Waitematā District Health Board
Best Care for Everyone

Waitematā District Health Board

Serious Adverse Events Report

(1 July 2019 to 30 June 2020)

Corporate Quality and Risk

Waitematā
District Health Board

Best Care for Everyone

Our Promise Statement to our community is 'Best Care for Everyone'. We aim to provide care that is safe, clinically effective, focused on the individual needs of every patient and their whānau and on equity of health outcomes.

Waitematā District Health Board (DHB) provides health services to the estimated 619,000 residents living in the areas of North Shore, Waitakere and Rodney. We are the largest DHB in the country, and are experiencing rapid population growth. More than 8,600 people are employed by Waitematā DHB.

Waitematā DHB provides hospital and community services from North Shore Hospital, Waitakere Hospital the Mason Clinic and over 31 sites throughout the district. We provide child disability, forensic psychiatric services, school dental services, and alcohol and drug services to the residents of the overall Auckland region on behalf of all three Metro Auckland DHBs. Since 2013, the DHB has been the national provider of hyperbaric oxygen therapy services.

Our staff's commitment to quality and patient safety is reflected in the excellent health outcomes of our population, with our population's life expectancy at 84.2 years (2016-18), the highest in New Zealand. Life expectancy for Māori (82.4 years) and Pacific people (77.8 years) is also among the highest in New Zealand and increasing at a faster rate than other populations. The life expectancy of Asian people in Waitematā surpassed 90 years in 2016-18 and is now 90.9 years. The European and other population groups in Waitematā have the highest life expectancy compared with any other District Health Board at 84.3 years. Our amenable mortality rate is the lowest in New Zealand, and we also have one of the lowest rates of hospital mortality of any DHB.

Our clinical teams are supported to design and implement new models of care and best practice care processes, to improve patient outcomes and experience. One of our most important innovations has been the introduction of Qlik Sense, a business intelligence tool that has enabled the development of clinical data dashboards. The dashboards are developed with our clinicians and provide them with important quality and safety data. The data is available in real-time and is easy to access through a responsive exploration tool.

Our 'if in doubt' adverse event reporting culture (described below), combined with our commitment to using data, enables our clinicians to learn from adverse events, identify and track improvements, and see the positive effect on health outcomes and patients' experience. In this 2019/20 serious adverse events report, we have described some of the improvement programmes that we have developed as a result of investigating and learning from adverse events.

What is a Serious Adverse Event?

An adverse event is an incident which results in unintended harm to a consumer. A serious adverse event is one which has led to significant additional treatment, is life-threatening or has led to an unexpected death or major loss of function.

Serious Adverse Event Investigation at Waitematā DHB

In the period covered by this Annual Report, Waitematā District Health Board recorded 122,215 Emergency Department attendances, 6,627 in hospital births and 32,032 planned care (inpatient and outpatient) interventions. The volume of interactions we have with patients' demonstrates how infrequent serious adverse events are, nevertheless, when they do occur, they are the subject of an Adverse Event Investigation.

All serious adverse events at Waitematā DHB are investigated by a team of clinicians (e.g. doctors, nurses, midwives, allied health) and quality team staff. To ensure that investigations are impartial, these staff will not have been involved in the event.

Adverse event investigations are undertaken according to the following principles:

- Establishing the facts: what happened, to whom, when, where, how and why
- Looking at systems and processes of care delivery with a view to improvements, rather than blaming individuals
- Establishing how to reduce or eliminate a recurrence of the same type of event
- Formulating recommendations and an action plan
- Providing a report as a record of the investigation process
- Providing a means for sharing lessons from the event

Each event report is then reviewed by the Adverse Event Committee (consisting of senior allied health staff, doctors, nurses, patient experience and quality staff) to ensure that the investigation has appropriately established the facts, addressed all issues and the recommendations and actions are robust. All actions are assigned to a responsible owner and tracked to completion, which is facilitated by the Quality and Risk Team.

*NB: Please note that the events discussed in this report do not include Mental Health-related events; these are reported separately via the Office of the Director of Mental Health (Ministry of Health). In the 2019/20 there were **26** events related to behaviour (e.g. self-harm), that are not included in this report.*

Reporting Serious Adverse Events

All District Health Boards in New Zealand report **possible** adverse events that have occurred in the DHB to the Health Quality and Safety Commission (HQSC), these are prior to an investigation having been completed. Once Waitematā DHB has completed an adverse event investigation, the investigation report is approved by our Adverse Events Committee and the event is then **confirmed** with the HQSC. Sometimes, the investigation will identify that the adverse event was not as serious as first suspected and does not meet the criteria of a serious adverse event that is reportable to the HQSC (using an agreed HQSC rating matrix).

In 2019/20, there were **59 confirmed serious adverse events** following investigations. These numbers have to be seen in the context of having been finalised in the last reporting year, however the event itself may have occurred in previous reporting years, therefore these numbers are not an accurate indication of the incidents that occurred during the 2019/20 reporting year; rather the investigations were completed in 2019/20. In addition, there are a number of possible adverse events still under investigation that, if confirmed following investigation, the details of which will be reported in the 2020/21 serious adverse event report.

Improvements to reporting

We continue to deliver targeted adverse events training sessions to those staff involved in reviewing and investigating adverse events which reinforces our organisation's culture of 'if in doubt report and investigate' and improves the quality of the investigations. As a result we have seen an increase in timely reporting of adverse events, which is reflected in the figures below. This enables continuous improvements to be made to the quality and safety of the services we deliver to our community.

Overview for 2019/2020 Serious Adverse Events

Every adverse event described in this report has a patient and their whānau at its centre. We acknowledge the impact of any event on the individuals involved, be that the patient, their whānau or our staff. We continually strive to learn from adverse events and to put processes in place to maintain and improve patient safety.

During the period covered by this report Waitematā DHB **confirmed**, through investigation, **59** adverse events that had caused serious harm or death (serious adverse events). We investigated and confirmed 39 serious adverse events in 2018/19, and a similar figure (41) in 2017/18.

Each of the 59 **confirmed** serious adverse events were investigated using a systematic investigation protocol. Understanding where improvements need to be made so that we can help staff keep our patients safe and deliver quality care are the main drivers for the investigation.

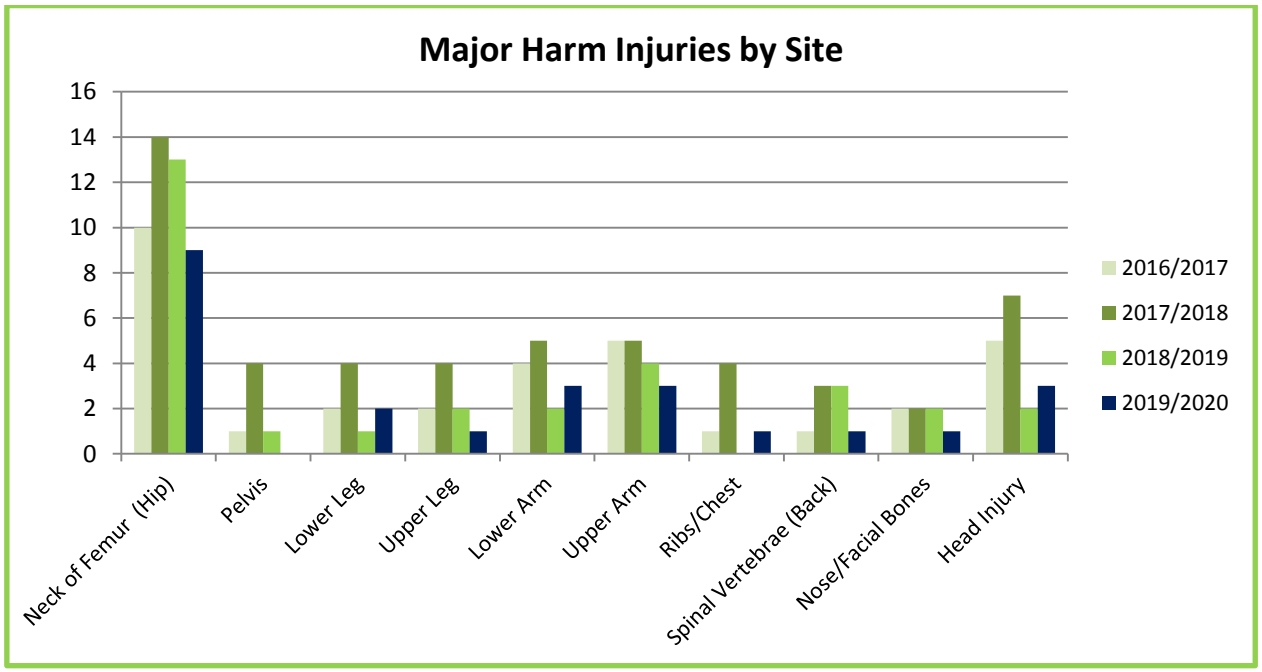
The tables below outline a summary of these 59 events, as well as the associated findings and recommendations. These events have been classified into the following themes:

- Falls with major harm (24)
- Hospital acquired pressure injury (20)
- Delay / failure in follow up or treatment (3)
- General care and treatment (4)
- Always Report and Review events (8)

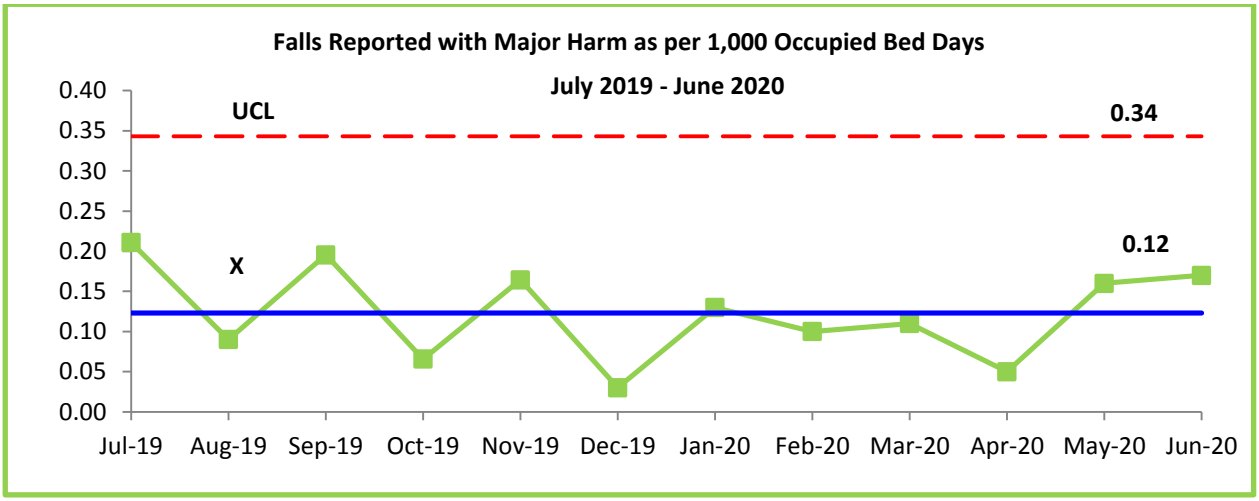
Always Report and Review events are a subset of adverse events that are reported and managed in the same way as serious adverse events, irrespective of whether or not there was harm to the patient. Always Report and Review events are events that, under different circumstances, may result in serious harm or death and are preventable with strong clinical and organisational systems. Recommendations from these investigations have resulted in changes to clinical guidelines, systems, and policies and included education focused in particular areas.

Falls With Major Harm (24)

Falls with major harm account for the highest number of serious adverse event within Waitematā DHB. The number of reported falls with major harm over this reporting period has remained consistent with the last reporting period and over the past three years. The graph below compares the reported number and site of injury from falls with major harm for 2016/2017, 2017/2018, 2018/2019, and 2019/2020. This shows a similar pattern of injury site over the last three years, with a notable decrease in injuries involving pelvic, chest, upper leg and facial injuries.



The graph below shows the rate of reported falls with major harm per occupied bed days for 2019/2020. The blue line (X) indicates a mean rate of **0.12** falls per 1,000 occupied bed days; this remains consistent with the mean rate **0.12** falls per 1,000 occupied bed days from July 2017 through to June 2020. Whilst the rate of reported falls with harm is static, the overall number of falls has decreased.



All the above falls have been or are currently subject to investigation.

In this reporting period Waitematā DHB investigated 24 patient falls, resulting in serious harm, mainly fractures, whilst an inpatient.

The common themes throughout the investigations were:

- Deconditioning
- Cognitive impairment in an unfamiliar environment; not recalling reminders to call for assistance
- Variable interdisciplinary assessment or shared approach/management of falls
- Falls assessments were generally completed, but not within eight hours of admission and not always repeated consistently. Preventative strategies were not always implemented to recognise risk and fragility or documented in the care plan.
- Environmental issues with poor hand holds when self-mobilising and poor evidence of orientation to the ward/routines
- Reason for self-mobilising was for personal hygiene/toileting needs and lack of supervision i.e. self-initiated, impulsive mobilisation or staff leaving the patient in the toilet when called away

Waitematā DHB has a high number of pre 2019/20 fall investigations that were completed after the 2019/20 reporting period. The contributing factors and corrective actions have been collated into a work plan for inter disciplinary action. This work will be reported on in the 2020/21 serious adverse event report.

What are we doing to reduce further falls with harm?

The Falls and Pressure Prevention interdisciplinary work group ensures that we will do all we can to keep fall and injury rates as low as possible, rather than getting to a zero fall rate at the expense of other priorities. Maintaining function and independence is essential. Being 'wrapped in cotton wool' by requiring the 80+ person to lie/sit and be supervised increases risk and deconditioning. Fundamentally, fall prevention is about balancing multiple priorities, as health itself is multifaceted.

Improvement work has focused on contemporary evidence and literature, which suggests that the 'basics' are still considered the best recommended options. These are not new fixes that will prevent the chance of falls. As a DHB we have removed some risks by removing floor-line beds and eliminating non-slip socks in the past 12 months. International experience recommends that health providers continue to drive for

consistency of action in the areas of: environment, assessment, reinforcement of standard preventative actions and care plans, high vigilance for 'at risk' patients and rapid action post fall to prevent further and to learn from the incident.

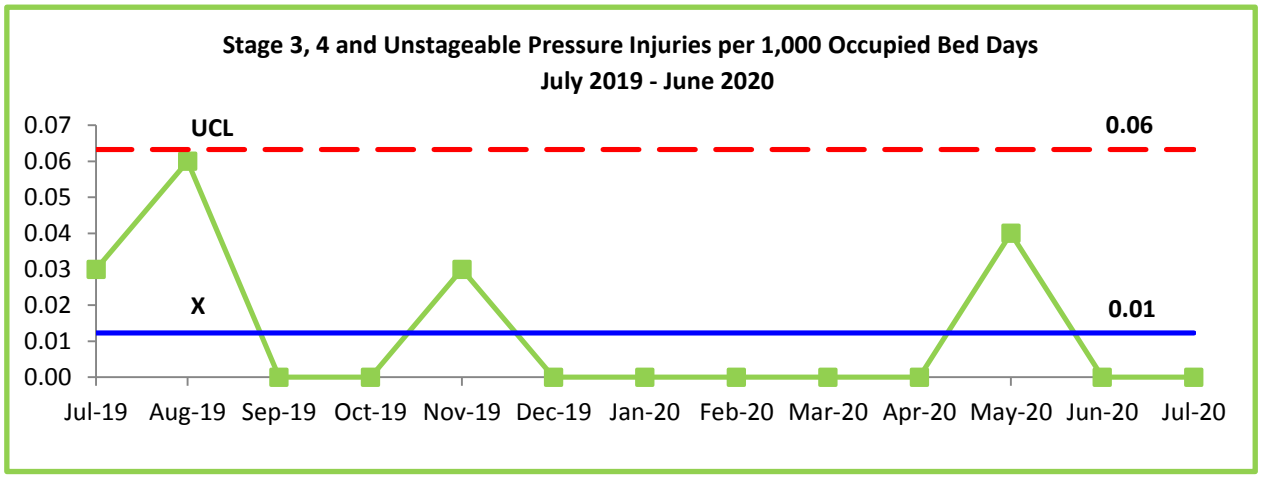
The interdisciplinary work group of nurses and allied health practitioners are working to refocus the universal fall precautions programme on basic patient safety by the whole team to include patients, whānau, visitors and staff. This includes:

- Re-launch the core falls prevention initiatives and refresh education opportunities.
- Emphasis scheduled rounding protocols, environmental safety at the bedside and safe patient handling. Enhance risk assessment skills to include asking about history of falls, mobility problems and use of assistive devices, medications, mental status, continence and other risks.
- Review current risk assessment tools from an interdisciplinary team (IDT) approach, with specialty specific tools e.g. for mental health of the older adult.
- Regularly audit practice, especially in areas of high/moderate risk.
- The Director of Nursing chairs the monthly falls incident review group to reinforce existing post fall assessment practices. This group is a subset of the Adverse Events Committee (AEC) with all falls-related investigations reviewed and outcomes reported to AEC quarterly.

Hospital Acquired Pressure Injury (20)

Serious hospital acquired pressure injuries account for the second highest number of serious adverse event within Waitematā DHB. There has been an improvement in the reported incidence of pressure injuries with serious harm with improved assessment of suspected deep tissue injury. This has arisen from the work done through the Accident Compensation Corporation (ACC) Pressure Injury Management Programme (PIPM) with a focus on assessment and accurate staging so that treatment can be more targeted.

The graph below shows the reported rate of Stage 3, 4 and unstageable pressure injuries per occupied bed days for 2019/2020. The blue line (x) indicates a mean rate of 0.01 Stage 3, 4 and unstageable pressure injuries per 1,000 occupied bed days, for this reporting period, a 67% decrease when compared to 2018/2019 which returned a rate of 0.03. The dotted red line is the upper control limited (UCL) indicating that there are no significant outliers over the course of the year. These reported adverse events will be subject to a full investigation, before they are confirmed serious adverse events.



In 2019/20 investigations were completed on 20 patients who developed serious hospital acquired pressure injuries classified as suspected deep tissue, unstageable and stage four pressure injuries. The most common pressure injury was to the heel, followed by the sacrum. The increase in cases for this reporting period is a reflection of the increased effort to complete the investigation of our pre 2019/20 cases.

The common themes throughout the investigations were:

- The Waterlow Pressure Injury Risk Assessment tool was not always completed and not always completed correctly.
- The prevention care plan was not always completed.
- Turn charts were not effectively utilized.
- Air mattresses were not always implemented in a timely manner.
- Patient nutrition was not always taken into consideration when considering pressure injury risk.
- Variable interdisciplinary assessment or shared approach/management of pressure injuries.

What are we doing to further reduce pressure injuries acquired in hospital?

The interdisciplinary work group of nurses and allied health practitioners are working to refocus the universal falls precautions and pressure injury programme on basic patient safety by the whole team to include patients, whānau, visitors and staff. This includes:

- Re-launch the core pressure injury prevention initiatives and refresh education opportunities.
- Emphasis on risk assessment skills and individulised prevention, especially where fragility and complexity/deconditioning is identified.
- Regularly audit practice, especially in areas of high/moderate risk.
- The Director of Nursing chairs the monthly falls and pressure injury incident review group to reinforce expected practices.

Delay / Failure in follow up or treatment (3)

What happened?	Investigation Findings	Recommendations
Lack of dental decay treatment in a child resulted in damage to adult teeth.	Decay in adult molar was visible in a 2017 radiograph, but left untreated. This tooth required extraction in 2018. Child was incorrectly assessed as medium risk instead of high risk and a recall was set for 12 months instead of six months but not seen until 17 months when the child presented with pain. Fluoride was not applied to teeth by dental therapy staff during the seven years of dental visits.	Immediate clinical support and supervision was actioned for the dental therapist involved. Compulsory clinical updates for all staff, including reading of radiographs, importance of applying fluoride, accurate individual risk assessment and allocation of recall aligned to risk status. Utilise Qlik Sense to view children when they are due, and ensure staff monitor when children do not attend.

What happened?	Investigation Findings	Recommendations
A child did not receive dental review over a period of seven years resulting in extensive dental treatment on adult teeth.	There was not effective interaction with this family to ensure timely appointments. Prior to 2018, if a child did not attend two appointments, Auckland Regional Dental Service (ARDS) sent a final letter advising that no further appointments would be made. The recall appointment timeframes did not reflect the high risk of oral issues for this child. Contact details were not checked at each presentation.	Disestablish the process of final letters. In 2018, the ARDS 'Supportive Treatment Policy' was introduced to better support engagement with families. Utilise Qlik Sense to view children when they are due, and ensure staff monitor when children do not attend. Ensure contact details are checked at each presentation.
Progression of disease (cancer) due to delay in diagnosis.	There was poor communication and collaboration as to anaesthetic risk for diagnostic surgery. SMO anaesthetist reported that patient was suitable for anaesthesia whilst the Obstetrics and Gynaecology Consultant felt the patient was too high-risk for a procedure. There was no clear follow up plan for the patient.	Consider the creation of an ad hoc gynecology/anaesthesia multidisciplinary team (MDT) to discuss challenging cases so that follow up plans will be made.

What are we doing to further reduce Delay / Failure in follow up or treatment?

Our Health Information Group and Institute of Innovation and Improvement (i3) data teams worked with our Auckland Regional Dental Service (ARDS) to develop an interactive and comprehensive electronic data dashboard (described below). The dashboard has replaced more than 200 separate data reports that had to be manually put together and each of our dental clinics are using the dashboard on a daily basis to manage their clinics. The dashboard has improved our efficiency, children are now automatically enrolled taking away what was a time-consuming task. We now have a reliable record of all children needing to access our dental services. The dashboard also allows us to track overdue appointments, prioritise children and identify data errors which helps make sure no child 'falls through the gaps' and they receive timely dental care.

Waitematā District Health Board
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Improving Dental Health Service Delivery

Waitematā District Health Board

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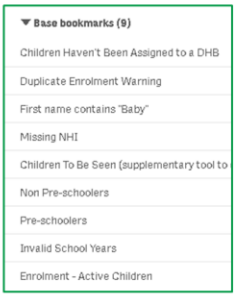
Auckland Regional Dental Service (ARDS) provides free oral health services to children from birth to 18 years old. We operate from 83 dental facilities across the Auckland metro area; these facilities include a mixture of fixed clinics, transportable dental units (TDU) and dental vans.

All babies born in Auckland's main hospitals are automatically registered with ARDS or they can complete an enrolment form to register. Children are then invited to their first dental appointment when they are about 1 year old, then routine check-ups are offered every 6-18 months as clinically required.

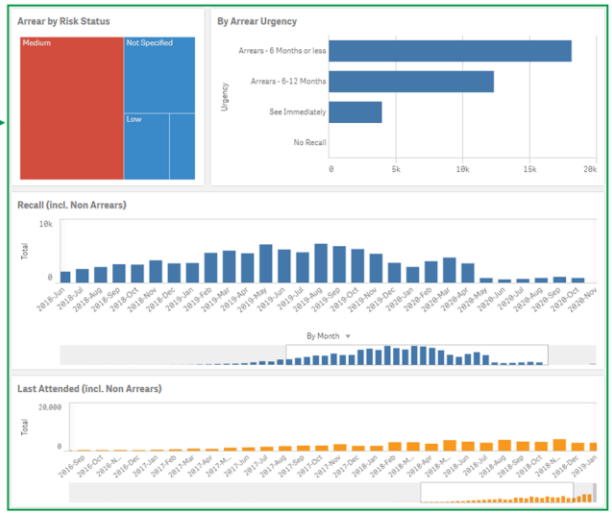
Oral Health Explorer

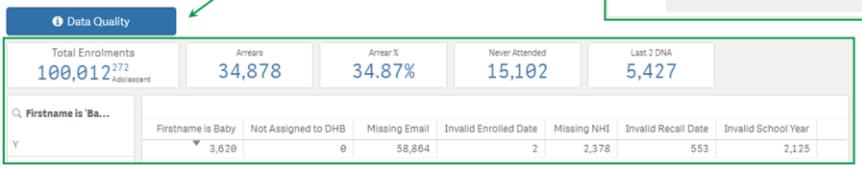
We worked with the ARDS Service Delivery Manager, Operations Manager, Team Leaders and their representatives to develop a Qlik Sense app that would replace their existing (200+) static Reporting Services reports. User testing was carried out with all of the key roles within the ARDS service to achieve a multipurpose app. Bookmarks were created for specific areas of focus for the different roles.



DISCOVERIES

- We are able to track arrears (overdue children) by risk status/urgency, by school and age and filter this by clinic. This allows us to manage clinics and prioritise children.
- A new process to automatically enrol babies born in an Auckland hospitals is resulting in incorrect allocation to the "ARDS Main Office" if the child's address is not clear. These errors are highlighted in the Explorer for appropriate allocation.
- We identified numerous data entry and enrolment errors with our Explorer. A 'Data Quality' sheet is available so that we can actively track and correct these. We also monitor specific service indicators.





ACHIEVEMENTS

- **Improved service + resource planning**
- **Improved data quality**,
  eg historically ~2,000 duplicates annually from mismatch in patient details on enrolment are now routinely cleared
- **Prioritisation of treatment**,
  eg Dental Therapists can identify children who are high-risk, have frequent DNAs, or are due to exit the programme. This is most useful for the TDUs when arriving at a new school as they can now, contact the parents/caregivers while onsite to obtain consent to carry out a check-up

AUDIENCE

ARDS team

- Management: Dir of Allied Health, Service Delivery Manager, Operations Manager, Team Leaders
- Admin + Data Team
- Oral Health Therapists, Dental Therapists + Assistants, Patient Care Assistants

DATA AND ADVANCED ANALYTICS

Replaced ~200+ Reporting Services with 1 superfast, multipurpose, interactive Qlik Sense App

- Dental Management System (Titanium)

Qlik
LEAD WITH DATA

General Care and Treatment (4)

Some of the events described in this section are both rare and significant in their nature. All events have been the subject of detailed investigations by a team of subject matter experts. We continue to deliver the recommendations from each investigation, however, any immediate learnings were acted upon at the time.

What happened?	Investigation Findings	Recommendations/Actions
Placenta accreta (placental invasion into the uterine wall) was only diagnosed at the time of caesarean section, resulting in hemorrhage and hysterectomy.	The woman was under the care of a private obstetrician. The external antenatal risk assessment did not include a scan for placental invasion, despite risk factors. Antenatal multidisciplinary care planning was absent. The caesarean section booking form indicated that placenta accreta had been excluded. The hospital team was not informed that the woman was going to theatre and therefore was unaware of her risk factors until they arrived. Exemplary care in theatre was life-saving.	Risk factors for placenta accreta should be included in the clinical information provided on ultrasound requests. Consideration is required as to where scanning is performed when there are risk factors for placenta accreta. An expert advisory group will develop new guidelines. The elective caesarean section (ECS) booking form will be redesigned. Policy that prior to transfer of a private case, discussion with the appropriate clinician or the Clinical Charge Midwife, regarding possible risk factors and prioritisation, is required.
A patient with pleural effusion had a chest drain inserted to treat the effusion. The patient passed away following removal of the chest drain.	North Shore Hospital does not have an Inpatient Respiratory Specialist Ward. The decision to place the drain was clinically appropriate. Chest drain placement was carried out as per guidelines. Following placement of the drain, the patient should be transferred to a ward with appropriate nursing expertise. The hemorrhage was likely exacerbated as a result of Dabigatran.	Update the Bedside Handover Policy to highlight the necessity of clear, timely communication and handover between doctors and nurses. Development and implementation of a Protocol for Management of Intrapleural Haemorrhage. Ensure that all staff involved are aware of the protocols for chest drains. Ensure the provision of appropriately skilled nursing care for all chest drain patients. Evaluate the current practice of using

What happened?	Investigation Findings	Recommendations/Actions
	The post drain removal plan as documented was reasonable but was not communicated to ward nursing staff. Care post-drain removal was not in accordance with guidelines. The ward nurse responsible for care was a new graduate nurse. Over-lapping Chest drain Policies/Procedures exist.	Pigtail Drains in the thoracic space, and consider alternative options. Align the overlapping policies.
A patient who was frail with a history of difficulty swallowing, developed aspiration pneumonia following a standard meal. The patient subsequently died.	The patient was frail and had multiple presentations of difficulty swallowing, aspiration and aspiration pneumonia. Nursing assessment of the patient during this admission was not adequate. A standard, rather than a puree diet, was ordered. There was inadequate meal supervision. There was inadequate action taken to investigate the impact on the patient after difficulty swallowing at lunch including after family had alerted staff.	Clinical Nurse Director and Nurse Educator to review this case with ward staff with emphasis on: • Physical assessment, frailty assessment tool, and review of medical assessment and care plan risk assessments. • Individualised care plan, including plan for Speech and Language Therapist (SLT) swallow assessment, action to prevent choking until recommendation for meals clear. • Evaluation of patient condition. Educate registered nurses on correct Trendcare ordering of meal type and protected meal time supervision. Review expectations for all staff regarding assessment of patients who are choking and action to take where aspiration pneumonia is possible.
A patient developed bacterial endocarditis due to sepsis caused by infected phlebitis at an intravenous cannula site. The patient passed away.	The patient had an undocumented skin condition; Psoriasis, which may have been a contributing factor. There were multiple attempts to insert an IV line, however all other standard procedures were followed for IV line insertion and IV site inspection.	Undertake a review of the current teaching / training policy of House officers regarding IV line insertion. Use as a case study for House officers on orientation – in particular to heighten awareness of IV line insertion location as a risk factor for sepsis.

What are we doing to further reduce injuries in General Care and Treatment?

We have a large programme of quality improvement and innovation projects that are developed with the support of our Institute for Innovation and Improvement (i3). Many of these projects are designed to address adverse event investigation findings and ensure recommendations are implemented effectively. Examples of these projects undertaken in the last year include a large scale Patient Deterioration Programme that involves several projects: Kōrero Mai, a system in our hospitals for patients, families and whānau to escalate concerns they have about a patient's condition and have their concerns addressed quickly; implementing a national early warning score (NZEWS) and a recognition and response system; and improving planning, decision making and the management of end-of-life care. Other projects are the development of a new chest pain pathway and general surgery clinical pathways to improve patients' experience of care and help ensure patients receive the right care at the right time; and our Safety in Practice Programme, a quality improvement programme in primary care to reduce preventable patient harm (https://aucklandnc.safetyinpractice.co.nz/). More information about our patient safety and improvement work can be found at: http://i3.waitematadhb.govt.nz/our-work/projects/.

The importance of an effective, responsive system for patients who deteriorate in hospital is highlighted by the maternity case above. The Health Quality Safety Commission (HQSC) has developed a nationally consistent, standardised approach to recognising and responding to acute deterioration of patients. In 2018/2019 we implemented a recognition and response system using the National Vital Signs Chart and Early Warning Score system (NZNEWS) in our adult in patient wards at North Shore and Waitakere Hospitals. In 2019 the HQSC published a standardised early warning scoring system for pregnant or recently pregnant (up to 42 days post natal) women, the Maternity Early Warning Score (MEWS). The aim of MEWS is to reduce:

- Harm through using a consistent process nationally
- Duplication of effort across multiple DHBs
- The number of pregnant and recently pregnant women admitted to Intensive Care
- The length of stay of pregnant and recently pregnant women in Intensive Care, high dependency and maternity units

We have had a Waitematā Maternity Early Warning Score (MEWS) in place. We are transitioning from this system to the new, national MEWS and have designed a Waitematā mandatory escalation pathway to all areas where pregnant or recently pregnant women (up to 42 days postnatal) are admitted. We are using our electronic eVitals system that staff use to record important physiological measures (vital signs) such as blood pressure, heart rate, temperature and oxygen saturation. This system has several advantages as it can automatically calculate the early warning score and alert staff when it is abnormal and they need to act. It also means that staff who are working elsewhere in the hospital or out of the hospital can easily access this information from any device and provide advice and guidance to staff on the ward in real-time.

Final comment

Adverse event reporting and investigations are fundamental to enhancing patient safety and experience as well as improving the quality of care we provide. By learning from adverse events and near misses we are able to identify areas for improvement and further development, that will help our staff deliver safe, effective and person centred care. As detailed above, Waitematā DHB has made a number of system and process improvements as a result of learning from Adverse Events and continues to strive to deliver 'Best Care for Everyone'.