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## Abstract

Background - Globally the health system burden has been rising due to increasing populations and complexity of health status, as well as resource and infrastructure pressures. To address this, the World Health Organisation Strategy has encouraged health economies worldwide to embed Integrated Coordinated Healthcare (ICH) services. Aligned with this, New Zealand (NZ) has progressively introduced system-wide initiatives supporting ICH design and implementation at each tier of the health system.

Aims and objectives – This research explored management principles involved with ICH service delivery at each tier of the NZ health system, to understand how organisations have applied theories in practice, to improve efficiency and effectiveness of service delivery and support sustainability.

Methodology – This research took an interpretivist position and followed inductive methodology to investigate how management principles for ICH have evolved with the contributions of stakeholders. This research obtained qualitative data via purposive and snowball sampling, to request participants take part in semi-structured interviews and complied with ethics by gaining participants informed consent and ensuring their privacy. The findings reflected common themes across interviewees and were categorised using an iterative coding process for each participants' responses. Their themes were compared to literature. Bias is an inherent limitation for this type of study, though mitigations were taken to reduce this.

Key findings and conclusions – The findings added to the body of knowledge for ICH management principles. As the strategic level, they indicated that ICH is beneficial for the sustainability of the NZ health system, if service objectives are aligned with strategic government initiatives. At the sector level the findings outlined that partnering shares risk and benefit between the funder and suppliers to incentivise goal congruence in achieving social good objectives. In contrast, conditional contracts enable the funder to manage competition objectively, to equitably reward suppliers. The findings contrast ICH operational management approaches to achieve efficiency and effectiveness. They pose the view that for complex patient groups and ICH service pathways, integration should be implemented with coordination of assessments, policies, and information systems across multiple suppliers. They posit that ICH designs for patient groups whose service use is largely unaffected by complexity other than their health condition, can feasibly achieve integration within clinics

delivering multi-disciplinary services. The findings further indicated ICH designs must incorporate meaningful monitoring supported by collaborative processes to ensure stakeholders embed continuous improvements. The findings also demonstrated that building trust is key for engaging with suppliers, particularly for Māori and ICH services.

Contribution - The key management principles for ICH are themed around connectivity and contextual factors, governance and equity, and collaboration and trust. ICH designs should include realistic measures to monitor performance and quality, and categorise complexity, enabling organisations and funders to assess the relative impact of improvements on health outcomes. Incorporating these management principles into designs should support the efficiency and effectiveness of ICH services in practice.

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2024

# Strategic and Operational Management Principles on Integrated Coordinated Healthcare in New Zealand

A THESIS PRESENTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS STUDIES (MANAGEMENT)
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## List of Acronyms

| Acronym | Definition |
|---|---|
| WHO | World Health Organisation |
| IHP | Interim Health Plan |
| HS | Health Strategy |
| ICH | Integrated Coordinate Healthcare |
| ACOs | Accountable Care Organisations |
| IS | Information Systems |
| IT | Information Technology |
| VBHC | Value Based HealthCare |
| VBF | Value Based Funding |
| NZ | New Zealand |
| HAS | Healthy Ageing Strategy |
| KPIs | Key Performance Indicators |
| F-F-S | Fee for Service |
| VBPH | Value Based Public Health |
| DRG | Diagnosis Related Group |
| UK | United Kingdom |
| HRGs | Human Resource Group |
| AR-DRG | Australian Refined Diagnosis Related Group |
| FIM | Functional Independence Measures |
| FRG | Functional Related Groups |
| CRAFT | Casemix Rehabilitation and Funding Tree |
| RUG | Resource Utilisation Groups |
| ADL | Active Daily Living |
| VBA | Value Based Agenda |
| OMH | Outcomes Measures Hierarchy |
| QML | Quality Measurement Landscape |
| IPUs | Integrated Practice Units |
| MDTs | Multidisciplinary Teams |
| IDTs | Integrated Disciplinary Teams |
| ICF | International Classification of Functioning, Disability and Health |
| AN-SNAP | Australian National Sub-Acute and Non-Acute Patient |
| AROC | Australian Rehabilitation Outcomes Centre |
| CMS | Centers for Medicare and Medicaid Services Innovation Centre |
| BPCI | Bundled Payments for Care Improvement |
| PROMS | Patient Related Outcome Measures |
| PREMS | Patient Related Experience Measures |
| TDABC | Time Driven Activity Based Costings |
| PRCD | Patient Related Cost Drivers |
| ICHOM | International Consortium for Health Outcomes Measurement |
| CPAs | Comprehensive Patient Assessment |
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# Introduction

## *Background Health Strategy*

Globally, the health system economic burden has been attributed to population increases and expanding diversity of health needs (World Health Organisation, 2017). The economic burden is exacerbated by resource shortages of skilled workforce, and lacking infrastructure investment to meet growing patient demand (Brommeyer et al., 2023). Diverse health needs are due to patient complexity which are factors that encompass the patient as a whole person influencing their service needs, beyond their medical condition (Antioch & Walsh, 2003). The World Health Organisation (WHO) (2017) outlined that the ageing population, chronic conditions, and co-morbidities as examples of factors that increase complexity, and has derived strategy that outlines integration and coordination of health services, to address these issues.

New Zealand's health system has experienced similar burdens to the global health economy and has aligned with the WHO strategy to improve healthcare access, equity and sustainability (Ministry of Health, 2018). New Zealand (NZ) enacted Pae Ora (Healthy Futures) Act 2022 a holistic approach to improving equitable healthcare, for everyone but particularly Māori, Pacific, Disabled People, Women, and those living rurally. The Nationwide Interim Health Plan (IHP) 2022-2025 and Health Strategy (HS) 2023 was also established to guide the design and implementation of health service integration and coordination (Parliamentary Counsel Office, 2022). Health economies have encountered opportunities and challenges embedding Integrated Coordinated HealthCare (ICH) services at each tier of the health system (Madden et al., 2012).

## *Integrated Coordinated Healthcare Service Delivery*

Historically health workers, departments, and organisations have worked separately, driving disjointed service delivery, duplication and lowered quality (Lowe, 2000). ICH service delivery aims to achieve improvements by interconnecting multiple stakeholders through well-designed processes that facilitate collaboration (Speerin et al., 2020).

The advantages of ICH services are they systemise work practices to remove unnecessary activity, streamline resource planning and monitoring to improve quality and outcomes, and enable expenditure management for sustainability (Draper et al., 2018). ICH are implemented as small, moderate, or large-scale projects across the tiers of health systems for improved equity and access in urban and rural areas involving community support (Colbran & Davies, 2021; Wodchis et al., 2018).

Common challenges of ICH services are funding may be removed if investment priorities change or design objectives are aligned with government policy (Henderson et al., 2018). Other issues are inequitable funding allocations across service pathways delivered by multiple suppliers and difficulties coordinating systems and workers between organisations (Baker et al., 2018). To mitigate risks ICH designs should be supported by commissioning and contracts to mitigate against issues (Ramsden et al., 2018).

### *Integrated Coordinated Healthcare Market Approach and Value-based Funding*

In health economies, the proportionate mix of public and private suppliers, reflect the availability of government funding and the populations' propensity to pay for private care for relatively better quality and reduced wait times (Drache & Sullivan, 2005).

The research from Billings & Weger., (2015) advised the design and implementation of ICH services, should consider the health suppliers' objectives. They explained that healthcare agencies, which aim to improve the social good as with the public sector, thrive on partnership agreements that require all stakeholders to achieve common aims for ICH projects. Building further, Deloitte (2020) suggested that for value, organisations should embed funding models that share risk and benefit between the funder and organisations to incentivise joint responsibility for quality, through goal congruence.

The research from Billings & Weger., (2015) contrasted partnering with other approaches such as Accountable Care Organisations for organisations, that aim to achieve market share and profit as with the private sector. They described that this market thrives on agreements which connect suppliers via networks enabling coordination whilst maintaining their autonomy. The research from Miller (2009) added that conditional funding for competitive markets, motivate competition between health suppliers to maintain quality. They explained that the funder should be objective to equitably manage and regulate competition using funding reward systems, and suppliers should be culpable for performance standards.

Value based funding models for ICH should utilise payment to effect operational behavior and drive efficiencies, whilst maintaining health outcomes (Orlandi et al., 2023). Equitable payment allocation across health suppliers should be a high priority for Value Based funding (Leao et al., 2023). Funding for value is reliant on advanced information systems supporting accurate and reliable measures and regular monitoring, to ensure the aims of ICH are achieved (Liu et al., 2024).

For any market approach, governing bodies should take a stewardship role in guiding ICH projects ensuring they deliver on strategic initiatives whilst maintaining market equity through robust contracting (Illingworth & Parmet, 2006; Lindenberg, 2003).

## *Operational Management for Integrated Coordinated Healthcare*

ICH wraps services around patient need by integration, which is typically achieved, either through infrastructure change, or by interlinking separate organisations information systems, or a mix of both approaches (McNair & Duckett, 2002).

ICH designs that use information systems rely on segmentation tools, for efficient resource planning at each tier of the health sector, to manage and organise service response for patient need (Chong et al., 2019; Groop et al., 2009). Segmentation tools use statistical methods to create distinctive patient groups that reflect average service needs, based on diagnosis and complexity factors (Hardin et al., 2017). Casemix enables service level segmentation; these methods originated in hospitals and have been adjusted to support end-to-end management of ICH service pathways, either standardised for benchmarking across multiple organisations or tailored for individual health environments (Beaver et al., 1998; Guo et al., 2017). The work from Parsons et al., (2018) further summarised Casemix methodology. They explained that comprehensive clinical assessment data provides information on patients' diagnosis and complexity score, to establish a classification group ranking and relative weighting that reflects average resources required to deliver services. They outlined that funding for value using Casemix incentivises efficiencies whilst acknowledging that services fluctuate relative to complexity.

Another management concept for ICH is described by Porter (2016) whose research outlines Value Based Healthcare (VBHC) methodology. They advised that restructuring integrated practice units and multi-disciplinary teams around the patients' service needs, based on primary diagnosis. They recommended that organisations focus on measuring outcomes and performance for continual improvement to incentivise workplace efficiencies creating value within budgeted funding allocations.

The literature compared VBHC and Casemix for ICH designs, emphasising that both models aim to incentivise organisations to make continuous workplace improvements for optimal service quality and outcomes. The literature highlighted that VBHC requires that organisations integrate through investment in infrastructure change and contrasts this with Casemix which prioritises information systems investment for integration through coordination of assessments across multiple organisations. The research from Hardin et al., (2017) highlighted that VBHC can be challenging for organisations to embed, as investing in restructure of practice units is often not realistic in practice. They also raised that for patient groups whose service needs vary with complexity, some form of segmentation tool is necessary to ensure measures are relevant and funding is sufficient.

ICH design and implementation is challenging, and organisations should nominate change champions to lead projects, influence senior leaders' decisions, and motivate team members (Heijsters et al., 2022). Effective ICH services rely on digital tools enabling improved systems coordination within and between organisations, as well as dashboards for presentation of performance and outcomes monitoring (Lowe, 2000). Collaboration frameworks and coordinator roles are key for ICH designs to support meaningful measures with relevant interpretation and information sharing, optimal service integration, and comradery for team cohesion (Hardin et al., 2017; Van Steenbergen et al., 2023). Frameworks for patients and health workers collaboration, should be embedded into ICH services, to enable robust interpretation of outcomes and experience measures, in relation to health recovery achievements (Kidanemariam et al., 2023).

Management principles impact each tier of the health system and are important for creating sustainable healthcare services, through planning and monitoring that optimal integration and coordination is achieved (World Health Organisation, 2017).

The justification for this research is it will build from existing sources to further explore and inform how strategic and operational management principles, impact the efficiency and effectiveness of delivering sustainable ICH services in NZ. The research approach is summarised below.

## *Research Approach*

### Research Aim

This study builds from the literature to understand the influence of strategic and operational management principles on integrated coordinated healthcare (ICH) in New Zealand. The study will explore the range of management concepts involved with ICH, including but not limited to value-based healthcare (VBHC) and funding (VBF) and Casemix. It will consider how these concepts impact the efficiency and effectiveness of delivering sustainable health services in NZ.

### Research Questions

- What are the management principles involved with ICH service delivery?

- How have management principles influenced the efficiency and effectiveness of ICH service delivery?

### Research Objectives

- In-depth review of literature in the areas of ICH service delivery, with consideration of VBHC / VBF, and Casemix, sourced from International and NZ articles. The separate write-up of International literature will add to the overall body of knowledge, to support the limited availability of information gathered from NZ.

- To build on the literature review, further findings will be informed by data gathered from semi-structured interviews. Participants will be working professionals involved with ICH service delivery in NZ, asked to express their views on opportunities and constraints for managing ICH services. Discussion will compare common themes across participants' responses and contrast these with topics explored in literature.

The development of the research questions is further outlined in the Literature Review, Methodology, and Discussion.

## Delimitations and Exclusions of the Study

The research is limited to exploring different management principles that have been applied in various contexts to support ICH services. The research compares various methodologies and analyses opportunities and challenges of applying theories in practice to support successful ICH services. The review has not attempted to prove or disprove management theories. The research does not delve into the in-depth application of management principles for any particular setting.

# Literature Review

## Section One: Integrated Coordinated HealthCare Strategic Initiatives

This section outlines that the World Health Organisation (WHO) has led a strategic approach to encourage worldwide implementation of Integrated Coordinated Healthcare (ICH) services. It further outlines that this has influenced NZ health and social strategic initiatives to embed ICH with objectives that align with strategy across each tier of NZ's health system.

Global Health Strategy - Health systems are a complex set of connected infrastructures at the macro, meso, and micro levels, designed to meet the health needs of populations (Speerin et al., 2020). Healthcare systems may include Government funders, private and public suppliers providing services across, prevention and education, acute urgent and emergency, primary, secondary and tertiary care, and rehabilitation sectors (Murtagh et al., 2021).

From the early 2000s the sustainability of quality health systems has been recognised as a global priority due to risk that healthcare supply may not keep pace with burgeoning patient demand (Doty et al., 2021). The consumption pressures on the health system have been attributed to the overall volume of the population increasing, as well as growth in the diversity of health needs (World Health Organisation, 2020). The burdens on delivery include shortages in skilled resource, ageing of the health workforce overall but particularly specialist positions, and funding constraints limiting capital investment (Brommeyer et al., 2023). Diversity of health need is attributed to patient complexity which is an expansive term for factors in addition to the medical condition ranging from socio-demographic, rurality, health state, co-morbidities, obesity, chronic conditions, or illness severity that contribute to the patients' service needs (Antioch & Walsh, 2003).

The World Health Organisation (2017) has outlined a significant burden to health systems, is the proportionate growth in the ageing population because frailty makes patients more complex being susceptible to severe illness or chronic conditions. The associated issues of the prevailing ageing pattern are the flow-on additional resource and cost pressures on the already burdened world-wide health systems (Anderson & Hussey, 1999).

The World Health Organisation (2020) has approached these economic burdens, by deriving strategy that prompts organisations worldwide to introduce integration and coordination of health services, to improve sustainability. Health systems worldwide have aligned individual strategy to the principles outlined by the WHO, embedding integration with varying levels of success in practice (Madden et al., 2012).

New Zealand Strategic Health Initiatives - Similar to the global patterns seen across populations, the complexity of patient need within NZ has impacted sustainability (Ministry of Health, 2018). Another factor of complexity is health equity, which removes differentiation between population groups for fairness (Chin et al., 2018). NZ has investigated inequities with the Wai 2575 Health Services and Outcomes Kaupapa Inquiry 2016-2019 and the Health and Disability System Review Final report 2020 (Ministry of Health, 2020). From 2017 onwards, the NZ health system has made significant policy change towards addressing inequities and has pro-actively aligned with the WHO principles by embedding strategic initiatives at each tier of the health system (Ministry of Health, 2018).

To further address these issues, NZ has enacted Pae Ora (Healthy Futures) Act 2022 a holistic approach to improving equitable healthcare, for everyone but particularly Māori, Pacific, Disabled People, Women, and those living rurally. Supporting this, the Nationwide Interim Health Plan (IHP) 2022-2025 and Health Strategy (HS) 2023 has been established (Parliamentary Counsel Office, 2022). The aim is to generate improved health equity, efficiency, quality, experience, and outcomes over the coming ten-years (Ministry of Health, 2023). Multiple different health boards have been centralised under one organisation Te Whatu Ora | Health NZ at a National level (Department of the Prime Minister and Cabinet, 2022). Centralisation is a type of integration that aims to create efficiencies by reducing administrative burden and replication whilst supporting equitable service development of individual areas (Sandiford et al., 2018). Effective cross-sector integration requires strategic alignment and coordination, and designs should not be overly bureaucratic, as large-scale infrastructure and process shifts may take time to embed and recognise benefits (Ramsden et al., 2020; Rea et al., 2019).

The HS and IHP outlines health service delivery change and innovation areas for system-wide initiatives comprising of integrated coordinated service pathways across all healthcare and social sectors and requires roll-out of interoperable data and digital systems for electronic health records (Te Whatu Ora, 2022). Enhanced digital systems enable connectivity between organisations databases, communications, and monitoring, and generate long-term value by reducing barriers to patients receiving timely, quality healthcare (Butcher & Hussain, 2022).

The HS 2023 values seek a cultural shift towards incorporating peoples' perspectives when collaborating on the design of equitable health services; and supports workforce diversity for sustainable service delivery (Ministry of Health, 2023). Collaborating with stakeholders on healthcare designs helps to ensure services are designed to wrap around patient needs long-term (Baker et al., 2018).

All countries, including those with developed health systems need to consider the ageing population to prevent unmet health needs (Kowal et al., 2023). NZ ageing population has followed similar patterns to that experienced globally, which is a key factor putting pressure on the resources and infrastructure of the health systems (Ministry of Health, 2016). According to Statistics New Zealand (2022) the over 60 years old age group may make up 25 percent of the NZ population by 2050. The Healthy Ageing Strategy (HAS) 2016 reflects that NZ is a signatory to the WHO strategies, and sets the direction towards integrating and coordinating hospital, residential, primary and community care service pathways, to utilise existing resources and infrastructure efficiently to address these burdens.

Health organisations strengthen the link between strategic initiatives and operational objectives by ensuring ICH projects are commissioned in line with robust governance and measurement frameworks (Te Whatu Ora, 2022). Cohesive integration between healthcare suppliers is reliant on functional working relationships underpinned by transparent commissioning agreements and aligned coordination and collaboration policies and practices (Henderson et al., 2018; Ramsden et al., 2020).

These articles presented that, in alignment with the strategic direction of the WHO the NZ health system has introduced, regulation, government led centralisation, and strategic initiatives to support the National roll out of ICH across health and social sectors. They explained that strategic initiatives aim to better meet patient need in areas that require investment, such as improving equity, access, and patients with complexity including frailty which impacts the aged population health needs. These articles further outlined that NZ strategies aim to address the economic burdens impacting sustainable health services, by integrating existing resources and infrastructure to remove duplication, and improve coordination by introducing advanced IT for interoperability between health suppliers. The articles presented did not delve into the feasibility, or capability of ICH services in addressing the economic health burdens.

This section outlined those economic burdens on global health systems, have resulted in a worldwide shift towards ICH, led by the WHO. These changes have influenced the NZ health system to introduce strategic initiatives that have cascaded throughout ICH design objectives at each tier of the health system. From this section, the key point informing management principles are that strategic initiatives aim to best utilise resources and infrastructure by integrating and coordinating health and social services, to better meet the health needs of the population.

## Section Two: Integrated Coordinated HealthCare Service Delivery

This section presents literature that outlines the opportunities and challenges that organisations have faced in managing integrated coordinated healthcare (ICH) across healthcare and social sectors and services, to better meet the needs of patient groups, by using existing resources and infrastructure efficiently, for sustainability.

Opportunities - Worldwide, health system shortages are not easily remedied by infrastructure investment as this is difficult to generate, at the same rate as rising populations and the diversity of health needs (Kowal et al., 2023). Pre 2000s healthcare services worldwide have been organised via distinct offerings and this fragmentation has led to inefficiencies, such as service duplication, administrative burden, access barriers (Lowe, 2000). The traditional service delivery implies inefficient use of health professional capacity and sub-optimal health outcomes which may no longer be sustainable (Speerin et al., 2020).

With the strategic initiatives of the WHO, the era post 2000s has seen change strengthening integration across health systems worldwide (Mayr et al., 2022). Globally organisations have embarked on designs that implemented ICH involving multiple services as a pathway for various patient groups (Huber et al., 2016). The key advantage of ICH services are the design objectives of individual projects across each tier of the health system, interlink in alignment with the overarching strategic initiatives, to support sustainability (Colbran & Davies, 2021).

To shift away from uniform health service delivery Draper et al., (2018) explained that ICH service designs aim, to eliminate fragmented and episodic healthcare by generating alignment and connectivity across sectors. They highlighted that ICH management principles take the form of high-level concepts and vary by organisation, because designs are people focused and objectives reflect the strategic initiatives of the specific health environment.

Multiple sources had similar views (Massi et al. 2021; Ramsden et al., 2020; Rea et al., 2019; Reiss-Brennan et al., 2016) and explained that designing the necessary interlinkages to enable effective ICH services can be challenging in practice especially for large service designs. These sources outlined that designs must incorporate information system changes, and new ways of working to interconnect multiple stakeholders across services and sectors and this requires co-operation and policy alignment. They further described that successful ICH designs rely on project teams, organisational commitment, resourcefulness, and collaboration.

They explained that whether ICH design objectives are minimal, moderate, or large-scale they should consider contextual factors, and common aims are to alleviate health worker skill shortages, improve

continuity of care, equity, or patient access (Colbran & Davies, 2021; Ewald & Golden, 2021; Mullan et al., 2023; Wodchis et al., 2018).

Across many of the health systems primary care services are integral for identifying issues and providing short-term treatments, and typically this is where patients enter the health system (Mullan et al., 2023). The research from Draper et al., (2018) provides further examples of how ICH services introduce low level coordination by improving referrals to specialists, ensuring primary care drives timely intervention for patients requiring expert consult. The authors work further summarises that moderate coordination between primary care, specialists, and social services ensures that patients with long-term needs have access to the optimal mix of health professionals. They described that more significant change may fund suppliers offering multi-disciplinary teams with varied capabilities in primary care, specialist, and support services, for a holistic perspective informing the efficacy of treatment plans.

Inpatient hospital stays are a high resource and cost burden, and a typical aim of ICH designs is to achieve reduced hospital days by offering rehabilitation and community care as service pathways (Draper et al., 2018; Huber et al., 2016; Tiedemann et al., 2010). Commonly ICH designs take a patient focused approach and introduce efficiencies by embedding MDT and IDT coordination that aims to reduce unnecessary workload and wait times by offering the most appropriate health professional aligned with fluctuating patient need to improve outcomes (Ewald & Golden, 2021; Gullick & Islam, 2023; Isaacs & Firdous, 2019; Mullan et al., 2023; Reiss-Brennan et al., 2016).

Strengthening coordination between healthcare and community-based churches or marae can encourage patient participation for equitable service provision (Bartholomew et al., 2019). Community services can be designed to incorporate Kaupapa Māori offerings for improving equitable health outcomes (Mako et. al, 2022). Designs for ICH can incorporate traditional concepts such as Te Whare Tapa Whā which conceptualises holistic foundational health as, Physical, Psychological, Relational, Environmental, and Spirituality past, present and future (Kindred services, 2019).

Coordination is key for ICH management according to multiple sources (Buchholz et al., 2022; Khadka et al., 2022; Pel-Little et al., 2019) whose similar findings suggested that using dashboards to facilitate information sharing, incentivises efficient work practices through monitoring. These sources summarised that some ICH designs, create intervals for administering comprehensive clinical assessments (CPAs) which gather data to ascertain patient diagnosis and other complexity factors such as function, frailty, or co-morbidity. They emphasised this enables enhanced service planning for resource coordination, reduced duplication, and improving the responsiveness of service delivery relative to patient complexity.

Technology can generate efficiencies by, ensuring health professionals are not delayed in administering treatment using options such as telehealth, or providing patients with assistive technologies (Soar, 2009). The research from Pant et al., (2022) outlined that data sharing can occur through succinct patient data sets or interoperable databases that hold patient information enabling strong IDT or MDT coordination across health sectors and ensures administrative tasks are not duplicated where clinical information has already been collected. The research from Rehman et al., (2022) outlined that software systems can be time, cost, and resource intensive to set-up. They suggested that during the design phase data sharing arrangements should be formalised as privacy and security of the information must be protected.

The literature posed the view that ICH management principles are not standardised because designs vary depending on the scale of change required to better meet health population needs. It outlined those strategic initiatives should cascade throughout each tier of the health sector embedded into ICH designs, to improve overall health service quality and outcomes in a sustainable way. The literature further outlined that ICH designs commonly take a patient centric approach and should aim to interconnect multiple services and health workers across health and social sectors for efficient and innovative use of available resources, information technology systems, and existing infrastructure. This summary does not delve into depth on the size of unmet health needs, nor whether ICH will meet that gap.

Challenges and mitigations - Health organisations have had to dedicate project resource to managing ICH design and implementation, which is time and cost consuming because they are not standardised, and it is administratively burdensome to align policies across suppliers, to ensure smooth coordination and integration (Tompkins et al., 2009).

Common challenges of ICH service designs are they require continual service changes, and this disruption may drive, change fatigue, and relationship breakdowns between suppliers and funders, additionally if policies change, Government funding may be removed, threatening ICH services implementation long-term (Henderson et al., 2018). ICH designs are susceptible to inequity, implicitly favouring larger versus smaller suppliers as significant up-front investment takes time to see returns, and scaling designs for different contextual settings may not be straightforward (Baker et al., 2018). Poorly designed incentives using funding or measures, may lead to inequitable allocation of funds across the suppliers coordinating service pathways, and this risks that supplier's resort to perverse behaviours (Draper et al., 2018; Henderson et al., 2018).

To mitigate challenges of ICH organisations should build strong collaborative relationships between funders and healthcare suppliers (Turner & Rebbeck, 2017). Project teams should ensure equitable

funding, processes and monitoring criteria are in place at the outset of ICH design, via robust contracting, formal agreements, and governance (Rea et al., 2019). ICH designs should introduce overarching frameworks, and then involve wide-spread representation of stakeholders to incorporate their feedback about the contextual factors unique to each health organisation, to ensure equitable and accessible services (Engen et al., 2023; Chalmers et al., 2017; Draper et al., 2018).

The literature outlined challenges of ICH designs are loss of funding, high upfront costs, procedural alignment across multiple suppliers, and market or funding allocation inequities. The literature generally supported the view that, good design, governance and management frameworks which support fair commissioning approaches and robust formal agreements can mitigate the challenges of ICH. This summary does not consider circumstances under which ICH may not be applicable for some health environments.

From this section, the key points informing management principles are that strategic initiatives are reflected in ICH objectives at each tier of the health system which positively impacts sustainability. It further discussed the opportunities of ICH are to improve service quality and outcomes for patients, while reducing economic burden by using existing resources and infrastructure innovatively. This section outlined the key challenges of ICH are maintaining the balance of efficiencies and quality services and equity across multiple suppliers. It outlined ICH services should be governed through formal agreements and management frameworks.

## Section Three: Integrated Coordinated Healthcare Market Approach

This section is organised into three parts, and presents literature on private and public healthcare, commissioning and contracting, and stewardship. It summarises that ICH designs are complex interlinking multiple organisations, and this requires suitable commissioning approaches for either private or public suppliers, supported by robust contracting and guidance through governance.

### *Private and public healthcare*

Worldwide, healthcare is supplied by organisations and health workers, and according to the research from Ruiters & McDonald, (2012) public services are funded by government, and private services are paid for by patients or insurers. They outlined that wholly public or fully private systems both have merits, though put forward that a mix of public and private healthcare creates sufficient market competition to maintain the balance of cost and quality without sacrificing equity. An alternative view was offered by Kohnke et al., (2023) whose research investigated the impact of equitable choice and found it can influence quality in public markets if patients are offered full healthcare accessibility. They emphasised that the success of this approach relied upon the capacity

and funding of the social systems' health workforce resources, to flex in response with naturally occurring fluctuations in patient demand.

The proportionate mix of public and private suppliers within health systems, typically reflects the size of the deficit in government funding allocated for public health investment (Yaman, 2018). The research from Drache & Sullivan, (2005) builds further explaining that public healthcare is offset by private healthcare based on the patients' willingness to accept trade-off between wait times and quality of care, versus increases in taxes. They found that private healthcare shifts the cost burden and quality benefit to high earners, with positive flow on implications to low socio-economic populations by freeing up demand for public resources. They advised that regulation for market balance is key for preventing the supply of skilled health workers disproportionately shifting towards private healthcare, risking inequity in the quality of public services.

To address shortfall of investment funding, economies may enter into public–private partnerships (PPPs) and jointly provide aspects of health services by contractual agreement (Fabre & Straub, 2023). The research from Takahara (2022) builds further and found that in the short-term, shared investment between private and public entities may realise benefits such as efficiencies, and increased funding for investment. They found that in the long-term there is risk of quality erosion due to cost cutting for efficiencies, and prioritisation of profits at the expense of training or infrastructure maintenance. They advised that the regulatory and political landscape must fairly support the interests of both stakeholders to be successful long-term.

The literature outlined that the proportionate mix of public and private healthcare within health economies is related to Government funding, competition, patient need and service quality levels. It also summarised that to avoid erosion of quality or imbalanced markets, health economies should embed regulation. The literature presented is worthwhile for informing ICH management principles, indicating that the balance of quality and equity across health markets, supports sustainability, though does not further explore the optimal mix of public and private healthcare.

### *Commissioning and contracting*

Commissioning approaches for ICH services are Accountable Care Organisations (ACOs), Alliance or Partnering agreements, Lead or Prime supplier contracts, and Performance or Outcomes Based contracts (Billings & Weger., 2015). The work from (Sanderson et al., 2018) built further outlining that commissioning approaches enable the funder to either share or transfer an agreed level of risk to health organisations, to incentivise performance and innovation aligned with strategic initiatives. The authors' highlighted that these models, incur substantial maintenance costs and require divisive contract criteria apportioning transparency and accountability between stakeholders.

A commissioning approach that enables funders to contractually apportion risk to individual health suppliers is outlined by Billings & Weger., (2015) whose research described that ACO's facilitate networks of autonomous private health organisations, to agree on terms of integration for ICH service pathways. They explained that the ACO's approach works well in competitive markets and aligns with performance and outcomes incentive funding, though raised the risk that rewards or penalties are difficult to award with accuracy, particularly across multiple suppliers. They emphasised that the ACO's approach depends on the funder maintaining tight control mechanisms imposed by on-going performance monitoring, governance and managing competition across stakeholders.

Clarity on roles and responsibilities of stakeholders are key for longevity of ACO's as outlined further by Murray et al., (2018) whose research highlighted those vague contractual terms, may lead to lack of trust, ineffective working relationships or even ICH project design failure. They suggested mitigating these issues by designating a coordination manager to facilitate communication at the outset of the design and create the needed goal congruence from separate entities to frame clear and equitable contractual obligations for agreed terms in working together.

A commissioning approach that shares risks and benefits, between suppliers and funders is further outlined by Billings & Weger., (2015) whose research explained that alliances or partnership agreements are suitable for ICH projects aligned with government led strategic initiatives. The authors found that partnered contracting relies on robust and transparent conversations to support full trust, information sharing, and collaboration between stakeholders. They emphasised that partnered contracting pairs well with shared risk and benefit funding models, and is best aligned with public markets, though can work for private markets also, if agreements are based on strong governance and there is influential leadership from commissioning bodies.

Clarity of goal alignment and intent for shared versus self-interests are key for longevity of partnerships, according to multiple sources (Burns & Briggs, 2018; Clark et al., 2015; MacCormack & Mishra, 2015) which indicated similar views on goal congruence between partners. These sources further emphasised that with equitable and objective contractual obligations and funding, partnering can facilitate the necessary leadership, commitment, and collaboration to embed interconnecting pathways across sectors and service organisations.

Another approach that enables the funder to apportion responsibility to the supplier is outlined by Billings & Weger., (2015) whose research summarised the Lead Provider/Prime Contractor Model contractually requires a nominated supplier manage ICH through sub-contracting arrangements. They emphasised this approach can be used in either private or public markets, though for this

approach to work well, governing bodies must establish tight contracting mechanisms with the lead supplier and ensure consequences are enforced for non-performance.

The literature summarises that the funder should take a governing and leadership role in commissioning approaches, for ensuring equitable funding and markets, which are supported by robust contracting.

The literature also informs ICH management principles by highlighting that the main differences in commissioning approaches are the delineation of culpability. It outlined that ACO's work well for private markets as they optimise results from competition to lift sector quality overall, though the risk, performance achievements, and rewards should sit with the suppliers and funders should be responsible for managing competition fairly. By comparison the literature indicated that strategic initiatives, are best achieved through partnering across the public sector or markets with strong goal congruence and that shared culpability for risk and reward should be between the suppliers and funders. The literature only broadly covers how well these commissioning approaches work in practice.

### *Stewardship*

Commissioning for ICH service designs benefit from governance that takes a guiding approach, rather than being authoritative (Stuart, 2003). Stewardship should enable, flexibility of service delivery that is supported by contractual agreements, and performance measures should motivate integration and productive collaboration between multiple stakeholders (MacCormack & Mishra, 2015).

Stewardship, requires that stakeholders create ethical and sustainable health environments and governing bodies should design frameworks that objectively uphold stakeholders' accountability whilst protecting their autonomy, confidentiality and equity (Illingworth & Parmet, 2006; Lindenberg, 2003). The literature from Chikhradze et al., (2022) suggested that governance groups should network to create strategies aligned with Government policy, that cascade throughout each tier of the health system, and regulatory frameworks should safeguard against market inequities and ICH suppliers' associated risks of investment. They emphasised that stewardship should aim to enable stakeholders to trust in the vision and the capability of governing bodies to lead initiatives, equitably in pursuit of goals that bring shared benefits.

The literature emphasised that, governance should embed regulatory frameworks supporting equitable markets and take a stewardship approach for enabling flexibility and collaboration, recognising the need for adaptable coordinated approaches that support effective ICH services.

This section was organised by private and public healthcare, commissioning and contracting, and stewardship to present literature in each subject area. The key point informing ICH management principles was that funders undertaking commissioning approaches should consider the delineation of culpability. The literature indicated that to lift overall sector quality culpability of risk, performance and reward should sit with competitive suppliers, or to achieve strategic initiatives culpability should be shared between funders and suppliers. Another important point was that robust contracting strengthens the market approach, and governing bodies should act in a guidance capacity supporting innovation for ICH, whilst managing competition and maintaining equitable markets.

## Section Four: Value-based Funding and Integrated Coordinated Healthcare

This section is organised into two parts and outlines literature which explains that funders use funding as a managerial lever to incentivise health organisations to find efficiencies and manage competition, to govern market equity and quality of ICH services.

### *Value-based Funding*

Historically, healthcare has paid for time, which can inadvertently encourage wasteful practices, thus organisations should instead pay for performance using value-based funding to drive improvements in line with service goals (Miller, 2018). The ACOs, Partnership, and Lead contracting models are funded for value to incentivise efficient ways of working, to curb excess service provision beyond patient need (Billings & Weger., 2015). ICH designs typically embed Value-based Funding (VBF) models as a managerial lever to gain efficiencies as, modified fee for service, capitation, packages or bundled payments (Deloitte, 2020).

Health organisations should create value by using funding levers, such as bundled payments, to generate improved performance and outcomes (Porter, 2016). Bundles are a singular fixed sum of money for a patients' service pathway for offerings delivered across one, or multiple health organisations and packages are a fixed sum for a succinct part of the service pathway (Deloitte, 2020). The research from Hardin et al., (2017) investigated how well standardised bundles methodology worked in practice and found that risk adjustments were necessary to ensure sufficiency of funding allocations for ICH services.

The work from Price Waterhouse Cooper, (2021) provided examples of target-based F-F-S including Performance Based Payment (PBP) for incentivising efficiency targets achievement, and Shared Savings and Risk (SSR) models. Their research described that SSR models evaluate wash-up at the end of term, and if the funder is paid in excess of the budget due to inefficiencies, the organisation may have to pay back the difference up to a capped margin, or vice versa. Health organisations that

have low patient volumes with variable complexity are dependent on continual revenue streams, and thus are more likely to achieve efficiencies with target-based F-F-S than other VBF methods (Deloitte, 2020).

The worth of capitation as a top-down budgetary approach, is it enables the funder to incentivise health organisations to reduce unwarranted variation, by having to operate within a fixed lump sum allocation (McNair & Duckett, 2002). The work from Price Waterhouse Cooper, (2021) described that capitation funding is calculated by historic expenditure analysis of an underlying measure, such as population members. They explained that lump-sum funding is administered at the beginning of the term and the budget is revised at terms end for population growth and economic inflation, which is then offset by efficiency targets. They highlighted this method has widespread application within public health, and to be effective capitation relies on accurate segmentation for equitable and sufficient funding.

This literature contrasts the suitability of VBF models for different ICH service designs. It summarises that bundled payments work well for ICH service pathways that group patients with similar service needs based on medical condition; risk shared F-F-S suits small to mid-sized health suppliers offer ICH services to patients with highly variable needs; or capitation funding works well for large health suppliers that manage resources over a large group of patients classified by varying levels of service need. The literature does not further consider the implications of each type of VBF model in practice.

### *Incentivising Organisational Behaviour using Value-based Funding*

Health systems operating in a perfect market balance, would supply services that exactly reflect patient need; however this rarely occurs in practice as profit, market share growth, and consumer choice also impact supply and demand (Ruiters & McDonald, 2012). Suppliers manage demand in relation to the resources of their business, by adjusting the mix of service offerings, differentiation, pricing or funding, and communication (Foxall, 2013).

To maintain balanced markets, funders should manage competition, by using contracts and funding methods to incentivise public or private suppliers' behaviours and ensure Government initiatives filter through the wider health system (Ruiters & McDonald, 2012). According to multiple sources with similar views (Auffenberg 2022; Sangamnere et al., 2017) lack of market regulation risks that, suppliers compete aggressively to gain market share for becoming monopolies, or entities are not held to quality standards. These sources described that a balanced mixed market of public and private suppliers implicitly guards against these extremes, though does not provide funders surety that Government priorities will be embedded in practice.

Market factors and funding – For funders to manage competition effectively, an understanding of the market factors influencing suppliers' behaviours is important (Carlo et al., 2020). The research from Foxall (2013) explained that suppliers aim to exceed breakeven thresholds to reinvest margins for growth, or to increase their market share. They described that competitive suppliers hold multiple contracts, or market loss leading and free service offerings to boost patient numbers. They outlined that the equivalent for public suppliers is lobbying for the funder to increase service budgets or take fiscal responsibility for building infrastructure.

There are challenges with ensuring the sufficiency of funding because a typical goal of ICH services is to reduce patient numbers in hospitals via integration with community clinics (Draper et al., 2018). If suppliers fear loss of volume this may drive behavioural changes to make up for lost funding, and in the extreme poorly managed competition consequentially results in ICH designs inadvertently increasing overall system costs (Leao et al., 2023). Shared risk funding, or capitation are theoretically simple designs, though equitable payment allocation across multiple suppliers of service pathways is challenging in practice (Deloitte, 2020). VBF calculations are estimated on average volumes and purposefully risk adjusted to generate efficiencies, and this introduces high risk for small to medium-sized organisations with low patient volumes that present with heterogenous patterns of service use (Leao et al., 2023; Lindner & Lorenzoni, 2023).

The research from Millwee et al., (2018) outlines that VBF contracts should mobilise the strategic objectives of policymakers cascading throughout each tier of the health system, by fairly rewarding a range of suppliers for their on-going commitment to ICH innovation and quality services.

Managed competition and funding incentives – Effective management of competition is supported by good governance and stewardship that guides patient flow and productive integration of supplier networks via formalised agreements (Winegar, 1994). VBF should be supported by performance and outcomes measures linked to objectives and robust contractual criteria, to successfully support market equity across a range of suppliers and motivate behavioural shifts to drive continuous improvement (Abdelfadil et al., 2023; Leao et al., 2023; Orlandi et al., 2023).

The literature from Miller (2009) described that funders should use fixed costs to determine sufficient baseline and variable cost and operating margin to calculate financial or patient referrals rewards based on achievement of performance and outcomes targets. They advised that stakeholders should be contractually accountable for providing transparent cost data, enabling the funder to apportion rewards equitably, based on evidence.

Conditional funding has found some success in practice according to Edward et al., (2023) whose research provided an example by retrospective assessment of American hospitals that implemented Hospital Value Based Purchasing (HVBP). They described a payment for baseline cost was made up front and performance at term end was compared across suppliers, and those with scores above a pre-agreed level were rewarded bonus payments. They found the method was most effective at changing the behaviours of competitive suppliers, with mixed results for public organisations.

Conditional funding needs to be managed well to generate productive behaviours from suppliers and if metrics are lacking or are not specifically targeted at the area of improvement, organisations are less likely to gain benefit from these funding models (Carlo et al., 2020). The literature from multiples sources (Tompkins et al., 2009; Veghel et al., 2018) posited similar views suggesting that measures reward suppliers for improved performance and outcomes versus cost-cutting as there is risk of erosion of quality long-term. These sources emphasised that measures should recognise individual and interconnected responsibility for performance equitably, to avoid misallocation of rewards across multiple suppliers providing ICH service pathways.

Measures bias risks and mitigations **-** Challenges of conditional funding were presented by Liu et al., (2024) whose research raised that bias measures may lead to unreasonable performance comparison across multiple suppliers. They also highlighted that cumulative impact of lost bonus payments relative to other suppliers, may result in individual suppliers having reduced capacity for investment in long-term innovation. They emphasised that conditional funding should incorporate risk and equity adjustments to ensure incentive bonus payments are fairly distributed across suppliers, to support sector and system sustainability.

Funders should be confident of the reliability of data for accurate monitoring, to enforce appropriate governance procedures that mitigate risks of poor supplier behaviours (Kidanemariam et al., 2023). According to multiple sources (Li, 2022; Mohd Fadzil 2023) that indicated similar views, another challenge of VBF is miscoding, such as, under or over servicing or favouring low complex versus high complex patients. They suggested that miscoding should be mitigated with quality checks and contractual penalties. They explained that quashing perverse behaviours requires that measures safe guard against cost cutting efficiencies to maximise profits. They advised that performance and outcomes scoring should be weighted to encourage achievement of strategic initiatives and ensure suppliers re-invest gains for growth and sustainability.

The literature emphasised that ICH aims to improve sustainability and therefore embeds interconnected objectives across each tier of the health system, to ensure that strategic initiatives are achieved. It also highlighted that the key aim of ICH service pathways is to achieve efficiencies,

and implicitly this reduces revenue, which is counterintuitive to suppliers' business models, thus it is appropriate for funders to manage competition across markets. The literature presented further detail that VBF should be used to; fairly incentivise a wide range of suppliers to offer ICH services by ensuring equitable payment allocation to multiple suppliers across ICH service pathways of care; and conditional funding should be awarded to suppliers based on reliable, fair, and unbiased measures to ensure their long-term investment capacity remains sustainable.

This section presented literature about how VBF can be used as a management lever for ICH services by funders to govern market equity, manage competition, and improve service quality through robust measures. A key point for informing ICH management principles was that VBF and conditional funding should be used by the funder to incentivise supplier behaviours based on the drivers that are relevant for that market and a wide range of suppliers' business models. Another key point was that funders have a responsibility to maintain a sustainable health system that balances equity and quality.

## Section Five: Operational Management for Integrated Coordinated Healthcare

This section outlines literature that summarises organisational approaches to ICH management principles. It is structured into three parts; Resources and planning, which contrasts how workflow can be organised around patient need using digital segmentation tools; End-to-end monitoring, which delves further into how Casemix versus VBHC management approaches are used differently to effect efficiency and effectiveness of ICH services; and Teamwork for meaningful monitoring, which demonstrates how collaboration and coordination can support accurate interpretation of monitoring and generate continuous improvement.

### *Resources and planning*

Segmentation tools - Patient demand, needs to be well managed and segmentation tools enable resource planning; sector and service delivery; funding allocation; and measurment at each tier of the health system (Street & Dawson, 2002). According to the work from (Torkki et al., 2023) segmentation tools are either standardised to facilitate ICH coordination and benchmarking across suppliers or individualised for ICH services with unique contextual objectives. They explained that segments are derived using statistics, and are distinctive, mutually exclusive patient groups that have homogenous service needs, due to their condition and complexity. They emphasised that patient groups segmentation, varies relative to the macro, meso, or micro health environment and ICH design objectives.

At the macro level, segmentation tools categorise patients by population health status ranging from healthy to incurable, to enable assessment of resourcing in alignment with Government priorities (Raymond et al., 2023).

At the sector level, segmentation is based on health status and recovery potential, as this information can be used to support long-term planning of an appropriately skilled health workforce and sufficient infrastructure (Girwar et al., 2022; Tozzi et al., 2023; Zhou et al., 2014). The research from Groop et al., (2009) described the relativity between segmentation and management approaches across health sectors. They described that the management priorities for emergency are accessibility, versus scheduling in primary care. They further contrasted this with surgery or intensive rehabilitation, where the priorities are coordination and monitoring of recovery durations. They differentiated that for patients with chronic conditions and co-morbidities, management should focus on flexible resourcing aligned to fluctuating service needs, and outcomes which prioritise comfort and quality of life.

At the service level segmentation tools are used, at intervals across service pathways, to manage service responses relative to complexity factors such as diagnosis, complexity, demographics or characteristics, to classify the patient groups (Torkki et al., 2023). The stronger the linkages are between operational measures, service objectives and strategic initiatives, at each tier of the health system the more meaningful the information is for guiding decision-making (Chong et al., 2019; Lynn et al., 2007; Vuik et al., 2023). Value can be most fully achieved, if organisations introduce end-to-end monitoring across key intervals of the patients' ICH service pathways, to understand complexity, warranted versus unwarranted resource utilisation, expenditure management, and outcomes (Chong et al., 2019; Orlandi et al., 2023; Hofdijk et al., 2015; Zhou et al., 2014).

The literature explored digital segmentation tools and outlined that diagnosis, complexity and contextual factors impact patients' health service needs. It indicated that segmentation monitoring facilitates effective resource planning, benchmarking, and service management for ICH. The literature suggested that segmentation monitoring should interlink with strategic aims and service objectives, at each tier of the health system to support resourcing sustainability. It does not delve further into the feasibility of embedding segmentation tools across health systems.

### *End-to-End Monitoring*

The remainder of this sub-section contrasts, Casemix (Parsons et al., 2018) with VBHC (Porter, 2016). This demonstrates that these approaches use segmentation, monitoring, and funding as managerial levers differently, to distinguish between warranted and unwarranted service utilisation and incentivise efficient ICH service delivery management.

Casemix end-to-end monitoring - Casemix models originated in hospitals during the ~1900s and since have expanded worldwide including NZ and have been adjusted for ICH services (Ministry of Health, 2015). Casemix supports efficient service delivery and meeting patient need, by enabling monitoring for resource planning and funding and the design of comparative measures to generate realistic performance and outcomes targets, across health organisations worldwide (Antioch & Walsh, 2003; Beaver et al., 1998; Pirson 2006; Turner-Stokes et al., 2011). International working groups have formed to streamline Casemix measures and expected outcomes by complexity level, enabling organisations worldwide to make comparisons, and ensure that innovation continues, without foregoing consistency (Madden et al., 2013; Rodrigues, 2012).

Casemix designs have been modified to integrate hospital, rehabilitation centres, and community service pathways, and the granularity of assessment data collected, should be relative to service design objectives and strategic initiatives, corresponding with similar views from multiple sources (Guo et al., 2017; McNair & Duckett, 2002). Casemix designs rely on advanced IT and software and though they are costly, there are also significant managerial benefits, including the facilitation of integration and coordination, across health workers, departments and health services (Abdalla et al., 2022; Predl, 2010; Uzkuraitis et al., 2010). Casemix automation depends on accurate coding of classifications and ICH designs should include operational guidelines for training health workers and support staff to minimise miscoding (Lowe, 2001).

Casemix can be designed to monitor changes in patient complexity at key milestones throughout ICH service pathways according to the literature by (Turner-Stokes et al., 2011) which described InterRAI as one of several different automated segmentation tools for Casemix. They explained that data can be used in dashboards to monitor volumes distribution across complexity levels, to estimate average service usage and resourcing needs by patient groups to enable efficiency gains. They emphasised that understanding complexity enables the seamless coordination of resources, and distal outcomes measurement for assessment of the cumulative impacts on recovery durations.

Casemix monitoring is worthwhile for managing efficiencies and expenditure as outlined in the literature from Parsons et al., (2018). The authors described that comprehensive clinical assessments supply data for statistical programs that score individual assessments and create Casemix classifications for patient groups, based on homogeneity of average service usage, across the groupings. Classifications represent a complexity level, which is generally unavoidable and thus represents warranted change in service use and enhance planning of resources to better meet patients' service needs. They explained that the relative weighting of average service unit costs can

be used to understand the funders responsibility for sufficient funding, and where organisations can find room for improvement if there are avoidable or wasteful use of resources.

Casemix coding enables stakeholders to coordinate by using shared dashboards and work together in assessing patterns in the classifications and the relative weightings, for resource management relative to patient complexity (Lowe, 2000). Multiple sources had similar views (Hendrie & Boldy, 2002; Hopfe et al., 2016; McNair & Duckett, 2002; Pirson, 2006; Stineman et al., 1997) that Casemix measures complexity accurately, thus organisations are enabled to meet patient need by resourcing this in an optimal way. These sources further outlined that the relative weightings indicate average service use, enabling organisations to monitor change overtime, adjusting for complexity fluctuations and refining realistic targets for managing efficiencies by continually improving processes. Building further, the literature from Turner-Stokes et al., (2011) gave the example that Australian National Sub-Acute and Non-Acute Patient (AN-SNAP) Casemix aligns with the Australian Rehabilitation Outcomes Centre (AROC). They contended that the matching of complexity score with anticipated outcomes by patient group, provided the basis for realistic targets, which ensures that relevant and impactful service improvements can be made for patient outcomes.

The literature from Parsons et al., (2018) explained that Casemix classifications and relative weightings enable funding to flex, relative to the mix of patients, which enables equitable allocation of funding across multiple suppliers coordinating ICH service pathways. They further explained that the weightings incentivise operating practices that result in resource utilisation, slightly lower than the estimated budget, and organisations are reassured that if the mix of patient classifications are overall, more complex than expected, funding will be sufficient at term end, thus the model is financially sustainable.

Casemix generates financial benefits from workplace improvements as well as innovation which enables re-investment back into the health system, to support sustainability (Fortney et al., 2002).

Value-based healthcare end-to-end monitoring - To support sustainable ICH, the literature from Porter (2016) introduced guidelines for ICH service management, enabling health organisations to minimise wasteful resource allocation and generate efficiencies, whilst maintaining quality expedient outcomes.

The Value Based Agenda (VBA) outlined in Porter (2016) research recommended segmenting patient groups solely by primary medical condition and forming Integrated Practice Units (IPUs), across geographical areas for accessibility. The author suggested that IPUs provide ICH via multidisciplinary

teams (MDTs) to efficiently treat the condition, and that coordination should occur with support services such as primary care or high-tech imaging.

Health organisations worldwide have demonstrated varying degrees of success embedding Porters (2016) guidelines in practice (Potter & Nelson, 2020). VBHC has its limitations though can be effective guidance, if organisations have sufficient investment to restructure their resources into IPUs, and patient groups have homogeneous service needs related to diagnosis, rather than other complexity factors (He et al., 2023; Hyatt et al., 2021; Raymond et al., 2023; Torkki et al., 2023). Equally, the research from Hardin et al., (2017) identified that due to resource and funding constraints, IPUs may not be practicable. They described that organisations have relied on IDT coordination across organisations, or maximising intermittent collaboration between MDT from different departments to utilise available resources with minimal disruption. They also highlighted that most patient groups presented with unavoidable complexity factors, which impacted service use, and funding and resourcing sufficiency, inevitably leading to ICH design adjustments.

To incentivise efficient service outcomes, VBHC guidance suggests that funders should pay suppliers via fixed sum bundled payments for each patient's service pathway (Porters' 2016). The Centres for Medicare & Medicaid Services (2013) described the Bundled Payments for Care Improvement (BPCI) initiative produced four standardised incentive-based payments methods, calculated based on trends from historical and forecast data, for general use worldwide. The research from (Kaplan et al., 2021) highlighted that basing measures or calculation methods on rationale is key for robustness.

The advantage of bundled payments are they enable health suppliers the flexibility to organise resources according to Heijsters et al., (2022). These authors described that this is because the number of treatments within each service pathway will vary from one patient to another, and a range of low-high skill mix and disciplines, can be utilised to meet patients' service needs within the bundled amount. They emphasised that if efficiencies are gained, the health organiastion gains a marginal benefit from the fixed payment.

Conversely, the literature from Hardin et al., (2017) investigated the use of BPCI methods in practice. They found that if patients service use was variable due to complexity factors, then the same service measures, and funding bundle may significantly underservice some versus others and potentially lead to organisations poor service delivery behaviours. They emphasised that organisations have had to risk adjust bundles to reflect that service usage is influenced by factors beyond diagnosis, incorporating the impact of unavoidable complexity on service patterns to ensure sufficient funding, and relevant performance and outcomes measures by patient groupings. Another issue outlined by (Torkki et al., 2023) is the investment of organising bundled payments and monitoring is often

significant and, ICH designs must also incorporate well-functioning IT systems and skilled analytical staff to manage the funding.

Another dimension of Porter (2010) VBHC guidance, is the Outcome Measures Hierarchy (OMH), which advised categorising the patients' clinical outcomes into three Tiers, and to effect patient centricity, organisations should administer questionnaires to understand Patient Related Outcome and Experience Measures (PROMS) and (PREMS). The author introduced a formulaic expression of value which *equals* patient health outcomes *divided by* the cost of delivering the outcomes across the entirety of the patients' care cycle.

Multiple sources of literature outlined similar views that embedding the guidance from Porters (2010) OMH has challenges in practice (Kidanemariam et al., 2023; Orlandi et al., 2023; Van Steenbergen et al., 2023) and highlighted that the formula, as a measure may be too broad for driving change in workplace activity. They described that adjustments to relative cost measures were necessary to recognise complexity, and outcomes categories separately, for understanding the relative impact of workplace efficiencies or innovation, that generated improvements.

The literature presented Casemix and VBHC to contrast principles for managing ICH in relation to warranted versus unwarranted variation of service use. It demonstrated that the suitability of each approach depends on the ICH service pathway design and the patient mix of health suppliers. The literature does not further compare other management approaches.

The literature outlined that Casemix methods effect integration by coordinating multiple suppliers across service pathways using information systems that classify patient complexity based on standardised assessments. The literature further explained that Casemix enables risks and benefits to be shared between the funder and the organisations, by differentiating warranted variation in service use by monitoring complexity classifications. It highlighted that shifting patterns across average service use can be further monitored to incentivise efficient work practices and organisation of resources.

For comparison of the differences between Casemix and VBHC, the literature about VBHC described that with this approach integration is achieved with IPUs that offer MDT services based on patient diagnosis. The literature summarised that bundled payments aim to incentivise service improvements to manage good outcomes within funding constraints, thus invariably risk and reward, sits with the organisations. The literature demonstrated that ICH designs catering to a diverse range of health needs, should adjust the guidance from VBHC by acknowledging complexity by designing segmentation tools and adjust bundled funding for sufficiency and outcomes measures for relevance.

### *Teamwork for meaningful monitoring*

Champions - Multiple literature documents from (Hardin et al., 2017; He et al., 2023; Heijsters et al., 2022) posited similar discoveries, indicating that ICH design teams should nominate a project champion with clinical knowledge. They suggested the role be responsible for liaising with mid and top tier managers, to cultivate organisational readiness and enable timely and impactful decision making through each project delivery phase and inspire project team members commitment to achieving deliverables.

Processes Supporting Meaningful Measures – the Quality Measurement Landscape (QML) outlines procedures that support effective quality measures in ICH services (Porter, 2016). Health organisations use the QML as guidance to monitor procedures such as compliance with coding, or checking equipment quality to minimise defects, which are key for supporting effective workplace processes (Abdalla et al., 2022; Hardin et al., 2017; Van Staalduinen et al., 2022).

Measures should be specific, accurate, reliable, and designed in line with ICH service objectives (Orlandi et al., 2023). Using generic measures across a broad range of patients, may lose some applicability to the individual, and to mitigate this, validated assessments, or questionnaires that minimise bias should inform measures (Van Staalduinen et al., 2022). ICH designs should move away from monitoring for reporting purposes, to using measures as an integral part of daily operations interconnecting stakeholders to generate continuous improvement (He at al., 2023).

Relevancy is of key importance for effective measures according to Kidanemariam et al., (2023) whose research suggested that measures should be impactful in supporting resourcing, coordination, and patient related interactions. They highlighted that organisations should consider how best to balance organisational flexibility versus bureaucracy when designing measures, factoring in the type, number, and granularity as well as the flow on impact to administrative burden and how the results of measures will impact the business model and funding.

The literature from Hopfe et al., (2016) demonstrated how aggregate service activity in the workplace can be measured tracking optimal duration for patient recovery. For comparison, the study from Martin et al., (2018) took a granular approach and investigated Time Driven Activity Based Costings (TDABC) to prompt health workers in making small changes in daily activities to gain efficiencies. Another example from Van Steenbergen et al., (2023) investigated a two-pronged approach to measures by introducing TDABC relative to patient related cost drivers (PRCD) to prompt

resourcing activities that enable patient outcome achievement by alignment to patient goals optimising long-term productivity.

Standardisation is also of key importance for effective measures according to Kaplan et al., (2021) whose research highlighted that the advantage of standardising measures, was enabling comparisons across organisations to facilitate on-going improvements.

Teamwork and Monitoring – Interpretation of measures to gain understanding of the underlying drivers of service use variation, is key for value and achieving long-term efficiencies, thus collaborative processes should be designed to support ICH service measures (Kidanemariam et al., 2023; Van Steenbergen et al., 2023).

Coordination roles and process framework for collaboration are key for establishing and maintaining interconnectedness between stakeholders according to the literature from (Hardin et al., 2017; Henderson et al., 2018; Kidanemariam et al., 2023; Van Staalduinen et al., 2023). These sources held similar views and explained that ICH designs should enable MDT and IDT to meet frequently to pro-actively interpret measures using them to efficiently work together in managing individual and collective patient care. They recommended collaboration should aim to cultivate team cohesion and comradery and strengthen the transfer of relevant information between organisations.

Equally, collaboration and coordination processes should align with ICH objectives, because according to research from (Heijsters et al., 2022; Lawrence et al., 2022) who posited similar views, that the risk of poorly designed frameworks is reduced service quality. These sources highlighted that excessive bureaucracy or accountability obligations, may quash opportunities for improvements, or cause workers to feel undervalued. They suggested there should be a net payoff of time spent overall, with collaborative meetings resulting in service improvements or efficiency gains. They emphasised that effective collaboration frameworks should be based on shared aims and active participation from health workers, interlinking stakeholders that collectively effect the quality of the patients' outcome.

Another opportunity for collaboration was outlined in the literature from Kidanemariam et al., (2023) which investigated pro-actively involving patients in their care through feedback loops, to ensure shared accountability for tracking against metrics to achieve health recovery goals.

The literature outlined that ICH designs should incorporate meaningful measures that are reliable, accurate and standardised, enabling assessment of targets achievement and comparison of performance across health suppliers. It further outlined that teamwork, and patient centric processes should support the interpretation of metrics and enable stakeholders to collectively

identify drivers of variance in service use from expectations, to generate continuous improvement through collaboration.

This section categorised literature into three sub-sections resources and planning, monitoring for ICH services, and teamwork for meaningful monitoring. Key points for ICH management principles were that ICH designs should consider; embedding segmentation tools and or measures which distinguish between necessary versus excessive use of resources to meet patients' service needs; the complexity mix across the patients accessing service pathways to ensure the relevancy of targets and sufficiency of funding; embedding collaboration and coordination processes to ensure robust interpretation of measures, as this is key for ensuring continuous improvement for quality ICH services.

## Section Six: Research Approach

### Overview

Ontology considers the nature of reality, from the researchers' perspective, according to Bell et al., (2022). The authors explained that the ontological position of an objectivist is that social reality exists separately to peoples' perceptions, and this influences social norms, whereas constructivists' view reality as a result of interactions between group members which nurture societal norms. The research from (Davies & Fisher, 2018) builds further explaining that positivist and post-positivist epistemology aligns with objectivism, interpretivist epistemology aligns with constructionism, critical and pragmatic epistemology draw from aspects of both ontological concepts

Deliberating further, I align with interpretivism. The perspective of the researcher, influences their approach and interpretivist studies, generally follow inductive qualitative methodology (Bell et al., 2022). I hold the view that ICH management principles grow organically as people strive to continually improve and evolve healthcare. As outlined within the introduction of this thesis, my qualitative study investigates research questions that aim to improve understanding of ICH management principles, and how these are applied in practice, to influence the efficiency and effectiveness of ICH service delivery.

The research questions were informed by Draper et. al (2018) whose research studied evidenced-based pilots designed for, integrated care for adults with dementia and other cognitive disorders. They described how interconnectedness can be achieved between primary care and specialists for timely delivery of expertise. They further explained how interdisciplinary teamwork between community and hospitals can be designed with the aim of reducing hospital stay; and that outreach programs can be implemented with the aim of reducing transfers from residential to emergency care. They outlined that ICH designs are not standardised and may incorporate low, moderate, or

high levels of coordination and integration tailored to patient need. They emphasised that ICH designs should consider contextual settings patient feedback, and collaborative processes and monitoring to achieve a balance of quality, efficiency and outcomes improvement.

The research questions were also informed by Henderson et al., (2018) whose research studied, regional responses to the challenge of delivering integrated care to older people with mental health problems in rural Australia. Their research gathered themes from thirty-one interviews to understand a wide range of health suppliers, government and funders perspectives of opportunities and challenges associated with ICH services. Their findings indicated that National designs have low scalability across multiple different settings and should be adjusted to reflect contextual factors such as rurality. They outlined other key challenges of ICH designs, are discontinued funding due to change of government, and lack of governing principles and high investment costs implicitly favouring larger versus smaller suppliers, leading to market or funding inequity. They emphasised that to mitigate challenges ICH designs should be supported with robust governance and formal agreements to promote fair and transparent practice.

The studies by Draper et al., (2018) and Henderson et al., (2018) outline management principles for the design and implementation of ICH service delivery. The literature provides the basis for this research which is a qualitative study that follows a systematic, robust, and ethical methodology outlined in more depth within the remainder of this section. This research adds to existing knowledge, about ICH management principles, and how these relate to actual work practices to generate efficient and effective ICH services in NZ health settings.

## *Research method*

### Design Overview

I contemplated the steps I would follow for my research, to ensure the robustness of my findings and to maintain ethical standards so that my study would be useful to wider audiences. This approach was informed by Levitt et al., (2017) whose research highlighted that qualitative studies may suffer from subjectivity, and to mitigate this, qualitative researchers ought to follow systematic research steps that ensure that findings are trustworthy and replicable. They advised that designs should aim to generate the greatest value from the topic by ensuring data collection and analysis is performed in a logical and justifiable manner.

Further considering the literature from Levitt et al., (2017), I wanted to ensure that my study was trustworthy, and therefore I explored further sources. According to Bell et al., (2022) the key qualities of trustworthy and authentic research are credibility, transferability, dependability and confirmability.

To observe the four qualities recommended by Bell et al., (2022) my research followed four steps as outlined within this sub-section. These demonstrate that I have adhered with dependability and confirmability by acting in good faith to represent the information gathered in a genuine and sequential way so that others could review it if they chose to. These systematic steps also strengthen the credibility and transferability of my research by assuring clear parameters around the context of the subject matter and the relativity to the research question.

To summarise my steps, the first step established my research question by exploring literature; the second step considered how best to collect relevant qualitative data; the third step outlined a sampling method to engage with sources of data; and the final step observed ethical processes and the organisation of data. These steps were iterative to ensure the sufficiency of breadth and depth of information supported the findings and discussion. These steps were informed by Bell et al., (2022) whose research recommended key activities for qualitative studies; from establishing general research questions, selecting subjects, and collection and interpretation of data. They explained that the research should follow a systematic process to ensure replicability and robustness.

Firstly, I considered that my research design should reflect that I have taken an interpretivist position, because I believe people's contributions form management principles and that overtime, these grow and change as they are applied in practice. Before progressing further, I found research from Draper et al., (2018) and Henderson et al., (2018) which provided me with a basis in literature for understanding ICH management principles and from that I formed my research questions. This step was informed by Bell et al., (2022) whose research suggested that interpretivist studies are generally qualitative with inductive reasoning, beginning with observations and analysis to generate evidenced findings which informed research questions via exploration and refinement of the subject area.

Secondly, I considered how to obtain data that could be used to establish the findings for my study. Being that this was, an inductive approach, I contemplated that I would need a qualitative source of data, which in this study, is a collection of perspectives about ICH management. This was informed by Bell et al., (2022) whose research suggested that qualitative data reflects, behaviours through observation, experiences and perspectives.

As part of this second step, I deliberated on multiple options for data collection which included; observation of behaviours such as focus groups, I opted out, as this method was unrealistic to organise given time and availability constraints and may not have produced sufficient data; gathering themes from articles, I excluded this due to risk it may not add significantly more-depth than already gained from literature in the first part of my study; and open-ended questionnaires, I opted out considering that peoples' feedback may have provided me with insufficient detail. These examples of

qualitative data collection methods and processes of elimination were informed by the research from Bell et al., (2022). Their research outlined that when undertaking to gather qualitative data the researcher should consider the method in light of feasibility, including factors such as time and resource constraints. They also recommended that the researcher considers the type of feedback and qualitative data the method is likely to generate to ensure the research questions will be answered.

As a final part of the second step, I further considered interviews and decided this would be the most suitable out of the range of options. The advantages of interviews were straightforward to organise, low expense, supported participants anonymity, and enabled real-time discussion to gain depth of information from participants. Given these benefits, I thought that the interviews were the most likely option to enable me to gain good understanding about the subject area of management principles for ICH. I then deliberated about the types of interviews I could use, of which the options were non-structured or semi-structured. I used the semi-structured option as it enabled me to guide the topics discussed in the interview, to manage the timeframes around one hour, to be cognisant of participants time, and because I wanted to ensure the relevance of the answers to the subject matter of my research on ICH management principles. The final part of this step was informed by the research from Bell et al., (2022) who outlined that semi-structured interviews are an appropriate source of evidence for qualitative research, and these occur between the researcher and participant guided by a list of subject areas relevant to the research questions.

Thirdly, I considered my sampling method to ensure it generally represented a wide range of participants viewpoints based on their role and experiences in ICH management. I considered multiple options including; quota sampling that itemises specific groups of people across well-defined populations, and I opted out of this, as it would have been unrealistic to organise due to time and access constraints; convenience sampling, which would entail contacting people through publicly available sources such as Linkedin, and I eliminated this option due to risk that participants may not have had the required experience in the area of ICH management. The aforementioned methods were informed by Bell et al., (2022) whose study outlined a number of research methods for qualitative sampling. They recommended that the researcher takes into consideration, the researchers' proximity to participants, the availability of participants, and whether their experience fits a criterion that ensures relevant answers to the questions posed by the research.

As the second part of the third step, I considered purposive sampling may be applicable, where I would contact specific organisations to find people that would take part in the study. I did this for certainty that participants would have the necessary experience in ICH management to take part in

the study, so that I could contact a wide range of participants to capture their views across a breadth of professional roles. I contemplated the risk that purposive sampling might achieve low responses, so as a contingency I opted to undertake snowball sampling techniques where I requested that participants contact others who had relevant experience in ICH management, on my behalf. I thought this method offered similar advantages to purposive methods, though carried a higher risk that broad representation across roles may not be possible. The aforementioned methods were informed by (Bell et al., 2022; Blair & Blair, 2015; Falcy, 2021; Pickard 2013) whose research presented similar views, that the researcher should ensure that participants partaking in the study have relevant backgrounds for the subject areas. These sources recommended that participants across the breadth of the sample, represent variation in their backgrounds to ensure a wide range of views are represented across the relevant population, to mitigate risk of bias.

Finally, I followed ethical procedures to minimise bias and safeguard participants privacy including gaining the participants' informed consent to take part in semi-structured interviews about ICH management. I ensured this research systematically recorded each participant's responses, collected at fixed time points and their feedback was iteratively grouped into common themes analysed and then compared to ensure meaningfulness. I ensured all data was de-identified to protect participants privacy. These steps were followed for robustness, aligning with Bell et al., (2022) whose research suggests credibility is achieved, by minimising biases when drawing inferences from information gathered. They advised safeguarding transferability; by following sequential steps enabling interested parties to understand or apply the method, if for any reason the study were to be replicated. They further recommend maintaining reliability; by documenting procedures such as coding techniques, and objectivity; by removing bias where feasible.

Before progressing through the design steps to reach out to participants, I made an ethics submission to the Massey University Ethics Approval panel that provided endorsement, the necessary protocols had been adhered with. I also adhered with the processes of the Health and Disability Ethics Committee (HDEC). These ethics documents are further added in *Appendices D and E*. The approach was informed by (Correia, 2023) whose research suggested that safeguarding against ethical issues ensures research maintains credibility. Ethical research should avoid deception, privacy breach, and causing participants harm such as stress or negative impact to future endeavours (Bell et al., 2022).

### Participants

This section outlines the steps I followed to engage participants in semi-structured interviews, where I used two approaches purposive and snowball sampling. This was informed by Bell et al., (2022) which described non-probability purposive sampling as a method which prioritises the most relevant

participants based on the topic of study. They further outlined snowball sampling, as a method where, participants that agreed to be interviewed; then recommended others.

To ensure relevant answers to my research questions, I contemplated how best to contact participants, and I thought it important, to establish my criteria for this research. I included 'participants which played a role in the service design, implementation or ongoing management of ICH services between 2000 and 2024'. The rationale for the approach was informed by Wienclaw, (2021) whose research outlined that the population of sample participants should reflect groups, with relevant experience for answering research objectives.

Initially, I followed the purposive method, emailing health organisations from NZ, including two National institutions from the public sector and three from the private sector. I considered that potential respondents that worked within these areas were likely to meet the inclusion criteria, given that these organisations had affiliation with mobilising strategic initiatives supporting health sector integration. The email snapshot is in *Appendix F,* and it requested that the organisations' liaisons reach out to all managers of departments. This approach was informed by Bell et al., (2022) whose research described that outreach to participants should follow logical reasoning, that increased the likelihood of obtaining participants with backgrounds that fit the inclusion criteria. They explained that participants should have expertise in the research subject area, as this is important for obtaining relevant content to inform research questions.

I also, emailed a flyer as outlined in *Appendix B* to the health organisations' managers to engage potential respondents that met the inclusion criteria, and requested that the organisations' liaisons reach out through their internal website. I considered that this would support the relevancy of my study to the research question, and that the transparency of communications would be ethical. This approach was informed by Bell et al., (2022) whose research emphasised that participants should be given sufficient and honest information, enabling sensible and timely judgements about partaking in research studies. Systematically approaching a wide range of participants from various backgrounds and environments within the relevant population, increases the likelihood of broad range subject matters, aiming to mitigate risk of bias of obtaining only one type of viewpoint on the subject matter (Blair & Blair, 2015; Falcy, 2021; Pickard 2013).

I considered that another advantage of emailing participants and circulating the flyer, was it enabled them to self-select to be part of this study, to minimise bias further ensuring the robustness of my study. This was informed by Seidman (2019) whose research outlined that bias risks should be safeguarded against, to ensure that interview answers are genuine.

From the purposive approach, there were only three participants willing to take part. Therefore, to increase the number and range of respondents, I used a snowball sampling method. This approach drew from Bell et al., (2022) who outlined the purposive approach has inherent risk of low response, thus a mixed approach of purposive and snowball sampling aims to mitigate this issue.

I considered that there was moderate bias risk with this approach, that I may have had past affiliations with some participants in a work-related capacity, due to the relatively small size of the NZ business health sector. This approach drew from Seidman (2019) who explained that bias or inequity risk inherently exists between the researcher and participants, particularly if they are known to one another.

To mitigate the issue of proximity between myself and the participants influencing responses, I requested those who had taken part in the interviews following the purposive sampling approach, then recommended others that met the inclusion criteria. I requested that they forward on the email and flyer, on my behalf, enabling participants to self-select, and opt to express interest by either emailing me directly, or contacting me via my supervisor to maintain their anonymity. This was informed by the research from Bell et al., (2022) which described that researchers should prioritise participants privacy and be transparent and systematic in the steps followed when contacting participants.

Several participants, then responded directly to my email, either indicating their willingness to take part in the interviews, or their intent to further forward on the flyer and email, to others they believed would be suitable, based on whether they fit the inclusion criteria and might have capacity. This approach drew from Bell et al., (2022) who outlined that the nature of snowball sampling is that obtaining participants is not predictable or timely, though following the process is worthwhile as it enables self-selection and ensures respondents meet the inclusion criterion.

As I obtained an increasing number of participants, I then considered what a reasonable number of respondents may be, to complete this step. I sought out further information from (Hennink & Kaiser, 2022) whose research found that studies which use qualitative data should keep engaging with data sources, until the point of saturation. They explained that saturation is where data gathered reaches a point that no new insights are being derived from adding more data sources. They found that for studies which gather interview data the point of saturation is typically reached at between 9-17 interviews, particularly if the study population is a homogeneous group and the studies criteria for participants is narrowly defined.

I decided to complete the participant step of my study, having considered the information from (Hennink & Kaiser, 2022). By comparison I reasoned that although I could not guarantee the homogeneity of the group I contacted, my study did feature narrow inclusion criterion and had included nineteen participants, which exceeded the 9-17 the authors suggested. Additionally, the points that the participants in my study had put-forward, had become repetitive. Based on all these factors combined, I felt comfortable my study had reached a point of sufficiency of information gathered, which was reflective of a broad range of perspectives, from a group with relevant experience. Another reason I completed the participant step at nineteen participants was because the scope and time constraints were limited as the thesis is 90 credits. This approach was further informed by the research from Pickard, (2013) which outlined that samples should represent a range of perspectives as broadly as possible across the relevant population enabling well-rounded feedback. They explained that an appropriate sample size for qualitative research is when data becomes superfluous in adding to the findings. The research from Bell et al., (2022) built further and explained that qualitative sampling included as few or as many participants as is required for the researcher to begin identifying recurring common themes across the collective responses.

Table one, outlines the count of participants and their roles. *Refer to Appendix H for further detail.*

*Table 1 - Participants roles*

| Participants Count | Roles |
|---|---|
| **2** | Strategic Planners |
| **5** | Service Managers |
| **4** | Subject Matter Experts |
| **3** | Operational Managers |
| **3** | Health Worker Background |
| **2** | Service management for Kaupapa Māori services |
| **19** | Total |

## *Procedures, Materials and Ethics*

Following on from obtaining participants, I contemplated what the risks and mitigations may be for undertaking the semi-structured interviews.

I found literature which highlighted that, lack of objectivity, bias, and breach of privacy were key risks for semi-structured interviews. According to the research from Seidman (2019) bias impacts the relevance of interview answers, if the researcher knows the participant, they may feel pressure on both parties to ensure the well-being of the relationship, risking impartiality. Building further, the

research from Tolley et al., (2016) outlined examples of objectivity risk were, the researcher was too involved in the interview, the participant may embellish their role in the project or have had negative or positive experiences, or lack of rapport may lead to low interaction. Adding to this Bell et al., (2022) further outlined that if participants perceive that their privacy is at risk, they will not be forthcoming with answers, and the research risks losing credibility.

I further found literature from Bell et al., (2022) that outlined mitigations to these risks were maintaining all stakeholder's anonymity and privacy. They further outlined that rapport, guidance and transparency were key in support of the robustness of interview procedures, materials, and ethics.

These sources of literature inform the processes I followed, which are outlined in more depth throughout the remainder of this sub-section preparation, during, and after the interviews.

### Interview Preparation

Once potential respondents indicated their interest, I emailed each person with further documentation including an information sheet, interview guide, authority transcript, informed consent form with an opt-out option, prior to the recorded interviews as *outlined in Appendices A, C, D, and E*. These documents made it clear that all information would be de-identified, the participants rights to privacy would be protected, and safeguarded that the participants were fully informed before taking part in my study to ensure adherence with transparency and ethics. This approach drew from Mariampolski, (2001) which outlined that researchers should gain participants informed consent with the option to opt-out prior to interviews, and Galletta, (2013) which outlined that anonymity, and privacy assurances encourages genuine responses, for mitigating bias.

I also offered the participants the option of Microsoft Teams online interviews, or telephone interviews arranged via my supervisor to ensure participants could maintain full anonymity. All respondents opted for the Microsoft Teams option, expressing their preference for virtual face-to-face meetings. The research from Bell et al., (2022) built further and added that researchers should take steps to protect the participants privacy and anonymity, as well as ensuring all information is de-identified to mitigate bias risk and adhere with ethical requirements.

Once the participants indicated their informed consent, I sent them further guidance for the semi-structured interviews, to obtain participants viewpoints about management principles and the ways of working to support efficient and effective ICH service delivery models. The interview guide provided suggestions for topics of discussion and examples of common management approaches for ICH services for context. The interview guide is further outlined in *Appendix G*. My approach was informed by Bell et al., (2022) which explained that interviews can be fully open and flexible or semi-

structured. They outlined that the advantages of semi-structured interviews are the researcher can use subjects to prompt and guide discussion, additionally topics ensure a greater likelihood of gathering common themes, without sacrificing flexibility for other topics to be discussed.

I used the semi-structured interviewing approach as the guide offered advantages. I used the guide conservatively, encouraging participants to speak from their experiences and viewpoints. I undertook this flexible approach, aiming to avoid bias such as leading, and I was careful to remain objective to gain honest answers, though used the guide to generate conversation flow, and prompt participants to remain on topics which were relevant to the research questions. This approach was informed by several sources (Galletta, 2013; Mariampolski, 2001; Seidman 2019) which relayed similar views, that during interviews the participants recollections may be inherently weighted towards their interpretation, which implies bias. They suggested that the researcher should mitigate bias risk, by limiting their contribution to guidance, ensuring that participants are given autonomy to express their genuine views enabling free and frank responses, without being lead or restricted.

### During the Interview

I contemplated the factors of consideration, regarding interview location and appropriateness of technology. After investigating literature, I deemed that privacy, access, and functionality were key to ensuring uninterrupted conversations took place. My viewpoint was based on research from Tolley et al., (2016) whose study outlined that technology should be checked to ensure it is within working order, and interviews should take place in a quiet, and private setting, with consideration to expense, time spent, and content.

I offered each participant the option of telephone interviews, though they opted out. In-person interviews were not offered due to the expense of suitable premises and travel. This approach was informed by Bell et al., (2022) who outlined that telephone interviews are relatively inexpensive and accessible, though may inhibit conversation flow, and observations from social queues may be lost. The authors outlined that in-person meetings may be difficult to access, though offer the best personal connection.

All participants expressed a preference for videoconferencing and the semi-structured interviews were held in private locations using appropriate software, Microsoft Teams. I selected this option, as it was in-expensive to set up, had geographical flexibility, and included automatic recording and transcribing as well as specified permissions ensuring security. It also enabled me to observe body language to understand the context of emotion behind the participants viewpoints. This was informed by the research from Galleta (2019) which outlined that, qualitative interviews are not

reliant on observations, though face to face interviews, enable the researcher to observe body-language which helps strengthen connection and rapport.

To ensure the comfort level of the participant, I began the interview with an ice breaker question, and this built the foundation for rapport. This step was informed by Galletta (2019) who suggested that the researcher should create a relaxed atmosphere by introducing themselves with an opening engagement question and asking the participant to do the same. The research from Tolley et al., (2016) built further and explained that building rapport, involves making the participant feel comfortable to capture a genuine account of their experiences.

Each of the participants has played a key role in ICH service delivery. Using the interview guide I encouraged them to draw from their work-related experiences, to capture their perspectives of how strategic, market sector, and operational management works in practice supporting ICH service delivery. The guide was helpful but the key to gaining well rounded and genuine answers was building rapport and this required me as the researcher to establish trust through listening intently, offering reassurance, and displaying honest interest in what participants were saying during the interview. My approach was informed by the work of Kvale (1996, as cited in Bell et al., 2022) which recommended the researcher demonstrates they are informed of the subject matter, perceptive, and caring. They advised that the researchers' tone should be neutral, and they spend most of the interview listening to participants, with minimal interjections for guiding conversation flow.

Nearing the end of the interview, I let the participant know all topics had been covered though the time could be extended if they had further thoughts. This was informed by Galletta (2019) who suggested that the researcher should confirm with the participant, they are finished explaining their views, before closing off the interview.

After agreeing we had covered all topics, I ended the interview by thanking the participant and re-iterated they would receive a copy of their transcript, reassuring them that all information would be de-identified to protect their privacy. This was informed by (Bell et al., 2022; Correia, 2023; & Levitt et al., 2017) which outlined that participants should be given the option of reviewing their transcript to verify quality and maintain trustworthiness, whilst ensuring the participants privacy was maintained for research credibility.

### After the Interview

Following the interview, I emailed the participants to thank them again for their time, and attached a password protected copy of their transcript, clarifying they had the opportunity to check that it reflected their meaning and make changes if they deemed necessary. I also reiterated that all content within the thesis would be de-identified. My approach was informed by, Kvale (1996, as cited in Bell

et al., 2022) which described that following the interviews, transcripts ought to be sent back to participants for an opportunity to make corrections if they found issues, and then verify that their perspectives had come across as they had intended, prior to the answers being analysed.

Adhering with Massey University ethical protocols this research approach ensures, all relevant thesis documentation has been password protected and stored within the Microsoft one drive network desk space. Only the supervisors and I have access, to de-identified draft material until the thesis is published. These research steps were informed by Bell et al., (2022) which described that transcripts need to be preserved in an ethical manner and data preservation and storage plans should be made explicit in correspondence with the participant.

### *Tikanga Principles*

This study is not specifically focused on Kaupapa Māori health services or any specific groups of people, rather it explores ICH management principles generally. This research acknowledges the recommendations of the literature and other sources to ensure the appropriate cultural elements as per the principles of Te Tiriti o Waitangi | The Treaty of Waitangi.

After concurring with each participant, I opened and ended the interviews with a Karakia. To find common ground and build rapport I engaged with Whakawhanaungatanga, to explain my background and asked the participant to do the same if they felt comfortable. This was informed by Rewi (2014) who suggested, building supportive and collaborative relationships through Whakawhanaungatanga. The author outlined that the researcher should create a welcoming environment by ensuring meetings begin with a prepared pepeha explaining the essence of themselves, using Te Reo Māori, to create a welcoming environment. The author described manaaki ki te tangata, should be observed in an effort to increase the Māori voice. The research from Britt et al., (2014) added that the researcher should follow up with a gesture of thanks such as a note in a card after the meeting and transcripts are reviewed. The authors described those appropriate cultural values such as aroha ki te tangata (respect), and titiro, whakarongo and korero (looking, listening, and maybe speaking) should be observed.

My approach undertook consultation with Māori representatives for guidance where appropriate. I have relayed the interview data accurately and where applicable, I have outlined barriers or inequities within the findings of this thesis and then described why those existed or may continue to exist. This approach was informed by Mako et al., (2022) whose research outlined that instances of inequities should be presented transparently as the information was intended to be relayed, in a mindful and culturally sensitive manner.

### *Thematic analysis*

I considered literature sources to inform the steps I followed for my thematic analysis. I found research from Braun & Clarke (2006, cited in Bell et al., 2022) which outlined thematic methodology as six steps for categorising qualitative data. They explained that the first three steps were familiarisation, generating initial codes, and searching initial codes. They outlined that these pertained to, recognising factors of importance from individual data sets and coding these into groups. They explained that the last three steps were, searching for common themes, reviewing, defining and naming themes, and generating findings. They outlined that these related to, identifying similar groups across each data set, combining these into common themes, and then ranking them by their overall contribution to informing the research question.

I considered the methodology from Braun & Clarke (2006, cited in Bell et al., 2022) suitable and, applying this theory ensured I had a systematic process to follow which supported the robustness of my themes and findings.

**Phase one** - The first phase of this thematic analysis was to undertake the familiarisation, generating initial codes, and searching initial codes, steps as outlined by Braun & Clarke (2006, cited in Bell et al., 2022) for each data set.

To familiarise myself with the data, immediately following each interview, I read through the transcripts and highlighted the key points from the participants comments. My reasoning was informed by Bell et al., (2022) whose research recommended that coding should be iterative. They advised that the researcher should make time to analyse the data from each interview soon after it takes place to ensure the interaction is fresh within their memory.

To search for and generate codes, I undertook multiple levels of coding, iteratively refining key points for the first draft of common themes:

- Level one as an assessment of the data - I reviewed the points that I had highlighted in each transcript, to ensure that I had interpreted the meaning correctly.

- Level two as a first iteration for informing codes - I assessed each transcript for repetitive phrases, factors of importance as emphasised by the participant, and key paragraphs that related to the subject areas outlined in the semi-structured interview guidelines.

- Level three as a second iteration for informing codes - I again reviewed each transcript and highlighted phrases or key words that linked back to the participants real-life examples and

reflected their perspectives about the application of ICH management principles in practice, and whether they perceived this impacted the efficiency or effectiveness of ICH services.

- Level four iteration and repetition - I repeated this processes several times for each interview, to ensure I captured sufficient breadth and depth across all topics.

My reasoning for following the multi-level coding processes, drew from the research by Tolley et al., (2016) which suggested that coding is best performed following incremental steps. They advised that the first step be to read through all transcripts prior to taking notes and highlight the key points that participants made for each answer or response. The authors suggested that the next level of coding be that the researcher further reviews each interview and itemises the subjects that follow common verbal connectors or typical phrasing, including 'such as' or 'like' or for example. They suggested that subsequent levels of coding should reflect generic concepts that appear during reiterative analyses of the transcripts across the participants' answers. They advised these may be broad at the outset and refined with subsequent review. The research from Galletta (2019) further suggested an advantage of semi-structured interviews are the topics ensure that the common themes become simpler to derive and enable comparison between participants' answers.

**Phase two** - The second phase of this thematic analysis was to undertake the, searching for common themes, reviewing, defining and naming themes, and generating findings, steps as outlined by Braun & Clarke (2006, cited in Bell et al., 2022) across the individual and collective data sets.

To search for common themes, I reassessed the output from each transcript, generated from the multi-level coding process. I then re-grouped that output under similar subject matters, which informed the overarching common themes. My rationale for this step, is further outlined by Ryan & Bernard (2003, cited in Bell et al., 2022) whose research described that to establish relevant findings, interview feedback should be systematically organised into themes and analysed for commonalities. The research from built further, describing that themes should reflect the commonalities the researcher identifies when analysing individual answers from each participant while compared across all participants. The authors explained that the researcher should partition the common factors into groupings that link back to the research questions.

I considered there may be risks that are associated with the coding processes outlined in phases one and two above. To understand these more fully, I found research from Galletta, (2013) which suggested that interview data reflects the participants' thoughts or feelings about the subject matter, which can be challenging to interpret correctly. The research from Bell et al., (2022) further outlined the risks of creating a coded set of data that is; too granular and fragmented to obtain relevant

insights, and throughout the coding process the points raised by the participants may become disjointed and the context may be lost. Based on these sources of literature, I contemplated that there was some risk that my coding analysis could have lost some context or have become fragmented, given the participants had relayed their perspectives about ICH management through their lived experiences.

I then contemplated how to safeguard against these risks and to realise this, I found the research from Bell et al., (2022) which explained a method for mitigating against risks. They outlined that as part of the final coding step, the researcher should compare overall similarities and differences collectively, ensuring the context and meaning are not lost during the coding process. They advised that removing unnecessary duplication to ensure categories reflect distinctive recurrences across the interviewees' answers. The authors described that terminology should be continuously refined to ensure that codes, succinctly describe the same or similar concepts.

I considered that I wanted my research to be robust so that it was meaningful to the audience. Therefore, I then applied the risks mitigation method outlined by Bell et al., (2022) by undertaking more iterations of my coding sets. With each iteration my research approach aimed to verify that all subject areas each participant spoke about had been categorised into common themes, that my interpretation of the participants meaning had been accurately represented, and groupings were distinct. The rationale for this step is further outlined by Aguinis et al., (2018) whose research recommended that studies should be robust, to ensure generalisability so that a wide range of users can view the information in the study as reliable.

As a final step, I presented a summary of five common themes and sub-themes, alongside the number of respondents, as outlined in Table 2 in section seven. The high-level detail gives the reader context whilst protecting the participants' privacy. I organised the themes by following a logical sequence pertaining to the research question, which reflected that ICH management principles impact each tier of the health system. I arranged the findings by strategic initiatives at the governing tier, commissioning and service management approaches at the sector and service pathways tier, and then operational management at the service level tier of the health system. I also presented viewpoints about how ICH management impacted Māori health. The rationale for this step is further outlined in Bell et al., (2022) whose research explained that it is important to demonstrate the context of the respondents' answers and that common themes should be categorised based on the relevance to answering the research question. They also suggested that generic presentation of context such as numbering each participant to present summary examples is appropriate, though

privacy should be maintained. The research from Tolley et al., (2016) built further which suggested that for anonymity, participants or other factors related to them must be de-identified.

*The steps followed for this thematic analysis are summarised further in Appendix I.*

## Section Seven: Findings and Discussion

This research takes an interpretivist perspective and follows an inductive approach, and this findings and discussion section aims to understand these research questions:

- What are the management principles involved with ICH service delivery?

- How have management principles influenced the efficiency and effectiveness of ICH service delivery?

Participants discussed topics related to these research questions during their semi-structured interviews, and their perspectives have been grouped into five common themes using iterative coding methods as outlined in section six and *Appendix I*. Table 2 illustrates, the count of participants by key theme, organised by related sub-themes.

*Table 2 – Themes summary by count of participant*

| Contributing participants count | Themes | Sub-themes |
|---|---|---|
| **19** | Strategic initiatives and market approach for ICH | - |
| **8** | Partnership agreements and 'end-to-end' ICH operational management | • High trust partnering agreements<br>• Joint working groups<br>• Comprehensive assessments<br>• Funding for value enabling flexible working<br>• Measures for partnering agreements |
| **4** | Performance volume-based management | • Performance volume-based contracting<br>• Conditional funding<br>• Measures for performance volume-based contracting<br>• Governance and managed competition |
| **14** | Teamwork for efficient work practice | • Champions<br>• Coordination and Collaborative processes<br>• Monitoring for continuous improvement |
| **4** | Kaupapa Māori and ICH services | - |

The remainder of this section presents in-depth findings and discussion compared with literature; to better understand ICH management principles and the influence they have on efficient and effective service delivery in practice.

### *Strategic Initiatives and Market Approach for ICH*

This key theme summarises nineteen participants viewpoints on ICH managerial methods at the macro and sector levels of the health system.

The participants views were that ICH designs should incorporate contextual factors and interlink organisational and national strategy, to achieve systemic initiatives long-term. Participant 07 gave an example that, *"strategy should inform ICH initiatives, and everything should cascade from the strategy, if it doesn't there is risk of disjointed priorities".*

The participants further explained that ICH models are more complex compared with traditional models, and their success depends on many factors, particularly context. They expressed the view that many designs vary in their success when rolled out Nationally, especially if funding does not support large-scale infrastructure and technology. These views are similar to the literature from Draper et al., (2018) who outlined that ICH service delivery frameworks, should be adjusted to fit the scale and resources of each local health environment. They emphasised the objectives of each ICH design should reflect low, moderate, or high levels of coordination depending on the aims of the health system strategy and investment capacity.

The participants relayed that funders should consider the cumulative benefits for patients as well as society across the health and social systems when investing in ICH service designs. Participant 10 gave an example that, "*if agencies take a short-term view and are excessive in gaining efficiencies to save money, they may miss opportunities to interlink different parts of the health system to make real improvements. A whole of system view to planning, organises patient volume flow with ICH design. This approach is more robust long-term, compared with isolated service designs that have no clear link to strategy*".

These perspectives aligned with the literature and an example from Colbran & Davies, (2021) outlined that ICH designs should introduce flexible working, with the aim of achieving efficient service utilisation balanced with improving service quality and skilled resourcing for system-wide sustainability.

The participants held the view that ICH designs should aim to improve service quality for societal and patient benefit explaining this may mean different things, if the commercial landscape is predominately public, private, or a mix. They all acknowledged that in NZ, ICH services are commissioned via contracts in both markets. Participants described private markets as being driven by market share and are more competitive than public, which aims to meet social good objectives. Participant 08 views are summarised, and they indicated that; 'Inherently there is more risk with private organisations that patients won't use them if the results are poor and they must be competitive to maintain patient volume for sufficient income, implicitly lifting overall quality. The risk of funders, relinquishing responsibility for service design, or governments introducing fully privatised health markets is insufficient oversight to meet social and equitable need. Governing bodies should play a stewardship role to support our communities and invest in integrated services in a controlled way'.

The participants further explained that a mix of private and public health suppliers are generally important for innovation. They relayed that in truly competitive environments, privatised health services would empower consumer choice inherently setting minimum acceptable standards, and wasteful work practices would be eliminated. Their views aligned with the literature, and an example from Sanderson et al., (2018) found that the proportion of public versus private suppliers within the countries health system reflects the Governments' capacity to fund quality services. A similar finding from Takahara (2022) emphasised that most economies are made up of both private and public suppliers to generate competition that maintains quality, whilst ensuring social good initiatives are achieved.

The key findings from this theme, informing management principles for ICH were:

- ICH services are worthwhile, and NZ should continue to invest in design and implementation across each tier of the health system in line with Government strategic initiatives for long-term sustainability.
- to be effective in connecting ICH designs across sectors, both public and private health organisations should be involved in service delivery.

### *Partnership agreements and 'end-to-end' monitoring*

The views of eight participants are summarised within this key theme, partnership agreements and 'end-to-end' monitoring, they all had similar perspectives on this topic. They indicated that their background experience for managing or working in ICH services was in delivering on social good

objectives with predominantly public suppliers. Their views, findings, and comparison with literature are further organised by five sub-themes.

High-trust partnering agreements – Eight participants expressed the view that to be effective, partnership agreements need to build trust between funders and stakeholders, and funders should play a stewardship role in a guidance capacity, as they perceived authoritative or prescriptive tactics would alienate stakeholders.

These participants advised the funders' role should primarily encourage innovation with performance and funding being a secondary priority. Participant 05 gave an example that, *"prescriptive service delivery requirements reduce room for innovation and risk de-motivating health suppliers to find efficiency gains".*

The participants expressed that Government agencies should create ICH frameworks that reflect health system and population needs, then approach the market to enable local variation. Their views were similar to the literature, with an example from Chikhradze et al., (2022) whose study found that ICH projects should be led by governance groups networked across organisational tiers that interweave health system strategy into the objectives of ICH service designs. Their views also aligned with the research from Lindenberg, (2003) who described that a key aspect of successful partnering for ICH services is defining common project goals that enable equitable shared benefits across stakeholders.

The participants relayed that they favoured high trust partnering formal commissioning agreements between funders and health organisations to jointly design and implement ICH services. Participant 10 views are summarised, and they indicated that; 'Contract alliances or partnering supports collaborative ICH design. Though initially there are difficult conversations due to opposing views, the process ensures robust and equitable contractual terms are agreed upfront. High trust between multiple stakeholders sharing information in a transparent way, helps the ease of interaction throughout design and enables stakeholders to face obstacles together in meeting common goals. Distinguishing obstacles separately to any specific stakeholder, avoids blame and resentment culture, and instead enables robust solution-based conversations, through comradery in facing shared adversity. If principles are centred around patient need, efficiencies are achieved because all partners are working together'.

They further explained that governing bodies should not be authoritative as this may inadvertently drive resistance to change or lead to relationship breakdowns which stagnate the design progress. Their views reflected the literature, with an example from Billings & Weger., (2015) whose research

found partnerships between health suppliers and the funder rely on high-trust and transparent information sharing. The authors emphasised that partners should agree the terms of risk sharing and benefits allocation at the outset of the design. Another example from the literature was by Henderson et al., (2018) which outlined that ICH projects are at risk of failure, if relationships breakdown particularly if funders enforce change without consultation. These sources also emphasised the importance of consistent collaborative stakeholder relationships supporting ICH services overtime throughout challenges or change overtime.

These participants described that service contracts should hold all parties responsible for acting as a unified team to achieve common goals for service quality in an equitable way. Participant 06 views are summarised and they indicated that; 'partnering has inherent risk of 'group think' as there is no completely objective party. To mitigate this issue, ICH designs should be evidenced-based and include input from multiple stakeholders. The risk is magnified for National level ICH designs and the impact is hard to reverse. To mitigate this, proof of concepts should be tested before attempting larger scale implementation. Strong governing principles should be put in place supporting objectivity'.

They further expressed their views that all stakeholders including patients should be represented equitably, in ICH designs, contributing to robust discussions in workshops. They emphasised that funders should introduce evidenced-based frameworks and then bolster the relevance to the health environment via feedback from a broad range of service providers and users. These views are reflected in the literature, with an example from Torkki et al., (2023) that recommends ICH designs include segmentation tools or assessments and other service measures that follow clinical evidence and systematic robust design steps. Another example was provided by Clark et al., (2015) whose research outlined that, if contractual terms are not clear, equitable, and achievable the partnership may deteriorate. The authors emphasised that robust contracts, enable partners to work in alignment on shared aims of integrated service designs.

The key findings from this sub-theme, informing management principles for ICH were:

- that partnered agreements are viewed as an effective mechanism for ensuring that healthcare institutions particularly in the public sector embedded ICH designs that achieved strategic initiatives for social good and equity.
- Government agencies should create ICH frameworks which reflect health system and population needs, then approach the market and other stakeholders to include their feedback to enable local variation and patient centred design.

- partnering for ICH services benefits from transparency, trust, and relationship management for longevity.
- to mitigate the risk that any particular stakeholders' influence becomes overly represented ICH designs should be evidenced based on clinical assessment and robust systematic research to support objectivity.

Joint working groups - Eight participants explained that Joint Working Groups (JWGs) should facilitate the governance of partnership agreements for effective ICH services. The JWGs have the advantage of enabling the funder to take responsibility for guiding the partners and progressing ICH services in meeting strategic initiatives. Additionally, the JWGs enable all stakeholders to contribute to continued improvements and innovation for ICH long-term.

These participants expressed the view that JWGs enable joint responses to systemic change acting as a conduit for communicating strategic and organisational initiatives to wider stakeholders. Participant 01 gave an example that, "*ICH on-going objectives require input from multiple stakeholders, without this element of group contribution, JWGs should have carefully managed rules of engagement, if objectives are vague and there is limited accountability, then discussion may not turn into actions. JWGs should be responsible for disseminating information for wide-spread improvements, and over time, this becomes organisational physiology, embedded into work culture*".

Their views are reflected within the literature, aligning with the example from Baker et al., (2018) whose research highlighted those changes in strategy, or revoked funding due to political reasoning can negatively impact the long-term success of ICH models. Another example by Henderson et al., (2019) suggested that organisations should work in partnership with funders to agree robust contract criteria at the outset of design, to mitigate impacts of political change.

They outlined that stakeholders should have shared accountability for the continued commitment to on-going innovative work-place practice following ICH service implementation. Participant 05 gave an example that, *"JWGs could serve as hubs for test and learn projects enabling networks between health suppliers supporting on-going shared innovation".*

They suggested that group representatives should change responsively to service innovation requirements, represented by a range of skill sets including health subject matter experts. Participant 02 gave an example that, *"JWGs should provide a forum for subject matter experts who are passionate about working together to generate innovation to have free and frank discussions with the reassurance their views would be considered"*.

The participants further expressed the view that the JWGs should act in a performance review capacity, facilitating information sharing and monitoring to encourage teamwork in lifting overall performance across the partners.

Their views aligned to the literature, with similarities to an example from Ramsden et al., (2018) who outlined that contractual agreements should create structure for shared accountability and flexibility, enabling the funder and health organisations to work together. Another example was MacCormack & Mishra, (2015) whose research explained that performance-based measures should guide service quality within partnership agreements, and Draper et al., (2015) who described that effective ICH models share the burden across stakeholders to find ways of continuously improving via collaboration.

The key findings from this sub-theme, informing management principles for ICH were:

- the longevity of ICH services, as it enables the funder to guide stakeholders' commitment in achieving strategic and organisational initiatives through communication and shared accountability.
- stakeholders to collaborate in finding continuous improvement in ways of working through shared ideas.
- connection between subject matter experts enabling them to work on innovative ideas that are based on clinical evidence to intermittently make fundamental adjustments that support growth and change for reinvestment back into the service design.

The remainder of this theme outlines a further three sub-themes which present the eight participants views about 'end-to-end' management for ICH services. They relayed that the approach supports objectivity within partnering agreements. They described the front 'end' as comprehensive assessment of patients' service needs based on diagnosis and complexity scores at key intervals during pathways; the 'to' as fixed funding for value through contractually flexible resourcing; and final 'end' as monitoring via reliable measures of performance and outcomes relevant to complexity.

Comprehensive Patient Assessments – The eight participants expressed positive views about Comprehensive Patient Assessments (CPAs) which provide robust clinical evidence, for segmentation tools, and relayed that the advantages are they facilitate efficient planning and resource management, and monitoring.

These participants emphasised that segmentation tools effectively support optimal use of resources, if they facilitate planning at each tier of the health system, which ensures patient populations, the right level of care. Participant 08 gave an example that, *"Macro level segmentation could lead to*

*reduction in lifetime costs of the patient and other associated family or community costs across the health and social development systems".* Building further, Participant 05 views are summarised, and they indicated that; 'Regular and fit for purpose clinical assessments should be undertaken using digitised tools for data capture. Through a scoring system these tools classify patient complexity, which informs service need. The key benefits are, enabling service providers to take ownership for individual patients' service pathways, as well as service offerings available for complexity mix across patient groups'.

Their views were reflected throughout the literature, with an example from Raymond et al., (2023) whose study explained that segmentation tools enable measurement of improvements, to gauge whether ICH services achieved the desired social good outcomes for health system populations. Another example from Torkki et al., (2023) outlined that digitising patient assessment data, can be refined to integrate health and social services in alignment with social policies for sustainability.

These participants highlighted that data from segmentation tools that is presented in shared dashboards, strengthens MDT and IDT collaboration enabling frequent and informed discussion about patients' service needs both individually and collectively relative to overall complexity mix. Participant 02 gave an example that, *"clinical profile assessment tools should be strategically placed across the duration of patient care. They take time, but they are essential, for enabling collaboration and sending the patient to the right place, which is critical to getting the right care".*

Their perspectives aligned with literature, with an example from Pirson, (2006) who described that digitised data enables monitoring which can be used to differentiate variance in service use from expectation. Another example from Martin et al., (2018) emphasised that MDT can use the information to further collaborate on how, to reduce wasteful practice and increase activity that improves outcomes.

This sub-theme key findings were that CPA's provide clinical and evidenced based data that inform segmentation tools. This is important for effective planning in ICH service management because it enables:

- long-term planning for sufficient investment in infrastructure capacity because the data, can be used to identify opportunities on how to interlink systems and coordinate resources in an optimal way to meet patients' service needs.
- the matching of the patients' service needs based on the level of complexity across populations, to resourcing and health professional skill mix short-medium term.

- information sharing about the overall complexity mix of patients accessing service pathways, to facilitate collaboration between health professionals to avoid over or under servicing, relative to patient's needs, which ensures efficient service delivery.

Funding for value enabling flexible working – Eight participants expressed the view that fixed funding adjusted for shared risk and benefits is suitable for partnered contracting for ICH services. The key advantages of this method are it incentivises partners to work towards achieving common goals and enables suppliers to flexibly plan the skill mix across their workforce for efficiencies.

These participants explained that for objectivity, the funder and health organisations should contractually agree an equitable funding method that incentivises each party to take responsibility for generating efficiencies. Participant 05 views gave an example that, *"Integrated service delivery should create value by shared risk funding between the funder and health organisations. Without having to work within their means, health organisations will not be incentivised to innovate. Desired efficiencies will only present themselves if there is a mix of flexibility, adversity, collaboration, and goal congruence between stakeholders. New ways of working will only be identified within the context of the problem and the issue must play out before it can be resolved".*

The participants also described that the budget should be adjusted for expected efficiencies to recognise the funders' return on investment, whilst leaving room to incentivise organisations to find further productivities for their financial gain, on the proviso that quality and outcomes are maintained. Their perspectives reflected the literature, with an example from the work of Price Waterhouse Cooper, (2021) which explained that shared risks and benefits funding models between the funder and health organisations, should aim to incentivise efficiencies gains, and thereby generate value.

The eight participants raised the issue that, reducing funding in line with efficiency gains would disincentivise continuous improvement culture and funding should be consistent to enable suppliers to benefit financially in the short-term. They advised that in the long-term; funding should be reviewed to reflect actual efficiencies achieved and favoured reallocation of those financial gains, into new initiatives that jointly benefited all stakeholders. Participant 10 gave an example that, *"Shared risk funding is a good management tool, though should not be prioritised, incentives ought to include mutual resourcing benefits, and designs should be patient centred. It takes time to design and embed integrated models, and change is hard to accept. Monitoring for performance and outcomes should be priority, penalising with reduced funding, at least in the short term quashes progress. Long-term funding should be reviewed to protect sustainability"*.

Their views were reflected the literature, with an example from Li et al., (2024) whose research raised that if funding is not re-invested back into health system infrastructure, the cumulative impact overtime is erosion of accessibility to quality public healthcare which impinges on sustainability. Another example from Takahara (2022) explained that if public healthcare infrastructure is maintained to a high-quality standard, then populations benefit long-term.

These participants held the view that the main reasons organisations engage in perverse or inefficient behaviours is to generate unjustified income, and the drivers should be discussed by stakeholders of the partnership agreement. Participant 04 gave an example that, "*Funding which incentivises flexible working is the right thing, if supported by tight contractual criteria, comprehensive clinical assessments, and monitoring. Poorly designed funding incentives can either lead to, under / over servicing and organisations justifying behaviours to mitigate their own financial risks, if they perceive the funding model disadvantages them. An example is if efficiency objectives are excessive this could drive job losses. The risk of health organisations resorting to these behaviours, is minimised if financial incentives are balanced and each stakeholder in the partnership is working toward sustainability and innovation".*

The participants further explained that structuring managerial processes to reward or penalise performance may drive competition or blame culture which can be counterintuitive to partnership. They advised that utilising information to prompt teamwork in future proofing against the risks of poor behaviours. They emphasised that penalties are mostly ineffectual and detrimental to the spirit of partnership, thus should be reserved only for extreme situations.

Their views are reflected throughout the literature, with the example from Henderson et al., (2018) which suggested that, if partners encounter obstacles, they should work together sharing accountability for resolving those issues. Another example from Orlandi et al., (2023) outlined that patient complexity has an inter-relationship with service use, quality and outcomes, which impacted funding requirements. Their views are also similar to the example from Martin et al., (2018) whose research added that if measures are specific to workplace practices, they will be more likely to aide in generating change encouraging organisations to work within funding allocations.

The key findings from this sub-theme were that shared risk and benefit funding is appropriate for partnered agreements, and this is important for ICH service management because it enables:

- objectivity for all stakeholders, because funding is based on an underlying method, contractually agreed by partners.

- short-medium term, the funder to gain sufficient return on investment into ICH design, as well as incentivising suppliers to manage the workforce skill mix efficiently to achieve cost reduction for financial gains.
- long-term reinvestment of shared financial benefits, back into the health system to fund innovative adjustments to the ICH service design.
- the funder to incentivise suppliers' good performance and service provision behaviours, and take responsibility for guiding a collaborative approach, in identifying the underlying drivers of inefficient, or perverse behaviours and resolving these as partners.

Measures for partnering agreements – Eight participants expressed the view that ICH service designs should include meaningful service metrics based on data that is evidenced by patient complexity, in relation to performance and outcomes. They relayed that the key advantage of meaningful measures are they support good operational decisions for effective and efficient service delivery. Their views reflected literature from section five, with similarity to Casemix management (Parsons et al., 2018), though were different when compared with the literature on VBHC (Porter, 2016).

These participants described that CPAs capture data about homogeneity of service need relative to outcomes and emphasised that when this data informs segmentation tools and monitoring, it increases the quality of reporting from which to make resource planning decisions and workplace improvements.

Participant 05 gave an example that, *"Comprehensive patient needs assessments are important to determine homogeneity of both patient need and outcomes sought. If assessments were to focus on activity or performance rather than clinical evidence, this may support short-term cost reduction, though the information will lose its' richness overtime, and potentially quash further innovation"*.

Participant 04 gave an example that, *"without a comprehensive assessment, the true state of the patient is unknown, and services provided may not reflect their needs. Value for money, is much easier to establish if you can draw a link between service provision activity and patient need and then link these with an outcome".*

Their views are further reflected in the literature, with an example from Chong et al., (2009) whose research described that data should reflect all relevant components of the end-to-end patient journey contributing to service use and outcomes.

These participants viewpoints differed when compared with VBHC guidance introduced by Porter's (2016) research which recommended that organisations design integration by constructing MDT clinics based on patient diagnosis, reducing the need for segmentation tools. Conversely the

participants viewpoints were more closely aligned with the literature on Casemix, with an example from Parsons et al., (2018). The authors outlined that if objective measures for complexity are defined and accurately represent warranted variation, this enables organisations to focus on managing other factors, such as wasteful practice that may be driving deviation from expected service utilisation.

Equally, the participants' views had some affiliation with aspects of Porter's (2016) research which suggested that organisations should create value by ensuring that patient outcomes are well considered within monitoring frameworks. To demonstrate the distinction however, these participants viewpoints more closely aligned with Turner-Stokes et al., (2011) whose research suggested that outcomes should be measured relative to complexity classifications to ensure meaningfulness. By comparison, their views also held more similarity with another example from Parsons et al., (2018) whose research further emphasised that comprehensive patient assessments, enable better management of integrated services matched with complexity of patient need, for efficient resourcing that is targeted at generating good outcomes.

These participants advised that metrics are meaningful if reliable and accurate, as well as being supported by good interpretation that can only be achieved with strong collaboration between health workers and other subject matter experts. Participant 10 views are summarised, and they indicated that; 'Flexible working requires virtualisation across the system, not many people thrive on change and asking clinicians who are overworked to work differently, that's a hard shift for them. Understanding the drivers of efficiency and outcomes is key, if you don't have visibility, to prompt collaborative responses in changing work practice, whatever benefit you gained is lost, so telling the story is important. Transparency of information through dashboards, linked to patient outcomes can drive enthusiasm. Contracting mechanisms can be used to combat, issues around commercial sensitivity and information sharing'.

Their views are further reflected in the literature, with similarities to an example from Kidanemariam et al., (2023) who outlined that if the response to variation is overly bureaucratic, this may be detrimental to working relationships. Their views are further aligned with Van Steenbergen et al., (2023) whose research described that metrics are not effective without processes, and teamwork, and the combination is necessary to ensure measures are interpreted correctly, to resolve issues through continuous improvement and collaboration.

This sub-theme outlined key findings important for ICH management, which are that measures support efficient planning and work practice to improve patient outcomes, if they are meaningful. This entails that:

- they represent value for patients, because they interlink, performance and outcomes with complexity, to ensure realistic targets drive workplace improvements.
- comprehensive assessment data is used to inform segmentation tools ensuring decisions are made based on evidence, and long-term innovation is founded on meeting changing patient needs.
- measures are presented digitally and are supported by processes which enable health workers and other stakeholders to share information to collaboratively interpret results, for improvements.

### *Performance Volume-Based Management*

Four participants held similar perspectives on this key theme of performance volume-based management. They indicated that their background experience for managing or working in ICH services, was predominantly in competitive markets with more private versus public supplier representation, with the aim of generating improved performance across health systems. Their views, findings, and comparison with literature are further organised by four sub-themes.

Performance Volume-based Contracting - Four participants expressed the view that, commissioning approaches for ICH services in private markets should support individual contracts between the supplier and the funder, paired with performance volume-based funding. They indicated that the key advantage of this method was it encouraged competition, objectivity, and accountability for equitable markets across health sectors.

The four participants indicated that the funders' role should be one of stewardship governing ICH contract holders by managing fair competition, which enables variation of suppliers' business models at tender to prevent supplier cohorts gaining majority market share, or monopoly. They emphasised that the funder should be objective in monitoring the suppliers' performance and awarding financial or patient referral incentives. Participant 14 gave an example that, *"Compared with other approaches such as partnering, performance contracting is a better fit for competitive environments. The funder should influence service provision and outcomes by rewarding or penalising performance on reasonable grounds using financial, volume, and performance-based levers, to lift overall quality across the sector. The more involvement the funder has in ICH designs, the greater their culpability and bias risks because they have vested interest in the services real or perceived success".*

Their views aligned with the literature, with an example from Ruiters & McDonald, (2012) research which explained that the proportionate mix of public and private health suppliers within the health system, are influenced by Governments funding capacity and patient choice, and this drives

competition, lifting overall standards of care. They outlined that competition should be regulated to maintain market sustainability.

These participants relayed a preference for performance volume-based contracting versus partnering. Below is a summary of their views about the risks of partnering in competitive environments:

- three out of four participants discussed the risk that 'group think' could quash new ideas, they preferred competition to incentivise suppliers in building their best ICH designs to win tenders.
- all four participants outlined the risk to the funder that suppliers don't accept culpability for addressing performance issues, particularly if these are related to lobbying for funding beyond the pre-agreed budget.
- two of the four participants outlined further risk that the funder may need to prioritise relationship building, jeopardising their ability to be objective for enforcing reward or penalty.
- three out of four participants raised the risk of bias, if the funder and partners are jointly invested in reporting, they may unwittingly embellish the ICH projects' success in effort to lobby for more budget.
- all four participants raised the issue that partnering implicitly removes suppliers' ability to increase market share. In competitive markets, this risks that suppliers may work together in driving down the average standards, ensuring that funding overcompensates relative to the value from services provided.

As an example, Participant 11 expressed the view that, "*Performance-based commissioning uses market share to incentivise suppliers to compete for the best ICH design during tender. In contrast partnering encourages a singular design, which lacks competition, potentially causing private suppliers to produce the minimum viable product or resort to perverse behaviours for market share and profits*".

Their perspectives were reflected across some literature sources with an example from MacCormack & Mishra, (2015) which highlighted that a key risk of partnering is trust breakdown if individual parties must sacrifice their self-interest to achieve common goals. They outlined that private suppliers are more susceptible to this risk because they are typically motivated by increasing market share and profits.

The participants viewpoints that partnering is high risk, also differed somewhat when compared with other sources of literature which indicated that it is possible to mitigate the risks of partnering in competitive environments, though emphasised that incentive-based contracting is a better fit. For example, the literature from Sanderson et al., (2018) outlined that partnership contracting can work in a public or private setting, if stakeholders are motivated towards a common vision and shared objectives. Another example from Billings & Weger., (2015) builds further and explained that for partnership models to be successful, stakeholders should prioritise goal congruence, and agreements should ensure benefits are equitable, contracts are robust, partners are committed to good conduct and the funder maintains governance. They explained that partnering is suited to predominately public markets, and competitive markets tend to respond better to performance-based contracts.

The four participants' perspectives were that health markets are different from other consumer driven markets and access limitations mean that patient choice does not tend to govern minimum quality standards. They expressed that funders should take a governing role in managing competition to ensure balanced market representation of private and public suppliers for equity. Participant 14 views gave an example that, *"In most markets, consumers can objectively assess quality. In health, patients have no clear reference point for what constitutes value, nor a basis for comparison across suppliers. Therefore, population access and use of providers, does not necessarily reflect good outcomes and experiences. Rewarding good performance with patient referrals, aims to empower patients by defining minimum standards".*

These participants' views are reflected in some sources of literature. An example of this is from the research by Ruiters & McDonald, (2012) which outlined that balanced markets are reflective of good quality and equity of access. They explained that the balance is at the proportionate mix of public and private suppliers which supports this, and most health economies require governing intervention for ensuring the balance.

Conversely the participants viewpoints that managed competition is the only managerial lever that is realistically possible for successfully supporting quality, differs when compared with other sources of literature. An example of this is from Kohnke et al., (2023) which explained that their research found that if patients are health literate and have unencumbered free access to healthcare suppliers and information, then the patients' free choice of care, can affect minimum quality standards in public healthcare markets.

These participants preferred managed competition using payments and referrals to reward performance, enabling the funder to influence standards on behalf of patients. Participant 11 gave an example that, *"Funders should act in the capacity of stewardship. Private suppliers are too*

*competitive to organise data sharing and benchmarking for equitably allocating reward or penalty. There is high risk that without oversight, suppliers would make perpetual funding bids, to pay for innovation"*.

Their perspectives were similar to the literature, with examples from Billings & Weger., (2015) whose research suggested that commissioning using performance volume-based contracts, enabled funders to manage competition equitably through governance, ensuring suppliers are held contractually accountable for the risks and rewards associated with performance standards.

The four participants held the view that if the funder does not hold the sector accountable to performance, ICH project benefits may not be achieved, or worse budget excess may grow exponentially. They advised that strong governance and contractual mechanisms maintaining the funders objectivity, were key in supporting sustainable purchasing in competitive markets. Participant 13 views gave an example that, *"The risk of ICH models are the expected financial benefits are not tracked overtime, or worse do not materialise, unless the funder holds organisations accountable. Funders should govern via contractual purchasing mechanisms to ensure stakeholders accountability to expected standards".*

Their perspectives reflect the literature, with examples from Li (2022) which outlined that performance volume-based contracting is successful only where measures are reliable and are enforced fairly, therefore contractual criteria are key in holding parties accountable to good conduct.

From this sub-theme, the key findings important for ICH management are, that the private healthcare suppliers can deliver effective and efficient ICH services which improve overall health sector quality. This entails that the:

- funder should act in a governing role to manage competition and ensure fairness across a range of supplier types for market share equity.

- main aim of the ICH project should be considered and if this is to:
    - improve overall quality standards across the sector driving innovation through competition in private markets, then the most applicable approach is performance volume-based funding contracts. The funder should manage competition through governance and hold suppliers culpable for achieving targets.

    - achieve strategic initiatives for social good fulfilment then either partnering with shared risk and benefit funding may be appropriate, or performance volume-based

funding contracts. However, the risks may be higher with competitive markets versus public markets due to bias. This approach should depend on the confidence the funder has in successfully mitigating risks of partnering with governance and contracting.

Performance Volume-based Funding – Four participants expressed the view that, performance and volume-based payments in competitive settings is a funding lever to manage and incentivise good performance. They indicated that the key advantage of this method was it encouraged competition that drives innovative service delivery for ICH projects, to lift quality standards for efficient and effective services across health sectors.

These participants indicated that payment models such as fee for service, encouraged visits and thus introduced waste into the system. They compared this with shared risk and benefit funding, noting that this has had some success in reducing waste, particularly for public sector if organisations collectively work together to create resource capacity for the social good. They expressed the view that; this was rarely the case within competitive environments as private suppliers are motivated by profit and market share and preferred incentive payment models. Participant 11 views gave an example that, *"Service models based on appointments introduced waste into the system, so, although the financial model should not be the primary focus of ICH models, it is essential for creating value. Shared risk and benefit funding aims to incentivise efficiencies within fixed payments, the issue is, it doesn't incorporate how competition for market share will affect integration, or potentially stifle it. It means market forces are not being leveraged and in competitive markets, this goes against the grain, and more value will be created if incentive-based payments provoke integration because suppliers must perform well to earn priority referrals".*

Their perspectives are reflected in the research from Orlandi et al., (2023) who described that if risk sharing funding models are embedded without robust measures and monitoring, they may not effectively motivate health suppliers to work within budget.

These participants indicated that the key aim of performance review should be reducing unwarranted variation, and data should be used to generate competition in eliminating waste through comparison of performance across multiple suppliers. They relayed that, non-award of bonus is implicitly penalty, though distinguished this with disciplinary actions and contract termination which they recommended be reserved for deterring extremely poor behaviours. Participant 14 gave an example that, *"VBF works from the premise health suppliers will deliver services within fixed funding amounts. In practice this doesn't hold as there are no real financial*

*consequences, because funders are not able to relinquish financial responsibility of the continuation of care and pass this on to the supplier. Conditional funding for financial reward based on performance is a must for encouraging organisations to change service utilisation habits".*

Their perspectives aligned with an example from Miller (2012) whose research outlined that, payment per patient contributes to overall costs, and health organisations volumes targets must at a minimum reach breakeven threshold to operate their business. The author distinguished that the baseline budget should be sufficient to enable service provision, and that proportionate margins equate to reward performance achievement, or patient referral numbers to effect market share growth that is managed. The author highlighted that performance volume-based contracts, rely on health organisations being accountable for supplying the funder with reliable and accurate data.

They described that, implicitly suppliers ought to be motivated in sharing reliable data through dashboards to prove their performance, given there is direct link to enabling the funder to accurately allocate rewards. Participant 12 gave an example that, *"Shared dashboards could be used to establish benchmarks differentiating between sufficient and excellent performance for reward and to compare suppliers. The funder should require each supplier to be critical of relative waste; to motivate them through competition to reduce these practices, this is the strength of integrated healthcare. It is in the suppliers' best interest to be transparent with data, though the funder must audit periodically to encourage honesty".*

Their perspectives aligned with the literature, with examples from Carlo et al., (2020) whose research explained that in practice reward for performance models have had success in reducing cost utilisation, though evidencing this was due to actual improvement versus miscoding or short-term cost cutting, was challenging. Another example from Takahara (2022) raised the issue, if health organisations performance targets are not realistic, suppliers may take drastic actions for quick gains to achieve higher rankings than their competition. They outlined that such actions included, short-term cost cutting to improve efficiency scores, and further highlighted the risk that this may result in reduced working conditions or over stretched workload, driving skilled staff attrition which negatively impacts long-term quality.

These participants raised the risk that suppliers may not be forthcoming if they feared loss of funding due to poor performance, or reduction to their future investment potential by sharing innovative methods. They outlined that in purely privatised markets suppliers would maximise long-term benefits from generating intellectual property, however, under managed competition the funder would require high performing suppliers share their methodology in generic terms to lift quality overall across the sector. The participants suggested that contract provisions should mitigate risk by

preventing loss of intellectual property. Participant 13 gave an example that, *"dashboards should enable general comparison, though information sharing agreements should be explicit about transparency as exact service delivery traits should remain the intellectual property of each health organisation".*

Their perspectives were similar to literature, with the example from Ruiters & McDonald, (2012) whose research explained that competition introduces market forces which impact healthcare supply and demand, and whilst this cultivates growth and innovation, it may introduce service use beyond fundamental patient need. Another example from Mohd Fadzil (2023) outlined that performance volume-based incentives will not be effective without quality data, and contractual agreements must specify enforceable sharing arrangements.

From this sub-theme the key findings were that conditional funding incentivises quality improvements supporting ICH service management, and this entails that the funder:

- allocates sufficient budget to enable health suppliers to provide services and objectively reward suppliers with marginal payments linked to good performance.
- rewards funding or volumes objectively based on reliable measures which are not overly focused on cost-cutting.
- should incentivise suppliers to achieve a balance of efficiencies, quality and outcomes, targeted at removing unwarranted or wasteful service and resource use.
- should hold suppliers contractually accountable for sharing accurate and reliable data, to inform measures, used in allocating rewards, and comparison across suppliers within the sector.
- takes a governance role and methods of innovation must be shared by individual suppliers to ensure market fairness and overall quality improvements.

Measures for performance volume-based contracts – Four participants expressed the view that the performance and outcomes measures linked to incentive funding, were sufficient as the two main managerial levers in securing quality ICH services, opting for minimal investment into CPAs and segmentation tools. They expressed the view that the key advantage of the approach, was encouraging suppliers to work within funding allocations and responsively to targets that generated rewards, striving for innovative and iterative ICH design methods across their patient mix, to manage within the funding budget. For this sub-theme, the participants' views echoed the literature in sections four, and five. Their views were most closely aligned with VBHC management concepts from

Porter (2016), though they were different when compared with the literature on Casemix (Parsons et al., 2018).

The four participants explained that without understanding changes in complexity across the service population, it is difficult to pinpoint what drove corresponding change in performance overtime and acknowledged complexity warranted excess to budget compared with unwarranted wasteful service provision. Participant 13 gave an example; *"Outcomes measures are of greater importance and comprehensive patient needs assessment are less of a priority, particularly for shorter treatment durations. A blend of assessment and outcomes measures, works better for longer durations, if the patient group is stratified based on need; and corresponding outcomes are measured for those different strata. Assessment tools should include sufficient information to understand variation in service delivery, for benchmarking. Validation checks should be in place to verify relative complexity across patient groups to justify service cost differentiation".*

The participants views are similar to some sources of literature, with an example from Porter's (2016) research which recommends that organisations design clinics that treat the patient's primary medical condition, enabling MDT to work together in providing an integrated service response. The author recommends that managing expenditure through efficiencies measured relative to patient outcomes to maintain service quality and create value.

The four participants highlighted that CPAs may initially drive improvements, though overtime service responses may become formulaic, stifling long-term innovation. They raised the risk that health suppliers may use these tools to their advantage justifying increases in service utilisation. These participants preferred broad range complexity measures, to incentivise suppliers to optimise service provision within budget, and minimise risk that suppliers conflate complexity mix for increasing funding allowances. They expressed the view, that increasing complexity should not directly translate to more funding, instead drive suppliers to find innovation to offset budgetary impact. They recommended testing the sufficiency of the budget periodically, against population changes in complexity. Participant 11 gave an example, *"Reliance on complexity tools should be moderated, there is risk that suppliers will overstate patient need upon assessment for higher than required categories. This type of gaming implicitly increases funding or demonstrates a relative improvement in outcomes that is not legitimate. If there is no best practice benchmark and all suppliers are behaving in the same way, there is difficulty in pinpointing whether variation is warranted due to lack of information".*

Their views are reflected in the literature, with an example by Liu et al., (2022) which explained that for some patient groups, factors beyond diagnosis have minimal impact on service utilisation. They

further described that, comprehensive assessment may be unnecessarily administratively burdensome, if the resulting patient classifications do not indicate homogeneity of service need across patient groups. They highlighted the more classifications, the greater the risk of miscoding and excess billing, for services provided. They outlined that miscoding may be unintentional, or due to gaming by inflating records beyond actual achievement to generate bonus payments. The authors stressed that performance volume-based models must embed realistic and achievable targets, relative to defined complexity classifications, to enable effective budget management.

Their views aligned with some sources of literature, most closely aligning with an example from Porter (2016); whose research emphasised that value is created where organisations hold an onus of responsibility, to manage performance and outcomes within funding constraints, for the patient groups that accessed the ICH services, from the range of service offerings the suppliers' provide.

These participants views differ when compared with other literature sources with an example from Parsons et al., (2018) whose research found most patient groups have complexity factors beyond their medical condition that unavoidably impact their service utilisation. These authors recommended that comprehensive assessment to ensure metrics accurately represent patient need and are meaningful.

These participants views, also differed from other literature sources, with an example from Hardin et al., (2017) whose research added that complexity across patient groups is often unavoidable. They emphasised that if complexity is driven by external factors, it is necessary, to identify these and ensure organisations are provided with sufficient budget to provide the necessary services for maintaining outcomes.

The key findings from this sub-theme that are important for ICH management, are that measures for performance volume-based funding contracts should incentivise:

- expenditure management for optimal use of resources in ICH service delivery by encouraging suppliers to meet performance and outcomes targets.
- ICH service designs that withstand variance in patient complexity which impacts service use across the organisations' overall patient mix; and adjusts services innovatively to maintain outcomes whilst managing within funding limitations.
- organisations to undertake risk assessment prior to designing ICH services. If patient complexity is an unavoidable factor across the overall mix of patients and this impacts service use, then organisations should consider ICH designs that incorporate some form of

CPA and funding model that flexes in accordance with segmentation tools, to ensure sufficient funding.

Governance and Managed Competition – The four participants expressed the view that the funder should act as steward governing managed competition. They indicated that the key advantages of this approach were that funders should ensure equitable allocation of funding rewards and market share for multiple health suppliers across ICH service pathways as well as the sector.

These participants further emphasised that the funder should monitor size variation of organisations and scope of disciplines and service offerings at tender, to maximise innovation and prevent market power imbalances or extreme inequities such as monopolies. Participant 12 gave an example, *"Governance should mitigate risk of monopolistic behaviours through managed competition, this ought not to be so extreme it tips the balance of natural market forces, though it should exist to drive performance conversations with tangible consequences or rewards".*

Their views aligned with the findings from (Billings & Weger 2015; Illingworth & Parmet, 2006; Sangamnere et al., 2017) whose research demonstrated similar findings suggesting that governance is necessary to ensure equitable competition within private markets. These sources further emphasised that the funder should hold a stewardship role in being responsible for mitigating risks of imbalanced market forces through robust contracting mechanisms to maintain equity.

The participants described that the funder should be responsible for the fair funding and reward allocation across suppliers contributing to service pathways, to prevent disproportionate market power imbalances favouring a particular supplier. Participant 13 gave an example that, *"There is inherent equity risk, that one dominant supplier tends to have greater decision-making authority compared with other integrated suppliers delivering components across the patient journey. This risk can be mitigated if the funder governs equitable tenders and service designs which reassess the value of healthcare workers and organisations to generate value and change"*.

The participants views had similarities with literature, as outlined with an example from Li et al., (2024) whose research raised the issue that measures bias which occurs if contextual differences, particularly complexity, within patient populations or business models are not considered. They highlighted that the flow-on risk is disproportionate cumulative award of bonuses across suppliers, driving inequities. They emphasised that mid-long term this may inhibit re-investment capacity for health organisations perceived to be underperforming as per bias measurements, risking sustainable competition.

These participants raised the issue that ICH designs using conditional funding incentives have to build in safeguards, that ensure rewards are allocated fairly in accordance with the suppliers business model, taking into account factors such as their patient mix, typical revenue flow and timing, or size. Participant 11 gave an example, *"Rewarding innovation with volume should be managed by the funder to make commercial sense for each party, equitably awarding volume between small, medium and large suppliers of service pathways appropriately aligned with their business model"*.

The participants views had similarity to literature, with an example from Foxall (2013) whose research outlined that if one set of suppliers are disproportionately rewarded, the risk is they may diversify service offerings to a wider catchment gaining market share across sectors, creating potential for inequitable market ownership. The participants views are further aligned with Tompkins et al., (2009) whose research suggested that conditional funding supports integrated services, however, performance management needs to adjust iteratively in response with changes in suppliers' behaviours to ensure incentives are awarded in a socially responsible manner and to ensure health system sustainability.

From this sub-theme, the important points for performance volume-based ICH management principles, are that the governing role of funders should aim to:

- be one of stewardship preventing extreme market inequities whilst simultaneously enabling market forces to exist that ensure competition drives quality.
- equitably allocate rewards ensuring they make commercial sense for each supplier across the multiple suppliers that interconnect to provide service pathways. To support this, the funder should consider the types of business model across the supplier mix, and the relative decision-making power of individual suppliers.
- consider the long-term impact of cumulative rewards allocation across the mix of suppliers versus a particular set of suppliers. The funder should ensure equitable opportunity for all suppliers to take part in innovation to their ICH business model, contributing to the overall sustainability across health sectors.

### *Teamwork for efficient work practice and operational management*

The views of fourteen participants are summarised within this key theme. Their views were similar, on the importance of ICH designs incorporating champion and coordination roles, collaboration frameworks, and patient centred feedback loops to enable effective and efficient service delivery management.

Champions generally have clinical backgrounds and are nominated as liaisons with higher level management and team motivators, to ensure ICH project delivery is supported by timely decision making to meet deadlines. Champions should navigate resistance to change and if they lack enthusiasm the project may fail, or other team members may have to compensate by lobbying the idea with higher management. Participant 05 gave an example that, *"Champions should enable others to envision an improved health system and gain everyone's trust by being open with communications. The champion must have tough conversations and inspire stakeholders to find common ground and work towards the vision".*

These participants views are reflected in the work from (Heijsters et al., 2022; Hardin et al., 2017) who found that champions are key to generating organisational readiness, integral for balancing the expectations of top-tier management whilst also motivating team members to meet project deadlines.

They expressed the view, that encouraging efficient and effective work practices, is not only about building coordinated processes into the design, achieving the team orientated collaborative work style required for ICH, involves a high degree of relationship building and documentation. Participant 06 views are summarised, and they indicated that; 'Imposing change is likely to de-motivate employees and changing towards continuous improvement, means enabling employees to take ownership of issues and solutions to find efficiency gains through group activities, such as workshops. Inclusivity and celebrating wins are good motivators. Communication is key when manging the adjustment of service response for individual patient need, whilst being efficient in flexing capacity up or down across patient groups. Documenting innovative practices ensures employees feel empowered to make permanent change, whilst safeguarding against attrition or other factors to prevent a return to prior ways of working'.

These participants views are reflected in the sources from (Hardin et al., 2017; Van Staalduinen et al., 2023) whose research found that integrated service design should include collaboration frameworks, enabling efficient and effective MDT and IDT workflow, facilitated by coordination roles.

These participants acknowledged that even with quality design and implementation ICH models may not work well in practice, if the health workers do not adopt change into their daily work practices. Participant 01 gave an example that, *"Health workers objectives, are sometimes disjointed from the organisations' goals. If agencies don't train or communicate with their employees and health workers on how to work collaboratively for efficiencies, change expected from the integrated design, may not translate to the frontlines".*

These participants also highlighted that the risk of poor ICH designs models is they fail because workers may either continue to work separately, or see more value, in competing to inflate individual results, rather than share the efficiency wins generated from teamwork. They further raised the issue that if management are too authoritative or ignore innovative ideas, then health workers may become demotivated in working collaboratively and default to traditional ways of working.

These participants views were reflected in the research from Van Staalduinen et al., (2023) which raised that health workers may view collaborative activity of integrated models as administratively burdensome and refuse to change. They emphasised that collaboration frameworks are more likely to be accepted and followed, if the activities clearly demonstrate shared benefits for the organisation, patient and health workers.

These participants further expressed views on collaboration as extending to managing interactions with patients because their outcome and experience feedback, which impacts measures, are affected by contextual factors. Participant 06 gave an example that, *"One-off complaints or low satisfaction scores should be moderated, so incentives reward for generally good performance, versus penalising for outliers. Addressing complaints is more effective if both patient and health worker views are considered without affixing blame. Introducing key workers that navigate issues across the multiple stakeholders using soft skills is important".*

These participants also expressed the view that for ICH to work well in practice organisations need to manage their staff workload flexibly. Due to this, it is key that health workers and organisations are empowered with the skill of managing patients' expectations and willingness to accept that equity of care, is not about receiving the same level of treatment relative to others, it is ensuring that patients understand they are receiving the right level of care for them. These participants generally held the view that, management tends to be more responsive to patients' opinions and feedback than health workers, and if MDT are enabled to incorporate patient outcomes measures into work practices this can strengthen the likelihood that management will acknowledge issues to drive innovative change.

Their views aligned with the literature with similarities to the sources from (Heijsters et al., 2022; Kidanemariam et al., 2023; Van Staalduinen et al., 2022) which highlighted similar views that both health workers and patients should be held jointly accountable for collaborating on goal achievement, and outcomes measures should be moderated to consider patient feedback.

The key findings from this theme that are important for ICH management are summarised as:

- champions and coordination roles are key to facilitating communication and motivation for effective interconnection between stakeholders, to support efficient project and service delivery.
- collaboration frameworks should enable regular coordination between health workers, subject matter experts and patients. This generated a culture that supports comradery in working together on continuous workplace improvements, for quality and goal achievement for enriched patient experiences and outcomes.

### *Kaupapa Māori and ICH services*

Under this key theme, four participants relayed the view that traditional Māori health services are intrinsically community based, thus, to progress, ICH services must grow from the foundations already in place. These key discoveries were similar to that within the articles and the literature.

All participants acknowledged that there have been and still are inequities for Māori health and believed a key focus of making improvements is to build trust through relationship engagement. Participant 16 views are summarised, and they indicated that; 'due to past inequities, there is lack of trust between Māori and the Crown. Historically, the Aotearoa NZ health system has not been structured to meet the needs of Māori as the western system is tiered and disjointed, and there is a level of tension when you're trying to bring multiple disciplines together. Before commencement of any systemic change to health and social services, the engagement strategy with Māori needs to focus on building trust to strengthen good relationships'.

Four participants differentiated that western approaches treat the condition and explained that in traditional knowledge / mātauranga Māori this factor, was only one part of the whole person. They explained that the entire body needed treatment enabling transition from a state of Tapu to Noa. They expressed that ICH design and implementation should follow Tikanga principles and build from the interconnectedness and patient centricity that is inherent within Kaupapa Māori services. Participant 18 views are summarised, and they indicated that; 'Agencies should interact with Māori health suppliers and communities by building stronger relationships which involves listening and learning to understand how integration is already being practiced. Traditional Māori health takes a holistic view beyond the individual and their bio-psychosocial needs, to further include Whanau, Ancestors and Mokopuna. Kaupapa Māori is interwoven with Whanau and community offerings, so inherently operate in an integrated and wrapped around fashion, introducing new concepts is about building from the existing foundation'.

These participants views aligned with the literature with similarities to the research by Bartholomew et al., (2019) which raised that there have been significant inequities suffered by Māori accessing services within the Aotearoa / New Zealand health system. Though some steps have been taken to begin rectifying these issues, there are many gaps. They suggested that building trust and understanding is key for future sustainability. The research by Mako et. al, (2022) built further describing the importance of holistic well-being / Waiora or Hauora, for effective holistic treatment needed to incorporate everything that impacts the patient, including their whānau, hapu, and iwi (family and community).

The key findings from this theme that are important for ICH management are summarised as:

- relationship engagement and building trust,
- building on existing foundations within communities, providing healthcare and social services to wrap around the patients' need and transition them from an unwell to well state

In summary, this section considered participants' responses to semi-structured interview questions which were arranged into common themes, to understand their views on how best to manage ICH services in practice across the NZ health system. The findings were presented under five common themes and discussed these with comparison to the literature review. The summary of the key points from the findings and discussion, are organised by key themes, summarised in Table 3 below.

*Table 3 – Summary of the key points by themes*

| Themes | Summary of the key points |
|---|---|
| **Strategic initiatives and market approach for ICH** | ICH services are worthwhile for improved quality and sustainability.<br>NZ should design ICH aligned to strategic initiatives at each tier of the health system. |
| **Partnership agreements and 'end-to-end' ICH operational management** | Interconnecting stakeholders to deliver ICH that achieve strategic initiatives:<br>- The best suited commissioning approach shares benefits, risk and responsibility, between funders and suppliers, acting as stewards;<br>- Suitable for all markets, though more applicable for public sector;<br>- Bias risk, mitigated by objectivity through contractual agreement of funding and measures methodology. |
| **Performance volume-based management** | Managing competition for equitable markets to deliver ICH services for optimal quality:<br>- The funder acts in a governing role to manage competition between private health suppliers to deliver ICH;<br>- Culpability sits with the suppliers, who are awarded with payment or volumes incentives for achievement of performance and outcomes targets. |

| Themes | Summary of the key points |
|---|---|
| **Teamwork for efficient work practice** | Continuous improvement culture for effective and efficient ICH services:<br>- Workplace coordination and collaboration for optimal ways of working;<br>- Shared responsibility for contribution to improvements across stakeholders;<br>- Interconnecting health workers and patients in goal achievement for enriched experiences and outcomes. |
| **Kaupapa Māori and ICH services** | Building from existing foundations for effective use of available resources:<br>- Rebuilding trust;<br>- Interconnecting with communities;<br>- Holistic well-being / Waiora or Hauora. |

## Conclusions, limitations, and further areas of research

### *Conclusions*

This research conducted an extensive literature review to establish a comprehensive understanding of management principles essential for ICH service delivery. This qualitative research derived findings from semi-structured interviews on the topic of ICH service management taking an interpretivist viewpoint, following inductive methodology. The study then compared literature against practical findings and in-depth discussions, exploring how these management concepts have been implemented in real-world scenarios. This approach allowed for a thorough examination of the strategies that enable efficient and effective ICH service delivery across each tier of NZ's health system to explore these research questions:

- What are the management principles involved with ICH service delivery?

- How have management principles influenced the efficiency and effectiveness of ICH service delivery?

This research adds to the existing literature to provide further knowledge on ICH service management principles in relation to the research questions.

**Integrated coordinated healthcare initiatives and objectives** - ICH service design objectives are unique to the health environments' strategic initiatives, though commonly they aim to manage value by; eliminating wasteful work practice; reducing duplication of services; and improving quality and outcomes through integration, coordination, and collaboration (Chikhradze et al., 2022; Draper et al., 2018; Takahara 2022).

The literature summarised that health systems worldwide, including NZ have embedded ICH services to better use existing resources, to meet patient need across public and private health sectors. The findings aligned with literature adding that the aims of strategic government initiatives, should be incorporated into ICH project objectives, cascading throughout each tier of the health system. They further demonstrated that ICH designs incorporate low, moderate, or high levels of integration and coordination.

**Commissioning and value-based funding** - Most health economies are made up of private and public health suppliers, for a balance of quality through competition and equity for the social good (Ruiters & McDonald, 2012).

Commissioning approaches that work well for ICH projects are outlined by Billings & Weger., (2015) whose research explained, high trust partnered contracts incentivise shared responsibility between suppliers and funders, to incentivise optimal service delivery, through goal congruence. They further outlined ACOs suit private suppliers in competitive markets who hold culpability for performance and individual contracts with funders, whilst networking with other suppliers via agreement. They explained this enables the necessary coordination for ICH service pathway delivery, without losing the aspect of competition. They recommended that funders act in a governance capacity, to manage competition equitably by using performance volume-based funding incentives.

Partnering can work in private sectors, though is a more natural fit for public sectors, as it relies on partners sacrificing their self-interest to achieve common goals and equitable funding (Clark et al., 2015; MacCormack & Mishra, 2015).

ICH designs should embed policies which hold health organisations contractually accountable for reliable and accurate data and protect against ambitious cost targets, as this may risk suppliers conflating invoicing, or negatively impact quality (Carlo et al., 2020; Miller 2009; Takahara 2022). Contracts should be robust, enabling stakeholders to remain objective and governance groups should lead ICH projects, to ensure objectives interlink with strategic initiatives and long-term investment for innovation is considered (Draper et al., 2018; Li et al., 2024; Tompkins et al., 2009).

The findings aligned with the literature summarising that commissioning approaches, should consider the underlying drivers of the health sector, to support ICH service delivery management. The findings built further on the foundation of knowledge for ICH management principles indicating that:

- individual contracting and performance volume-based funding works well for private sector, these contracts should enable suppliers to maintain autonomy, and funders responsibility, to

objectively assess suppliers' performance to allocate funding incentive awards fairly.

- managed competition is key for private markets, and the funders should take a governance role ensuring that ICH services are delivered by a wide range of suppliers for market equity.

- partnered contracts share risk and benefit value-based funding models between the supplier and funder and work well for public sector though can work for private markets too, if stakeholders have strong goal congruence in achieving social good initiatives. Partnerships should mitigate bias; by contractually agreeing objective funding methods and ensuring ICH designs follow end-to-end monitoring across service pathways.

The findings highlighted that competitive markets benefit from a differentiation between the suppliers' and funders' culpability, whereas public sectors benefit from goal congruence between stakeholders.

**End-to-end operational management** - If organisations find that patients' service usage due to complexity factors such as frailty, comorbidity or rurality is unavoidable, then some form of assessment and digital segmentation tool, will be necessary to ensure measures are relevant and funding is sufficient (Hardin et al., 2017). Comparing management concepts for ICH, the literature write-up explored two methods, divisive on segmentation which are VBHC (Porter, 2016) and Casemix (Parsons et al., 2018). VBHC suggests that integration should be achieved by forming practice units that organise MDT to treat the primary medical condition, and this reduces the need for segmentation tools, enabling organisations to focus on funding and performance and outcomes measures to create value (Porter, 2016). The research from (Parsons et al., 2018) outlined that Casemix uses standardised comprehensive assessments and digital segmentation tools to coordinate multiple suppliers that provide integrated service pathways. They explained that classifications and relative weightings are used for categorising funding and performance / outcomes measures relative to complexity for value.

In line with the literature, the findings offered two contrasting perspectives on the necessity of investment into digital segmentation tools, versus infrastructure and resources to support design integration as follows:

- One stream of perspectives, informed findings that were similar to the literature about VBHC and outlined that, if ICH services are designed with a clinic based MDT service response to treat patients with similar service needs that are largely due to their diagnosis, then there should be minimal investment into segmentation tools. Building further the findings

indicated that under this type of ICH management, extensive complexity measurement may be, administratively burdensome, or risk demotivating organisations in finding efficiencies, or enable suppliers to conflate invoicing.

- In contrast, another stream of perspectives informed findings that were similar to the literature about Casemix and posed the view, most patient groups service use and outcomes are impacted by unavoidable complexity factors beyond diagnosis. Building further on the literature, the findings indicated that for this type of ICH management, comprehensive assessments support coordination and comparison across multiple suppliers, efficient resource planning, and relevant measures.

Due to the resourcing and funding decisions of ICH designs, being based on performance and outcomes measures, accurate and reliable data informing these metrics, is important for on-going success (Miller, 2012). If measures are bias, this risks the funder disproportionately rewarding supplier cohorts driving inequities, or if monitoring reveals behavioral obstacles or poor performance, all stakeholders should work together in resolving those issues (Henderson et al., 2018; Li et al., 2024). Collaboration frameworks enable the collective assessment of monitoring results for correct interpretation by health workers and patients, and to generate comradery in support of continuous improvement culture across all stakeholders (Hardin et al., 2017; Heijsters et al., 2022; Kidanemariam et al., 2023).

The literature summarised that ICH designs are reliant on good interpretation of reliable operation measures as they influence funding, service planning and teamwork supporting optimal service delivery for improved health outcomes and experiences. The findings aligned with the literature adding that, monitoring should be designed to encompass digitised measures supported by teamwork. The findings indicated this enables data sharing and coordination at a meso level across organisations and funders, and collaboration amongst MDT, IDT, and patients at a service level. The findings further added that governance and working groups, should be responsible for managing the sharing of information, sector-wide improvement and innovation, and guidance ensuring the continued alignment of ICH services with strategic initiatives long-term.

**Māori health needs** - There have been significant inequities suffered by Māori accessing services within the NZ health system and trust must be re-built, to support healthcare designs which incorporate principles on holistic well-being / Waiora or Hauora (Bartholomew et al., 2019; Mako et. al, 2022). The findings aligned with literature about inequities and trust-building. Building further the findings indicated that Māori health services are pro-actively involved within the community and ICH

designs require good understanding of the foundations already in place from which to build further integration.

The analysis of the literature and findings was worthwhile, as they have added to the body of knowledge informing ICH management principles and the emerging key points highlighted that:

- the context of the health environment and connectivity of strategic initiatives and service objectives are important for health systems sustainability;

- commissioning approaches in private health markets should prioritise suppliers' culpability for performance, funders responsibility for fairly allocating incentive-based funding rewards that drive competition, and governance supporting equitable market competition;

- commissioning approaches for social good initiatives, thrive on shared risk and benefit funding models as this incentivises the needed goal congruence and shared responsibility across stakeholders to achieve strategic initiatives which support equity for the needs of heath populations;

- distinguishing between unwarranted versus warranted service use at the outset of the ICH design, is key for enabling effective continuous improvement activities, and realistic measures and targets for comparisons and monitoring to generate efficient work practices.

- organisations investing in ICH designs should adapt their management approach based on; the number and complexity mix of patients they provide services for; and whether they aim to coordinate with other suppliers versus design their own clinics for enabling integration of IDT or MDT and other resources.

- if patients' service use is impacted by complexity, then ICH designs should include some form of assessment and segmentation tool, ensuring measures are relevant for each patient group and targets are realistic and meaningful for the achievement of service objectives;

- it is the combination of funding incentives, reliable measures, streamlined processes, and teamwork activities that support efficient work practices that are effective in generating continuous improvement of service quality and health outcomes.

- building from existing foundations within the community, and strengthening trust is key for acknowledging Māori health needs in ICH designs.

## *Limitations*

I considered the limitations which may apply to my research, and according to Bell et al., (2022) qualitative research is inherently hard to replicate and generalise, and lack transparency, implicitly these types of study may carry bias and subjectivity.

Recognising there is no full proof method of mitigating against risks, the limitations that may apply to this research are further outlined, to improve transparency. This was informed by the work from Aguinis et al., (2018) which suggested that methods and limitations used in selecting participants, should be outlined for transparency.

Due to the relatively small size of NZ and snowball sampling, implicitly there may have been affiliation between myself, and the participants, and viewpoints outside of the ones presented by the participants may not have been fully understood. Though contact with participants was mindful of cultural factors, there were low response rates with Māori participants. Noting these issues, was informed by the research from Makel et. al, (2017) which explained that sampling issues should be caveated, as this is important for maintaining transparency for credibility.

Noting the constraints of the scope due to this thesis being 90 credits, these issues were mitigated to the extent possible. Participants were sent informed consent forms, reassuring them of their anonymity because all information would be de-identified. My research followed a systematic process outlined in section six. The limitations should be considered in tangent with this because this attribute does mitigate against inherent issues. The research overview outlined four steps which frame general questions, collect qualitative data via semi-structured interviews, obtain participants and organise the data into themes. Each of the four steps are supported by its' own set of sequential steps to improve the credibility of this research. This was informed by Bell et al., (2022) that following structured processes enables the transferability of qualitative studies enabling it to be used for adding to the body of knowledge about the subject matter.

## *Further areas of research*

Based on the findings of this research, to gain more depth of understanding of ICH management principles, further investigation into these subject areas may be worthwhile:

- the role of governance via joint working groups and the long-term impacts of partnered innovation for ICH services sustainability, versus managed competition;

- understanding the opportunities and challenges of standardised assessments and measures in digital form, across each tier of the NZ health system supporting long-term growth and sustainability.

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**Introduction, findings and discussion, conclusion sections references are found throughout the references in section one to six. The references are outlined by section for clarity.**

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**Section Five**

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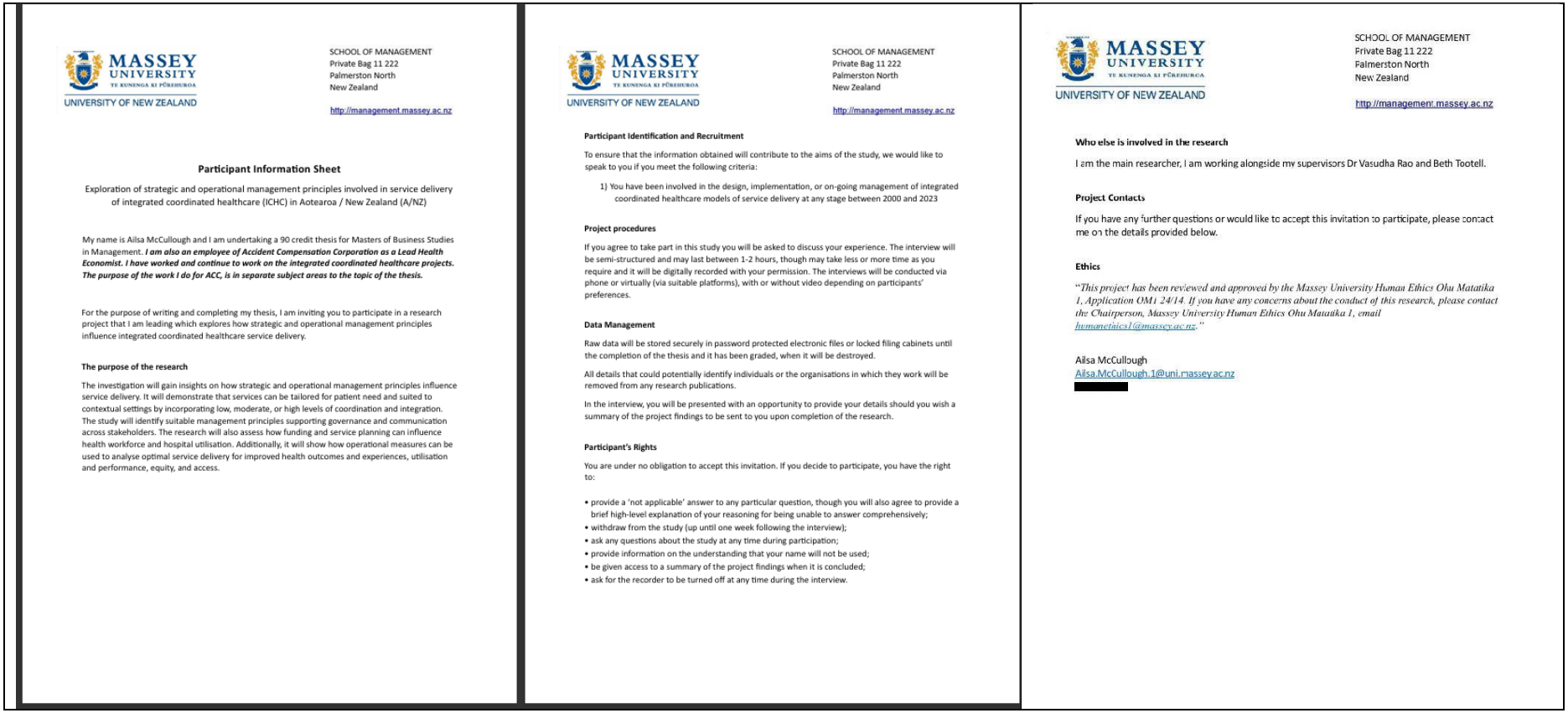
# Appendix A:

## Information sheet



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**Participant Information Sheet**

Exploration of strategic and operational management principles involved in service delivery of integrated coordinated healthcare (ICHC) in Aotearoa / New Zealand (A/NZ)

My name is Ailsa McCullough and I am undertaking a 90 credit thesis for Masters of Business Studies in Management. ***I am also an employee of Accident Compensation Corporation as a Lead Health Economist. I have worked and continue to work on the integrated coordinated healthcare projects. The purpose of the work I do for ACC, is in separate subject areas to the topic of the thesis.***

For the purpose of writing and completing my thesis, I am inviting you to participate in a research project that I am leading which explores how strategic and operational management principles influence integrated coordinated healthcare service delivery.

**The purpose of the research**

The investigation will gain insights on how strategic and operational management principles influence service delivery. It will demonstrate that services can be tailored for patient need and suited to contextual settings by incorporating low, moderate, or high levels of coordination and integration. The study will identify suitable management principles supporting governance and communication across stakeholders. The research will also assess how funding and service planning can influence health workforce and hospital utilisation. Additionally, it will show how operational measures can be used to analyse optimal service delivery for improved health outcomes and experiences, utilisation and performance, equity, and access.

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**Participant Identification and Recruitment**

To ensure that the information obtained will contribute to the aims of the study, we would like to speak to you if you meet the following criteria:

1) You have been involved in the design, implementation, or on-going management of integrated coordinated healthcare models of service delivery at any stage between 2000 and 2023

**Project procedures**

If you agree to take part in this study you will be asked to discuss your experience. The interview will be semi-structured and may last between 1-2 hours, though may take less or more time as you require and it will be digitally recorded with your permission. The interviews will be conducted via phone or virtually (via suitable platforms), with or without video depending on participants' preferences.

**Data Management**

Raw data will be stored securely in password protected electronic files or locked filing cabinets until the completion of the thesis and it has been graded, when it will be destroyed.

All details that could potentially identify individuals or the organisations in which they work will be removed from any research publications.

In the interview, you will be presented with an opportunity to provide your details should you wish a summary of the project findings to be sent to you upon completion of the research.

**Participant's Rights**

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- provide a 'not applicable' answer to any particular question, though you will also agree to provide a brief high-level explanation of your reasoning for being unable to answer comprehensively;
- withdraw from the study (up until one week following the interview);
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used;
- be given access to a summary of the project findings when it is concluded;
- ask for the recorder to be turned off at any time during the interview.

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**Who else is involved in the research**

I am the main researcher. I am working alongside my supervisors Dr Vasudha Rao and Beth Tootell.

**Project Contacts**

If you have any further questions or would like to accept this invitation to participate, please contact me on the details provided below.

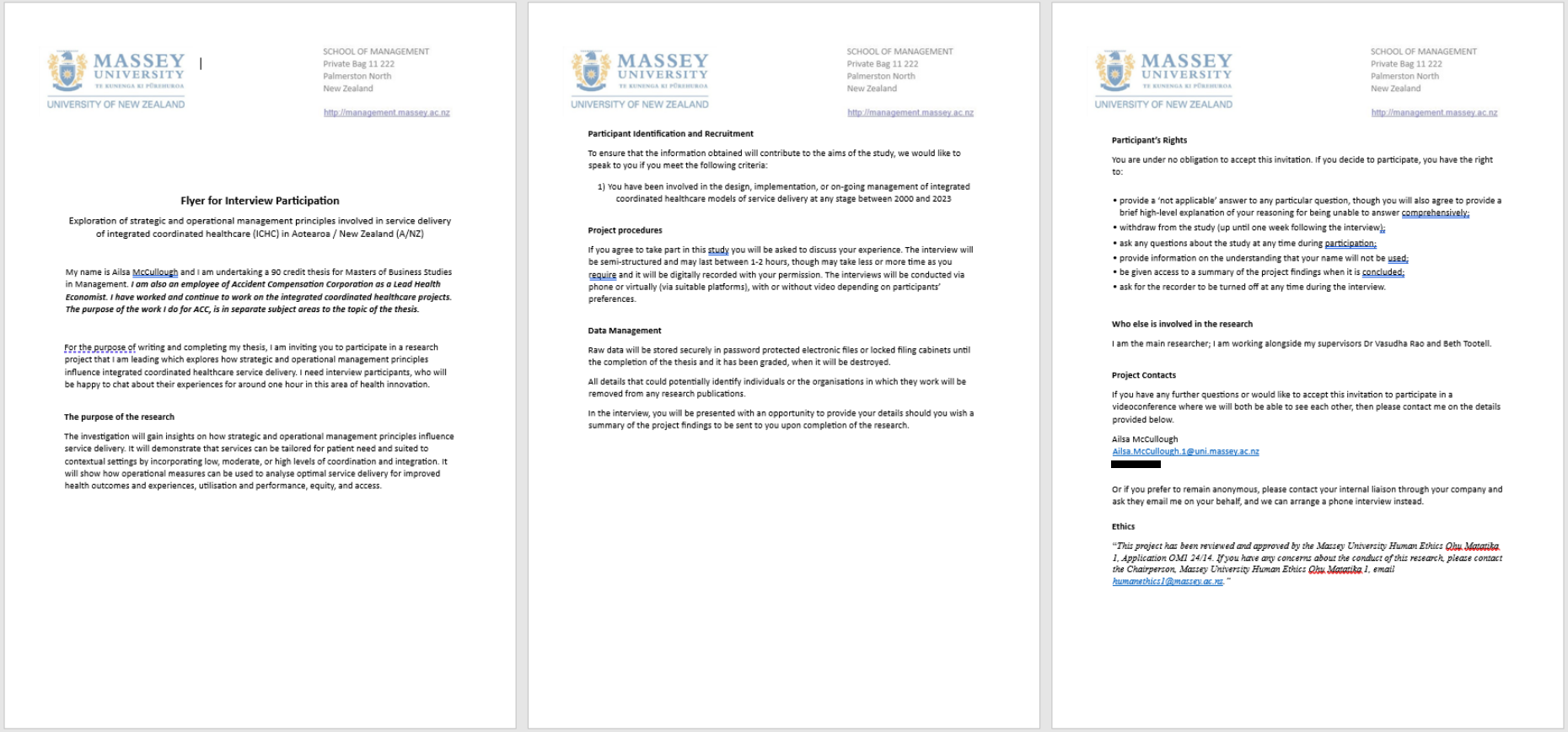
**Ethics**

*"This project has been reviewed and approved by the Massey University Human Ethics Ohu Matatika 1, Application OM1 24/14. If you have any concerns about the conduct of this research, please contact the Chairperson, Massey University Human Ethics Ohu Matatika 1, email humanethics1@massey.ac.nz."*

Ailsa McCullough
Ailsa.McCullough.1@uni.massey.ac.nz
[redacted]

# Appendix B:

## Flyer for Interview Participation



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**Flyer for Interview Participation**

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For the purpose of writing and completing my thesis, I am inviting you to participate in a research project that I am leading which explores how strategic and operational management principles influence integrated coordinated healthcare service delivery. I need interview participants, who will be happy to chat about their experiences for around one hour in this area of health innovation.

**The purpose of the research**

The investigation will gain insights on how strategic and operational management principles influence service delivery. It will demonstrate that services can be tailored for patient need and suited to contextual settings by incorporating low, moderate, or high levels of coordination and integration. It will show how operational measures can be used to analyse optimal service delivery for improved health outcomes and experiences, utilisation and performance, equity, and access.

**Participant Identification and Recruitment**

To ensure that the information obtained will contribute to the aims of the study, we would like to speak to you if you meet the following criteria:

1) You have been involved in the design, implementation, or on-going management of integrated coordinated healthcare models of service delivery at any stage between 2000 and 2023

**Project procedures**

If you agree to take part in this study you will be asked to discuss your experience. The interview will be semi-structured and may last between 1-2 hours, though may take less or more time as you require and it will be digitally recorded with your permission. The interviews will be conducted via phone or virtually (via suitable platforms), with or without video depending on participants' preferences.

**Data Management**

Raw data will be stored securely in password protected electronic files or locked filing cabinets until the completion of the thesis and it has been graded, when it will be destroyed.

All details that could potentially identify individuals or the organisations in which they work will be removed from any research publications.

In the interview, you will be presented with an opportunity to provide your details should you wish a summary of the project findings to be sent to you upon completion of the research.

**Participant's Rights**

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- provide a 'not applicable' answer to any particular question, though you will also agree to provide a brief high-level explanation of your reasoning for being unable to answer comprehensively;
- withdraw from the study (up until one week following the interview);
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used;
- be given access to a summary of the project findings when it is concluded;
- ask for the recorder to be turned off at any time during the interview.

**Who else is involved in the research**

I am the main researcher; I am working alongside my supervisors Dr Vasudha Rao and Beth Tootell.

**Project Contacts**

If you have any further questions or would like to accept this invitation to participate in a videoconference where we will both be able to see each other, then please contact me on the details provided below.

Ailsa McCullough
Ailsa.McCullough.1@uni.massey.ac.nz
[redacted]

Or if you prefer to remain anonymous, please contact your internal liaison through your company and ask they email me on your behalf, and we can arrange a phone interview instead.

**Ethics**

*"This project has been reviewed and approved by the Massey University Human Ethics Ohu Matatika 1, Application OM1 24/14. If you have any concerns about the conduct of this research, please contact the Chairperson, Massey University Human Ethics Ohu Matatika 1, email humanethics1@massey.ac.nz."*

# Appendix C:

## Informed Consent Form

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Exploration of strategic and operational management principles involved in service delivery of integrated coordinated healthcare (ICHC) in Aotearoa / New Zealand (A/NZ)

Participant consent form

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time. I understand participation is voluntary and that I may withdraw from the study up until one week following the interview.

| I agree | Do not agree | Description |
|---|---|---|
| ☐ | ☐ | I agree/do not agree to the interview being sound recorded |
| ☐ | ☐ | I agree/do not agree to the interview being videoconference recorded |
| ☐ | ☐ | I agree/do not agree to have my recordings returned to me |
| ☐ | ☐ | I agree/do not agree to participate in this study under the conditions set out in the information sheet |

Declaration by participant:

Signature: .....

Date: .....

Full Name – printed: .....

Note – I Ailsa McCullough am an employee of Accident Compensation Corporation as a Lead Health Economist. I have worked and continue to work on integrated coordinated healthcare projects. The purpose of the work I do for ACC, is in separate subject areas to the topic of the thesis.

# Appendix D:

## Health and Disability Ethics Committees



Gmail Ailsa McCullough [redacted]

**Fwd: HDEC application is out of scope**

**ailsa mccullough** [redacted] Thu, Nov 2, 2023 at 1:44 PM
To: [redacted]

---------- Forwarded message ---------
From: <donotreply@infonetica.net>
Date: Thu, 2 Nov 2023, 13:44
Subject: HDEC application is out of scope
To: [redacted]

Health and Disability Ethics Committees

Health and Disability Ethics Committees
Ministry of Health
133 Molesworth Street
PO Box 5013
Wellington
6011
hdecs@health.govt.nz

2 November 2023

Miss Ailsa McCullough

[redacted]
Wellington
Wellington
6011
New Zealand

Tēnā koe Ailsa

This is an automated message to inform you that, based on your answers in the HDEC screening form, your study HDEC application is out of scope and does not require HDEC approval. This does not mean the project does not require ethics review, only that it is out of scope for HDEC review. This scope is described in section three of the Standard Operating Procedures for Health and Disability Ethics Committees.

Please note, your locality may have additional ethical review policies, please check with your locality. **If your study involves a Te Whatu Ora locality, you must contact the locality research office before you begin. If your study involves a university or polytechnic, you must contact its institutional ethics committee before you begin.**

If you consider that our advice on your project being out of scope is incorrect please contact us as soon as possible giving reasons for this.

This letter does not constitute ethical approval or endorsement for the activity described in your application, but may be used as evidence that HDEC review is not required for it.

This form was generated by:

Miss Ailsa McCullough

The out of scope determination was made due to the following answers received:

| S1 - value | S2 - value | Screen.StudyType - value | Screen.ActiveParticipants - value | Screen.VulnerableParticipants - value |
|---|---|---|---|---|
| Yes | No | Observational Study | Consumers of health or disability support services e.g. hospital or community patients, health and disability service users | None of the above |

| Screen.IdentifiedDisclosure - value | Screen.IdentifiedHealthInfo - value | Screen.ConsentHealthInfo - value | Screen.UseofTissue - value | Screen.TissueUseWithoutConsent - value |
|---|---|---|---|---|
| | No | | No | |

| Screen.TissueConsent - value | Screen.TissueExemption - value | Screen.TissueFUR - value | Screen.Features.FullPathway - value | Screen.ClassIDevice - value |
|---|---|---|---|---|
| | | | None of the above | No |





| Screen.MastersExempt - value | Screen.Guthrie - value | Screen.Disclaimer - value |
|---|---|---|
| Yes | No | Yes |

# Appendix E:

## Massey Ethics Approval

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

29/04/2024

Dear: Ailsa McCullough

**Re: Ethics Application - OM1 24/14 - Exploration of strategic and operational management principles involved in service delivery of integrated coordinated healthcare (ICHC) in Aotearoa / New Zealand (A/NZ)**

Thank you for the above application that was considered by the Massey University Human Ethics Committee:

**Ohu Matatika 1** at their meeting held on **Tuesday, 12 March 2024**

On behalf of the Committee I am pleased to advise you that the ethics of your application are approved.

Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

Professor Tracy Riley,
Acting Chair, Research Ethics Chair's Committee

Research Ethics Office, Research and Enterprise
Massey University, Private Bag 11 222, Palmerston North, 4442, New Zealand T 06 951 6841; 06 95106840
E humanethics@massey.ac.nz; animalethics@massey.ac.nz; gtc@massey.ac.nz

# Appendix F

## Engagement with Participants Summary

**Subject:** Request to engage with research participants (interviews) - management principles with integrated coordinated healthcare models

To whom it may concern,

My name is Ailsa McCullough and I am undertaking a 90 credit thesis for Masters of Business Studies in Management at Massey University. The title is exploration of strategic and operational management principles involved in service delivery of integrated coordinated healthcare (ICHC) in Aotearoa / New Zealand (A/NZ). To write my thesis, I am requesting participants in interviews 1-2 hours that can speak about their experiences in this subject matter area. The participants and organisations will be **de-identified** and **will not** feature within the summary write-up. I would like to contact participants via email to managers of departments in your organisation. I would ask they either pass on my details, or make recommendations of people I could contact further, or act as a liaison. Respondents will be asked to participate by communicating with me directly and interview with videoconferencing, though could opt to communicate via the liaison and take part in the interview via phone for anonymity. The interviews will be transcribed, and participants will be given a chance to check or edit the transcripts.

In your view will this require an ethics submission following your organisations processes? If so, could you please advise next steps?

Note – ethics submission via Massey is in progress. The automated responses for Health and Disability Ethics Committee, attached indicated that I would not need a full submission via HDEC processes but I should contact the locality.

Thank you
Ailsa

# Appendix G:

## Semi Structured Interview Guidelines

### Interview guide

Integrated Coordinated Healthcare (ICH) is inter-connected health and/or social service delivery. For example, historically when patients needed surgery the service option, they received was an inpatient hospital stay. Under an ICH service delivery model there may be several service pathways available depending on the patients' complexity. An assessment upon entry may be administered by a health worker to estimate severity or frailty, and functional requirements to segment the patient into a grouping. Depending on the type of need they have (low, medium, or high), this information can be used to indicate a potential service pathway appropriate for meeting that need. For example, in an integrated hospital rehabilitation and community service, the patient may receive the hospital stay pathway, the hospital stay/community care/outpatient rehabilitation pathway, or the outpatient rehabilitation/community care pathway.

This interview explores your perspectives of being involved with the strategic or operational management of integrated coordinated healthcare ICH service delivery models. The context below is provided to help guide the conversation, please reflect on these topics as well as other aspects that will add to the knowledge base for this research study. The below are indicative of they topics we could discuss, though we are neither restricted by nor obligated to providing answers for these subject matter queries.

- We want to know whether you believe ICH has the overall potential to improve efficiency and effectiveness for health sustainability. Why / why not?
- How do you perceive that ICH services can be tailored for patient need and suited to contextual settings?
- In your view should patient complexity or population segmentation factor in service design influencing low, moderate, or high levels of coordination and integration?
- We want to know what you think suitable management principles would be to support governance and communication across stakeholders in ICH service models. What are some of the opportunities and barriers you have encountered in this area?
- What do you think about how funding and service planning in ICH can influence health workforce and hospital utilisation compared with traditional health service delivery?
- We are also interested in your view of how operational measures can be used to analyse optimal service delivery in ICH for improved health outcomes and experiences, utilisation and performance, equity, and access.

Any of the topics above may pertain to how well you think value-based healthcare / value-based funding or Casemix or other similar methods have been applied in practice.

## Appendix H:

Participants Roles Summary

These were two were strategic planners that facilitated National strategic initiatives supporting IHC. Five were service managers that supervised funding, design, and implementation of ICH across multiple service streams. Four were subject matter experts that have enabled the design and implementation of National ICH services. Three were operational managers that have managed health workers, planning and funding associated with implementation of National ICH services. Three had worked as a health worker within IDT and MDT delivering health services in ICH models. Two represented Māori experience of service management of ICH.

## Appendix I:

Coding Method for Common Themes

| Number | Description | Steps |
|---|---|---|
| **1** | **Initial Scan** | After interview, skim read through transcripts, numbered the transcript as Participant X, and took notes |
| **2** | **Highlighted Key Points** | Re-read each transcripts a few days later, looking for standout concepts and highlighted key words |
| **3** | **Listed Key Points** | Created a separate document to list the key concepts from each transcript |
| **4** | **Partitioned key concepts** | From the documents that had the listed key concepts, I created further separate documents to group common themes that appeared across each list |
| **5** | **Revised** | Assessed each concept, listed under the common theme, and re-read the source transcript to check I had interpreted the meaning correctly. This step was repeated several times. |
| **6** | **Isolated examples** | Prepared examples, or summary of ideas from each of the common themes as findings |