Capital and Coast District Health Board
Serious Adverse Event Report 1 July 2019 – 30 June 2020

The following report describes Capital & Coast District Health Board's (CCDHB's) serious adverse events that were commissioned for review between 1 July 2019 and 30 June 2020.

Every event in this report is about an individual patient who has suffered serious harm while in hospital. Those who suffer harm represent a small number in comparison to those who attend CCDHB for treatment however, one event of patient harm is one too many.

The DHB offers sincere apologies to the patients and whānau impacted from each adverse event and is committed to implementing the recommendations from each review.

Reporting, reviewing and learning from adverse events is fundamental to reducing patient harm. The overall aim is to implement system and process changes that reduce the likelihood of harm reoccurring. The 2DHB Quality and Safety Framework has set the direction for an improved and broader scope for reporting, reviewing and learning

CCDHB reported 61 confirmed Severity Assessment Code (SAC) 1 & 2 adverse events. Of the 61 adverse events, 38 had completed reviews at the time of this report. Implementation of improvement initiatives to reduce reoccurrence of patient harm outlined in this report are from recommendations based on completed reviews. This report does not include information on suspected suicide events.

Adverse events are categorised as SAC 1 and 2 events using the SAC rating in the National Adverse Events Reporting Policy 2017[1]. SAC 1 and 2 events are those events that result in permanent or severe harm, temporary loss of function or death. All SAC 1 and 2 adverse events are reported to the Health Quality and Safety Commission.

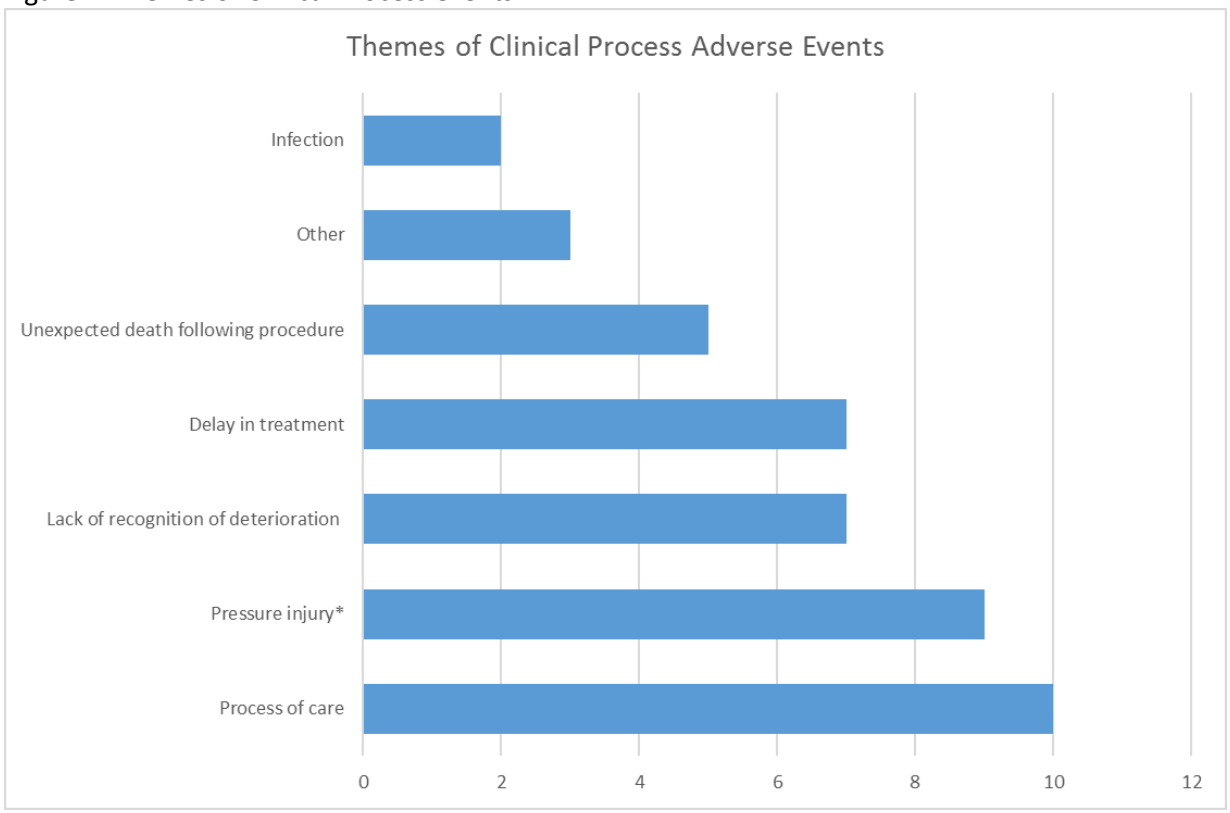
Table 1: Total number of reported SAC 1 and 2 adverse events from July 2017 to June 2020.

Category	2017/2018	2018/2019	2019/2020
Patient Falls	14	10	11
Clinical Process	11	25	43
Medication	0	1	7
Resources	0	1	0
Medical Device	1	0	0
TOTAL	***26***	***37***	***61***
Of the 61 reported in 2019/2020, three were from 2018/2019			

The categorisation is based on the HQSC event codes derived from the World Health Organisation classifications for patient safety. The Clinical Process events have been themed to provide greater detail.

[1] Health Quality and Safety Commission, 2017. National Adverse Events Reporting Policy 2017 New Zealand health and disability services. https://www.hqsc.govt.nz/our-programmes/adverse-events/publications-and-resources/publication/2933/

Figure 1: Themes of Clinical Process events



* Stage 3, Stage 4 and Unstageable. In the process of collating data for this report, two Stage 3 pressure injuries that were SAC rated incorrectly were discovered. The analysis of the two will be included in the 2020/21 Clinical Serious Adverse Event Report as directed by HQSC.

The number of adverse events reported and commissioned for review has increased by 65% (24 events) from the previous year. This expected increase reflects the DHB's commitment to patient safety culture by improving and broadening the scope for reporting and review. The increase in overall numbers of reported events should be considered, given the contextual factors outlined below:

- There has been an improvement in the reporting culture across all clinical groups.
- It is recognised that in developed countries one in ten patients are unintentionally harmed while receiving hospital care. The harm can be caused by a range of adverse events and 50% of them are considered preventable.[2]
- CCDHB has recently adopted the use of the HQSC Maternity Severity Assessment Code (SAC) Guidance document to help in the identification of maternity adverse events. This has increased the number of events that qualify for reporting and review.
- There is a targeted quality improvement project underway focussed on medication safety in the Children's Service.
- The development and implementation of the 2DHB Quality & Safety Framework has set a new direction to reduce harm and improve the quality of care. The DHB is on a journey of continual improvement in the implementation of safe patient systems and processes. Staff are actively encouraged to participate and are supported to raise issues as part of the road to improve patient safety and provide quality care.

[2] World Health Organisation

Table 2: Ethnicity of patients harmed. 18% of the serious adverse events resulted in harm to patients who identified as Māori.

Ethnicity	Number	Percentage
NZ European	35	57.4%
NZ Māori	11	18%
Pacific People	2	3.3%
Indian	2	3.3%
Asian	2	3.3%
Other European	9	14.7%

From the 1 July 2019 – 30 June 2020 14.2% of all patient presentations to CCDHB were NZ Māori ethnicity.

The following is the outcome of patient harm as a result of the adverse event:

- 26% of patients suffered a SAC 1 adverse event and died.
- 30% of patients who suffered a SAC 1 or 2 adverse event were transferred to ICU / NICU for care.

Table 3: Status of adverse events reviews

	Number	Percentage
Completed reviews	38	62%
Reviews in progress	23	38%

A review is not considered completed until the family/whānau have given final feedback. The review is then signed off by the Serious Event Review Committee.

The increase in reporting equates to a greater volume of reviews to be commissioned. The unprecedented impact of COVID 19 throughout 2020 presented a new set of challenges. High priority interventions were taken to manage COVID–19, particularly during alert levels 3 and 4 when hospital staff were redeployed, causing disruption to timely completion of serious event reviews.

From the 30 June 2020 to 2 July 2020 a Rapid Improvement Event was held by the Quality Improvement and Patient Safety (QIPS) department to complete outstanding adverse event reviews.

QIPS are currently reviewing Adverse Event Review processes to support the timely completion of adverse event reviews and meet the HQSC deadline of 70 working days (timeline starts from the date of internal notification).

The following tables provide information of adverse events according to category:

Medication Serious Events:
Reported medication adverse events increased from 1 in 2018/2019 to 7 in 2019/2020, representing 11% of the total adverse events reported. Medication adverse events are universally under reported. The monthly pharmacy intervention audits have highlighted that there is under-reporting of medication adverse events.

Table 4: Medication adverse events

	Event summary
2	Two patients had adverse reactions to an opioid medication resulting in decreased levels of consciousness and required higher levels of care.
1	A patient was administered an overdose of medication and required additional monitoring.
1	A patient was not administered prescribed medication on discharge which led to clotting complications and readmission to higher levels of care.
1	A patient received an overdose of medication due to a prescribing error which resulted in multiple visits to the hospital.
1	A pregnant woman in labour received the incorrect IV medication that resulted in her baby requiring emergency delivery. ǂ
1	A medication error necessitated admission to hospital. ǂ

ǂ Event reviews that are in progress

What are we doing to reduce medication harm?
In June 2020 the Clinical Governance Board endorsed an organisation-wide 12 month medication safety focus plan to address reporting and learning from adverse medication events. Focussing on medication safety will increase identification and reporting of medication errors.

There are a number of quality improvement activites across CCDHB underway to improve medication safety:

- A targeted improvement project in CCDHB Child Health Services with an aim to reduce prescribing and administration errors in healthcare provided to children.
- Development of a Pharmacy Priority Plan that includes increasing clinical pharmacy capacity.
- Monthly intervention auditing of all clinical pharmacist activities conducted by Pharmacy, highlighting areas for improvement.
- Introduction of auditing looking specifically at the patient journey, which includes auditing of medication administration and prescribing. Findings of the audit are fedback to the clinical services.
- A nurse-led Back to Basics programme to prevent harm from medication administration.
- The Choosing Opiods Wisely group has been established to oversee the management and useage of opoids. Work has included prescribing audits, upgrading the acute pain policy and targeted projects with a focus on polypharmacy and de-prescribing initiatives.

Falls with serious harm:
The number of falls causing serious harm reported this year was similar in 2018/2019. 11 of the total adverse events were a result of a fall in hospital. Nine of these patients were over 76 years of age. Ethnicity of this group were: NZ European (n=9), Māori (n=1) and Samoan (n=1). Contributing factors included lack of / no assessment and care planning documented. Seven patients had a documented history of cognitive impairment. All patients who fell while in hospital had an extended length of stay. Nine patients underwent surgery as a consequence of a fall. Two patients sustained fractures that did not require surgical intervention. Two patients died after surgery to repair injuries sustained following a fall.

Table 5: Serious harm from falls in hospital

Event summary	
7	Seven patients sustained fractures following unwitnessed falls. Four of these occurred in the patient's bedroom. Three of these occurred in a bathroom. [ǂ]
3	Three patients sustained fractures following a witnessed fall in hospital. Two of these were in a bathroom.
1	A patient had an unwitnessed fall in a bathroom resulting in deep tissue damage requiring surgery and ICU admission.

[ǂ] Event reviews that are in progress

What are we doing to reduce risk of patients falling while in hospital?
The development of an integrated falls programme across hospital and community health services has been a critical achievement informing clinical practice policy and improvement projects such as:

- As part of the ongoing commitment to patient safety culture, the DHB has established a Consumer Advisory Group. There are consumer representatives on the Falls Committee and the Serious Event Review Committee.
- Local working groups established to coordinate, implement and evaluate falls prevention strategies.
- Introduction of auditing looking specifically at the patient journey, to identify gaps in the provision of care to prevent falls ocurring. The findings and recommendations are shared with each clinical area to inform quality improvement.
- 2DHB preventing harm from falls risk analysis conducted to inform the programme of work for both sustainability and improvement.
- Policy, procedure, and patient information is incorporated into patient care to promote safe use of bed rails.
- A working group was established to focus on training and support for staff who provide close observation of patients suffering with cognitive impairment.
- There has been increased awareness of the importance of Community Strength and Balance exercise programmes across the sector.
- Enhanced falls prevention training programmes for staff which include a specific focus on patient frailty, bariatric care, can cognitive impairment.

- The Central Equipment Pool (CEP) clinical advisory group has increased the supply of ambulatory equipment to minimise risk of falls. Examples include: specialised chairs and labelled mobility aids which are given to patients to have with them for the duration of their hospital stay. This has has reduced the number of falls and has given patients a sense of ownership and participation in their care. Patients are then reassessed at the point prior to their discahrge home.
- The CEP clinical advisory group works alongside the 'Oversight Group'. Pictorial information is available for staff and patients to show which type of walking frame is best to suit individual needs of patients. Work is underway about use of specific chairs (eg, nesting chairs), tailored to meet specific needs of patients.

Clinical Process

The number of adverse events attributed to a failure of clinical processes increased from 25 in 2018/2019 to 45 in 2019/2020. To make the data more meaningful the 45 events have been themed into 7 categories:

1. Delay in treatment
2. Lack of early recognition of patient deterioration
3. Pressure injuries
4. Process of care
5. Unexpected death following a procedure
6. Infection
7. Other

1. Delayed treatment (Clinical Process category)

Seven delayed treatment adverse events occurred. Two patients in this category died after the event. Ethnicity of this group were: NZ European (n=4), Other European (n=1) and Māori (n=2). Contributing factors included poor communication and lack of care planning (n=2), delays in surgery due to incorrect prioritisation of cases or not being seen in a timely manner, unavailability of operating theatres or unavailability of specialist surgical staff (n=4). One patient had delays in treatment due to COVID-19 precautions.

Table 6: Delayed treatment adverse events

	Event summary
1	A patient's surgery was delayed requiring admission to ICU, resulting in permanent harm.
1	A patient unexpectedly died five days after admission while waiting for surgery.
1	Delayed intervention following referral. [†]
1	A discharged patient suffered complications, resulting in permanent harm.

1	Delays in commencement of stroke treatment during COVID-19 lockdown. [†]
1	An unexpected death following a delay in diagnosis and treatment of an infection. [†]
1	A delay in treatment of a patient with a hospital acquired infection resulting in an increased length of stay. [†]

[†] Event reviews that are in progress

What are we doing to improve our clinical processes that have contributed to delays in treatment?

- An acute flow programme of work has been established to review and implement systems that ensure patients are in the right place for their clinical condition. This work ensures admission and discharge procedures are updated and evaluated as needed.
- Update and review of care process guidelines for Stroke Management and Faster Cancer Treatment during COVID-19.
- Development of surgery prioritisation and re-prioritisation processes for acute patients requiring surgery.
- Review and changes of management of Consultant cover for acute specialist procedures.
- Development of process around referrals and documentation from the clinical services to the mental health services to ensure this is managed in a timely manner.

2. Lack of early recognition of patient deterioration (Clinical Process category):

Seven serious events occurred due to a failure to recognise patient deterioration. Two patients were infants under the age of three months and the five adults who were aged between 37 to 88 years, died following the event. Ethnicity of this group were: NZ European (n=5), Māori (n=1) and Samoan (n=1). In three of the five adult cases the Early Warning Score (EWS) was not used correctly. In six of the seven cases there was evidence of breakdown in communication between the services providing care. This factor contributed to a delay in recognition of the patient's deteriorating condition.

Table 7: Lack of early recognition of patient deterioration adverse events

	Event Summary
1	A baby was admitted to ICU following delayed recognition of dehydration.

1	An unexpected death of a patient due to delayed recognition of sepsis.
1	There was a delay in recognising that a patient needed a higher level of care and the patient died.
1	There was a delay in treatment for an acutely unwell patient during Covid-19 lockdown.
1	A newborn baby required admission to NICU following a delay in recognising an infection. [†]
1	A patient not cared for on their clinical speciality ward unexpectedly died following unrecognised clinical deterioration.
1	A delay in recognition of patient deterioration resulted in transfer to ICU where the patient died. [†]

[†] Event reviews that are in progress

What are we doing to improve our clinical processes to improve recognition of patient deterioration?

- Education is provided to staff on use of Early Warning Scores (EWS), escalation processes and how to access the DHB's Patient at Risk (PAR) service. Training is available as an e-Learning resource on the intranet's 'ConnectMe'. EWS training is a 'service essential' skill requirement for all medical and nursing staff and is included at staff orientation.

- Monitoring equipment has been upgraded so that advanced bedside monitoring is now available in all wards to provide a continuous record of patient vital signs. Continual monitoring has been advantageous during COVID – 19, because it reduces the number of times staff need to go in and out of isolation rooms to monitor potentially infectious patients, minimising risk of cross infection.

- Open communication training is available and encouraged for staff. E-learning modules are available on ConnectMe focussing on communication (ISBAR communication tool, open communication).

- Multidisciplinary team attendance at Morbidity and Mortality meetings is strongly encouraged to share lessons learnt from serious adverse events.

- Kōrero Mai (talk to me) is an available service that supports patients and whānau to speak up and advocate for their whānau. The service began in October 2019.

- There is an educational focus in Paediatrics on the use of clinical pathways and guidelines targeting fluid balance, the Paediatric EWS (PEWS) and intravenous antibiotics observation chart.

- Planning is underway to develop clear processes and establish clinical accountability for those patients who move between services.

3. Pressure Injuries (Clinical Process category):

Nine patients sustained a hospital acquired pressure injury rated as a SAC 2 and a review was commissioned. A further two, not detailed in the below table, were recently identified and reviews will be commissioned and reported on in the next annual report.
Ethnicity of this group were: NZ European (n=8) and Māori (n=1). Patient ages ranged from newborn to 80 years old. There were a number of contributing factors including comorbidities, reduced mobility, poor nutrition and poor hydration. Consistent themes were lack of, or no assessment and documentation of care planning. Four cases were in ICU and one in NICU; with two of the ICU cases involving tracheostomy tubes.

Table 8: Hospital acquired pressure injuries

Event summary	
1	A stage 3 pressure injury in a newborn as a result of airway management during respiratory support.
4	Four Stage 3 pressure injuries (one in ICU, three in ward environments) were reported. Three patients developed a stage 3 pressure injury while an inpatient. One patient in ICU developed a stage 3 pressure injury with a tracheostomy tube.
2	Two patients developed unstageable pressure injuries whilst in ICU.
1	A patient developed a pressure area which progressed from a stage 2 to a stage 3.
1	A patient developed a stage 4 pressure area while in ICU.
Pressure Injury Classification: Stage 3: Subcutaneous fat may be visible, no exposed bone tendon/muscle Stage 4: Full thickness tissue loss with exposed bone, tendon or muscle Unstageable: Depth unknown. Full thickness tissue loss and base of the pressure injury covered by slough and/or eschar.	

[†] Event reviews that are in progress

What are we doing to improve clinical processes to prevent hospital acquired pressure injuries
The development of an Integrated Pressure Injury Prevention Management (PIPM) programme across hospital and community health services has been critical in informing improved clinical practices and provide governance and oversight to reducing harm from pressure injuries.

- The ACC funded programme was completed in June 2020. The programme enabled the backfill of wound care specialist hours to assist in improving systems and processes to reduce harm from hospital/treatment acquired pressure injuries.
- The hospital mattress replacement process has been improved. This standardised the purchasing of mattresses with pressure reducing qualities.
- Review and revision of the equipment maintenance policy has improved the maintenance of equipment utilised for pressure injury prevention.

- Introduction of auditing looking specifically at the patient journey, to identify gaps in the provision of care to prevent pressure injuries ocurring. Recommendations for improvements are shared with each clinical area to inform quality improvement.
- Implementation of equipment in ICU including turning sheets, wound care products and bariatric beds.
- Purchasing of new compression garments to reduce risk of skin tears and an update to the skin tear policy.
- Development of a bariatric pathway focussing on mobility, hydration, movement and manual handling.
- An increase in podiatry support for ulcers and foot injuries.
- A targeted improvement project with an aim to improve management of incontinence acquired dermatitis.
- There are pressure injury prevention champions in each clinical area who undertake regular auditing of pressure injury prevention care.

4. Process of care (Clinical Process category):

Ten serious events occurred due to failures affecting the process of care for patients. Patient ages ranged from new born to 80 years old. Three patients died following the event and two suffered permanent harm. Six events involved admission to NICU of infants aged under 12 months, including a premature baby. Ethnicity of this group were: European (n=6), Māori (n=2) and Indian (n=2). Eight of these event reviews remain in progress.
Contributing factors from completed event reviews identified: failure to listen to the family, lack of information for patients and lack of communication between practitioners and documentation about care planning.

Table 9: Process of care events

Event summary	
1	An unexpected death of patient receiving treatment in hospital. ǂ
1	An unexpected death of a patient in the community as a result of a post-operative complication. ǂ
1	Following an emergency delivery of a baby who died in utero, the woman's condition deteriorated, requiring ICU admission. ǂ
1	A patient developed complications following a surgical procedure resulting in permanent harm.
6	Six infants required admission to the Neonatal Intensive Care Unit (NICU) for higher level of care following birth. ǂǂǂǂǂ

ǂ Event reviews that are in progress

What are we doing to improve care processes?

- Mandatory core study days for nursing and midwifery staff, continue to focus on the importance maintaining accurate documentation in clinical records, particularly about decisions around care planning.
- All staff working in maternity, including those at the DHB's 2 primary care maternity units are encouraged to attend PROMPT (PRactical Obstetric Multi-Professional Training) study days. This is focused on effective teamwork and communication amongst multi-disciplinary maternity staff (hospital and LMC midwives, medical staff and paramedics), who work together to problem solve and make decisions during simulated emergency scenarios.

5. Unexpected death following a procedure (Clinical Process category):

Five patients unexpectedly died following a procedure. Four of the five deaths occurred following a surgical procedure. Ethnicity of this group were: NZ Māori (n=3) and NZ European (n=2). Contributing factors from completed events include multiple teams of clinicians involved with no single point of contact, affecting oversight of care, and the correct procedure not being followed.

Table 10: Events where an unexpected death occurred following a procedure

Event summary	
3	Three patients died after complications following surgery. ᵗ ᵗ
1	There was lack of recognition of a patient's deteriorating condition following a procedure and the patient died.
1	A patient died after developing complications following a procedure. *

ᵗ Event reviews that are in progress
* Awaiting coroners decision as to cause of death

When considering this data, the patient's co-morbidities and individual risk factors need to be taken into account.
CCDHB are in the process of implementing a structured approach for Mortality and Morbidity meetings.
This organisation wide approach aims to:

- Improve understanding/learning about problems and processes in this DHB associated with mortality.
- Enable mortality reviews to be aggregated thereby enriching data collection.

6. Infection (Clinical Process category):

Two events were a result of a hospital acquired infection.

Table 11: Infection events

Event summary	
1	The condition of a baby in the Neonatal Intensive Care Unit (NICU) deteriorated as a result of a hospital acquired infection.
1	A patient developed deep tissue infection resulting in an ICU admission.

[ǂ] Event reviews that are in progress

What are we doing to reduce risk in these areas?

- All water taps in the Neonatal Intensive Care Unit (NICU) had bacterial filters installed. Follow up monthly testing occurred over a period of four months following the adverse event, which confirmed no bacteria present. Three monthly audits are ongoing.
- Education and training is ongoing for staff regarding utilisation of the sepsis pathway and adherence to the policy for the screening of patients with multi-drug resistant organisms.
- An increase in infectious disease resource has resulted in expanded Anti-microbial Stewardship ward round cover
- Continual focus and auditing on hand washing compliance and implementation of infection prevention precautions.

7. Other (Clinical Process category):

Three of the clinical process cases were themed into an 'Other' category. In these cases, they did not meet the themes of the above and were standalone events. Two of the three cases identified as Māori.

Table 12: Other classified events

Event summary	
1	Communication and referral issues meant a newborn did not receive the required level of care. [†]
1	A premature baby in NICU received formula due to a lack of supply of donor breastmilk during COVID-19 lockdown resulting in complications that required surgery.
1	A baby was delivered by emergency caesarean section due to fetal distress. The baby was admitted to the Neonatal Intensive Care Unit (NICU) and died.

[†] Event reviews that are in progress

What are we doing to reduce risk in these areas?

- The DHB has purchased a donor milk pasteurisation and storage facility and will now have its own supply of donor milk.

Final Comment

Every event in this report represents an individual patient who has suffered serious harm while in hospital. CCDHB wish to apologise to the patients and whānau impacted by these sad events. One event of patient harm is one too many.

The 2DHB Quality and Safety Framework has set a clear direction for improving reporting, reviewing and management of adverse events. The lessons learned from reviewing these adverse events has provided opportunities to improve processes and systems to reduce patient harm and inform quality improvement actions. The provision of safe and quality person-centred care to the people of our region is a priority focus for our organisation.

Date of Report:
18 November 2020