



Waikato District Health Board Resource Review

Executive summary

Waikato District Health Board (Waikato DHB) provides health services to the communities of the Waikato district, with a combined population of over 400,000 people, and tertiary-level services to the midland region, with a population of over 840,000.

Over the past five years, Waikato DHB's financial position has eroded, and at times it has struggled to maintain appropriate clinical and operational oversight. This has resulted in lost accreditation in maternity (now rectified), non-compliance with elective services patient flow indicator targets, notable accreditation risks and staff dissatisfaction.

The organisation has also experienced high turnover in critical leadership positions, notably the chief executive officer, chief operating officer and chief medical officer, leading to a lack of stability and long-term thinking in the organisation. In particular, the chief executive officer and chief operating officer positions have struggled to secure a rhythm and have focussed on short-term initiatives. This has resulted in investment decisions being implemented that have long-term financial impacts.

Like all district health boards, the Waikato DHB must provide health services within a fixed funding envelope. This envelope is determined by an algorithm that takes into account the geographical, social and economic needs of the district that the health board is responsible for. In the Waikato DHB's opinion, its current deficit position is as a result of significant underfunding.

However, the investigations conducted for the current review, as summarised in this report, do not support the health board's perception of severe underfunding.

Like all publicly funded organisations, the Waikato DHB has a fixed national budget, and its executives must determine the most efficient and effective way spending this budget to meet the needs of its community. Put simply, the Waikato DHB has an obligation to determine the areas of highest health needs and ensure they are provided for in the most effective and cost-efficient way.

In particular, expansion in more specialised and technological areas, where there is a lower community need, must be balanced and be secondary to the overall health needs of the Waikato district and midland region.

It is impossible for the health board to meet all of the health needs of every individual at its own facilities. For this reason, national programs and services are set up to ensure that people's more specialised health needs are accommodated in specific areas of the country. This national-level approach ensures New Zealand can attract the specialised workforce required to deliver these services and ensures taxpayer-funded financial investments in health technology are being used in the most cost-effective way. Waikato DHB needs to plan for its services in this context, and not spend the population-based funding on work that is offered and funded as a national service in other DHBs. There needs to be a clear accountability framework rolled out to ensure new services are appropriately approved and governed within the organisation and that these services are strategically aligned to the outcomes of the Waikato DHB and not solely aligned to the aspirations of a single clinician or department.

The significant costs for the Waikato DHB have been in staffing, clinical supplies and outsourced elective surgical services. The average length of hospital stay for the Waikato DHB is higher than its DHB peers, although the complexity of the patients receiving care has remained stable over the years.

The Waikato DHB does not govern the organisation effectively, financial and operational performance is not managed throughout the organisation and there is little drive for accountability and clarity. The decision making tends to occur in a more centralistic fashion and processes change frequently eroding any ability to maintain consistency and focus. The lack of leadership, governance and accountability accounts for the majority portion of the deficit, through poor decision making, inconsistent application of investment decisions, silo management and a lack of a performance framework to monitor progress and mitigate risks to the financial and operational aspects of the organisation.

Strong leadership, consistency and direction is required to turn the financial performance of Waikato DHB around. An accountability framework needs to be implemented as a matter of priority with clear levels of authority and integration of the clinical and non-clinical workforce. The health board has the advantage that there are many dedicated personnel working within it who are willing to work with the commissioner, her deputies and the incoming chief executive officer to drive high performing and efficient health services for the Waikato and Midland community.

The recommendations noted in this document must be implemented in their entirety if the identified deficiencies in the health board's leadership and direction are to be addressed. The executive may find alternative solutions to resolve the recommendations and as long as the identified gaps are addressed this will be entirely appropriate. The accountability framework will need to be established and implemented prior to any of the remaining recommendations to ensure that appropriate follow through and responsibility is assigned to the correct position.

The Waikato DHB has had a number of organisational reviews in the past, spanning from 2001 to the review conducted in 2014 for the then incoming chief executive officer. While the health board stated that it would make a concerted effort to implement the recommendations from the 2014 report, it appears very little effort was made, with many of the same issues resurfacing during the current review and no evidence that the majority of agreed improvements noted in the 2014 review had been implemented.

It is recommended that the commissioner provides continued governance oversight of the implementation of the key findings from this report, and that independent reviews are conducted after 6 and 12 months, to establish whether the findings have been adequately addressed. These reviews could be performed as part of the Waikato DHB's internal audit annual programme.

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Background

The Waikato District Health Board (Waikato DHB) posted a \$37 million net deficit in the 2017/18 financial year. This deficit is projected to be significantly higher this year [REDACTED]

The health board's deteriorating financial position has occurred rapidly over the past 3 years, with no definite explanation provided as to why the deficit has occurred. The deficit's rapid growth, along with the lack of any notable strategy to reduce it, has caused both the health board's senior executive and the Ministry of Health to raise concerns about the ongoing financial viability of Waikato DHB.

In response to this situation, the interim chief executive officer has established a working party to review Waikato DHB's resources. The aim is to determine whether resources are adequately allocated within the organisation and identify areas where improvements can be made without compromising clinical safety and outcomes.

Scope of project

The review was focussed predominately on Waikato Hospital operations, with some high-level review of the health board's Strategy and Funding Department.

This is a lesser scope than was originally anticipated, due to late establishment of the project team, and unexpected staff absences. In addition, due to time constraints and resource availability, mental health has been excluded from this review.

The review's terms of reference are noted in Appendix 1.

Timeframe and resources

The project team joined the project in February 2019 and remained with it until 31 May 2019.

The project team consisted of three nurses and two anaesthetists, contributing varying degrees of time (between 0.1 to 0.9 full-time equivalent (FTE)). The team was supported by a finance representative (offering 0.4 FTE) and two change personnel (as required). The team members were:

Leena Singh	Project lead / consultant
Katrina Fraser	Charge nurse manager
Deborah Nelson	Deputy Chief Nurse
John Young	Registered nurse – START
Rob Ebert	Retired anaesthetist
John Smithells	Anaesthetist

Michael Currie	Programme manager (finance resource)
Darren Savage	Change agent (as required)
Michael Douglas	Change agent (as required)

The project team would like to acknowledge and thank all participants in this review. The openness of the Waikato DHB staff was most appreciated, and their collective desire to look for solutions to improve the DHB was a testament to their commitment towards building a cohesive and sustainable health organisation and system.

Findings and recommendations

The project team used a variety of information sources for the review. These included Waikato DHB data, Health Roundtable data, Waikato DHB produced reports and papers, process mapping, a large number of focus groups, and individual interviews and discussions with a wide range of personnel.

The recommendations in this review report respond to the issues identified from these various sources. These issues, and the recommended measures and approaches to address them, are discussed in more depth in this section.

The next section sets out a table of recommended actions for the Waikato DHB at a granular level. The actions can be rolled up into a number of initiatives.

The recommendations for the most part fit into the accountabilities of the day-to-day responsibilities of the executives and their management teams. Some external assistance may be required to provide facilitation and subject-matter expertise.

Although they are specific to the Waikato DHB, many of these recommendations could be tailored for use by other health boards, if so desired.

Governance and leadership

Governance is an essential component of all organisations. It measures the performance of the organisation, mitigates risk and strategically drives the future. Without effective governance, an organisation will make decisions in isolation of its performance and direction and will fail to deliver quality outcomes and fail to improve.

Waikato DHB has demonstrated poor governance at each level – corporate, clinical, and financial and risk – and this has directly contributed to its increasing deficit position. There are high levels of fragmentation between the various facets of the organisation, and the consistent feedback from staff is that there is little transparency around how decisions are made, prioritisation of investment and strategic direction. Processes and guidelines regularly change, but it is not clearly articulated why these new rules are required or what benefits they bring. The constant changes have resulted in change fatigue in the organisation, with personnel no longer wanting to participate in proactive changes, on the basis that the improvements will only ever be partially implemented, or a new executive will decide to do things differently 6 or 12 months later.

Failure to follow process

Throughout the review, interviews with staff revealed that staff were consistently working around processes. The reasons given for doing so were that: the process was too long and convoluted resulting in patient safety concerns (particularly with respect to replacing clinical equipment); the constant changing of the rules meant there was no point becoming familiar with the current process; and the process was confusing and didn't make sense. This type of normalisation exposes the organisation to significant risk, both financially and operationally, and often goes unseen until an adverse event occurs.

Lack of strategic direction to guide investment decision-making

The review also revealed that there is an absence of overarching strategic direction with the DHB, and this has resulted in departments making siloed strategic investments. These investments have

subsequently incurred additional expenditure and placed pressure on services that need to support these expansions but had not been considered in the outset.

Without a clear strategy for what the Waikato DHB's future looks like, it is hard to ensure that investments are in line with future demand and provide best value for money. It is possible that the Waikato DHB has invested heavily in technologies and new procedures for specific specialities that will flatten in volume over time, due to changes in models of care and early interventions. At this stage, the Waikato DHB cannot articulate what its future demand looks like and as a result is not in a position to understand where its major investments should go.

Difficulties with the new investment decision-making process

A new investment decision-making process has now been established and was rolled out in March 2019. The executive believes the new process will help ensure appropriate decision-making around investments.

However, the impetus for creating the new process was primarily to meet Treasury's compliance requirements around the Investor Confidence Rating, rather than to establish a process that was adequately understood throughout the health board, easy to follow and actually met the organisation's needs. As a result, there is confusion within the organisation as to the rules around capital versus operational expenditure, some staff state that they intend to bypass the process, and among those who say they will follow it, there is a fear of backlogged requests resulting in delays in decision-making.

Whilst the Investor Confidence Rating is a mandatory requirement, the executive needs to balance the process of regulating investment decision-making with its practical application. It is important for the executive to devolve responsibility for decision-making to the appropriate level of personnel, coupling it with accountability and transparency, and still meet the Investor Confidence Rating requirements.

Inadequate clinical contribution in funding decisions

At present, the Funding Management Committee is the final decision-maker for any investment requests greater than \$100,000. While it might reasonably be assumed that clinical oversight would occur as part of the investment pathway, the committee is currently without clinical representation. This should be rectified by including the chief medical officer and chief of nursing and midwifery within the committee. The chief operating officer should also be part of the decision-making at the Funding Management Committee, as the officer accountable for all hospital-based performance within the DHB.

A good example of where decision-making could have been quicker was with respect to a request for cabinets to store endoscopy scopes. Cabinets have long been the accepted practice to store scopes to ensure maximum infection prevention (it is an accreditation requirement in Australia and will become standard in NZ in 2020). The initial request was for 8 cabinets - 5 of which were like for like replacement and the additional 3 were to deal with the additional volume of scopes that were on site. The need to replace the cabinets was due to a power supply issue at the cabinet end and thus making them no longer effective or useable. The manual configuration of the cabinets would also make them non-compliant in 12 months' time. The initial submission occurred 7 March 2019 with a note that it would go to the 26 March Funding Management Committee. It was noted by the department that this was too long, and the recommendation was for the request to be split into replacement and additional and sent two different ways for approval. The 5 cabinets were then

signed off by the chief operating officer and the case for the additional three was rewritten and sent to the FMC. However, at the Funding Management Committee meeting, there was discussion about the perceived benefits, and a request for further data and analysis on the benefits of using cabinets to store scopes. A detailed request for additional information to justify the use of cabinets for scopes was sent to the department for a response. The response was sent back to the FMC on 17 April whereby the FMC approved the additional 3 cabinets with some follow up feedback on providing information for future submissions.

Whilst this could be viewed as demonstrating robustness in ensuring the investment decision was adequately considered, in practice it meant a clinical staff member was required to perform more work and there were delays in implementing the recommended practice. Furthermore, by not allowing the initial purchase of the additional 3 cabinets, the organisation was endorsing the inefficiency of running two systems – one with cabinets and one without. It does not make sense to have a half in half out approach. If the chief medical officer, chief operating officer, or director of nursing were at the meeting, their knowledge of appropriate scope storage would most likely have resulted in immediate approval of the application, with feedback provided to the submitting officer on how to improve business requests. In this example, the chief operating officer should have had the authority to approve all 8 cabinets.

Underdeveloped system and service plans

The health board's Strategy and Funding Department has recently led the development of a DHB-wide health system plan. The plan focuses on delivering the community's healthcare needs from a total lifespan perspective, and clearly articulates both the purpose of the DHB and its priority healthcare areas. The plan was consulted on during its development, with the community and a number of departments within the provider arm engaged.

However, while the plan outlines what it wants to achieve, it does not articulate how it is going to deliver on the objectives in a practical manner. This will need to be the next step in the document's development and will require a significant number and mix of clinicians at the provider level to work through what the future looks like and consider alternative models of care to change demand dynamics. This will need to include assessing how community-based interventions and the creation of health pathways at GP level can assist in curbing demand. This can then inform investment decision-making at the executive level and provide a clear signal to the Waikato DHB as to what the priorities are and where future investment needs to occur. Additionally, there is a significant focus on achieving better Māori health outcomes and this needs to be embedded in each of the key areas of known disparity. It cannot be a strategy that is standalone and with 'motherhood' statements.

Reducing Māori inequity is considered the Waikato DHB number one priority, yet there is no clear direction as to how this will be achieved throughout the DHB. and where initiatives to address this exist, they are competing for the same pool of funds through the service pressure mechanism and competing against business as usual demands. If the Waikato DHB truly wishes to implement this strategy, they will need to ring fence some funding to achieve this and tie it back to clear deliverables and accountabilities. Māori represent as the largest ethnic population which does not access healthcare in a timely manner resulting in reduced opportunity for early detection and intervention and higher mortality rates in preventable disease. Identification of the areas of greatest need for the Māori population within a clinical setting must be identified as a priority and strategies implemented to firstly reduce and then eliminate the disparity.

This will require the hospital to work collectively on solutions and in some cases potentially altering the model of care. Te Puna Oranga has the access into the community and the knowledge to assist in the exploration of the root causes, but it is not Te Puna Oranga's role to 'fix' the inequity experienced by Māori. It is essential that in the relevant departments where inequity for Māori is identified understand why this has occurred and take the responsibility and work with Te Puna Oranga and others to address the issue.

Significant consideration needs to be made towards understanding the barriers faced by Māori as to why many do not freely access the healthcare opportunities available to them. Te Puna Oranga have developed Ki Te Taumata o Pae Ora, a Iwi Māori Health Strategy which embodies the concept of focusing on wellbeing as a whole entity centred around Whānau Ora, which means that for healthcare the focus on health outcomes needs to be delivered acknowledging that the patient is not an individual but a part of a connected community and as such accommodation of this model and understanding needs to be incorporated in how it delivers its healthcare to be truly effective.

Many departments within Waikato Hospital also developed clinical service plans in 2018. However, upon review, these plans fall short of providing a comprehensive service plan. The plans take a business-as-usual approach, adopting a straight-line exponential increase in the expected volume of activity, which results in an exponential increase in service requirements, personnel and expenditure. They lack adequate planning data and analysis with respect to anticipated volumes, interventions, emerging model of care initiatives and technological advances.

For the health system plan to be effective, the clinical service plans must be developed in line with it and incorporate the latest data and information. This work will require 12 months of concentrated effort, with input from health planners, the Strategy and Funding Department, and community health providers, including the primary health network and clinicians from throughout it. Once this work is finished, the health services plan will be complete and can be translated into the Waikato DHB's long-term strategic and investment plan.

Absence of a risk-based review framework

Although the Waikato DHB has a number of committees that review quality and clinical indicators, they tend to be insular and not embedded or distributed throughout the health board. This means that a small group of people are holding the responsibility for the DHB's overall organisational performance.

Discussions held with a variety of clinical departments as part of this review highlighted that the sole focus is on the elective services patient flow indicator national targets, with no focus on the core quality and clinical indicators. It is a general view that the DHB executive nor hospital executive value quality and risk-based indicators and do not use these measures to demonstrate or demand performance. Many departments do not understand how they compared to their peers or were able to identify the areas of greatest deficiency and therefore greatest opportunity.

At present, the Waikato DHB does not adequately drive a risk-based review framework. The lack of focus on the quality and clinical indicators means that both personnel and the organisation may be exposed to higher risks than are acceptable in a health organisation and are overly reliant on the goodwill of the clinicians on the day.

There needs to be a culture of reporting, which encourages questioning and striving for improvement and innovation. Such a culture allows personnel to develop a maturity of self-

assessment, encouraging them to always aim for best practice and continuous improvement, which in turn reduces the risk for the organisation and the personnel that work within it.

At present, Waikato DHB does not demonstrate this maturity and has some way to go before it is comfortable able to question its own processes.

Lack of a formal governance structure

There are pockets of good governance and practice within the DHB and these have largely been established through the efforts of particular staff. While this is commendable, it makes these initiatives somewhat dependent on those individuals staying with the organisation.

Examples of where groups of staff have sought to improve governance and quality outcomes in discrete areas include the Theatre and Interventional Suite Governance Group, which is a collection of specialties working together on theatre improvements and operational performance; and the head and neck multi-disciplinary meeting, which has robust team meetings to determine the best outcomes for patients.

The latter meeting is held weekly and is well attended and represented by all specialties from within the Waikato DHB and from the midland regions. Medical personnel from Bay of Plenty and Tairāwhiti DHBs attend the meeting via teleconference and present patients to the group. The meeting represents good use of time, with patients able to be discussed without needing to travel to Waikato Hospital. All information is gathered and reviewed, and if the outcome is for tertiary-level treatment, the patient then travels to Waikato Hospital.

The multi-disciplinary meeting includes the use of a G-8 Geriatric Assessment Tool to determine the appropriate treatment to provide to head and neck cancer patients. The G-8 screening tool was developed to identify elderly cancer patients who would benefit from comprehensive geriatric assessment. The assessment is completed before any cancer treatment occurs and determines the patient's frailty. It helps the group decide if the patient is fit for treatment; surgery, chemotherapy, radiotherapy. It also gives patients and their family more information to make a decision about whether to have treatment, if it is not going to significantly change the health outcome for the patient.

Two examples highlight the effective governance provided by these meeting.

- Patient A, a 91-year-old who was considering surgery and adjuvant therapy for SCC tongue, scored 10 on the G-8 tool. An assessment was completed to look at comorbidities for Patient A. According to the lifespan tables for a 91-year-old, the lifespan is 3.6 years. Patient A's lifespan was then decreased by 2 years due to their significant weight loss, resulting in a current lifespan estimated at 1.6 years. The assessment goes on to say that Patient A had a high risk of a post-operative lung infection, a high risk of delirium and a significant falls risk post-operatively and would need a period of rehabilitation. The outcome for Patient A was to have a revised surgery to gain local control of the disease.
- Patient B, an 83-year-old with Parkinson's disease and multiple other comorbidities, had a large cheek lesion which required major surgery including a free flap. Following assessment and discussion with Patient B and their family, Patient B was referred to palliative care.

The level of discussion represented in these examples is mature. It allows resources to be allocated to patients for whom the greatest benefits are going to be achieved, reduces negative outcomes for patients and ensures the right decision-making occurs. These multi-disciplinary team models should be replicated throughout the organisation to achieve consistency of treatment and appropriate

resource allocation. They also help prevent patients undergoing additional surgical intervention that may not significantly change their health outcomes, due to comorbidities or their general health and lifespan.

However, these multi-disciplinary models apply within specific areas. It is the lack of formal top-down governance in the Waikato DHB that is a cause for real concern and that needs to be addressed as a matter of priority.

The NZ Health Quality and Safety Commission provides a framework and principles that can be used to establish good clinical governance, as shown in Figure 1. The principles that underpin this are:

- consumer and patient engagement and co-design
- an open, transparent and learning culture
- quality improvement and patient safety
- clinical leadership for quality and safety
- partnerships and involvement of all staff
- effective multidisciplinary teamwork
- measured clinical processes and outcomes
- data use to identify variation
- effective management of clinical risks.

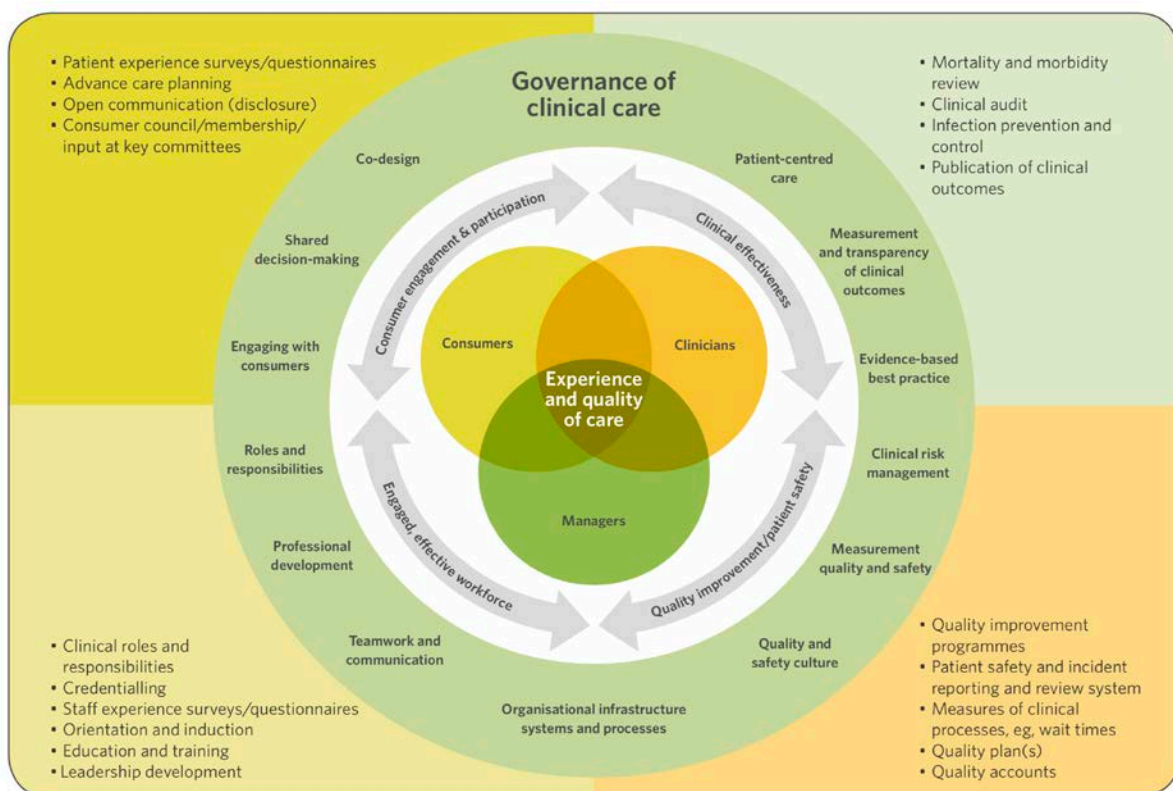


Figure 1. Governance of clinical care

Source: NZ Health Quality and Safety Commission. (2017). *Clinical Governance: guidance for health and disability providers*.

In essence, these principles guide an organisation to being effectively governed and managed. The key risks for the organisation are identified and mitigated, the areas of innovation and improvement are identified and implemented, and funds are invested in those areas identified as having the most

strategic value. Formal governance and expectation drive the culture throughout the organisation and ensures consistency of quality organisation wide.

Unclear corporate responsibility and accountability structures

A lack of corporate discipline throughout the organisation has resulted in roles being added, deleted and changed over the years. This has translated to the incomplete rollout of improvement programmes, duplication of responsibilities and, in some cases, confusion as to who is actually accountable, responsible or holds authority.

At present, there are roles within the organisation that duplicate responsibilities and report to different managers, resulting in inconsistent practices and decision-making. The structure, as it is, does not drive consistency, accountability or clarity. This dysfunction will invariably lead to waste and variation and will be contributing to the financial inefficiencies of the Waikato DHB.

Insufficiently robust executive management and organisational structure

The continued changes of personnel at the chief executive officer and chief operating officer level, has led to frequent changes in reporting lines and this has added cost and inefficiencies. As it stands, the executive management structure feels unfinished and does not provide for clear lines of accountability or consistency. As a matter of priority, the roles and responsibilities of key personnel need to be tightened and made more transparent.

The current organisational, and medical and nursing structures of Waikato DHB are set out in Appendix 2.

Waikato DHB has a history of unsuccessful attempts at adding clinical governance to the organisation's main management structure. In the past, clinical governance has largely been the remit of the chief medical officer as chairperson of the Board of Clinical Governance. This board was deemed ineffective by the chief medical officer and disestablished in 2018, with nothing replacing it to date.

The clinical governance board's failure can be partially attributed to the fact that the mechanisms used to provide effective clinical governance are inconsistent across the organisation. Within the current structure, the medical and surgical doctors report to a variety of clinical leaders and clinical directors, all of whom then network into different forums held within the organisation. The forums discuss areas of practice, concern or innovation, none of which are linked or formalised to determine their role within the operating remit of the organisation. In addition, nursing staff report to different directors or a nurse director, which leads to separate initiatives and focuses, despite staff performing the same function throughout the hospital. These disparate approaches lead to inconsistent management structures and reporting lines, and poorly established channels for monitoring important agreed clinical outcome data.

Overall, the chief medical officer, chief of nursing and midwifery and Board of Clinical Governance, together with clinicians more broadly, have largely played an advisory role, rather than being an integral part of executive decision-making, high-level resource planning or the operational management of the organisation. This separation of clinical governance from the operational management has created an ongoing conflict of priorities and arguably meant that neither has been done effectively.

In addition, this separation has resulted in a clear corporate-clinical divide within the Waikato DHB. This divide has led to an unproductive tension and made good clinical governance an optional

aspiration, rather than a common vision and integrated concept. The impacts of medical decisions in particular, and the resource implications of these decisions, have been poorly coordinated with corporate decision-making around resource allocation.

There have been multiple changes in personnel and roles throughout the years. It could be argued that these changes were based around individuals, rather than a drive to create a comprehensive organisational structure that performed the key functions of the DHB or a desire to align those positions to enable effective decision-making.

Discussions with clinicians, the chief medical officer, the chief of nursing and midwifery, chief operating officer, chief advisor allied health and the executive director strategy and funding all endorsed the principle of creating a clear organisational structure that enforced accountability and transparency across the organisation. There was clear agreement that to enforce accountability, the respective roles required appropriate delegated authority and adequate support to make robust managerial decisions.

The key principles underlying an effective DHB structure are:

- consistent delivery of organisational values and strategic direction
- effective and positive organisational culture
- clear alignment of roles to strategic direction
- agility to allow quick decision-making
- increased clinical leadership and decision-making
- increased partnerships across the hospital setting and, in the community,
- representation of the key facets of the organisation's production and service offering
- clear lines of responsibility and accountability
- clear career pathways to allow succession planning.

The key benefits from an effective structure are to ensure:

- all staff have a shared vision and commonality of purpose, and are effective
- nimble decision-making
- multidisciplinary partnerships and teamwork are in place
- quality improvement and patient safety are prioritised, and established as business as usual
- standards of care are clearly identified
- immediate risk identification and escalation
- data is used to effectively report on clinical processes and outcomes
- leadership development
- a single vision and direction
- clear accountability and transparency.

The entire structure of the organisation must be designed and supported to achieve its primary purpose, which is to deliver high-quality, safe healthcare to the population it serves. It is essential that clinicians are integrated into decision-making processes, using a shared leadership model, from the board and executive level down.

To do this the organisational structure must incorporate teams of staff who are responsible and accountable for the services they deliver. To hold people accountable, decision-making needs to be divested closer to those for whom the decision is relevant and who are being asked to effect any change. It is essential that the right people are making the right decisions, and that these decisions incorporate risk-based assessments.

There is a tendency for organisations to place all executive roles into an executive leadership team. This is done to try and create fairness within the organisation by implying each function is equal to the other. The reality though, is that a number of the executive roles are service providers who support the delivering of effective healthcare. Their predominate role is to adjust and deliver their service, based on the strategic direction and risk-based assessment of the organisation. This does not devalue their contribution, as it is recognised that these corporate roles are crucial to ensure compliance and deliver the support that enables the organisation to function. However, it is equally important to have a tight leadership team that has responsibility and accountability over the strategic decisions and risk management of the organisation. Other roles can report to the chief executive officer, but not be placed in the executive leadership team.

Sample organisational structure

Appendix 3 sets out a sample organisational structure chart. The chart highlights what an effective organisational structure within a health setting could look like. It must be noted that this is not a change proposal; it is simply a structure that could be emulated for Waikato DHB, if the executive and commissioners wished to do so.

The sample organisational structure encapsulates the principles noted above and ensures that various functions are placed in the area where they would be most effective. The structure is not rigid – it would allow specific roles to attend and contribute to specific issues that sit within the executive team, the Quality Improvement Board and any other governing functions. An example of this would be Māori health attending the quality improvement board quarterly to discuss and monitor achievement around the reduction of inequity for Māori and work through the exceptions of performance and where the disparity appears to have increased.

The executive leadership team encompasses representation from the funder, the key accountable positions relating to hospital operations, Māori health and human resources. These roles are ultimately accountable for ensuring that the DHB delivers appropriate care to the community in the most effective and efficient manner.

The Quality Improvement Board is a collection of people who are responsible for driving a culture of quality and safe care within the organisation. Where there are deficiencies or exceptions, it is their responsibility to hold the relevant divisions and departments responsible for the non-performance and manage the remediation of these issues. It is anticipated that executive and non-executive roles would be invited to the quality improvement board on a rotating basis to review organisational progress of core strategic adherence/priorities.

The Operational Triumvirate is a partnership between the chief operating officer, chief medical officer and executive director of nursing and midwifery, with support from a senior financial manager and the executive director allied health.

The predominate three-way relationship of the chief operating officer, chief medical officer and chief of nursing and midwifery is positioned in this way, because these are the three roles that ensure the effective management, leadership and governance of the hospitals within the network. They are also responsible for ensuring adequate linkage to primary and community care to try and prevent hospital admissions.

It is imperative these three roles work together on a daily basis to ensure the effective running of these functions. The chief advisor allied health is a key partner of this triumvirate, as their role is to influence and manage the components relating to allied health, which are represented in multiple

areas of the hospitals and community, and play an important role in flow, discharge and rehabilitation. This role could be represented within the triumvirate, depending on the views of the DHB.

The divisional structure below the operational triumvirate has been proposed to drive clarity and accountability across the various functions of the hospitals. Consolidating like functions means a single point of accountability through to the divisional directors. This enables the directors to have a whole-of-journey focus and manage interdepartmental issues quickly and effectively.

The divisional senior management structure is set up to reflect the same relationship as the operational triumvirate, in that the divisional director, the medical director and clinical nurse director are all equally accountable for the operational and financial performance of the division. They will be responsible for meeting the key quality and operational performance indicators; identifying and mitigating risk; and driving culture and innovation through the entire division, in partnership with each other. This structure drives a single vision and culture, which will reflect the same vision and culture as the operational triumvirate.

The inclusion of non-clinical support services, such as orderly, cleaning, supply chain, and food and nutrition into the operational arm of the hospital is imperative, as these services have direct implications for patient care. As an example, orderlies and cleaners contribute directly to patient flow; and food and nutrition plays a role in the overall recovery and health of the patient and can encourage early discharge or intervention in the event of a patient not receiving an adequate level of nutritional intake.

Equally, mental health patients enter the hospital often through the emergency department, sometimes through a referral for a medical issues such as cancer or renal failure which exasperates the patient's mental health issues and sometimes they present with mental health as their primary issue but have physical injuries such as self-harm. It is important that the patient journey is a coordinated pathway with all specialities taking responsibility toward the recovery of that patient. Isolating the patient to only mental health does not take care of their overall health needs and focuses it treatment on a single component rather than the entirety of the patient. To enable this the chief operating officer should have the full responsibility for all patients treated through the many health facilities in the network to ensure consistency and coordinated care.

An additional component of an effective organisational health structure is the linkage of the hospital-based services with the primary and community care aspects of healthcare. It is imperative that the DHB leadership team does not solely focus on the hospital services and that collectively they have a dual responsibility to primary and community healthcare. Hospital avoidance and early intervention is the key ingredient to managing the cost of healthcare and the linkage and partnerships associated with non-hospital based care should be a key performance indicator and responsibility of every person who sits on the executive leadership team. Whilst the role of an Executive Director – Primary Health is not noted on the leadership team it could be a role that is included. In the sample diagram in appendix two it is a considered expectation from the leadership team to be accountable in particular, the chief medical officer, the executive director, strategy and funding, director of nursing, the chief operating officer, executive director Maori health and the chief executive officer.

One of the major challenges with devolved responsibility is that clinicians, in particular, who hold leadership positions are not necessarily trained in leading or managing large groups of people and financials. It is imperative that the DHB provides training for the clinical workforce in these non-

clinical disciplines, to ensure that there are effective leaders throughout the organisation who have the skills required to make the right decisions based on all aspects of the organisation's performance requirements.

Implementing a structure as outlined in Appendix 3 drives a career pathway and allows the Waikato DHB to identify future leaders of the organisation. At this point in time, Waikato DHB does not have identified leaders to take key leadership roles in the future. It is recommended that a leadership programme, tailored at developing clinicians to be effective managers, be implemented across the management spectrum to ensure continuity of services and standards.

Recommendations

1. Recruit staff for the chief executive officer and chief operating officer positions as a priority.
2. Finalise the organisational structure from executive level through to clinical levels in the organisation, and define accountabilities for each managerial role, including accountability for financial, clinical and organisational governance and outcomes.
3. Develop an effective clinical governance structure that embeds into the executive-level decision making structure.
4. Prepare a Health Services Plan, that integrates the Health System Plan with the Hospitals Clinical Services Plan (to be reworked incorporating the correct information) and involve the primary health organisations.
5. Ring fence funding for strategic priorities such as reducing inequity for Māori
6. Set three clear targets (specific to the organisations recovery) to achieve and communicate effectively to staff and relevant stakeholders – to be done prior to the new financial year to set tone and expectations. Provide feedback to the organisation on its performance of these three targets quarterly in a transparent and easy to follow way.

Financial performance

The Waikato DHB's financial performance has deteriorated significantly over the past 3 years, despite the complexity of its patients staying relatively stable.

Figure 2 and Table 1 detail the health board's increasing deficit over the past 5 years.

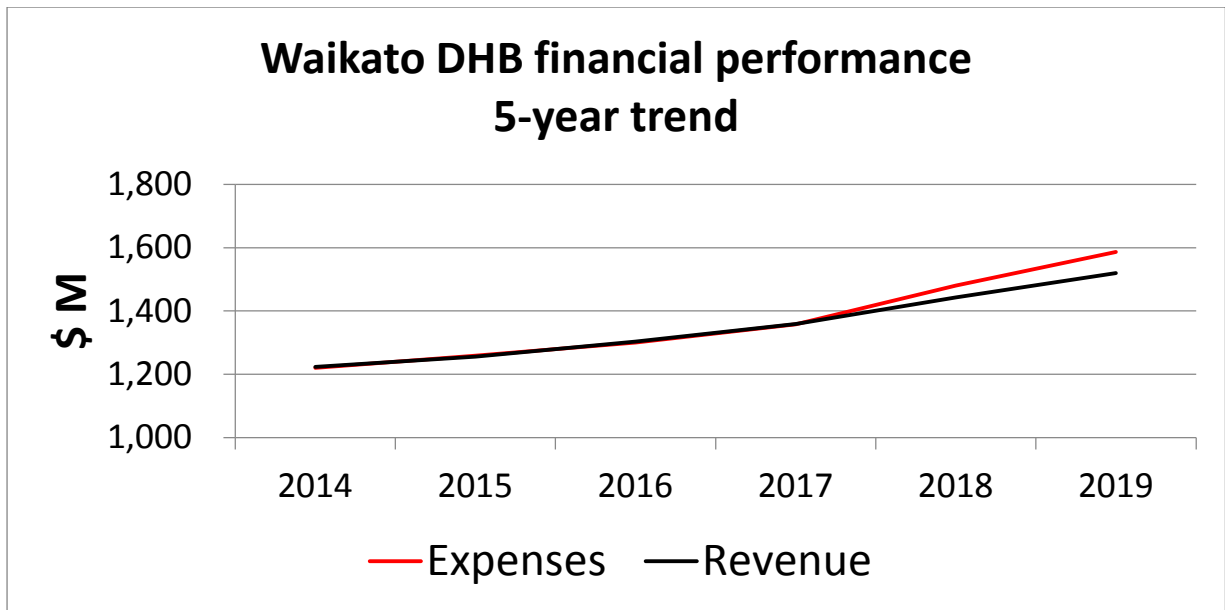


Figure 2. Waikato DHB financial performance, 5-year trend

Table 1. Waikato DHB expenses and revenue, 2014 to 2019

	2014	2015	2016	2017	2018	2019*
Expenses	1,219,919,488	1,258,894,220	1,299,820,991	1,357,625,884	1,480,274,573	1,586,504,281
Revenue	1,223,766,655	1,255,955,077	1,303,253,726	1,358,557,271	1,443,124,379	1,519,812,382
Net result	3,847,167	(2,939,143)	3,432,735	931,387	(37,150,194)	(66,691,899)

Note. *Forecast for May 2019

It is understood that to accommodate the commissioning of, and transition into, the new Meade Clinical Centre, there was an agreement between the Ministry of Health and the Waikato DHB that the DHB could use the approved 'banked' credits from its balance sheet to fund 3 years of operating expenditure. These 3 years ranged from \$8 million to \$12 million each year, which means the deficit position of the Waikato DHB may have been approximately \$9 million in 2014. Despite this, there has been significant erosion of financial performance over the past 2 years.

There is a view within the Waikato DHB that the deficit deterioration is due to underfunding of services by the Ministry of Health. However, Figure 3 shows that Waikato DHB receives a higher population-based funding formula percentage compared to its raw population percentage increase and to its peers.

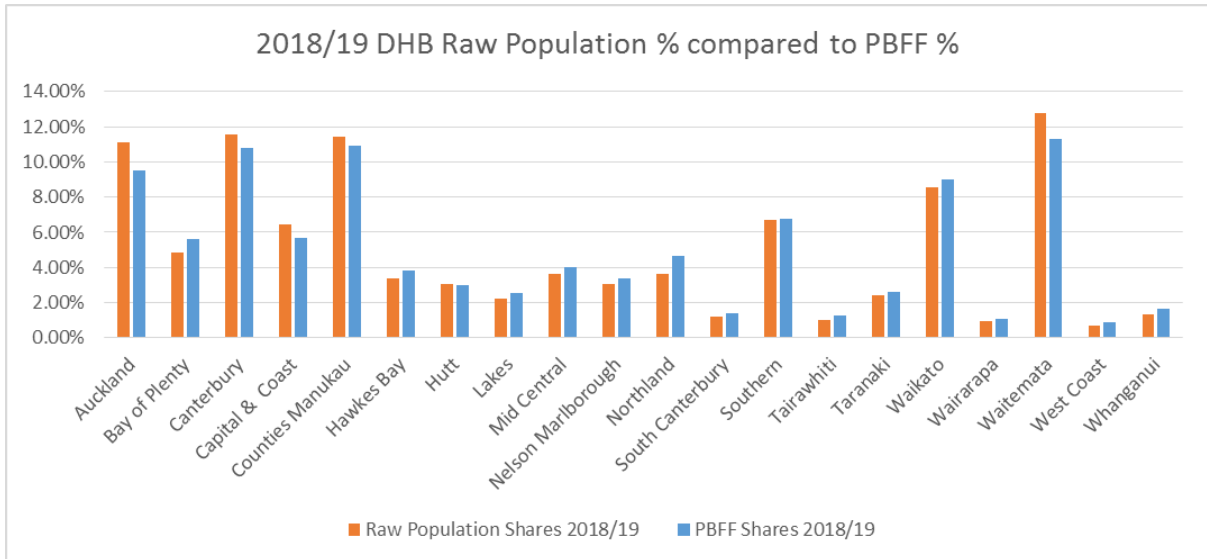


Figure 3. DHB raw population percentage compared to population-based funding formula percentage, 2018/19

Note. Figures show population-based funding only, and exclude adjustments to top slices (electives, forensics, capital charge, primary maternity, etc)

In the population-based funding formula calculation, Waikato DHB receives additional funding to compensate for its rural spread, the diverse ethnicity of its population and the pockets of social disparity experienced in some parts of the Waikato.

In addition, the average case weight discharge for the Waikato DHB has remained relatively constant over the past two years, after experiencing a small increase in 2017, as shown in Figure 4. This indicates that the overall complexity of patients' healthcare needs has not increased and remains relatively the same as it was in 2012. This in turn means that the costs of treating patients have not substantially changed, with the exception of the usual inflationary costs.

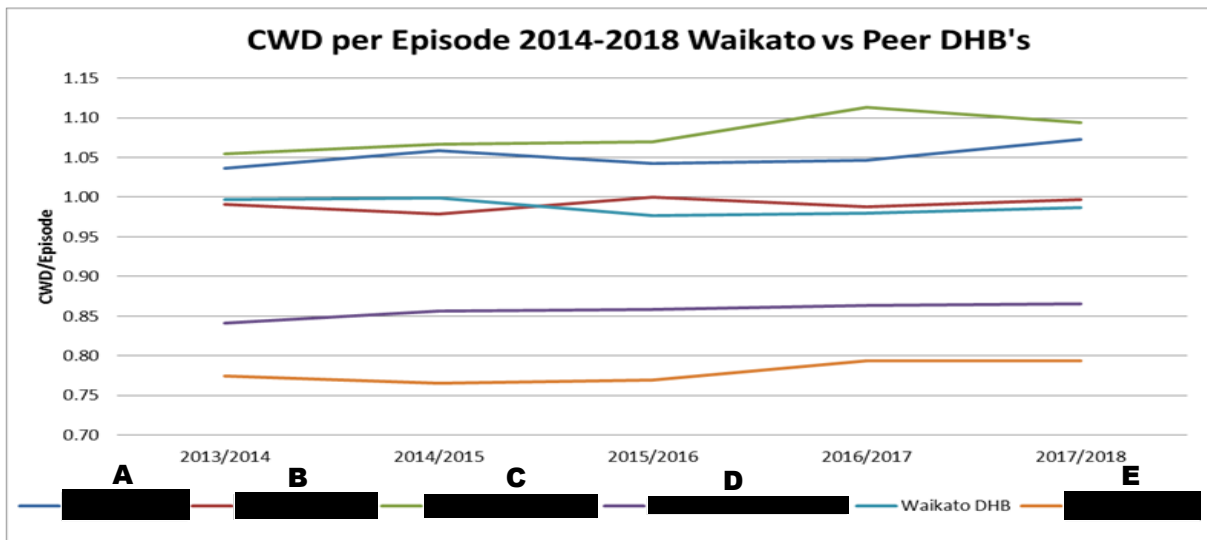


Figure 4. Waikato DHB average case weight per discharge, 2014 to 2019

Source: Ministry of Health, National Cost Collection and Pricing Programme, HealthMart Casemix cube data set

The Waikato DHB has received significantly higher revenue in the Crown Funding Agreement funding envelope than the national average over the past 4 years. The doubling of the 2015/16 rate was to compensate for higher population numbers than had been predicted in prior years based on the published Census data; as shown in Table 2.

Table 2. Crown Funding Agreement funding, 2014/15 to 2018/19

	Cost pressure funding	CP	Demo growth funding	Demo growth	Total Crown Funding Agreement growth	Total Crown Funding Agreement growth	National average funding increase to other DHBs	Tertiary adjuster
2014/15					\$20,061,774	2.13%	2.22%	\$22,535,666
2015/16					\$46,441,213	4.81%	2.12%	\$23,916,716
2016/17					\$43,415,353	4.30%	2.43%	\$23,328,638
2017/18					\$42,311,681	4.00%	3.62%	\$23,795,210
2018/19	\$21,946,540	1.99%	\$26,601,675	2.41%	\$48,548,215	4.40%	4.35%	\$24,267,823

In addition to the higher than average national funding that Waikato DHB has received, strategy and funding has continued to increase the funding to the provider arm at a higher rate than it has for the non-government organisation and primary health organisation communities; as shown in Figure 5. It is anticipated that for the 2019 financial year, strategy and funding will underspend by approximately \$20 million, which offsets the provider arm deficit.

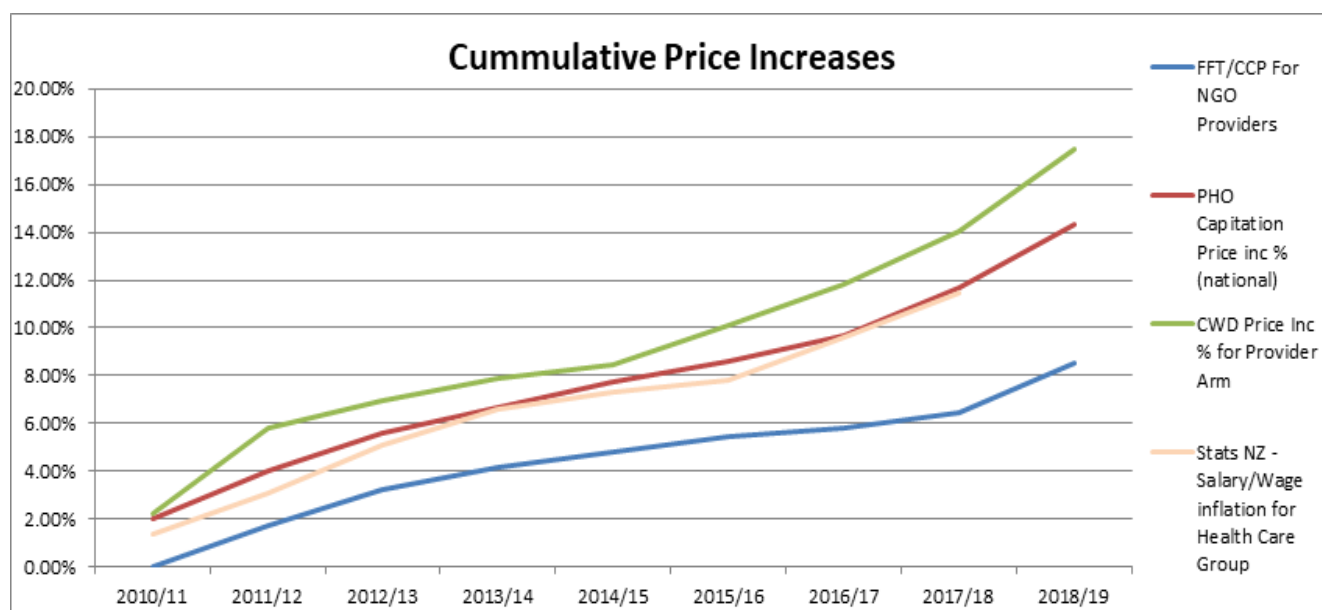


Figure 5. Cumulative price increases

Staffing costs have increased significantly over the past 5 years and contributed to the growing deficit value. The increases are detailed in Figure 6 and Table 3. Appendix 4 details the budgeted differential in FTE for the 18/19 financial year of 598 additional FTE hours. This was a significant intended increase and would once again contribute to a large recurrent financial burden for the Waikato DHB. As at April 2019 134 positions were unfilled compared to budget which should have resulted in a current year underspend but outsourced services has a significant overspend implying that the premium labour resource has been used to cover these positions.

The Care Capacity Demand Management Programme has contributed to 98.4 of the nursing increase at a recurrent cost of \$7.4 million. The programme was implemented in the 2018/19 with the majority of the increase being established for approximately six months. For the remaining six months of the year, premium labour via agency was used to cover the acuity requirements.

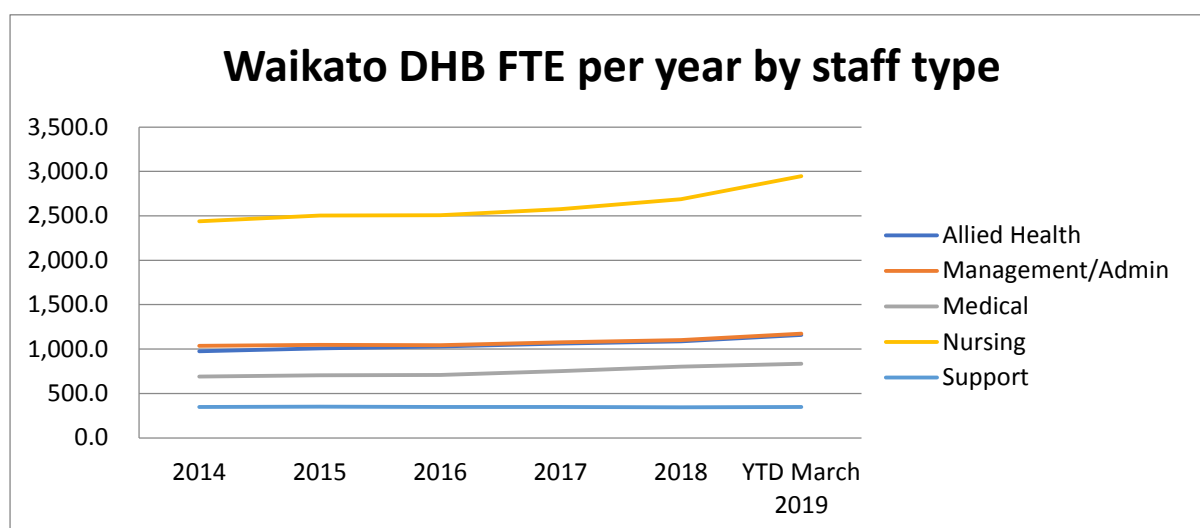


Figure 6. Waikato DHB FTE staff per year, by staff type

Table 3. Waikato DHB FTE staff per year, by staff type

	2014	2015	2016	2017	2018	YTD March 2019
Allied Health	975.7	1,006.2	1,028.5	1,062.1	1,086.7	1,158.6
Management/administration	1,038.5	1,047.9	1,044.3	1,076.8	1,100.2	1,172.1
Medical	691.2	703.4	710.0	752.7	801.9	833.5
Nursing	2,438.3	2,504.9	2,506.9	2,574.7	2,687.7	2,947.1
Support	349.1	350.3	346.8	349.1	345.0	347.1
Total	5,492.8	5,612.7	5,636.5	5,815.4	6,021.5	6,458.4

Outsourced nursing labour

In the current and previous financial year, the Waikato DHB's inpatient wards have had their nursing resource reviewed using the assignment and workload manager acuity management tool and the New Zealand Nursing Organisation's multi-employer collective agreement. This resulted in a large increase in the nursing resource allocated to these areas (approximately \$7 million).

After the increase was approved, it took time to recruit the necessary staff, which led to shortages against budget of nursing on the wards. The Waikato DHB used external agency personnel to fill these shortages, and the roster was filled immediately to the approved budgeted increases for the 2018/19 year. The Ministry of Health contributed \$3 million towards this cost, with the difference allocated to the DHB's operating expenditure line, as premium agency labour.

Over the past 12 months, over 100 additional nurses have been recruited to accommodate the acuity issue but this has not corresponded to a like-for-like reduction in the use of external agency nurses for each new staff member employed; as shown in Figure 7.

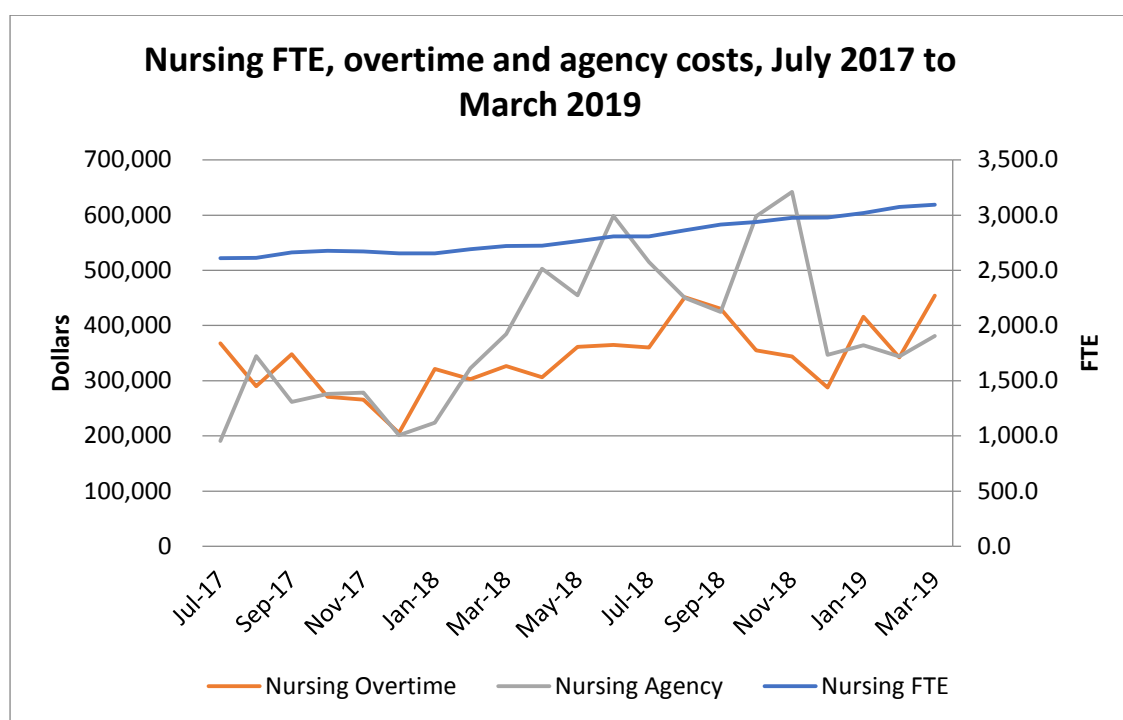


Figure 7. Nursing FTE, overtime and agency costs, July 2017 to March 2019

Upon review, the hospital is also using a higher number of safety partners than in previous years, and external agencies are being used to provide staff to cover this need. Safety partners are used to maintain a safe environment for vulnerable patients; for example, patients with a cognitive impairment, delirium or dementia, or those who have been referred to Oranga Tamariki, who are sectioned under the Mental Health (Compulsory Assessment and Treatment) Act 1992 (for being at risk to self or others), or who have a level of physical aggression that requires special consideration. Safety partners are generally health care assistants and will sit with the patient to ensure constant support and maintain safety.

On most days, there are at least 10 safety partners working in the hospital, and frequently there will be more than 20. Given this high demand, the criteria used to employ safety partners should be reviewed and alternative ways to ensure the safety of vulnerable patients explored.

A review of the use of safety partners was undertaken for OPR5 ward in 2018. The results are shown in Table 4

Table 4. Use of safety partners on OPR5 ward, October to December 2018

	October 2018	November 2018	December 2018
Number of patients requiring safety partners	93	90	91
Number of shifts	254	271	189
Total cost	34,638	37,552	39,076

On review of safety partners in May 2019 it was found that of the 5 cases reviewed, four of the safety partners were not required for the full patient presentation, if a clinical review had been performed in a timely manner. For example, a safety partner was placed with Patient Y an 85 year old admitted with CHF who expressed suicidal thoughts at the time of admission, he was unable to mobilise and required assistance with all Activities of Daily Living. A mental health review was requested at time of admission but the patient was not reviewed until much later resulting in Patient Y having a safety partner in place for 5 shifts. On assessment Patient Y had no plan or motivation for ending their life he was looking forward to returning home to their pets. This assessment could have been completed by any of the medical or nursing staff who had cared for Patient Y over the previous two days. Given the level of immobility of patient Y his risk of actually self-harming was very low and because he required assistance with daily tasks the patient was already receiving high levels of one to one care and monitoring and the need for a safety partner was not appropriate.

A second example was patient X was pleasantly confused but a falls risk, the safety partner had been present for 4 days without review and the nurses were reluctant to make the decision to stop the safety partner. On assessment the patient was aware of the risks and compliant with instructions and could have been placed on high vigilance with frequent rounding and toilet, food, fluid checks. In this case, on discussion with the nurses they did not feel confident in their assessment and were risk adverse, so would rather not make a decision with regard to discontinuing a patient safety partner.

There has been a significant increase in costs associated with outsourced nursing over the last two years while much of this can be explained with the increase in nursing hours per patient day and the AWM calculations. It is difficult to quantify the full overrun.

Over the financial year Matariki Hospital spent \$317,070 on outsourced/overtime while Rhoda Read spent \$153,274 considering these are similar areas in size and acuity the agency spend should not be significantly different especially since open beds are often unoccupied in these facilities. Whilst the difference in cost is great for staffing budgets of their size, both areas have remained operating within their allocated budgets which further demonstrates that run rate is not an appropriate base line for budget preparation.

The Waikato Hospital nursing resource team has also increased the number of staff it employs, both permanent and casual, as shown in Table 5. The team provides a flexible workforce to cover the nursing needs of the hospital and to provide consistent cover for sick leave in inpatient areas.

The nursing resource team does not keep any data on the use of its nurses or the areas whose needs were unable to be met. Data was also unavailable to be able to compare when the team's nurses are being used to cover sick leave or roster deficits or annual leave.

Table 5. FTE growth in nursing resource team over past 5 years

Staff type descry / as at date	07/05/2015	07/05/2016	07/05/2017	07/05/2018	07/05/2019
Clinical Nurse Manager	2	2	2	2	2
Enrolled Nurse - Agency	4	3	3	3	7
Enrolled Nurses					1
Health Care Assistant - Agency	27	28	26	23	69
Health Service Assistants-Aide				2	7
Registered Nurse					2
Registered Nurse - Agency	75	65	70	81	94
Grand Total	108	98	101	111	182

I grouped the above into RNs and HCAs to provide the breakdown below:

Employment status / as at date	07/05/2015	07/05/2016	07/05/2017	07/05/2018	07/05/2019
HCA					
Casual	10	11	12	10	39
Tempor	10	11	12	10	39
Full-Time	3	2	2	2	13
Regula	3	2	2	2	11
Tempor					2
Part-Time	14	15	12	13	24
Regula	14	15	12	13	24
RN					
Casual	16	13	15	10	17
Tempor	16	13	15	10	17
Full-Time	15	16	13	19	19
Regula	15	15	12	11	16
Tempor		1	1	8	3
Part-Time	50	41	47	57	70
Regula	50	41	47	57	69
Tempor					1
Grand Total	108	98	101	111	182

It would be reasonable to expect that this increase in nursing resource team staff should offset the use of external agency staff, but this has not been the case.

Currently each area of the hospital makes its own decisions as to whether to use external agency nurses and health care assistants, or to use the hospital's nursing resource team. This creates a situation where external agency staff are being brought into the hospital, despite nursing resource team nurses being available on site, resulting in additional costs. These costs, and the impact that nursing recruitment has had on them, are outlined in Figure 8.

To improve efficiency, all staffing shortages should be managed by the nursing resource team. This will maximise use of the employed nursing workforce and mean external agency personnel are only ordered where the roster gap or other need cannot be met from the team's pool.

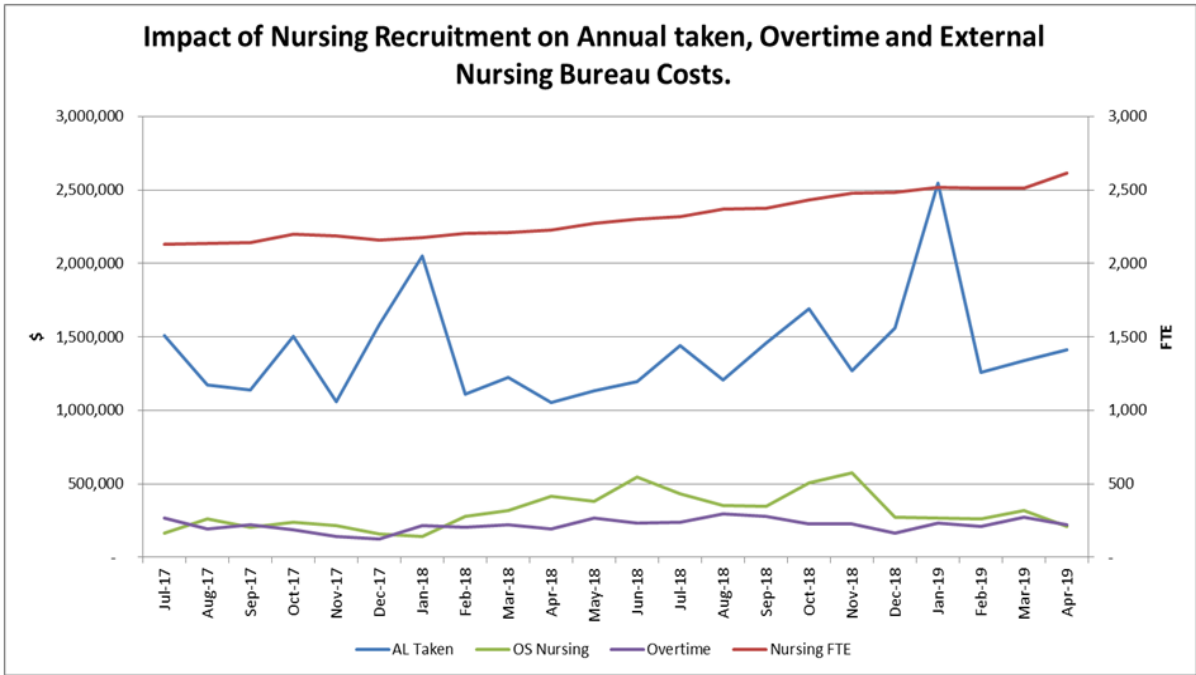


Figure 8. Impact of nursing recruitment on annual leave taken, overtime and external nursing bureau costs

As discussed in the previous subsection on governance, there is inconsistent reporting among nursing roles. Currently, the nurse manager for the integrated operations centre reports to the director of the Emergency Department, medicine, older persons rehabilitation and allied health, while other nurse managers’ report to a nurse director. Appendix two highlights the disconnect of where nurses are working and who they report to (noted by the shading of the boxes). This split increases duplication and cost in managing the nursing resource.

For example, an initiative by the nurse director to reduce the number of safety partners being used would only happen in the clinical areas that they are responsible for. Similarly, the annual leave management plan for one area may be different to another, due to the different directors involved. In order to drive the maximum nursing efficiencies from the system, consistent reporting lines are required. Refer to the governance section of this report for a proposed solution to this issue.

Financial literacy and management

There is little financial literacy within the organisation, and discussions with cost centre managers and finance personnel revealed that there was little evidence that the organisation was sufficiently monitoring its financial performance within the departments. Given the significant deficit position of Waikato DHB, it can be reasonably assumed that some positions have breached their delegations of approval as they continue to spend beyond what has been allocated to them.

Interviews with staff across the levels highlighted a lack of accountability for financial performance, and a consistent message that the only line that managers predominately looked at was the FTE line to see if they had vacancy.

It appears that the level of financial support provided varies throughout the clinical departments, with some seeing their accountant regularly (usually to obtain FTE information), some a few times a year, and others not having seen their accountant for over a year.

There was also little awareness of the seriousness of the Waikato DHB deficit, with many believing that the DHB has always been in deficit and that this was normal. Discussions with unit leaders, business managers and service managers revealed most did not believe they were responsible for the financial performance of their unit. A large number of clinical unit leaders believed they had delegated their financial responsibility and that therefore it was no longer their responsibility.

The Finance Department offers financial literacy training to non-accountants, but feedback is that it is too basic and doesn't meet people's needs. Clinicians are highly intelligent and generally have good numeracy skills. The areas they need additional training and assistance is largely around what to do with the variability in the financials; that is, how can they influence the numbers by using the support mechanisms within the hospital. As such, the training they require is more aligned to business management than accounting 101. They need to understand procurement options: for example, if their clinical supplies are higher can they influence this through an alternative product and how can they do this within the organisation; or if their RSI is higher than their peers, then what are the avenues that they could look at to drive efficiencies across their division and the hospital, which could drive down bed days and costs etc.

The financial literacy training should be about decision-making, cause and effect, and the ability that staff have to influence positive operational and financial outcomes. The same level of training is required on the non-financial front, which includes dealing with staff issues, process improvement and corporate culture. To enable appropriate financial decision-making at the clinical level, there needs to be the appropriate support personnel to work with the divisional directors and managers. At this point in time, there is an inadequate amount of management accounting personnel to support the business.

A high-level assessment of the finance team structure indicates a higher than average FTE allocation on its financial accounting side, compared to that of management accountants. Financial accounting processes can be significantly automated and tend to have a flatter structures in this area, due to the repetitive and transactional nature of this side of the accounting discipline.

The Waikato DHB financial accounting team requires in-depth review to determine whether the most effective and best-practice accounting methods are being used. Modern-day finance teams concentrate on the value-added areas of analysis and partnerships with the cost centre managers. At present, there are an inadequate number of competent management accountants within the finance team, and consideration needs to be given to reallocating the number of FTE positions from the financial accounting side to the management accounting function. [REDACTED]

Finance personnel expressed frustration over not being able to get 'back to basics' on financial management, and that they were often pulled multiple ways to work on many initiatives that did not add value and inherently fell away after an early amount of executive enthusiasm. Additionally, the business analytics team reports to the chief data officer and not the chief financial officer, meaning that any activity analysis is being done in isolation of the financials.

It was noted that there appeared to be a reasonable amount of friction between these two departments with respect to prioritising analysis, and that they often worked independently of one another. The experience through this review with receiving timely and accurate activity and financial information supports the view that the fragmentation is high. It has been difficult to extract meaningful and combined information and having the organisation prioritising the information

requests, where finance would respond but the analytics around activity etc. would not be delivered at the same time, hindering a full view assessment.

This separation of function is a fundamental issue when driving forward effective financial management. Financial and volume analysis go hand in hand and cannot be working to competing and sometimes opposite priorities. Only analysing one aspect of a problem will result in only understanding half of the problem, and the implementation of a solution that only solves a third of the issues. Appropriate performance analysis cannot be done without one or the other, and it is recommended that the analytics function be the responsibility of the chief financial officer, and that the chief financial officer then establishes an appropriate functional relationship between the analytics team and the management accountants. The quality and data integrity component of this team can remain with the chief data officer as this ensures a more objective review of the information and the time taken to cleanse is best performed away from the day to day analytical team.

Budget process

Most cost centre managers monitor their FTE budgets because that enables them to recruit. Outside of this, there is little understanding of where the expenditure is going and whether it is reasonable. All of those interviewed informed the project team that they were never asked to explain their variations to budgets and did not receive instructions around monthly performance, areas of concerns and rectification.

Budgets are set on a rolling base line. This year it was set to the February forecast. This means that whatever the financial performance of each department is, it rolls forward as the baseline for the new financial year and then adds any known variations for the year ahead. This process is fundamentally flawed as it encourages the departments to perform poorly in order to secure greater budget in the new year and penalises the departments who have managed to make savings against their budget.

This process also does not take into account any improvements the new initiatives that have been invested in to reduce inpatient stays and costs. These initiatives should be built into the new budget to drive accountability on achieving the outcomes expected in exchange for the financial investment.

There is little interaction at cost centre manager level regarding the setting of the budgets. This results in a lack of ownership by the cost centre managers, but also misses an opportunity to have a direct conversation with the budget holder about the model of care, spending trends and areas where spending could be minimised. The budget process is performed predominately by the accountants and also incorporates information from the production plan. At the time of this review, the production plan did not match the price volume schedule. Previous reviews also show a disparity between the two documents.

The price volume schedule is the plan determined by the Strategy and Funding Department on the type and volume of activity that will be funded for the provider arm to perform in the new financial year. It is therefore reasonable to expect that the production plan should closely match this schedule, and where differences exist, discussions should be held between the funder and provider.

As part of the current review, the review project team requested a reconciliation between the 2020 price volume schedule and the anticipated or budgeted production plan. The information provided showed variation, but did not explain why there was a difference, with some volumes being almost double in the production plan compared to the price volume schedule.

[REDACTED] The budget process calls for service pressures to be included at the budget round at a divisional head level, and this is seen as a 'free for all' with significant requests made for new funding. This is a flawed process, in that, if effective governance was in place, the Waikato DHB would be well aware of its operational risks and associated financial implications throughout the year and would accommodate or mitigate those as they arise. Asking for risks and service pressures once a year is not effective management and does not send the right message to staff around the need for continuous reporting, risk mitigation and accountability.

The budget process falls short from good practice and there is significant variability built into budgets due to the baseline rolling budget model used.

It is recommended that a budget taskforce team be set up immediately to commence in the new financial year to work on a budget template that incorporates zero-based budgeting principles based on the current models of care. A gap analysis will eventuate from this, which will enable the responsible executives to ascertain the reasonableness of the variation and, where it is deemed reasonable, build in the budget or, and where it is deemed unreasonable, build in a turnaround plan for that area in conjunction with the responsible manager.

This budget taskforce would need to be made up of a combination of management accountants, operational staff, and analytics and costing personnel. This will be a sizeable exercise, but well worth the effort to enable a comprehensive and accurate budget process for the 2020/21 financial year. Once this model is produced, it will need little-to-moderate maintenance every year thereafter to ensure it reflects the organisational direction and models. The templates would then also be able to be used for any investment decisions, to ascertain what the forward year recurrent costs or savings would be for each dollar invested.

It was noted that no savings plans were identified in the current year budget round, nor were they called for in the 2020 budget. The explanation provided was that the savings plans did not work several years ago, and so the executive decided not to run with them in the current year or the next financial year. This is symbolic of the lack of ownership that exists around the need to reign spending in, and of the failure to take steps to understand why initiatives did not work and to rectify that issue. Discussions with personnel indicated that the previous years' savings plans were populated with initiatives that were not reasonably expected to be successful or would not translate to 'hard dollar' savings. There was no ownership, sponsorship or accountability for the savings plans, and that is the reason why they did not succeed.

A consequence of this approach is that, in the 2018/19 budget year, \$15 million from the current year's budget was placed in a corporate cost centre to balance the \$56 million budgeted deficit that was submitted to the Ministry of Health in 2018. The consequence of this was that the \$15 million hit the expense line over the 12 months, increasing the budgeted deficit and contributing to the forecasted end-of-year result of \$68 million.

The review experienced significant issues with extracting meaningful data and financial analysis; and the way information is recorded, and the financial analysis, systems and people supporting this level of analytics was lacking. Many requests for information were unable to be satisfied, because the information could not be extracted or analysed appropriately to draw any conclusions. Additionally, there were a number of systems from which data could have been extracted, only for the review team to find more than one system contained various aspects of the information being sought,

instead of being amalgamated within a single system. This was symptomatic throughout the DHB, where considerable investment had been made in the rollout of systems, which had only partially been rolled out, with the intended defunct system continuing to record the remaining information. It was noted that there is access to a lot of data, but very little of it is meaningful, and a large number of personnel hours are being spent on deriving information for various requests without standardisation.

It has taken the review team over 4 months of concerted effort to obtain meaningful financial data, and even within those data sets, there are caveats as to the reliability of the information. This standard of information retrieval and analysis falls short of what would be expected from an organisation this size. It is recommended that the executive standardises reporting and metrics, create a single source of truth, and rolls this out organisation wide.

Capital expenditure

Capital expenditure has not been fully expended over the past 4 years, despite many clinical assets being close to or past their recommended estimated useful life; as shown in Table 6.

Table 6. Cash flows, 2014/15 to 2018/19

\$000	2014/15	2015/16	2016/17	2017/18	Full year projected 2018/19
Actual spend	24,383	19,448	32,207	37,722	40,000
Capital plan	29,963	60,820	68,001	55,055	
Depreciation	37,747	38,560	40,216	51,013	51,935

Source: Waikato DHB annual reports

The review noted that departments often favoured using operational expenditure over requesting capital funds, irrespective of the availability of the funds and the financial upside of doing so. This supports the sentiment that accessing capital is too process intensive, and as such drive's alternative behaviours.

Two examples were noted in the review where decision-making around the procurement of clinical equipment did not make good financial sense. In the first, over \$750,000 was spent in a single year on maintaining end-of-life volumetric pumps, despite the fact that to purchase of the exact same number of pumps would have cost approximately \$1.09 million in capital expenditure, with minimal servicing costs required in the first few years. This decision was made after capital was not forthcoming to purchase these assets, despite capital funds being available and going unspent.

The second example involved 20 negative pressure wound therapy machines. Each of these machines' costs \$9,500. However, the Waikato DHB leases these machines at an annual operational cost of \$303,000, when to purchase the 20 machines outright would incur a one-off capital cost of \$190,000.

In a similar vein, the health board currently owns a number of end-of-life clinical assets that require additional biomedical support to continue functioning. As a result, three additional biomedical technicians have been employed to provide this support. However, the recurrent cost of these technicians outweighs the one-off capital replacement costs of the assets that could have been purchased instead.

These examples demonstrate that the Waikato DHB needs to better allocate its capital allocation and forecast annually, to ensure it maximises its capital and reduces unnecessary operating expenditure. The capital process should allocate a set budget to the Biomedical Department for end-of-life asset replacement, which can then be discussed with the chief operating officer to determine which assets are to be replaced using a risk-based methodology. This approach would further compliment the accountability framework and align the responsibility of managing the department and associated risks also holds the delegated authority to make the appropriate decisions.

During the review of the capital spend, it was noted that a number of assets held in work in progress date back to 2011. These assets should have been fully capitalised at the time and almost all fully depreciated in accordance with the International Financial Reporting standards.

Inadequate management of annual leave

At the end of February 2019 over \$74 million of annual leave was owed by the Waikato DHB, with 887 staff members contributing to 24 per cent of this amount with annual leave balances of six weeks or more outstanding.

Employees are encouraged to take their annual allocation yearly to ensure an adequate level of rest and recreation is achieved. There is an annual leave policy in force at the Waikato DHB but compliance and focus on it is lacking. The current system for recording annual leave is paper based which results in a number of inefficiencies particularly where forms have not been forwarded or received within the payroll period of the annual leave taken and this results in a high level of annual leave leakage (where annual leave is taken but not recorded).

As with all DHBs Waikato DHB experiences peaks and troughs throughout the year with respect to demand. Production planning does not account for the lower activity times and as such continues to plan for bed cover higher than is required. Low activity periods are ideal for pushing a leave reduction strategy, starting with ensuring those with the highest balances are provided leave as a priority. A conservative target of a reduction of 20 per cent off the old balances outstanding and a 50 per cent achievement on the reduction of the annual leave movement (i.e., every employee takes a minimum of half their annual entitlement) yearly would contribute a sizable reduction to the bottom line deficit each year. Ideally, organisations would ensure all staff take their annual entitlement however, this is not practical each year due to roster difficulties particularly those with a small number of FTEs within the department.

Registered medical officers contribute to \$3 million of the annual leave liability and as they rotate to another DHB their balances move with them. This means there is no incentive for DHBs to manage the leave balances for the registered medical officers as they only have the liability temporarily. When the registered medical officers complete their rotations and are placed permanently into a role, the appointing DHB inherits the annual leave liability. A national strategy needs to be implemented to ensure registered medical officers must take a significant portion of their leave prior to commencing a permanent placement.

Inadequate management of contractors

In December a request for a list of contractors engaged by the Waikato DHB was requested and was provided, however, the list was incomplete and differed from a list that was held by the CFO on comparison. A comprehensive and complete list of contractors could not be provided by the DHB and subsequently a Contractor Review Committee was set up with monthly meetings commencing in 2019. On review of the data provided, there were 74 contractors known to have been engaged in business as usual functions for greater than 12 months with the longest serving contractor being 10 years.

A sample of 9 long term contractors were selected and reviewed by the Waikato DHB and it highlighted a potential financial liability within the range of \$5 million to \$6 million in Inland Revenue Department penalties and backdated entitlements. There have not been any controls around the engagement of contractors and some departments have opted to use contractors as a convenient model of employing resource, but this is at a premium rate and a costly outcome for the Waikato DHB.

At the completion of this review, the Contractor Review Committee has developed a more extensive list of contractors, and Human Resource, Finance, and Legal departments are working through the list of individuals to rectify the issues.

Initial correspondence has been distributed to cost centre managers to remind them of their obligations around recruitment and the process of engaging contractors and the definition of such. It was of the opinion of the review team, that this correspondence was not assertive enough and still would lead to inappropriate engagement of contractors, and it was requested a more robust and clearer directive be issued with respect to the engagement of contractors in business as usual roles. It is recommended that all approved labour resource firms be required to produce a monthly summary highlighting all labour resources deployed to the Waikato DHB outlining the department, approving manager, contractor details including rate and commencement date, anticipated date of termination and actual date of termination. This would provide the Human Resources Department an opportunity to quickly assess whether there are recruitment issues in various areas and provide support accordingly. Whilst the reporting would not account for all contractors it would account for a substantial amount of them.

ACC billing

Healthcare that attracts ACC is a separable portion of funding, which is paid over and above the population-based funding formula and is claimed on an as treated basis.

The Waikato DHB's ACC team has demonstrated a great improvement over the years in its ability to claim additional revenue for procedures performed within the district that are eligible for reimbursement. However, a significant proportion of the team's workload and growth in FTE arises from the need to identify patients through means other than an ACC number, due to the admitting staff member not entering the correct information into the i.PM patient management system at the time of the patient's admission. This delay increases the chance of procedures not being identified in time to obtain reimbursement.

ACC has strict protocols around the timeframes of claims and the information required, and if the correct information is not provided, then the claim is automatically rejected. In addition, ACC frequently refreshes the procedures it will cover, which presents new opportunities to claim each year, and this information should be continually updated and communicated to staff. There is a lack

of awareness within the clinical teams about the importance of noting an ACC claimant within i.PM and as a result revenue is lost.

The ACC team also spends a significant amount of time going through the surgical lists to identify likely ACC procedures and then trace the patient back to a claim. This has proven to be a successful, albeit time-consuming, approach for the ACC team. However, identifying medical claims is much harder, and patients who require long-term rehabilitation support are more likely to be missed for reimbursement if they are not noted as an ACC patient at the time of their bookings. The ACC team has recently identified a number of patients who have been receiving long-term rehabilitation support from the Waikato DHB, but due to constraints around the timeframes for claims, the revenue for prior years' treatment has now been forfeited.

Greater education of front-line staff about the importance of ACC identification needs to occur. Annual training around the treatments that ACC will cover should also be given to the administrative teams within the clinical departments, to ensure adequate capture of revenue.

Full-time equivalent staff

Requests were made of Capital & Coast DHB and Counties Manukau DHB for their FTE data to enable a comparative assessment to be made against the number of FTEs employed by the Waikato DHB. Neither DHB were able to respond to the request and as such comparative data was not available for the resource review to perform any detailed analysis. A further request was given to the acting CEO and acting chief operating officer to see if they could assist with obtaining Canterbury DHB FTE data and Capital & Coast data respectively. This was also unsuccessful. The executive director of the Human Resources Department made concerted attempts with her colleagues, but this was also unsuccessful, with the exception of obtaining Auckland DHB data. On review of the Auckland DHB data, it was determined by the resource review group to be not comparative to Waikato DHB to enable appropriate assessments to be made due to the differences in services provided by the two DHBs and the size of the population and demographics it serves.

As a result of being unable to obtain comprehensive FTE information, the resource review team had to rely on the TAS data submissions made by all DHBs to the Ministry of Health. See Appendix 4 for the FTE movement analysis.

From that review, the following observations have been noted.

An additional 5 FTE of Anaesthetists were employed in 2018/19 to accommodate the growing number of surgical lists. The registered medical officer MECA required roster changes resulted in an additional 11 FTE along with 8 FTE contributing to registered medical officers' relievers. As previously indicated, an increase in nursing FTE was as a result of the CCDM implementation but the majority of increased nursing costs came from the opening of new wards such as M18 and beds. There was a considerable increase in Allied health staff to support a weekend roster to provide allied health cover along with support for the new M18 surgical ward. Allied health FTE sits slightly above the mean for FTE resource comparative to the country and holds the highest FTE allocation in its NZ peer group. It is suggested that the model of care for Allied health be reassessed to ensure the effectiveness of this level of resource group being deployed to Waikato DHB prior to any further FTE increases being approved.

Over the past 12 months the senior medical officer FTE has increased by a further 65 FTE. The senior medical officer resource for Waikato DHB is the highest amongst its peer group and higher than Auckland DHB putting it well above the mean and more consistent with the senior medical officer

levels found at the secondary level hospitals; as shown in Table 7. This would imply that Waikato DHB has too many senior medical officers. This is supported with the observation of senior medical officers being employed by Waikato DHB and deployed directly to facility lists at an outsourced provider's facility. Greater assessment needs to occur within the senior medical officer make-up of the DHB to determine where the over resource vs in house activity is occurring and action accordingly with FTE reduction strategies via natural attrition.

Table 7. Headcount and full-time equivalent staff, by DHB and occupational group, December 2018

DHB	Nursing			Corporate and other			Allied & scientific			Care and support			SMO		RMO		Midwifery				
	Head count	FTE	Mean FTE	Head count	FTE	Mean FTE	Head count	FTE	Mean FTE	Head count	FTE	Mean FTE	Head count	FTE	Head count	FTE	Head count	FTE	Mean FTE		
Auckland	3646	3113.7	0.85	1869	1654.2	0.89	2019	1769.5	0.88	697	650.9	0.93	1077	882.5	0.82	638	631.8	0.99	154	118.3	0.77
Bay of Plenty	1218	930.0	0.76	628	555.8	0.88	436	367.7	0.84	299	244.9	0.82	217	178.9	0.82	182	180.4	0.99	56	38.8	0.69
Canterbury	3541	2915.7	0.82	1928	1688.2	0.88	1576	1299.6	0.82	981	775.6	0.79	595	502.6	0.84	541	532.6	0.98	137	90.2	0.66
Capital & Coast	2182	1756.3	0.80	1092	994.6	0.91	732	630.5	0.86	397	352.3	0.89	412	326.5	0.79	399	382.1	0.96	112	78.6	0.70
Counties Manukau	2563	2190.5	0.85	1365	1185.7	0.87	1067	929.3	0.87	724	636.1	0.88	549	464.2	0.85	417	411.3	0.99	180	134.0	0.74
Hawke's Bay	1086	774.9	0.71	580	497.8	0.86	462	371.8	0.80	286	227.3	0.79	149	129.0	0.87	154	153.6	1.00	70	41.0	0.59
Hutt Valley	725	590.7	0.81	475	430.7	0.91	341	277.3	0.81	247	216.8	0.88	160	124.3	0.78	173	164.0	0.95	47	32.1	0.68
Lakes	566	447.0	0.79	312	280.7	0.90	192	163.3	0.85	121	99.4	0.82	95	85.6	0.90	91	91.0	1.00	34	25.4	0.75
MidCentral	1034	847.7	0.82	612	562.6	0.92	353	312.9	0.89	175	141.3	0.81	162	144.8	0.89	172	171.4	1.00	55	37.7	0.69
Nelson Marlborough	761	554.7	0.73	539	448.6	0.83	316	234.9	0.74	464	339.9	0.73	152	124.4	0.82	97	96.8	1.00	43	28.4	0.66
Northland	1174	902.1	0.77	575	495.9	0.86	470	392.4	0.83	420	316.9	0.75	198	190.9	0.96	126	125.1	0.99	65	40.6	0.62
South Canterbury	319	245.5	0.77	161	124.4	0.77	92	71.9	0.78	75	53.2	0.71	64	48.1	0.75	25	24.9	1.00	18	13.3	0.74
Southern	1774	1411.3	0.80	845	746.8	0.88	637	540.3	0.85	347	271.4	0.78	301	239.4	0.80	291	280.5	0.96	74	51.2	0.69
Tairāwhiti	323	255.1	0.79	197	177.1	0.90	112	91.3	0.82	83	67.6	0.81	60	52.7	0.88	25	24.6	0.98	23	17.7	0.77
Taranaki	615	470.7	0.77	394	350.9	0.89	239	194.1	0.81	184	154.2	0.84	126	105.0	0.83	93	92.7	1.00	28	21.2	0.76
Waikato	2752	2309.8	0.84	1591	1417.0	0.89	1087	952.8	0.88	858	726.0	0.85	432	383.7	0.89	454	446.7	0.98	119	87.5	0.73
Wairarapa	272	191.6	0.70	137	109.3	0.80	71	50.9	0.72	64	43.3	0.68	33	29.1	0.88	14	13.4	0.96	19	13.0	0.68
Waitemata	2492	2111.5	0.85	1302	1135.8	0.87	1331	1093.5	0.82	980	874.0	0.89	509	433.1	0.85	375	367.1	0.98	170	114.3	0.67
West Coast	306	258.3	0.84	165	140.3	0.85	76	69.3	0.91	142	98.4	0.69	32	27.5	0.86	11	10.5	0.95	13	8.5	0.65
Whangarei	416	338.9	0.81	212	185.6	0.88	129	107.6	0.83	116	94.6	0.82	56	51.2	0.91	41	40.8	1.00	23	17.6	0.77
Grand Total	27765	22615.9	0.81	14979	13182.0	0.88	11738	9920.8	0.85	7660	6384.0	0.83	5379	4523.5	0.84	4319	4241.2	0.98	1440	1009.4	0.70

Recommendations

1. Have budget holders (department heads) sign off the 2020 budgets, with savings plans attached and built into the budget as a separate line item per cost centre.
2. Provide transparency of capital budget, plan, allocate and redistribute based on forecasted spend to ensure the organisation's capital spend is adequate.
3. Prepare and implement a performance pack requiring monthly reporting, including against the achievement of the efficiency targets.
4. Prepare communications that outline the current financial status of the organisation, explain that the financial deficit is within the control of the organisation and not the ministry, and set out expectations for a turnaround plan. Align the priorities noted in the governance section of this report to this communication and articulate each person's accountability.
5. Prepare a clear framework that outlines the devolved accountability and when centralised decision-making is required.
6. Realign the activity-based analytics function to finance, and partner with management accountants.
7. Perform a review of the financial accounting functions and automate where possible and roll up reporting lines to create a flatter management structure.
8. Realign FTE to adequately invest in management accounting and integrate the FTE into the business as partners.
9. Assign a small budget taskforce team comprising of finance and operations personnel to prepare a zero-based budget process for 2020/21, as well as a multi-year financial tool to model future investment decisions at the time of approval.
10. Develop a savings plan for the 2019/20 financial year and implement monthly monitoring.
11. Implement a new financial literacy programme – tailored to the various levels in the organisation and roll out. Engage with the local education institutions to assist with this, particularly with online content. Include how the funding for DHBs is calculated, so that people understand the importance of their financial decision-making.
12. Provide an online financial literacy induction programme, for all new cost centre managers to complete as part of their induction, which recognises their obligations and expectations.
13. Prepare an annual document highlighting the changing ACC support and importance of capturing the ACC number at source. Implement training with admission personnel and provide an online desk file that outlines what is required for both ACC and non-resident patients.
14. Allocate capital budgets to specific positions, such as the chief operating officer and the biomedical director, to enable them to prioritise replacement capital spend based on risk. Remove the FMC approval process for the identified items leaving it to the chief operating officer to ensure appropriate procurement and documentation is followed. Implement reporting to ensure the identified items are being spent within the capital allocation. Retain a proportion of the budget centrally to accommodate unexpected spend.

15. Have the Contractor Review Committee prepare and implement plans around the removal of long-term contractors and recruit accordingly.
16. Have the Contractor Review Committee instruct all labour resource firms on the approved panel list to provide monthly reports on the labour hire they provide to the Waikato DHB.
17. Implement appropriate annual leave strategies and make them KPIs for executives.
18. Enable the Human Resources Department to work with cost centre managers on employees with high annual leave balances and develop annual leave plans.
19. Link the annual leave strategy with the production planning process.
20. Develop appropriate processes with respect to contractor engagement, communicate and implement. Implement a robust contractor engagement reporting process whereby HR receive reports from the approved contracting agencies on who has been deployed where and for how long so that recruitment and value for money can be prioritised
21. Implement additional training around the appropriate use of safety partners
22. Centralise the process for ordering & management of external agency nurses - within the nursing resource team

Quality and risk

The Waikato DHB created a Quality Governance Strategy in 2015. The strategy outlined the organisation's approach to quality, safety and risk, in line with the triple aim, health and disability, health quality and safety commission, and national standards. It also outlined the roles and responsibilities that each staff group had towards quality and risk, in order to create a culture of continuous improvement and self-assessment.

This strategy is now expired, and needs to be reviewed, updated and implemented.

It is important for an organisation to understand its risk appetite, so that it can quickly and clearly identify whether events or deficiencies within the operational arm represent a controlled and acceptable risk, or an uncontrolled and unacceptable risk. It is impossible for any organisation to remove 100 per cent of risk from its operations, and as such an organisation needs to articulate its tolerance levels for risks within its different functions. Some areas will have high tolerances to risk, which encourages innovation and experimentation, such as the redesign of a service or the adoption of new model of care initiatives, providing they are consistent with the achievement of patient safety and quality improvements. Conversely, an organisation would not have any appetite for risks that could result in poor quality care, non-compliance with standards of clinical or professional practice, or poor clinical interventions.

Risk also forms an important component of an organisation's decision-making and determinations around strategic investment. By setting a risk appetite and risk tolerance levels, the organisation can then assess where the majority of the deficiencies and threats to performing its services appear. These are the areas where the most concentration is required to mitigate, and in some cases eliminate, the risks that the organisation has deemed unacceptable, which in turn reflects its forward investment proposals and priorities. Making each person accountable for managing risk in

the areas they control and agreeing on investment to mitigate the largest areas of risk, means that all employees understand the strategic direction and priorities.

A number of Waikato DHB business cases and funding requests submitted to the executive for approval do not adequately address risk, or the mitigation options immediately available and an alternative investment to mitigate the risk.

A number of initiatives and projects also occur without actually understanding why the proposal should occur, and what would happen if it didn't eventuate. This leads to many projects being approved that add little or no benefit to the organisation, compared with the dollars that have been invested. This means the organisation has put in a significant amount of cost, resources and effort for a project that did not substantially change the organisation's required outcomes, such as quality, safety and access.

A review of Waikato DHB's risk register highlighted some concerning aspects. The register was not up to date, as it contained unmitigated risks from 4 years earlier. There were risks on the register that have been accepted as having a high rating, which if the risk matrix tool was used, would not have been considered as high risk; and there are a number of accreditation and quality issues that have not been placed on the register.

This shows that the Waikato DHB has a low level of maturity around identifying, mitigating and accepting risks in the organisation. The risk register is not used appropriately, and it will require a significant push by the executive and clinical leaders to rectify this issue and ensure that all known risks within the organisation are formally identified, mitigated and regularly reviewed.

Discussions with staff regarding quality highlighted that there have been some good improvements in processes within the organisation around incident management reporting, and Severity Assessment Code reviews and follow up, and that the quality and patient safety team had worked well with the other teams on removing the defensiveness around investigations.

It was noted, however, that there were some actions from the incident management investigations that were not closed, and at the time of the review there were 28 Severity Assessment Code 1 and 2 actions that have passed their implementation date but are still outstanding. Unactioned Severity Assessment Code 1 and 2 events are an unnecessary risk for the organisation and should be implemented and closed off within the required timeframes. Responsibility for implementing and closing the open action items sits with the clinical teams.

The nursing profession concentrates on quality initiatives and outcomes through the Releasing Time to Care Programme, but it appears very few of the other professions have put quality at the top of their agenda or work in conjunction with the quality and patient safety team. Part of this issue may be attributable to the mixed model used for providing quality coordinators, with some areas, such as mental health, women's health, laboratory and radiology having a quality manager or facilitator sitting within and reporting to their team or department, and a professional line report to the director of quality and patient safety. Mental health in particular has enjoyed the mental health focus of having their own quality facilitator, as previously their facilitator was based in the quality and patient safety team and pulled into doing many Severity Assessment Code reviews outside of mental health. The quality facilitator is a member of the National Mental Health Quality Group and will be able to produce mental health specific quality indicators.

The review team recommends that this model of quality personnel being placed within the divisional structure should be rolled out across all clinical teams. This would enhance the relationship of the

quality and patient safety team with the operational teams, especially when rolling out organisational quality initiatives, as they will be consistently applied, measured and reported on.

As indicated in the governance section of this report, it is imperative that appropriate governance, capable of measuring performance and quality, is implemented as a matter of priority. It is recommended that a Quality Improvement Board should be established, as outlined in the sample organisational structure in Appendix 2. The Quality Improvement Board will focus on the exceptions to care and the agreed organisation-wide KPIs, will monitor clinical risks from major investments and programme rollouts, and oversee the outcomes from organisation-wide initiatives.

In addition, the improvement board should provide oversight to ensure that clinical risk is mitigated when introducing new techniques and procedures. It will have a monitoring function and would use the structure of accountability to drive the responsibility for inaction or poor results back to the respective divisional directors.

Recommendations

1. Update and implement the Quality Strategy, following its sign off by the chief executive officer.
2. Prepare a risk appetite framework for the organisation to objectively measure risk and investment.
3. Implement the Quality Improvement Board in line with the accountable structure and framework
4. Introduce a balance score card at every level of management and monitor.
5. Communicate succinctly the respective quality responsibilities of the wards and the quality and patient safety team, and how they align.
6. For all new clinical staff, make quality and patient safety principles and expectations part of their induction.
7. Invest in quality coordinators within the divisions, with professional reporting lines to the quality and patient safety director.
8. Update the organisational risk register.
9. Implement appropriate risk training throughout the organisation.

Hospital operations

Patient flow

The overall management of patient flow within the organisation does not reflect best practice and is fragmented and inconsistent. The integrated operations centre is considered as the hub of patient flow through the organisation and is responsible via the duty manager and the nominated operations director. The oversight of the integrated operations centre is performed by an operations director who rotates on a daily basis and has control of the hospitals from 0700 – 1900 hours; then the duty manager takes responsibility for the night shift. The operations directors come from within the Waikato hospital management structure. The rotational nature of this role makes it ineffective in delivering good patient flow through the hospital.

Patient flow is not about a moment in time, it is about cause and effect and the need to take a short, medium- and long-term view of how the hospital is going to operate. Decisions made today will have a profound effect on the hospital's capacity in 3 days' time and so it is necessary to have the same person responsible for the decisions they make today be accountable for the outcomes of those decisions in 3 days' time. Rotating the hospital oversight also drives an inconsistent behaviour as the decisions and the style of flowing patients through the hospital is different for each person. What is a focus for one person may not be as much of a priority for the next and as such the decisions made over the course of a week can essentially work against the concept of flow as the decisions made may actually undo or contradict the prior day actions. This drives further inefficiency into the business.

There are essentially three main entry points that bring patients into the hospital, the Emergency Department, outpatients and theatre. Each area has its pressure points and a position needs to manage the demand and response to moving the patients in and out of their area. The manager of outpatients should have oversight of all current and future clinic appointments including the FSA, the manager of the Emergency Department has oversight over the triaging and management of each of the patients arriving at the Emergency Department and there should be a position (usually the duty anaesthetist) within theatres managing the flow of acute and elective demand.

To manage patient flow it is essential that there is a single point of accountability and a single position that liaises with these three areas to coordinate the response and flow of people into and out of the wards and through the hospital. In the event of an acute overload, they would speak to the duty anaesthetist around the management of the theatre and seek a decision around any potential elective cancellation or theatre overrun, liaise with the wards on discharge opportunities and bed placement for high acuity patients. This role then needs to look at the impact the current situation has on the beds several days ahead and implement strategies to mitigate ongoing consequences of the current situation.

One of the delays in discharging is with doctors performing a ward round in the morning, noting a patient is ready for discharge and then returning late in the day to perform the discharge resulting in some rural patients unable to go home due missing the transport shuttle and therefore extending their stay. A delayed discharge that spans a fair part of the day is a costly and unnecessary process. Waikato DHB could circumvent this delay by introducing criteria led discharge and allowing the charge nurse to discharge the patient in accordance with the criteria and protocol set. This would reduce the length of stay by some hours and also open up beds earlier in the day for Emergency Department admissions to take place. Waikato DHB previously attempted criteria led discharge in the cardiology, however, made it an opt in process for the doctors and did not fully commit to the concept. The result was a failed project 3 months from implementation.

To introduce criteria led discharge into the DHB the DHB will need to commit to an all-in process and develop discharge criteria and protocol with all medical personnel committing to the process and concept. The Waikato DHB will need to implement robust monitoring and incorporate an accountability framework to ensure this method is consistently applied.

In addition to criteria led discharge, the Waikato DHB should introduce rapid rounds into the ward to build a culture of identifying the patients anticipated date of discharge and associate that with what the patient needs will be during their stay and what they will require in terms of their care plan to assist discharge and post discharge support such as allied health. The anticipated date of discharge is a fundamental concept to the plan of care and discharge pre-planning activities and is reviewed daily

via the rapid round by both the treating clinician and the associated nursing and support team. The rapid round notes would assist the patient flow team to anticipate the freeing up of capacity and the nursing, allied health and mental health teams can ensure the required components of the care plan are coordinated and in place to meet the anticipated date of discharge. This focus on timely discharge will assist in Waikato DHB reducing its average length of stay and help bring it in line with the national average.

This process would then assist in assessing the long stay patients within the ward and ensuring their timely access to the wrap around services to enable their complex recovery. Long stay patients should have a secondary review by the chief medical officer or his team between the eight and tenth day of their stay to determine appropriateness and ensures escalation to obtain unresponsive services required to provide support but not yet delivered. There were 122 patients on the ward that have a stay greater than 10 days with 53 of those greater than 21 days on 30 May.

Waikato DHB has implemented an electronic whiteboard known as PFM. The business case was approved in 2016 and had outlined benefits such as a reduction in length of stay over a two-year period from 3.4 days to 3.2 (17/18) and 2.9 days (18/19) and a reduction in bed days. Additionally, it stated the introduction of PFM would improve compliance with national targets out of the Emergency Department and encourage early discharges.

An excerpt from the business case regarding 'hard dollar savings' is shown in Figure 9.

The cost profile forward costs over time is currently:

Wards						
Last Full Year						
Actuals	2017	2018	2019	2020	2021	2022
	\$106,130	\$106,566	\$110,915	\$114,894	\$118,986	\$122,947
		100.4%	104.1%	103.6%	103.6%	103.3%
					103.3%	103.4%

This translates into the following for each year:

LOS expected results	2017	2018	2019
Current average bed days occupied	498.4	498.4	498.4
Effect of reduced LOS		29.3	46.7
% of current bed days		5.9%	9.4%
Reduction to recognise staff/bed ratios		60.0%	60.0%
Net efficiency effect		3.5%	5.6%

This efficiency factor has thus been applied to the Implementation Case model to estimate the expected reduced ward costs due the reduction in demand.

The resultant cost profile forward costs over time is:

Wards						
Last Full Year						
Actuals	2017	2018	2019	2020	2021	2022
	\$106,130	\$106,566	\$107,232	\$109,296	\$113,185	\$116,949
		100.4%	100.6%	101.9%	103.6%	103.3%
					103.3%	103.4%

This results in a saving against cost of growth of:

Wards:	2017	2018	2019	2020	2021	2022
Current Cost growth Profile	\$106,566	\$110,915	\$114,894	\$118,986	\$122,947	\$127,117
Post implementation cost growth profile	\$106,566	\$107,232	\$109,296	\$113,185	\$116,949	\$120,912
Cost of growth savings	\$0	\$3,683	\$5,598	\$5,801	\$5,998	\$6,205

Figure 9. Excerpt from the PFM business case, showing predicted cost savings from PFM's implementation

Stage one of the PFM roll out was completed in September 2018, with an approved budget variation of 100 per cent from the original business case (originally costed at \$1.05 million close out of phase one costed \$2.049 million) and was implemented in the following teams and departments:

- inpatient wards
- allied health services
- kaitiaki
- START
- registered medical officers
- PAR team
- nutrition and food services
- integrated operations centre
- mental health (inpatient).

Notably, the Emergency Department was not part of the phase one implementation thus automatically removing the core benefit of a patient flow management tool. A patient flow management tool is used to maximise efficiencies by providing the real time visibility of the inpatient journey, enabling rapid and accurate identification of issues, blockages or bottlenecks. Without incorporating the Emergency Department into the patient flow manager tool, it essentially cannot be used to its fullest functionality and simply reduces the software to being a task management system allowing the secondary benefits to be realised such as electronic referrals and direct messaging to the afterhours on call medical professional. Based on documentation received, phase two of the rollout also does not include the Emergency Department bringing into question as to whether the additional investment in this tool actually worth the effort.

Despite the PFM being rolled out to the integrated operations centre, the centre does not use the system, understandably given its lack of Emergency Department information. It is imperative for a tertiary level hospital like Waikato DHB to have an effective patient flow management tool that includes the Emergency Department flows to enable appropriate management of the patient journey. Not unsurprisingly, none of the benefits identified in the business case of the PFM in 2016 have not eventuated.

Length of stay

The average length of stay for Waikato DHB has consistently been higher than its peers, as shown in Figure 10.

When this is coupled with the fact that the average case weight discharge has not significantly changed over the past 2 years, it can be reasonably assumed that the complexity of patients has not moved to the point that it requires additional resources to accommodate the workload.

It is acknowledged that lower case weight procedures could attract a longer length of stay and cost if the patient has multiple comorbidities and requires greater care, but this would need to be true of a substantial number of patients for it to make a statistical difference in the comparison. As noted above a significant number of patients are experiencing hospital stays longer than 10 and 21 days. These patients need to be reviewed as a matter of priority.

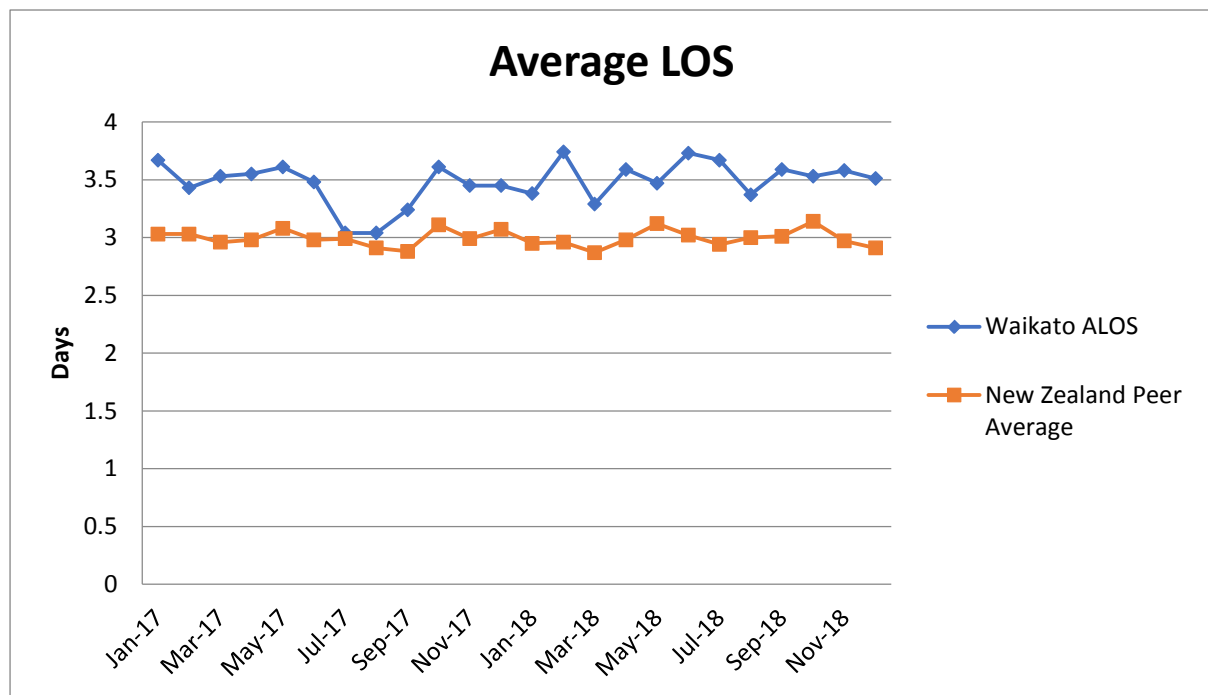


Figure 10. Waikato DHB average length of stay compared to peers

Source: Health Roundtable, May 2019

Bed management

Over the past 12 months, the number of beds at Waikato Hospital has increased as noted in Table 8.

The main increases can be attributed to the opening of the M18 surgical ward and OPR5. These beds were part of the production planning for the year, where it was predicted that there would be a gap of 60 beds, based on the available resourced beds at the time.

The beds required were calculated by using the delivery plan volumes by length of stay using the past 3 years of data. The beds were opened throughout the year and have had a financial impact proportionate to the time they were resourced.

This additional bed capacity would contribute directly to the deficit, as the volumes of patients experienced within the organisation have not substantially changed, despite more beds being opened compared to the prior year.

The length of stay for patients has also not changed over the past 6 months, with Waikato DHB continuing to perform poorly when compared with other peer NZ DHBs. The additional beds have not demonstrated a significant shift in improving the health board's performance, except for a notable 6 per cent improvement in moving surgical patients out of the Emergency Department within the 6-hour timeframe.

Table 8. Number of beds and associated costs, by service

Services	2017/18	2018/19	Average cost per bed/day	Cost per day for extra beds
Cardiovascular medicine and surgery	80	87	587	4,109
Critical Care Unit	24	28	1,075	4,300
Internal medicine	106	110	657	2,628
Older persons and rehabilitation	71	98	515	13,905
Oncology	30	30		
Orthopaedics	54	54		
Paediatrics	48	56	645	5,160
Surgery	121	142	556	11,676
Women's health	40	45	439	2,195
Total	574	650	4,474	43,959

Production planning

The production planning process is rolled out by the production planning team who annually review the number of beds required by reviewing the delivery plan volumes, length of stay and 3 years trending data. Discussions are held with a variety of operational staff about their anticipated bed requirements and this is performed on a one to one basis. The assessment of requiring additional beds is not challenged across the organisation or hospital executive with respect to looking at alternative models of care, multidisciplinary approaches or whether the basis on requiring the additional beds were sound. Additionally, there is no reconciliation of the anticipated bed reduction achievement that has been outlined in approved business cases which have had investment to deliver such as START. It does not appear any formal consultation is undertaken with the chief medical officer, the chief of nursing and midwifery or the chief advisor allied health, all of whom should be collectively consulted to ensure the most optimum model of care can be achieved. The

increase in the number of beds over the past 12 months was substantial and should have had more rigour around determining whether this increase in cost was sound.

The increase bed numbers relating to the medi hotel (now rebranded as E8) was included in the 2018/19 production planning process but not challenged beyond that of the clinical nurse director and charge nurse manager. This change in model of care resulted in an increase of 8 beds and a higher level of acuity resulting in a higher resourcing requirement. This change appeared to be in response to the underutilisation of the medi hotel beds and so a higher acuity of patient was accepted, rather than a reduction of beds. The calculation of the Nursing Hours Per Patient Day was not performed in accordance with the approved methodology and this also resulted in an over resource of FTE.

Figure 11 shows that the Waikato Hospital was over resourced, compared to actual occupancy and this results in direct financial costs and inefficiency.

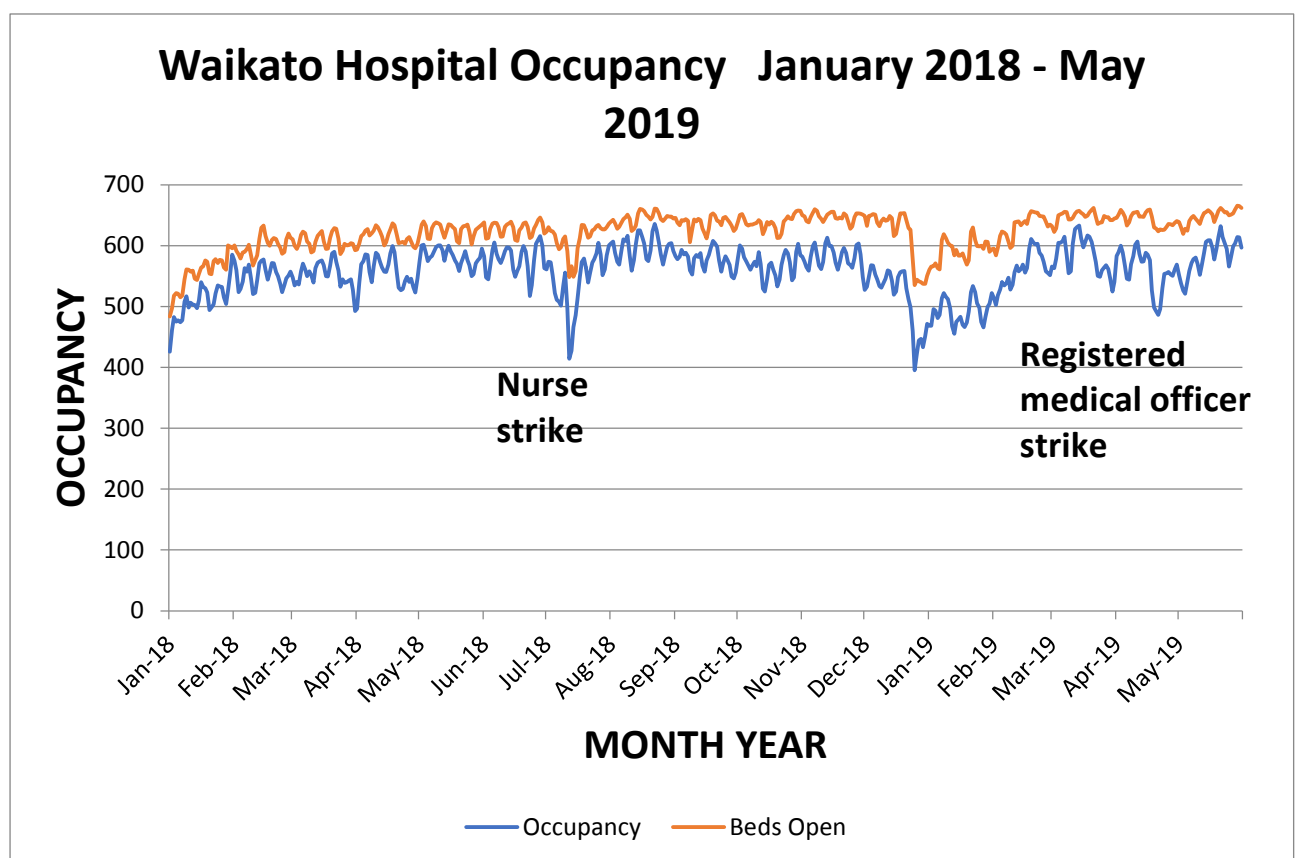


Figure 11. Waikato Hospital occupancy levels, January 2018 to May 2019

The 12 months prior to those shown in Figure 11 showed a similar trend, with the occupancy consistently below the actual number of beds resourced. This means that the production planning has not determined the correct mix of beds required. The base inpatient bed calculation is performed using an average daily occupancy rate, which has then been averaged for the roster period and set to 85 per cent utilisation rate for acute cases, and 95 per cent for arranged admissions and electives. As can be seen in figure 11 there has been consistent vacancy within the bed plan and this data is consistent with the capital plan data on the intranet. This inaccurate planning and poor day to day management of patient flow has contributed to the deficit position. It is recommended that the bed numbers be reset to closer match the actual occupancy with an

projection rate and suggest an initial planning rate of 90 per cent. Seasonal demand should be factored in to accommodate the high demand periods and conversely bed reductions should be implemented during the low activity periods. This should be linked with the annual leave management component of the organisations strategy to encourage leave management, and back filling using existing resource not premium labour. It is easier to open and resource short term beds in periods of unprecedented demand then it is to close beds that have remained open with a lower occupancy rate.

Outsourced services

Waikato DHB outsources a large proportion of its high-volume short stay work at a premium to the private hospital providers predominately throughout the Waikato. Over \$20 million has been spent on outsourced surgical services year to date with Endoscopy and Orthopaedic surgeries common specialities that outsource large volumes to the private facility with volumes of 700 case and 650 cases respectively being outsourced annually.

There have been minimal controls around who has authorisation to enter into outsourced or facility-based contracts and this has resulted in a spread of activity throughout all private providers with differing minimum guaranteed volumes over a variety of terms at different prices. There are in excess of 12 outsourced contracts with the resource team confident some additional contracts exist that it has not reviewed. The acting chief operating officer has offered an amnesty on all outsourced contracts to encourage the collation of a full list and assessment to occur.

There has been an employment drive that exceeds the current capacity available within the theatres and this has resulted in senior medical officers being employed and directed to the facility lists as their place of work. This means, that the Waikato DHB has in its planning included the outsourced capacity as additional capacity to use and therefore recruit to the volume available. This places the DHB in a no-win position as it will continue to open up supply significantly beyond its internal capacity. This imbalance needs to be addressed as soon as possible with the chief operating officer leading the work around maximising the internal theatre capacity (including bed availability) and coupling this with an acceptable list of outsourced procedures where the negotiated cost is below the revenue received or internal cost to perform the procedure. The high number of senior medical officers need to also be readdressed through natural attrition which will also reduce the artificial supply the departments have created by adding the outsourced lists to base capacity.

From a comparative review over a six month period between 2017 and 2019, during normal business hours, elective sessions within the Waikato DHB theatre increased by 206 theatre sessions with an overall reduction in outsourced work of 34 sessions. Facility lists however have had a significant increase over the two year period in line with the increase in surgeon recruitment which has opened the supply. Acute theatre sessions have not had a significant change with only a net movement of 14 sessions.

The net movement of theatre activity is 221 additional sessions during normal business hours in a 6 month period resulting in additional cost to the Waikato DHB; see Table 9 for more details.

Table 9. Session counts, Waikato DHB, 2017 and 2019 comparison

Main theatre – count of utilised sessions by calendar year and session type
(Monday to Friday, business hours, 6 months data (January to May))

Count of session ID Session type	Calendar year	
	2017	2019
Acute	17	18
Acute List	690	704
Elective	1267	1471
Extra Session		2
Not Specified	2	2
Grand Total	1976	2197

Outsourced and facility list sessions

(Session count = distinct count by specialty, date, facility and care type
Note that some sessions only had one case.)

Sum of Sessions		CY	
Care Type	Facility	2017	2019
Outsourced Facilities	Waikato	38	127
Outsourced Facilities Total		38	127
Outsourced Procedures	Anglesea Braemar Hospital	126	85
	Anglesea Procedure Centre	107	38
	Bridgewater	14	44
	Grace Hospital - Tauranga		6
	Greenlane		9
	Midland PET-CT		11
	Ormiston Hospital	49	29
	Southern Cross Queen Elizabeth Hospital	43	29
	Southern Cross, Hamilton	113	64
	Tristram Clinic		16
Outsourced Procedures Total		452	331
Grand Total		490	458

Count of sessions by specialty that had only one case

(6-month comparison, January to May)

Count of HSC_Date_Facility_CTC		CY		Care Type	
Cases	Specialty	2017		2019	
		Outsourced Facilities	Outsourced Procedures	Outsourced Facilities	Outsourced Procedures
1	Dental Surgery		5		18
	General Surgery	1	46	3	10
	Gynaecology		2		5
	Maxillofacial Surgery		4		1
	Ophthalmology	1	11	5	27
	Orthopaedic Surgery	2	89	1	107
	Otorhinolaryngology (ENT)	3	21	1	
	Plastic Surgery Non- Burns		7		
	Specialist Pead Oth Surg	1			
	Thoracic Surgery		3		
	Urology	1	5	1	
	Vascular Surgery				15
1 Total		9	193	11	183
Grand Total		9	193	11	183

Upon review of the outsourced procedures, it was noted that there is an increasing number of inter-district flow patients being outsourced to the private providers as shown in Table 10. This means that the inter-district flow is likely to be for an elective procedure and more aligned to a secondary level of care (as private facilities do not generally accept tertiary complex cases), which should have had the patient ideally sent to their home district to have their operation. By outsourcing these patients to private providers, the Waikato DHB is paying more for the procedure than it is receiving in inter-district flow revenue. An example of this is an outsourced angioplasty, which costs \$10,225.00, where the revenue received for the procedure is \$9,406.74, through the inter-district flow funding.

Table 10. Total inter-district flow patients seen in external facilities per year

Total IDF patients seen in external Facilities per year by PUC Category						
Sum of Count Puc Vol	eFi	2014	2015	2016	2017	2018
eFacilityName	ePUCDescription					
Anglesea Braemar	Cardiology - Inpatient Services - IDF Elective	21	11		47	107
	Orthopaedics - Inpatient Services - IDF	5	3	7	1	1
	Dental - Inpatient Services - IDF Elective					1
	General Surgery - Inpatient Services - IDF	3	4		1	
Bridgewater	Ophthalmology - Inpatient Services - IDF	15	7	3	16	16
Midland PET-CT	Orthopaedics - Inpatient Services - IDF Acute					2
Ormiston Hospital	Orthopaedics - Inpatient Services - IDF		2	1	2	
Southern Cross Queen Elizabeth Hospital	Orthopaedics - Inpatient Services - IDF Elective			1	2	1
Southern Cross,	Orthopaedics - Inpatient Services - IDF	11	8	6	4	4
	Cardiothoracic Surgery - Inpatient Services -					1
	Orthopaedics - Inpatient Services - IDF Acute			1		
	Ophthalmology - Inpatient Services - IDF	1			1	
Grand Total		56	35	19	74	133

Eighty per cent of the orthopaedic volumes outsourced fit into the five categories shown in Table 11. This shows that almost every one of these procedures has been performed at a cost to the DHB.

Table 11. Orthopaedic procedures

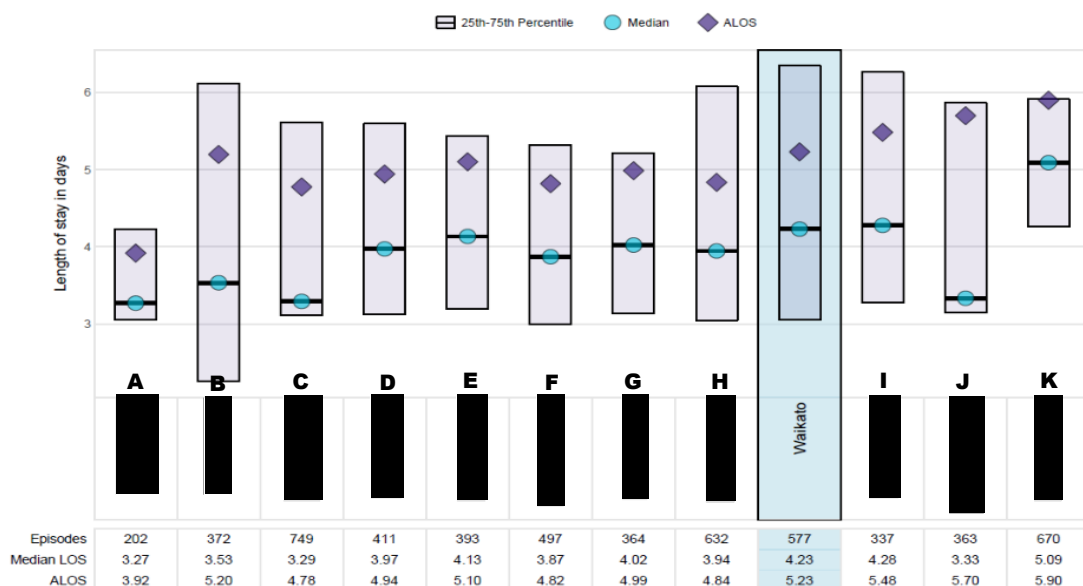
Hip Replacement W/O Catastrophic CC	Volume	Average CWD	Average cost*	Average revenue	Average "loss" per case
Outsourced	123	3.19	21,008.13	16,171.75	-4,836.37
Facility lists	15	3.20	19,973.19	16,204.81	-3,768.39
Internal	77	3.20	20,977.99	16,220.78	-4,757.21
Knee Replacement W/O Catastrophic or Severe CC	Volume	Average CWD	Average cost*	Average revenue	Average "loss" per case
Outsourced	143	3.25	22,140.25	16,477.58	-5,662.67
Facility lists	4	3.26	20,931.29	16,529.67	-4,401.62
Internal	65	3.35	22,824.01	16,983.74	-5,840.27
Spinal Fusion W/O Catastrophic CC	Volume	Average CWD	Average cost*	Average revenue	Average "loss" per case
Outsourced	16	5.45	42,030.14	27,631.39	-14,398.75
Facility lists	1	5.45	25,079.10	27,631.39	2,552.29
Internal	28	5.45	31,490.26	27,631.39	-3,858.87
Other Back and Neck Procedures W/O Catastrophic or Severe CC	Volume	Average CWD	Average cost*	Average revenue	Average "loss" per case
Outsourced	17	2.47	12,076.95	12,540.05	463.10
Facility lists	2	2.47	17,290.44	12,540.05	-4,750.39
Internal	11	2.50	20,215.98	12,651.87	-7,564.11
Other Shoulder Procedures	Volume	Average CWD	Average cost*	Average revenue	Average "loss" per case
Outsourced	11	1.41	14,397.57	7,153.65	-7,243.92
Facility lists	1	1.41	8,029.50	7,153.65	-875.85
Internal	3	1.57	9,763.63	7,973.67	-1,789.96

Table 11 also shows the number of internal procedures that exceed the revenue received for the case weight discharge and this is likely to be due to the average length of stay and the overhead allocation. Prosthetics which make up a fair amount of the cost has not substantially changed in price over the past two years. On review of the ward staffing there are two orthopaedic wards which have high patient occupancy rates however also have a high staff turnover, of the 69 registered nurses currently employed 49 of these have been hired in the last two years. The high turnover in these wards need to be investigated to ascertain why this has occurred and to implement strategies to reduce this impact for the future. Additional efficiencies could be made around length of stay by implementing nurse led criteria-based discharges and better managing patient flow as outlined in this document.

According to Health Roundtable data (see Figure 12), Waikato sits below the average length of stay for hip and knee replacements, and changes in the model of care could result in a saving of bed days. It should be noted that this data contains outsourced service length of stay and as such the actual average length of stay at Waikato for hip and knee replacements are even worse than described in the data below. It is estimated that the average length of stay for Waikato hospital for hips and knees is over 6 days.

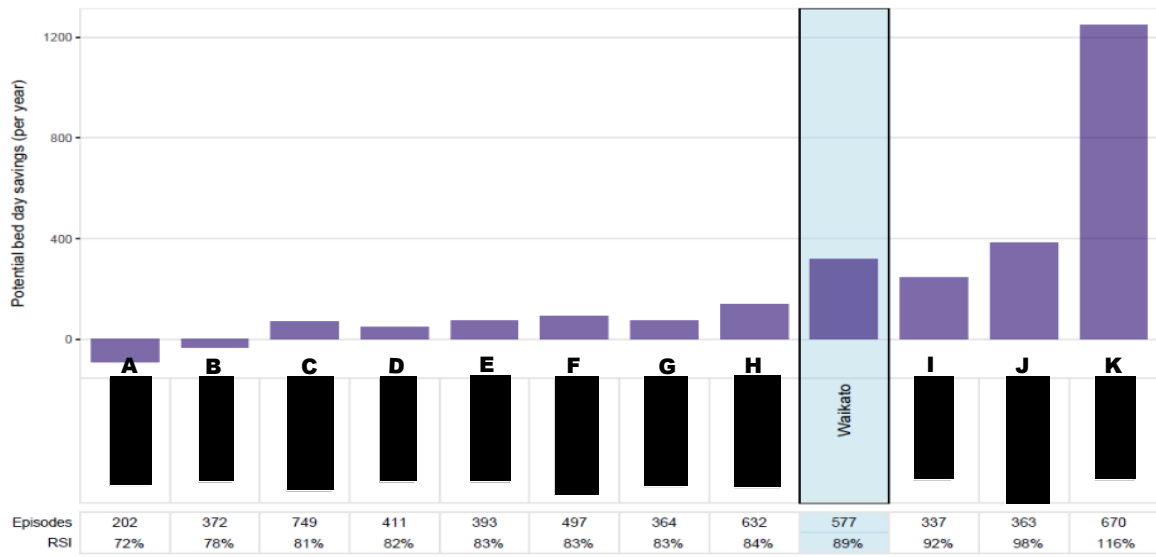


Average length of stay at Waikato is 5.2 days, similar to the 4 exemplars' weighted average at 4.8 days





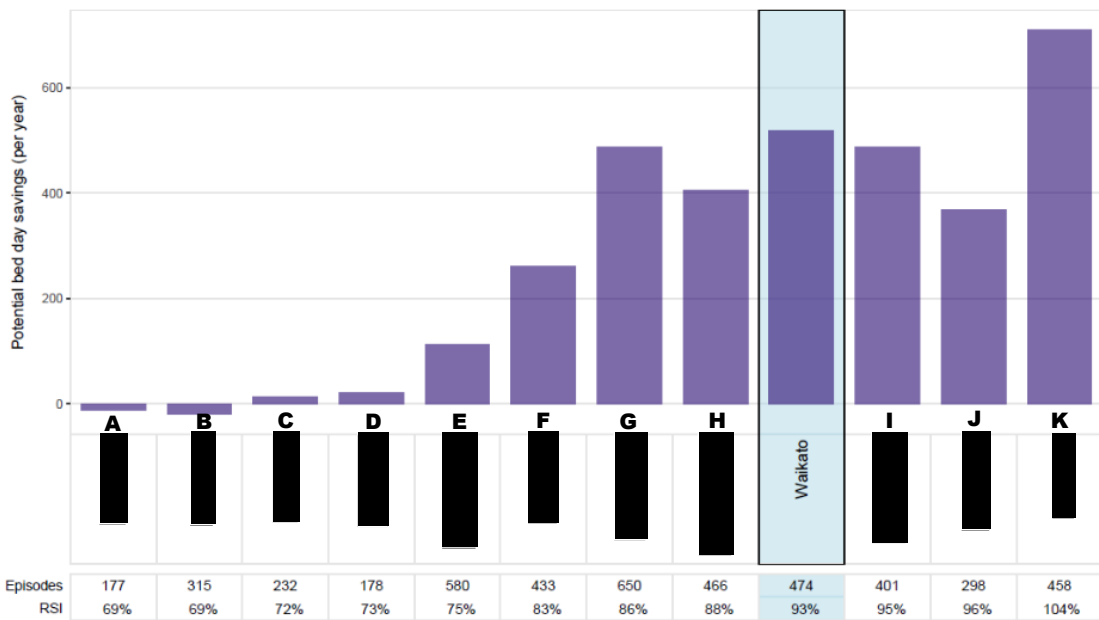
Waikato could save 320 bed days annually by moving from a relative stay index of 89% to 80% the relative stay index of the 4 exemplars' weighted average



* Relative stay adjusts for DRG, admission source, age group, co-morbidity and discharge destination. Please note bed day savings are annualised.



Waikato could save 520 bed days annually by moving from a relative stay index of 93% to 71% the relative stay index of the 4 exemplars' weighted average



* Relative stay adjusts for DRG, admission source, age group, co-morbidity and discharge destination. Please note bed day savings are annualised.

Figure 12. Health Roundtable data, Waikato DHB hip and knee replacements, 2018

Theatre use

A detailed review on theatre process was not undertaken due to the recent work undertaken by the KEEZ Group. A high-level review of theatre in the context of resource was undertaken and a number of observations were noted.

Over a four-weekly timetable, the master surgical schedule is completed to allocate resource, for the 23 theatres collocated in the Meade clinical centre. It was noted that 5 full day sessions were allocated to the acute schedule every weekday and that 51 full day sessions are un-resourced. The available sessions are distributed as follows, with week 4 being the highest as the anaesthetists reserve the Friday afternoon as an education session and so no elective work is performed, this results in 64 hours of lost operating time.

Week 1	Week 2	Week 3	Week 4
8 free sessions	9.5 free sessions	10 free sessions	18.5 free sessions

It was noted that there out of the 28 facility lists that currently occur, 14 of these lists occur when there is free space within the theatre at Waikato hospital. The explanation for this occurring has been due to the lack of anaesthetist or nurses. It would have been more cost effective in most instances to hire the nurse and/or anaesthetist resource than entered into a facility list arrangement. As noted in the outsourced procedures section, a number of senior medical officers are being employed and directly deployed to the facility lists. If there was no support resource available to support the employment of the surgeon, then the surgeon should not have been employed. For every additional surgeon employed, consideration needs to be made around the impact that position will have on the whole hospital. This position is never a standalone decision, depending on the speciality and type of surgery performed, the engagement of a single surgeon can make a remarkable impact on bed numbers, High Dependency Unit and Intensive Care Unit resources, outpatients, surgical resources such as anaesthetists, nurses, HCAs and cleaners along with clinical supplies and surgical equipment and sterilisation volumes. Based on the evidence reviewed, none of these considerations have been front of mind when employing additional senior medical officers. The lack of coordination results in a further deterioration of the financial position of the DHB and more inefficiencies introduced into the system as the system responds to the additional FTE not the other way around.

There is some anecdotal evidence that there are surgeons who are full time employed with the Waikato DHB who also hold private hospital contracts to perform private hospital services and that the private hospital services are performed in what would be considered the employees non clinical time and a belief that this non clinical time can be “made up” in the employees personal time. The issue with this is that non clinical time is provide to employees to contribute towards the functioning of the department through process improvement, risk identification, an assessment and improvement around quality initiatives and creating a cohesive team environment. This means that the majority of the non-clinical time should be performed on site and not during the employees’ personal time when other team members may not be available.

The Association of salaried medical specialist in its July 2014 “hours of work and job size” document estimated approximately two-thirds of non-clinical time would be reasonably assumed to be performed on site. It was noted that the Paediatrician Department enforced an annual leave

component for any surgeons who performed private work during their deemed normal hours of work, but this seemed like an isolated practice.

Managing the balance between employees providing private and public health work requires discretion and there will be occasion where such arrangements are acceptable especially with respect to the smaller and highly specialised disciplines but for the larger departments this needs to be managed to ensure that it does not drive an inefficiency within theatre by working and to the detriment of the Waikato DHB.

A review on the utilisation and performance of theatres and theatre late starts was performed and it was noted that there has been deterioration in the performance of the theatres since July 2018; see Figure 13 and Figure 14. The booking of theatre is largely reliant on surgeon availability despite many of them being employed full-time with the organisation. Scheduling around clinicians, rather than scheduling clinicians into available slots, is an inefficient way of using the theatre. Additionally, the theatre is generally scheduled between the hours of 0800 and 1630 for elective procedures (long cases excepted), when there is extra theatre capacity beyond these hours. Evening shifts for low-complexity work could be considered, depending on the availability of beds and resource.

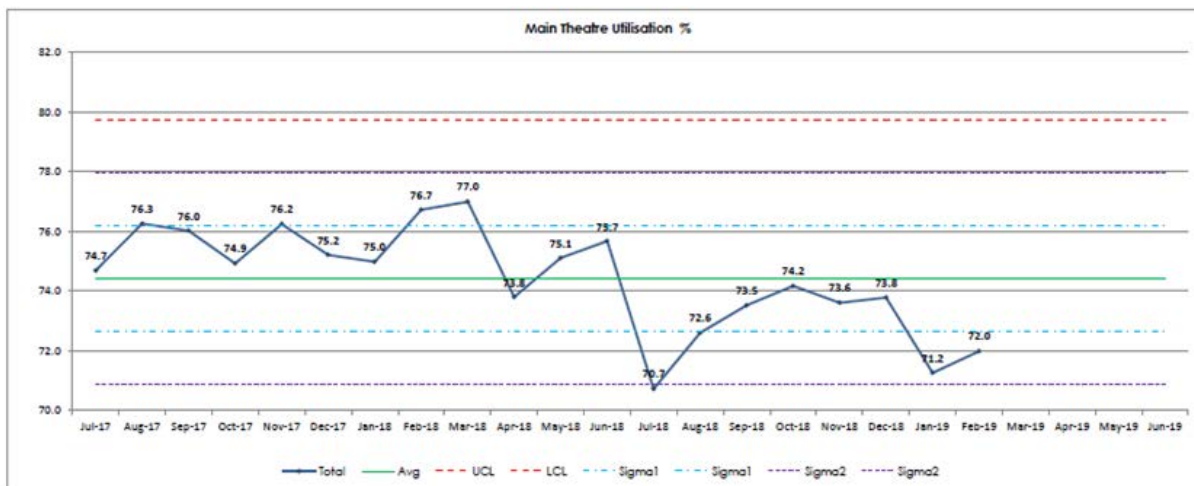


Figure 13. Main theatre use, July 2017 to February 2019

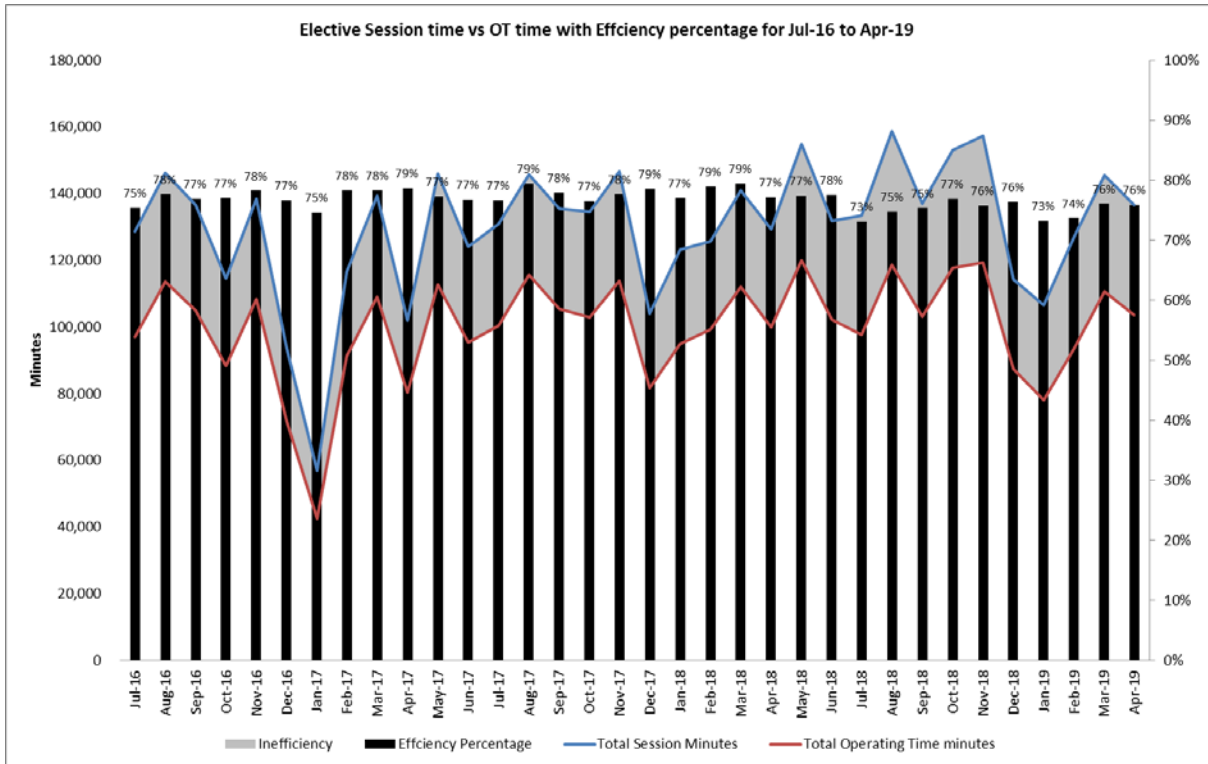


Figure 14. Elective session time vs total operating time, July 2016 to April 2019

In addition, there has been a continued decline in on-time theatre starts and a lack of discipline around noting the reasons for the delay; see Figure 15. A sample of February 2019 data was reviewed, showing 274 out of 495 late starts were noted as being for non-specified reasons.

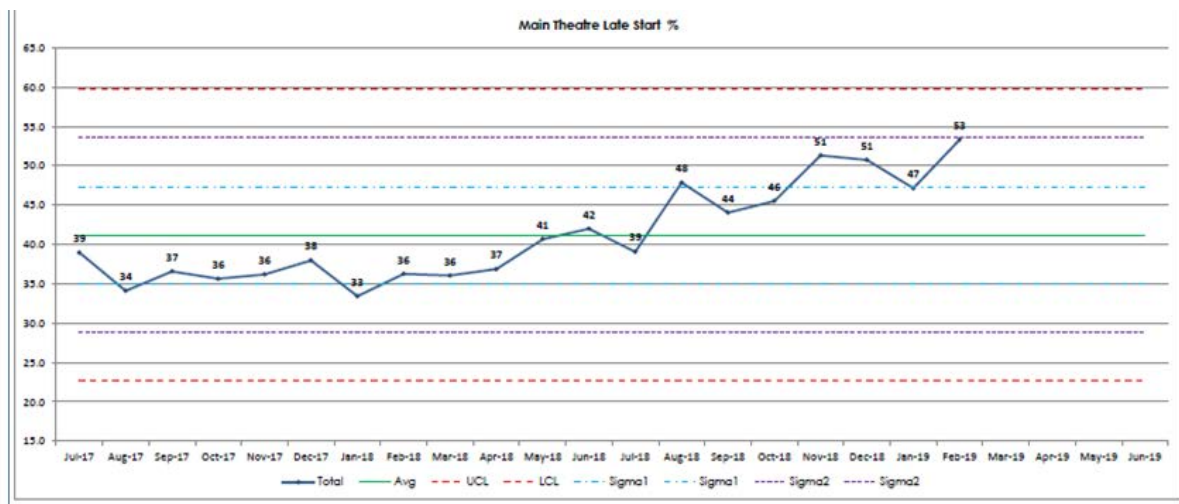


Figure 15. Main theatre late starts, July 2017 to February 2019

While there is a general belief that there is not enough acute theatre capacity, Figure 16 shows that there is capacity available, but the theatre is not being managed as efficiently as it could be.

The demonstrable improvement during August 2017 through to July 2018 shows the impact on theatres when a dedicated position was placed in theatre by the KEEZ group to push and pull the theatre demand maximising the use of the theatres more effectively. This implies that the lack of capacity is predominately attributable to a process deficiency rather than actual capacity constraints. The theatre group need to review the deterioration in performance against what was happening in the prior year to determine where systems and processes are no longer being followed.

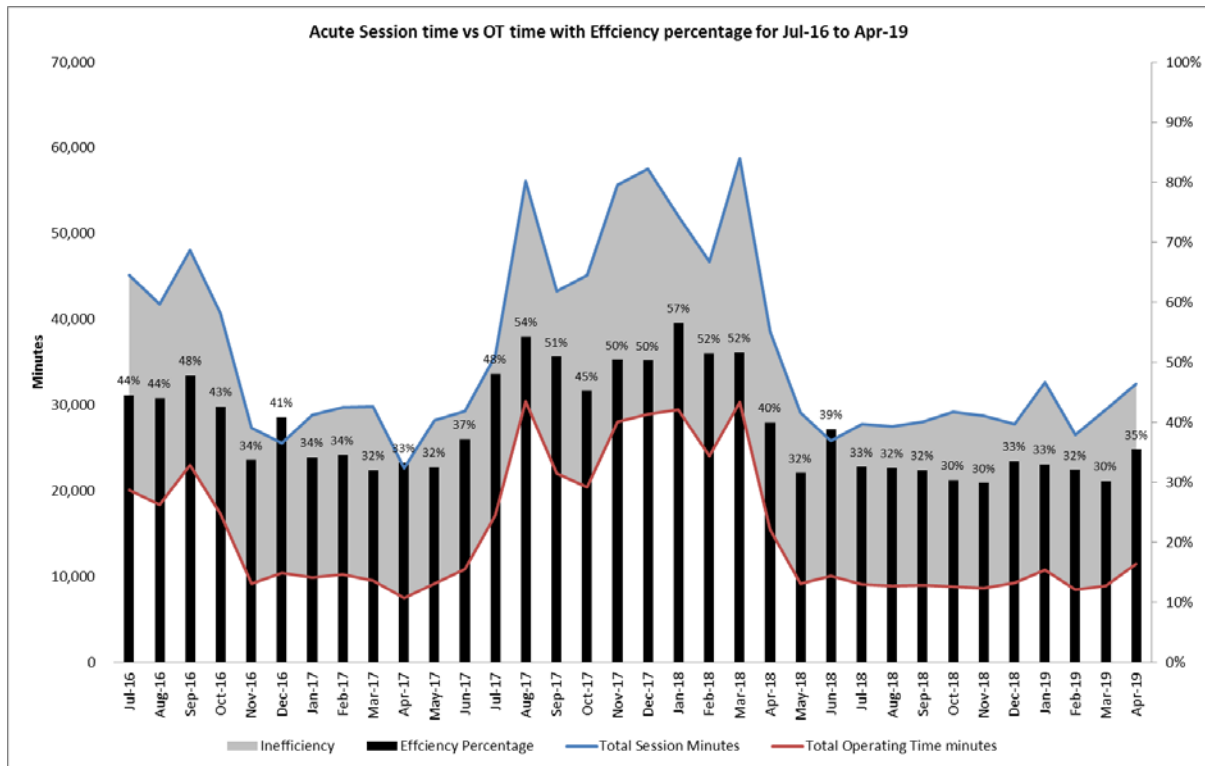


Figure 16. Acute session time vs total operating time, July 2016 to April 2019

Figure 17 illustrates that there is significant capacity that is available in theatres, but the way theatres are allocating resource and sessions it is not optimising the opportunity. Productivity per theatre minute is also on the decline, as shown in Figure 18.

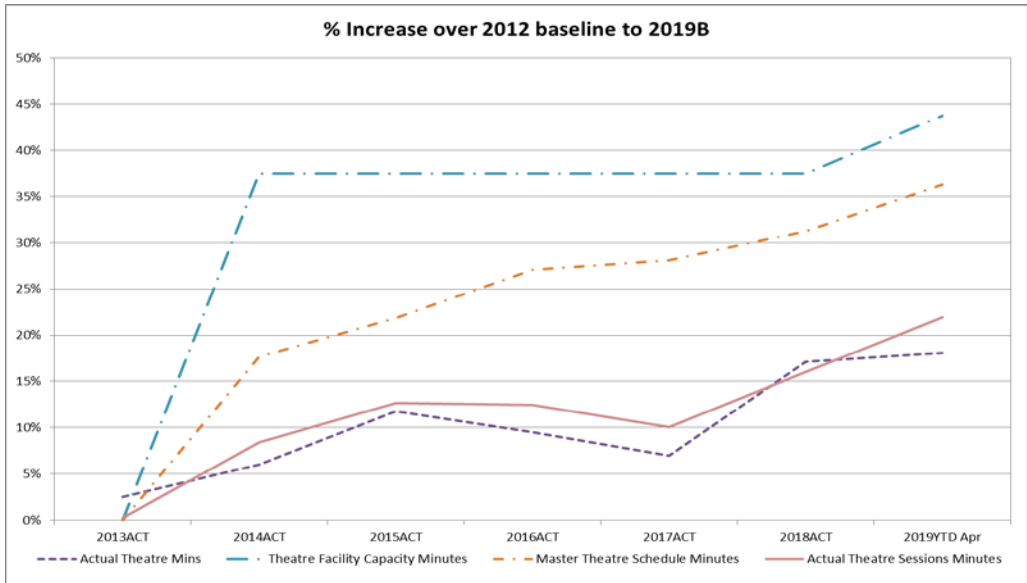


Figure 17. Theatre capacity and use, 2013 to April 2019

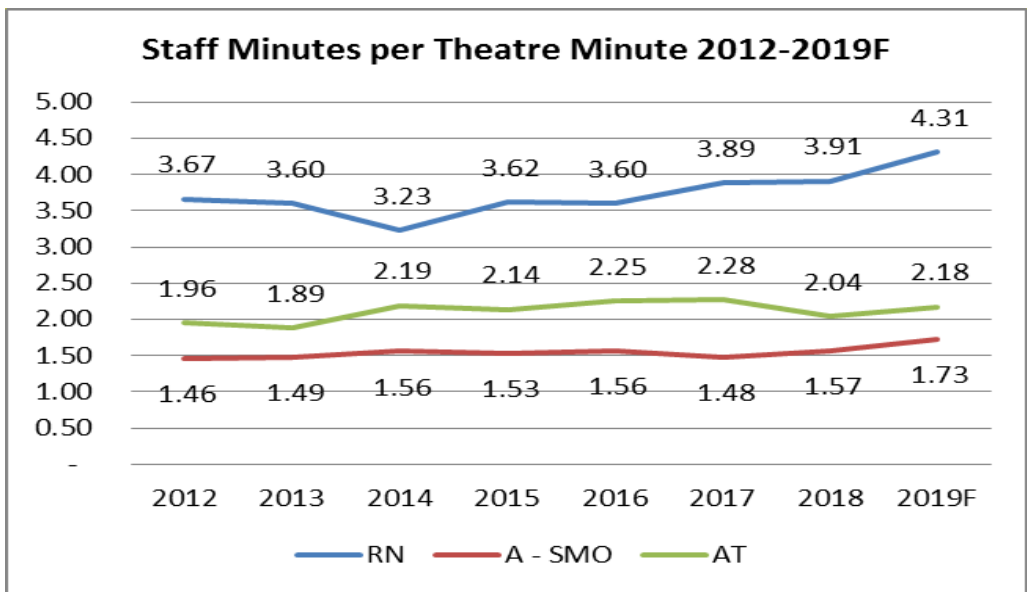


Figure 18. Staff minutes per theatre minute, 2012 to 2019

The theatre is currently split into two levels of responsibilities – acute and elective, both roles have siloed responsibilities and essentially pull opposite outcomes to each other.

The oversight of the theatre as a whole unit has been artificially filled by the medical director of theatre and perioperative services who is also the chair of the theatre and interventional governance group. The work performed by this individual is admirable and considerable improvements have been made over time especially the contribution of the leadership around the KEEZ business process re-engineering exercise which arguably did result in an improvement in performance although not optimised. The medical director, however, holds a clinical load and cannot manage the theatre workload on a daily basis making decisions on balance and push and pull the demand when required ensuring an even distribution of acute and elective procedures.

Traditionally, theatres are managed on a daily basis by the duty anaesthetist using a clear set of procedures and rules to ensure objectivity of management. It is the duty anaesthetist who makes decisions on the day within theatre, similar to that of patient flow to ensure an optimised workflow and balance of acute and elective work. It is recommended that this position be formally recognised as having overall management responsibility of theatre flow and utilisation and set agreed procedures by the theatre and interventional governance group be produced and implemented.

Long cases

Adding to the inefficiencies of theatre is the number of long cases (>6 hours) being performed at Waikato, which is increasing in volume each year, as shown in Table 12. It appears the increasing number of long cases have a correlation to the surgeons (predominately Maxillofacial and ENT) that are being employed at the Waikato DHB having the expertise to perform such complex surgery and whilst the surgery is clinically appropriate, they take a significant amount of resource to perform. A recent example reviewed was a Maxillofacial procedure that took approximately 19 hours and 5 surgeons, the over run of the surgery resulted in all five senior medical officers booked off work the following day with their scheduled clinics cancelled.

Table 12. Numbers of long cases (>6 hours), 2017 and 2018

Long cases		
	2017	2018
Cardiothoracic	9	35
General surgery	19	55
Maxillofacial	7	18
Neuro	5	6
Ortho	17	34
ENT	3	14
Plastics	3	39
Urology	1	9
Vascular	2	3

Waikato DHB is the only DHB that performs cytoreductive surgery with heated intraperitoneal chemotherapy (HIT). The clinical evidence for this service is generally positive, with good outcomes for patients. It appears that the Waikato DHB performs this surgery at a per procedure cost of

\$420,000, but only recovers \$258,000 through the inter-district flow process. This means for every HIT procedure, Waikato DHB incurs a cost of \$162,000. Waikato DHB have performed approximately 60 surgeries over the past 5 years, resulting in over \$9 million of unrecovered cost. As this work is a national service, the procedure should receive 'top slice' funding.

During the review two cases were reviewed both expected to take in excess of 12 hours, the first was an open and close with debulking not able to be performed and the second operation took 10 hours however the HIT was not given as the disease could not be completely resected. Both patients were not from the midland area, the patients are sent back to their DHB for post care. In these two cases the operating time taken did not eventuate to an improved patient outcome.

Nurse practitioners

Nurse practitioners are able to positively influence the quality of care that patients receive and their health experience.

Nurse practitioners have the capacity to work flexibly across the health continuum, and to partner with patients and carers, and with all other health professionals in primary, secondary and specialist areas as required, thereby providing a consistent focus and linking into how patients are managed. They represent a reliable workforce, as they tend to stay within the district longer, and as a result turnover is low and consistency of care is high.

Currently, the Waikato DHB has 19 nurse practitioners employed in the following areas:

- New-born Intensive Care Unit – seven
- wound care – two
- geriatric care – one
- Emergency Department – one
- pain service – one
- diabetes – one
- older persons rehabilitation – one
- Taumarunui Hospital – one
- mental health – two (one of whom is Emergency Department based)
- continuing care – two (part time).

In addition, there are eight nurses who are currently working towards the nurse practitioner role, supported by service and health workforce funding, and two nurse practitioners working in non-practitioner roles. Further to this, there is currently one nurse prescriber in ophthalmology outpatients, five diabetes-only nurse prescribers, and 10 more nurses working towards becoming nurse prescribers across diabetes and renal services.

The intent is to build a workforce that has the capacity to take the lead role in caseload management: to advise, and partner with support services in ways that appropriately meet the Waikato population's needs.

There are opportunities for Waikato DHB to look at further expanding the span of activities undertaken by nurse practitioners, to enable them to help in areas where there are issues retaining the medical workforce (particularly rural, primary health, aged care and Emergency Department). Areas where nurse practitioners could be involved include:

- for caseload management of patients with co-morbidities
- for caseload management of patients with chronic or long-term conditions
- as a resource for patients to contact directly for advice and questions about their care

- in an on-call capacity
- as a resource for primary, secondary and tertiary care, to identify the priorities and coordinate care for clients and patients across all settings
- in the VIRTUAL care environment
- as a source of advice, support and mentorship for junior doctors, clinical nurse specialists, clinical nurse specialists with expanded scopes, and with prescribing rights.

Aged-care facilities

Matariki and Rhoda Read hospitals are nurse-led services that provide hospital-level care to the over-65-years population. They each have 32 beds, and each has four single rooms with shared bathroom facilities. There is physical capacity and potential for both to increase to 35 beds if required. The two facilities are financially supported through person-centred acute community care funding, and rest and recreation funding from the health board’s Strategy and Funding Department. The net cost of operating these two facilities is approximately \$1.7 million per annum.

Rhoda Read Hospital is located in Morrinsville, and currently has 16 permanent residents under long-term residential care. The hospital’s occupancy rates over the past 2 years are shown in Figure 19.

The hospital has a disused maternity wing attached to it, which has eight beds and would be viable to be used as a non-secure mental health facility or community health facility. On the grounds there is also a house and a unit, which are currently rented to staff.

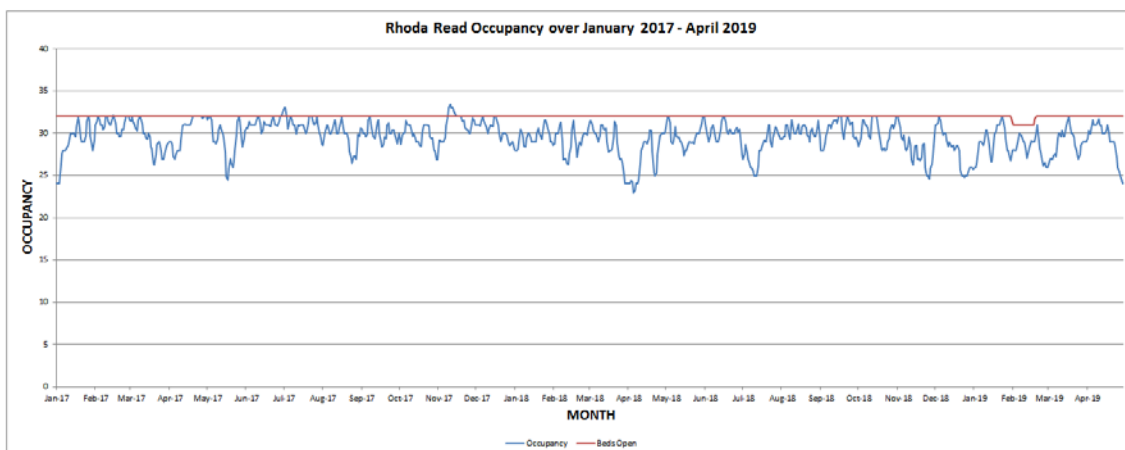


Figure 19. Rhoda Read Hospital occupancy rates, January 2017 to April 2019

Matariki Hospital is located in Te Awamutu and currently has eight permanent residents. The hospital’s occupancy rates over the past 2 years are shown in Figure 20.

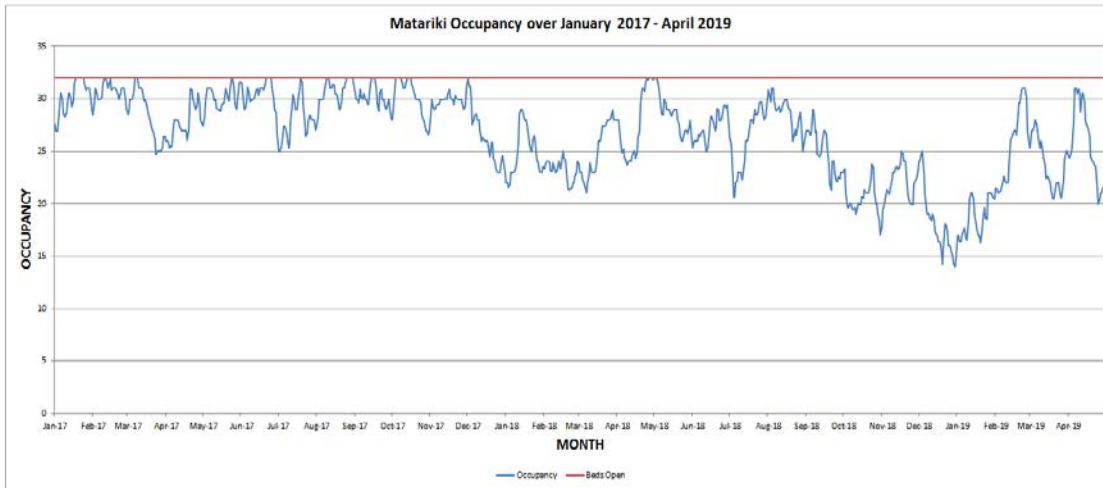


Figure 20. Matariki Hospital occupancy rates, January 2017 to April 2019

Allowing for permanent residents, this leaves a total of 40 beds available for transfers from Waikato Hospital across both facilities. Both facilities have the same admission guidelines, which were last updated in January 2019, and use the older persons rehabilitation and allied health patient pathways.

All admissions to the hospitals are from Waikato Hospital; they do not admit directly from the community. However, both hospitals will take direct referrals from the Emergency Department.

There is a clinical nurse specialist in gerontology based in the Emergency Department at Waikato Hospital, who reviews patients once they have been assessed as not requiring admission under a specialty, but as still requiring intervention and monitoring. If a patient is assessed as being eligible for either rest and recreation or person-centred acute community care funding, they are given the option of going to a rest home for recuperation for a fixed number of days. This includes the option of attending Rhoda Read or Matariki but can also be used at one of the 61 rest home facilities in the Waikato.

Both of these facilities are serviced by the Residential Eldercare Services Limited contract, which provides nurse practitioner cover three times a week, and general practitioner (GP) cover twice a week, which entails a ward round and review of new patients, and an on-call service.

There is an opportunity to provide the services currently provided by the GP using the nurse practitioner, with the oversight of the on-call geriatricians. This would provide a cost benefit for the organisation, as well as an opportunity to grow and retain the nurse practitioners.

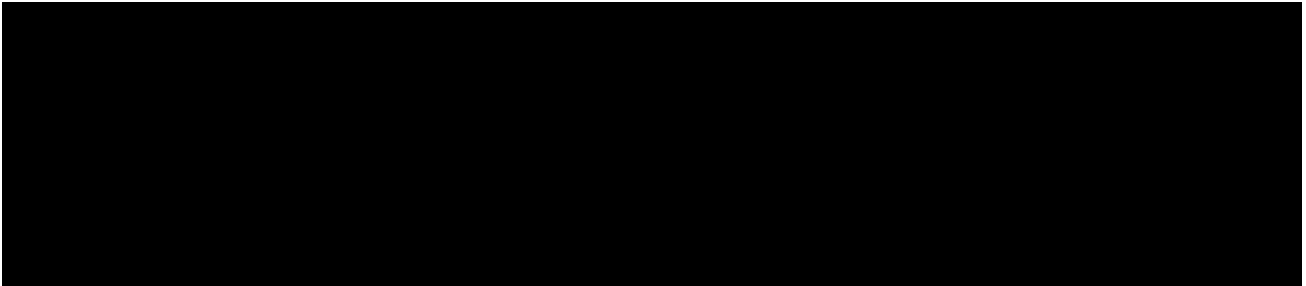
The cost of the Residential Eldercare Services Limited GP cover is over \$270,000 per annum. The charge nurse manager of Matariki Hospital is already a nurse practitioner, so covering the GP's role would not cost any additional money. The charge nurse manager could also perform the service at Rhoda Read Hospital once a week. The Residential Eldercare Services Limited contract is flexible, and Waikato DHB may terminate the contract at any time, with 20 working days written notice.

Facilities at the two hospitals are dated, and their occupancy depends largely on whether patients opt to stay at them, which many do simply due to the hospitals' proximity to their families. The Waikato region currently has 61 private aged-care facilities operating, which receive the same funding if patients opt instead to use one of these facilities. The private aged-care business

continues to grow, with two major facilities under construction within the Waikato and four more in the development pipeline.

The configuration of a single room with an ensuite is a competitive market. For Rhoda Read and Matariki hospitals to offer this level of accommodation would require a significant amount of investment. As it is, the current facilities have not had any significant maintenance for over a decade and will require investment just to maintain their current standards within the next 5 years.

Over the past 10 years, a number of reviews have been undertaken on whether the health board's aged-care facilities should be refurbished or closed. None of the recommendations have been put in action and the facilities have continued to operate, but their infrastructure continues to deteriorate.



Both the renal and oncology services at Waikato Hospital have made requests to expand, and to refurbish existing infrastructure at the hospital to accommodate additional services. While it may be easier to provide these services within the hospital, consideration should be made as to whether some outpatient services are better offered off the hospital site, where parking is less of an issue and the surrounding environment is much more pleasant for the patients to look at while receiving their treatment. Travel times from Huntly to Morrinsville, as an example, are the same as those to Waikato Hospital, and are arguably less stressful for those travelling.

It is also noted that the proposed on-site expansion for the renal and oncology services only accommodates their predicted demand for the next 3 years. Using one of the hospitals as a community-based facility would allow for easy expansion of the services over a longer period of time.

Recommendations

1. Reduce the available open beds to better match occupancy.
2. Appoint a patient flow manager who is consistently responsible for patient flow and cease the Operations director rotation
3. Introduce anticipated date of discharge and rapid rounds
4. Mandate the emergency department be incorporated in PFM phase 2
5. Match production planning with the price volume schedule
6. Unwind the Medi E8 ward decision
7. Improve the production planning consultation process and include the three professional heads
8. Cancel the Residential Eldercare Services Limited contract and use the current nurse practitioner to provide this role at both aged-care facilities.
9. Consider repurposing the aged-care facilities to community-based health services, such as renal, oncology and mental health to better meet the health needs of the community.
10. Re-engineer the theatre schedule to ensure maximum efficiency around roster slots, incorporate productivity and efficiency measures within the theatre to ensure like cases are being performed within an acceptable timeframe.
11. Review side agreements around public/private work split and ensure any arrangement is not to the detriment of the public health system and theatre schedule
12. Perform a costing review on all outsourced procedures, consolidate contracts for high volume short stay contracts and renegotiate volume and price with the private hospital where applicable. Prepare a comprehensive plan to bring the remaining outsourced procedures into the hospital and align it with the bed management and support services required to do so.
13. Review the theatre processes in line with the previous work performed by KEEZ and identify areas where inefficiency has crept back in and rectify
14. Formalise within the duty anaesthetist role that they are to manage the day to day operationally running of the theatres to ensure on time starts, patient pull from ED and allocation of theatres on the day in the case of high acute demand or elective overrun/early finish
15. Cease outsourcing IDF work and return the patient to their home base where clinically appropriate
16. Select long length of stay outliers and work through their processes to ensure they are managing their patient journey effectively
17. Cease new (additional to base) SMO appointments until capacity is available
18. Implement a process where new SMO appointments when required are supported by a whole of hospital view rather than departmental view to ensure adequate management of resources
19. Negotiate the top slice of the HIT procedures or cease performing them
20. Continue to expand the nurse practitioner roles and explore the opportunities for them noted in this paper

Outpatients

Waikato Hospital's Outpatient Department is a multifaceted department covering 68 specialities. It supplies space and non-medical personnel (nursing and administrative) to surgical and medical specialities at Waikato Hospital for the purposes of ambulatory patient review.

In the 2018 calendar year, the Waikato DHB had 304,185 outpatient appointments, with 31 per cent of these being new appointments and 69 per cent follow-up appointments. The majority of outpatients were seen in the Mead Clinical Centre, which has three floors of clinic space.

The management of the outpatient clinics is overseen by the ambulatory care service. The service department has overall responsibility for the operational requirements for all outpatient services on behalf of all specialties. Although the outpatient area is centrally managed, the booking and use of the management function is haphazard and not entirely controlled by the ambulatory service. Specialities have a tendency to independently determine their outpatient schedules – whether it will expand or reduce – in isolation of the ambulatory service. This puts unnecessary pressure and cost on the outpatient clinics to be resourced appropriately and in the most cost-effective way.

There are two recent examples where specialties (cardiology and orthopaedics) have received approval to expand services in their areas but have not considered the impact of this on outpatients. This resulted in nursing resources not being available and overtime being required to accommodate the additional clinics. In the orthopaedic example, the additional clinics require an additional 2.3 nursing FTE, which is currently being serviced using overtime, which represents premium labour.

Accurate data pertaining to which clinics run on specific days and which rooms are allocated to them was not forthcoming to the review team, as it appears that two systems are used to operate the outpatient clinics and no single master scheduling tool was available. This restricted the review team’s ability to determine whether the rooms and clinics were being used to their best capacity, and whether specialties were being productive in their booking of patients for the time the clinics ran, or to quantify how many clinics were being cancelled. Additionally, while anecdotal information was provided about specific specialties consistently starting their clinics several hours later than scheduled, evidence to support this was hard to obtain.

The service manager of the outpatient clinics has initiated an Outpatient Schedule Project, which will resolve the issues noted above. The project has commenced with the rollout of the schedule to orthopaedic services.

Resources should be provided to the service manager to enable this initiative to be rolled out quicker, as the true efficiencies of the initiative will not be realised until all services are placed on the schedule.

Once populated, the schedule can then be used to predict the resources and costs required for each clinic, from physical infrastructure through to nursing, allied health and resident medical officer support. This information will also help identify when specialties are running their clinics and whether there are enough options available for patients, or whether clinics are being booked purely based on specialist preference with little or no flexibility, which may account for their high did not attend (DNA) rates.

Did not attend rates

The Waikato DHB has an average DNA rate of 9.32 per cent (ranging from 2.13 per cent to 24.49 per cent). This rate is extraordinarily high, and the major areas of concern are depicted in Table 13.

Table 13. Māori vs non-Māori DNA rates, at clinics with highest rates

Clinic*	Total DNA rate [#]	Non-Māori DNA	Māori DNA rate
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		rate	
M55 Paediatric medicine	16.32%	10.73%	28.81%
M15 Dermatology	14.85%	10.39%	34.04%
M96 Diabetology	12.91%	10.04%	22.83%
M25 Gastroenterology	14.65%	12.13%	30.00%
S59 Specialist paediatrics orthopaedic surgery	26.71%	20.75%	40.00%
M67 Sleep apnoea respiratory	18.35%	8.45%	36.84%
335 Child development centre	10.59%	6.42%	18.03%

Notes.

* Clinics with less than 100 patients per year were not included.

Audiology, pre-admission and allied health book their own patients. DNA rates for these services are not reported.

DNA rates are significantly higher for Māori patients, but rates for non-Māori patients are also of significant concern. To date, little progress has been made in understanding the high DNA rate and the lack of information around clinic schedules does not assist with this analysis.

Also, of concern is that despite the high trend in DNA rates, the majority of the outpatient clinics are not overbooked, so the productivity per clinic will also be much lower than expected.

From a review of 150 patients who did not attend their outpatient appointments, nearly half (47 per cent) were unable to be contacted to find out why they did not attend, while another 10 per cent said they were not notified of the appointment. The review shows that around 60 per cent of patients potentially did not receive notification of their appointment, showing that contacting processes are clearly an area for investigation.

The service manager is aware of the high DNA rate and a number of initiatives are underway or about to be implemented to address it. These include an initiative to improve the DNA rate for Māori patients, which is planned to involve:

- providing equity training facilitated by Te Puna Oranga for booking clerks
- employing 2 clinical nurse specialists in Māori equity across the DHB, who report to the Mead Clinical Centre patient service centre with an ambition to employ 10.

Although employing 10 clinical nurse specialists would represent an admirable input of resources, the initiative appears to have created a solution before the issues are fully understood. It is suggested that before engaging the 10 specialists, a plan should be prepared to investigate the areas where DNAs occur (postcodes are useful), cross-match this information with the times and days that the applicable clinics are being held, along with whether the patients have multiple clinic appointments, and then spend some time in the community in the areas noted investigating why DNAs occur. It is important, also, that the clinical nurse specialists work with the medical specialists

and nurses to problem-solve, as this is a collective issue and does not come down to a single area of responsibility.

Deprivation is calculated from Census data relating to income, home ownership, employment, qualifications, family structure, housing, access to transport and communications. In this report, deprivation is denoted at its lowest as a 1 and its highest as 10.

High-level analysis of the DNA rates has shown the areas of highest deprivation unsurprisingly have the highest incidence of DNA, as shown in Figure 21.

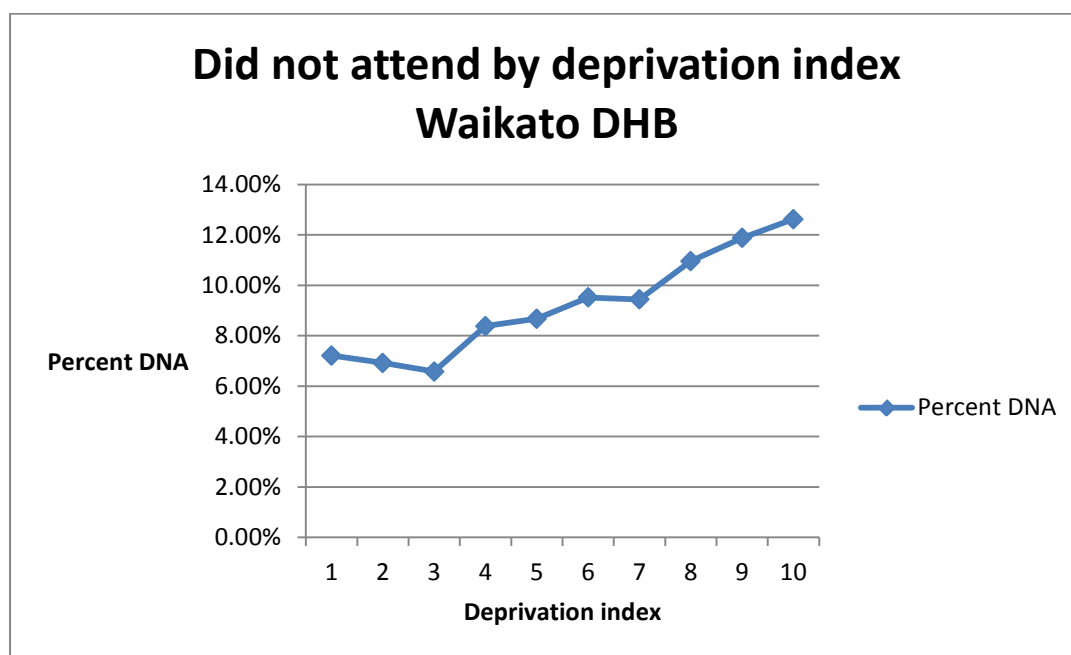


Figure 21. Did not attend rates by deprivation index, Waikato DHB

Source: Deprivation index – Otago University 2013

Māori have a high DNA rate (19.59 per cent). Other ethnicities with a DNA rate of over 15 per cent are Niuean (15.38 per cent), Other Pacific islanders (20.13 per cent), Pacific Islander not defined (21.18 per cent), Samoan (19.19 per cent) Tokelauan (24.44 per cent) and Tongan (19.17 per cent); see Figure 22.

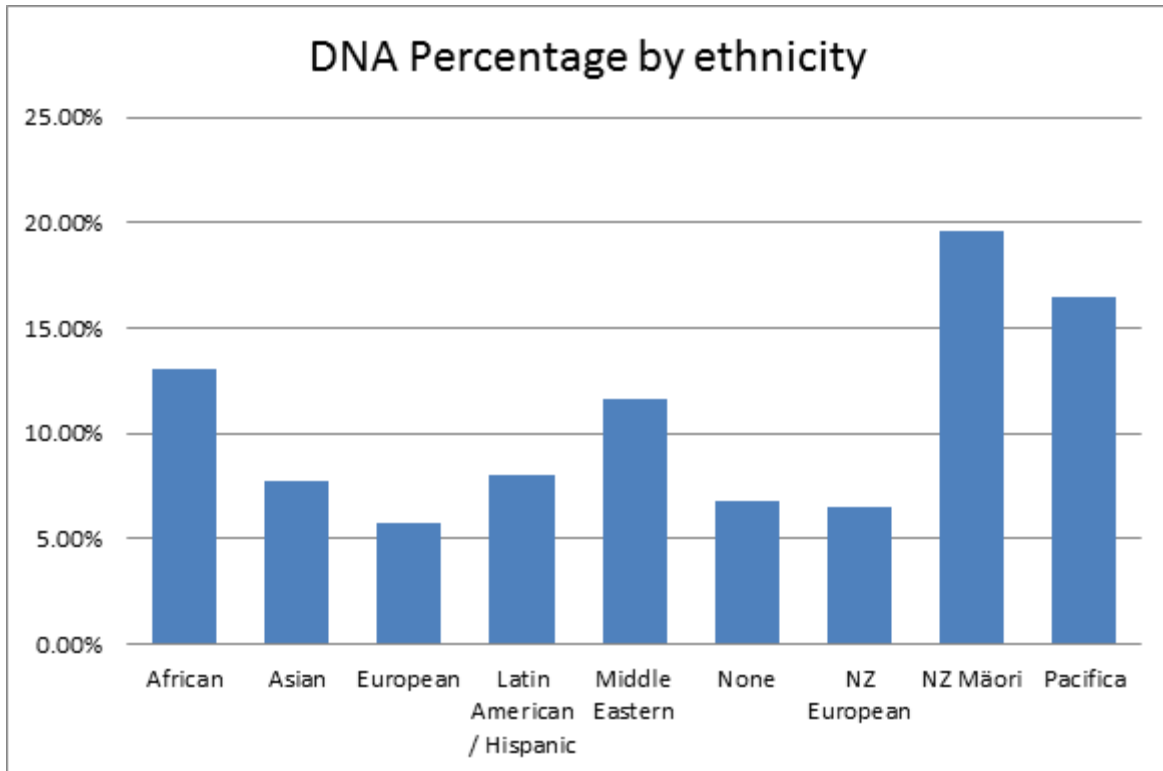


Figure 22. DNA percentage by ethnicity, Waikato DHB

Several specialities have high DNA rate for both Māori and non-Māori, as show in Figure 23. It is these areas that should be looked into first when investigating the DNA rate.

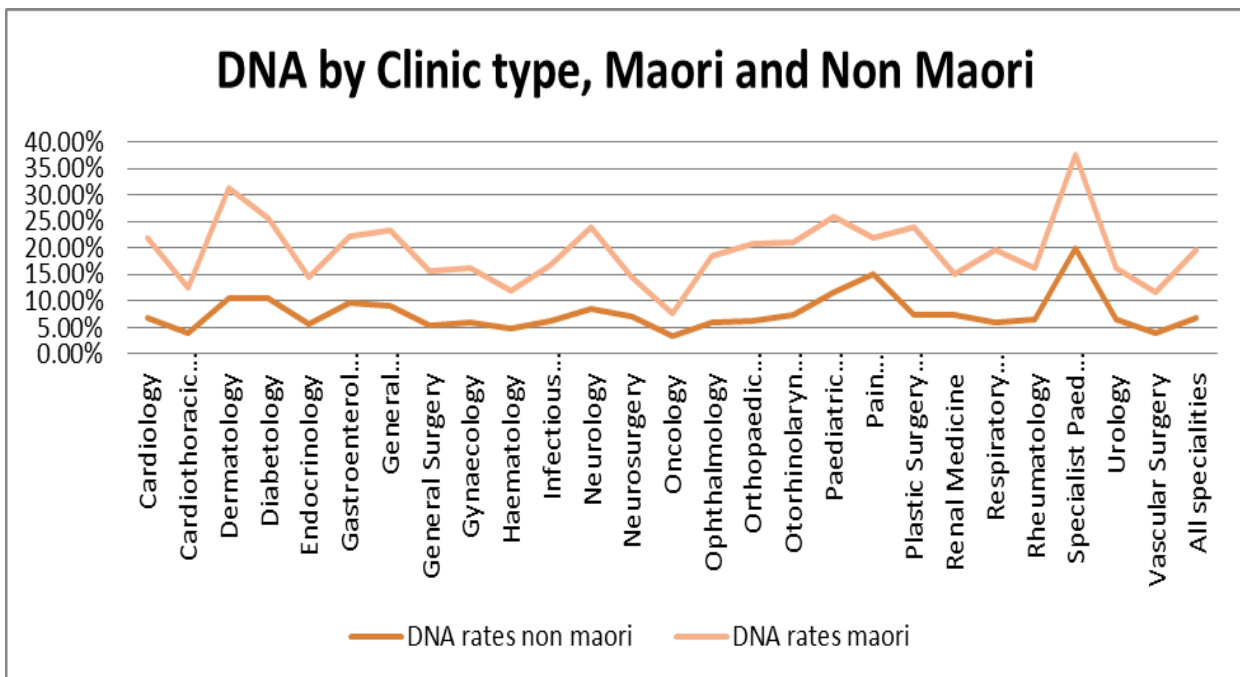


Figure 23. DNA rate by clinic type, Waikato DHB

Further analysis has been performed down to the decile area to determine the split between Māori and non-Māori and it is evident that the lower the decile the less the DNA rate has to do with ethnicity. An example of a decile 10 split is demonstrated in Figure 24

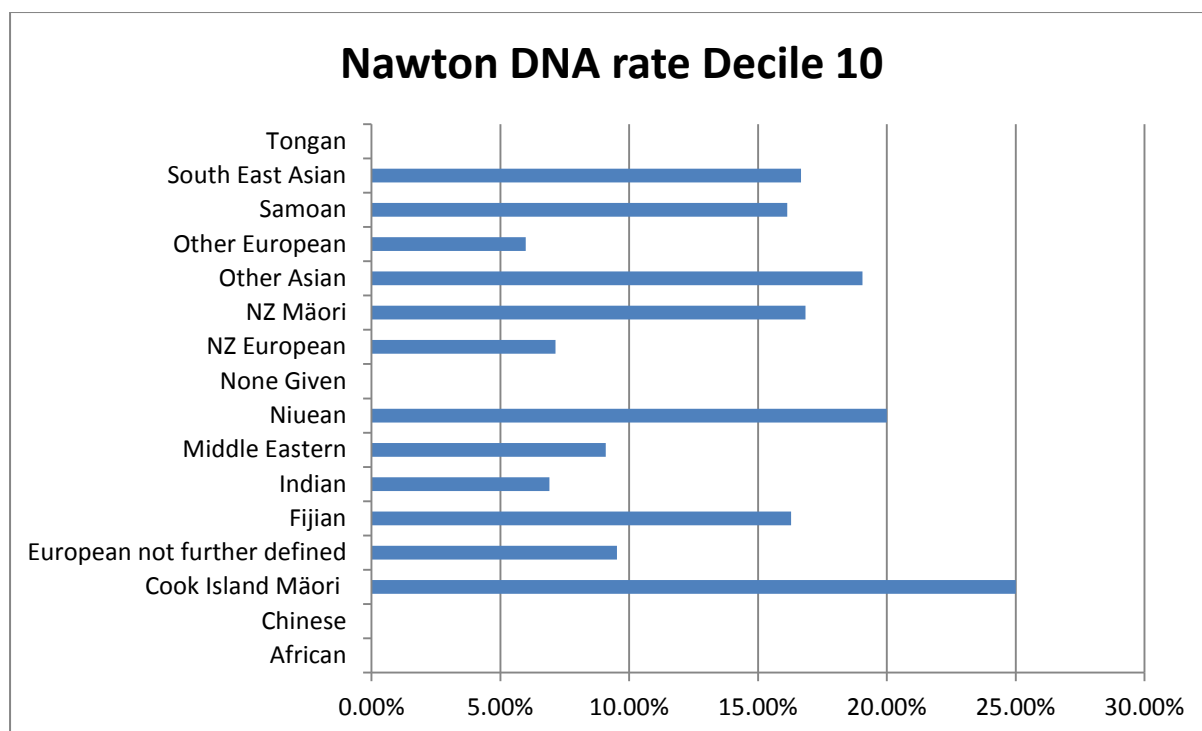


Figure 24. DNA rate for decile 10 area – Nawton, Hamilton

Other booking issues

The i.PM patient management system does not currently flag patients who have multiple bookings, so their appointments can be consolidated into a one-day visit. It is up to the booking clerk to check this when booking the patient into the clinic, but this is a time-consuming process and secondary to the clerk's primary workload. A similar issue exists for those patients who live in rural areas. The booking clerk will, where required, create appointment times that accommodate transport services (for example, the Taumarunui shuttle, which also picks up people from Te Kuiti, Otorohanga and Te Awamutu), but there are no alerts in i.PM to show this is required, and so depends on the clerk being aware of the issue.

Discussions with outpatient staff noted that a number of follow-up appointments could be considered as booked to provide peace of mind for the service, or perhaps for a junior resident medical officer, who wants to check on patients post operatively. These appointments tend not to go beyond 5 minutes and are often not well received by the patient. Due to the lack of reporting around clinics in the system, this claim was hard to validate. However, discussions with the Strategy and Funding Department also revealed that consistent feedback was provided to them when consulting on the health systems plan, particularly from patients in rural areas, that they felt the need to come in for a follow-up appointment that lasted less than 5 minutes was disrespectful to them and their time. Using nurse practitioners and community nurses to contact the patient by phone and work through a checklist with them that ascertain whether a follow-up appointment is

necessary may represent a better use of resources. This would also save costs on running unnecessary outpatient appointments.

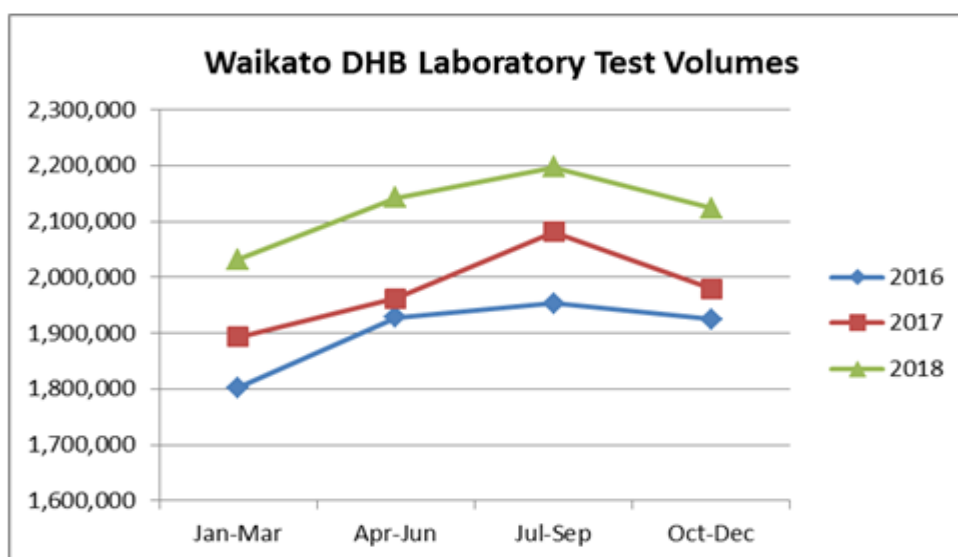
Pathology

New demands are constantly being made on medical laboratories due to changing population demographics, and the expanding range of available diagnostic tests available.

Population trends for Waikato DHB indicate a population increase of 21 per cent over the next 20 years. In the Waikato area 6.3 per cent of the population are over 75 years of age and this figure is projected to increase. Demand associated with population growth and ageing will pose a significant capacity challenge for the Waikato health system. There will be greater demand for laboratory services due to an increasing and ageing population, social pressures and a subsequent increase in long term conditions requiring diagnosis and ongoing monitoring. Personalised medicine is growing and this places a significant amount of pressure on pathology services.

Significant changes are occurring in automation, genetic analysis and informatics and the adaption of technological developments show a trend that medical laboratories are moving away from the traditional structure of disciplines and are becoming blended in multidisciplinary processes. In the future there will be an increase in automation, in complex specialised methods, data analysis and in point of care testing.

This trend has started to impact on the Waikato DHB laboratory with its volumes on the increase, as shown in Figure 25.



	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
2016	1,801,874	1,928,071	1,953,000	1,924,761
2017	1,893,290	1,961,342	2,081,138	1,978,955
2018	2,031,489	2,141,756	2,197,111	2,123,387

Figure 25. Waikato DHB laboratory test volumes

While basic tests are automated within the Waikato DHB, areas that are still labour intensive such as Histology and molecular genetics are experiencing an increase in demand predominately due to genetic testing and personalised medicine approaches particularly with respect to whether specific specialised drugs will be effective on an individual prior to prescribing. Over a 12-month period, the number of histology cases have increased by 9 per cent and the number of histology pots increased by 11 per cent. The increase in pots indicate a higher level of sample testing in patients.

The November 2018 audit on laboratories resulted in several corrective actions with respect to the facility not meeting the accreditation standards in particular substandard and inadequate accommodation of histology. With the increasing demands on the volume of tests for molecular genetics and histology, the accommodation issue will only exasperate the problem and increase inefficiencies. Combining the departments and automating where possible will improve the Waikato DHB ability to accommodate greater demand for tests and improve turnaround times. A “do nothing” approach will almost certainly result in a loss of accreditation.

Losing accreditation has both financial and reputational implications. Currently the Waikato DHB receives \$4.5 million per annum for specialist testing for the midland’s region and \$1.0 million revenue for testing referred from other DHBs. All NZ laboratories are IANZ accredited and are required under ISO 15189 to refer their work to other accredited laboratories only. If Waikato DHB Laboratory loses accreditation it will be forced to outsource referred work to another accredited facility at considerable expense. Some additional volumes are already outsourced to Auckland DHB at an annual cost of approximately \$250,000.

Recommendations

1. Provide additional resource to the service manager to roll out the Outpatient Schedule Project in a timely manner.
2. Develop a service user agreement between the Meade Clinical Centre and the different specialities to use the outpatient facilities to clarify expectations, accountabilities, KPIs and responsibilities of all parties, around staffing, advance notification of clinic cancellations, change of clinic needs etc. KPIs might include clinic start and finish times, and the numbers of patients seen versus those booked, as well as DNA and cancellation rates.
3. Perform detailed analysis around DNA rates before implementing an FTE-based solution.
4. Ensure that all business plans requesting additional senior medical officer / resident medical officer resource anticipate the implications for outpatient, procedure room, specialised consumables and equipment demand. These implications should be signalled far enough in advance to enable supporting units to prepare.
5. Review the model of care for how clinics are set up by speciality to ensure resources (infrastructure, consumables and FTE) are maximised and fairly allocated.
6. Consider the use of community nurses and nurse practitioners for routine follow-up appointments.
7. Ensure future enhancements to i.PM contain functions that support the improved visibility of patient needs for outpatient staff.
8. Establish a DNA committee which encompasses representation of the clinical services with high DNA, the outpatients service leader, Strategy and Funding, the director of community and rural services and Te Puna Oranga to collectively identify and work through DNA issues.
9. Prioritise the capital development of the Laboratory Department. Alternatively, perform a cost benefit analysis of entering into a service level agreement with Auckland DHB to expand on the current volumes and turnaround times Waikato DHB currently outsources.

Rural hospitals

The rural hospitals (commonly referred to as the T hospitals) are managed independently of Waikato Hospital.

The review of each facility highlighted a constant theme of a lack of clinical partnership and leadership within the whole network, making service delivery somewhat fragmented. Discussions with the clinical staff gave the impression that they were somewhat isolated from Waikato Hospital. This lack of clinical oversight results in variations in standards of care across the network, and also lost opportunities to learn from clinical advancements experienced in patient care at Waikato Hospital.

The recommendations in this report relate to the areas of clinical governance, corporate and risk management, and governance, and it is imperative that the rural hospitals are part of this change. While rural areas have unique needs, their communities deserve the same innovation and advancements in quality patient care as those who experience clinical care at Waikato. It is

recommended that greater clinical management and oversight be incorporated in the day-to-day management of the rural hospitals to ensure consistency and quality of care.

Thames Hospital

At present, Thames Hospital is underused, with both extra bed and theatre capacity. The hospital is not well resourced for anaesthetic cover, with only a MOSS anaesthetist on shift and a doctor on call at night. The hospital is set up with 48 beds in the wards, covering medical and surgical patients, and 10 rehabilitation beds, but these are seldom full; as shown in Figure 26. There are two operating theatres and one procedure room, but these only run approximately three days per week. There is significant capacity to perform additional day surgery, such as TOPs and ear, nose and throat surgery.

Medical resource continues to be an issue at Thames Hospital, and requires the Waikato Hospital executive to work on a model of care that allows continuous cover at Thames to improve operational throughput.

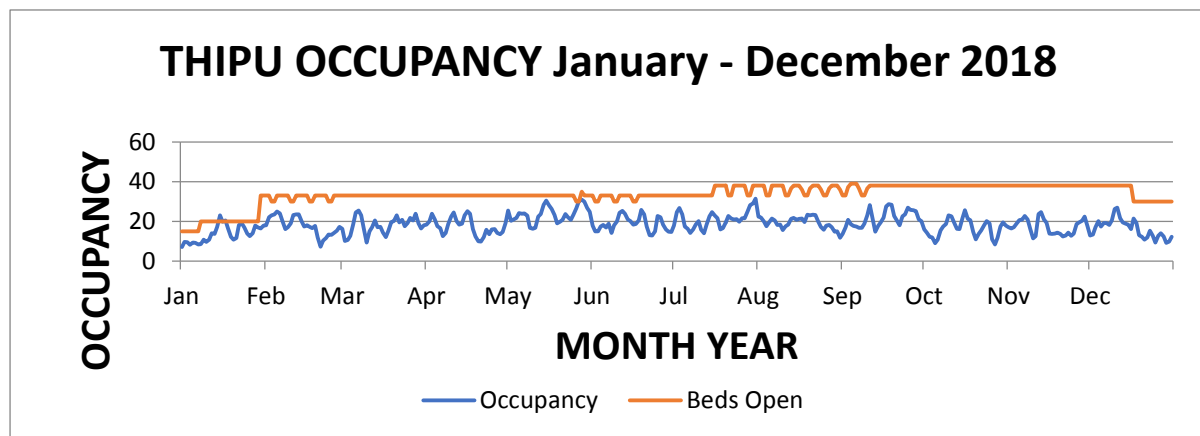


Figure 26. Thames Hospital Inpatient Unit occupancy, January to December 2018

Thames lacks an identity around what role it is to play within the hospital network. There is an opportunity to increase the use of the hospital, through health services planning taking a whole-of-system approach. Increased activity on site will require an investment in safe resourcing but should still drive a higher level of efficiency across the network.

The number of Emergency Department transfers from Thames to Waikato is on the decline, as shown in Figure 27. However, there are still a number of triage 4 and 5 patients being transferred from Thames to Waikato hospital, who could be accommodated in Thames, if the hospital was appropriately resourced.

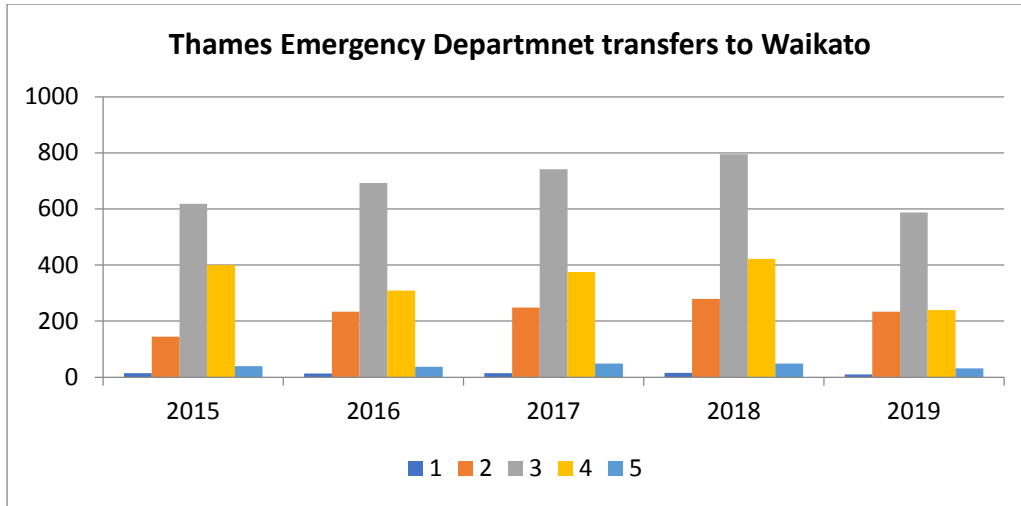


Figure 27. Thames Hospital Emergency Department transfers to Waikato Hospital

At present, the CT scanner at Thames Hospital is underused, and consideration should be given to using it to deal with regional diagnostic waitlists. It should also be ensured that patients referred from Thames Hospital have their CT performed in Thames before attending their outpatient appointment at Waikato Hospital.

Taumarunui Hospital

Taumarunui Hospital currently has 10 beds. When the review team visited the facility there were no inpatients, and the staff were taking advantage of the lull to prepare for accreditation. In discussions with the teams on site, a lot of the patients who stay overnight are rest-home patients. There is a St Johns ambulance base in Taumarunui that responds to patient concerns at the rest home and then transports them to the hospital. In the absence of any other facility, these patients are kept overnight, although they would not ordinarily meet the criteria for a hospital ward admission.

[REDACTED]

Patient transfer via road for acute patients is an issue within the rural hospitals, as the on-shift nurse must accompany the patient, and at times the only doctor on site may also travel with the patient depending on criticality. This exposes the facility to the risk of having inadequate resource cover in the event of a second acute episode.

[REDACTED]

[REDACTED]

Tokoroa Hospital

The layout of Tokoroa Hospital is not conducive to good clinical management. There is cross over between the Emergency Department waiting room and the outpatient’s reception, along with a triage room that doubles as a nurses’ office. The hospital itself is vast, yet the way the hospital floor is operated makes little sense. The ward is some distance from the Emergency Department, and the relatively newly built nurses station has no line of sight to the patients and is in fact separated from the ward area. The procedure room has a combination lock on the exterior of the door and no duress alarm inside, meaning the room is technically unsafe. If a nurse was to perform a procedure on a mentally unstable or agitated patient who attacked the nurse, there would be no way of knowing the incident was occurring, and in the event of someone noticing, entering the room would be dependent on knowing the code.

It was noted that the day surgery area has been closed and is undergoing a refurbishment to accommodate the maternity service. The space used for this service is generous and while the old maternity area is in need of a refresh, it was concerning that this new ward was being built in the middle of the facility without understanding what the long-term use of the facility would be. As a result, any future refurbishment of the wards may impact on the location of the maternity service, resulting in either forfeited costs or a compromised outcome in the design of a new inpatient ward. Additionally, questions asked of the clinical staff on site as to whether they would be providing after-hours support to the maternity service, or whether it will be a standalone facility, went unanswered, as the nurses in the inpatient ward had not been part of the model of care discussions. For a facility the size of Tokoroa, there should be a greater cohesion between the departments on site.

There is unused space within Tokoroa Hospital that could provide an improved patient experience, particularly for outpatients. These spaces are currently occupied by administration, but consideration should be given to reallocate the spaces to clinical uses and moving the administration team into the vacated clinical space. This would be a relatively easy and affordable project.

[REDACTED]

[Redacted]

Recommendations

1. Incorporate greater clinical leadership, networking and governance within the community and rural health division.
2. Adequately network the rural hospitals to Waikato Hospital to better manage patients, especially with respect to using Thames Hospital for day-surgery patients and CT scans.
3. Review the maternity paper to determine if the model of care is a priority for the DHB. If it is considered the model of care is beneficial, decide whether it should be delivered by the public health nurse.
4. Review the clinical flow of Tokoroa Hospital and ascertain whether an improved clinical offering could be achieved with minimal cost.
5. Finalise the model of care for maternity and its integration with the rest of the facility to drive greater cost efficiency.
6. Review the model of care for Taumarunui Hospital and whether a combined strategic offering with Te Kuiti Hospital could develop an alternative model for patients whose stays greater than 48 hours. Strengthen the road transport service to ensure greater security around transport of the patient when required and minimise the need for a nurse to accompany the transfer where possible.

Procurement and supply chain

[Redacted]

[Redacted]

Table 14 sets out the Waikato DHB's clinical supply costs for the past 5 years. The proportion of clinical supply spend to the total operating budget is close to 25% which is very high and effort needs to be undertaken to reduce this spend by approximately 5- 8% to bring it into line with the average proportion across the network. This will also reduce the deficit position.

Table 14. Waikato DHB clinical supply costs, 2015 to 2019

	2015	2016	2017	2018	Forecast 2019
Diagnostic supplies	10,179,683	10,923,056	11,499,653	12,244,163	12,692,270
Implants and prosthesis	19,944,554	21,237,449	19,858,016	21,531,806	22,023,874
Instruments and equipment	11,568,937	12,447,922	13,255,957	13,364,252	17,210,296
Other clinical supplies	3,486,779	4,045,525	4,561,409	4,906,734	5,251,762
Patient appliances	1,395,060	1,385,521	1,474,980	1,459,278	1,747,246
Treatment disposables	56,285,644	55,840,526	56,964,963	62,527,544	61,405,513

Procurement

Procurement within the DHB was historically managed by a contractor for several years. This contractor was subsequently converted into an employee and 3 months later resigned. A full-time employee has now been recruited to the position.

Clear procurement guidelines and frameworks exist on the intranet, and these are robust and easy to follow. However, clinical and non-clinical staff openly talk about working outside of the procurement system, noting that it is generally faster to obtain their products in this way. Staff perceived that it can take up to 12 months from when a new product is requested to when it is actually procured.

During the review, it was noted that the DHB does not currently have a Clinical Products Committee. This means there is no effective governance group to oversee the introduction of new products/medical devices into the system and rationalise the types of products/medical devices being procured. This has resulted in some items being purchased that are not compatible with the systems they are designed to connect to or are not approved for use in DHBs. Examples include Welsh Alleyn vital signs monitors being purchased when the GE Medical devices were the only observation monitors approved for use, and departments ordering Braun tympanic thermometers when Genius 2 cardinal health thermometers are the approved product to use within the hospital. It was also noted that there were often multiple brands of consumables being purchased, such as 23 different types of blood pressure cuffs.

Since the review, a draft term of reference has been prepared for a Clinical Products Optimisation Committee. However, the committee has not yet had its first meeting. It is imperative that this committee is established as soon as possible, with clear communication provided to the organisation

about its purpose and the requirement for all new product requests to be directed through it. The intent of this approach is to rationalise the number of available products (including medical devices), in order to optimise the purchasing price.

There appears to be little communication or interaction between the procurement team and the wider hospital services about what contracts are coming up for expiry, and limited ability for clinicians to participate in the procurement process, rather than just relying on communications to occur when products are close to expiry.

A procurement plan exists, but the one provided to the review team was incomplete and did not reconcile with the contracts register. Entries on the plan indicate the retrospective production of paperwork for already procured products, and highlighted effort within the current quarter, but had very little information about how the procurement team's staffing resource of seven FTE staff would be working on beyond July 2019.

Supply chain

The National Oracle System (NOS) was rolled out within Waikato DHB without an adequate change management programme to support it. As such, there is been limited knowledge within the organisation about how to use the system and, in particular to obtain information that predates the rollout.

The move to the NOS presented some good opportunities for the Waikato DHB to rationalise the number of products it had available and to streamline the unit of measure with the one link supply unit of measure. Unfortunately, neither of these opportunities was fulfilled and staff now have access to a larger pool of products, having imported the phase 1 DHBs products in addition to the Waikato DHB supply list. The unit of measure discrepancy results in confusion at the logistics end, as well as the orders end.

An independent review of the NOS rollout was conducted and reported on in May 2019. A number of issues have been highlighted by the review, including the lost opportunities to consolidate, and the lack of communication, documentation and change management support from the project to the DHB. Whilst the NOS Project was a national project, the project director and the NOS team were based at Waikato Hospital and therefore there is a greater expectation that communication would have been more effective.

At the time of the current review, there were 40 FTE staff allocated to the supply chain business as usual team, 45 per cent of whom were contractors. In addition, the NOS staff were costed within the supply chain cost centre and 81 per cent of them were contractors. The NOS contractors are to be recharged to the NOS Project, but a review of the general ledger shows residual costs still sitting within the operating expenditure of the Waikato DHB.

[REDACTED]

At the time of the review, there were 12,052 items on consignment with a total value of \$10.2 million.

[REDACTED]

Of the total, 8,733 items have a value of less than \$2,000, some of which are part of packs, but recorded separately. This stock is stored in various areas of the DHB, predominately theatres, interventional radiology, the cath lab and a storeroom in the basement of theatres. This is a substantial amount of product to be held on site on behalf of suppliers and takes up storage that could be better used to streamline the imprest stock processes, particularly in theatre. It is unlikely all 12,052 items need to be on consignment, [REDACTED]

The sheer number of items on consignment at the DHB indicates that no real control is in place to ensure only the most applicable products are consigned. Upon discussion with theatre staff and limited discussion with supply chain staff, it was evident that the governance and control of consignment is poorly managed with limited oversight or control.

Engaging contractors for the business as usual work has been a long-standing practice for the supply chain and has significantly hindered the team's ability to develop as a department, with long-term planning or controls being put in place. [REDACTED]

The justification given for using contractors has been the perceived low rate of pay for full time employees. However, a review of similar positions in the market indicated that the rates of pay under the collective agreement for the DHB are competitive and above the average margin rate of pay for the Waikato. There is little evidence of the department committing to a recruitment strategy over the years, with minimal recruitment requests made for full-time employees. Discussions with some of the contractors on site confirmed that they would prefer a full-time employment role with the DHB and would apply if the opportunity arose. [REDACTED]

The number of bill of materials in place in the theatres exceeded 1,200. This is an excessive number of bill of materials for a DHB of this size, with orthopaedics having 346 variations within the bill of materials. There is no viable explanation as to why this level of variation would be reasonable.

The majority of surgical procedures will require the same products on the trolley and on investigating the limited information provided, it was noted there was a lot of surgeon specificity which may be contributing to the high costs. The process of packaging, delivering, decanting and recycling this many bill of materials requires significant time, energy and money resources. Seven FTE staff are assigned to the theatre store on morning and afternoon shifts, purely to accommodate the volume and variation of bill of materials. Figure 28 shows the degree of variation by speciality, while Figure 29 shows piles of unused products from the theatres waiting to be repacked.

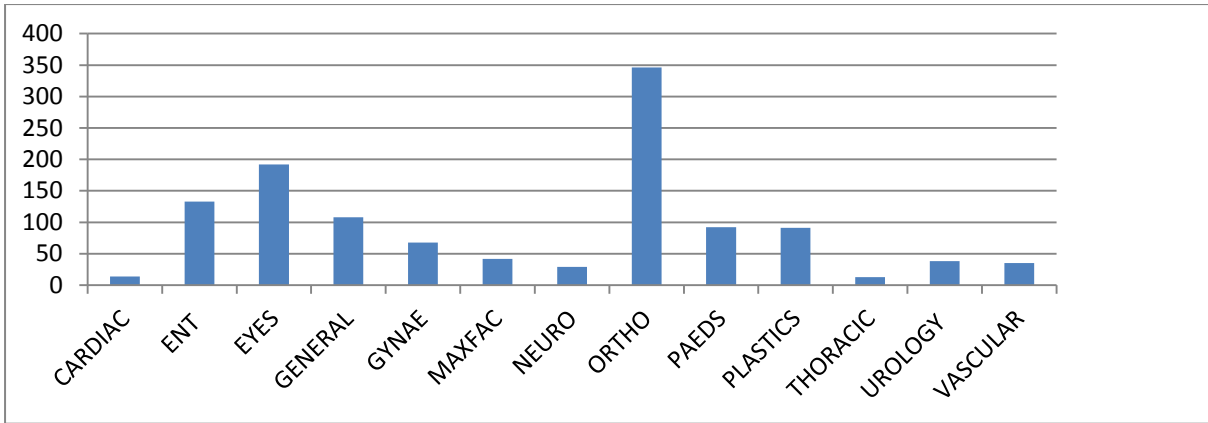


Figure 28. Bill of materials variation by specialty

Within the theatres, stock trolleys are packed with extra instruments and consumables to accommodate these variations, and these trolleys are required to be replenished daily. It was observed by the review team on two separate weeks in different theatres that the trolleys had not been restocked, and the nurses were required to leave the theatre mid-procedure to find the stock or wait for it to be delivered by supply chain staff after a phone request. Discussions with nurses indicated that this is a regular occurrence.



Figure 29. Unused products from theatre to be repacked

Onelink is a third-party contractor provider of the Waikato DHB. It is situated at Gallagher Drive in Hamilton and holds a long-term contract to provide logistic and transport services for all of the hospital's imprest products. Onelink purchases, stores, picks, packs and delivers goods (including pharmaceuticals) to the Waikato Hospital dock way, in a timely manner and in accordance with good supply chain methodology.

There are, however, inefficiencies with respect to Onelink's operations, which are caused by the Waikato DHB's ordering processes and flows.

The DHB is responsible for all of the products that Onelink delivers once they arrive at the dock way of the hospital, including unpacking and delivering them to the wards in a timely manner. In addition, it is responsible for ensuring that the ward imprest rounds are performed daily so that stock is replenished on the ward for use. The times of the ward imprest rounds vary throughout the day and are not consistent, resulting in product requests arriving with Onelink as late as 4pm for delivery the following day. This leads to Onelink duplicating its picking and packing functions, resulting in lost time. Ideally the ward rounds should be completed no later than 11am each day, in order for Onelink to maximise their resources during the pick and pack process.

During the review, it was noted that Tuesdays attracted an additional 40 per cent more stock requests than any other day of the week, requiring Onelink to have more personnel resources available on that day than the others. This implies that ordering around the weekend could be refined to smooth out the supply and better use the Onelink staff shifts. This would translate to some small savings for the DHB, as Onelink would be required to pass the savings on.

The consistency of ordering times would benefit the staff on the wards as well, as many expressed frustration at the inconsistent ordering practices (some days replenishment did not happen), and at running out of stock and having to take from other wards or make an urgent order request.

The nursing staff also noted that there was significant turnover of staff in this area, making it hard for them to develop a dialogue with a single person. This is further evidence that, as noted above, the consistent use of a contractor workforce has continued to erode the ability of the supply chain team to operate as a consistent and united team.

Onelink has low staff turnover (less than 2 per cent), and taking into account the efficiencies that could be gained from providing an end-to-end supply chain, consideration should be given to using it to also manage the supply of products from the dock way to the ward, especially as the existing supply chain team already has a high proportion of contract staff and high staff turnover.

If this approach is not desired, then Onelink and the supply chain team, along with a number of nurse managers, should workshop the areas where supply can be improved and map out the efficiencies and financial savings.

Loan sets

Loan sets within theatre are a high cost item and are billed on a daily rental basis until returned or sent to the next DHB who requires them. There is no control in place to ensure loan sets are managed effectively and relinquished when no longer needed to ensure costs are minimised. There is also no current reconciliation of the invoice for loan sets against the loan set receipt and dispatch. This means the supplier's billing is taken at face value and paid.

Recommendations

1. Review ward imprests, minimum and maximum levels, and unused items, and implement annual reviews.
2. Review bill of materials lists and engage with the theatre manager and relevant clinicians to review and reduce the number of bills of materials.
3. Implement the lean six sigma methodology for the delivery process of theatre stock.
- 4 Prepare a work plan on improving service delivery. Recruit the director of supply chain and procurement.
5. Perform a contestability exercise to determine the benefits of outsourcing the whole of supply chain process to an external provider. If contestability favours in source, work with the Onelink provider on improving the replenishment scanning process to obtain financial efficiencies that will directly be passed onto the DHB.
6. Once contestability is established, if maintaining an in-source model, recruit to the positions as a matter of priority.
7. Review and remove items that have not been used in the past 12 months and items with a value of less than \$2000.
8. Review all contracts in the contract database and highlight the contracts with an expiry date of 18 months or less and assign a plan.
9. Put controls into the Oracle ordering system so that all capital items require biomedical and the chief finance officer approval (which can be delegated to the capital accountant).
10. Reinststate the Product Optimisation Committee as a central point to coordinate the introduction of new products, including medical devices and standardisation across departments. Use the up-to-date procurement plan to communicate to departments when contracts are expiring and the opportunity to look at new products and medical devices at those times.

Corporate review

The level of support being provided to the hospital departments by the Human Resources Department is less than adequate, with service directors bearing a significant burden of the paperwork for areas such as recruitment. An example of this burden is the Radiology department when at the time of the review, it was noted to have 12 FTE Radiologist positions vacant, and the vacancy had been held for over 12 months. This equated to 50 per cent of the department being under resourced with a number of Radiologists signalling to leave throughout the 2019 calendar year, predominately due to workload. The reduced work output has been compensated through the use of locums and employed Radiologists reading after hours in a private service offering.

Nationally there is difficulty recruiting appropriately qualified radiologists and this has contributed to the vacancy factor, however, it was noted at the time of the review that the head of Radiology was completing the required forms for successful international applicants to obtain external agency approval such as the Royal Australian and New Zealand College of Radiologists. The paperwork essentially was being completed on an ad hoc basis as the department head had a clinical load on

top of the managerial duties of operating the department. This meant a delay in filing the appropriate paperwork and resulting in delays in approvals. This work would be better suited to an HR advisor who can follow through on late responses, coordinate with the candidate on ensuring they sit their required tests and advocate for priority for Waikato DHB all in a timely manner.

The business partner model for the Human Resources Department is lacking, and confidence in obtaining support from the HR team is low, resulting in HR and industrial relations issues not being addressed in a timely manner and poor performance being tolerated. There is a clear lack of understanding from many department heads and managerial staff about basic HR and industrial relations disciplines. The management capability to deal with poor behaviour and conflict management is low, and this results in staff being shuffled throughout the hospital into other departments, rather than resolving the issue.

The HR team is currently undergoing a strategic change in its service delivery and profile. The proposed changes are positive and will significantly lift the competence and responsiveness of HR within the organisation. However, there will need to be a number of quick wins prioritised in order to build confidence within the organisation, as there has been a high level of turnover within HR, resulting in disengagement between it and the organisation.

The change management team also sits within a corporate department. The initial intention in establishing this team was to provide expertise to the organisation to drive change behaviour and instil a disciplined project management methodology. Over the years, the team has morphed several ways, with its current focus being more on project management, particularly with regard to information and communication technology projects.

Discussions with a number of change personnel and project sponsors indicated a difference in view on what change means, versus how it is actually implemented. There is a distinct bias within the team towards project management, rather than behavioural management. The recurrent cost of this department is \$2.1 million, with a number of vacancies currently held within it.

Interviews with staff who have used the change team over the past two years identified the following points.

- [REDACTED]
- The team is good at outlining the key requirements of a project. One stakeholder noted that it “was a good for people who had not gone through such a big project before”
- The team is best used as a project resource, rather than a change agent. [REDACTED]
- There is duplication of the project manager role, with stakeholders noting that “There was a lot of tension between the IS project manager and the change manager as to who was really in control”. If true change methodology was being used, this would not have been an issue.
- Understanding the business processes were seen as an advantage. “The clinical personnel within the team are really valuable because they assist in interpreting the problems and presenting the solutions which made the project very successful” and [REDACTED]

- [REDACTED]

[REDACTED]

[REDACTED]

If the Waikato DHB truly wants to have change agents within the organisation, then they need to be deployed to projects and participate in the behavioural and process aspects of those projects only, not involved in the entire project methodology. To this end, it is recommended that the change team be moved to either human resources or the chief operating officer to assist with the behavioural aspects of project change and the function of this team refined to be more behavioural change experts and process-based improvements.

Change must be embraced and owned by the department making the changes, and it is the role of the change agent to assist but not do this. [REDACTED]

Too many systems

Waikato DHB currently has over 700 ICT applications that is managed on the network with over 50 of these applications being access databases that perform critical process flow functions for various departments. These databases are unsupported by the ICT Department and are dependent on the users to maintain and back up (if not placed on the network). There are numerous systems used for the same department performing part of the function of the department, for example, theatre has over five IT systems independent of each other to perform various operational and HR functions, they are not integrated and so a significant amount of human intervention is required to link the outputs of each system together to drive an effective business/production solution. Additionally, outpatient information is also kept in two separate systems. Multiple systems perform multiple functions results in significant inefficiency around production and systems planning, increased costs for supporting each application including licences and fragmented analysis of data resulting in half assessments being performed. Each time a system is partially rolled out, it automatically results in cost for the organisation and its perceived benefits not being realised, PFM is a recent example of this.

The ICT department has calculated its deferred maintenance position as being \$23.9 million it has not however, identified what this deferred maintenance means for the organisation from a risk management perspective and how it intends on mitigating risk to an approved tolerance level. The department notes that there is a risk and rates it as a high in the risk register but does not clearly articulate what the consequences are. It is recommended that this be done as a matter of priority and reviewed and accepted by the DHB executive team.

Poor discipline when managing projects

There is a general lack of discipline around the establishment of business cases and identifying tangible hard dollar benefits. A review of 20 business cases highlighted poor identification of benefits from investment, underestimated cost of the scope, scope creep, scope reduction in some areas to fit into budget without adjusting the realised benefits and a general lack of risk identification and mitigation. Additionally, where the executive project sponsor has left the organisation, a number of projects were not transferred to an executive sponsor, leaving the decision making and risk mitigation of large systems with a group of people who didn't necessarily hold the delegation or expertise to make such decisions on behalf of the organisation. There was a general consensus from clinicians that projects often ran in silos not connecting key stakeholders early in the process to ensure standardised models of care, and mitigation of unintended consequences around decision making. This poor discipline result in half implemented solutions, work arounds and additional cost to the organisation. Clinicians need to take a more proactive role around the implementation of clinical systems, the key clinical stakeholders and users must own some responsibility and accountability for the success or failure of the benefit realisation from the investments made. There needs to be consistency of representation and meetings need to be structured around the roster rotation to allow the same clinicians to represent and see project through.

This lack of discipline around projects span across all types of contracts from PFM where the deficiencies have been articulated in the paper through to the lease and refurbishment of the old farmer building, where the capital costs have doubled and the organisation has paid in excess of \$2.5 million to date on rent of an incomplete building with none of the original benefits being realised once the building is completed.

Whilst the establishment of the Enterprise Portfolio Office will assist in the development of effective business case writing and improve the project documentation and methodology, there needs to be a renewed focus on the role of the executive sponsor and their accountability to the organisation and stakeholders for successful delivery of the project(s). Based on the poor performance of rolling out major projects, the sponsors have taken a passive interest in the projects they sponsor.

Outcome-based contracts

Strategy and Funding manage the bulk of the community-based contracts that focus on primary health, prevention and early intervention of health problems and step up/down facilities, as well as pharmaceutical and laboratory community services. They are heavily involved in the primary health organisations and networks and work with both the primary care, mental health and community services sector and the provider arm of the DHB to bring the various facets of healthcare together aim to bring together an all-encompassing health offering that benefits the population of New Zealand by opening up accessibility and eliminating disparities and improving health outcomes.

Proportionately, the contracts held by the Strategy and Funding Department are national contracts and there is minimal influence they have on ensuring that contracts are outcome based and tailored to the Waikato DHB. However, approximately \$20 million of contract services are localised and under the direct control of the Waikato DHB strategy and funding division. It is important to ensure these contracts are tailored to meet the current needs of the population and to minimise hospital presentations where possible. Historically, these contracts have not necessarily been outcome focussed or relevant to direct hospital avoidance. It is acknowledged that there has been a restructure of positions in the strategy and funding team over the past twelve months to provide

greater transparency and accountability. The benefits of this are only starting to take shape with respect to clear identification of where efficiencies can be gained within the system by partnering with the primary and community sectors and the provider arm of the DHB. As contracts come up for renewal it will be important for the provider arm to be fully engaged in developing in partnership with strategy and funding some appropriate outcomes that effectively manage the health and wellbeing trends of the community and to achieve early intervention and hospital avoidance.

Recommendations

1. Implement the HR strategy pertaining to the partnership of HR Advisors and the Operational divisions
2. [REDACTED]
3. Produce business cases with problem identification and real benefit identification resulting in payback of the investment. Monitor and drive accountability with the executive sponsor to achieve such benefits. Perform comprehensive post implementation reviews with feedback around lessons learned and performance
4. Continue to rollout outcome based contracts and including the provider arm in the setting and monitoring of these KPIs

Table of recommendations

Refer attached Excel Document (issues 1 – 69)

Appendices

Appendix 1: Resource review terms of reference

Terms of Reference for the Plan to create a financially sustainable organisation

Background

The DHB has a growing deficit, \$37m for 2017/18 and a projected deficit of \$56m for 2018/19. There are also a number of service pressures identified and the Clinical Service Planning that has been undertaken would also indicate that a number of services are under pressure and will require increased resources to remain viable.

This is not a quick fix and it will probably be a 3 year timescale to get back to a financially sustainable position, but we need to move to control our costs. To do this we first need to understand our costs and cost drivers. Information would suggest that Waikato DHB is amongst the top six DHBs for FTE per head of population, so although a crude figure it would suggest that, despite the call from services for 500 more staff this year, we appear to be reasonably well staffed compared to a number of other DHBs. This then raises the question; are we using the staff in the right areas or do we have more staff in areas where perhaps they are not required?

It is important that we understand our cost structure and to do this it is proposed:

Review

1. To review how the DHB has allocated their resources, the review will commence on 10 December.
2. We seek to have a review of our current resource structures. This will be done by setting up a small project team, consisting of external contractor with significant health services expertise matched by internal financial and clinical expertise. All members of the team will be expected to be working members putting in effort collectively and individually as decided by the team. Two staff from the Waikato DHB Change Team will be available to support the project and the project team will also be able to retain other support as necessary.
3. The project team will review the wider cost structures and FTE establishment of all services, clinical, non-clinical and all corporate services. They will have access to all information they required to undertake the review.
4. Are there services, clinical or support, where they are over resourced?
5. Are there services that are under resourced?
6. The project team will report monthly to a small Governance Group which would consist of the Chief Executive, Chair of the Board's Sustainability Advisory

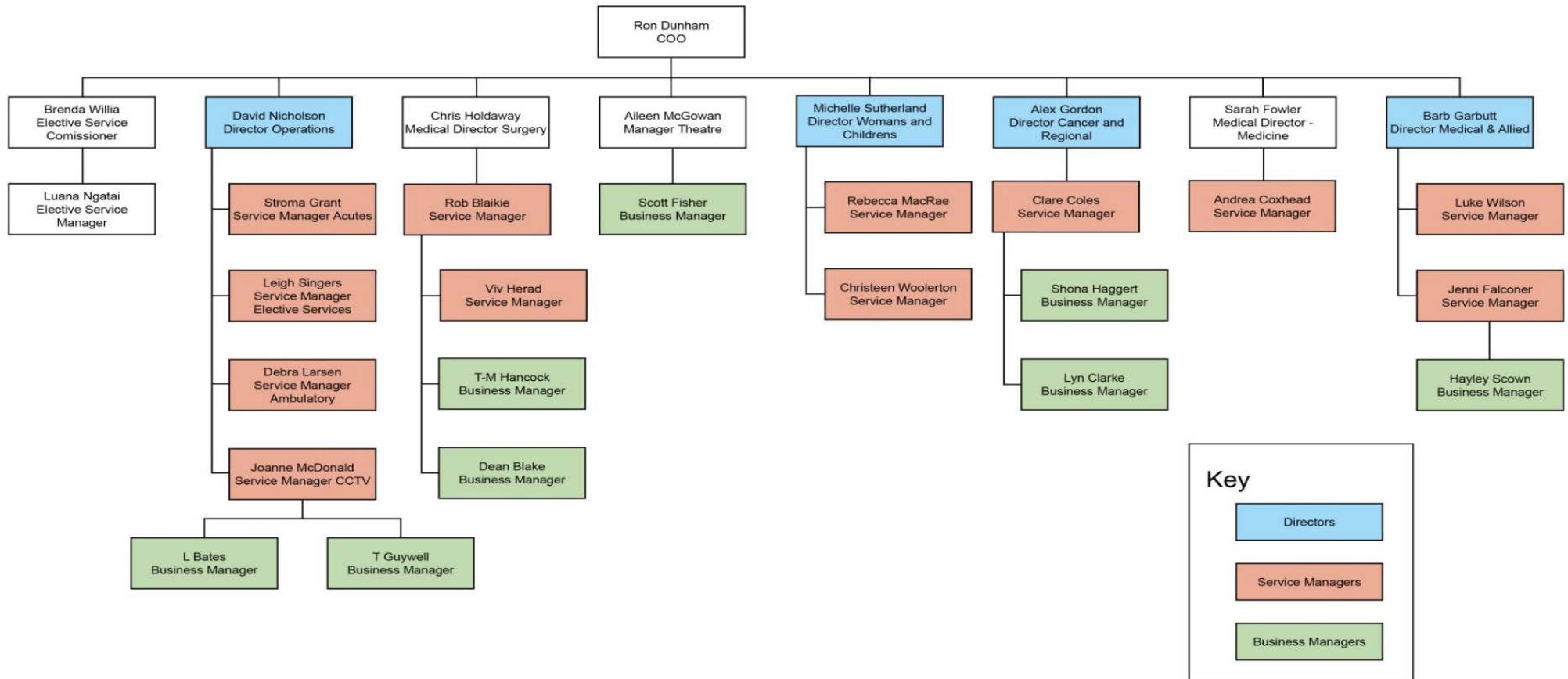
Committee, Chief Medical Officer, Chief Nursing and Midwifery Officer, Chief Financial Officer, Chief Operating Officer (interim), Executive Director Strategy Funding and Public Health, Crown Monitor and a representative from the Ministry of Health Leadership Team.

7. It is expected the project team would complete the first stage of the review to understand our cost structure and where savings might be possible within four months.
8. Any immediate discreet actions to reduce/relocate resources identified from the review would be implemented as soon as possible/practical.
9. Following the outcome of the review, a second phase would commence which would be to develop the Turnaround Plan that details how we improve the DHB's financial sustainability. This may include some staff from the project review team but may also require additional expertise and additional internal resource.

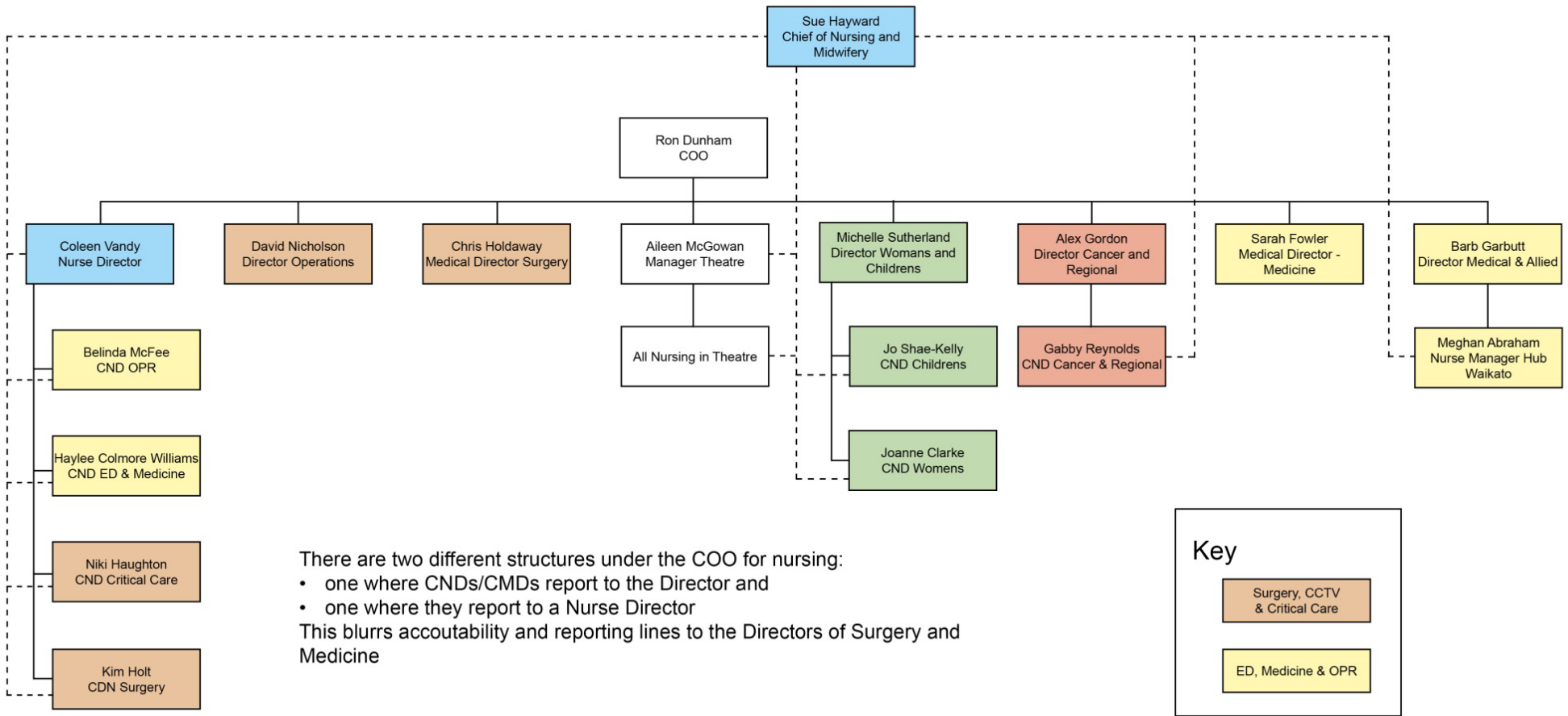
The detailed Turnaround Plan will be completed by June 2019.

Appendix 2: Current organisational, and medical and nursing structures

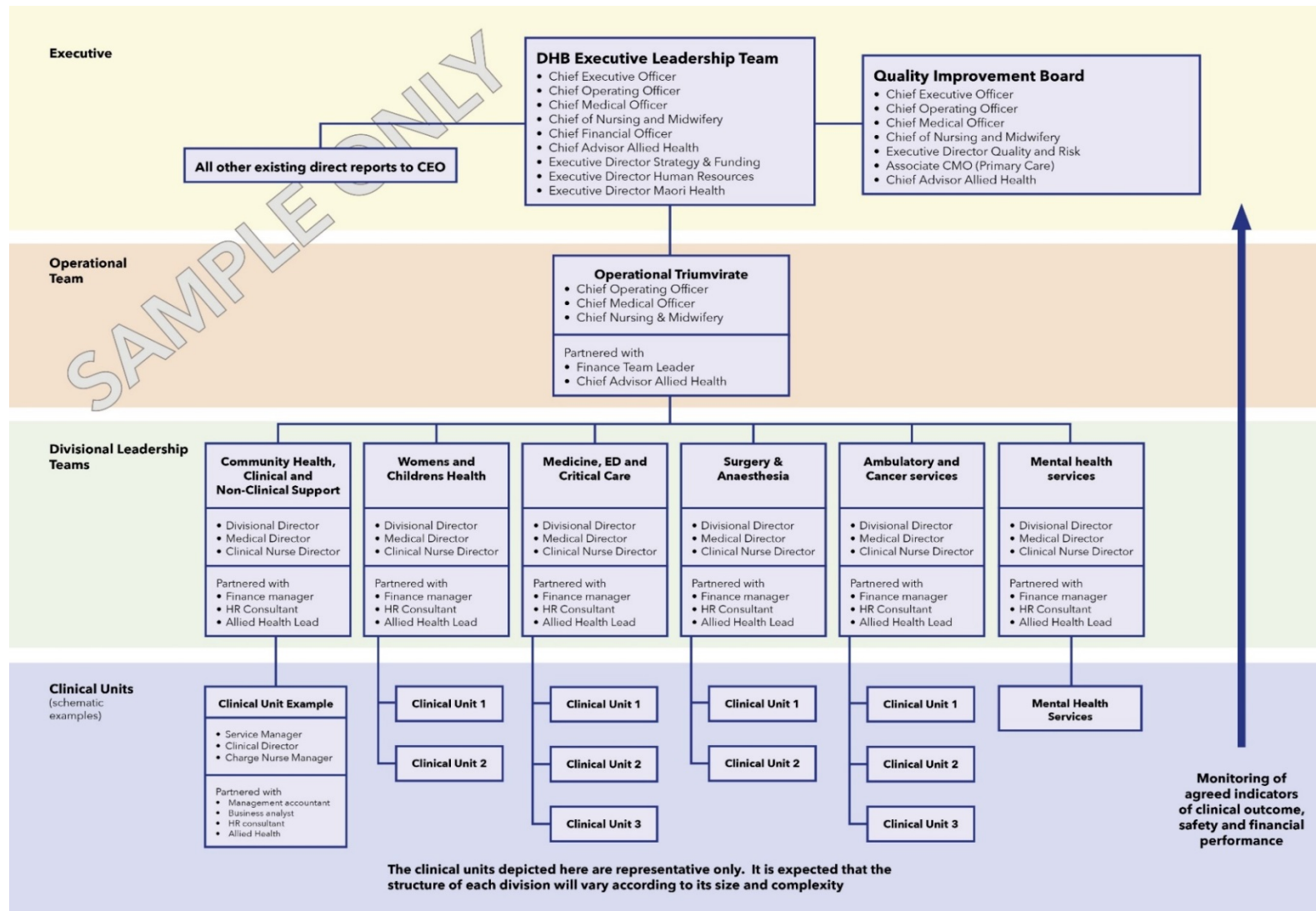
Current organisational structure



Current medical and nursing structure



Appendix 3: Sample structure driving devolution to create accountability



Appendix 4: Full-time equivalent staff movement analysis

FTE MOVEMENT - By Staff Type - Actual Jun-18 to Budget Jun-19

Initiative	Recon Code	Medical	Nursing	Allied	Support	Mgmt/Admin	Total
Baseline - June 2018 Actual	Baseline	825	2,730	1,104	340	1,126	6,125
Bed Plan - Bed Increases	DG	1.40	83.00	-	-	-	84.40
25 Acuity Tool increases	ASP	-	68.07	-	-	-	68.07
M18 Surgical Assessment Unit	BC	-	44.20	8.40	4.80	4.20	61.60
Vacancies filled assumption	VF	1.68	-41.61	17.41	14.89	40.58	32.94
116 Allied Health Weekend Staff	ASP	-	-	21.60	-	-	21.60
105 New-born Intensive Care Unit capacity	ASP	-	21.00	-	-	-	21.00
Postgrad	OTH	-	16.30	-	-	-	16.30
BC - Midwives	BC	-	14.63	-	-	-	14.63
114 Theatre Staffing	ASP	1.90	7.80	2.90	-	-	12.60
Other BCs - OPR5	BC	4.00	4.50	4.50	-1.70	0.20	11.50
93 Community Mental Health Teams	ASP	1.00	2.00	8.00	-	-	11.00
Registered medical officer MECA Roster Changes	BC	11.00	-	-	-	-	11.00
Additional Acute Evening Session	BC	-	6.60	3.60	-	-	10.20
Endo - Nurse Endoscopists & Suite Nursing	BC	1.10	6.60	1.80	-	0.20	9.70
112 Cath Lab Support Staff	ASP	-	6.00	3.50	-	-	9.50
Acuity Tool - HCAs M6 & M16	BC	-	9.40	-	-	-	9.40
Radiology Workforce Analysis	ASP	1.80	-	7.32	-	-	9.12
90 Crisis assessment and home treatment	ASP	2.00	6.90	-	-	-	8.90
30 Redefining S & F	ASP	-	-	-	-	8.00	8.00
HW06 Cost neutral Service Pressure	ASP	-	8.00	-	-	-	8.00
124 registered medical officer	ASP	8.00	-	-	-	-	8.00

relievers							
Elective Caesarean	BC	3.80	2.60	0.30	1.00	-	7.70
101 Diabetes Service Investment	ASP	1.90	3.10	1.50	-	0.90	7.40
102 Respiratory Service Investment	ASP	0.90	3.00	-	-	2.50	6.40
98 High Dependency Unit staffing	ASP	-	6.00	-	-	-	6.00
Section 99	BC	1.33	3.43	0.33	-	0.53	5.62
Additional Anaesthetist Hours	BC	3.52	-	1.50	-	0.50	5.52
CBD	BC	-	-	-	3.50	1.80	5.30
100 Patient at risk team	ASP	-	5.20	-	-	-	5.20
Increased Angiography	ASP	0.65	1.00	2.50	-	1.00	5.15
10 HR resources	ASP	-	-	-	-	5.00	5.00
92 Infant Child Adolescent MH Service	ASP	1.00	1.00	3.00	-	-	5.00
89 Infant Child Adolescent MH Service	ASP	-	2.50	2.50	-	-	5.00
Retrievals	BC	0.80	4.00	-	-	-	4.80
Other BCs - Renal BC FY	BC	-	4.40	-	-	-	4.40
SLA#362 In Home Strength & Balance	BC	-	-	4.00	-	-	4.00
9 IS resources	ASP	-	-	-	-	4.00	4.00
87 Mental Health Service for Older People	ASP	-	3.00	1.00	-	-	4.00
Cardiac Theatre x 1 session per week	BC	0.40	0.80	2.20	-	-	3.40
83 Production Planning	ASP	-	-	-	-	3.00	3.00
8 I & D Staff	ASP	-	-	-	3.00	-	3.00
84 Duty Managers	ASP	-	3.00	-	-	-	3.00
88 Community facing triage alongside non-government organisation and primary care	ASP	-	1.00	2.00	-	-	3.00
Cardiac Physiologist	BC	-	-	2.50	-	0.50	3.00
Forensic Mental Health Service - prison (Clinical)	ASP	-	2.60	-	-	-	2.60
55 Additional Anaesthetic - Support Impact	ASP	-	-	0.20	2.20	-	2.40
Renal BC FY	BC	-	-	2.30	-	-	2.30

RC1905 - FTE's filled by Temps	AB	-	-	-	-	2.00	2.00
97 Research & Clinical	ASP	-	-	-	-	2.00	2.00
3 claims staff	ASP	-	-	-	-	2.00	2.00
Pathologist FTE	BC	1.60	-	-	-	-	1.60
Cytotoxic Compounding Service	ASP	-	-	1.50	-	-	1.50
BC - Registered medical officer typist support	BC	-	-	-	-	1.50	1.50
125 Endocrinology	ASP	-	1.50	-	-	-	1.50
Other BCs - M3 Business Case	BC	-	1.30	-	-	-	1.30
Air Transport - Intensive Care Unit - registered medical officers offset by revenue	OS9	1.30	-	-	-	-	1.30
Other Service Pressures - Increase in MRT overtime	ASP	-	-	1.30	-	-	1.30
SLA #369 Falls Prevention	BC	-	0.20	-	-	1.00	1.20
Transfer from Health & Safety to Property & Infrastructure	BC	-	-	-	-	1.00	1.00
Error in FTE budget 18-19 - missed an FTE	OTH	-	-	-	-	1.00	1.00
55 Diet Technician.	ASP	-	-	-	-	1.00	1.00
Other BCs	BC	-	1.00	-	-	-	1.00
Other BCs - Pharmacy Management programme	BC	-	-	1.00	-	-	1.00
64 Quality Manager Community & RH Services	ASP	-	-	-	-	1.00	1.00
MRT Workforce Analysis - Interventional Radiology	ASP	-	-	1.00	-	-	1.00
45 Community Equipment - Biomed Technician	ASP	-	-	1.00	-	-	1.00
Demo growth. Increase in admin. to support sustainability strategy	BC	-	-	-	-	1.00	1.00
BC - New Service Manager	BC	-	-	-	-	1.00	1.00
46 Aging equipment - Biomed Technician	ASP	-	-	1.00	-	-	1.00
SLA Smoke free	AB	-	-	1.00	-	-	1.00
HRC - 1.0 FTE Research Nurse	AB	-	1.00	-	-	-	1.00
5 Management accountant	ASP	-	-	-	-	1.00	1.00

MH nurse transfer of budget 18-19	AB	-	-	1.00	-	-	1.00
6 CPC	ASP	-	-	-	-	1.00	1.00
4 HR maintenance	ASP	-	-	-	-	1.00	1.00
forensic Mental Health Service	ASP	1.00	-	-	-	-	1.00
2 ACC	ASP	-	-	-	-	1.00	1.00
Other BCs - Lomas Upgrade	BC	-	0.80	-	-	-	0.80
Other BCs Impact BC	BC	-	-	-	-	0.60	0.60
HRC 0.6 FTE	AB	-	-	0.60	-	-	0.60
Extra 0.6 FTE	AB	-	-	-	-	0.60	0.60
82 Ci Training	ASP	-	-	-	-	0.50	0.50
PA 0.5 FTE	AB	-	-	-	-	0.50	0.50
94 Consumer Council	ASP	-	-	-	-	0.50	0.50
95 Resus Officer	ASP	-	-	-	-	0.50	0.50
77 AWM Co-ordinator	ASP	-	0.50	-	-	-	0.50
Approved Renal FTE	AB	-	-	0.50	-	-	0.50
Cost pressure - increase chief medical officer FTE	AB	-	-	-	-	0.47	0.47
Mortuary FTE	ASP	-	-	0.30	-	-	0.30
Reach Reassessment of Budget	BC	-	-3.10	3.40	-	-	0.30
Minor increase due to Sat overtime / offset revenue	ASP	-	-	0.10	-	-	0.10
Rural Maternity Review	BC	-	-3.00	-	-	3.00	-
Budget Adjustments	BS	-0.60	-	-	-	-	-0.60
Acute Home Support	BS	-	-1.16	-	-	-	-1.16
Oral Health Restructure	ASP	-0.14	-	-1.47	-	0.24	-1.36
Agreed budget adjustment - per Maureen	AB	-	-	-	-	-1.61	-1.61
IS labour capexing - diff between Jun-18 and budget 18-19	OTH	-	-	-	-	-3.77	-3.77
Budgeted Position - June 2019 (rounded)		876	3,039	1,221	368	1,219	6,723
Movement		51	309	117	28	93	598

