Adverse events exception reporting 2020/21

Thematic analysis involving Māori and Pacific peoples

Introduction

In their Global Patient Safety Action Plan 2021–2030, the World Health Organization (WHO) states that an estimated one in ten consumers are harmed while receiving health care in high-income countries (World Health Organization 2021). In Aotearoa New Zealand, 12.9 percent of all hospital admissions led to harm (Davis et al 2002), despite all good intentions to provide safe health care. For Māori (the Indigenous population of Aotearoa New Zealand), that percentage increases slightly to 14 percent (Davis et al 2006).

Te Tāhū Hauora Health Quality & Safety Commission (Te Tāhū Hauora) has supported the health and disability sector to provide safer care since its establishment in 2010. Te Tāhū Hauora is tasked with collecting, analysing and reporting adverse event data from the wider health and disability sector. This data has traditionally been presented in an annual report but is now published quarterly via public-facing dashboards.

In 2012, Te Tāhū Hauora released the national adverse events reporting policy with the aim of enabling public accountability and transparency of adverse events and near misses in Aotearoa New Zealand. The policy promotes national consistency in reporting, reviewing and learning from adverse events. The policy was reviewed in 2017, and – among a range of other changes – improved the collection of ethnicity information, included the requirement to carry out adverse event reviews in a culturally appropriate way and gave providers the choice of review methodology (Health Quality & Safety Commission 2017a).

Collating, reporting and presenting numbers of events provides a view of the areas where harm happens. However, it only tells half the story and does not provide context behind the events. It is also assumed that events involving Māori and Pacific people are under-represented based on the number of reported events for ethnic groups included in the data reported to Te Tāhū Hauora. We intend to carry out further analysis to determine whether this assumption is correct.

Adverse event data and thematic analyses

It is commonly known that Māori experience the poorest health outcomes across the total population of Aotearoa New Zealand. Research showed that more Māori than non-Māori/non-Pacific people experience an in-hospital adverse event (Davis et al 2002). Although much of the harm experienced was minor, we should always keep in mind that each event represents a person who has been harmed in a system that was created to support their health and wellness. Every pathway that leads to improving the system should be investigated, and actions should be taken to reduce the amount of harm people experience.

To look beyond the numbers and types of events reported, Te Tāhū Hauora completed a thematic analysis of reported events for Māori and Pacific peoples. However, at the time of the analysis, delays in the submission of adverse event brief (AEB) part B forms by providers limited the amount of information available. Regardless, it provides a better understanding of what is happening within the system.

This paper presents a thematic analysis of severity assessment code (SAC)-1 and 2 adverse events involving Māori and Pacific peoples reported to Te Tāhū Hauora from 1 July 2017 to 30 June 2021.

Note that this analysis intended to identify how organisations have considered quality improvement opportunities and to examine the pathways to implement those improvements rather than to look at why adverse events occur across the health sector.

Reporting adverse events in Aotearoa New Zealand

Once an adverse event is identified within a provider, it is coded using the SAC rating and triage tool (Health Quality & Safety Commission 2017b) for adverse event reporting. Health service providers such as district health boards (DHBs) report events to Te Tāhū Hauora in two stages.

The first stage requires submission of an AEB part A. This provides the date of the event, a brief description of what happened, the provisional SAC rating and WHO code[1] and demographic information about the consumer involved.

Once the event has been reviewed locally, the provider submits an AEB part B form, which provides the confirmed SAC rating and WHO code, the factors identified as contributing to the event and recommendations for improvement.[2] Increasingly, providers also submit the full, anonymised report about the event, which often gives more detail than the AEB part B.

Analysis method – adverse events

Between 1 July 2017 and 30 June 2021, a total of 5,190 adverse events were reported to Te Tāhū Hauora. An initial examination of events involving Māori and Pacific peoples identified three areas where the most serious harm (SAC1 and 2 events) occurred: complication, delayed diagnosis and deterioration. Across these three domains, a total of 621 adverse events were reported for Māori and 201 for Pacific peoples.

The data was separated into financial years starting from 2017, when the collection of reliable ethnicity data began (Table 1).

Table 1 Number of events in each category per year for Māori

Financial year	Total number of events	Total number complication	Total number delayed diagnosis and deterioration
2016/17	8	3	5
2017/18	21	5	16
2018/19	26	6	20
2019/20	27	6	21
2020/21	23	7	16

The number of reports increased over time. This may be because of improvements to the processes that service providers used to collect ethnicity data, although all adverse event reporting also increased over this time.

Information collected and reported

Across all three domains, the AEB part Bs provide a significant amount of information, generally illustrating detail about the event. Many reports include a timeline leading up to and including the event. This information highlights many factors that contribute to an adverse event, although finding a system improvement change was challenging. The main factors identified in the submitted data as contributing to an adverse event occurring were:

- human error,[3] which included mislaid booking forms
- lack of follow-up, which led to patient deterioration
- staff fatigue and short staffing
- failure of timely escalation
- lack of clear communication between health care providers.

These identified areas have not changed over time; however, the reason for this lack of change is not evident within the data analysed.

It is interesting that, when an equity lens was also applied to the data analysis, equity was neither visible nor considered or discussed as a contributing factor to the adverse events. While we can infer the reasons behind its omission, providing pathways or including questions in the reporting template that consider elements of equity as contributors to SAC1 or 2 events, including delayed diagnosis or deterioration, could be considered.

Major themes analysis

Complications

Although the reports highlighted many factors that contributed to the adverse event, 'human error' (including data entry errors and lack of timely escalation or follow-up, causing patient deterioration) was highlighted as an area that resulted in many SAC1 or 2 events.

Delayed diagnosis and deterioration

Delayed diagnosis also led to many SAC1 or 2 events. The causes for the delay were linked to human error, staff fatigue and/or staffing issues. On the other hand, deterioration was mainly related to the failure of timely escalation and lack of clear communication or to delays in treatment.

Reported recommendations

Each report offered a range of recommendations. In 2016/17 and 2017/18, many recommendations appeared to be well considered, focusing on training, education, sharing of information and policy reviews. Similar patterns can be seen in 2018/19 and 2019/20, where training, education, policy training and reviews for events were recommended.

In 2019/20, themes were identical or similar, with slight variations. Many reports identified more collaboration with a range of key stakeholders as a way to improve the identification of patient deterioration and as an avenue to improve the system. For example, one DHB noted that pathways to include each party, such as updating or informing patients and general practitioners, and allowing consideration for their views to be included in the process, were possibilities to aid in system improvements. All reports noted the sharing of information with

whānau; this is a required and necessary process that provides an opportunity for closure for the whānau who experienced the event.

Pacific peoples

Table 2 shows data from AEB part B forms for Pacific peoples filtered by financial year.

Table 2 Number of events in each category per financial year for Pacific peoples

Year	Total number of events	Total number delayed diagnosis and deterioration
2016/17	4	4
2017/18	9	9
2018/19	13	13
2019/20	10	10
2020/21	7	7

Similar to data trends for Māori, the number of events involving Pacific peoples increased steadily within these catagories from 2017, when reliable ethnicity data became available.

Information collected and reported

There are few differences between data for Pacific peoples and Māori; the AEB parts A and B were completed fully, with a large amount of information for SAC1 and 2 events illustrating a similar level (as presented above) of detail about the event. The AEB part Bs also included timelines leading up to and including the event.

Factors contributing to an adverse event within the main themes presented included:

- human error, including not reading notes
- lack of appropriate follow-up
- staff fatigue and short staffing
- lack of available specialised staff to complete tasks.

The main factors contributing to adverse events have not changed since 2017, and the recommendations across all five years have remained consistent. Recommendations include:

- review the [staff] roster
- address high workloads, or high patient acuity
- provide training and education.

Major themes analysis

The major themes are the same as those found in the analysis of data for Māori, with the largest numbers featuring in delayed diagnosis and deterioration causing significant harm or many SAC1 and 2 events.

Analysis and discussion

This analysis was undertaken to consider whether the reports provided pathways or avenues that identified system improvements and where that improvement may happen. Although human error seems to be a consistent element for the cause of adverse events, particularly in delayed diagnosis and deterioration for both Māori and Pacific peoples, very little information within the submitted data offers pathways towards quality improvement initiatives across the system.

As a result, the analysis also looked at the recommendation section of the AEB part Bs to identify opportunities for system improvement. It was anticipated that this would provide an avenue to investigate any change that occurs over time.

Report recommendations

As mentioned, there are many recommendations for each year since 2017. Many offered options to include training, education or policy reviews as improvements to the system. The number of recommendations remained consistent across all five years, although the level of detail of each recommendation increased (ie, recommendations now consistently include information such as timeframes and who is responsible for implementation and measurement criteria). In many reports, these recommendations have become quite focused on operational components to service delivery.

For example, in one case, the improvement recommendations were about specific interventions that could have been considered during the consumer's triage:

- consider ordering an electrocardiogram in triage for all patients with diabetes
- consider ordering the following laboratory tests for any patient with diabetes presenting with a potential symptom of angina, as noted above, or of dehydration/acidosis
- consider ordering a urine test to screen for ketonuria
- consider ordering a glucose tolerance test
- consider empiric intravenous fluid therapy for patients with diabetes with signs or symptoms of dehydration
- fully implement the effective and compassionate Kōrero Mai initiative (Health Quality & Safety Commission 2021) in all clinical endeavours in the emergency department.

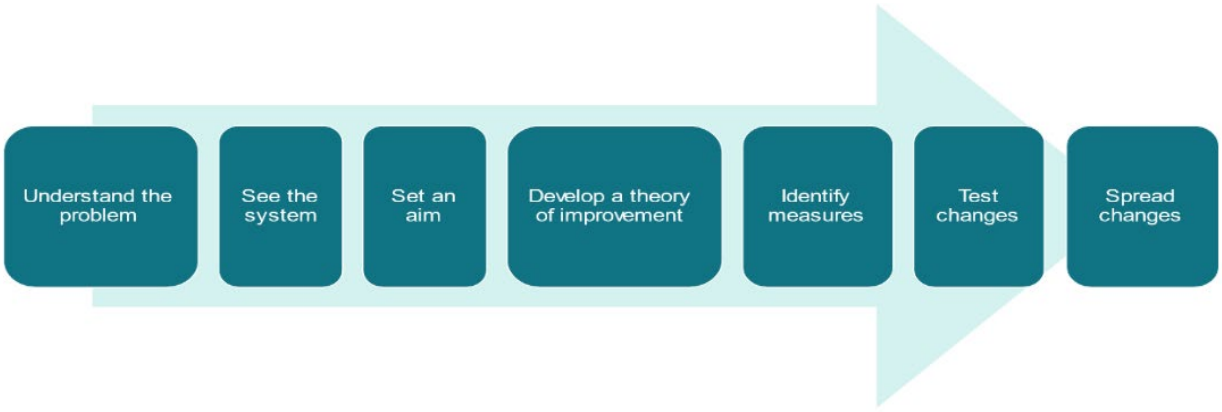
While noting that operational changes would generally address the issue at hand or, in this case, prevent the event, only implementing Kōrero Mai is a true system change.

This raises questions about the number and type of recommendations offered across all reports. System quality improvement is about making changes that will lead to better patient outcomes (health), better system performance (care) and better professional development. It may be in the best interest of the system to provide a maximum of three recommendations and complete those well.

A health provider can undertake many activities to encourage learning from an event and to implement tasks that ensure system improvement.

Figure 1 outlines the quality improvement journey that can be considered when looking to make system change and/or sustainable improvements.

Figure 1 Quality improvement journey



When quality improvement initiatives and avenues to implement those improvements within a health system are considered, the overarching aim must be improved care for whānau Māori and Pacific peoples. Every opportunity to improve the system should be supported. One way of improving system design and performance is using forcing functions.

In brief, a forcing function is an aspect of system design that prevents an unintended or undesirable action from being performed or allows its performance only if another specific action is performed first (Patient Safety Network 2019). Although how this might be socialised and implemented may need further consideration, it is an alternative option to contemplate with the possibility to create outcomes-based change. One method of improving the use of forcing functions, and improving system design, is through the use of human factors (Clinical Human Factors Group nd).

More consideration should be given to the information provided to Te Tāhū Hauora. However, for this to happen, the current reporting template needs to be improved and the guidance about including recommendations that centre on quality improvement initiatives strengthened.

Currently, the recommendations from the AE reports provided are more operational in nature and offer limited pathways for system-focused quality improvement. An alternative option is to include two or three recommendations that focus specifically on system-focused quality improvements. As a first step, the current reporting templates (AEB parts A and B) should be specific about the information required in the recommendation section. As mentioned, there is an opportunity to include equity focus questions in the reporting template, which would allow providers to consider equity as a contributing factor to adverse events.

Second, the part B information is not included in any published adverse event document because of delays receiving it. There is further opportunity to learn what others have done and what system improvements have been made. Recommendations and learnings from those should be published. However, for this to occur, Te Tāhū Hauora needs to improve the current reporting template and provide education on those changes before it is implemented so there is national consistency.

Conclusion

This thematic analysis has outlined challenges for both Te Tāhū Hauora and health service providers who report adverse events to consider. This analysis also allowed Te Tāhū Hauora to look at how information/data is collected and what changes are required to investigate whether avenues for quality improvement are considered when offering mitigating strategies for all adverse events.

There is real opportunity to use the AEB part B information to identify and track how system-focused quality improvement is considered and implemented. Te Tāhū Hauora should take advantage of this opportunity, make suggested changes and report shared learnings.

Next steps

The quality systems group is currently undertaking a large amount of work to improve the systems and processes for learning from adverse events.

A national adverse event reporting policy working group is reviewing the policy, which includes a central focus on equity and improving the process for collecting ethnicity data. We are also automating the reporting template for the collection of the AEB part B information.

After the policy review, the AEB parts A and B reporting templates will be reviewed to ensure they align with the revised adverse event policy. A co-design approach was used to ensure equity is a key focus when organisations complete AEB reviews and to determine what additional information the reporting templates will need.

References

Clinical Human Factors Group. (nd). What are clinical human factors? URL: chfg.org/what-are-clinical-human-factors.

Davis P, Lay-Yee R, Briant R, et al. 2002. Adverse events in New Zealand public hospitals I: occurrence and impact. *The New Zealand Medical Journal* 115(1167): U271.

Davis P, Lay-Yee R, Dyall L, et al. 2006. Quality of hospital care for Māori patients in New Zealand: retrospective cross-sectional assessment. *The Lancet* 367(9526): 1920–5. DOI: 10.1016/S0140-6736(06)68847-8.

Health Quality & Safety Commission. 2017a. National adverse events reporting policy 2017. URL: www.hqsc.govt.nz/our-programmes/adverse-events/publications-and-resources/publication/2933.

Health Quality & Safety Commission. 2017b. Severity assessment code (SAC) rating and triage tool for adverse event reporting. URL: www.hqsc.govt.nz/our-programmes/adverse-events/publications-and-resources/publication/2937.

Health Quality & Safety Commission. 2021. Patient, family and whānau escalation. URL: www.hqsc.govt.nz/our-work/improved-service-delivery/patient-deterioration/workstreams/patient-family-and-whanau-escalation.

Patient Safety Network. 2019. Human factors engineering. URL: psnet.ahrq.gov/primer/human-factors-engineering.

World Health Organization. 2021. Global patient safety action plan 2021–2030. URL: www.who.int/teams/integrated-health-services/patient-safety/policy/global-patient-safety-action-plan

Published in May 2023 by Te Tāhū Hauora Health Quality & Safety Commission, PO Box 25496, Wellington 6146. It is available online at www.hqsc.govt.nz.

Te Tāhū Hauora
Health Quality & Safety Commission

Te Kāwanatanga o Aotearoa
New Zealand Government

Endnotes

[1] A taxonomy for classifying adverse events. See Appendix one for a full list of codes.

[2] Providers have 70 working days from the date of the event being identified to submit the AEB part B. This timeline is not always adhered to, meaning that analysis such as in this paper is conducted with only small percentages of the total events reported.

[3] The traditional view of human error is that it is a cause of accidents and that adverse event reviews should seek out people's poor judgements and wrong decisions. A newer (and preferred) way of looking at human error considers it a symptom of trouble within a system, and adverse event reviews should seek to understand how people's assessments and actions made sense to them at the time, given what was happening. From Dekker S. 2017. *The Field Guide to Understanding 'Human Error'*. Boca Raton (FL): CRC Press.