Seclusion data indicators

Key Performance Indicator literature review, November 2022

Literature review (November 2022) by Te Pou for The Key Performance Indicator (KPI) Programme, Mental Health and Addiction Aotearoa New Zealand.
PO Box 108-244, Symonds Street, Auckland, New Zealand.

Email: info@tepou.co.nz

Website: www.tepou.co.nz

Te Pou is a national centre of evidence-based workforce development for the mental health, addiction, and disability sectors in New Zealand.

Recommended citation: Te Pou. (2022). *Seclusion data indicators: Key performance indicator literature review.* Key Performance indicator (KPI) Programme, Mental Health and Addiction, Aotearoa New Zealand.

ISBN: 978-1-99-102805-1

Acknowledgements

This report was written by Te Pou for the Key Performance Indicator (KPI) Programme team. The author is Jennifer Lai. Input to the report and peer review was provided by Angela Jury, Amanda Luckman, Aaryn Niuapu, Caro Swanson, Gilbert Azuela, Talya Postelnik, Sandra Baxendine, Sima Clarke, and Richard Woodcock from Te Pou. External peer review was provided by Professor Brian McKenna.

This report builds on the original unpublished proposal paper for the KPI seclusion indicators from 2014 by Phillipa Gaines and Stuart Moyle - *Proposed Indicators to Support the Reduction in and Subsequent Elimination of the Use of Seclusion in Adult Mental Health Inpatient Units*.

Since completion of the current report, more than 100 sector stakeholders have been consulted and the KPI seclusion indicators have been updated. This current KPI seclusion data dashboards can be accessed at https://www.mhakpi.health.nz/

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Executive summary

Background

The need to reduce and subsequently eliminate the use of seclusion is a priority for inpatient mental health services in Aotearoa New Zealand (Ministry of Health, 2021). The use of seclusion data to inform clinical practice and service improvements is a key strategy in supporting this objective. Currently, seclusion data is regularly reported back to inpatient mental health services through several reporting sources using a range of different indicators. This discrepancy in reporting can be confusing for the sector and makes it difficult to build a cohesive picture of current seclusion use and to benchmark against a consistent standard.

The New Zealand Mental Health and Addictions Key Performance Indicator Programme (KPI Programme) is one of the main sources regularly reporting on seclusion use. The purpose of this report is to summarise up-to-date evidence and examples of international best practice to inform the ongoing development of the KPI seclusion indicators. The specific objectives are to understand:

- the rationale for including seclusion indicators in the KPI Programme
- types of indicators being used to support the reduction of seclusion in Aotearoa New Zealand and other countries.

Method

To address these questions, a rapid literature scan was undertaken using EBSCOhost, Google, and Google Scholar. The review included information from journal publications, grey literature reports, and websites reporting national-level seclusion data.

Key findings

There is a clear rationale for continuously using data to monitor the use of seclusion in inpatient mental health services. Growing evidence over the past decade supports the need to reduce the use of seclusion and other restrictive practices. Seclusion has adverse physical and psychological impacts on both the people and staff involved (Askew, Fisher, & Beazley, 2019; Cusack et al., 2018; Hawsawi et al., 2020; Mellow, Tickle, & Rennoldson, 2017). The use of seclusion contradicts contemporary recovery-focused and trauma-informed approaches and constitutes a human rights violation (Chieze et al., 2019; Mellow, Tickle, & Rennoldson, 2017; World Health Organization, 2019). Emerging research indicates experiences of seclusion may be associated with trauma (Whitecross, Seeary, & Lee, 2013), longer inpatient stays (Jury et al., 2018; Zhang et al. 2011), and a higher risk of readmission to services (Serrani et al., 2017; Donisi et al., 2016).

Due to these negative impacts, several countries have made legislative and practice changes to support the shift towards least restrictive practices and regularly monitor the use of seclusion and other types of restraints. In addition to Aotearoa New Zealand, countries regularly monitoring the use of seclusion include Australia, England, Ireland, Sweden, and Finland.[1] This literature review identifies a range of seclusion data indicators being used for monitoring and reporting across these countries. Table 1 summarises the types of numerators, denominators, and reporting formats used.

Table 1. Numerators, denominators, and reporting formats used across countries to monitor seclusion.

Numerators
• Number of seclusion events • Number of people secluded • Duration of seclusion events
Denominators or reporting format
• Total number • Population rate (per 100,000 population) • Occupied beds (per 1,000 bed days/nights) • Percentage of people secluded in inpatient units • Multi-use measure (per person secluded)

Whilst there are advantages and disadvantages for the different types of calculations and reporting formats used, consistency is key to accurately monitoring change in practice over time (Agency for Healthcare Research and Quality, 2013b). The following factors should be considered when determining which seclusion indicators to use (Janssen et al., 2011):

- the level of analysis or reporting required (for example international comparison, comparing between services, or internal monitoring within services)
- the measure's accuracy, stability, and sensitivity to other factors
- the ease of understanding and ability for meaningful interpretation.

Discussion

Research evidence and international best practice provide a clear rationale for including seclusion indicators in the KPI Programme. Continuously measuring and monitoring the reduction of seclusion will help ensure inpatient mental health services are increasingly conducive to enhancing people's safety and wellbeing.

Building a cohesive picture of seclusion use involves monitoring the number and duration of seclusion events, along with and number of people secluded. Bowers (2020) recommends

[1] Some countries may have been missed due to the scarcity of information publicly available in English.

reporting incidence data in as many ways as possible to promote comparability across studies and countries. Janssen and colleagues (2011) also show that different analysis goals will benefit from different types of measures and calculations.

Based on this rapid review, the KPI Programme's seclusion indicators need to be driven by the programme's purpose and levels of analysis. Given the KPI Programme's focus on continuous service quality improvement and collective action nationally, the most useful indicators to serve this purpose include:

- total number of: seclusion events, people secluded, and seclusion hours
- number of seclusion events per 1,000 bed nights
- number of seclusion events per 100,000 population
- average number of seclusion events per person secluded
- average duration of seclusion events (hours).

Having timely access to comprehensive information about seclusion will support further progress in the reduction and eventual elimination of seclusion in Aotearoa New Zealand. In addition to seclusion measures, other related measures (such as demographics, clinical, and service factors) need to be reported wherever possible as these provide critical contextual information (Beames & Onwumere, 2021). It is also important to develop a better understanding about people-centred alternatives and approaches for reducing distress and preventing the use of seclusion, especially culturally responsive approaches (Wharewera-Mika et al., 2016).

Coordination and collaboration between key reporting sources (that is Manatū Hauora Ministry of Health, KPI Programme, and the Health Quality & Safety Commission) and sector stakeholders is critical for collectively understanding the suite of seclusion measures required to meaningfully support quality improvement.

Background

In Aotearoa New Zealand, seclusion is defined as “a type of restraint where a person is placed alone in a room or area, at any time and for any duration, from which they cannot freely exit” (New Zealand Standards, 2021, p. 10). The need to reduce and eliminate the use of seclusion was identified as a key priority for the mental health sector in *Rising to the Challenge* (Ministry of Health, 2012) and more recently in *He Ara Oranga* (Report of the Government Inquiry into Mental Health and Addiction, 2018). Despite ongoing efforts to reduce and eliminate seclusion, it is still being used as a ‘last resort’ strategy after other de-escalation methods have been unsuccessful in reducing distress and managing safety (Ministry of Health, 2022).

Seclusion data indicators were first introduced into the KPI Programme in 2014/2015 to monitor and benchmark progress in the reduction and eventual elimination of seclusion. The KPI Programme is a mental health and addiction sector informed and led initiative. The KPI Programme facilitates continuous service quality improvement across Te Whatu Ora health entities and non-government organisations (NGOs) through collective data collection, data analysis, benchmarking, learning, and problem solving.

The KPI Programme uses data from the Programme for the Integration of Mental Health Data (PRIMHD) database which contains information on service activity and outcomes. This data is collected from Te Whatu Ora health entities (formerly district health boards or DHBs) and NGOs. Mental health services are mandated to record all restraint and seclusion events in accordance with the *Mental Health (Compulsory Assessment and Treatment) Act 1992* and the *Ngā Paerewa Health and Disability Services Standard (NZS 8134:2021).*

Current reporting of seclusion data

The KPI Programme is one of several sources that regularly reports seclusion data back to mental health and addiction services. The main reporting sources of seclusion data are:

- Manatū Hauora Ministry of Health’s Office of the Director of Mental Health and Addiction Services (annual regulatory reports)
- Te Hiringa Mahara (annual monitoring reports, formerly reported by the Mental Health Commissioner and the Office of the Health and Disability Commissioner)
- KPI Programme (quarterly data dashboards) and Health Quality & Safety Commission (monthly data dashboards, currently hosted on the KPI website).

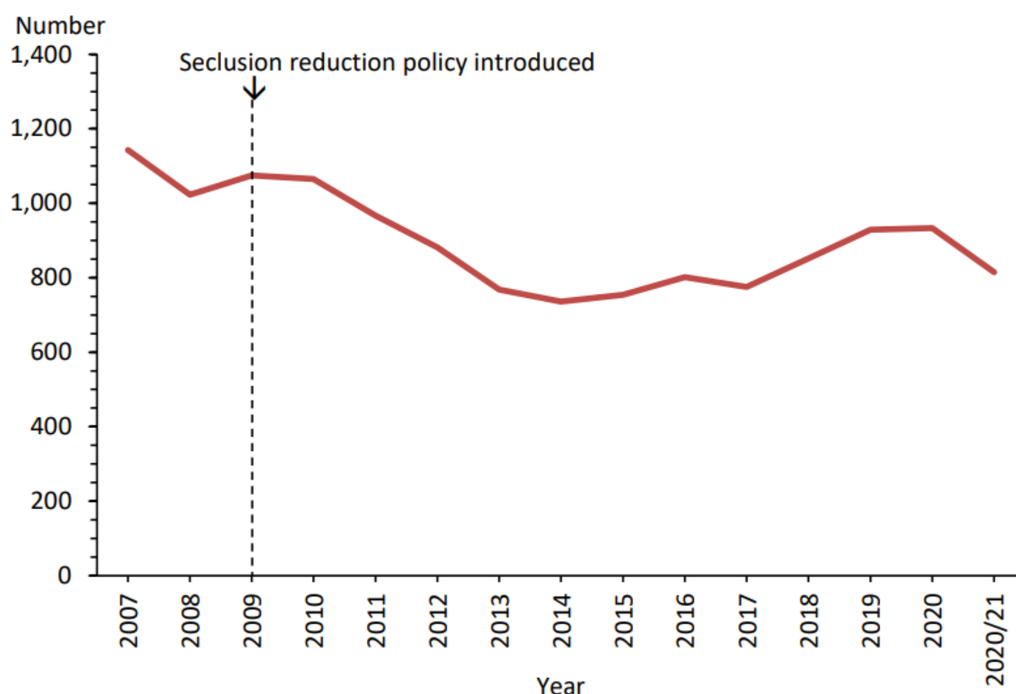
These sources report different seclusion measures from one another (see Appendix A), which makes it difficult to build a cohesive picture of current seclusion use and to benchmark against a consistent standard. Additionally, each reporting source uses different methods for filtering and processing seclusion data derived from PRIMHD. This dilemma is not unique to seclusion data measures, as Bowers (2000) notes that ward incidence rates are generally inconsistent in how they are calculated and reported throughout the literature. When

considering benchmarking, the Agency for Healthcare Research Quality advise to “pay attention to numerators and denominators […] it is important to ensure that you are making “apples to apples” comparisons” (Agency for Healthcare Research Quality, 2013).

Of the various reporting sources, the Office of the Director of Mental Health and Addiction Services annual reports are considered the most reliable source of reporting. This is because the data is cross-checked with services and manual data is often provided by services to supplement PRIMHD data. These annual reports compare current figures to the 2009 baseline when the seclusion reduction policy was first introduced, as well as the previous calendar year.

The 2021 report shows the number of tāngata whai ora secluded has decreased by 24 percent since 2009 and the number of seclusion hours have decreased by 60 percent (Ministry of Health, 2022). As Tables 1 and 2 illustrate, trends over time show an increase in people secluded and seclusion hours between 2017 to 2019, then a downward trend in 2020.

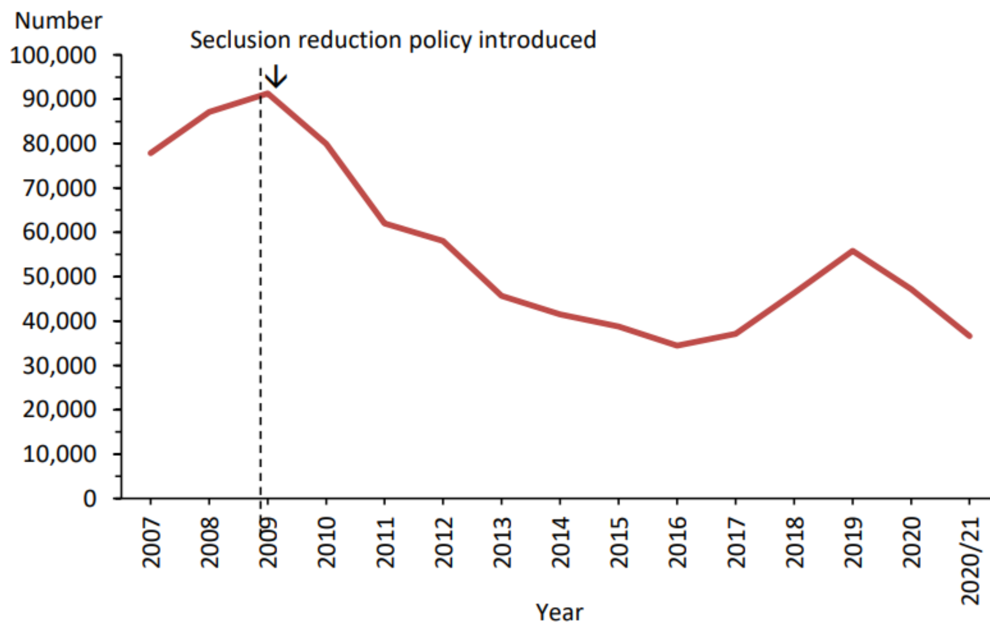
Figure 1. Number of people secluded in the Office of the Director of Mental Health and Addiction Services 2020/2021 Regulatory Report (Ministry of Health, 2022).



Notes: The data excludes forensic inpatient services. It includes patients who have a legal status under the Mental Health Act but are treated in regional intellectual disability secure services. All years except 2020/21 are calendar years.

Sources: PRIMHD data (extracted 3 June 2022) and manual data from Southern, Waikato and Waitematā DHBs.

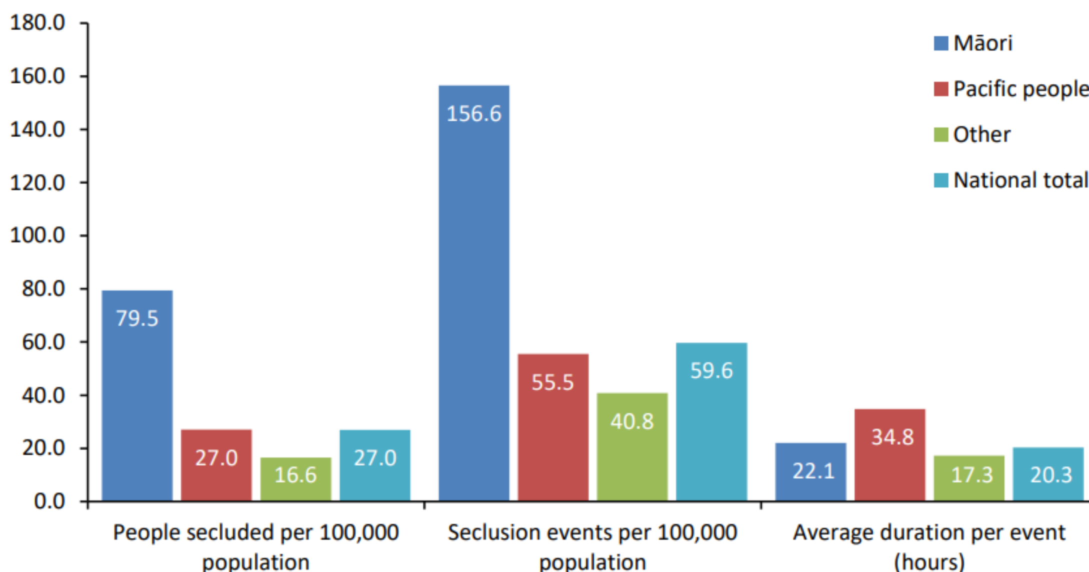
Figure 2. Total number of seclusion hours in the Office of the Director of Mental Health and Addiction Services 2020/2021 Regulatory Report (Ministry of Health, 2022).



Notes: The data excludes forensic inpatient services. It includes patients who have a legal status under the Mental Health Act but are treated in regional intellectual disability secure services. All years except 2020/21 are calendar years.

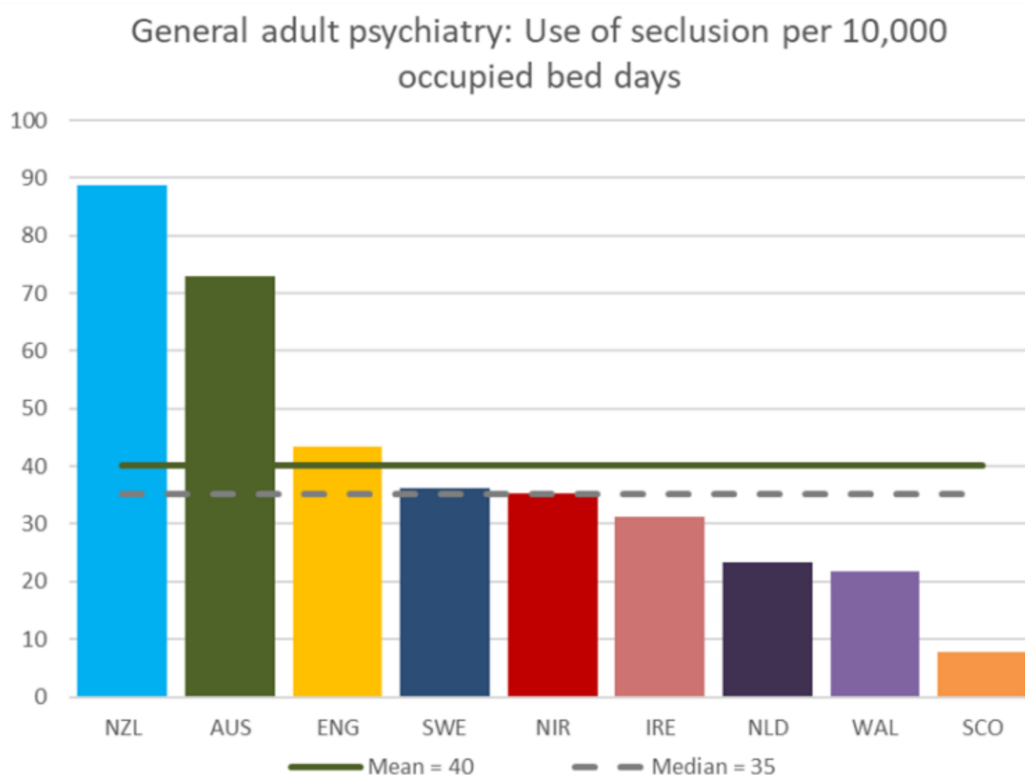
There are ongoing concerns that Māori continue to be overrepresented in the use of seclusion. As Figure 3 shows, Māori are about five times more likely to be secluded compared to non-Māori and non-Pacific peoples based on the number of tāngata whai ora secluded per 100,000 population (Ministry of Health, 2022).

Figure 3. Seclusion indicators reported by ethnicity in the Office of the Director of Mental Health and Addiction Services 2020/2021 Regulatory Report (Ministry of Health, 2022).



Aotearoa New Zealand has participated in the NHS Benchmarking Network's international comparison projects in 2018, 2019, and 2022. Across these reports, Aotearoa New Zealand reports the highest seclusion use per 10,000 occupied bed nights among participating countries (NHS Benchmarking Network, 2018, 2019, 2022), see Figure 4. Though it is important to note these international comparisons lack some crucial contextual information about the overall use of restrictive practices in each country, such as the duration or amount of seclusion hours and use of other forms of restraints.

Figure 4. NHS Benchmarking Network's international comparisons of seclusion use (NHS Benchmarking Network, 2022).



Aim and objectives

This rapid review aims to summarise up-to-date evidence and examples of international best practice to inform the ongoing development of the KPI seclusion indicators.

Specific objectives are to understand:

- the rationale for including seclusion indicators in the KPI Programme
- types of data indicators being used to support the reduction of seclusion in Aotearoa New Zealand and other countries.

Method

Literature search

A rapid literature scan of seclusion literature and data measures was undertaken. Literature searches were conducted using EBSCOHost (Academic Search Complete, CINAHL Complete, MEDLINE Complete, and Psychology and Behavioural Sciences Complete). Additional searches were conducted using Google Scholar and Google. Sources of information included journal publications, grey literature reports, and websites reporting national-level seclusion data. The search focused on literature published up until 2022.

Key search terms included:

- seclusion, restraint, restrictive, coercive
- mental health, psychiatric, mental health services
- data, indicator, measure, report, dashboard, benchmarking, quality improvement
- New Zealand, Australia, England, NHS, Ireland, Scotland, Sweden, Finland, Canada, United States.

Note that some countries who regularly report on seclusion data may have been missed due to the scarcity of publicly available information in English. The information about Sweden and Finland's seclusion measures required approximate translation and needs to be considered with caution. Moreover, the formal definitions of seclusion and other restraints may differ across countries.

Seclusion data from the KPI Programme data dashboard was accessed in November 2022.

Language

This report uses person-centred and strengths-based language.

Tāngata whai ora, defined as "people seeking wellness" is used to refer to people accessing services and to people experiencing mental health challenges or problematic substance use.

Whānau is used throughout the report to capture support networks including and beyond people's immediate families, such as partners, friends, caregivers, and others in people's support networks.

Results

The first part of this section summarises recent literature about the negative impacts of seclusion on tāngata whai ora and mental health staff. National and international policies that support the reduction and eventual elimination of seclusion are outlined to support the rationale for monitoring seclusion data. The second part of this section describes the types of seclusion data indicators used across different countries. This includes seclusion data indicators used in six countries and an international benchmarking project (see Appendix B). Also discussed are the advantages and disadvantages of each reporting method.

Why measure and monitor the use of seclusion?

The literature presents a clear rationale for the need to reduce and eventually eliminate the use of seclusion. Seclusion is a form of restrictive or coercive practice that is non-therapeutic, constitutes a human rights violation, and contradicts contemporary best practice in recovery-focused and trauma-informed approaches (Chieze et al., 2019; Mellow et al., 2017; World Health Organization, 2019). Thus, monitoring the use of seclusion helps to ensure mental health services are increasingly conducive for people’s safety and wellbeing.

The negative impacts of seclusion on tāngata whai ora and mental health staff have been well researched over the past decade, particularly through qualitative research studies. Tāngata whai ora describe experiences of feeling traumatised, vulnerable, neglected, abused, and disoriented during seclusion, as well as an exacerbation of distress that negatively impacts on their subsequent wellbeing (Askew, Fisher, & Beazley, 2019; Cusack et al., 2018; Hawsawi et al., 2020; Mellow, Tickle, & Rennoldson, 2017). Additional literature includes a small Australian study involving people who experienced seclusion, which found that nearly half subsequently experienced trauma symptoms consistent with post-traumatic stress disorder (Whitecross, Seeary, & Lee, 2013).

Mental health staff describe experiences of fear and mental exhaustion in relation to the use of seclusion which negatively impacts on their own wellbeing (Haugom, Ruud, & Hynnekleiv, 2019; Muir-Cochrane, O'Kane, & Oster, 2018). Seclusion raises ethical challenges for mental health staff and disrupts the therapeutic relationship with tāngata whai ora (Haugom, Ruud, & Hynnekleiv, 2019; Hawsawi et al., 2020). Additional literature shows that experiences of seclusion can be associated with service output indicators, such as longer inpatient stays (Jury et al., 2019; Zhang et al., 2011) and a higher risk of readmission to services (Donisi et al., 2016; Serrani et al., 2017).

Alongside the research literature, there has been a shift in legislative and clinical practice. Seclusion is now widely considered an undesired consequence or failure in service delivery (Gooding, McSherry, & Roper, 2020). This means seclusion is an important indicator of services’ safety and quality of care, where a reduction in seclusion rates reflects an improvement in the service (Royal Australian and New Zealand College of Psychiatrists,

2021). Thus, several countries have made legislative changes and national policies to encourage a shift towards least restrictive practices in mental health settings (Gooding, McSherry, & Roper, 2020). The following subsections highlight relevant policies and projects that shape Aotearoa New Zealand's commitment and strategy in reducing and eventually eliminating the use of seclusion.

International policies and projects

Internationally, the following United Nations conventions recognise and protect people's human rights:

- *Convention Against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment (CAT)*
- *Optional Protocol to the Convention Against Torture (OPCAT)*
- *Convention of Rights of Persons with Disabilities (CRPD)*
- *International Covenant on Civil and Political Rights (ICCPR).*

Under these conventions, signatories such as Aotearoa New Zealand are legally obligated to uphold the rights of people accessing health and disability services, and services are subject to external monitoring by human rights experts. The Human Rights Commission's report (Shalev, 2020) provides further details about international conventions relevant to seclusion.

As part of this obligation, the New Zealand Human Rights Commission has undertaken independent reviews led by Dr Sharon Shalev of seclusion practices in health and disability, children's care and protection, youth justice, prison, and police settings. The reviews recommend more effort is needed in "finding and agreeing a standardised measurement and national recording of seclusion events across the different health and disability services" (Shalev, 2020, p. 47). This corroborates the issue of having inconsistent seclusion measures across various sources, as previously described in the background section.

Internationally, efforts to reduce seclusion have largely focused on shifting organisational attitudes and culture through lived experience leadership and involvement, whānau involvement, workforce training and development, data transparency, community-based strategies, and increasing the use of evidence-based alternative approaches to reduce people's distress, such as sensory modulation and de-escalation techniques (Fernández-Costa et al., 2020; Goulet et al., 2017; Väkiparta et al., 2019). Organisational shifts towards least restrictive practice have been widely implemented through evidence-based frameworks, such as the Six Core Strategies© (National Association of State Mental Health Program Directors, 2008) and Safewards (Bowers, 2014).

As mentioned in the previous section, several countries have been involved in international benchmarking of seclusion data. The NHS Benchmarking Network has collated and compared seclusion data from Aotearoa New Zealand, Australia, Ireland, Sweden, England, Wales, Northern Ireland, Scotland, and the Netherlands (NHS Benchmarking Network, 2018,

2019, 2022). This project is supported by the International Initiative for Mental Health Leadership (IIMHL) and the Organisation for Economic Cooperation and Development (OECD).

Aotearoa New Zealand policies and projects

Compulsory assessment and treatment and use of seclusion in Aotearoa New Zealand's mental health services must adhere to legal provisions under the following legislations:[2]

- *Mental Health (Compulsory Assessment and Treatment) Act 1992*
- *Health and Disability Services (Safety) Act 2001*
- *New Zealand Bill of Rights Act 1990*
- *Crimes of Torture Act 1989*
- *Crimes Act 1961*.

The *Health and Disability Services (Restraint Minimisation and Safe Practices) Standards* came into effect in 2009 and requires mental health services to "reduce the use of restraint in all its forms and to encourage the use of least restrictive practices" (Standards New Zealand, 2008, p. 5). Since this policy came into effect, the reduction and eventual elimination of seclusion has been supported and monitored by Manatū Hauora Ministry of Health, Te Pou, Health Quality & Safety Commission, and Te Hiringa Mahara Mental Health and Wellbeing Commission. The Health and Disability Commissioner also acts as an independent watchdog holding services to account for improving their practices and resolving complaints. The latest revision of this standard, *Ngā Paerewa Health and Disability Services Standard* NZS 8134:2021, was published in 2021.

Te Pou supports the mental health and addiction sector in reducing restrictive practices under direction from Manatū Hauora Ministry of Health. This work has mainly focused on supporting Te Whatu Ora district services (formally DHBs) with the implementation of the Six Core Strategies© and sensory modulation approaches. Originally developed in the US (National Association of State Mental Health Program Directors, 2008), the Six Core Strategies© has been adapted into a service review tool for use within the Aotearoa New Zealand context. Case studies and evaluations undertaken in Aotearoa New Zealand, Australia, the UK, US, and Finland indicate the Six Core Strategies© leads to a reduction in the use of seclusion and restraint, as well as other positive changes amongst staff and services (Te Pou, 2019). Within this whole-of-systems approach, use of data to inform practice is one of the key strategies used in reducing restrictive practices. Te Pou also supports the Safe Practice Effective Communication (SPEC) training programme, which has a strong emphasis on therapeutic communication strategies and prevention of restrictive practices.

[2] Further details about Aotearoa New Zealand laws and regulations relevant to seclusion are outlined in the Human Rights Commission's report.

The Zero Seclusion project was launched in 2018 and is led by the Health Quality & Safety Commission (the Commission) in partnership with Te Pou (Ministry of Health, 2019). All district mental health services participate in this project, which is strongly based on quality improvement principles and methodology. The use of data to inform practice is a core component of this work, thus the Commission developed a seclusion data dashboard to help districts monitor their progress. Case studies gathered by the Commission indicate that "effective ways to support people in distress include bringing them into a quiet space, actively listening to their concerns and needs, learning about what happened to them, discovering their triggers and what calms them, offering them food or a drink, and involving their whānau early on, and throughout if the person wishes" (Health Quality & Safety Commission, 2020).

How is seclusion measured and monitored?

This rapid review indicates seclusion is regularly monitored and reported in several IIMHL countries including Aotearoa New Zealand, Australia, England, Ireland, Finland, and Sweden. Appendices A and B provide detailed overviews of the seclusion measures used by these countries. At the time of this review, Scotland, Canada, and the US do not appear to have any national level reporting of seclusion use that is publicly available. However, some proposed or inactive measures were found for the US, but it is unclear whether these measures are currently active. Other countries may have been missed as the literature search was undertaken using English terminology.

Research literature

When developing performance or quality measures, the numerator helps to define the desired change in practice (Agency for Healthcare Research and Quality, 2013a). Janssen and colleagues (2011) examined different types of calculation modalities and rates using seclusion and restraint data from the Netherlands. The paper describes five levels of analysis to help determine which measures are most useful in meeting different reporting goals. The levels of analysis include hospital/institute, ward, people accessing services, admission, and intervention. When comparing between services, Janssen and colleagues (2011) recommend looking at the 'started seclusion events' (number of events and number of people), days in seclusion, and hours in seclusion.

In a recent study by Maguire and colleagues (2021), a group of clinical experts from Australia and Aotearoa New Zealand provided consensus around benchmarks for reducing or eliminating seclusion in forensic mental health services. The agreed benchmarks include number of seclusion events per 1,000 occupied bed days, hours of seclusion per episode, and number of seclusion events per person.

Seclusion measures currently utilised across different countries

In line with the literature, Table 2 summarises the most common numerators used for seclusion measures across different countries are: seclusion events, people secluded, and the duration of seclusion.

Table 2. Summary of the countries measuring seclusion events, people secluded, and duration of seclusion.

Country	Seclusion events	People secluded	Duration of seclusion
Aotearoa New Zealand	✓	✓	✓
Australia	✓	✓	✓
England	✓	✓	✓
Ireland	✓	✓	✓
Finland	✓	✓	-
Sweden	✓	✓	✓
International benchmarking	✓	-	-

Note. Further details and web links available in the Appendices.

The following sections provide more details about the types of numerators and denominators or reporting formats used across these countries, as well as other relevant measures that are considered useful.

Numerator: number of seclusion events

In the KPI Programme, a seclusion event is defined as a combination of overlapping or adjacent seclusion activities for an individual where there are fewer than 60 minutes between seclusion activities. Seclusion events indicate the frequency of seclusion use and is one of the key aspects used to monitor the reduction of seclusion. Table 3 presents the types of measures using seclusion events as the numerator. A key limitation for this numerator, as noted by Bowers (2000), is that a large proportion of incidents may pertain to only a few individuals. This means that measures based on seclusion events do not show how many people were impacted by seclusion.

Table 3. Indicators used to monitor change in the number of seclusion events.

Country	Seclusion events
Aotearoa New Zealand	• Total number of seclusion events • Number of seclusion events per 100,000 population • Number of seclusion events per 1,000 inpatient bed nights • Average seclusion events per person secluded
Australia	• Total number of seclusion events • Number of seclusion events per 1,000 bed days • Proportion episodes of care involving a seclusion event • Average number of seclusion events per episode of care
England	• Number of seclusion events • Number of seclusion events per 1,000 occupied bed days
Ireland	• Total number of seclusion episodes • Episodes of seclusion per 100,000 population • Rates of seclusion episodes per resident
Finland	• Total use of 'isolation from others' in inpatient psychiatric care • Use of 'isolation from others' per 1,000 treatment periods
Sweden	• Number of coercive actions (separation) • Number of actions (separation) per 100,000 inhabitants
International benchmarking	• Use of seclusion in general psychiatry beds per 10,000 occupied bed days

Note: The definitions of a seclusion event may vary across countries. Ireland's Mental Health Commission reported on 'seclusion episodes', however the definition was not specified in the report.

Reporting format: absolute totals

The absolute number of seclusion events is regularly reported in five countries. It is used to report the overall national use of seclusion for the reporting period as well as seclusion use in each hospital area. However, absolute numbers do not allow for meaningful comparisons between hospitals or services (Janssen et al., 2011). A major limitation is the lack of contextual information about the size and composition of services which can vary over time. Whilst absolute numbers contribute to the overall national picture of seclusion use and are useful for quality improvement projects within services, they are not recommended as a stand-alone measure for national benchmarking.

Denominator: population incidence rate (per 100,000 general population)

Population rates are often used to measure and monitor disease prevalence and mortality in a population over a certain period of time (OECD, 2021). The rate of seclusion events per 100,000 population is being used for national reporting in Aotearoa New Zealand, Ireland, and Sweden. The rates are calculated based on recent population census data.

Janssen and colleagues (2011) describe this epidemiological calculation as a relatively more stable figure for comparing between hospitals and international benchmarking. However, a major limitation of population incidence ratios is that they do not accurately represent the opportunities a service had to use seclusion. In Aotearoa New Zealand, only people who are under the *Mental Health Act* can be legally secluded by mental health services; and there is no risk of seclusion among the general population. When using the general population as the denominator, it does not capture the possibility that if service access and demand is low during a certain time period, then fewer seclusion events will be expected regardless of quality of care, or conversely the rate may increase if service demand and pressure increases (Agency for Healthcare Research and Quality, 2013b). This means the rate of seclusion per 100,000 population can potentially underestimate or overestimate seclusion use in mental health services. Moreover, the Human Rights Commission's independent review of seclusion and restraint suggests that use of population rates (that is seclusion hours per 100,000 population) may lack clinical relevance and utility for services and stakeholders (Shalev, 2020). Table 4 summarises the advantages and disadvantages of using population incidence rates to monitor seclusion.

Table 4. Advantages and disadvantages of calculating a population incidence rate to monitor seclusion.

Advantages	Disadvantages
Provides a stable population incidence rate based on an epidemiological calculation (useful for national and international benchmarking).	Does not accurately reflect the opportunities for seclusion use (potentially underestimates or overestimates seclusion use).
Can be compared with other higher-level related measures (eg rate of service access or compulsory treatment orders per 100,000 population).	Does not account for variation in service access over time and across regions (additional context is needed).
	Lacks relevance and utility (less useful for staff involved in local quality improvement).

Denominator: occupied bed days

The rate of seclusion events per 1,000 bed days/nights is regularly reported in Aotearoa New Zealand, Australia, England, and Finland. In Aotearoa New Zealand, an occupied bed night represents an individual being deemed a current inpatient (allocated a bed) at midnight on a given day. In Aotearoa New Zealand's 2020/21 annual report, there were 7.5 seclusion events per 1,000 bed nights in adult inpatient units (Ministry of Health, 2022). The report explains this further using the following interpretation: "nationally and on average for every 1,000 bed nights a person spent in an inpatient unit, the person would have 7.5 seclusion events" (Ministry of Health, 2022).

The scan observed other variations that uses occupied beds as a denominator. Bowers (2000) had previously discussed the use of *100* occupied bed days as a denominator, whilst Janssen and colleagues (2011) examined the number of seclusion *days* (rather than events) per 1,000 occupied bed days. Notably, the rate of seclusion events per *10,000* occupied bed days has recently been used for international benchmarking by the NHS Benchmarking Network.

As Figure 5 shows, incident rates for adverse events are often calculated as a multiple of 10. When determining which unit to use for the denominator, it is useful to consider what is currently used across services for benchmarking purposes, what represents the approximate size of the sample or population, and what is most meaningful or easy to understand for staff and services (Boston University School of Public Health, 2022). For additional context, the research literature about the prevention of hospital fall incidences shows that the number of falls per 1,000 bed days is the most used indicator to support benchmarking comparisons (Agency for Healthcare Research and Quality, 2013b; O'Connor et al., 2006; Staggs et al., 2015).

Figure 5. Example of the same incidence rate reported using different multiples of 10.

Source: Boston University School of Public Health

The occupied beds denominator takes service access into account to provide a relatively more accurate representation of the opportunities a service had to use seclusion compared to a population incidence rate. The occupied beds denominator is useful for both internal and external service comparisons as staff can understand the context of occupied beds within their daily work. However, Janssen and colleagues (2011) caution that variations in the number of occupied beds is sensitive to the length of stay, individuals on leave, and the number of discharges in the service. Thus, variation in the resulting figures may be attributable to variations in other service activities (Bowers, 2000). Similarly, Janssen and colleagues (2011) suggest this ratio is more stable in long-term treatment settings where the

number of occupied beds are less likely to frequently fluctuate. Table 5 summarises the advantages and disadvantages for the occupied bed days denominator.

Table 5. Advantages and disadvantages of the occupied beds denominator for measuring seclusion use.

Advantages	Disadvantages
More accurately reflects the opportunities for seclusion events may occur.	Sensitive to the length of stay, leave, and the number of discharges (less suitable for services with high turnover).
Somewhat stable ratio (useful for internal and external comparisons and international benchmarking).	The definition or values of bed days/nights used may vary across countries.
Easy for staff to understand and relate to their daily work experiences (useful for local quality improvement).	
Same calculation is recommended for monitoring other types of incidents in health care settings, such as the rate of falls during hospital stays.	

Denominator: per person secluded

Aotearoa New Zealand, Australia, and Ireland regularly report a multiple-use measure to indicate the average number of seclusion events per person secluded. This measure provides important contextual information around clinical practice as people are often secluded more than once. People who were secluded in adult inpatient services in Aotearoa New Zealand were on average secluded 2.2 times in 2020/21 (Ministry of Health, 2022). In 2019, the multiple-use rate was 2.5 events per episode of care with seclusion in Australia (Australian Institute of Health and Welfare, 2021) and 2.6 episodes per resident secluded in Ireland (Mental Health Commission, 2020). Hence, the total number of seclusion events is always greater than the number of individual people secluded. This measure is sensitive to outliers where a person was secluded many times above the average, which can be addressed by excluding any major outliers accompanied by a methodological explanation. Table 6 outlines some of the advantages and disadvantages for this denominator.

Table 6. Advantages and disadvantages of calculating a multiple use seclusion measure.

Advantages	Disadvantages
Provides important context about seclusion use and clinical practice.	Useful as part of a set of seclusion measures but not as meaningful as a stand-alone measure for monitoring seclusion reduction.
Can be compared across services and different countries (if using the same definition of a seclusion event).	Sensitive to outliers with a high number of repeated seclusion events.

Numerator: number of people secluded (people-based figures)

The number of people secluded provides another view to monitor progress in seclusion reduction and elimination, which was observed in six countries examined. As Table 7 shows, the number of people impacted by seclusion is reported in a range of different formats, such as an absolute total, proportion of people accessing inpatient services, or rate per 100,000 population. People-based frequencies are not calculated using bed day/night units.

Table 7. Indicators used to monitor change in the number of people secluded.

Country	People placed in seclusion
Aotearoa New Zealand	• Number of people secluded • Unique people secluded per 100,000 population • Percentage of people admitted to inpatient units who were secluded
Australia	• Proportion of episodes of care involving a seclusion event
England	• Total number of people subject to seclusion
Ireland	• Total number of people placed in seclusion
Finland	• Number of people subjected to ‘isolation from others’ • Number of treatment periods in which ‘isolation from others’ was used
Sweden	• Number of patients secluded per 100,000 inhabitants
US*	• Proportion of inpatients in seclusion

Note: *It is unclear whether the seclusion measures identified in the US are currently active.

As noted above, the number of seclusion events is always greater than the number of individuals secluded. Whilst the number of seclusion events represents each incident, the number of people secluded provides information about individuals impacted by seclusion during a certain period. Bowers (2000) notes that people-based measures are useful for research questions that examine potential contributing risk factors (such as diagnosis) or other underlying trends. Since it doesn’t capture each incident, the number of people

secluded is less sensitive to outliers where a person was secluded many times, which means the figures fluctuate less over time and shorter data collection periods are required (Bowers, 2000).

See the previous sections for the advantages and disadvantages of reporting the number of people secluded as absolute totals and population incidence rate.

Reporting format: percentage of people secluded in inpatient units

The extent of people impacted by seclusion is sometimes calculated as a percentage out of the total number of people who accessed services. The percentage of people secluded is calculated in Aotearoa New Zealand, Australia, and the US. It provides an easy-to-understand measure that is useful for internal comparisons and research about contributing risk factors, but less suitable for external comparisons. This calculation is not skewed by outliers where an individual was secluded many times, however it is very sensitive to fluctuating changes in service access and differences in service size. Thus, the percentage of people secluded is a less meaningful figure without the additional contextual information and is less stable compared to the rates per population or per bed days.

Table 8. Advantages and disadvantages of calculating the percentage of people secluded.

Advantages	Disadvantages
Easy to understand, calculate, and set improvement targets for internal purposes (useful for local quality improvement projects).	Sensitive to service size and access (less stable, and less suitable for external comparisons).
Reflects the opportunities where seclusion events may occur and accounts for service access (useful for internal purposes).	Does not capture the overall frequency of seclusion use as a stand-alone measure.

Numerator: duration of seclusion

The duration of seclusion is reported and monitored in six countries. As Table 9 shows, duration is often reported in hourly units, and as a total or average duration. Aotearoa New Zealand and England have recently started reporting on the maximum duration of seclusion events. England and Sweden report the number of seclusion events by duration categories (for example 0 to 24 hours, 24 to 72 hours, 72 hours to 7 days).

The amount of time people are subjected to seclusion may reflect policies around seclusion use and can capture changes in practice. Prolonged episodes of seclusion without sufficient justification breaches Article 16 of the *United Nations Convention Against Torture* (Shalev, 2020). In Aotearoa New Zealand, the *Health and Disability Services (Restraint Minimisation and Safe Practices) Standards* states that “seclusion should be used for as short a time as possible” (Standards New Zealand, 2008, p. 6). However, the data sometimes captures

inadvertent situations where seclusion rooms are used as a solution for overcrowding or understaffing (Shalev, 2020, p. 44).

Table 9. Indicators used to monitor change in the duration of seclusion events.

Country	Seclusion hours/duration
Aotearoa New Zealand	• Total number of seclusion hours • Average duration of seclusion event (average hours) • Maximum seclusion event duration (hours) • Average seclusion hours per person
Australia	• Average duration of a seclusion event (hours)
England	• Average duration (days) • Maximum duration (days)
Ireland	• Total hours of seclusion reported • Average duration of an episode of seclusion (hours and minutes)
US*	• Hours of seclusion use • Proportion of inpatient hours in seclusion (out of total inpatient hours)

Note: *It is unclear whether the seclusion measures identified in the US are currently active.

The duration of seclusion can be seen as a more precise and detailed measure for evaluating clinical practice. It can be useful for internal and external comparisons, as well as international benchmarking. The same limitations apply to the reporting of absolute numbers and rate per population as noted in the previous section. Seclusion hours need to be interpreted with caution as a few prolonged episodes of seclusion can result in an overestimation. These prolonged episodes of seclusion are sometimes excluded as outliers as they can influence or skew the overall results. Hence, seclusion hours are often reported and monitored as part of a suite of measures alongside the number of seclusion events or people secluded.

Seclusion hours in forensic mental health services are often excluded or reported separately as seclusion events tend to be substantially longer in forensic settings.

Table 10. Advantages and disadvantages of calculating average duration of seclusion.

Advantages	Disadvantages
Easy to understand, calculate, and set improvement targets.	Sensitive to outliers (which can be reported separately).
Provides important context as part of a suite of seclusion measures.	
Useful for comparisons at various levels of analysis.	

How is change or progress being reported?

In most of the countries, the latest seclusion figures are often compared to the previous reporting period (such as the previous year or month) to calculate change over time. However, no specific targets or benchmarks for reducing the use of seclusion were identified in the countries featured in this review.

It is common to report seclusion figures across services or regions to enable comparisons. However, contextual information is often missing, such as service size or local characteristics (such as urban or rural), making it difficult to understand which services or regions are most comparable with each other.

Seclusion rates can be reported for different types of mental health service types, including forensic, child and youth, older people, and intellectual disability services (see Appendix B). The figures are often reported separately as the different service types are not comparable due to differences in the practices and process around the use of seclusion.

What other related measures are regularly reported?

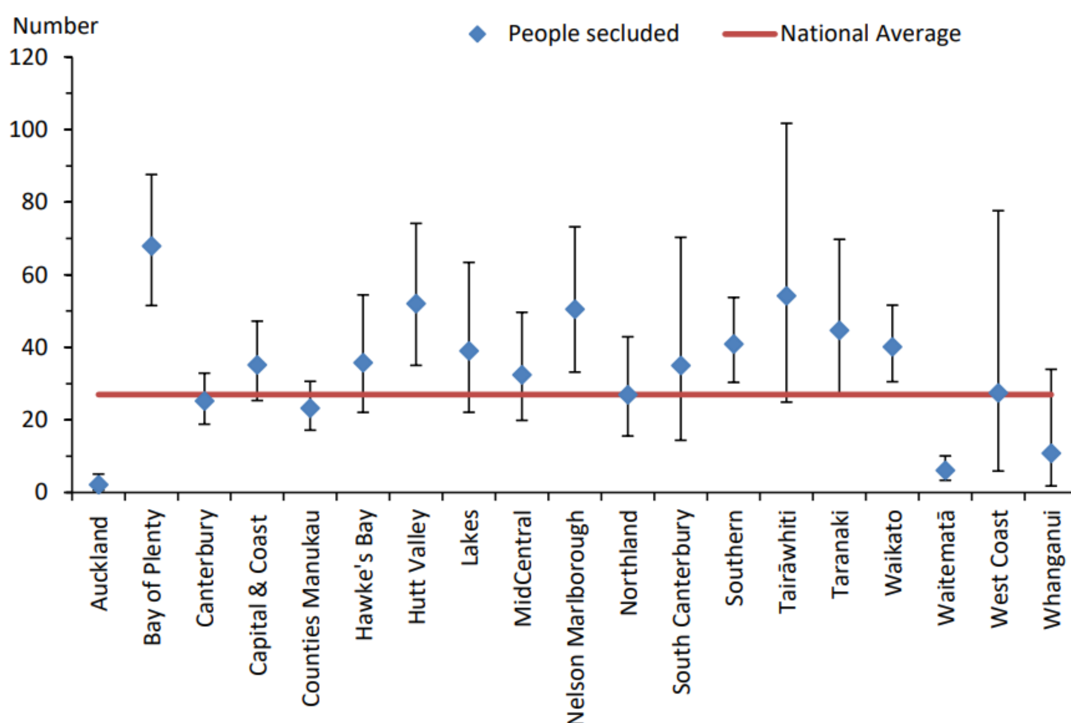
When monitoring seclusion reduction, there are demographic, clinical, and service factors as well as unintended consequences that should also be considered to understand the bigger picture around what is going on. The scan indicates many of these related measures are *not* currently monitored at the national level in Aotearoa New Zealand and other countries. While it may be difficult to establish nationally consistent data for some related measures, they can be useful for informing local quality improvement activities.

Demographic factors

Seclusion use is often reported separately for different population groups to identify groups that are most impacted. This includes the analysis and reporting of seclusion across age, gender, and ethnic groups. In Aotearoa New Zealand, it is important to report seclusion rates across ethnic groups as Māori and Pasifika peoples are disproportionately affected (Ministry of Health, 2021).

Six countries report seclusion use across services or geographical regions as there is often variability. In Aotearoa New Zealand, data shows seclusion rates are different across Te Whatu Ora district services, see Figure 6. In Australia, data shows the proportion of care episodes with seclusion was higher in major city facilities compared to remote areas (Australian Institute of Health and Welfare, 2021).

Figure 6. Number of people secluded per 100,000 population across districts in the Office of the Director of Mental Health and Addiction Services 2020/21 Regulatory Report (Ministry of Health, 2022).



Clinical and service factors

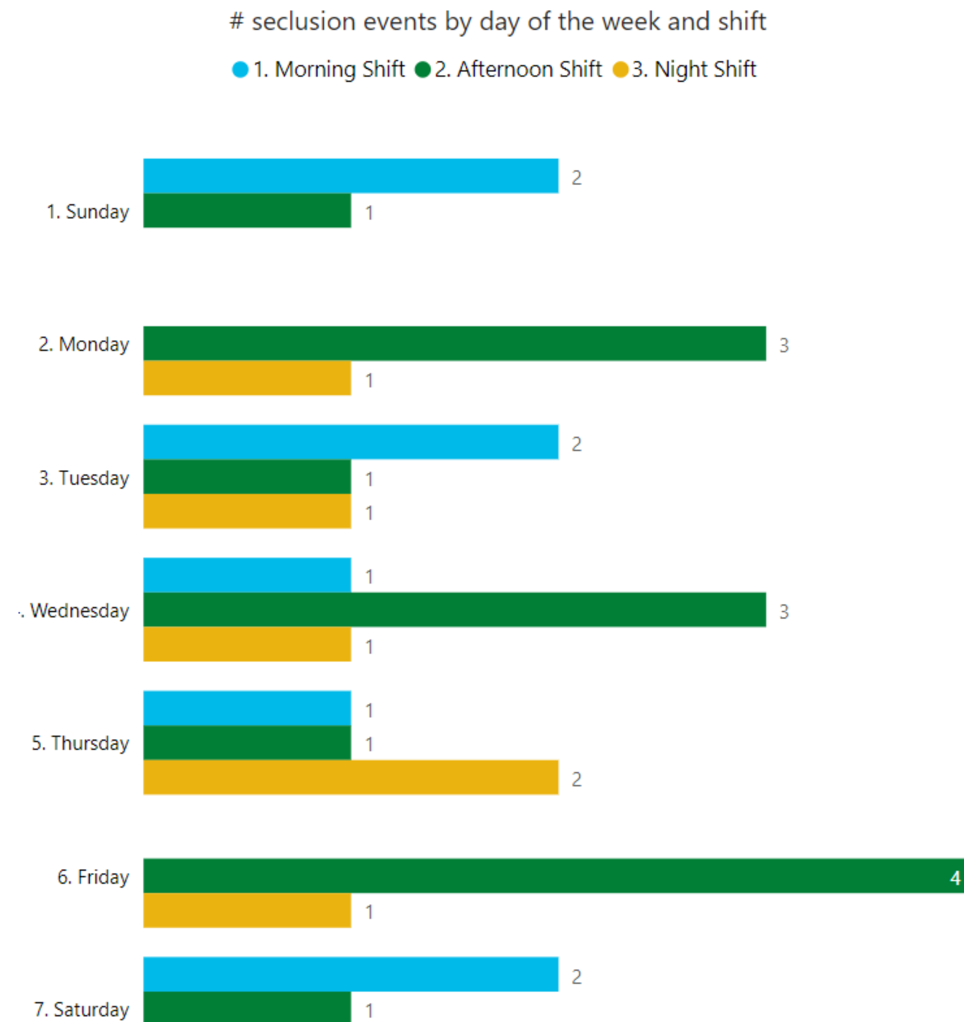
Clinical and service factors can provide important contextual information about the preceding events and processes that may have either contributed to or prevented the use of seclusion (Beames & Onwumere, 2021). These include:

- compulsory or involuntary treatment
- history of previous admissions with seclusion
- clinical observations or outcome measures, such as Health of the Nation Outcome Scale (HoNOS) scores and substance intoxication and/or withdrawal
- use of advance directives or wellbeing plans
- whānau involvement
- use of de-escalation attempts and approaches, such as sensory modulation and cultural tools
- commencement and/or end time or shift times of seclusion events
- post-seclusion debriefing.

Understanding how these factors impact on seclusion use can help further inform seclusion reduction strategies. As Figure 7 shows, the KPI Programme currently reports the number of seclusion events by day of the week and shift to help better understand when seclusion events are most likely to occur. Similarly, Ireland reports on the commencement time of seclusion events (Mental Health Commission, 2020). Further, an analysis of Aotearoa New

Zealand data indicates a large proportion of first seclusion events occur within the first 48 hours of inpatient admission (Jury et al., 2019). Thus, understanding the patterns of seclusion use can help services put specific prevention strategies in place at certain critical times.

Figure 7. Weekly shift patterns of seclusion reported in the individual district summaries by the KPI Programme.



Unintended consequences

Unintended consequences may arise from increasing efforts to reduce and eliminate seclusion. For example, a case study evaluation in Aotearoa New Zealand found the use of medication nearly doubled after the successful implementation of Six Core Strategies© to reduce the use of seclusion. Thus, this is an important related measure that needs to be monitored (Wolfaardt, 2013).

The Health Quality & Safety Commission recommends monitoring the following measures related to the use of seclusion (Health Quality & Safety Commission, 2019):

- use of other forms of restraints, including personal restraints
- use of sedative medications or forced medication
- assaults on staff and consumers
- injuries associated with restraint.

As Figure 8 shows, NHS England provides monthly data on the national use of a range of physical, chemical, and mechanical restraint types alongside seclusion use.

Figure 8. Number of people subjected to different types of restrictive interventions in October 2020 across England as reported by NHS Digital.

Restraint type	MHS76 - Number of people subject to restrictive intervention in the reporting period
Physical restraint - Prone	414
Physical restraint - Standing	734
Physical restraint - Restrictive escort	338
Physical restraint - Supine	438
Physical restraint - Side	114
Physical restraint - Seated	522
Physical restraint - Kneeling	53
Physical restraint - Other (not listed)	449
Chemical restraint - Injection (Rapid Tranquillisation)	483
Chemical restraint - Injection (Non Rapid Tranquillisation)	78
Chemical restraint - Oral	314
Chemical restraint - Other (not listed)	15
Mechanical restraint	49
Seclusion	617
Segregation	148
Unknown	27

Discussion

This rapid review summarises up-to-date evidence and examples of international best practice to inform the ongoing development of the KPI Programme's seclusion indicators and dashboards.

There is a clear rationale for the need to reduce and eventually eliminate the use of seclusion, and continuously monitor its use in inpatient mental health services. Seclusion has adverse physical and psychological impacts on both people accessing mental health services and staff (Askew, Fisher, & Beazley, 2019; Cusack et al., 2018; Hawsawi et al., 2020; Mellow, Tickle, & Rennoldson, 2017). This coercive practice contradicts contemporary recovery-focused and trauma-informed approaches and constitutes a human rights violation (Chieze et al., 2019; Mellow, Tickle, & Rennoldson, 2017; World Health Organization, 2019). The local and international literature supports the reduction of seclusion and other restrictive practices in mental health settings. Local policies and initiatives show that Aotearoa New Zealand is committed to reducing and eventually eliminating the use of seclusion. Thus, it is important for the KPI Programme to continue monitoring the use of seclusion to ensure mental health services are increasingly conducive for people's safety and wellbeing.

Overall, there is limited research literature about how to best calculate and monitor the use of seclusion. The review identifies a range of seclusion indicators that are regularly reported in Aotearoa New Zealand, Australia, England, Ireland, Finland, and Sweden. The most common numerators used across countries for seclusion measures are the number of seclusion events, number of people secluded, and the duration of seclusion. International benchmarking of seclusion use is provided by the NHS Benchmarking Network, which reports the use of seclusion per 10,000 occupied bed days.

The countries examined in the scan tend to have a suite of two or more measures for national reporting. This is in line with Bowers' (2000) recommendation that incident rates should be reported in as many ways as possible to promote comparability between studies or countries. Similarly, Janssen and colleagues (2011) suggest that different analysis goals and comparisons require different types of measures and calculations.

Table 11 summarises the seclusion indicators identified in this review and their suitability for different levels of analysis or reporting. In line with the research literature and current international practice, building a cohesive picture of seclusion use in Aotearoa New Zealand will involve a suite of measures to satisfy multiple levels of analysis.

Table 11. Seclusion indicators and suitability for different levels of analysis or reporting.

Level of analysis or reporting	Seclusion events	People secluded	Duration
International comparisons	Per 100k population Per 1,000 bed nights	*(Less suitable)*	Average duration Per 1,000 bed nights
National level summary	Total events Per 100k population Per 1,000 bed nights Per person secluded	Total people	Total duration Average duration
External comparisons between services	Per 1,000 bed nights Per person secluded	*(Less suitable)*	Average duration
Internal service monitoring	Total events Per 1,000 bed nights Per person secluded	Total people % people secluded in inpatient units	Total duration Average duration Maximum duration
Research questions into contributing factors	Absolute total Per person secluded	Total people % people secluded in inpatient units	Total duration Average duration

The KPI Programme's seclusion indicators need to be driven by the programme's purpose and levels of analysis. Given the KPI Programme's focus on continuous service quality improvement and collective action nationally, the most useful indicators to serve this purpose include:

- totals for seclusion events, people secluded, and seclusion hours
- number of seclusion events per 1,000 bed nights
- number of seclusion events per 100,000 population
- average number of seclusion events per person secluded
- average duration of seclusion events (hours).

In Aotearoa New Zealand, it is difficult to build a cohesive picture of seclusion use and benchmark against a consistent standard due to the various reporting sources and indicators. Reducing this confusion requires coordination and collaboration between the different reporting sources. This means each reporting source needs to be clear about their purpose and analysis goals, then work collaboratively to develop shared reports where there is alignment in goals. Thus, Manatū Hauora Ministry of Health, the KPI Programme, Te Pou, the Health Quality & Safety Commission, and sector stakeholders are critical for collectively understanding the suite of seclusion measures required to meaningfully support quality improvement and benchmarking across Aotearoa New Zealand.

In addition to establishing a core suite of seclusion measures, other related measures such as demographics, clinical, and service factors need to be reported wherever possible as these provide critical contextual information. Services need to be supported to collect and use these related measures, as well as data about positive approaches and alternative practices that can reduce distress and prevent the use of seclusion. For example, some services have implemented sensory modulation approaches, and improved whānau engagement and practices around how people are welcomed into services. However, there is a need for data and research to better understand the benefits of these strategies. Having a better understanding of positive alternatives and prevention approaches, especially culturally responsive approaches, will support further progress in the reduction and eventual elimination of seclusion in Aotearoa New Zealand.

Appendix A: Seclusion data indicators in Aotearoa New Zealand

Currently, the use of seclusion in Aotearoa New Zealand is regularly reported back to the mental health sector by several sources using a range of different indicators. Table 12 provides an overview of these indicators. The Office of the Director of Mental Health and Addiction Services cross checks the PRIMHD data with services and manual data is used to supplement gaps in PRIMHD data. Whereas the other reporting sources rely solely on the accuracy of PRIMHD data. PRIMHD data is continually changing and is subject to the quality of data collection.

Table 12. Overview of the seclusion measures currently reported in Aotearoa New Zealand.

Reporting source	Organisation	Reporting frequency	Data source	Measure/indicator	Denominator	Scope
Office of the Director of Mental Health and Addiction Services	Manatū Hauora Ministry of Health	Every year since 2011 Baseline: 2009 and previous year	PRIMHD supplemented with manual data when data is not correct	Number of people secluded	-	Reported for: All inpatient services (including forensic, intellectual disability and youth services) Adult mental health services (excluding forensic and other regional rehabilitation services) Specialist inpatient forensic services (5 districts) Māori, Pasifika, and Other
				Number of seclusion events	-	
				Total number of seclusion hours	-	
				Percentage of people admitted to mental health inpatient units	Total people admitted	
				Average seclusion events per person secluded	Per person secluded (average)	
				Number of seclusion events per 1,000 inpatient bed nights	Per 1,000 bed nights	

Reporting source	Organisation	Reporting frequency	Data source	Measure/indicator	Denominator	Scope
				Number of seclusion events per 100,000 population	Per 100,000 population	Reported for: Districts (adult mental health services, including people under the Mental Health Act in regional intellectual disability secure services) Māori, Pasifika, and Other
				Number of people secluded in adult inpatient services per 100,000	Per 100,000 population	
Zero seclusion measurement	Health Quality & Safety Commission (dashboard is now hosted on the KPI website)	Monthly Baseline: Four years prior	PRIMHD	Percentage of people admitted to inpatient mental health units who were secluded (seclusion rate)	Total people admitted (with one or more bed nights in the reporting month)	Reported for: All units (including intellectual disability, dual diagnosis, addiction, forensics, child and youth, and older persons, etc) Adult (aged 18-64 years) Forensic (aged 18-64 years) Māori, Pasifika, and non-Māori, non-Pasifika
				Average seclusion hours per person admitted to mental health inpatient units (duration measure)	Per person (average)	
				Average seclusion events per person admitted to inpatient mental health units (multiple-use measure)	Per person (average)	

Reporting source	Organisation	Reporting frequency	Data source	Measure/indicator	Denominator	Scope
KPI Programme[3]	Hosted by Te Pou (since 2020)	Every quarter Baseline: Previous quarters over the past year	PRIMHD	Number of seclusion events	-	Reported for: Adult inpatient mental health services Forensic teams Districts Demographic groups (age, gender, ethnicity)
				Number of people secluded	-	
				Seclusion events per 1,000 bed nights	Per 1,000 bed nights	
				Seclusion events per 100k population	Per 100,000 population	
				Average seclusion events per person	Per person	Reported for: Districts (adult inpatient mental health services)
				Total seclusion hours	-	
				Average seclusion event duration (hours)	-	
				Maximum seclusion event duration (hours)	-	
Reports for the directors of mental health of nursing (DoMHs)	Te Pou (these reports are not public)	Every six months	PRIMHD	Percentage of people admitted to inpatient units (referrals) that are secluded	Total referrals	Focus on non-forensic services (age 18 to 64 years), with small amount of analysis on forensic units

[3] New KPI data dashboards and seclusion measures are currently in development.

Appendix B: Seclusion data indicators in other countries

A key objective of the review was to examine the types of seclusion indicators currently used in other countries. Table 13 provides an overview of the current seclusion measures used in Australia, England, Ireland, Finland, Sweden, the US, and the NHS Benchmarking Network's international comparisons. Though it is unclear whether the proposed seclusion measures identified in the US are currently active.

Table 13. Overview of the seclusion indicators currently used in other countries.

Country	Organisation	Reporting frequency	Measure/indicator	Denominator	Data trends
Australia	Australian Institute of Health and Welfare (AIHW)	Every year since 2008 Baseline: Four years ago (2020/21 results were compared to 2016/17)	Total number of seclusion events	-	2018/19: 11,944 seclusion events 2019/20: 13,495 seclusion events 2020/21: 12,371 seclusion events
			Number of seclusion events per 1,000 bed days	Per 1,000 bed days	2018/19: 7.2 events per 1,000 bed days 2019/20: 8.1 events per 1,000 bed days 2020/21: 7.3 events per 1,000 bed days
			Proportion of mental health-related admitted care episodes that have a seclusion	Total episodes of care	2018/19: 3.7% 2019/20: 3.9% 2020/21: 3.6%
			Average seclusion duration (hours)	-	2018/19: 4.2 hours 2019/20: 4.9 hours 2020/21: 5.2 hours

Country	Organisation	Reporting frequency	Measure/indicator	Denominator	Data trends
			Average number of seclusion events per episode with seclusion	Per episode of care with seclusion	2018/19: 2.3 2019/20: 2.5 2020/21: 2.5
England	NHS Digital	Every month	Number of people subject to seclusion in the reporting period (by duration categories)	-	July 2021: 420 people secluded (0 to 24 hours) July 2022: 375 people secluded (0 to 24 hours)
			Number of seclusion events in the reporting period (by duration categories)	-	July 2021: 680 seclusion events (0 to 24 hours) July 2022: 680 seclusion events (0 to 24 hours)
			Number of seclusion events per 1,000 occupied bed days	Per 1,000 occupied bed days	July 2021: 2 events per 1,000 occupied bed days (adults) July 2022: 1 event per 1,000 occupied bed days (adults)
			Average duration (days)	-	July 2021: 1 day July 2022: 1 day
			Maximum duration (days)	-	July 2021: 28 days July 2022: 24 days

Country	Organisation	Reporting frequency	Measure/indicator	Denominator	Data trends
Ireland	Mental Health Commission	Every year Baseline: Previous year	Total number of seclusion episodes reported	-	2018: 1,799 seclusion episodes 2019: 1,710 seclusion episodes 2021: 1,176 seclusion episodes
			Episodes of seclusion per 100,000 population	Per 100,000 population	2018: 37.8 seclusion episodes per 100,000 population 2019: 36.1 episodes per 100,000 population 2021: 24.7 episodes per 100,000 population
			Total number of people placed in seclusion	-	2018: 760 residents placed in seclusion 2019: 653 residents placed in seclusion 2021: 645 people were secluded
			Total hours of seclusion reported nationally	-	2018: 35,950 hours 2019: 30,458 hours 2021: 49,656 hours
			Average duration of an episode of seclusion (hours and minutes)	-	2018: 15 hours 53 minutes 2019: 12 hours 2021: 19 hours 6 minutes
			Rates of seclusion per resident	Per resident secluded	2018: 2.4 episodes per resident secluded 2019: 2.6 episodes per resident secluded

Country	Organisation	Reporting frequency	Measure/indicator	Denominator	Data trends
					2021: 1.8 episodes per resident secluded
Finland	Finnish Institute for health and welfare	Every year	Use of ‘isolation from others’ in inpatient psychiatric care (total)	-	2018: 1,838 uses of ‘isolation from others’ 2019: 1,443 uses of ‘isolation from others’ 2020: 766 uses of ‘isolation from others’
			Use of ‘isolation from others’ per 1,000 treatment periods	Per 1,000 treatment periods	2018: 33.4 uses per 1,000 treatment periods 2019: 25.4 uses per 1,000 treatment periods 2020: 12.4 uses per 1,000 treatment periods
			Number of people subjected to ‘isolation from others’	-	2018: 1,092 people 2019: 914 people 2020: 365 people
			Number of treatment periods in which ‘isolation from others’ was used	-	2018: 1,263 treatment periods 2019: 1,055 treatment periods 2020: 439 treatment periods
Sweden	National Board of Health and Welfare (Socialstyrelsen)	Every year	Number of coercive actions (separation)	-	2017: 3,547 total ‘separations’ 2018: 3,527 total ‘separations’ 2019: 3,681 total ‘separations’

Country	Organisation	Reporting frequency	Measure/indicator	Denominator	Data trends
			Number of coercive actions (separation) per 100,000 inhabitants	Per 100,000 inhabitants	2017: 35.1 'separations' per 100,000 inhabitants 2018: 34.5 'separations' per 100,000 inhabitants 2019: 35.6 'separations' per 100,000 inhabitants
			Number of patients 'separated' per 100,000 inhabitants	Per 100,000 inhabitants	2017: 9.9 patients 'separated' per 100,000 inhabitants 2018: 10.7 patients 'separated' per 100,000 inhabitants 2019: 11.0 patients 'separated' per 100,000 inhabitants
			Separation for more than 8 hours but less than 72 hours Separation for at least 72 hours but less than 15 days	-	2017: 377 'separations' for more than 8 hours but less than 72 hours 2018: 381 'separations' for more than 8 hours 2019: 246 'separations' for more than 8 hours
US	Center for Quality Assessment & Improvement in Mental Health (CQAIMH)	Not clear – measures may not be active	Proportion of inpatients in seclusion	Total inpatients	-

Country	Organisation	Reporting frequency	Measure/indicator	Denominator	Data trends
	Measures developed by National Association of State Mental Health Directors		Proportion of inpatient hours in seclusion	Total inpatient hours	-
	Hospital-Based Inpatient Psychiatric Services (HBIPS) Core Measure Set	Every year	Hours of seclusion use	-	-
International benchmarking	NHS Benchmarking Network	Reports published in 2018 and 2019	Use of seclusion in general psychiatry beds per 10,000 occupied bed days	Per 10,000 occupied bed days	(Reported in 2018, 2019, and 2022)
			General psychiatry – number of times seclusion was used per 100,000 population	Per 100,000 population	(Reported in 2018 only)

Table 14 provides a summary of the seclusion indicators reported for other types of mental health services, such as forensic, child and adolescent, older peoples, and intellectual disability services.

Table 14. Seclusion indicators reported for other service types.

Country	Organisation	Service types	Measures reported
New Zealand	Manatū Hauora Ministry of Health	Forensic	• Number of people secluded • Number of seclusion events by duration of event
		Youth	• Number of people secluded • Number of seclusion events by duration of event
		Intellectual disability	• Number of people secluded • Number of seclusion events by duration of event
Australia	Australian Institute of Health and Welfare (AIHW)	Forensic	• Seclusion events per 1,000 bed days • Average seclusion duration (hours) • Proportion of mental health-related admitted care episodes that have a seclusion event • Average number of seclusion events per episode with seclusion
		Child and adolescent	• Seclusion events per 1,000 bed days • Average seclusion duration (hours) • Proportion of mental health-related admitted care episodes that have a seclusion event • Average number of seclusion events per episode with seclusion
		Older person	• Seclusion events per 1,000 bed days • Average seclusion duration (hours) • Proportion of mental health-related admitted care episodes that have a seclusion event • Average number of seclusion events per episode with seclusion

Country	Organisation	Service types	Measures reported
England	NHS Digital	Learning Disability and Autism inpatients	• Number of people who were subject to restrictive interventions
		Child and Adolescent Mental Health Service	• Total number of patients who were subject to seclusion
		High secure (adults)	• Total number of patients who were subject to seclusion
Ireland	Mental Health Commission	Child and Adolescent Mental Health Service	• Number of episodes of seclusion • Number of residents secluded • Seclusion rate (episodes/resident) • Average duration
		National Forensic Mental Health Service	• Number of episodes of seclusion • Number of residents secluded • Seclusion rate (episodes/resident) • Average duration
		Intellectual Disability Service	• Number of episodes of seclusion • Number of residents secluded • Seclusion rate (episodes/resident) • Average duration

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