iteration 2.

Ceiling material iteration 3



Figure 14.14 - Ceiling material iteration 3.

Ceiling material iteration 4



Figure 14.15 - Ceiling material iteration 4.

14.4 Floor material iterations

Floor material iteration 1

Multi-sensory: EBD Strategies:



Figure 14.16 - Floor material iteration 1.

Floor material iteration 2



Figure 14.17 - Floor material iteration 2.

Floor material iteration 3



Figure 14.18 - Floor material iteration 3.

Floor material iteration 4



Figure 14.19 - Floor material iteration 4.

Research through design tested various Iterations considering materials. Iterations to find the most successful solution were tested based on the design criteria of Multisensory stimulation (In regards to materials that would stimulate the senses) and EBD strategy's (In regards to sound absorbing materials.)





Figure 14.20 - Door iteration 1.

Door iteration 2



Figure 14.21 - Door iteration 2.

Door iteration 3



Figure 14.22 - Door iteration 3.

Door iteration 4



Figure 14.23 - Door iteration 4.



Figure 14.24 - Door iteration 5.

Door iteration 6



Figure 14.25 - Door iteration 6.

Door iteration 7



Figure 14.26 - Door iteration 7.

Door iteration 8



Figure 14.27 - Door iteration 8.



Figure 14.28 - Door iteration 9.

Door iteration 10



Figure 14.29 - Door iteration 10.

Door iteration 11



Figure 14.30 - Door iteration 11.

Door iteration 12



Figure 14.31 - Door iteration 12.



Figure 14.32 - Door iteration 13.

Door iteration 14



Figure 14.33 - Door iteration 14.

Door iteration 15



Figure 14.34 - Door iteration 15.

Door iteration 16



Figure 14.35 - Door iteration 16.

Research through design tested various iterations when considering doors. Iterations to find the most successful solution were tested based on the design criteria of Observation (Windows in the doors are essential, however they must be designed to not be so institutional and intrusive.) and Privacy (As the doors must not be completely transparent to allow some sense of privacy.)



Window iteration 1



Figure 14.36 - Window iteration 1.

Window iteration 2



Figure 14.37 - Window iteration 2.

Window iteration 3



Figure 14.38 - Window iteration 3.

Window iteration 4



Figure 14.39 - Window iteration 4.

PAGE 142

Window iteration 5



Figure 14.40 - Window iteration 5.

Window iteration 6



Figure 14.41 - Window iteration 6.

Window iteration 7



Figure 14.42 - Window iteration 7.

Window iteration 8



Figure 14.43 - Window iteration 8.

Natural connections: Privacy:

Figure 14.44 - Window iteration 9.

Window iteration 10



Figure 14.45 - Window iteration 10.

Window iteration 11

Window iteration 9



Figure 14.46 - Window iteration 11.

Window iteration 12



Figure 14.47 - Window iteration 12.
Window iteration 13



Figure 14.48 - Window iteration 13.

Window iteration 14



Figure 14.49- Window iteration 14.

Window iteration 15



Figure 14.50 - Window iteration 15.

Window iteration 16



Figure 14.51 - Window iteration 16.

Research through design tested different iterations when considering windows. Iterations to find the most successful solution were tested based on the design criteria of natural connections (In regards to views to nature but also a connection from opening windows) and Privacy (As although large windows are extremely beneficial allowing a natural connection, it is important privacy is retained.) Louvers and frosted glass panels were integrated to allow for this.



Lighting iteration 1



Figure 14.52 - Lighting iteration 1.

Lighting iteration 2



Figure 14.53 - Lighting iteration 2.

Lighting iteration 3



Figure 14.54 - Lighting iteration 3.

Lighting iteration 4



Figure 14.55- Lighting iteration 4.

Lighting iteration 5

EBD Strategies: Observation:



Figure 14.56 - Lighting iteration 5.

Lighting iteration 6

EBD Strategies: Observation:

Figure 14.57 - Lighting iteration 6.

Lighting iteration 7



Figure 14.58 - Lighting iteration 7.

Lighting iteration 8



Figure 14.59 - Lighting iteration 8.

Research through design tested various iterations when considering lighting. Iterations to find the most successful solution were tested based on the design criteria of EBD strategy's and observation (In regards to making sure there is sufficient lighting to allow for observation).

14.8

Built in furniture iterations

Wall iteration 1



Figure 14.60 - Wall iteration 1.

Wall iteration 2



Figure 14.61 - Wall iteration 2.

Wall iteration 3



Figure 14.62 - Wall iteration 3.

Wall iteration 4



Figure 14.63 - Wall iteration 4.

Wall iteration 5



Figure 14.64 - Wall iteration 5.

Wall iteration 6



Figure 14.65 - Wall iteration 5.

Wall iteration 7



Figure 14.66 - Wall iteration 7.

Wall iteration 8



Figure 14.67 - Wall iteration 8.

To allow for safety and security the inclusion of built in or fixed furniture is necessary. Walls were designed to fit to the body to sit and lean on, along with built in shelving and desks.

14.9

Interior details conclusion

Wall selection 1



Figure 14.68 - Wall material selection.

Wall selection 2



Figure 14.69 - Wall material selection.

Ceiling selection



Figure 14.70 - Ceiling material selection.

Floor selection



Figure 14.71 - Floor material selection.

Door selection



Figure 14.72 - Door selection.

Window selection



Figure 14.73 - Window selection.

Lighting selection



Figure 14.74 - Lighting selection.

Built in furniture selection



Figure 14.75 - Built in furniture selection.

15.0 Final design

The final design is a further development of the concept of flourish representing the buildings purpose of recovery. Flourish means to grow and develop and therefore the form grows from the hillside representing the growth and development of inhabitants.





Figure 15.02 - Final design exterior.

Illus

15.1 Final design

Architecture as therapy

In order for the architecture to act therapeutically to support wellbeing and restore mental health of patients the preliminary design included elements of multisensory stimulation, evidence based design and natural connections.

Multisensory stimulation and the engagement of human senses was achieved through enhancing the experiential qualities of water and installing water features throughout the design. The nearby stream further enhances this multisensory stimulation through water. Water appeals to the senses of touch, sight, sound, smell and even taste, however the sound of running water also has soothing effects that are beneficial for agitated patients. This also held great cultural significance to the area as the Porirua harbour waters and shoreline were extremely significant to the Ngati Toa tribe.

Multisensory stimulation is furthered enhanced by the connection with nature throughout the design. The land holds great significance to Maori, specifically Papatūānuku. "In Māori tradition and history, Papatūānuku is profoundly important. Papatūānuku is the land, a mother earth figure who gives birth to all things of the world." "She is seen as the birthplace of all things and the place to which they return, and is considered a foundation for human action." Maori sense of self and being is tied into the land as "People's emotional, intellectual and spiritual selves are born daily from the land, and thought itself is seen as coming from the land." Pallasmaa also highlights that "A walk through a forest is invigorating and healing due to the constant interaction of all sense modalities." Therefore atmospheric qualities of nature hold great significance and will enhance the experience of space. This is achieved by the surrounding gardens and courtyard gardens providing a visual connection and access to nature.

Natural materials are also integrated to allow multisensory stimulation. For instance stone and wood have been integrated as they evoke a range

of emotions and moods as they express their age and history connected towards their use. Machine made materials such as glass, metals and plastics lack these qualities and don't convey their material essence or age. The structure required columns between spaces however they could be designed with a concrete skin that could have the same texture as various New Zealand native trees for instance Totora and Rimu.

Lastly louvres that are integrated into the windows to allow a breeze and natural smells to flow throughout the building.

Evidence based design strategies were integrated including single patient bedrooms, maximum sunlight exposure - by orientating most spaces north, views to nature and internal gardens and lastly including sound absorbing materials. These are the evidence based design strategies that are most important in the design of an acute mental health facility and were implemented successfully.

Lastly the final design allows interaction with nature by views to nature and access to the various surrounding gardens. These include a vegetable garden, fruit tree garden, Rongoa garden and multiple roof top gardens. There is also a therapeutic garden between the accommodation block and family apartments which is open to the wider community.

Architecture for dignity

In order for the architecture to respect the Dignity of patients the final design included elements of safety/security, privacy and autonomy/choice.

Safety and security is achieved by the inclusion of staff stations at entrance points between bedroom clusters and group spaces which allowed unobtrusive observation. Staff stations have been integrated above the entrance for unobtrusive observation over the main access point of the facility. A clear and coherent floor plan with the avoidance of blind spots and appropriate lighting also allows visual exposure and observation. Secure boundaries have been established between spaces allowing separation of the high risk patients. Safety and security was also achieved through details for instance doors were designed to allow visual observation. Lighting was also explored to allow good visual observation.

Privacy was achieved by the consideration of flexible design with the provision of private, semi-private and public space that could serve the patients changing needs and desired levels of personal space of patients. Private spaces were achieved by single bedrooms. Semi-private spaces were achieved with smaller lounges within bedroom clusters and smaller intimate waiting areas. Lastly public spaces were integrated through larger communal areas and activity spaces.

Autonomy and choice is achieved by including spaces for a variety of activities. These include various recreational, educational, creative, active and spiritual spaces.

Architecture for diversity

To allow improved care and treatment for Maori and Pacific populations and allow a more culturally diverse design, the preliminary design includes integration of a more holistic approach to health which considers the mind, body and soul, along with identity and participation. Specific cultural references and motifs in the design were avoided,

Integration of the mind body and soul is achieved by including spaces in the program to support mental wellbeing, physical wellbeing, social wellbeing and spiritual wellbeing. These include an art room, music room, classroom and various therapy rooms to support mental wellbeing. A multipurpose space for exercise, vegetable garden, fruit tree garden and consultation rooms to support physical wellbeing.

Various group lounges and family areas to support social wellbeing. Lastly a sheltered outdoor space for spiritual activities that allows a strong connection with nature to support spiritual wellbeing.

Identity is achieved by allowing spaces within the program to allow for Maori/Pacific processes and practices to restore health and wellbeing. These include a Rongoa garden and herbal preparation area located close by. There are also multiple complementary therapy rooms where Maori and Pacific healers will be able to access to perform spiritual healing.

Participation is achieved by including spaces within the program to allow for family involvement, along with wider community involvement. Walking tracks were also established through the design to allow the community to really engage. Public walkways were established around the perimeter of the building but also between the family accommodation and main building. This led through a therapeutic garden which allowed a social space open to all.

These design strategies were implemented successfully to allow a therapeutic design that retained the dignity of patients and catered for a more diverse group of patients.



Figure 15.03 - Final design site plan.







Figure 15.05 - Final design secure entrance.



Basement floor plan





Ground floor plan



PAGE 166



First floor plan







Outpatient opportunities

Public entrance



Figure 15.09 - Public entrance.

Calm waiting room



Figure 15.10 - Calm waiting room.

Therapy space



Figure 15.11 - Therapy space.

Art studio



Figure 15.12 - Art studio.

Music studio



Figure 15.13 - Music studio.

Multipurpose room



Figure 15.14 - Multipurpose room.

Rongoa garden



Figure 15.15 - Rongoa garden.

Public walkway



Figure 15.16 - Public walkway.



Inpatient opportunities

Public entrance



Figure 15.17 - Public entrance.

Family lounge



Figure 15.18 - Family lounge.

Interview room



Figure 15.19 - Interview room.

Fruit tree garden and walkway



Figure 15.20 - Fruit tree garden and walkway.

Small lounge



Figure 15.21 - Small lounge.

Patient bedroom



Figure 15.22 - Patient bedroom.

Dinning room



Figure 15.23 - Dinning room.

Rooftop garden



Figure 15.24 - Rooftop garden.



Inpatient opportunities

Secure entrance



Figure 15.25 - Secure entrance.

Secure waiting room



Figure 15.26 - Secure waiting room.

Interview room



Figure 15.27 - Interview room.

Small lounge



Figure 15.28 - Small lounge.

Patient bedroom



Figure 15.29 - Patient bedroom.

Group lounge



Figure 15.30 - Group lounge.

Rooftop garden



Figure 15.31 - Rooftop garden.

Secure garden



Figure 15.32 - Secure garden.



Staff opportunities

Public entrance



Figure 15.33 - Public entrance.

Staff hub



Figure 15.34 - Staff hub.

Staff office



Figure 15.35 - Staff office.

Fruit tree garden and walkway



Figure 15.36 - Fruit tree garden and walkway.

Staff observation station



Figure 15.37 - Staff observation station.

Staff meeting room



Figure 15.38 - Staff meeting room.

Therapy room



Figure 15.39 - Therapy room.

Staff rooftop garden



Figure 15.40 - Staff rooftop garden.

16.0

Construction and services

Detail 1 - Green roof drainage section

Scale 1:10



Figure 16.01 - Green roof drainage.

Detail 2 - Suspended ceiling section



Figure 16.02 - Suspended ceiling detail.
Detail 3 - Wall detail plan

Scale 1:10





Figure 16.03 - Wall detail.

Basement reflected ceiling plan

		<u> </u>			
+ + +		++			
		+			
		<u> </u>	<u> </u>		
					•
				· · ·	
		++	+ _ +		
					<u> </u>
		+		• •	
		+			
		$\overline{1}$ $\overline{1}$ $\overline{1}$ $\overline{1}$ $\overline{1}$	- $ -$		
+ + +		+ + +	+		
		+++	+ +		
			$-\frac{1}{1}$		
		+	+		
Eightro 16 04 Deflected chilling - Long	baaamaat		<u> </u>		-
rigure 10.04 - Reflected ceiling plan	basement.				
PAGE 182					



PAGE 183





Level one reflected ceiling plan











Figure 16.09 - Section 3.











17.0

Conclusion and final reflection

17.1 Conclusion

The mental health of youth is a large concern in New Zealand. There has been an increase in Child, Adolescent, Mental Health Services and Non-government organisations and therefore more opportunities for youth to access mental healthcare, however there are still barriers which are stopping youth receiving help (Saunders, Hawton, & O'Connor, 2012, p. 2379). Major barrier include stigma due to the institutional qualities of these mental healthcare environments, and these environments often ignoring cultural contexts, therefore failing to respond to patient's needs (Bil, 2016, p. 499). Mental healthcare environments have developed and come a long way from the psychiatric institutions prior to the 1970s. Although there have been attempts to improve the design and clinical functioning of these settings to allow a more humane and therapeutic environment, many acute mental health wards have generally not been successful. These units have been criticised for inadequate facilities, confined spaces, shocking overcrowding, neglected outdoor space, and a lack of creative thinking.

Characteristics of the built environment can effect wellbeing and directly influence mental health therefore mental healthcare environments hold significant implications for the success of treatment, overall recovery of individuals, along with their broader wellbeing (Evans, 2003, p. 536). This thesis responded to the lack of and unsuccessful architectural responses for youth suffering mental illness in New Zealand and in particular, the central region. This thesis proposes a new mental healthcare facility specifically for youth be designed to host outpatient and inpatient services. This thesis aimed to explore how architecture could act therapeutically to support wellbeing and restore mental health. It looked at how architecture can retain the dignity of patients, and challenge conventional norms of prior mental healthcare environments to combat stigma. Lastly this thesis aimed to integrate Maori and Pacific models of health and wellbeing in order to allow improved care and treatment for Maori and Pacific groups.



Literature

A range of literature was analysed by key architectural theorists, architectural professionals, architectural and medical research academics, along with ministry documents and guidelines. All literature was relevant to gain an understanding of mental illness, understand the transition in mental healthcare, understand aspects in these mental healthcare environments that are failing and lastly to determine key design criteria. Literature that could have been explored in the Architecture as therapy' section could extend to include biophillic design as this could have really strengthened the natural connections aspect. Aside from this the range of literature and ideas explored was a great strength to this research.

Site

This research highlighted that the site is vital to the successfulness of the design. The initial site on the top of a hill presented major issues, however by testing this it allowed a greater understanding of site requirements. It was discovered that the site should not only be located in close proximity to a general hospital, with sufficient transportation loops, sufficient daylighting and a connection with nature and the community, but also that the site is in a discrete location so that the building is not labelled or stigmatised. The new site was successful due to this.

Method

The methodology began as a research led design process where literature and case studies established performance criteria and determined the preliminary design outcome. The methodology than shifted to a design led research process where iterations tested the relevance of this performance criteria previously established and determined the final design outcome. This method was appropriate as a clear understanding of what was required in a mental healthcare facility was established in the preliminary design, which was built on in the developed and final design. This method allowed the design criteria to be tested to identify the significance and relevance.

Criteria

The design criteria has remained constant throughout the research, however the process allowed the extension of the criteria and an understanding of the relevance. For instance the design criteria of 'identity' should not only involve Maori processes and practices but also allow an architectural form that resonates with the Maori culture. Therefore 'identity' extended from the consideration of program requirements to form and allowed an architectural form that could resonate with Maori culture. The form was able to illustrate Maori's core value of the land. Secondly the design criteria of 'participation' should not only be confined within the program of the architecture by including spaces for the community but also a visual connection with the community and opportunity's outside of the architecture to allow a community connection. Thirdly the design criteria of 'Observation' should not only be considered as a clear layout but also monitored and limited points of entry and architectural barriers as this allows improved observation. Lastly while multisensory stimulation is important it must be balanced with practicality, for instance natural materials and sound absorbing materials are both relevant and both contribute to a healing environment. On reflection of the design criteria, natural connections is the most relevant design criteria in a therapeutic space as it crosses over with multisensory simulation, evidence based design strategies and identity.

Program

The program was continuously developed throughout the research and therefore is a great strength. The program was developed through New Zealand and international precedents, Literature but also a meeting with mental health expert Dr Gabrielle Jenkin from the Department of Public Health, who was able to identify strengths in the program but also aspects that were missing or needed more consideration.

Form

Upon reflection an aspect that worked well was addressing both Pakeha and Maori cultures in a non-territorial way. Rather than branding the building in cultural motifs, merging architecture and landscape allowed for the design to resonate with both cultures.

Contribution to the discipline

This research offers a set of variables that can be manipulated and tested through design. Each project is however specific to context and therefore what may work in this design may not work in other contexts. For instance architecture for diversity is only relevant in a New Zealand context, However architecture as therapy and architecture for dignity involve principles that could be applied internationally. This research offers a new way to design mental healthcare, however these principles also correspond to healthcare in general and therefore could be applied to various other healthcare architecture.

Next steps

An aspect that could really strengthen this research is stakeholder involvement. This was an aspect that was unfeasible in the research due to the vulnerability of the patients. Interacting with patients and staff would gain a different perspective and potentially strengthen and add to the design criteria.

Outcome

Overall the design addresses the problems identified in the first chapter. The design responds to the decline in the mental health of youth as it is primarily aimed at youth and caters for inpatients and outpatients and therefore from moderate to severe mental illness. The design responds to the inadequate nature of current facilities as it incorporates aspects that will allow the design to act therapeutically, restore the dignity of patients and cater for a more diverse population. Lastly the design combats stigma by creating an architectural form that challenges previous mental healthcare environments.

18.0 Bibliography and figures



Anae, M., Moewaka Barnes, H., McCreanor, T., & Watson, P. (2002). Towards Promoting Youth Mental Health in Aotearoa/New Zealand: Holistic 'Houses' of Health. International Journal of Mental Health Promotion, 5-14.

Bathgate M, Pulotu-Endemann FK. (1997). Mental health in New Zealand from a public health perspective. Wellington: Ministry of health.

Bil, J. (2016). Stigma and Architecture of Mental Health Facilities. The British Journal of Psychiatry.

Chrysikou, E. (2014). Architecture for Psychiatric Environments and Therapeutic Spaces . Washington, District of Columbia: IOS Press.

Durie, M. (1999). Transcultural psychiatry: Mental health and Maori development. Australian and New Zealand Journal of Psychiatry(33), 5–12.

Durie, M. (2011). Indigenizing mental health services: New Zealand experience. Transcultural Psychiatry, 24-36.

Evans, G. (2003). The Built Environment and Mental Health. Journal of Urban Health : Bulletin of the New York Academy of Medicine, 80(4), 536-555.

Firth, W. (2004). Acute Psychiatric Wards: An Overview. In From Toxic Institutions to Therapeutic Environments (pp. 174-187). London: The Royal College of Psychiatrists.

Folocault, M. (1980). Power Knowledge. New York, United States: Random House USA Inc.

Foucault, M. (1995). Discipline and Punish : The Birth of the Prison. London: Penguin Books Ltd.

Gil, F., Butler, S., & Pistrang, N. (2016). The Experience of Adolescent Inpatient Care and the Anticipated Transition to the Community: Young People's Perspectives. Journal of Adolescence, 57-65.

Howard, T. v. (2004). From Toxic Institutions to Therapeutic Environments: The Physical Environment and Use of Space. London: The Royal College of Psychiatrists.

Karlin, B., & Zeiss, R. (2006). Environmental and Therapeutic Issues in Psychiatric Hospital Design: Toward Best Practices. PSYCHIATRIC SERVICES, 57(10).

Kritsotaki, D., Long, V., & Smith, M. (2016). Deinstitutionalisation and after: Post-War Psychiatry in the Western World. Springer International Publishing.

Marttunen, M., Aro, H., & Lonnqvist, J. (1993). Adolescence and Suicide: A Review of Psychological Autopsy Studies. European Child & Adolescent Psychiatry, 2(1), 10-18.

Mead, H. (2016). Land. In Tikanga Maori (Revised Edition) : Living By Maori Values (pp. 5-27). Wellington: Huia (NZ) .

MHC. (2011). Child and Youth Mental Health and Addiction. Wellington: Mental Health Commission.

MOH. (2002). Criteria for the Design and Refurbishment of Psychiatric Acute and Intensive Care Facilities. Wellington: Ministry of Health .

MOH. (2003). Best practice evidence based guideline: The assessment and management of people at risk of suicide. Wellington: Ministry of Health.

MOH. (2007). Te Raukura: Mental health, alcohol and other drugs. Improving outcomes for children and youth. Wellington: Ministry of Health.

MOH. (2013). Suicide facts: Deaths and intentional self harm hospitalisations. Wellington: Ministry of Health.

MOH. (2017). Office of the Director of Mental Health Annual Report 2016. Wellington: Ministry of Health.

O'Brian, J., & Sokratov, A. (2014). Hīkaka te Manawa: Making a difference for Rangitahi. Wellington: Health and Disability Commissioner and Te Rau Matatini.

Paget, S. a. (2004). Connecting with the Natural Environment: From Toxic Institutions to Therapeutic Environments. London: The Royal College of Psychiatrists.

Pallasmaa, J. (2012). The Eyes of the Skin : Architecture and the Senses. John Wiley & Sons.

Pallasmaa, J. (2014). Formal and experimental projection. John Wiley & Sons Ltd.

Pallasmaa, J. (2015). Mind, Body and Imagination: The Mental Essence of Architecture . In J. P. Sarah Robinson, Mind in Architecture (pp. 51-74). Cambridge, Massachusetts; London, England: The MIT Press.

Pallasmaa, J. (2016). The Sixth Sense: The meaning of atmosphere and mood. London: John Wiley & Sons Ltd.

Penelope Campling, Steffan Davies, and Graeme Farquharson. (2004). From Toxic Institutions to Therapeutic Environments : Residential Settings in Mental Health Services. London: Gaskell.

Rose, J. (2004). The Residential Care and Treatment of Adolescents. In From Toxic Institutions to Therapeutic Environments (pp. 219-226). London: The Royal College of Psychiatrists.

Sachs, N., & Cooper Marcus, C. (2014). Therapeutic Landscapes : An Evidence-Based Approach to Designing Healing Gardens and Restorative Outsdoor Spaces. New Jersey: John Wiley & Sons.

Saunders, K., Hawton, K., & O'Connor, R. (2012). Self-Harm and Suicide in Adolescents. The Lancet, 379, 2373-2382.

Suaalii-Sauni, T., Wheeler, A., Saafi, E., Robinson, G., Agnew, F., Warren, H., . . . Hingano, T. (2009). Exploration of Pacific perspectives of Pacific models of mental health service delivery in New Zealand. PACIFIC HEALTH DIALOG, 15(1), 18-27.

Tamasese, K., Pereru, C., Waldegrave, C., & Bush, A. (2005). Ole Taeao Afua, the new morning: a qualitative investiga-tion into Samoan perspectives on mental health and culturally appropriate services. Australian and New Zealand Journal of Psychiatry.

Tiatia-Seath, J. (2014). Pacific peoples, mental health service engagement and suicide prevention in Aotearoa New Zealand. ETHNICITY AND INEQUALITIES IN HEALTH AND SOCIAL CARE, 7(3), 111-121.

Ulrich, R. S. (2008). A Review of the Research Literature on Evidence-Based Healthcare Design. HERD: Health Environments Research & Design Journal, 1(3), 61-125.

William, S., & Chang, C.-Y. (2011). Making healthy places – Designing and building for health, wellbeing and sustainability. In Mental Health and the built environment. Washington: Island Press.



All figures not attributed are Authors own.

Chapter 3:

3.01: Maggie's centre Manchester exterior garden. Nigel Young. 2016. Web. Retrieved: 10 April 2014 < https://www.archdaily.com/786370/maggies-cancer-centre-manchester-foster-plus-partners>

3.02: Maggie's centre Manchester exterior garden. Nigel Young. 2016. Web. Retrieved: 10 April 2014 < https://www.archdaily.com/786370/maggies-cancer-centre-manchester-foster-plus-partners>

3.03: Maggie's centre Manchester Lounge. Nigel Young. 2016. Web. Retrieved: 10 April 2014 < https://www.archdaily.com/786370/maggies-cancer-centre-manchester-foster-plus-partners>

3.04: Dandenong mental health facility courtyard. Batessmart. Web. Retrieved 08 April 2014 https://www.batessmart.com/bates-smart/projects/sectors/health/dandenong-hospital-stage-3-rede-velopment-mental-health-facilities-part-1/

3.05: Dandenong mental health facility exterior. Batessmart. Web. Retrieved 08 April 2014 https://www.batessmart.com/bates-smart/projects/sectors/health/dandenong-hospital-stage-3-rede-velopment-mental-health-facilities-part-1/

3.06: Dandenong mental health facility courtyard. Batessmart. Web. Retrieved 08 April 2014 https://www.batessmart.com/bates-smart/projects/sectors/health/dandenong-hospital-stage-3-rede-velopment-mental-health-facilities-part-1/

3.07: Trillium secure adolescence inpatient courtyard. Charles Chestnut. 2017. Web. Retrieved: 16 April 2014.<https://www.archdaily.com/803705/trillium-secure-adolescent-inpatient-facility-tva-architects>

3.08: Trillium secure adolescence inpatient exterior. Charles Chestnut. 2017. Web. Retrieved: 16 April 2014. https://www.archdaily.com/803705/trillium-secure-adolescent-inpatient-facility-tva-architects

3.09: Trillium secure adolescence inpatient courtyard. Charles Chestnut. 2017. Web. Retrieved: 16 April 2014. https://www.archdaily.com/803705/trillium-secure-adolescent-inpatient-facility-tva-architects

3.10: Kingfisher court entrance. P+HS Architects. 2016. Web. Retrieved 23 April 2014. https://pandhs.co.uk/projects/kingfisher-court

3.11: Kingfisher court exterior. P+HS Architects. 2016. Web. Retrieved 23 April 2014. https://pandhs.co.uk/projects/kingfisher-court

3.12: Kingfisher court courtyard. P+HS Architects. 2016. Web. Retrieved 23 April 2014. https://pandhs.co.uk/projects/kingfisher-court