



HEALTH QUALITY & SAFETY
COMMISSION NEW ZEALAND

Kupu Taurangi Hauora o Aotearoa

Quality and safety markers update

Quarter 1 (January–March) 2020

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Note on change to reporting due to COVID-19

In response to the COVID-19 pandemic, the Health Quality & Safety Commission temporarily suspended the requirement for district health boards (DHBs) to report on manually collected quality and safety marker (QSM) measures from 23 March 2020 until 30 June 2020. For example, falls risk assessment and care planning for the falls QSM and number of cardiac arrests for the patient deterioration QSM.

We also extended the date for submitting data for all surgical site infection (SSI) process and outcome measures to 30 June 2020.

During this period, we continue to monitor and publish outcome measures where data is obtained from the National Minimum Dataset (NMDS), for example, falls with a fractured neck of femur.

The measures that will be published in the reports for the January–March and April–June 2020 quarters are:

- in-hospital falls causing fractured neck of femur
- risk-adjusted postoperative deep vein thrombosis/pulmonary embolism (DVT/PE) cases
- opioid-related harm for surgical episodes of care.

Given the critical importance of hand hygiene throughout the COVID-19 pandemic, we strongly encouraged DHBs to maintain some hand hygiene auditing. This helps best practice to be maintained consistently across the hospital and provides opportunities for health care workers to help their colleagues to not miss hand hygiene moments.

From 1 July 2020, we expect DHBs to start collecting for all QSM measures and to submit this data on 6 November 2020.

DHBs are expected to start collecting data for the consumer engagement QSM in December 2020 and provide an initial report in June 2021.

The above dates may change in response to the COVID-19 pandemic.

Falls

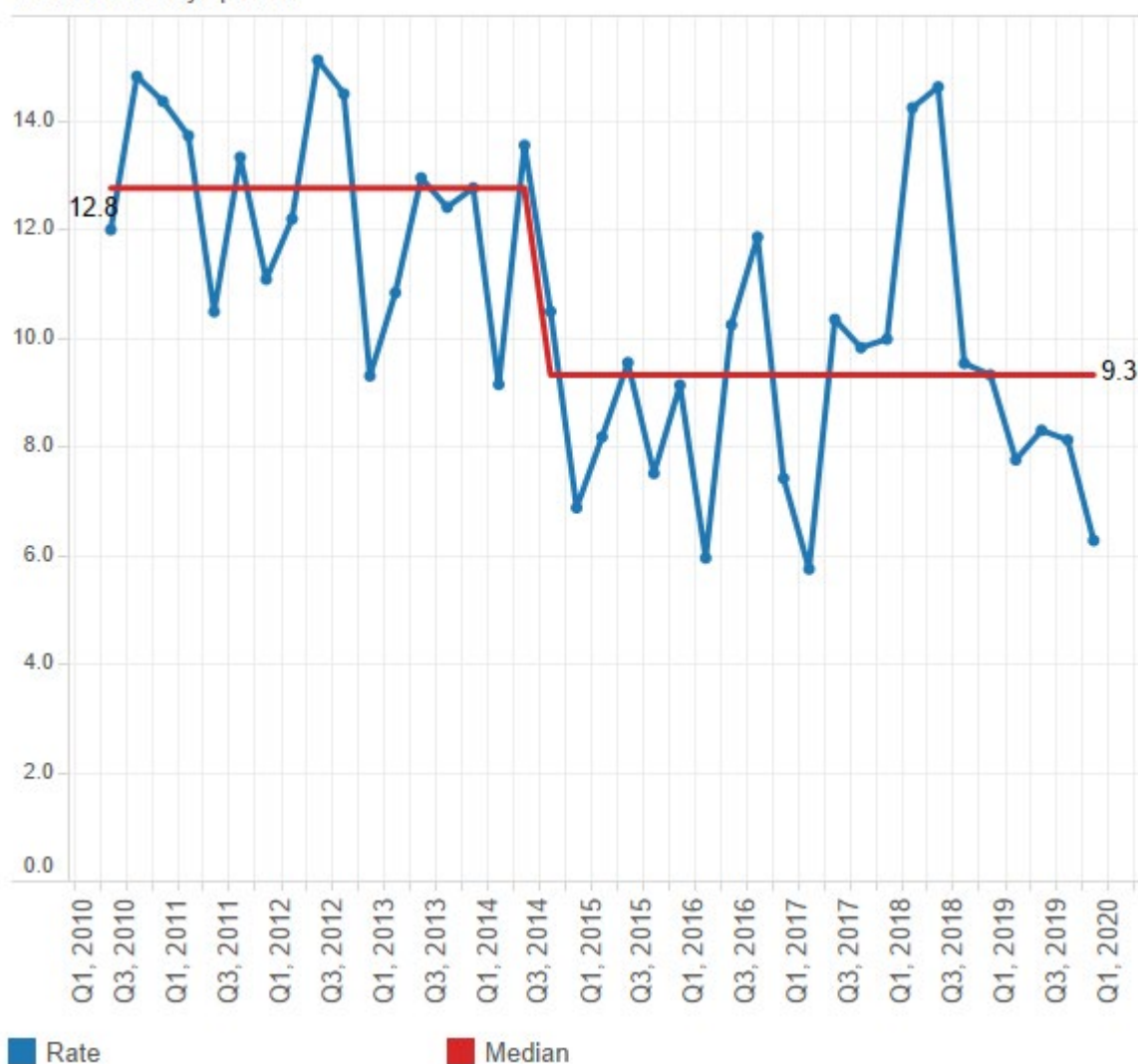
Outcome marker: In-hospital falls resulting in a fractured neck of femur per 100,000 admissions

There were 71 falls resulting in a fractured neck of femur (broken hip) in the 12 months ending March 2020.

Figure 1 shows the quarterly rate of in-hospital falls causing a fractured neck of femur per 100,000 admissions.

The median of this measure was 12.8 in the baseline period of July 2010 to June 2012. It had moved down since September 2014, to 9.3 per 100,000 admissions – a significant improvement. This reduction is supported by the observed improvement in the assessment and plan process markers results. There is some variation since the shift, particularly from 2018. The peak showed in Figure 1 in quarters 1 and 2, 2018 can be explained by a slight increase in the number of falls across several DHBs.

Figure 1: Outcome marker, in-hospital falls with fractured neck of femur per 100,000 admissions by quarter

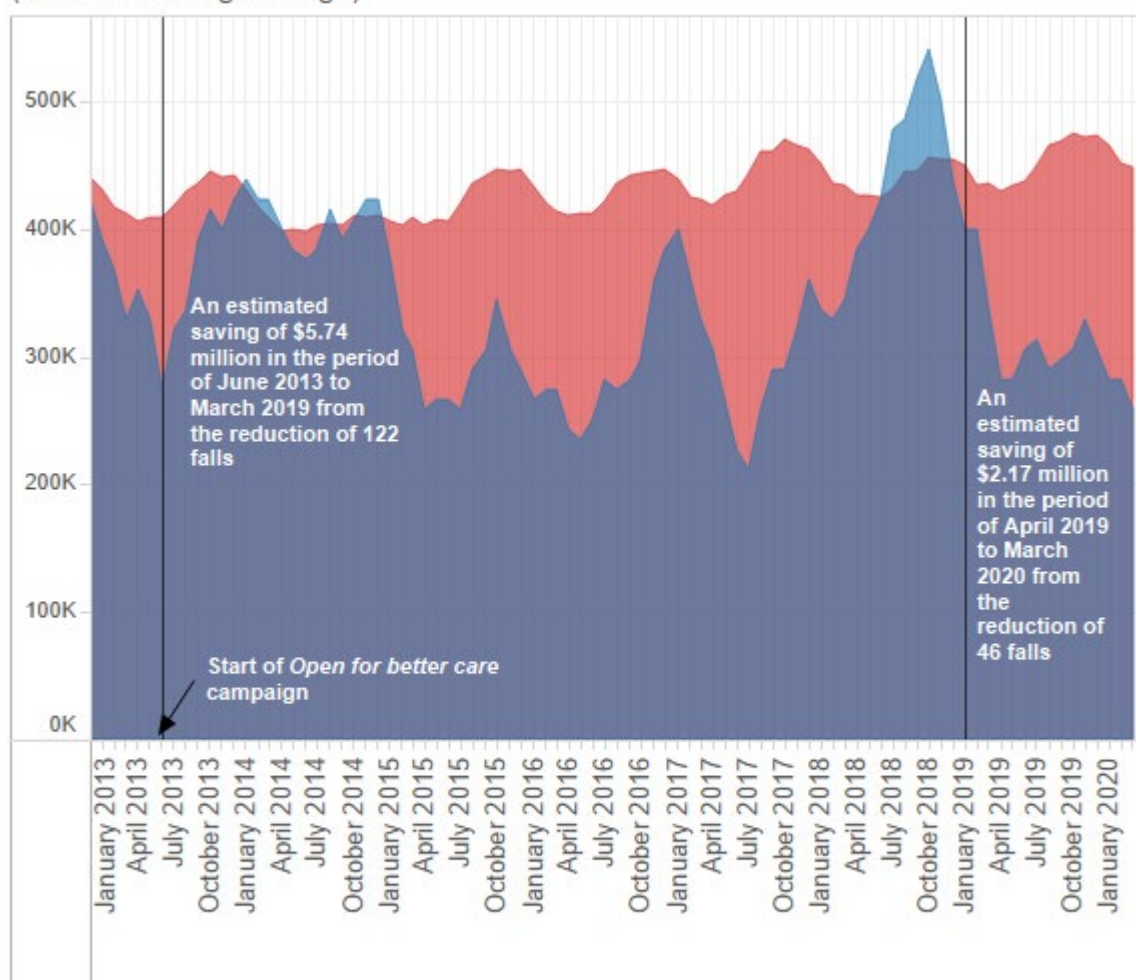


The number of 71 in-hospital falls resulting in a fractured neck of femur is significantly lower than the 117 we would have expected this calendar year, given the falls rate observed in the period between July 2010 and June 2012. The in-hospital falls reduction is estimated to have saved \$2.17 million from April 2019 up until March 2020. This is based on an estimate of \$47,000¹ for a fall with a fractured neck of femur (Figure 2). Savings of \$7.9 million have been made since the Commission’s reducing harm from falls programme began.

We know some of these patients are likely to be admitted to aged residential care on discharge from hospital, which is estimated to cost \$135,000 per occurrence.²

If we conservatively estimate that 20 percent of the patients who avoided a fall-related fractured neck of femur would have been admitted to an aged residential care facility, the reduction in falls represents \$3 million in total avoidable costs since April 2019.

Figure 2: Cost/saving associated with in-hospital falls with fractured neck of femur (6-month moving average)



The saving is based on an estimated cost of \$47,000 for a fall with a fractured neck of femur.

Expected cost Observed cost

¹ de Raad J-P. 2012. Towards a value proposition: scoping the cost of falls. Wellington: NZIER.
² Ibid.

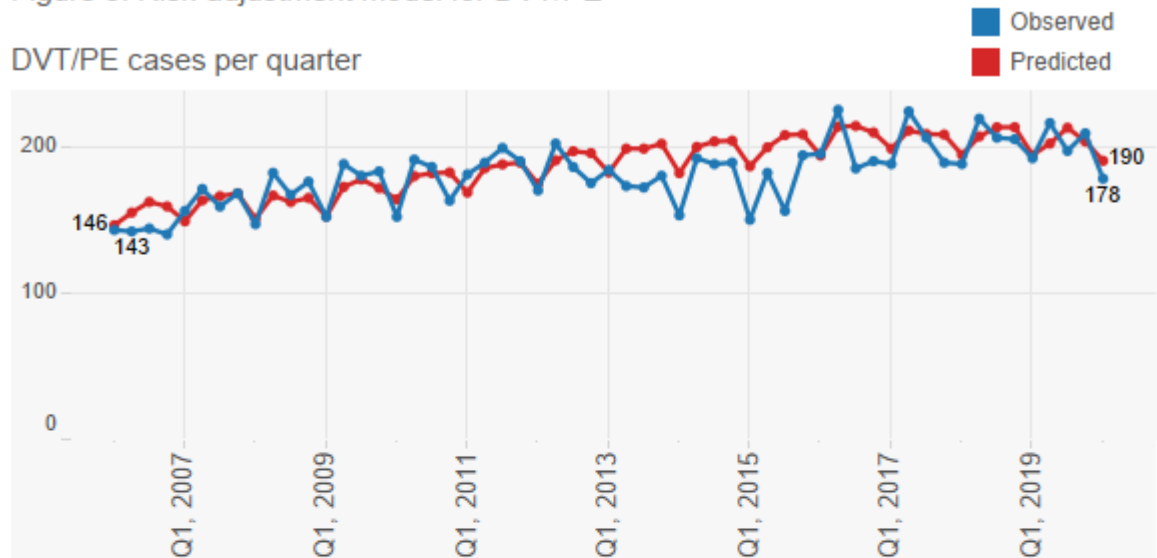
Safe surgery

The rates of postoperative sepsis and DVT/PE are the two outcome markers for safe surgery. The rates have fluctuated over time. To understand the factors driving the changes and to provide risk-adjusted outcomes in the monitoring and improvement of surgical QSMs, we have developed a risk-adjustment model for these two outcome markers.

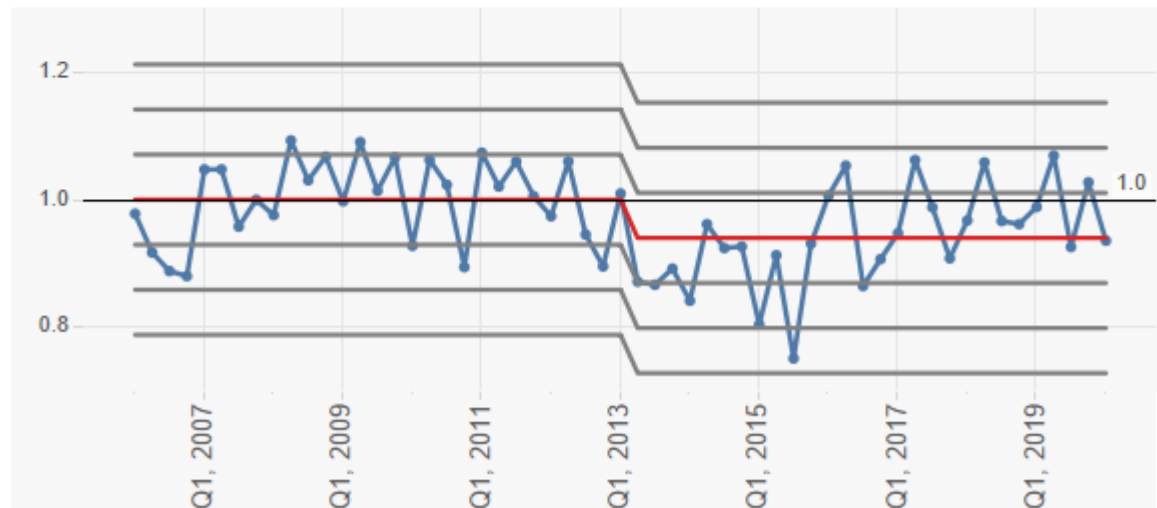
The model identifies how likely patients being operated on were to develop sepsis or DVT/PE based on factors such as their condition, health history and the operation being undertaken. From this, we calculated how many patients would be predicted to develop sepsis or DVT/PE based on historic trends. We then compare how many patients actually developed sepsis or DVT/PE to create an observed/expected (O/E) ratio. If the O/E ratio is more than 1 then there are more sepsis or DVT/PE cases than expected, even when patient risk is taken into account. A ratio of less than 1 indicates fewer sepsis or DVT/PE cases than expected.

Figure 3 shows the DVT/PE risk-adjustment model results in two charts. The O/E ratio control chart shows there were 11 consecutive quarters in which the observed numbers were below the expected numbers since quarter 2, 2013. This indicates a statistically significant downwards shift, taking into account the increasing number of high-risk patients treated by hospitals and more complex procedures undertaken by hospitals. Over the past four years, a higher number of cases of DVT/PE have been observed in the second quarter.

Figure 3: Risk-adjustment model for DVT/PE



Control chart, O/E ratio per quarter



Safe use of opioids

This is the third time we have reported the safe use of opioids QSM.

Opioid medicines (morphine, oxycodone, fentanyl, methadone, tramadol and codeine) are high-alert medicines, which are excellent at controlling pain but have a number of unintended side-effects (eg, constipation, nausea and vomiting, and urinary retention). Opioids can also cause serious harm when given in high doses, or in individuals who are at higher risk (eg, opioid-induced ventilatory impairment [OIVI] and cardiac arrest).

In response to these concerns, the Commission sponsored an 18-month formative collaborative from October 2014. The collaborative was aimed at building DHB and private hospital engagement and capacity to identify interventions to reduce opioid-related harm.

This work contributed to the development of a best-practice care bundle approach to decreasing opioid-related harm that includes interventions to reduce OIVI and opioid-induced constipation (OIC).

Outcome measure: Opioid-related harm for surgical episode of care³

The outcome measure is taken from the DHBs' NMDS data that is submitted to the Ministry of Health. The outcome measure will be used over time to determine whether the improvements to the monitoring and use of opioids improve patient outcomes through reduced harm.

The outcome measure (Figure 4) shows the percentage of surgical admission episodes with opioid-related harm. The national figure for this measure was a rate of 0.42 percent.

Please note these outcome measures **are not directly comparable** between DHBs. The NMDS data is derived from DHB coding. While the coding practices within a DHB are standardised and sustainable, documentation and coding practices between DHBs may not be consistent. Therefore, the outcome measure must only be used to monitor changes over time **within a single DHB**.

³ A surgical episode of care. Opioid-related harm events are reported for all surgical patients in hospitals for the reporting quarter. Admissions to surgical services are treated as a single, continuous event or 'episode of care'. Events are joined if they overlap. If an event end date is the same as an event start date, then the two events are joined. The episode start date is the first surgical admission starting date. The episode end date is the last event admission end date. So, if a patient is transferred between surgical wards for the same admission this is counted as a single episode of care.

Figure 4: Opioid-related harm for surgical episodes of care, percent

Auckland	0.51	0.58	0.56
Bay of Plenty	0.29	0.57	0.35
Canterbury	0.42	0.21	0.36
Capital & Coast	0.70	0.49	0.44
Counties Manukau	0.35	0.36	0.62
Hauora Tairāwhiti	0.63	0.68	0.35
Hawke's Bay	0.47	1.05	0.31
Hutt Valley	0.30	0.34	0.39
Lakes	0.38	0.27	0.28
MidCentral	0.05	0.05	0.11
Nelson Marlborough	0.42	0.24	0.28
Northland	0.32	0.21	0.18
South Canterbury	0.52	0.79	0.75
Southern	0.63	0.99	0.43
Taranaki	0.06	0.18	0.19
Waikato	0.40	0.29	0.36
Wairarapa	0.21	0.18	0.20
Waitematā	0.48	0.35	0.58
West Coast	0.63	1.03	0.00
Whanganui	0.19	0.55	0.12
New Zealand	0.43	0.43	0.42
	Q3, 2019	Q4, 2019	Q1, 2020