# Implementation of the Mental Health Recovery Star (MHRS) in a Community Mental Health Service in Aotearoa New Zealand: Review of the Evidence and Development of an Action Plan.

**Student Name:** Godhelp Mutero Nyashanu

**Student ID:** 1310709

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**Attestation of Authorship**

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the qualification of any other degree or diploma of a University or other institution of higher learning.

Signature: 

Date: 26 February 2020

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**Abstract**

This comprehensive literature review (CLR) set out to determine the evidence for the Mental Health Recovery Star (MHRS) as an effective outcome measure for determining the functional progress of people experiencing mental illness, and the evidence-based strategies for the effective implementation of the MHRS in a community mental health service in Aotearoa New Zealand. The project involved using a Comprehensive Literature Review (CLR) methodology to source and analyse the literature, with an emphasis on published articles; inclusion of literature published in the last 10 years; studies that focused on the use of the MHRS and/or change management/implementation; and the inclusion of secondary/grey information sources (dissertations and thesis). **Main results:** Findings from the review confirmed that the MHRS was an effective outcome measure for determining the functional progress of people living with mental illness due to its established recovery model characteristics of being client-centered, collaborative and recovery-focused. The MHRS was also found to have robust psychometric properties that have great potential to enhance its effectiveness in practice. There was also clear evidence of successful (full or partial) use of Kotter's change implementation model as the most effective framework to implement a practice change. **Conclusions or implications:** The MHRS was found to be effective as an outcome measure for determining the functional progress of people living with mental illness. In addition to this, Kotter's change model was also determined to be the appropriate guide to the implementation of the MHRS, with an action plan developed based on the model.

**Contents**

# CHAPTER ONE: Introduction to the project

The Ministry of Health has set plans to collaborate with key stakeholders in the development of agreed outcome measures and key performance indicators in mental health services (Ministry of Health [MOH], 2012). This is to enable the measurement of progress in implementing the government's 'Mental Health and Addictions Service Development Plan 2012 – 2017'. According to this plan, the Ministry of Health has set in place several action plans to expand the use of validated outcomes measures (MOH, 2012). This will involve the continued use of existing outcome measures and the introduction of other validated outcome measures. Given the government's priority focus on outcome measurement, this project, embedded in a community mental health service, aimed to explore the evidence for one such outcome measure, the Mental Health Recovery Star (MHRS), as an effective outcome measure for determining the functional progress of people living with mental illness, and, to determine the appropriate evidence-based strategies for the implementation of the Mental Health Recovery Star at a community mental health service in Aotearoa New Zealand.

Given these questions, and the scope of the practice project, the comprehensive literature review (CLR) methodology, based principally on the work of Onwuegbuzie and Frels (2013) was selected for the review. In addition to determining the effectiveness of the MHRS and the most effective change implementation strategies, a change management plan was determined as the best outcome for the project.

This chapter describes the rationale, aims, and methodology for the project. The chapter closes with a description of the adult mental health and addiction services rehabilitation setting that is the implementation setting of the project.

## Introduction to the project

When the Waikato DHB's Community Mental Health and Addiction Services' Occupational Therapist Clinical Leader suggested the introduction of the Mental Health Recovery Star Outcome Measure into our service, I was intrigued as a mental health rehabilitation practitioner. I was interested in the questions this decision posed, for example, was the Mental Health Recovery Star compatible with our service? Was the Mental Health Recovery Star compatible with the DHB's recovery model's principles? Was the Mental Health Recovery Star a more effective outcome measure as compared to other outcome measures in current use? Was the Mental Health Recovery Star effective and relevant enough to replace or complement the outcome measures in current use? Was the Mental Health Recovery Star an effective outcome measure for determining the functional progress of our particular clients i.e.

people living with mental illness, and, finally, if determined to be an effective outcome measure, how would the Mental Health Recovery Star be best rolled out into our service? The search for answers to the above questions led me to undertake this project, which focused on two research questions;

- What is the evidence for the Mental Health Recovery Star (MHRS) as an effective outcome measure for determining the functional progress of people experiencing mental illness; and
- What are the evidence-based strategies for the effective implementation of the Mental Health Recovery Star in a community mental health service in Aotearoa New Zealand?

**Project site**

The site of this practice project was Manaaki Raatonga aa iwi, formerly named the Integrated Recovery Services (iRs). The Maori service name Manaaki Raatonga aa iwi means care and wellbeing services for the people.

Manaaki Raatonga aa iwi is part of the Waikato District Health Board's Community Mental Health and Addiction Services in Hamilton, Aotearoa New Zealand. Manaaki Raatonga aa iwi is the only dedicated Waikato DHB Community Mental Health and Addiction Services rehabilitation centre. I have practiced as a community mental health and addiction services rehabilitation Occupational Therapist at Manaaki Raatonga aa iwi for the past three and a half years, since July 2016. Manaaki Raatonga aa iwi has a staff complement of eleven full-time staff, of which five are Occupational Therapists, four Support Workers, one Administrator, and the Service Manager.

Manaaki Raatonga aa iwi provides services for people who have high and complex mental health needs and are currently utilizing the Mental Health and Addiction Services or Community and/or cultural NGOs such as Pathways, Connect, Emerge, Hauora Waikato, Te Awhi Whanau, Hohorongo. Manaaki Raatonga aa iwi's main focus is to enable the essential community participation of clients through the building of the required functional skills for engagement in their meaningful Activities of Daily Living (ADLs) in the areas of self-care, productivity, and leisure. Manaaki Raatonga aa iwi achieves this through three streams, *Social Inclusion* (sports and physical exercise programs that include basketball, touch rugby, swimming, walking; community gardening, adventure therapy, music studio 1:1 instrument learning or music beats production and recording sessions, group freestyle music jam sessions, music presentations opportunities at DHB and community events, etc.); *Independent Living* (bike building, repair, and maintenance for community transportation, computer literacy, gardening, carpentry, budgeting assistance, cooking program, etc.); and *Vocation/work* (work

skills training program, time-limited part-time work opportunities in car cleaning, lawn mowing, worksite maintenance, and office and other community premises cleaning).
At any given time, Manaaki Raatonga aa iwi has an average total service user caseload of approximately seventy. The majority of service users live in various levels of supported accommodation in the community, with some living independently, some living with their whanau and a smaller number still inpatient but gradually transitioning into the community. The service also works with forensic clients from NGOs such as Hauora Waikato, Te Awhi Whanau, Nga Whare Tuhono, and the Mental Health and Addiction Services Forensic Community Support Team. Manaaki Raatonga aa iwi usually offers six-month-long rehabilitation opportunities which may be increased if deemed necessary. Rehabilitation progress is tracked through the use of outcome measure assessments that are required to be completed once every three months. Once all functional goals are achieved, the Occupational Therapist then completes the final exit outcome measure before discharging the service user with further community Non-Governmental Organization (NGO) referral completed if necessary.

The occupational therapists at Manaaki Raatonga aa iwi play an important role in helping service users to develop independent community living skills and obtain the necessary supports necessary for productive living. Part of the Occupational Therapists' role at this service is the screening of referrals to ascertain whether referred service users can be accepted into the service. This screening or triaging process involves the Occupational Therapists first contacting the referrer, usually the service user's Key Worker, with a set of questions regarding, for example, referred service user's risks around other people and rehabilitation opportunities, their current functional levels, support systems, aspirations. The Occupational Therapist then sets up a semi-structured screening interview meeting with both the referred service user and the referrer at which other support persons such as whanau or community or residential support persons can also attend. This meeting also focuses on the referred service users' current functional levels, support systems, and aspired rehabilitation goals vis-à-vis what is on offer in terms of rehabilitation programs at Manaaki Raatonga aa iwi. The Occupational Therapist then presents their screening findings, with their recommendation, to the Manaaki Raatonga aa iwi Multidisciplinary Team (MDT) that meets once every week. The MDT then makes the final decision on whether or not to accept the referral. If the referral is accepted, the service user is then allocated onto the caseload of one of the Occupational Therapists. The Occupational Therapist then sets up an initial meeting to introduce themselves to the client, explore possible rehabilitation opportunities depending on needs, set up service entry-level assessments such as outcome measures, cognitive and other functional assessments and also to discuss possible interventions.

The Support Workers' role is to support service users in their Occupational Therapist determined rehabilitation intervention programs and opportunities. Support Workers report all their service user rehabilitation contacts to the Occupational Therapists through the Waikato District Health Board (DHB) Client Work Station notes that they have to complete after every contact and which are required to be read and closed by the service user's Occupational Therapist.

After service users have completed their Manaaki Raatonga aa iwi rehabilitation goals, the service may also further refer them to community NGOs if necessary. These NGOs are such as Enrich Plus, Workbridge, Centre 401, Workwise, Work and Income New Zealand (WINZ), etc. Referral to these NGOs is meant to take the referred clients to the next level of their goal e.g. developing from the Manaaki Raatonga aa iwi protected employment of three hours per week to community employment in full - time or part-time work. Some of these NGOs are also used by Manaaki Raatonga aa iwi when running its programs such as the work skills training program which invites guest speakers from the above named NGOs who cover specific topics e.g. WINZ presentations on issues relating to how benefits are affected by the number of hours worked per week. Like the rest of the Mental Health and Addiction Services, Manaaki Raatonga aa iwi applies the recovery model in its rehabilitation programs.

**Overview of the Project Report**

This chapter has provided an introduction to the project and an overview of the context for the project.

Chapter two will provide a more robust description of the context of the Aotearoa New Zealand Mental Health and Addiction Services sector including the exploration of commonly used outcome measures and change implementation models used in mental health.

Chapter three will introduce and describe the selected methodology and methods that were used to complete the project.

Chapter four will present, report and discuss the findings drawn from the gathered review data in chapter three and also present the change implementation plan developed from the review findings.

Finally, chapter five will discuss the interpretations, recommendations, implications and meanings of the review findings presented in chapter four. In addition, this chapter will also discuss the strengths and limitations of the review process and end by presenting an overall conclusion of the whole project.

# CHAPTER TWO: Background to the project

As the project aimed to explore the effectiveness of the MHRS in Aotearoa New Zealand and given the government's priority on mental health and the measurement of outcomes, it is important to provide a contextual understanding of the mental health and addiction services setting in Aotearoa New Zealand. This chapter will achieve this by giving an overview of the structure, design, and service delivery of the mental health sector in Aotearoa New Zealand. The chapter will then discuss the recovery model and the mental health outcome measures which are currently commonly used within the mental health and addiction services sector in Aotearoa New Zealand. The outcome measure that is the focus of this review, the MHRS, will also be discussed in the outcomes section of this chapter. Lastly, in keeping with the project focus on change implementation, this chapter will also give an overview of the commonly used change implementation strategies, as discussed in the literature. There will be a focus on community mental health services, which is in line with the practice setting that this review is situated in.

## Background of the mental health and addiction services sector in New Zealand.

A significant number of New Zealanders, approximately 50 percent, will go through the challenges of living with mental health issues in their lifetime (Health & Disability Commission [HDC], 2018). This report also stated that 20% of New Zealand adults go through mental health and addiction challenges annually. Furthermore, mental health challenges were also noted in the report as risk factors for the suicide of which Aotearoa New Zealand has unacceptably high figures despite there being a general decline in suicides in the country over the past 15 years. Besides, Aotearoa New Zealand reportedly has one of the highest youth suicide rates in the developed world of which mental health plays a part in (Ministry of Health [MOH], 2012). Illegal substance abuse is common with Aotearoa New Zealand mental health service users Cunningham et al. (2018). Cunningham et al. also identified depression and anxiety as the most common mental health diagnoses in Aotearoa New Zealand and that alcohol is the most common substance abused, while cannabis is the illicit drug of choice. In the last 50 years, mental health services in Aotearoa New Zealand have evolved (and continue to do so) from the institutionalized model of care to the recovery model of care (Ministry of Health [MOH], 2017). According to this report, voluntary engagement with mental health services in the community has largely overtaken the compulsory institutionalized model of care of yesteryear. The Ministry of Health is required to improve, promote and protect the mental health, addiction, and independencies of New Zealanders (Ministry of Health [MOH], 2019).). According to this report, this is achieved through the following; the provision of whole-of-sector leadership of the health and disability system; advise the government and the Minister of Health on all issues regarding mental health and addiction issues and priorities; the direct purchase of a varied range of the essential mental health and addiction services at national level and the provision of information about the health sector and payment services. This annual report further explained

that all this is achieved through the different teams within the Ministry of Health in charge of the guiding and monitoring of mental health and addiction services.

The services that respond to mental health and addiction needs include; mental health and addiction services, primary mental health services, primary and community health care and virtual and self-care services (HDC, 2018).

- Mental health and addiction services – These services are specifically designed for service users afflicted with complex and/or enduring mental health and addiction needs. Their services are publicly funded through the Health Vote and comprise of services delivered in hospital/DHB settings, NGOs and community, and residential services.
- Primary mental health services - These services are designed for service users who fail to meet the mental health and addiction service threshold. These services are also publicly funded through the Health Vote for delivery in primary and community care settings and typically involve extended consultations with general practitioners and counselors.
- Primary and community health care – These are general health services, partly funded by the health Vote and designed to be delivered to the general population including provision for needs not met in the mental health and addiction services. These services include general and school-based services, primary health care, and support, Well Child Tamariki Ora, and midwife and NGO services.
- Virtual and self-care services – These services are supports that are accessed without the involvement of physical contact. They comprise of trained counselors engaging with service users through helplines and online communities and also through websites that provide essential mental health promotion information, self-assessment tools, e-therapy, recovery strategies, etc.

In terms of public service engagement, 3.6% of the New Zealand population (176 310) engaged with specialist mental health and addiction services in 2017 (Ministry of Health [MOH], 2017). This report indicated that of this figure, 124 698 engaged with mental health services only and 16 627 engaged with both mental health and addiction services whilst 34 985 engaged with addiction services only. According to this report, there has been a steady increase in service engagement since 2011 when 143 208 people used mental health and addiction services. This rise in service user numbers was attributed to several variables such as enhanced data capture accuracy, an increase in the New Zealand population, more accessible and visible services, and more efficient inter-provider referral systems. This report further stated that most people (approximately 90%) received their services in the community through the recovery model.

**Equitable care**

The central premise for this project is about outcome measurement, and, outcome measurement ultimately reflects the impact and quality of the health care service or intervention on the health status of service users. As such, this section will discuss the issues relating to the equitable distribution of quality mental health care services in New Zealand.

For the mental health and addiction services to be deemed as effectively functioning in New Zealand, there should be equitable care for all New Zealand populations (HDC, 2018). This report emphasized the service user expectation of receiving the equal quality of care and service experience and outcomes as all other citizens regardless of race, cultural, ethnic, and religious or other backgrounds. This report further highlighted the significance of cultural competence in equitable care by asserting the fact that safe service provision environments are a product of culturally competent services which is achievable through acknowledging and respecting varied consumer identities, their values, beliefs, world views, including family/whanau ties. It is a requirement and expectation by New Zealand law that the mental health and addiction services must have cultural fluency to accommodate not only Māori health and other world views but the world views of the now multi-cultural New Zealand society. This also covers the needs of a range of diverse groups.

The HDC (2018) explained that the historical trauma experience of tangata whenua, the Māori people of Aotearoa New Zealand, is directly linked to their negative traumatic experience of having been colonized, racially discriminated against, and negatively stereotyped and consequently ending up living in impoverished and violent environments leading to overall poor health outcomes including mental health. This, in turn, leads to Māori nationally experiencing disproportionately high rates of mental illness and substance abuse as compared to the rest of the other ethnic groups in New Zealand. This report further explained that annually approximately 1 in 3 Māori will experience mental illness and/or drug/alcohol addiction which compares with 1 in 5 of the general New Zealand population. This has consequently led the mental health and addiction services to design a special approach to Māori health through holistic and culturally sensitive early intervention and support.

**Funding**

Within the New Zealand context, there is a strong relationship between the measurement of outcomes and funding.

Nationally, mental health and addiction services are sourced and provided through the four New Zealand District Health Board (DHB) regions, namely, Northern, Midland, Central, and South Island (MOH, 2017). This report also expressed high regard for the work that these DHBs have

accomplished in recent years with regards to the development of mental health regional models of care for addiction treatment services. Additionally, other than DHBs, funding for mental health services is also done through non-governmental organizations (NGOs) and the primary health sector which is reportedly heavily subsidized by the government through the Ministry of Health (Smith & Baxendine, 2015).

The New Zealand Mental Health Commissioner has established that there is an increase in numbers of those accessing mental health and addiction services, putting these services under pressure and leaving many with unmet needs (HDC, 2018). This report highlighted the fact that it is sadly often the case that services are accessible when one's mental health condition has deteriorated. The report additionally stated that in the last decade, access to mental health and addiction services has gone up 73% while funding has only gone up by 40%. It should be noted here that the Mental Health Commissioner is the one who carries the responsibility to monitor the nation's mental health and addiction services and to also advocate for any identified required improvements to these services and attend to service complaints, all as delegated by the Health and Disability Commissioner.

The HDC (2018) report stated that in the year 2016 – 2017, New Zealand's mental health and addiction services spent $1.43 billion of the Health Vote of which 95% was allocated by the 20 DHBs across the country. According to this report, these 20 DHBs are the ones responsible for the planning and funding of the primary, secondary and tertiary health services of their respective populations. These services are such as those provided by the DHBs themselves, by NGO providers and community organizations, iwi based services, and primary health care organizations. The DHBs provide a significantly larger share of services which include acute in-patient and other in-patient services, with approximately 50% of alcohol and drug services being provided by the NGOs.

In the year 2015 – 2016, 35 percent of the DHBs mental health and addiction services funding went to community mental health services and community support, 17% went to adult in-patient services, 11% to child and youth services, 10% to alcohol and other drug services including opioid substitution therapy, 9% went to forensic mental health services, 4% to Older Persons Mental Health Services, and 2% to primary mental health services (HDC, 2018). This report further highlighted the importance of mental health and addiction services such that the DHBs funding is now ring-fenced to protect expenditure on mental health and addiction services within DHB budgets.

**Leadership structures**

Any change in the New Zealand mental health and addiction services sector will require strong leadership, and, as such, it is appropriate to provide a background to the leadership structures within the sector.

There are complexities found within the leadership structure of the New Zealand mental health and addiction services which are similar to what is found within the whole sector (HDC, 2018). According to this report, this leadership structure comprises multiple parts and varied organizations with their leadership structures, which then presents unavoidable, inherent coordination and leadership challenges. This report explained that the leadership roles include the Minister of Health with support from leaders within the ministry such as:

> the Director of Mental Health, leaders within the 20 DHBs (chief executives, planners and funders, clinical and nursing directors, and service general managers), leaders of other service providers (including NGOs and primary care providers), professional bodies, and consumer and family and whānau advisors and representative groups. ACC, MSD, Oranga Tamariki — Ministry for Children and the Department of Corrections also play significant leadership roles. Entities such as the Health Quality & Safety Commission and workforce organizations play an important role in supporting quality improvement and sector development" (pp, 32).

Additionally, according to this report, other government watchdog organizations keep an eye on the much-needed accountability of the mental health and addiction services sector. These are such as the following;

- The Health and Disability Commissioner – whose duty is the promotion and protection of service user rights including dealing with service user service provision complaints.
- The Mental Health Commissioner – who works within the office of the Health and Disability Commissioner and whose duties include monitoring and driving mental health and addiction services improvements.
- The Director of Mental Health and District Inspectors – whose main duty is to oversee the implementation of the Mental Health Act and the Substance Addiction Act.
- The Human Rights Commission and Ombudsman – for the upholding of human rights with a specific focus on practices that have the potential to restrict liberty and service user dignity such as when seclusion and restraint are being carried out.
- The Children's Commissioner – whose focus is the provision of services to children, especially those in state care, and
- The Auditor-General is the overseer of the effective use of the allocated public funds needed within all the mental health and addiction services sector service provision bodies.

These agencies collectively enhance and monitor New Zealand's progress in the implementation of its international obligations concerning mental health issues.

The Director of Mental Health and Addiction Services completes annual consultation visits to all New Zealand DHBs to engage with these services and keep up to date with the numerous challenges being faced and then initiate and activate the Ministry of Health support and oversight where needed (MOH, 2017). According to this report, the Director of Mental Health and Addictions Services also engages collaboratively with the various parts of the Mental Health and Addiction Services sector which involves attendance and presentations at the numerous meetings of this sector across New Zealand. There are also strong relationships with other government agencies with the Director of Mental Health and Addictions Services meant to enhance appropriate clinical practices and person-centered services for people living with mental illness. These are agencies such as the Department of Corrections and the Police.

**The Mental Health and Addictions workforce in New Zealand**

Any change in the New Zealand mental health and addiction services, particularly around the measurement of outcomes, will require access to the mental health and addiction services workforce. It is therefore important to provide the background information as to how this workforce looks like in Aotearoa New Zealand.

The New Zealand mental health and addiction services workforce is the most valuable resource in the service (Ministry of Health [MOH], 2018; MOH, 2012). Besides, the MOH (2012) report also noted and appreciated the strength of the collective skills, experience, and knowledge of the New Zealand mental health and addiction services workforce.

According to the MOH (2018) report, the New Zealand mental health and addiction services is comprised of a diverse array of people operating in varied settings. The mental health and addiction services workers referred by this report include the following; psychiatrists, general practitioners, psychologists, mental health nurses, psychotherapists, occupational therapists, social workers, councilors, pharmacists, cultural workers (who include kaumatua, matua, and Māori, Pacific and Asian workers), other allied health workers, support workers, peer support workers, primary care coordinators, training providers, housing facilitators, workforce development organizations' personnel, service managers and other non – traditional mental health and addiction services staff such as midwives, Well Child/Tamariki Ora nurses (Plunket nurses), early childhood teachers, school nurses and all those who enhance the promotion of mental health and wellbeing.

In 2014, the mental health and addiction services workforce numbers breakdown by general professional groupings were as follows; Support Workers = 31%; Mental Health Nurses = 28%; Allied Health Professionals = 17%; Administration and Management = 14%; Medical and other professionals = 6%; cultural workers = 2% (MOH, 2018). According to this report, all these

professionals usually execute their duties as part of Multidisciplinary teams. The report additionally reported that this highly skilled and professional workforce faces ongoing staff shortages. This shortage of trained mental health and addictions personnel in New Zealand was also noted by Williams, Haarhoff, and Vertongen (2017) who highlighted the lack of the appropriate cultural diversity that represents the general population of New Zealand.

Furthermore, there are also glaring anomalies in the ethnic distribution of the mental health and addictions workforce in that there is a very significant underrepresentation of Māori and Pacific peoples as practitioners (MOH, 2018). According to this report, there is worldwide evidence showing poor health outcomes for indigenous populations when the health workforce does not reflect the local communities. This underrepresentation is against a backdrop of the high prevalence of mental health and addiction issues within these Māori and Pacific people's communities (Mental Health Commission, [MHC], 2012); MOH, 2018).

**Outline/Structure of DHBs Adult Mental Health and Addiction Services**

As the service which is the focus of this project is an adult community mental health service within a New Zealand DHB, a localized breakdown of DHB adult mental health and addiction services will be provided in this section. This will give a clear picture of the recovery journey that people living with mental illness in New Zealand generally go through, and, these are the people that outcome measures such as the MHRS are developed for.

Although an overview of another New Zealand DHB, Cupina (2007) provided an excellent description of a representative model of care found at all the other DHBs in New Zealand. Cupina explained that in New Zealand, DHB adult mental health and addiction services cater for the 18 – 65-year-old age group and include the acutely unwell or in a crisis, those with chronic or recurrent illness, those with significant short term mental health issues, and those whose mental health problems are chronic and those with high disability support needs. According to Cupina, various DHB teams attend to the service user groups listed above and these are; Inpatient mental health units which comprise of acute, subacute, and intensive care beds, consultation-liaison services, maternal mental health, early psychosis intervention, Electroconvulsive therapy (ECT) services, community mental health teams, community alcohol and drug services, and Maori and Pacific island services.

- Inpatient mental health units which comprise of acute, subacute, and intensive care beds – these teams cater for the acutely unwell service users who may need a contained secure environment that is formally structured and has maximized monitoring and supervision. These teams work as Multidisciplinary teams (MDTs) comprising of Psychiatrists, Mental Health Nurses, Clinical Psychologists, Social Workers, and Occupational Therapists.

- Consultation liaison services - these teams attend to those admitted into the medical and/or surgical wards who also have psychiatric comorbidities. They also attend to those who will have attempted suicide and have self – harmed.
- Maternal mental health – this is a general DHB/hospital pre and postnatal tertiary service which specializes in mother/child bonding and attachment problems.
- Early psychosis intervention – this MDT provides services such as early intervention and the intensive follow up of the 17 – 24-year-old service user age group who will have had their first episode of psychosis.
- Electroconvulsive therapy (ECT) services – this service avails ECT treatment for those service users that have had it prescribed to them. ECT is only available at the main DHB center theatre rooms and works in collaboration with the DHBs' Anaesthesia teams. ECT is a biological treatment procedure that involves briefly applying an electric stimulus leading to the production of a generalized seizure (Kerner & Prudic, 2014). According to Kerner and Prudic, ECT is universally regarded as one of the most effective biological treatments for treatment-resistant psychiatric disorders such as major depressive disorder and schizophrenia.
- Community mental health teams – these are teams that deliver service user principal care within the community. They consist of an MDT and a Crisis team. The MDT comprises psychiatrists, community mental health nurses, clinical psychologists, psychotherapists, social workers, and occupational therapists. The Crisis team comprises of psychiatrists and community mental health nurses. The Crisis team's job is to manage those service users who are acutely unwell and in need of urgent attention in the form of assessment and treatment. The Crisis team offers short-term intensive treatment coupled with residential follow up services and can also facilitate hospital admissions where needed. MDTs mainly focus on providing ongoing care, relapse prevention, holistic recovery focused psychosocial community rehabilitation, psychoeducation, pharmacological and psychological interventions and community functional support needs assessments. Every service user under this team has a designated Key Worker and a Psychiatrist in charge of their care planning coordination. The integrated nature of the Crisis team and the MDT is such that, depending on service user needs, care can be easily transferred from one team to the other.
- Community Alcohol and drug services – these teams attend to service users with alcohol and drug addictions. Their teams comprise of the following services; medical detoxification, methadone, dual diagnosis, counseling, Maori, Pacific island people, youths, expectant mothers and the elderly.
- Māori and Pacific island services – these teams focus on providing specialized mental health and addiction services to service users who identify as Māori and Pacific

islanders. Service users have a choice of whether they prefer being serviced under the mainstream services or the specialized culture focused services from these teams.

In addition to the above, DHBs also have Forensic services teams who provide care for service users who have committed crimes or are violent and dangerous and are prone to breaking the law and are referred to these teams by the New Zealand Ministry of Justice for specialized care which includes assessment and management (Cupina, 2007). Lastly, Cupina (2007) explained that NGOs support a variety of mental health services in support of service users and their whanau. According to Cupina, this is achieved with services that "…include housing, employment, individualized packages of care, community support workers, cultural support services, alcohol, and drug rehabilitation services, family support and education. These organizations are funded from the government mental health funds or private providers" (p, 23).

The New Zealand Mental Health and Addiction Services sector continually strives to achieve better service user outcomes sooner. Bodies or organizations such as Central Government itself, "…DHBs, NGOs, Crown entities, international bodies (such as the United Nations and the World Health Organization (WHO) and independent watchdogs (such as the Office of the Ombudsman and district inspectors) collaborate to achieve this goal" (MOH, 2019, p. 22). All this is essential to accomplish acceptable and appropriate levels of service user quality and safety within the mental health and addiction services sector in Aotearoa New Zealand.

Figures from the 2017 calendar year DHBs consumer experience survey show an upward trend from the 2015 ones in terms of consumer satisfaction when dealing with the New Zealand mental health and addiction services (Ministry of Health [MOH], 2015; MOH, 2019). The 2017 survey figures showed that a total of 83% of those surveyed agreed (28%), or strongly agreed (55%) that they would recommend the service to their friends and family/whanau for care and treatment.

**Mental health legislation in New Zealand**

Within the New Zealand context, there is a strong relationship between recovery outcomes, change management, and mental health legislation. This section will explore and discuss the New Zealand Mental Health Act, officially called the Mental Health (Compulsory Assessment and Treatment) Act 1992 as it applies to the typical service user.

The Mental Health Act specifies the circumstances in which a person may be subjected to compulsory mental health assessment and treatment (MOH, 2019, p. 7). According to this report, the Mental Health Act "…provides a framework for balancing personal rights with public interests when a person poses a danger to themselves or others due to mental illness" (p,

7). This report additionally explained that the administration of the Mental Health Act lies within the jurisdiction of the Director of Mental Health who is recognized as its Chief Statutory Officer appointed under section 91 of the Mental Health Act.

Each DHB has a Director of Area Mental Health Services (DAMHS) who is appointed by the Ministry of Health's Director-General of Health under section 92 of the Mental Health Act (MOH, 2019). This post is held by a Senior Mental Health Clinician whose responsibility is to administer the Mental Health Act within the DHB. The Directors of Area Mental Health Services give quarterly reports to the Director-General of Health with regards to how they are exercising their powers when executing their duties in their DHB functions under the Mental Health Act. The Director of Area Mental Health Services must appoint and assign a responsible clinician who leads the treatment of any particular person who falls under the compulsory assessment and treatment category.

The Director of Area Mental Health Services also has the powers and duty to appoint a competent health practitioner as a 'duly authorized officer' whose job is to offer an appropriate response to those people who become mentally unwell in the community and need intervention (MOH, 2019). A 'duly authorized officer' also offers general advice and assistance when requested by members of the public and the New Zealand Police. Under the Mental Health Act, a 'duly authorized officer' has the authority to arrange a medical examination if they have reason to believe that someone is mentally unwell, are deemed a danger to other people and/or to themselves and would benefit from a compulsory assessment.

The Mental Health Act also has provisions for independent monitoring mechanisms and checks and balances despite this expectation from the appointments of the Directors of Area Mental Health Services (MOH, 2019). According to this report, this is achieved through the Minister of Health's appointment of professionally qualified lawyers to be District Inspectors whose job is to protect service user rights under section 94 of the Mental Health Act. These district inspectors also address issues and concerns raised by service user families/whanau whilst also monitoring service compliance with the processes of the Mental Health Act. The report further stated that there were 35 district inspectors in New Zealand as of the 31/12/17.

An independent tribunal that reviews compulsory treatment orders, special patient orders and restricted patient orders also exists within the Mental Health Act system (MOH, 2019). This tribunal is called the 'The New Zealand Mental Health Review Tribunal', also referred to as 'The Tribunal'. The Tribunal gets involved if a service user disagrees with their treatment under the Mental Health Act and will assess and decide if a person has to continue or not to be treated under compulsory treatment. The tribunal comprises three members of which one member must

be a lawyer, the second a psychiatrist and the third one a member of the community. Each of the three tribunal appointees has respective deputies appointed just in case of unforeseen unavailability.

**The Recovery model of care: its introduction and use in New Zealand**

The recovery model of care informs assessments such as outcome measures and interventions within the New Zealand mental health and addiction services sector. This is in line with worldwide trends, with the New Zealand mental health and addiction services having embraced the use of the Recovery Model of care as they moved away from the institutionalized model of care over the last fifty years (MOH, 2019). This report additionally explained that under the recovery model of care, service user voluntary engagement with mental health and addiction services in the community has overtaken the compulsory inpatient treatment of old. Furthermore, according to Cone and Wilson (2012), the New Zealand Ministry of Health advocates for the use of the recovery model of care within its mental health and addiction services sector.

The recovery model's founding philosophy is that people living with mental health issues can live complete and fulfilled lives without necessarily eliminating their mental health illness and only concentrating on effectively managing their symptoms (Burns & MacKeith, 2013). Furthermore, the recovery model has also been shown to be about living a holistically productive life despite the presence of a mental health diagnosis and its symptoms (Warner, 2010; Slade, Adam & O'Hagan, 2012; McEvoy, Schauman, Mansell & Morris, 2012; Bellack & Drapalski, 2012; Oades & Anderson, 2012; Onifade, 2011). Sklar, Groessl, O'Connell, Davidson, and Aarons (2013) defined recovery as "…a process of change through which individuals improve their health and wellness, live a self – directed life, and strive to reach their full potential" (p, 1083). Roberts and Boardman (2014) further indicated that recovery-oriented practice focused on the service user seeking enhancement of hope, control, and opportunity. Lastly, the recovery model was recognized as strengths-based by Fenton, White, Gallant, Hutchinson, and Hamilton-Hinch (2016) as they stated that the model emphasized "…individual, family, cultural and community strengths and supports that people already have to enable them to live hopeful, self-determined and meaningful lives within environments of their choosing, while acknowledging that mental illness symptoms may be ongoing" (p, 346).

The recovery model of care is now the universally preferred model of choice in mental health service delivery within community mental health settings (Osborn & Stein, 2017). Osborn and Stein also additionally explained that the recovery model enhanced person-centeredness as it encourages service users to take the lead when engaging with their care providers. Ellison et al. (2018) also further highlighted, among others, the following essential recovery model

components; individualized and person-centered, collaborative decision-making, empowerment, self-efficacy, choice, autonomy, strengths-based, skills building, define goals, relational, peer support, personalized to ones' culture, living in the community, healthy lifestyle habits, purpose, connectedness with the community.

**Outcome measures in mental health and addictions**

Mental health service delivery in New Zealand requires the measurement of outcomes using appropriate outcome measures such as practiced in similar services worldwide (Parabiaghi et al., 2011). An outcome measure, as defined by Gee, Croucher, and Beveridge (2010), is an assessment tool used to gauge if an intervention has brought about change. Gee, Croucher, and Beveridge also suggested that outcome measures can, among other things, be used to provide evidence of the effectiveness of therapeutic interventions. According to Killaspy, White, Taylor & King (2012), universally, health care providers utilize standardized measures and routine data collection as monitors for the effectiveness of their services. Furthermore, outcome measurement tools are also meant for guiding clinical decision making, consumer engagement during treatment, fostering and enhancing collaboration during goal setting and care planning, reviewing service user intervention progress, assessing service user referrals (triaging), assisting in discharge planning, improvement of the evidence base that underpins services and the evaluation of certain models of service delivery (Coombs, Stanley & Pirkis, 2011).

As a community mental health rehabilitation Occupational Therapist, I have noted that in practice there are several validated outcome measures used in New Zealand which support the evaluation of the effectiveness of mental health care services. These outcome measures include the Health of the Nation Outcomes Scales (HoNOS), which is undertaken routinely in mental health practice in New Zealand, the Canadian Occupational Performance Measure (COPM), and the Goal Attainment Scale (GAS), which are evidence-based practice-led outcome measures.

*The Health of the Nation Outcomes Scales (HoNOS)*

The HoNOS is a widely used practitioner scored mental health outcome measure that measures the severity of health and social functional variables on a scale of 0 – 4 (Speak, Hay & Muncer, 2015). According to Speak et al., the HoNOS is commonly used to evaluate service outcomes in mental health settings and the Ministry of Health requires all District Health Boards to use the HoNOS as an outcome measure (HoNOS-family-of-measures, 2016).

*The Canadian Occupational Performance Measure (COPM)*

Carswell et al., (2004) described the COPM as a goal-setting tool and outcome measure "… that is based on an occupational perspective that emphasizes engagement in meaningful occupations

as an important determinant of health, well – being, and quality of life" (p. 172). According to Carswell et al., COPM goal setting specifically addresses service user meaningful activities within the areas of self-care, productivity, and leisure. In addition to this, Carswell et al. indicated that after the goals have been identified, discussed and set in a semi-structured interview meeting, the COPM requires the service user to score them in terms of their current importance, performance and satisfaction levels at service entry. After an agreed time accommodating the intervention period, a re-scoring session will then determine if the interventions have made any difference in terms of significant change in function.

*The Goal Attainment Scale (GAS)*

The GAS is a mathematical technique that can be used in rehabilitation to quantify achievement or nil achievement of set personal goals in various rehabilitation fields that include psychiatry (Turner – Stokes, 2009; Krasny-Pacini, Hiebel, Pauly, Godon & Chevignard, 2013). Krasny-Pacini et al. described the overall GAS process as follows:

- defining a rehabilitation goal;
- choosing an observable behavior that reflects the degree of goal attainment;
- defining the patient's initial (i.e. pre-treatment) level concerning the goal;
- defining five-goal attainment levels (ranging from a ''no change'' to a ''much better than expected outcome'');
- setting a time interval for patient evaluation;
- evaluating the patient after the defined time interval;
- Calculating the overall attainment score for all the rehabilitation goals (pp, 213).

Krasny-Pacini et al., (2013) further explained that there is room for optional goal extensions in the GAS process as long-term goals can be sub-divided into short term ones with corresponding GAS scales.

*The Mental Health Recovery Star (MHRS)*

One of the most frequently cited outcome measures in the mental health recovery literature is the MHRS, which has been selected as the focus for this practice project. The MHRS is an innovative recovery model based outcome measure that was developed in the UK by the Mental Health Providers Forum and Triangle Consulting (Dickens, Weleminsky, Onifade & Sugarman, 2012; Onifade, 2011).

The MHRS "…focuses on the ten core areas that are critical to recovery: Managing mental health, physical health and self-care, Living skills, Social networks, Work, Relationships, Addictive behaviour, Responsibilities, Identity and self-esteem, and Trust and hope" (Burns

and MacKeith, 2013, p. 2). According to Burns and MacKeith, the MHRS is useful in the specific measurement of the relationship the service user has concerning any difficulties they may be having in each of the ten MHRS areas. The MHRS is then used to periodically locate where the service user is on the journey towards addressing the identified areas of difficulty, with goals then being set to address the difficulties as part of a subsequent intervention. These qualities, according to Burns and MacKeith, enable the MHRS to also be used as a key work tool.

Imonioro (2010) described the MHRS as comprising of two entities, namely; the visual ten pronged star and the ladder of change. Each prong of the visual ten pronged star represents each of the ten recovery dimensions. Imonioro further explained that each prong has a rating scale calibration of 1 – 10, from minimal progress at 1 to independent function at 10 which is used to map out changes across all dimensions central to recovery. According to Imonioro, the ladder of change is based on James Proschaska and Carlo Diclemente's Transtheoretical model of change and comprises of "…five descriptive steps, each with two parts, signifying the individual's journey from mental ill-health to wellbeing/recovery" (p. 28). The ladder of change is calibrated as follows; Stuck (1 – 2); Accepting (3 – 4); Believing (5 – 6); Learning (7 – 8), and; Self-reliance (9 – 10) (Killaspy, White, Taylor & King, 2012). The MHRS user guide has detailed guidelines on how to score each of these per domains. Killaspy, White, Taylor and King also indicated that the collaborative discussions between the service user and practitioner should take approximately one hour, whilst Burns and MacKeith (2013) indicated that practitioners have reported taking between 45 minutes – two hours for the first meeting with follow up sessions being generally quicker due to familiarity. Placentino, Lucchi, Scarsato, and Fazzari (2017) indicated that the MHRS takes up to 45 minutes to complete. Burns and MacKeith indicated that first-time users can also be accommodated in group sessions with peer presenters involved.

In conclusion, Smith and Baxendine (2015) indicated that there are currently no mandated patient-reported outcome measures (PROMs) in use in New Zealand mental health and addiction services. Smith and Baxendine additionally asserted that it is inevitable that a PROM will be introduced as all available evidence points to it being needed, despite evidence also showing that clinicians generally resist the introduction of PROMs. Furthermore, since the recovery model is now in use in New Zealand, Sklar, Groessl, O'Connell, Davidson, and Aarons (2013) asserted that to create a recovery-oriented system of care, an essential step would be to use recovery-oriented assessments to assess recovery.

**Change implementation strategies**

While the previous section of this chapter has described the context for the project and the theoretical importance and significance of outcome measurement in the mental health and addiction services sector in Aotearoa/New Zealand, it is problematic to avoid exploring how theory is best translated into action when implementing any change in practice or service delivery. It is with this in mind that there should be consideration and exploration of change implementation strategies in common use. Stragalas (2010) stated that the field of organizational development is awash with change implementation or transformational models that have been introduced over the years. Stragalas specifically singled out and highlighted three of the most commonly reviewed models, designed respectively by William Bridges, Edgar Schein (Kurt Lewin) and John Kotter. Stragalas explained that William Bridges and Edgar Schein's models have historically been used for organizational-level change, though they can be discussed at a team or individual level whereas Kotter's model is classified as useful for change implementation. An overview of each of the theories is provided as follows;

Bridges developed a three-phase change strategy as follows: The Ending Phase, The Neutral Zone and New Beginnings (Bridges & Mitchell, 2000);

- The Ending Phase - this is the phase where people are required to let go of the old system or ways of doing things.
- The Neutral Zone – This is the zone of discomfort and is where the transition into the new ways of doing things is launched from. People may occupy this zone for months or years if required, depending on the size of change. This is also the zone where people come to grips with what is required from them to effect the new dispensation.
- New Beginnings – this last stage requires final adjustments to the new order and process and ways of doing things or tasks or new culture.

Lewin developed his change model in 1947 which he named the three-stage or three-step model (Brisson-Banks, 2010; Wirth, 2004). Lewin's model has the change process broken down into three steps or stages, namely, unfreezing, changing, and refreezing which is why the model is referred to as "…as the unfreezing-change-refreeze model" (Wirth, 2004, p. 1). Wirth explained that this model emphasized that past learning has to be rejected and replaced by new learning. A summarized version of this model's stages is as follows;
"Stage 1 – becoming motivated to change (unfreezing)….Stage 2 – change what needs to be changed (unfrozen and moving to a new state)…Stage 3 – making the change permanent (refreezing)" (Wirth, 2004, p. 1).

Kotter's eight stages of change model (Kotter, 1996) is one of the most frequently cited change implementation models in change implementation literature and was selected as the

focus of this project. According to Stragalas, Kotter's model is directed by prescribed broad action steps within each of the eight stages, all based on Kotter's extensive research involving over 100 companies. Kotter's eight stages of change are as follows; establishing a sense of urgency; creating the guiding coalition; developing a vision and strategy; communicating the change vision, empowering broad-based – based action; generating short – term wins; consolidating gains and producing more change, and anchoring new approaches in the culture (p. 21).

Kotter explained that a hardened organizational practice status quo is defrosted by stages 1 – 4, whilst stages 5 – 7 introduce new practices, with stage 8 grounding the change. According to Kotter, successful change goes through all the stated 8 stages. Kotter also divided the 8 stages into three phases as follows;

Phase One: stages 1 – 3 – Create a climate for change and get a shared understanding of the difficult assignment lying ahead of the organization.

Phase Two: stages 4 – 6 – Engaging employees in the process so that they can effect change in the organization.

Phase Three: stages 7 – 8 – Establish a sense of urgency; examine market and competition for potential crises.

Conclusion

This chapter has provided a contextual overview of the mental health and addiction services sector in Aotearoa New Zealand, commonly used outcome measures and an introduction to the change implementation models. The next chapter will focus on the methodology and methods that were used in the project.

# CHAPTER THREE: Methodology and Methods

This chapter will describe the chosen methodology and methods used to complete this project as a way of detailing how the evidence was systematically searched for and compiled.

Following on from providing an overview of the New Zealand mental health and addiction services sector in the previous chapter, it can consequently be seen that the measuring of recovery outcomes has increased over the past few years. This demand to measure recovery outcomes and the importance of using an evidence-based implementation strategy led to the two research questions that were developed for this project. These two questions were developed in accordance with the elements of a well-built evidence-based research question as described by Taylor (2007). Taylor named the four elements of a well-built evidence-based research question as follows; firstly, name the study population and their problem, secondly name the main intervention of the study, thirdly describe the comparative or alternate intervention (not compulsory as it depends on methodology), and, lastly, describe the outcome that is hoped to be achieved. Both developed research questions for this review (see below) were in line with these elements;

1. What is the evidence for the MHRS as an effective outcome measure for determining the functional progress of people living with mental illness, and,
2. What are the effective evidence-based strategies for the implementation of the MHRS at a community mental health service in Aotearoa New Zealand?

## The methodology

The methodology used for this project was the Comprehensive Literature Review (CLR), based principally on the work of Onwuegbuzie and Frels (2016). As described by Onwuegbuzie and Frels, the CLR is a mixed-methods research methodology that can be used as a stand-alone study or as a part of another study. In this project, the CLR was completed as a stand-alone study.

Onwuegbuzie and Frels described the CLR as a 'Seven step Model' which comprises the following seven steps; (a) Step 1: Exploring beliefs and topics; (b) Step 2: Initiating the search; (c) Step 3: Storing and Organizing Information; (d) Step 4: Selecting/Deselecting Information; (e) Step 5: Expanding the Search to Include One or more MODES (**M**edia, **O**bservation(s), **D**ocuments, **E**xpert(s), **S**econdary Data; (f) Step 6: Analyse and Synthesize Information; and (g) Step 7:Present the CLR Report. According to Onwuegbuzie and Frels, these seven steps "…are multidimensional, interactive, emergent, iterative, dynamic, holistic and synergistic" (p. 54). Multidimensional means that each of the seven steps has multiple components or dimensions. Interactive meaning that all steps are interdependent as there is back and forth movement at the different review stages. Emergent means that as leads emerge, they should be followed as in

detective work. Iterative means that all steps are recursive meaning that any or all steps can be repeated as needed with the reviewer often moving back and forth between/among any of the steps. Dynamic refers to CLR being vivid, enthusiastic, lively, and eventful and therefore exciting. Holistic refers to the fact that the reviewer incorporates "…as many semiotic systems as possible" (p, 56). Synergistic meaning that the CLR follows the four core principles for synergistic approaches as explained by Hall and Howard (2008) in Onwuegbuzie and Frels (2016);

- Synthesizing information collected from as many of the five MODES as possible ultimately results in a more detailed review of literature than would have been collected if a review of conventional literature had been carried out.
- Using an investigative approach to conduct a literature review where, where applicable, several philosophical concepts and positions are intertwined.
- Considering quantitative and qualitative research techniques being equally important for completing the literature review in general and specifically for synthesizing knowledge.
- Striking a workable balance among the reviewer's multiple roles such as being culturally progressive, moral, multi-modal, original thinker and reflexive investigator.

According to Onwuegbuzie and Frels (2016), the CLR's seven steps can be subdivided into three phases, namely; the Exploration Phase (steps 1 – 5), the Interpretation phase (step 6) and the Communication phase (step 7). Onwuegbuzie and Frels indicated that the Exploration phase comprises of series of investigative steps. This first phase is where and when reviewers explore numerous belief systems, including their own and also explore philosophical, discipline-specific and topic-specific beliefs and their inter-relations. The first phase also involves the exploration and identification of potential and appropriate databases for topic-specific information using the appropriate key search terms to assist with focus. This phase is also where and when the reviewer identifies the information to select or deselect and also use one or more of the five MODES to expand the search. Phase one ends when the reviewers explore ways of storing and organizing information. According to Onwuegbuzie and Frels (2016), the Interpretation Phase is when the reviewer interprets the information gathered in the Exploration phase through analysis and synthesis. The third and final Communication Phase is when a reviewer disseminates their reports to their relevant audience in the form of a presentation which can be done through acting, visually, orally or in writing.

**The rationale for choosing CLR**

A CLR, as described by Onwuegbuzie and Frels (2016), was chosen for this project because, among other things, it affords the freedom and flexibility to search for and utilize both quantitative and qualitative research articles through its mixed methods approach. Consequently, this has the potential to provide a significantly wider search berth of relevant

research articles to use in the project which in turn augurs well for the robustness of the project findings. Furthermore, there is also the flexibility from the fact that the seven CLR steps are, as explained by Onwuegbuzie and Frels (2016), interactive (back and forth movement between/among review stages); emergent, which gives the opportunity and flexibility to follow up leads as they develop; iterative, which gives the opportunity and flexibility to repeat steps as needed; and have the synergistic component of being able to synthesize data gathered from as many of the five MODES as possible which produces a more comprehensive review as compared to a traditional review.

What needed to be accomplished by this review and how it needed to be accomplished was in line with the literature review as described by Garrard (2014). Garrard described the literature review as a process of analyzing scientific research literature regarding a specific topic. According to Garrard, during this process, the reviewer is required to carefully read and evaluate all selected studies to be able to identify and evaluate the purposes of the studies, analyze and grade whether the scientific methods used were appropriate and come up with a summary of the studies' findings. The review is then completed through objectively presenting a written synthesis of all the studies' findings.

The CLR was chosen after thorough consideration of the other various types of reviews available. These were such as those described by Garrard (2014) who identified various types of reviews such as integrative literature reviews (for nursing literature), systematic reviews (for evidence-based medicine), a meta-analysis (literature summary requiring precise quantitative methods for summarising results).

Literature reviews range from being selective to being comprehensive and can be part of a larger study or can stand alone (Literature Reviews: An Overview for Graduate Students, n.d.). According to this website, an example of a selective review is a course assignment whose focus is a small segment of the literature of a specific topic; Literature reviews found in theses and dissertations are examples of comprehensive reviews that are part of larger studies. Generally, most research articles use a selective literature review at the beginning or introductory stage to establish the research report context of the study. Other literature reviews are meant to be fairly comprehensive and also to stand alone. Comprehensive stand-alone reviews dedicate the entire article to reviewing the literature on a specific topic.

All literature reviews have the following common features;

- Focused literature review question
- Inclusion and exclusion criteria
- Specific key terms and terms

- List of databases and other sources of evidence
- Record of searches undertaken
- Data extraction in a similar manner from all papers
- Critique and assessment of the design and conduct of all literature included
- Presentation of data from all papers
- Analysis and synthesis of the findings in relation to the research question
- Discussion of the extent to which the research question has been answered
- Identification of what is known and what remains unknown
- Standardized method of reporting the review (Aveyard, Payne & Preston 2016, p. 3).

## Methods

In this review, the methods section is structured based on the seven stages outlined within the three phases of the CLR Framework as described by Onwuegbuzie and Frels (2016). What follows is a description of the methods undertaken in completing the CLR within these three phases which are, namely, the Exploration stage (steps 1 – 5), the Interpretation stage (step 6), and the Communication stage (step 7) (Onwuegbuzie & Frels, 2016).

### Phase One – Exploration Phase.

Phase one comprised of the first five stages of the CLR, namely; Exploring beliefs and topics, initiating the search, Storing and Organizing Information, Selecting/Deselecting Information and Expanding the Search to Include One or more MODES.

Within this study, the exploration of beliefs and topics stage encompassed the planning stage where the study topic, questions, methodology, methods, their rationale, and all study support processes were developed and justified. This study completed this stage through the AUT Post Graduate Research Study's PGR1 form completion which was signed off following the review of the proposed project.

After satisfying the requirements of the planning stage, this review then used the literature review structure and features as described by Aveyard, Payne, and Preston (2016). Aveyard, Payne, and Preston explained that a literature review firstly starts with the development of a clearly focused question. According to Taylor (2007), a clearly focused study question gives direction to all review tasks and that the consequence of a poorly defined, poor quality and vague question is an equally poor-quality review which adds little to no value to evidence-based practice. This study developed two clearly focused literature review questions whose formulation was guided by the Problem/Population, Intervention, Comparative Intervention, Outcome (PIO/PICO) Framework (Taylor, 2007; Booth, Sutton & Papaioannou, 2016).

The next stage was setting parameters as to which studies to include and which ones to exclude in this review (Aveyard, Payne and Preston, 2016). According to Brocke, Simons, Niehaves, Niehaves, and Reimer (2009), this inclusion/exclusion process had to be of significantly highly transparent levels to achieve high review credibility such that readers can confidently use the results in their projects. The main inclusion/exclusion criteria for this project were (i) emphasis on published articles (ii) only literature published in the past 10 years (iii) only articles published in the English language (iii) only articles that relate to the use of the MHRS and no other Outcome star (iv) only articles that relate to change management/Implementation (v) secondary information sources (dissertations and thesis) were acceptable. Grey literature, such as unpublished studies, was used for supplementary information and scanning of their reference lists on condition that they also met the inclusion criteria outlined above.

*Data searches undertaken*

Data collection was in the form of a literature search using electronic database searches at the AUT and Waikato DHB Libraries as shown below;

1. DHB's 'Discovery' search database (Searches across all Library resources);
2. Auckland University of Technology (AUT) Databases; and
3. Google Scholar.

The following are the search terms that were used;
'Mental Health Recovery Star'
'Mental Health Recovery Star' AND 'Outcome Measure'
'Mental Health Recovery Star' AND 'Implementation'
'Stages of change'
'Change Implementation'

This search included the reference lists of recent literature and the use of citation tracking. The most frequently referenced journals relating to the research questions were accessed (Aveyard, 2010). Aveyard stated that this process enhances the identification of the maximum amount of literature hence minimizing the chances of 'cherry-picking' preferred articles. Searches were for both quantitative and qualitative research literature using selective or purposive search (Aveyard, Payne & Preston, 2016) as this helped to concentrate on literature that met the planned outcomes for the practice project.

Most of the selected studies relating to question one were identified as Retrospective Chart Audit Designs also referred in other literature as Retrospective Chart Review (RCR) (Sarkar

& Seshadir, 2014; Vassar & Holzman, 2013; Barick, Vijaykanth, Bharucha, Gowda, Patil, Bosbach & Zomorodi, 2018). RCRs were described by Sarkar and Seshadir (2014), as studies that involve the study of pre-collected data which includes summarizing and subjecting the data to sufficient statistical analysis and drawing conclusions based on the evidence and reasoning. In addition, Vassar and Holzman (2013) also referred to RCRs as medical record reviews that are used in answering one or more research questions.

In response to question one, and in keeping with the inclusion/exclusion criteria for the review, 25 articles were identified of which fourteen were selected and used as evidence in this project (see Appendix A). In response to question two, and in keeping with the inclusion/exclusion criteria for the review, 20 articles were identified of which ten were selected and used as evidence in this project (see Appendix B).

Phase Two – Interpretation

Phase Two comprised of step six of the CLR, namely; Analyse and Synthesize Information. The first step in analyzing the data was to critically appraise the selected individual articles. Critical appraisal was described by Aveyard (2010) as the structured examination of research as a way of determining the research strengths and limitations. Critical appraisal was completed in this project using the Critical Analysis Skills Programme (CASP) (CASP, n.d.). According to this website, CASP programs are available for all types of research and enable the systematic assessment of trustworthiness, relevance, and results of published research papers. This provides a guide in the determination of weight carried by the research in the literature review. Additionally, despite there being numerous other appraisal tools, CASP provides tools that are succinct and effective in covering areas when critically appraising evidence (Nadelson and Nadelson, 2014).

The review then categorized the quality of the evidence using the green, orange, and red color-coding system; green was for the highly-rated articles, followed by orange being medium rated and red being low rated or poor evidence (refer to findings column in Appendix A and B). In addition, for an overview of the data analysis matrix drawn from each of the studies included in the review, see Appendix C.

Phase Three – Communication

Phase Three comprised the last CLR step seven, namely; presenting the CLR report. This phase comprised of the reviewer writing up and presenting this project report, with the findings from the studies included in the following chapter.

In conclusion, this chapter has described the methodology and methods that were undertaken in the completion of the comprehensive literature review.

# CHAPTER FOUR: Findings

This chapter aims to present, report and discuss the findings drawn from the project data. The findings will be presented and explained in three sections. The first two sections address Question One and Question Two - with themes identified and described in each section (see Appendix C). The chapter will then close with a third section which presents the MHRS implementation plan which draws together findings related to both research questions.

Findings: Question One

*What is the evidence for the Mental Health Recovery Star as an effective outcome measure for determining the functional progress of people living with mental illness?*

Within the data, a significant number of studies found the Mental Health Recovery Star to be an effective outcome measure for determining the functional progress of people living with mental illness. This was mainly because the selected studies established that the Mental Health Recovery Star was underpinned by the mental health recovery model of which it was derived from. Furthermore, the following themes were drawn from the data that determined the effectiveness of the Mental Health Recovery Star; *client centeredness; collaborative practices (between clients and service providers); recovery model* and *recovery goal-focused; robust psychometric properties.* Each of these themes will now be discussed in further detail.

*Client centeredness*

Within the data, *client centeredness* emerged as a significant prerequisite to the Mental Health Recovery Star being determined as an effective outcome measure for determining the functional progress of people living with mental illness. Slade, Adam & O'Hagan (2012) highlighted this when they explained that the implementation of recovery-oriented practice should reflect client centeredness with the deliberate focus of assisting service users to lead a meaningful life. This consequently makes client-centered practice an essential component that underpins the effectiveness of the Mental Health Recovery Star. Furthermore, McEvoy, Schauman, Mansell & Morris (2012) explained that the recovery model supported client centeredness through its association with a sense of control. Moreover, a sense of control can be considered as a form of personal control (which is synonymous with *client centeredness*) which is needed to determine one's future to pursue a meaningful and productive life and to positively affect societal attitudes towards people living with mental illness. Moreover, Burgess, Pirkis, Coombs & Rosen (2011) established the Mental Health Recovery Star as one of the outcome measures that measures domains related to personal recovery (re: recovery model) and takes a consumer perspective (re client centeredness), which is in keeping with the philosophy of this review, and contemporary mental health practice, service delivery, and service design. Burgess et al explained that *client centeredness* is a significant prerequisite for the effectiveness of the Mental Health Recovery Star as an effective outcome measure for determining the functional progress of people living

with mental illness. Also, Jacob, Munro, Taylor, and Griffiths (2015), in concurrence with this review's findings, also established that the philosophy of *client centeredness* is underpinned by recovery model-oriented practices.

Finally, the Mental Health Recovery Star is also a self-report measure, and as stated by Eisen et al. (2010), "research on patient-centered care supports the use of patient/consumer self –report measures in monitoring health outcomes" (p. 170). Additionally, in their study which considered service user views regarding mental health outcome measures, Crawford et al. (2011) found evidence of patient support of patient-reported outcome measures as being more relevant and appropriate in practice. Hence the findings by both Eisen et al. and Crawford et al. enhance the use of the Mental Health Recovery Star, a *client-centered* patient-reported outcome measure, as an effective outcome measure for determining the functional progress of people living with mental illness.

It should however also be noted that, despite favouring the use of patient-reported outcome measures, the service users in the study by Crawford et al. (2011) did not identify the Mental Health Recovery Star as a patient-reported outcome measure and the authors also stated that the Mental Health Recovery Star was not created with service user input which was in concurrence with the study by Sklar et al. (2013). This assertion raised questions regarding the *client centeredness* of the Mental Health Recovery Star. This assertion however contradicted with other studies (Dickens et al., 2012; Killaspy et al., 2012; Tickle et al., 2013) who identified the Mental Health Recovery Star as a patient-reported outcome measure that was also developed with service user input.

*Collaborative practices* (between clients and service providers)

The *collaborative practice* theme emerged from the data as another essential factor influencing the effectiveness of the Mental Health Recovery Star as an effective outcome measure for determining the functional progress of people living with mental illness. This was because within the data, a significant majority of the selected studies established that *collaborative practice* enhanced the use and practice of the recovery model principles which underpin the Mental Health Recovery Star. Furthermore, data also showed that a significant number of the selected studies used service users in their research, which consequentially validated *client centeredness* and *collaboration* when using the Mental Health Recovery Star.

However, a study by Jacob et al (2015) concluded that the Mental Health Recovery Star should not be recommended as a routine outcome measure but only be used in the facilitation of *collaborative* care planning. This theme was mirrored in two other selected studies but still falls within the recovery models' collaborative partnership as explained by Jacob et al. (2015).

Furthermore, according to Jacob et al., collaboration is the key to successful recovery-oriented practices. Jacob et al further explained the multi-dimensional aspect of the recovery-oriented practice which requires a multidisciplinary team approach with *collaboration* and partnership involving the service users, service providers, family members, and policymakers, etc. which all underpin the mental health recovery model principles.

As the project was undertaken in New Zealand, a local example was important to include. As such, there was also evidence of the Mental Health Recovery Star's *collaborative* use in New Zealand as shown in the study by Joy-Johnson (2016) at Canterbury University in which she researched the alliance *(collaboration)* between client and practitioner when using the Mental Health Recovery Star. Joy – Johnson explained that the Mental Health Recovery Star had been given recognition for potentially offering to be a means to building a positive working alliance (*collaboration*) between service users and practitioners, and supporting their alliance-building process and recovery principles during interventions. On the contrary, the study by Killaspy, White, Taylor, and King (2012) indicated the possibility of the tool facing client/practitioner *collaborative* challenges when used with service users with significantly severe mental health symptoms which may highly likely be a barrier to their engagement in productive discussions that are necessary for rating the Mental Health Recovery Star's ten domain scales.

*Recovery model and recovery goal focused*

Within the data, a significant number of studies demonstrated that the Mental Health Recovery Star was underpinned by the recovery model and was recovery goal-focused. There was also further evidence of the Mental Health Recovery Star's adoption in recovery-focused mental health services (Dickens et al, 2012). Recovery model principles were also acknowledged within the data as principles that fed the Mental Health Recovery Star's natural fit with the model.

Furthermore, the study by Lloyd, Williams, Machingura, and Tse (2016), in Queensland, Australia, showed recovery clinicians adopting the Mental Health Recovery Star as a routine outcome measure because it assisted service users in the identification of their key recovery goals whilst also tracking the progress of their recovery journey. Additionally, Lloyd et al. also concluded that the Mental Health Recovery Star was able to enhance the service user goal-setting process and to track service user progress during the recovery journey whilst supporting both the service and organizational goals and enabling practitioners to focus on goals that are important to their clients. Consequently, improved service user goal-setting processes and efficient service user progress tracking will enhance the Mental Health Recovery Star as an

effective outcome measure for determining the functional progress of people living with mental illness.

*Robust psychometric properties*

Within the data, approximately half of the selected studies discussed and established the significance of robust psychometric properties as being a further contributing factor influencing the effectiveness of the Mental Health Recovery Star as an effective outcome measure for determining the functional progress of people living with mental illness.

Some of the psychometric properties validated by the selected studies were as follows; *clinical utility* (Tickle et al., 2013; Killaspy et al., 2012; Placentino et al., 2017; Dickens, Weleminsky, Onifade & Sugarman, 2012; Lloyd, Williams, Machingura & Tse, 2016; Frost et al., 2017; Griffiths, Heinkel & Dock, 2015; Good, 2019), *responsiveness* (Dickens, Weleminsky, Onifade & Sugarman, 2012; Frost et al., 2017; Griffiths, Heinkel & Dock, 2015; Placentino et al 2017; Larsen & Griffiths, 2013; Good, 2019), *inter - rater reliability* (Sklar et al, 2013; Killaspy et al. 2012; Placentino et al. 2017; Good, 2019), *convergent validity* (Frost et al., 2017; Killaspy et al., 2012; Placentino et al., 2017; Good, 2019), *acceptability* (Killaspy et al, 2012; Placentino et al, 2017; Good, 2019), *temporal stability* (Killaspy et al. 2012; Placentino et al. 2017), *internal consistency* (Dickens, Weleminsky, Onifade & Sugarman, 2012; Sklar et al, 2013), *item redundancy* (Dickens, Weleminsky, Onifade & Sugarman, 2012), *test-retest reliability* (Killaspy et al, 2012; Placentino et al, 2017), *face validity* (Lloyd, Williams, Machingura & Tse, 2016.

*Clinical utility*

The majority of the selected studies demonstrated the good clinical utility of the Mental Health Recovery Star. Ease of use and *acceptability* of the Mental Health Recovery Star was described by both service users and providers. The studies also established that the Mental Health Recovery Star took a reasonable time to complete, which is essential when working with short attention spans common in mental health practice. This essential component of *clinical utility* supported the Mental Health Recovery Star as an effective outcome measure for determining the functional progress of people living with mental illness.

*Responsiveness*

The Mental Health Recovery Star's *responsiveness* was validated by almost half of the included studies. These peer-reviewed studies demonstrated the responsiveness of the Mental Health Recovery Star to change that takes place during interactions with mental health service providers.

*Inter-rater reliability*

The Mental Health Recovery Star's *inter-rater reliability* was demonstrated through four of the selected studies. In the study by Placentino et al. (2017), readings from the participating practitioners demonstrated consistency in applying the star scales with a resultant Cohen's kappa coefficient of > 0.7 in all combinations. Furthermore, a later study by Good (2019) also indicated that Killaspy (2012) had lower intraclass coefficients of between 0.46 – 0.77 (good – excellent is between 0.6 – 1.0).

*Convergent validity*

The Mental Health Recovery Star's *convergent validity* was demonstrated through four of the selected studies that used validated outcome measures that assess similar constructs to the Mental Health Recovery Star, namely, the Health of the Nations Outcome Scales (HoNOS), The World Health Organisation's Quality of Life assessment (WHOQOL – BRE), Global Assessment of Functioning and CGI (Placentino et al. 2017); HoNOS, Life Skills Profile (LSP) which was reported to be a well-established standardized measure of social functioning, etc. and the Mental Health Recovery Measure (MHRM) (Killaspy et al. 2012); HoNOS and Kessler Psychological Distress Scales (K10) (Frost et al., 2017).

*Acceptability*

*Acceptability* of the Mental Health Recovery Star was demonstrated to be at the appropriate level by both service users and practitioners (Killaspy et al, 2012; Placentino et al, 2017; Good, 2019). Furthermore, Good emphasized the appropriateness and acceptability of the Mental Health Recovery Star to culturally and ethnically diverse populations which enhances universal generalizability.

*Temporal stability and test-retest reliability*

Within the data, evidence of *temporal stability* of the Mental Health Recovery Star was also demonstrated when the Mental Health Recovery Star was completed within a researcher set short – time (Killaspy et al. 2012; Placentino et al., 2017). In a recent study, Good (2019) concurred with Killaspy et al. and Placentino et al. who established the intraclass coefficient of > 0.7 in all outcome domains confirming good *test-retest reliability*.

*Internal consistency*

The study by Dickens et al. (2012) established the Mental Health Recovery Star's high *consistency* of Cronbach's alpha $\alpha = 0.85$ representing very good *consistency*. Dickens et al. further explained that they found that the Mental Health Recovery Star appeared to measure an underlying recovery-oriented construct which is in line with the underpinning recovery model

that the Mental Health Recovery Star was developed from. The study by Sklar et al. (2013) also additionally indicated that internal consistency was estimated at $\alpha = 0.85$.

*Item redundancy*

The study by Dickens et al. (2012) established the correlation of almost all items with one another at levels that exceeded chance. However, Dickens et al. indicated that no item-item correlation exceeded the 0.7 threshold.

*Face validity*

The Mental Health Recovery Star also displayed high *face validity* (Lloyd et. al, 2016) which enabled the clinicians to identify service user goals. Consequently, the clear identification of service user goals leads to the improved function of people living in the community with mental illness.

Of note, the findings from this CLR are in keeping with Good (2019) who concluded that the Mental Health Recovery Star's psychometric properties were as acceptable and useful it produced results that converged with other relevant and validated mental health outcome measurement tools; was responsive to change; had temporal stability; and, Good's review also presented initial evidence illustrating that practitioners could consistently apply the scales with the same information *(interrater reliability).* It must, however, be noted that, at the time of publication, Good was a Research Analyst at Triangle Consulting, the developers of the Mental Health Recovery Star, which could have introduced bias as this author was an 'interested party'.

It should also be further noted that two of the selected studies (Sklar et al, 2013; Burgess et al 2011) had findings that were in contradiction to the findings of the majority of the selected studies especially regarding the robustness of the psychometric properties of the Mental Health Recovery Star. In their summary of instrument quality, Sklar et al stated that in terms of psychometric properties, ease of administration and service user involvement, the Mental Health Recovery Star did not meet their study's evaluation criteria. Burgess et al. (2011), in reviewing existing recovery outcome measures routinely being used in Australia, concluded that the Mental Health Recovery Star had not been scientifically scrutinized, did not demonstrate sound psychometric properties, was not acceptable to consumers, did not promote collaboration between consumers and service providers and did not apply to the Australian context. This is in sharp contrast to the later Australian study (also selected in this review) by Lloyd et al. (2016), which, among other findings supporting use of the Mental Health Recovery Star, concluded that the Mental Health Recovery Star was useful as an outcome measure and clinical instrument for a service that is recovery-focused.

Overall, however, the findings from this CLR have established the MHRS as an effective outcome measure for determining the functional progress of people living with mental illness as it exhibited the essential elements of the mental health recovery model of which it was derived from. Additionally, the data also showed that the MHRS had robust psychometric properties that enhanced its effectiveness as an outcome measure.

Findings: Question 2

*What are the effective evidence-based strategies for the implementation of the Mental Health Recovery Star at a community mental health service in Aotearoa New Zealand?*

Within the data (see Appendix C), Kotter's model of change (Kotter, 1996) was wholly or partially demonstrated and/or supported by the majority of the selected studies as an effective evidence-based change implementation strategy or model, which could be selected for the implementation of the Mental Health Recovery Star at a community mental health service in Aotearoa New Zealand. This was mainly because the selected studies determined that Kotter's model possessed certain essential change implementation elements that enhance its suitability and appropriateness for the implementation of the Mental Health Recovery Star at a community mental health service in Aotearoa New Zealand. This review's section will consider and discuss those elements as themes and/or sub-themes, as follows; it was successfully used as a whole in active research (direct implementation is well researched); it was partially used in successful change implementation; it was found to be highly effective (easy to use, structured, and provided an effective framework to implement a practice change in healthcare); it was successfully used in tandem/combination with other models.

*Successfully used as a whole in active research (direct implementation is well researched)*

What emerged from within the data was that half of the selected studies implemented Kotter's model as a whole and reported positive outcomes in terms of its successfully guiding change implementation. The study by MaClean and Vannet (2016) described Kotter's model as a useful guide that had developed services across several health boards and facilitated significant improvements in patient care standards and was used to maximize change impact. Also, the successful use of Kotter's model with adaptations was established by some studies despite implementation difficulties being reported with some components of the model (Dolansky et al., 2013). Dolansky et al. did not however complete the eighth and last step of the model and no reason was given for this. Furthermore, Pollack and Pollack (2014) proved Kotter's model to be effective in change management despite the need for some contextual adaptations.

On the contrary, some studies established that there was mixed support for Kotter's model (Applebaum et al, 2012; Baloh et al, 2017). These studies recommended the model to be used only as an implementation planning tool. However, the review by Applebaum et. Al. established that there is support for most of Kotter's 8 steps but highlighted the fact that when the study was completed, there had been no formal empirical studies that had analyzed the whole model. However, Applebaum et al. described Kotter's model as a good guideline that does not guarantee success.

*Partially used*

Some of the studies demonstrated that change could still be implemented without necessarily completing some of the 8 steps in Kotter's change model (Dolansky et al, 2013; Cunningham & Kempling, 2009; Baloh et al, 2017; Applebaum et al, 2012). This is contrary to Kotter's model which recommended that successful business change implementation leaders should complete Kotter's eight stages in the right order (Brisson – Banks, 2010). As described by Kotter (1996), the right order is to sequentially follow his model's eight stages.

The study by Cunningham and Kempling (2009) demonstrated only the first two steps as important. Pollack & Pollack (2014) concurred with this assertion as they explained how important Kotter's model's stage one of creating a sense of urgency was such that Kotter wrote a whole book entitled "A Sense of Urgency" (Kotter, 2008) which was exclusively focused on this stage alone. Besides, Cunningham and Kempling also emphasized the importance of Kotter's Model's stage two of creating a guiding coalition as they asserted that change would falter without a guiding coalition. Similarly, the review by Appelbaum et al. (2012) established support for most and not all of Kotter's Model's eight steps and asserted that there were no studies at that time that had covered the whole model. Furthermore, the study by Baloh et al. (2017) reported unexplainable successful change implementation despite skipping some steps.

*Used in tandem with other models in successful change implementation*

Baloh et al., (2018) recommended using Kotter's model with other models as they would complement it. Correspondingly, the study by Small et al., (2016) reported failure of previous attempts to effect change, before Kotter's model, in tandem with another model, was used with success in change implementation being achieved.

*Easy to use*

Applebaum et al. (2012) established Kotter's model as readily acceptable to use by managers since its basis was the real-life experience and its prescribed eight stages were easy to follow

(Small et al., 2016). Some studies explained that this phenomenon was because Kotter's model was popular in varied organizational settings as change managers/agents had embraced its practicalness despite there being no empirical evidence supporting its use. The review by Applebaum et al. was reportedly the first thorough review of Kotter's model at that time in the 15 years since its introduction.

*Structured*

Some studies demonstrated that Kotter's model gave structure to change implementation in terms of providing systematic plans for change (Small et al., 2016). Furthermore, King et al. (2018) established that Kotter's model offered "…a structural framework for analyzing processes of organizational change and identifying areas of deficit in managing these processes" (p, 285).

*Provides an effective framework to implement a practice change*

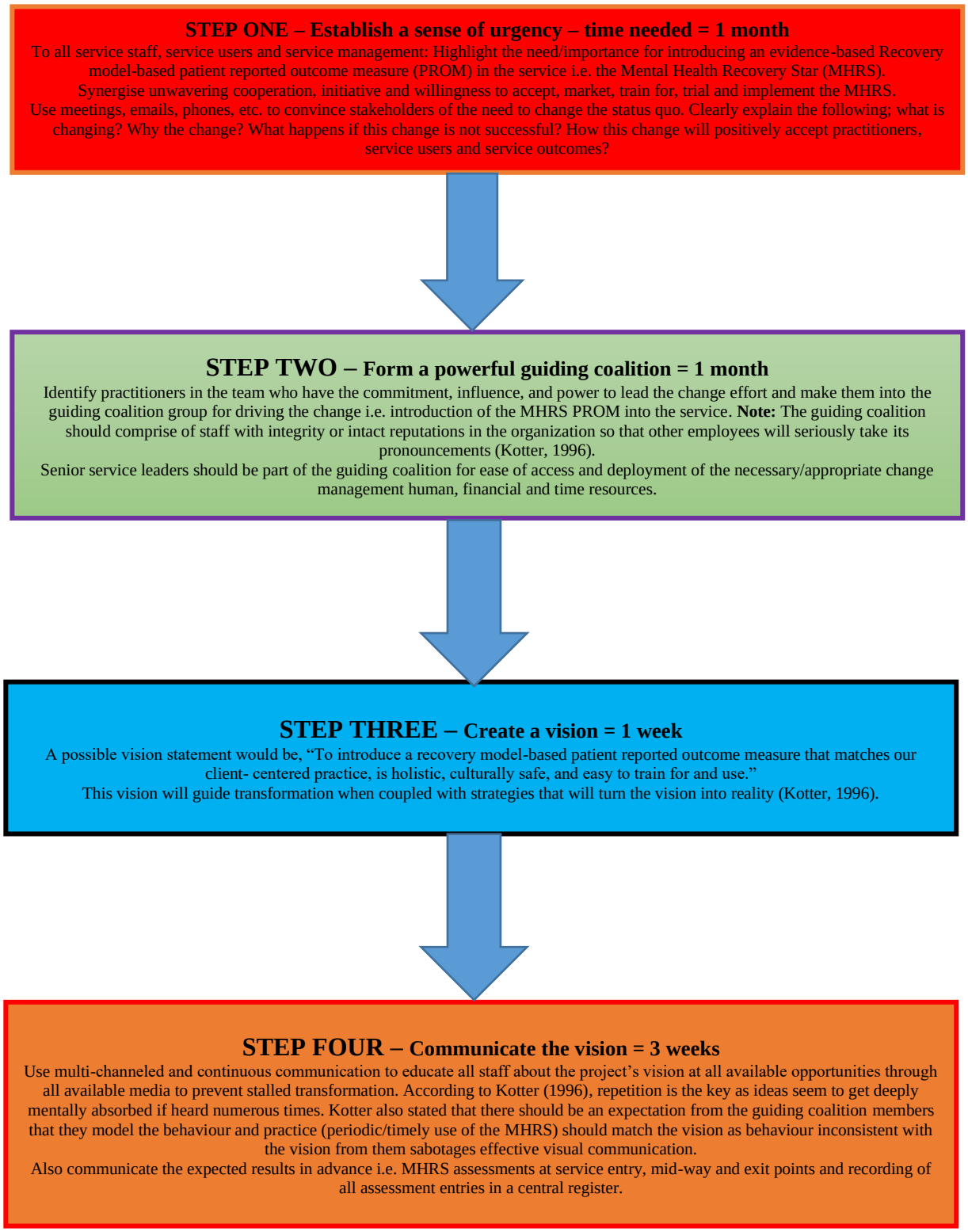
Half of the studies determined that Kotter's model could be useful as an effective framework for the implementation of practice change. The study by Applebaum (2012) also similarly established that Kotter's model would be at its most beneficial when used as an implementation tool. Also, Baloh (2018) "Reported that Kotter's model has a better fit with implementation…can be a useful guide for nurse manager in implementation change", Small et al. (2016) recommended that Kotter's model be used to provide "…an effective framework to implement a practice change in a health care environment" (p, 307), and King et al. (2018) concluded, "…that Kotter's model could provide a framework within which organizational change can be managed in an iterative process…" (p, 286).

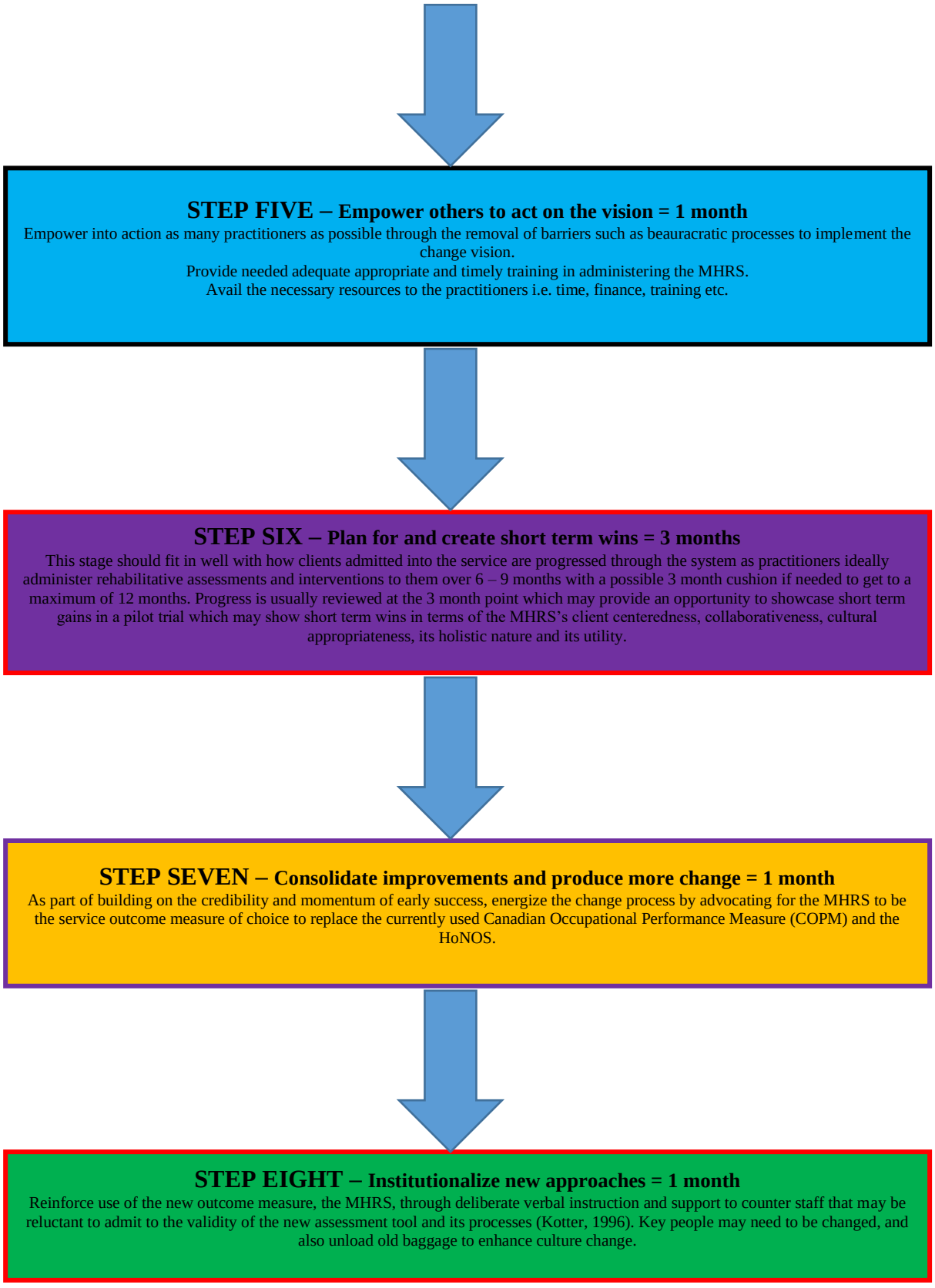
Despite a small percentage of the selected studies' conclusions expressing reservations about either the lack of adequate empirical evidence supporting Kotter's model or only supporting some of Kotter's 8 stages of change, there was a consensus demonstrating full or partial support of this model as appropriate for the implementation of the MHRS. These findings consequently led to the development of the Implementation plan presented in the next section.

The Implementation Plan

Pulling together the findings from the literature review and the overview of Kotter's Model of change, the Implementation Plan in the Flow Chart in Figure 1 below will be used to roll out the MHRS in a community mental health service.

**FIGURE 1**




STEP FIVE – Empower others to act on the vision = 1 month
Empower into action as many practitioners as possible through the removal of barriers such as beauracratic processes to implement the change vision.
Provide needed adequate appropriate and timely training in administering the MHRS.
Avail the necessary resources to the practitioners i.e. time, finance, training etc.
STEP SIX – Plan for and create short term wins = 3 months
This stage should fit in well with how clients admitted into the service are progressed through the system as practitioners ideally administer rehabilitative assessments and interventions to them over 6 – 9 months with a possible 3 month cushion if needed to get to a maximum of 12 months. Progress is usually reviewed at the 3 month point which may provide an opportunity to showcase short term gains in a pilot trial which may show short term wins in terms of the MHRS's client centeredness, collaborativeness, cultural appropriateness, its holistic nature and its utility.
STEP SEVEN – Consolidate improvements and produce more change = 1 month
As part of building on the credibility and momentum of early success, energize the change process by advocating for the MHRS to be the service outcome measure of choice to replace the currently used Canadian Occupational Performance Measure (COPM) and the HoNOS.
STEP EIGHT – Institutionalize new approaches = 1 month
Reinforce use of the new outcome measure, the MHRS, through deliberate verbal instruction and support to counter staff that may be reluctant to admit to the validity of the new assessment tool and its processes (Kotter, 1996). Key people may need to be changed, and also unload old baggage to enhance culture change.

In conclusion, and despite some limitations/concerns raised in the data, the MHRS was found to be effective as an outcome measure for determining the functional progress of people living with mental illness. In addition to this, Kotter's change model was also determined to be the appropriate guide to the implementation of the MHRS.

# CHAPTER FIVE: Discussion and Conclusion

This project aimed to explore the Mental Health Recovery Star as an effective outcome measure for determining the functional progress of people living in the community with mental illness and the most effective change model for its implementation. This chapter consolidates the review findings, their interpretation, implications, limitations, and recommendations for future practice. Secondly, the chapter explores and discusses the identified strengths and limitations of the whole review process. Lastly, the chapter will give the overall conclusion of the whole review and project.

Across the findings, it was clear that the MHRS would be an effective tool to use in practice because it is client-centered, collaborative, recovery–model and recovery–goal-focused and has robust psychometric properties. These qualities consequently meant that the MHRS would be likely a natural fit for use within the recovery model that has been embraced by the New Zealand Mental Health and Addictions Sector as they are essential components of this model. Furthermore, this enhances the MHRS's appropriateness and relevance in the New Zealand Mental Health and Addictions Sector which is in alignment with universal trends regarding the recovery model's significance in mental health (Osborn & Stein, 2017). This means that, in practice, the MHRS's client centeredness can be used with every service user's recovery journey which consequently makes it adaptable to a varied range of services.

While there were challenges with accessing New Zealand context data and randomized control trials (RCTs), the client centeredness of the MHRS means that a comparative sample is not needed.

The recovery model-oriented multidimensional aspect of collaborative practice, particularly as explained by Jacob et al. (2015), involves, for example, the MDT, the service user, service provider, family/whanau, members of the community and policymakers. These consequently enhance and complement the strengths-focused and culturally focused MHRS which gives some measured relevance to the New Zealand context. Finally, the established robustness of the MHRS's psychometric properties confirms its effectiveness as an outcome measure which consequently makes it valid, reliable and safe for use in a range of contexts, and with people experiencing a range of mental health issues.

Due to its established client centeredness, collaborative nature, robust psychometric properties, and its being recovery-focused in a recovery model-driven service, the MHRS fits in nicely alongside other recovery outcome measures in current use. This will consequently afford the practitioners with a wider choice of outcome measures to use. In addition, this review's validation of the MHRS and Kotter's model, which culminated in the development of the

implementation plan, is such that any service could now pick up and implement the plan with some confidence.

As the New Zealand mental health and addiction services sector's funding is ring-fenced, it is available for essential service needs, such as the introduction of the recovery-focused PROM, the MHRS. This consequently makes workforce upskilling a priority with regards to funding the training needs of the practitioners and the purchase of the required practice assessment resources. In addition to funding, strong sector leadership and supportive legislation will also support the dynamic service needs in response to the needs of the constantly evolving New Zealand service user population.

While it was relatively straight forward to establish the effectiveness of the MHRS from the evidence collected/analyzed, it was much more difficult to find out whether the MHRS would be useful to include in the New Zealand context. Accordingly, it would be important to understand the MHRS from a New Zealand bicultural context and perspective, while also simultaneously being cognizant that Aotearoa New Zealand is a highly cosmopolitan multicultural society. Consequently, future studies would do well to focus on exploring and addressing these New Zealand context issues.

**Strengths of the Review**

One strength of the review was the inclusion of clear guidelines, developed by Onwuegbuzie and Frels (2016), which provided a much-appreciated step-by-step framework for undertaking a comprehensive literature review. Additionally, the use of the CASP framework (CASP, n.d.) in the analysis of all the selected research articles in combination with the reviewer's green/amber/red color grading system consequently enabled the systematic and consistent identification of selected research (green for robust studies, amber for moderately robust studies, and red for poor studies). Another further strength of the review was the inclusion of a significant number of quantitative studies that utilized the renowned and established Statistical Package for the Social Sciences (SPSS) in their data analysis which enhanced the validity and reliability of the study results and findings of those selected studies. Also, another significant number of selected studies were Retrospective Chart Audit Reviews (RCARs), whose robustness is enhanced by the fact that they have no chance of data loss due to following up since their cohorts would have been assembled from already available data (Keogh & Stenson, 2015). RCARs' robustness also emanates from their capability to reduce bias during measurements since both the research question and expected outcome would not have been known.

## Limitations of the Review

The absence of Randomized Control Trials (the so-called "gold standard" of evidence/literature reviews) in the selected review studies may have compromised the weight of this review's findings. More than half of the selected studies for question one were Retrospective Chart Audit Reviews whose data was from the past of which the researcher has no control over measurement quality, with possibilities of important data having been excluded and being susceptible to the effects of confounding, making causal effects difficult to establish. Most studies in question one used convenience sampling selection which may have introduced selection bias as most studies selected used convenience or opportunity sampling which has the highest likelihood of producing a biased sample as it presents unequal opportunities for potential participation in the research (Taylor, 2007). There are also possibilities that due to the limited scope and timeframe for the project that key research/literature may have been missed.

## Conclusion

This project established that the Mental Health Recovery Star was an effective outcome measure for determining the functional progress of people living with mental illness. This conclusion is significant given the government's priority on mental health and the measurement of outcomes. As has been noted, the Ministry of Health is required to improve, promote and protect the mental health, addiction, and independencies of all New Zealanders of which the introduction of proven, effective, evidence-based PROMs such as the MHRS will play a significant role. Furthermore, with the New Zealand mental health and addictions sector continually striving to achieve better service user outcomes, the above conclusion will enhance the continued accomplishment of acceptable and appropriate service user quality and safety within the sector.

Additionally, the project also developed an evidence-based nine-month-long implementation plan for introducing the Mental Health Recovery Star at a community mental health service in Aotearoa New Zealand using Kotter's eight-step model of change. This implementation plan is such that any service within the New Zealand mental health and addictions sector will be able to pick up and use it with ease.

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APPENDIX A**: Summary of Selected Studies For Question 1 - Evidence for the Mental Health Recovery Star.**

| Author, Year & Type of Study | Aims of Study | Participants | Data collection methods | Analysis | Findings & Conclusions |
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| Burgess, P., Pirkis, J., Coombs, T., & Rosen, A. (2011). Assessing the value of existing recovery measures for routine use in Australian mental health services. *Australian and New Zealand Journal of Psychiatry, 45*, 267-280. | Review aimed to identify specific outcome measures with utility in measuring recovery related outcomes and to also evaluate their potential for routine use in the Australian public sector mental health services. | Identified 33 instruments;<br>22 measured individual recovery.<br>11 measured recovery orientation of service providers.<br>None measured both. | Potential instruments identified from existing reviews of recovery measures conducted by the Human Services Research Institution in Boston, USA. Additional searches conducted in databases (MEDLINE and PsycINFO). | Analysis elimination process summarized the instruments that met criteria at all hierarchy levels. 4 instruments that met all set criteria. | Four instruments (excluding the MHRS) met all set criteria.<br><br>The MHRS was found to; measure domains related to personal recovery; be brief; take consumer perspective; be suitable for routine use.<br><br>The MHRS was found; not to have been scientifically scrutinized; not demonstrate sound psychometric properties; not applicable to the Australian context; not acceptable to consumers; does not promote dialogue between consumers and providers. |
| Crawford, M. J., Robotham, D., Thana, L., Patterson, S., Weaver, T., Barber, R., Wykes, T. & Rose, D. (2011). Selecting outcome measures in mental health: the views of service users. *Journal of Mental Health*, 20(4), 336-346. DOI: 10.3109/09638237.2011.577114<br><br>Qualitative Study | To identify the views of people with psychosis and affective disorder about the relevance and acceptability of commonly used outcome measures. | 22 outcome measures were shortlisted from an initially identified 132 studies all of which involved people living with psychosis and mood disorders. Two outcome measures developed in consultation with service users were later added, namely; The Warwick-Edinburgh Well-being scale and the MHRS. | Twenty-four widely used outcome measures were presented to expert groups of service users and consensus sought regarding the appropriateness of each measure. Service user comments regarding how outcomes should be assessed were also sought and recorded. | A summary measure of the expert groups' initial and final ratings for each outcome measure was calculated using the median rating and the interquartile range. Qualitative data collected during the group meetings were used to examine views of service users about the use of outcome measures, to help interpret the quantitative data we collected and to describe aspects of outcome measures that service users believe makes them appropriate. | Patient rated outcome measures were clearly preferred by group members which contrasts with the extensive reliance on staff-rated outcome measures seen in mental health services (Gilbody et al., 2002). |

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| Dickens, G., Weleminsky, J., Onifade, I., & Sugarman, P. (2012). Recovery Star: validating user recovery. *The Psychiatrist,* 36, 45 – 50. doi:10.1192/pb.bp.111.034264<br><br>'Retrospective Chart Review' | To explore the psychometric properties of the MHRS in order to inform training and further development. There were also the specific objectives regarding ascertaining whether items on the tool measured internal consistency, to identify factor validity, and to identify any item redundancy and responsiveness. | Participant organizations were mainly small to medium – size community based teams that ran MHRS projects whose service users were mainly working age adults (i.e. 18-65 years) living with moderate to severe mental health problems. | Participants' MHRS and demographic data were extracted from the Mental Health Providers Forum (MHPF) Database for those who had completed two or more readings of the MHRS on their own or with Project Worker collaboration, with readings pegged at being at least 42 days apart (n = 203). | Data were transferred into SPSS 16.0.1 for Windows for analysis. | The MHRS had high internal consistency and appeared to measure an underlying recovery-oriented construct. There was good statistically significant item responsiveness, and no obvious item redundancy. Data for a small number of variables were not normally distributed and the implications of this are discussed. |
| Frost, B. G., Turrell, M., Sly, K. A., Lewin, T. J., Conrad, A. M., Johnston, S., Rajkumar, S. (2017). Implementation of a recovery – oriented model in a sub – acute Intermediate Stay Mental Health Unit (ISMHU). *BMC Health Services Research.* 17(2), 1 – 12. doi: 10.1186/s12913-016-1939-8 | To briefly document the establishment of the Intermediate Stay Mental Health Unit (ISMHU) and the implementation of an IRM within a targeted 6-week sub-acute inpatient program;<br>To characterize the clients admitted during the unit's first 16 months of operation; and<br>To quantify their recovery needs and priorities on admission and any changes during the admission. | The initial 154 clients were predominately male (72.1%), transferred from acute care (75.3%), with schizophrenia or related disorders (74.0%). Readmission rates within 6-months were 16.2% for acute and 3.2% for sub-acute care | Client needs and priorities were identified collaboratively using the Mental Health Recovery Star (MHRS) and addressed through a range of in-situ, individual and group interventions. | Extracted client and service data were analyzed using descriptive statistics, paired t-tests examining change from admission to discharge, and selected correlations. | This paper demonstrates that a recovery-oriented model can be successfully implemented at the intermediate level of care. It is hoped that ongoing evaluations support the enthusiasm, commitment and feedback evident from staff, clients and carers. |
| Good, A. (2019). Psychometric validation of the Recovery Star. | The developers of the MHRS, Triangle Consulting Ltd, have conducted tests which involved over 4000 MHRS readings across 10 organizations (Good & Lamont, 2018), and the aim of this article was to | | Specific strict peer reviewed journal article. | Review. | The following MHRS psychometric properties determined to be robust;<br>- Acceptability<br>- Convergent validity<br>- Responsiveness<br>- Test-retest reliability<br>- Inter-rater reliability |

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| | summarize the findings of this body of research with regards to the examination of the psychometric properties of the MHRS. | | | | Good evidence determined that the MHRS is acceptable, useful, its reading converges with those of other validated relevant assessments, shows responsiveness to change and has temporal stability. |
| Griffiths, C. A., Heinkel, S., & Dock, B. (2015). Enhancing recovery: transition intervention service for return to the community following exit from an alternative to psychiatric inpatient admission – a residential recovery house. *The Journal of Mental Health Training, Education and Practice*, 10(1), 39-50. https://doi.org/10.1108/JMHTEP-09-2014-0027 'Retrospective Chart Review' | To evaluate the impact on recovery and personal goal attainment of a transition intervention service for return to the community following exit from an alternative to psychiatric inpatient admission – a residential recovery house. The services seek to facilitate community reintegration, promote recovery and prevent future mental health crisis. | Adults with mental illness diagnoses including depression, schizophrenia, bipolar disorder, personality disorder, and anxiety disorder. | This evaluation employed a within groups design: a single case evaluation follow-up. Analysis of Recovery Star and personal goal achievement data collected at service entry and exit points during routine practice (n = 181), at four sites in England | Data were analyzed using descriptive statistics. | There was a significant increase in overall Recovery Star scores with a large effect size, and significant increases in eight of the ten Recovery Star life domains. There were significant increases in the goal scores linked to "Managing mental health", "Self-care" and "Living skills". |
| Joy-Johnson, L. (2016). *How do clients experience the alliance when working with the Mental Health Recovery Star in rehabilitation settings?* Doctoral dissertation: Salomons Canterbury Christchurch University. (Qualitative) | To explore the alliance (therapeutic relationship) within the context of using the MHRS in rehabilitation mental health services. | Ten clients and four workers across three services were interviewed. | Semi-structured Interviews.<br><br>Grounded Theory Methods (GTM) were used in the research design, data collection, analysis and interpretation. | Grounded Theory Methods (GTM) were used. | Working with the MHRS was seen to inform three particular alliance processes: collaborative working; negotiating new or shared perspectives; and motivation towards improved wellbeing. The findings also highlighted challenges that can hinder these processes when using the MHRS, calling for improvements in practices of negotiation and better support for workers. |

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| Killaspy, H., White, S., Taylor, T. L., & King, M. (2012). Psychometric properties of the Mental Health Recovery Star. *The British Journal of Psychiatry*, 201, 65 – 70. doi:10.1192/bjp.bp.111.107946<br>'Retrospective Chart Review' | To assess the MHRS's acceptability, reliability and convergent validity. | Participants were recruited from four study sites across England where staff were trained to use the MHRS by the Mental Health Providers' Forum. 172 services users and 120 staff from in-patient and community services participated. | Interrater reliability of staff-only ratings and test–retest reliability of staff-only and collaborative ratings were assessed using intraclass correlation coefficients (ICCs). | Convergent validity between MHRS ratings and standardized measures of social functioning and recovery was assessed using Pearson correlation. The influence of collaboration on ratings was assessed using descriptive statistics and ICCs. | The MHRS cannot be recommended as a routine clinical outcome tool but may facilitate collaborative care planning. |
| Larsen, J. & Griffiths, C. (2013). Supporting recovery in a third sector alternative to psychiatric hospital admission: evaluation of routinely collected outcome data. *The Journal of Mental Health Training, Education and Practice*, *8*(3), 116-125. DOI: https://doi.org/10.1108/JMHTEP-04-2013-0016 | "To evaluate the impact of crisis house admission in terms of mental health recovery and achievement of personal goals for people using the service" (p, 2). | 722 adult patients using one of three Rethink Mental Illness Crisis House. Mental health diagnoses included were as follows; depression, schizophrenia, bipolar disorder, personality disorder and anxiety disorder. | Evaluation of routinely collected outcome data from the MHRS and Personal Goal Scoring assessment data at entry and exit points. Data was collected over two years from October 2010 – September 2012. | Data analyzed using Excel and SPSS software programs. t – tests were run to assess significance. | Study highlighted that it is essential to use recovery-oriented support planning and outcome capture tools in routine mental health practice.<br><br>Findings showed that the greatest improvements were achieved in the MHRS domains of greatest need, suggesting that the service is able to support people as they are overcoming an acute mental health crisis. |
| Lewin, T. J., Sly, K. A., Conrad, A. M., Frost, B., Rajkumar, S., Petrovic. K., & Srinivasan, T. (2011). Clinicians' views about rehabilitation and recovery: care planning and practices. *Extracted from ASPR 2011 poster presentation (Dunedin NZ, Dec 5-8, 2011). DOI:* http://www.outcomesstar.org.uk/wp- | Ascertain the importance of the MHRS's recovery domains for care planning and the perceived impact of current treatment practices on these recovery domains. | MH staff were given the opportunity to express their views on rehabilitation and recovery and the new unit (ISMHU). Respondents in clinical roles (N=164) were divided into four sub-groups based on their primary work location – Intermediate Stay Unit (N=25), Acute Units (N=42), Long | An online (Zoomerang) survey was used. | Mean ratings by sub-group of the importance of each of the ten recovery domains for care planning are displayed in Figure 1. Based on a series of one-way ANOVAs, with Scheffé follow-up tests, there were statistically significant sub-group differences on all but two of the domains (i.e., self-care and physical health, and addictive behaviour). | The ten domains extracted from the Mental Health Recovery Star appear to provide a useful basis for examining recovery (at both an individual and a service level). |

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| content/uploads/K_ASPR2011_TJL_Handout.pdf<br><br>Quantitative | | Stay Units (N=18), or Community MH (N=79). | | | |
| Lloyd, C., Williams, P.L., Machingura, T., & Tse, S. (2016). A focus on recovery: using the Mental Health Recovery Star as an outcomes measure. *Advances in mental health*, 14(1), 57-64.<br>'Retrospective Chart Review' | This audit sought to identify the level of engagement by service users with the Mental Health Recovery Star and the recovery goals and outcomes identified by this instrument. | This project utilized a retrospective chart audit design with a convenience sample of all service users referred to the recovery clinician programme over a three-month period. | Recovery goals to fit into the 3 month intervention period were collaboratively set at Initial MHRS assessment. Another MHRS assessment was administered after the 3 months intervention period coupled with a review of the changes/progress of Recovery goals. | All service users referred to the Recovery Service during a three-month period completed the Mental Health Recovery Star. A chart audit was conducted to review the utility of the Mental Health Recovery Star as a clinical outcome measure. | Overall, it was found that the Mental Health Recovery Star was useful in service mapping and assisting recovery clinicians to identify areas that they needed to focus on when providing treatment and following service user's progress. It complemented other outcome measures used by the service. |
| Placentino, A., Lucchi, F., Scarsato, G., & Fazzari, G. (2017). Mental Health Recovery Star: features and validation study of the Italian version. *Rivista di psichiatria, 52*(6), 247-254.<br>'Retrospective Chart Review' | To describe the characteristics of the instrument (MHRS) and report the results of the Italian validation study. | The study involved 117 users, evaluated in two phases after a month or so. | The design of the study involved the compilation of the MHRS with at least one hundred patients in contact with the psychiatric facilities belonging to the bodies that collaborated on the project. | The acceptability of the instrument and its main psychometric characteristics were assessed, including the stability of the scores obtained collaboratively by means of the intraclass coefficient and the concurrent validity through the Pearson correlation coefficient. | The MHRS proves to be an instrument acceptable to users and operators, distinguishing itself for the use of practical and useful visual aids; it helps to detect the patient's recovery path and favours a collaborative approach between the user and the operator. The results of the psychometric properties of the instrument appeared promising, but not exhaustive. |
| Sklar, M., Groessl, E. J., O'Connell, M., Davidson, L., & Aarons, G. A. (2013). Instruments for measuring mental health recovery: A systematic review. *Clinical Psychology Review*, 33, 1082-1095. http://doi.org/10.1016/j.cpr.2013.08.002 | To identify mental health recovery instruments and to evaluate the appropriateness of their use including their psychometric properties, ease of administration and service user involvement in their development. | 21 instruments identified of which 13 met inclusion criteria. | Literature search using the MEDLINE and Psych-INFO Databases. | Summarized analysis of selected instruments quality with regards to their psychometric properties, ease of administration and service user involvement in their development. | The MHRS did not meet all three assessed criteria, namely; psychometric properties, ease of administration and service user involvement in their development. |

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| Tickle, A., Cheung, N., & Walker, C. (2013). Professionals' perceptions of the Mental Health Recovery Star. *Mental Health Review Journal,* 18(4), 194-203. https://doi.org/10.1108/MHRJ-04-2013-0015<br><br>Qualitative Study. | To seek the views of mental health professionals about the use of the MHRS within clinical practice. | Four community psychiatric nurses, three occupational therapists, one deputy manager nurse, one staff nurse and one healthcare assistant from residential rehabilitation services; and two occupational therapists from the CMHT. Each had used the MHRS between once and eight times. | The paper employed a qualitative, exploratory design to interview 12 participants. Thematic analysis was used. The qualitative approach was used to facilitate participants to give their own views as openly and honestly as possible, without imposing preconceptions about the MHRS or their use of it. | Thematic analysis was used. | Four main themes were identified: "the utility of the Recovery Star"; "not for everybody"; "service user involvement"; and "the status of the Recovery Star within the Trust". A range of factors was found to influence participants' use of the tool with service users. |

## APPENDIX B: Summary of Selected Studies for Question 2 - Evidence for Kotter's Change Management Model.

| Study | Aims & Design | Participants | Data collection methods | Analysis | Findings & Conclusions |
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| Applebaum, S. H., Habashy, S., Malo, J., & Shafique, H. (2012). Back to the future: Revisiting Kotter's 1996 change model. *Journal of Management Development, 31*(8), 764-782. DOI: 10.1108/02621711211253231 | To gather current (2011) arguments and counterarguments in support of the classic change management model proposed by John P. Kotter in his 1996 book Leading Change. | This paper presented a short review of articles related to each of the eight components of Kotter's model in the attempt to highlight the value of each. | The literature on change management was reviewed for each of the eight steps defined in Kotter's model, to review how much support each of these steps had, individually and collectively, in 15 years of literature. | This exhaustive review of the relevant empirical and practitioner literature to find congruence or lack thereof on individual aspects of Kotter's change model, found that not many studies set out to validate the full eight steps. In fact most of the evidence found during the search points to data that has been compiled by Kotter himself in his book titled The Heart of Change, which is a 2002 follow-up to the book Leading Change. In essence Kotter validated Kotter. | The review found support for most of the steps, although no formal studies were found covering the entire spectrum and structure of the model. Kotter's change management model appears to derive its popularity more from its direct and usable format than from any scientific consensus on the results.<br><br>No evidence was found against Kotter's change management model and it remains a recommendable reference. |
| Baloh, J., Zhu, X., & Ward, M. M. (2017). Implementing team huddles in small rural hospitals: How does the Kotter model of change apply? *Journal Nursing Management*, 26, 571-578. https://doi.org/10.1111/jonm.12584 | To examine how the process of change prescribed in Kotter's change model applies in implementing team huddles, and to assess the impact of the execution of early change phases on change success in later phases. | We recruited 17 small rural hospitals from Iowa that attended Team STEPPS training in 2011, 2012 and 2013 through Iowa's Quality Improvement Organisation. | The Study used a longitudinal prospective qualitative design. It followed eight hospitals implementing team huddles for 2 years, inter-viewing the change teams quarterly to inquire about implementation progress. The Study assessed how the hospitals performed in the three overarching phases of the Kotter model, and examined whether performance in the initial phase influenced subsequent performance. | To illustrate variation in how well the hospitals executed different steps in the Kotter model, we identified examples of well and poorly executed steps. To test the proposition that hospitals with well executed initial phases will perform better on subsequent phases, we examined hospitals score patterns across the three phases. Score patterns where scores did not change by more than 1 point (on a 5- point scale) across the three phases were deemed congruent with the model. Score patterns where scores changed by 2 points or more across the three phases were deemed incongruent with the model. | Results: In half of the hospitals, change processes were congruent with Kotter's model, where performance in the initial phase influenced their success in subsequent phases. In other hospitals, change processes were incongruent with the model, and their success depended on implementation scope and the strategies employed.<br>Conclusions: The Study found mixed support for the Kotter model. It better fits implementation that aims to spread to multiple hospital units. When the scope is limited, changes can be successful even when steps are skipped. |

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| Casey, C. M., Parker, E. M., Winkler, G., Liu, X., Lambert, H., & Eckstrom, E. (2017). Lessons Learned From Implementing CDC's STEADI Falls Prevention Algorithm in Primary Care. *The Gerontological Society of America, 57*(4), 787-796. DOI: 10.1093/geront/gnw074 | Description of a practical application of STEADI (Stopping Elderly Accidents, Deaths, and Injuries) in a large internal medicine clinic that utilized John Kotter's change implementation model, a tool used for the guidance of clinical practice change. | Elderly patients aged 65+ who had eligibility identified by front office staff when checking in for falls screening. | Kotter's model used to highlight and organize the description of the project's implementation with deliberate focus on the importance of enabling success through the removal of barriers. Kotter's model used to implement the STEADI protocol. Clinical Data Analyst used for the generation of weekly and monthly reports on the screened service users. RCAR also conducted in the evaluation of STEADI Implementation. | Descriptive statistics used to evaluate the adoption of the STEADI workflow and EHR (Electronic Health Records) tool followed up by data analysis using Microsoft Excel. | STEADI project successfully adopted and completed using Kotter's model as a whole. |
| Cunningham, J. B., & Kempling, J. S. (2009). Implementing change in public sector organizations. *Management Decision,* 47(2), 330-344. DOI: 10.1108/00251740910938948 | To review the importance of the various change principles in assisting change in three public sector organizations. Review gives a summary of various principles based on the change literature with a suggestion offered as to why certain of these principles maybe more important than others. | Ten participants from three of ten programs involved over three years.<br><br>Sample described as purposeful and non-probabilistic.<br><br>Participants were from three communities, namely; Cool Aid, Saanich, and The First Nations Mountain Pine Beetle Initiative (FNMPBI). | Semi-structured interviews and focus groups used in the assessment of the principles and strategies that would be more useful.<br><br>Data saturation occurred after five interviews. | Research and process of data analysis used a couple of grounded theory methods to verify findings.<br><br>Raw data comprised of the ten participant interview summaries which was used in subsequent analysis. | Kotter's steps one and two established as essential/important.<br><br>Forming a guiding coalition might be one of the most important principles to observe as it assists the change process. |
| Dolansky, M. A., Hitch, J. A., Pina, I. L., & Boxer, R. S. (2013). Improving Heart Failure Disease Management | Develop, Implement and Evaluate the implementation of Heart Failure (HF) | Four SNFs (3 urban & 1 suburban) in the Greater Cleveland area participated after getting | Used an evidence-based guiding template to standardize data collection – Baseline | Descriptive statistics were used to report length of stay at facilities and discharge destinations. | Some of Kotter's principles found to be valuable in this project, namely, creation of a guiding coalition who were change |

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| in Skilled Nursing Facilities: Lessons Learned. *Clinical Nursing Research, 22*(4), 432-447. DOI: 10.1177/1054773813485088 | management strategies of four Skilled Nursing Facilities (SNFs) using Kotter's model of change. | Institutional Review Board Approval. | Intake form used to collect relevant HF information.<br><br>Kotter's mode; used to guide the implementation. | Percentage of adherence of audit results.<br>Evidence of Facilitators and barriers from field notes.<br>Site differences (coached & not coached) reported.<br>Review of field notes by constantly comparing each observed visit to determine occurrence of contextual facilitators and barriers to implementation of the program. | champions with adequate effort to lead the necessary change effort. The following Kotter principles/components were found to be difficult to implement; sustaining a sense of urgency within the staff; empowering staff to take action; anchoring the change in culture. |
| Henry, L. S., Hansson, M. C., Haughton, V. C., Waite, A. L., Bowers, M., Siegrist, V., & Thompson, E. J. (2017). Application of Kotter's Theory of Change to Achieve Baby-Friendly Designation. *Nursing for Women's Health, 21*(5), 373-382. | To address the national breastfeeding Baby Friendly Hospital Initiative (BFHI) recommendations in a free standing Neonatal facility with a 29 bed Neonatal Intensive Care Unit (NICU). | Free standing 98 bed facility. This included a 29 bed NICU, a 6 bed high risk antepartum unit. MDT serves a cosmopolitan clientele which is predominately English speaking. | <u>Survey One</u><br>Pre-survey interview of staff, healthcare providers, women receiving care and also observed birth and breastfeeding practices.<br><br><u>Survey Two</u><br>Survey two was guided by Kotter's model. | Kotter's model was the change catalyst that gave structure for accomplishing the necessary attitude and behaviour modifications. | Kotter's model was used successfully in the form of specific strategies that transformed inpatient and outpatient maternity, obstetric and pediatric practices. Positive community support also realized. |
| King, S., Hopkins, M., & Cornish, N. (2018). Can models of organizational change help to understand 'success' and 'failure' in community sentences? Applying Kotter's model of organizational change to an Integrated Offender Management case study. *Criminology & Criminal Justice, 18*(3), 273-290. DOI: 10.1177/1748895817721274 | Evaluation of the implementation of two innovative Integrated Offender Management (IOM) schemes operating in England using Kotter's model, and to consider how the schemes could be improved if they followed an organizational change model. | - Police<br>- Probation Officers<br>- Drugs Support Workers<br>- Housing Agencies<br>- Employment Agencies | Accepted use of Kotter's Model use by all parties. | | Kotter's model effectively used as a whole, with specific contextual considerations. |
| Maclean, D. F. W., & Vannet, N. (2016). Improving trauma imaging in Wales through | To identify areas where RCR guidance on trauma CT was not | All hospitals (13) with a major accident and emergency (A&E) unit | A telephone interview was conducted with both radiology and | | Trauma CT within Wales has significantly improved as a result of this project. Kotter's theory is |

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| Kotter's theory of change. *Clinical Radiology*, 71, 427-431. http://dx.doi.org/10.1016/j.crad.2016.02.003 | being met in Wales. Through use of a recognized leadership theory for change, it was hoped a nationwide improvement in practice could be achieved. | within Wales were incorporated into the project. | emergency departments in all thirteen hospitals with a major A&E unit. | | demonstrated as an effective tool for facilitating a change in practice on a regional/national scale. |
| Small, A., Gist, D., Souza, D., Dalton, J., Magny-Normilus, C., & David, D. (2016). Using Kotter's change model for implementing bedside hand-off: A quality improvement project. *Journal of Nursing Care Quality*, 31(4), 304-309. DOI: 10.1097/NCQ.0000000000000212 | Describe implementation of a bedside handoff process using Kotter's change model. | Surgical orthopedic trauma unit staff. | Staff experience when using Kotter's model. | Hand off/over process successfully implemented using Kotter's Model in tandem with the Daily Management System (DMS) Model. 96% patients satisfied with nurses' bedside handover communication. 86% of nurses reported satisfaction with the process. | Kotter's model directly used/applied successfully – complimented by the DMS model. Kotter's change model provided a systematic plan for change while the DMS's model was for the identification of the countermeasures to address daily challenges.<br><br>Kotter's model reported to be;<br>- Highly effective<br>- Easy to follow<br>- Structured<br>- Provided a framework that was effective in implementing a practice change in a healthcare environment. |
| Pollack, J., & Pollack, R. (2014). Using Kotter's Eight Stage Process to Manage an Organizational Change Program: Presentation and Practice. *Systemic Practice and Action Research, 28,* 51-66. DOI: 10.1007/s11213-014-0 | Critical examination of how Kotter's model of change has been used in the management of an organizational change process. | One change Manager's Action Research whose initiative was in response to the organization's ageing workforce with regards to company staff interpersonal knowledge retention at UGF (pseudonym of an Australian organization in the Finance and | Use of semi-structured interviews between the two authors one of whom was the change manager for the Knowledge Management Program at UGF. | | Kotter's model used wholly with adaptation and proved to be effective in the change management program.<br>Kotter's model validated. |

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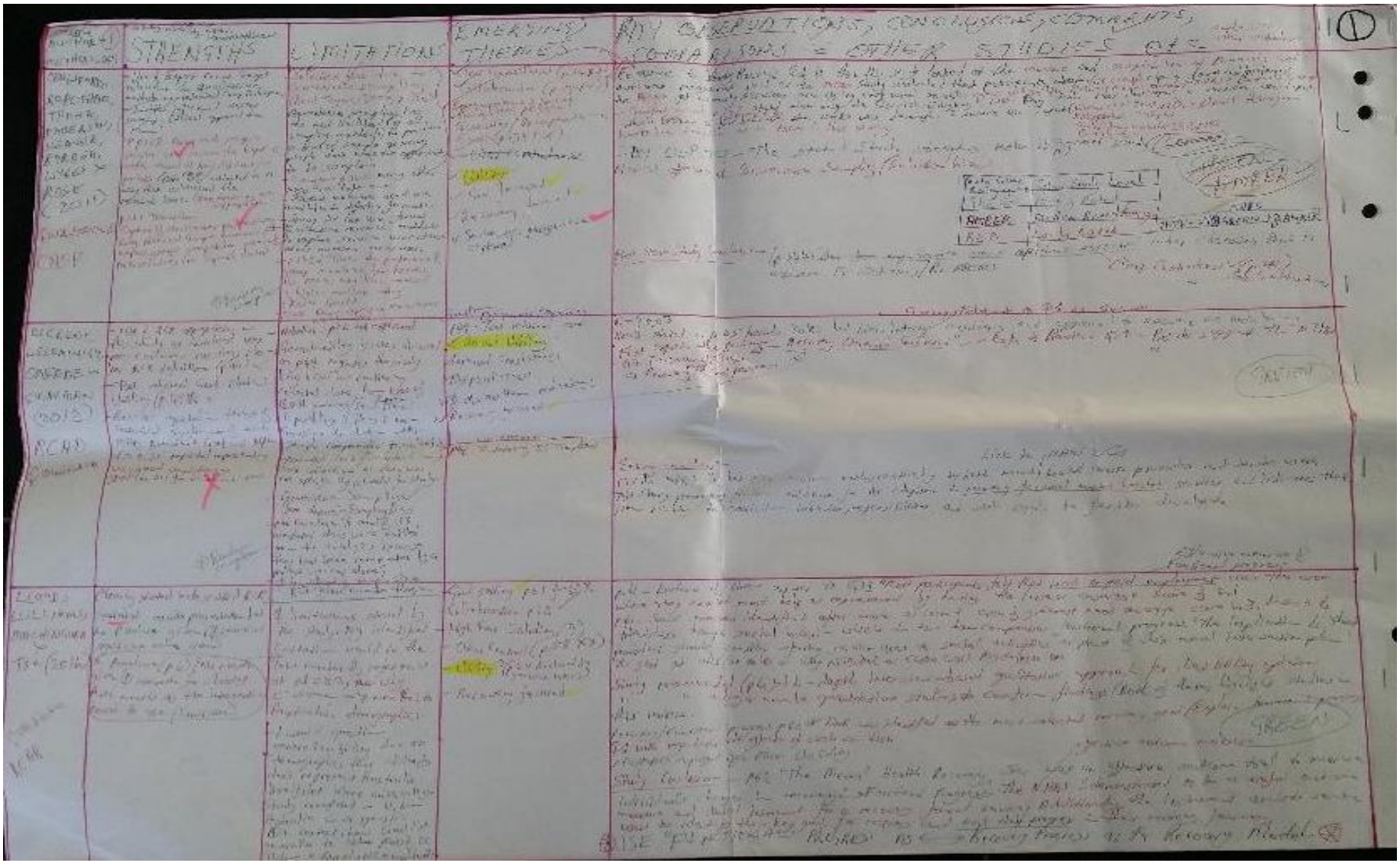
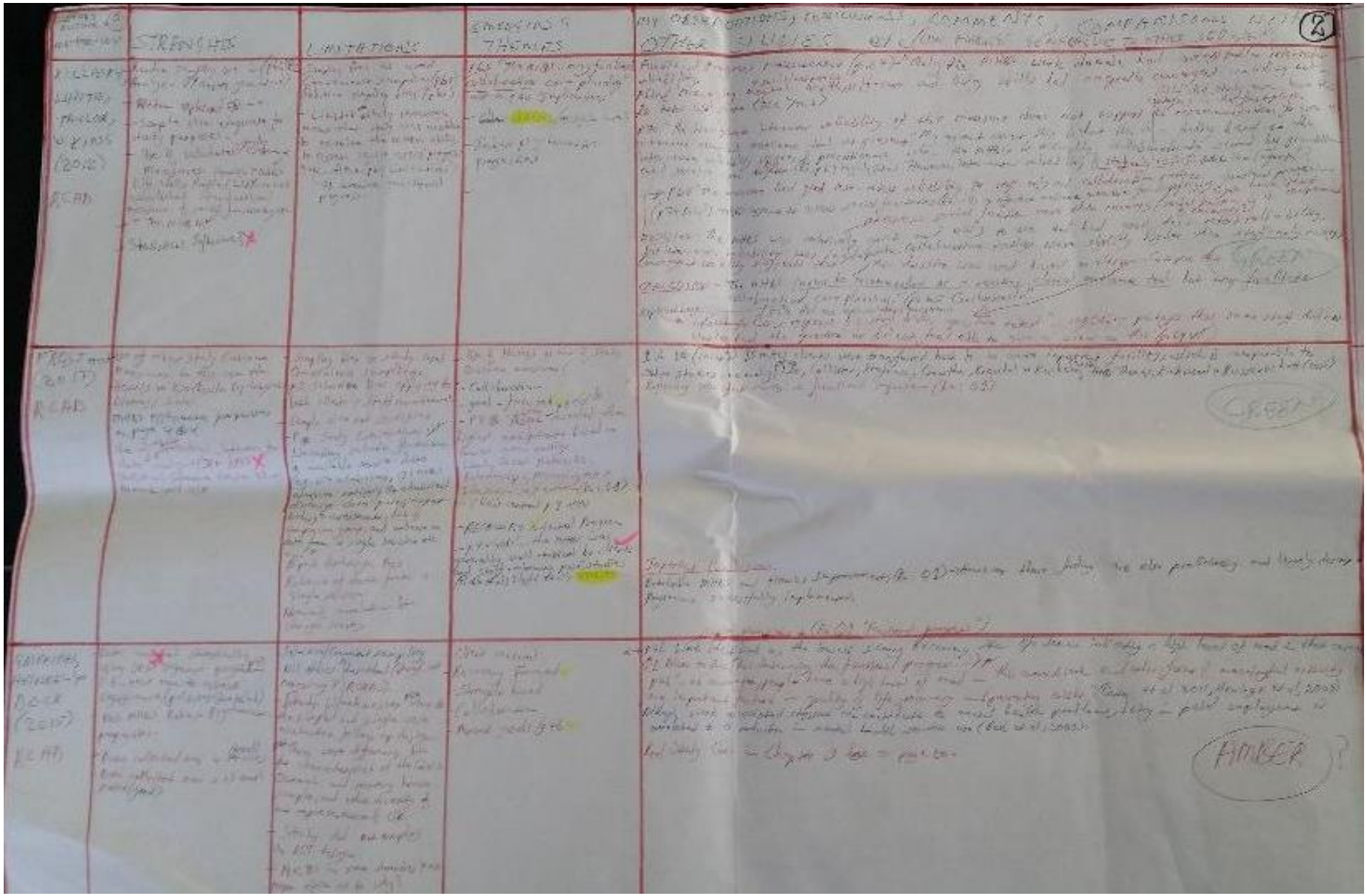
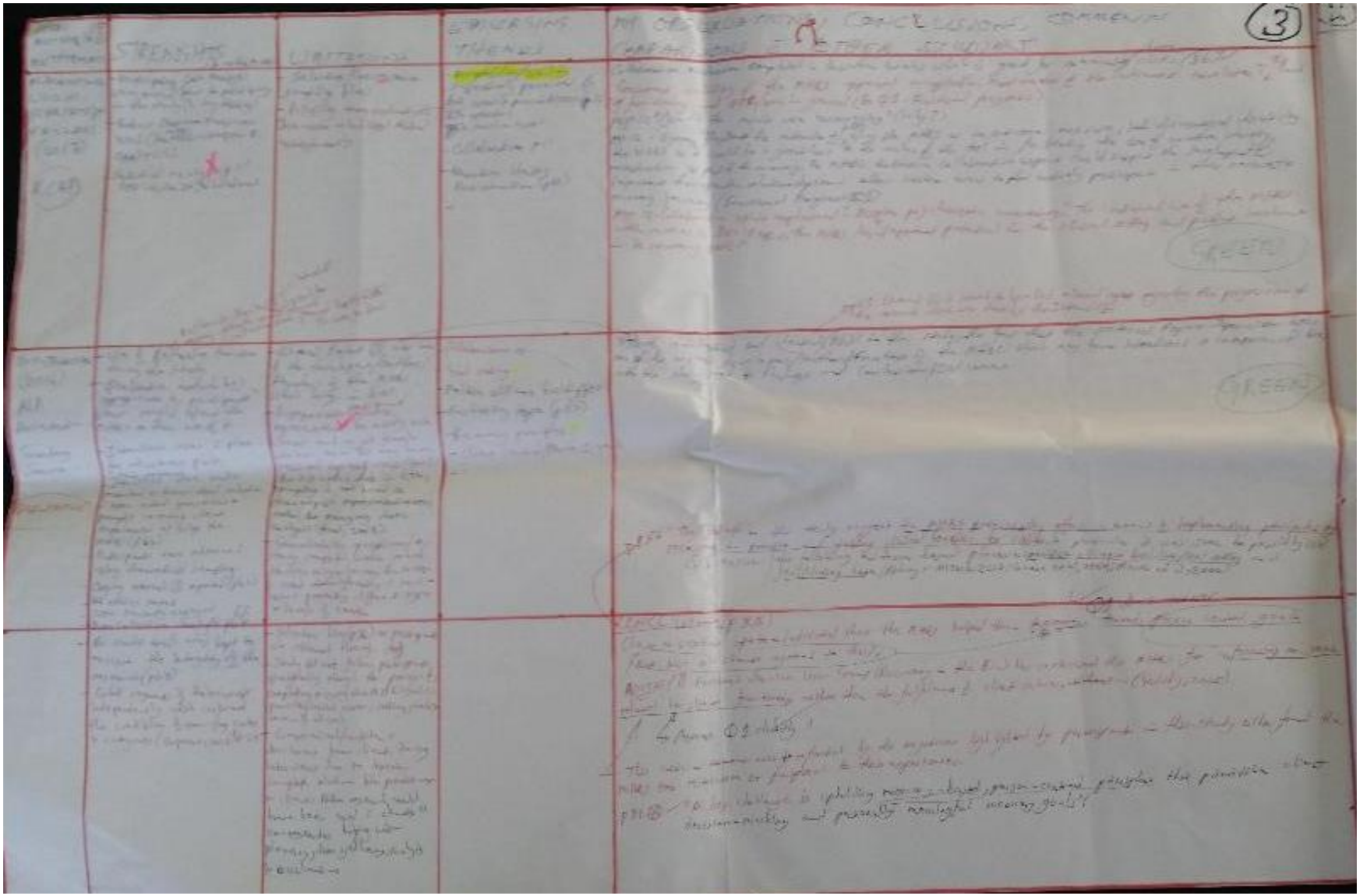
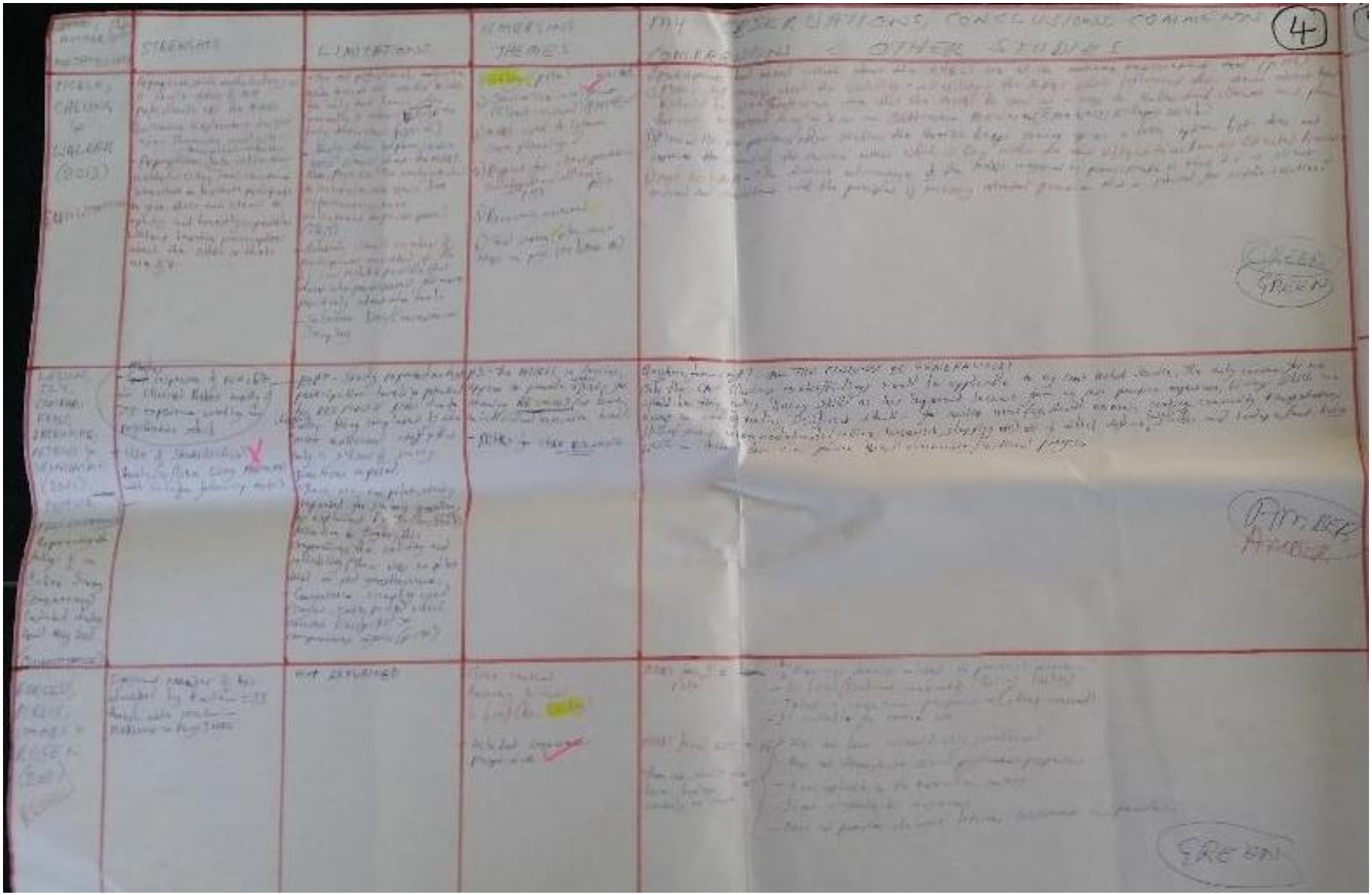
| | | Insurance sector with over that employs over 10 000 employees with offices worldwide). | | | |

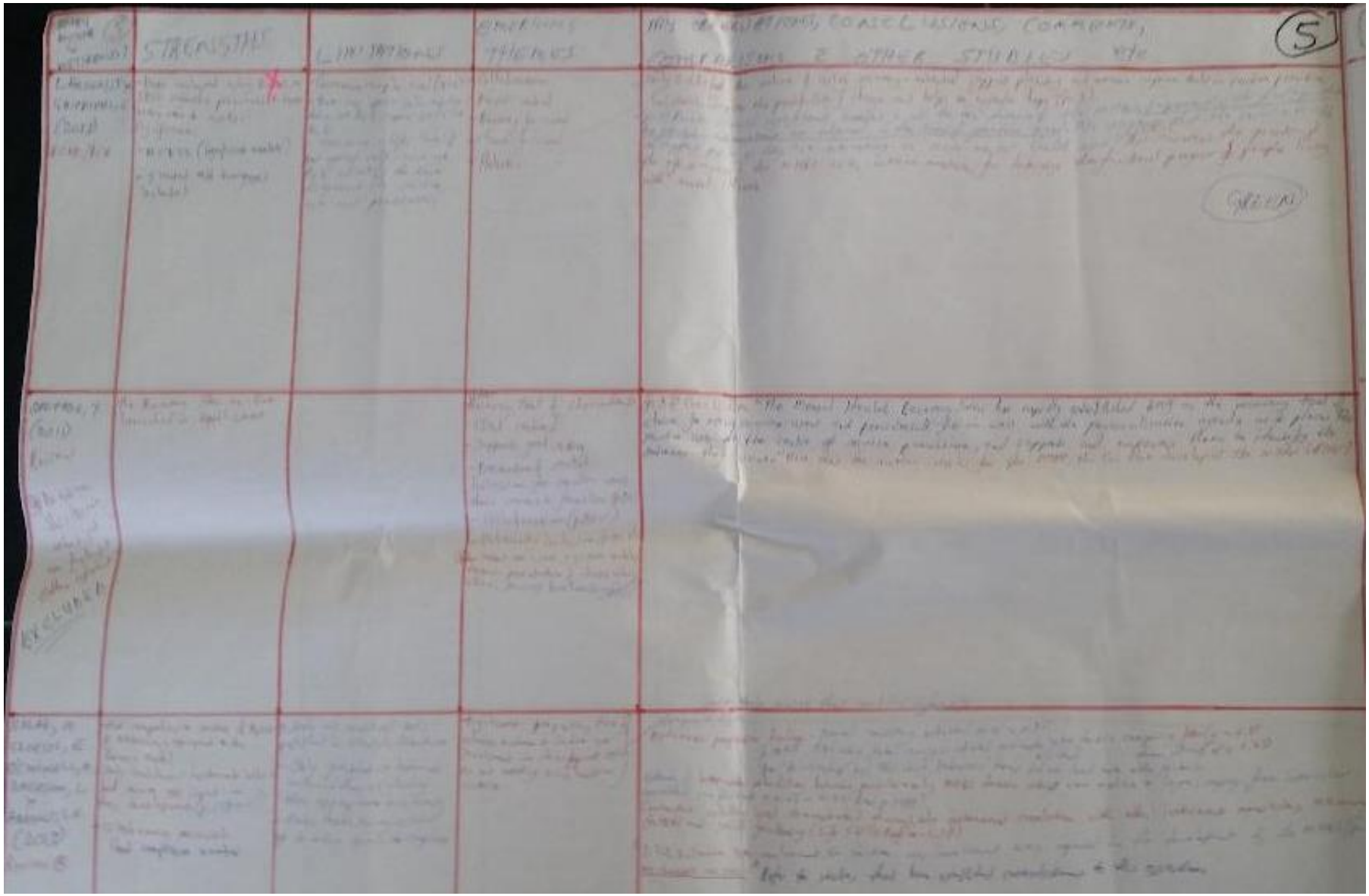
**APPENDIX C – Data Analysis Matrix**










STRENGTHS
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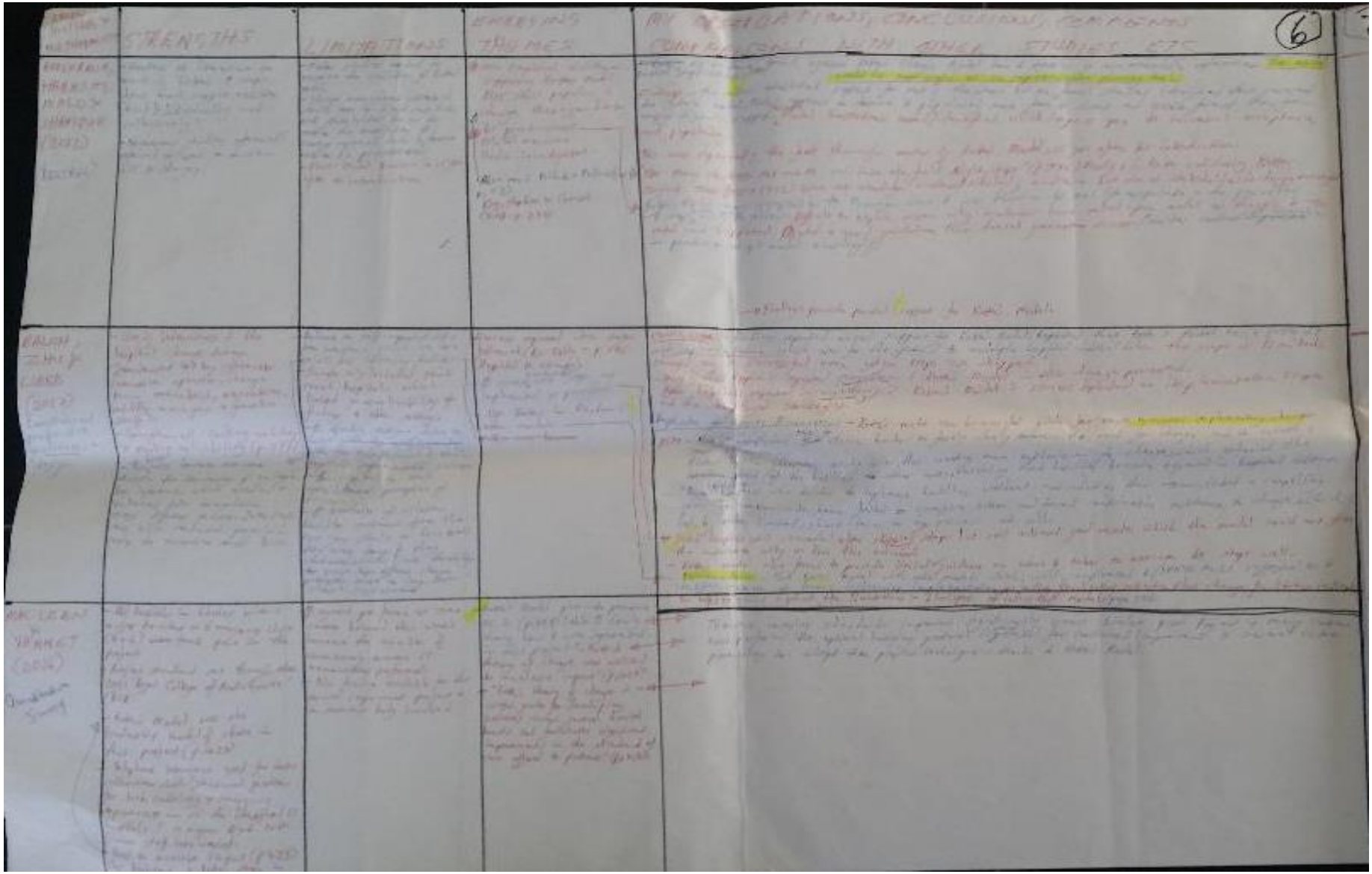
STRENGTHS
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