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Restrictive interventions such as seclusion, physical restraint and mechanical restraint are identified as interventions that are not therapeutic in nature. The application of these interventions can lead to adverse outcomes. Attention needs to be focused on reducing the use of restrictive interventions and where possible eliminating these practices. One of the six core strategies for reducing the use of restrictive interventions is the use of data, where services examine their data to set a baseline and gain an understanding of the data to reduce the use of restrictive interventions. Service data can also be used to benchmark with other services. Currently in Victoria all mental health services are benchmarked together, however research conducted by McKenna, Furness, McEvedy and Maguire (2015) suggested there were distinct differences in the rates, duration and multiple use of restrictive interventions in the state-wide forensic mental health service in Victoria, when compared to the area mental health services. There was however, no sufficient evidence to identify what the benchmark should be for forensic mental health services (FMHS).

The aim of this research was to develop benchmarks that will assist services to reduce the use of restrictive interventions (for seclusion, physical restraint and mechanical restraint) across FMHS in the states and territories of Australia and in the five regional services in New Zealand. Establishing performance goals for FMHS may also assist to improve performance and effect practice change. A Delphi Method was used to conduct this research to gain consensus on benchmarks for reducing restrictive interventions among the participating Delphi members.

Findings from this study suggest there were distinct differences among FMHS in regards to policy and practice and in particular the practice of seclusion depending on whether services had the provision of night time confinement which impacts on the rate, duration and number of events. Until the practice of night time confinement is eliminated, forensic services will need to have different benchmarks depending on the provision of night time confinement. The Delphi members were able to reach an agreement for suitable benchmarks for seclusion and physical restraint. At this point in time mechanical restraint is not able to be benchmarked due to the low use of this intervention among FMHS. Please see table one for the agreed benchmarks.
Table One

<table>
<thead>
<tr>
<th>Restrictive intervention</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate of seclusion</td>
<td>Night time confinement: 5 seclusions per 1000 Occupied Bed Days (OBDs)</td>
</tr>
<tr>
<td></td>
<td>Without night time confinement: 11 seclusions per 1000 OBDs</td>
</tr>
<tr>
<td>Average duration per patient for seclusion</td>
<td>Night time confinement: 11 hours of seclusion per patient</td>
</tr>
<tr>
<td></td>
<td>Without night time confinement: 43 hours of seclusion per patient</td>
</tr>
<tr>
<td>Seclusion events per patient</td>
<td>Night time confinement: 19 events per patient</td>
</tr>
<tr>
<td></td>
<td>Without night time confinement: 4 events per patient</td>
</tr>
<tr>
<td>Rate of physical restraint per 1000 OBDs</td>
<td>60 physical restraints per 1000 OBDs</td>
</tr>
<tr>
<td>Duration for physical restraint episode</td>
<td>7 minutes per physical restraint event</td>
</tr>
<tr>
<td>Physical restraint events per patient</td>
<td>3 events per patient</td>
</tr>
</tbody>
</table>

Based on the findings from this study six recommendations were made:

- **Recommendation 1**: Consider separating the current data reporting for rate of general mental health rate per 1000 OBDs and forensic mental health rate per 1000 OBDs.
- **Recommendation 2**: The rate of seclusion per 1000 OBDs be set at 5 for services that use night time confinement, and 11 for services without night time confinement.
- **Recommendation 3**: The average duration of seclusion episodes per patient is set at 11 hours for services that use night time confinement, and 43 hours for services without night time confinement.
- **Recommendation 4**: The average number of multiple seclusion episodes should be set at 19 events per patient for services that use night time confinement, and four events per patient per year for services without night time confinement.
- **Recommendation 5**: The benchmark proposed for FMHS by the Delphi group for the rate of physical restraint per 1000 OBDs should be set at 60. As Forensicare was the outlier in terms of physical restraint practices there should be a review into restraint practices to ensure practice is contemporary.
• **Recommendation 6:** The average duration of physical restraint episodes per patient is set at 7 minutes per restraint.

• **Recommendation 7:** The average number of multiple restraint episodes should be set at three events per person per year.
INTRODUCTION

The Victorian Mental Health Act (MHA) 2014, positions people who have a mental illness at the centre of any decision making about their care and treatment, and has an emphasis on providing care in the least intrusive and restrictive manner; protecting rights, dignity and autonomy; and prioritising holistic and supportive options that are suitable for the individual’s needs (MHA, 2014). The MHA still however has provision for the use of restrictive interventions (seclusion and bodily restraint) within a strict legal framework. According to the MHA, restrictive interventions can only be used “after all reasonable and less restrictive options have been tried or considered and have been found to be unsuitable” (MHA, 2014, p. 101). Restrictive interventions are not considered to be therapeutic interventions; they have been associated with adverse outcomes that can include physical harm (including serious injury and in some instances death), emotional and psychological distress, and trauma (Department of Health, 2013a; Department of Health, 2013b). Although restrictive interventions are included in the MHA, a reduction (and where possible the elimination) of the use of restrictive interventions is a national priority for mental health services across Australia (National Mental Health Working Group, 2005), and a statewide priority in Victoria (Department of Health, 2013a).

Use of restrictive interventions in a forensic setting

The Australian Institute of Health and Welfare (AIHW) collect information from mental health services across Australia, and reports data on the use of seclusion and bodily restraint. When presenting data for the use of seclusion and bodily restraint, forensic mental health service data has been separated from public sector acute mental health service data. The reason cited for separating the data is due to FMHS trending to have more events that are usually longer in duration, which might skew the data (AIHW, 2018). Some of the reasons FMHS have a higher use of restrictive interventions may include a combination of factors pertinent to the patients admitted to FMHS, and a variety of contextual factors as detailed below.

Intrinsic Patient Factors

The majority of patients in a forensic mental health setting have committed an index offence that involves a serious act of violence, and often they are still considered to present as a high risk of recidivism (Daffern, Ferguson, Ogloff, Thomson, & Howells, 2007). Factors that may at times be present in forensic inpatient populations can include negative and antisocial attitudes, and aspects of the prison culture where aggression may be used as a protective measure and/or to resolve conflict.
or enhance status (Daffern, Maguire, Carroll, & McKenna, 2016; Maguire, Young, & Martin, 2012). Other factors associated with forensic mental health patient populations can include the use of protest behaviours such as siege or hostage type situations, roof top protests and destructive rampages (Mason, 2000). Patients in a forensic mental health setting may also display offence paralleling behaviour, where the patient’s current presenting behaviour is similar to their offending behaviour, but this behaviour is occurring within a clinical setting (Jones, 2010). The expression of protest behaviours and/or offence paralleling behaviours may occur in an aggressive or violent manner in the clinical setting.

**Contextual Factors**

It is important to highlight that FMHS provide treatment and care to some of the most stigmatised and disenfranchised members of the community. Patients in a forensic mental health setting require mental health care and treatment that integrates security with safety and clinical practice, while also taking into consideration the relevant risk factors and their offending behaviours (Keski-Valkama, Koivisto, Eronen, & Kaltiala-Heino, 2010; Martin et al., 2013). Restrictive interventions may be used when patients in this setting present with aggressive, violent and challenging behaviours that are not able to be managed safely using less restrictive options (Ahmed & Lepnurm, 2001). However, the use of restrictive interventions can cause further aggression and violence (Bowers, 2014; Daffern et al., 2007).

It is also worth noting that some of the patients admitted to forensic mental health hospitals may have been received from prison services where mental health care may be inadequate. As a result, some patients may have spent long periods being managed in isolation/segregation, which can be have a detrimental impact on mental health and psychological wellbeing (Victorian Institute of Forensic Mental Health, 2005).

Although often only comprising a small number, some patients may be transferred to FMHS from area mental health services when there has been difficulty in safely managing the patient’s behaviour. Therefore, they are often being managed in seclusion prior to transfer. While area mental health services may have the option of transferring or discharging patients, this is not usually an option for forensic services (Maguire et al., 2012).
Reducing the Use of Restrictive Interventions

Since 2002, the Victorian Department of Health and Human Services has conducted three literature reviews examining restrictive intervention practices and/or the reduction of these practices. The state of Victoria has engaged in a variety of strategies to reduce the use of restrictive interventions. These include the Creating Safety Project in 2006, the development of a framework (Framework for Reducing Restrictive Interventions) to assist services to reduce restrictive practices, and the Reducing Restrictive Interventions Project (RRI) in 2013 to assist services to operationalize their selected strategies (McKenna, Furness, & Maguire, 2014).

There are several strategies services can use to reduce the use of restrictive interventions. One of these strategies encourages services to examine their own data on restrictive practices to enhance understanding of their use, and to assist in the development of appropriate strategies to target reduction. The use of data is also one of the six core strategies identified to reduce the use of restrictive interventions in mental health settings (Huckshorn, 2004), and is also a component included in the framework for Reducing Restrictive Interventions which underpins core principles for reducing restrictive interventions in Victoria (Department of Health, 2013a).

The data generated by mental health services can also be used to promote healthy comparison between services, increase supervision and knowledge at all levels, and set benchmarks against which performance can be assessed. In 2008, a literature review on initiatives to reduce seclusion and restraint found limited international evidence that jurisdiction-wide data were being gathered on the incidence of seclusion and restraint. This review projected the need to develop benchmarks to assist in a reduction in the use of coercive measures (Steinert et al., 2010).

Benchmarking

Benchmarking is an ongoing process whereby services measure performance against identified best practice to improve practices and target improvement. There are four identified stages to benchmarking: planning, analysis, action and review. Successful benchmarking is also reliant on collaboration between the identified services (Codling, 1992).

The Office of the Chief Psychiatrist in Victoria has defined benchmarks around the use of restrictive interventions in, child, adult and aged care. In 2015, the Department of Health and Human Services in Victoria undertook a project to consider the prolonged duration of the use of restrictive interventions (physical restraint, mechanical restraint and seclusion) in mental health services in Victorian (McKenna
et al., 2015). Findings from this project suggested there was a distinct difference in the rates, duration and multiple use of restrictive interventions in the forensic mental health service (Forensicare), above those experienced in the general mental health services across Victoria. This difference indicates the need for specific benchmarks for the FMHS to assist in reducing restrictive interventions. Separating out the data may also assist in determining a more accurate benchmark in general mental health services.

Forensicare (The Victorian Institute of Forensic Mental Health) is the state-wide service in Victoria for forensic mental health. Forensicare is the only agency that delivers a range of clinical services and mental health programs across different locations in Victoria, extending across all components of the mental health and criminal justice sectors. In regards to the use of restrictive interventions as defined under the MHA (2014), the only location where restrictive interventions apply in this context is at the Thomas Embling Hospital (TEH), the secure hospital located in Fairfield. Currently TEH has 116 beds providing acute and continuing care mental health services. The patient population consists of Forensic Patients (patients found not guilty by reason of mental impairment), offenders and alleged offenders, and high-risk patients from area mental health services who have a serious mental illness, and are deemed to be a risk to the community.

Forensicare has in the past been involved in projects examining benchmarks for restrictive interventions. In 2006, Forensicare took part in the National Mental Health Benchmarking Project. Forensic mental health services that took part in this national project, shared data on episodes of seclusion and duration of seclusion. Results from benchmarking can be used to streamline work on reducing the use of restrictive interventions in forensic services and enhance the reliability and validity of results (Hasson, Keeney, & McKenna, 2000). This national attempt at benchmarking provided useful data that could be used to support the development of specific restrictive intervention benchmarking for FMHS. Unfortunately, this national project did not continue and since this initial work, the issue has not been progressed.

Against this background, the aim of this study was to develop benchmarks for seclusion, physical restraint and mechanical restraint that will assist services to reduce the use of restrictive interventions across FMHS in the states and territories of Australia, and in the five regional FMHS in New Zealand. This study will assist Victoria to lead the way in establishing performance goals for FMHS to improve service performance and quality, and effect practice change. It is also anticipated that the findings from this study will assist the Office of the Chief Psychiatrist and Chief Mental Health Nurse to guide the forensic mental health benchmarking in Victoria.
Methodology

An adaptive Delphi methodology was used to arrive at a consensus decision on the setting of benchmarks for FMHS across Australia and New Zealand. The Delphi method employs a multistage approach, with each stage building on the results of the previous stage (McKenna, 1994). The Delphi method has been used widely in social sciences, and is now being used more widely in nursing research with experts (Keeney, Hansen, & McKenna, 2001).

The Delphi Method is a structured communication technique, originally developed as a systematic, interactive forecasting method which relies on a panel of experts (the Directors of Nursing in Australia and in New Zealand or nominated delegates). The Delphi Method is based on the principle that forecasts (or decisions) from a structured group of individuals are more accurate than those from unstructured groups. The experts in this study answered questionnaires in three rounds of emails on projected benchmarks. After each round, the facilitators provided an anonymous summary of the experts’ forecasts from the previous round, as well as the reasons the group members provided for their judgments. This process encouraged the experts to revise their earlier answers in light of the replies from other members of the panel. During this process the range of diversity in the responses decreased, and the group converged towards a common answer for the interventions with the exception of mechanical restraint. The process was ended when consensus was reached and the benchmarks were set.

An open-ended questionnaire was used in the first round. The questionnaire included Forensicare’s data for the 2015/2016 financial year on restrictive interventions along with the formula for other services to follow when collecting their own restrictive intervention data. While all other services were asked to provide their restrictive intervention data in the first questionnaire, each services data were non-identifiable when returned to the Delphi Group. Services were also given the opportunity to provide any information that might explain their data (for example any local practices that might increase or decrease their use of restrictive interventions).

Forensicare shared their data to initiate the process, and so that other services could see how the data needs to be presented. As there is only one forensic mental health service in each of the states, territories of Australia and regions of New Zealand, each service is known to one another, total anonymity was not possible. To avoid group members feeling isolated from the process and from one another, they were asked to provide a brief description about themselves and their services (which was not linked to their data). The aim was to allow the Delphi group to gain an understanding of the similarities and differences amongst the group, and to encourage conversation.
After receiving feedback and data from each of the participants from the initial questionnaire the data were analysed by the researchers and constructed into a second questionnaire. In the second round, initial benchmarks for the rates, duration and multiple use of each restrictive intervention (physical restraint, mechanical restraint and seclusion) were projected for comment. Round two data were subsumed into categories for each type of restrictive intervention. In this second round, participants were then asked to consider their response in light of the first round’s overall results. On receiving the second questionnaire participants were asked to rate their level of agreement for each of the items (projected benchmarks).

In the third-round participants received another questionnaire that included each of the benchmarks, and feedback from the second round. Participants were asked again to rate their level of agreement for each of the items, or to specify reasons for not being in consensus. The data from the third round were analysed and the final document was prepared for the group with the projected benchmarks as agreed upon by the Delphi group.

**Ethical Consideration**

Approval for this study was granted by the Forensicare Operational Research Committee and ethical approval to conduct the study across all of the forensic mental health sites was granted by the Swinburne University of Technology Human Research Ethics Committee (SHR Project 2016/307: Forensic Mental Health Services Restrictive Intervention Benchmarking). The study was conducted in compliance with the ethical guidelines of the Declaration of Helsinki (World Medical Association, 2001). Aside from being unable to secure ethical approval from one of the forensic mental health sites which also resulted in considerable delays in getting the data back to the other members of the Delphi group, no ethical issues were encountered during the study.

**Participants and Setting**

The Directors of Forensic Mental Health Nursing in each of the states, territories and regional services across Australia and New Zealand were contacted and invited to participate in this study as experts on the panel via an initial letter. They were asked to delegate involvement to the most appropriate person in their service, if they wished to participate. It was advised that the person selected to participate needed to have the resources to collect the necessary data, the ability to interpret the data, and to maintain involvement until the process was completed. In the second and
third round participants were also asked to discuss the questionnaire and their responses with the clinical director of their service or delegate, this occurred in response to a recommendation from one of the Delphi participants, in relation to the importance of having input from senior nursing and medical staff. The following services were contacted and invited to participate:

Australia:
- New South Wales: The Forensic Hospital
- Queensland: The Park
- South Australia: James Nash House
- Tasmania: Wilfred Lopes Centre
- Western Australia: Graylands Hospital

New Zealand:
- Auckland: Auckland Regional Forensic Psychiatry Services
- Waikato: Puawai-Midlands Regional Forensic Psychiatric Services
- Wellington: Central Regional Forensic Mental Health Service
- Christchurch: Canterbury Regional Forensic Psychiatric Service
- Dunedin: Southern Regional Forensic Psychiatric Services

Consent Procedures
There were two consent processes for this study. Participants were provided with a participant information statement, and if willing to participate, they were required to complete:

1. A consent form for themselves as an individual adult having full capacity to give voluntary consent and
2. Authority to involve their organisation in the benchmarking process.

All restrictive intervention data were requested was in a non-identifiable form (aggregate data) and the researchers ensured that data from services used in the rounds with the rest of the Delphi group were non-identifiable.

Sample Size
The sample size included ten consenting FMHS in states and territories of Australia, and regions of New Zealand, who agree to participate. There are a total of 12 FMH services including Victoria,
across Australia and New Zealand, however at the commencement of this study the forensic mental health service in the Australian Capital Territory had just opened, so did not have restrictive intervention data for the period 2015/2016 financial year and the Northern Territory does not have a specific forensic service (beds are allocated for forensic patients on the unit). There was also one service that did not consent to being involved in the study. The service that did not consent initially wanted to be involved in the study. However due to a number of organizational issues and barriers related to ethical approval in that particular jurisdiction, this service was not able to participate.

**Instruments/Measures**

Setting an agreed benchmark first required an indication of what the current baseline rates of the use of restrictive interventions was in each of the services in the study (to determine initial variation). An open-ended questionnaire was used in the first round. The questionnaire included Forensicare’s data for the 2015/2016 financial year on restrictive interventions, along with the formula for other services to follow when collecting their own restrictive intervention data. After each round a new questionnaire was devised based on the analysis of the data and response from the participants.

**Data Sources**

As this study involved services from Australia and New Zealand, the data sources varied. However, each hospital is required to report certain key performance indicators on the use of some restrictive practices to their local Department of Health/Ministry of Health. At Forensicare the Patient Management Interface (PMI) and Client Management Interface (CMI) were used to collect the restrictive intervention data. Each service needed to get permission to collect and share their non-identifiable service data, which included the number per 1,000 OBDs for:

- Seclusion and
- Bodily restraint (physical and mechanical restraint)

Data were requested per quarter for seclusion data (this was due to some episodes spanning across months, for example end of June and start of July) and for physical and mechanical restraint by month and for 2015/2016 financial year. The data for the 1,000 OBDs included leave (this is unique to FMHS, as area mental health services do not include leave in their 1,000 occupied per days).

The data requested also included the following (for seclusion/physical restraint/mechanical restraint) per month:

- Duration
• Total number of the requested restrictive interventions
• Average duration
• Total number of patients

The data from each service were coded and analysed. When the data was returned to participants in the form of the next questionnaire, the data for each service were de-identified.

**Data Analysis**

A mix method approach was used to analyse the data. For the qualitative data content analysis was used to present a description and summary of the data. This research method provides an objective and systematic means to formulate valid inferences from the data with the purpose of describing and quantifying the specific phenomena (Downe-Wambolt, 1991). When possible, the data were placed in themes. For the rates, duration and events of the benchmarking data, each services data were coded and then displayed on a table comparing all of the participating service’s data for per 1,000 OBDs data along with the number of events, number of patients and hours per restrictive intervention. Descriptive statistics were used to present and describe the restrictive intervention data. Due to the lack of data for mechanical restraint episodes services were requested in the third Delphi round to provide any policies they might have on mechanical restraint. The mechanical restraint policies provided from services were analysed by coding the processes that should occur into the following themes before, during and after mechanical restraint. A table was then developed with headings based on these processes. The presence of these codes was determined by the detection of these processes by documentation in the policy.

**FINDINGS**

**Information about the group**

The Delphi panel involved 10 FMHS across Australia and New Zealand. The people engaged in this study included a mixture of Directors of Nursing and nurses in either management or consultant/education/research roles. All participants had a leadership position in terms of reducing the use of restrictive practices in their respective services.

Services had a mixture of the following units:
Current benchmarking for restrictive interventions across the regions/states and territories

It appears that all forensic services across Australia and New Zealand are benchmarked with non-forensic services, with no difference in the rate for FMHS acknowledged. Some of the following characteristics were noted;

- Data is mandatory recorded for all three restrictive practices in Australia but only for seclusion in New Zealand.
- Feedback on the use of restrictive practices via government departments occurs at a service level and via state-wide forums in Australia.
- Benchmarking tends to occur within mental health services, but some aggregated data on the rate and duration of seclusion and rate of physical restraint is published nationally in Australia and New Zealand.
- Services in New Zealand are part of the National Adult Forensic KPI (key performance indicators) programme, which is developing forensic mental health specific KPIs including those for restrictive practices.

Need for benchmarking on the use of restrictive interventions for Forensic Mental Health Services

All participants in the Delphi group agreed there was a need for benchmarking for restrictive interventions specifically for FMHS.
In summary participants considered the following:

- A need to compare our practices and statistics to other FMHS to understand why forensic services may have a higher rate of restrictive intervention use and why there might be different rates across different forensic services.
- The need to scrutinise restrictive practices and to set a standard of what restrictive practices are used at service level.
- Benchmarking was considered helpful in terms of evaluation, planning and training to maintain best practice standards.

**Possible outcomes for forensic mental health service benchmarking**

Some of the possible outcomes as mentioned by the group included:

- A clearer understanding about the use of restrictive practices
- Improved practice standards and service development
- Consistency of practice
- The sharing of information and support among the group

**Data from the services**

Each participating service was asked to provide data for each restrictive intervention. From the first round of data, it became clear that among the FMHS participating in this study there was a range of practice differences, specifically the practice of night time confinement. Four states, territories and regions across Australia and New Zealand have the provision for night time confinement. Night time confinement is where forensic mental health patients can be essentially secluded in their bedroom, or remain in seclusion during night time hours (for example from 2000 until 0800). This is not recorded as seclusion, and is often authorized under another Act, or under a different provision in the Act to restrictive interventions. In order to meaningfully compare the data, we have taken into consideration the data for services that have night time confinement, and those that do not, as there are differences depending on whether this is an option (for example if a service has night time confinement they will have lower rates and hours of seclusion recorded). Services using night time confinement however, will have more episodes of seclusion as each time the night time confinement ends, they will be entering another episode of seclusion. There may however be some
services that have the provision of night time confinement where the patients who are not in seclusion are placed into night time confinement in their room, and the patients who are in seclusion will continue to have their seclusion episode recorded as seclusion, in which case we would recommend that the services use the benchmark for services without night time confinement. It is worth noting that one service has since made changes and no longer uses night time confinement.

**BENCHMARKING FOR SECLUSION**

Services were asked to provide quarterly seclusion data. Once we received all of the data we presented the analysed data in a yearly format as the Delphi members were indicating a preference for yearly benchmarking. The yearly data for the services is presented in table two.

**TABLE TWO YEARLY SECLUSION DATA**

<table>
<thead>
<tr>
<th>Service</th>
<th>Seclusions per 1000 OBD</th>
<th>Average duration</th>
<th>Average of episodes experienced by a single person</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9.6</td>
<td>79 hours</td>
<td>4</td>
</tr>
<tr>
<td>2*</td>
<td>5.1</td>
<td>3 hours</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>10.2</td>
<td>2 hours</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>13.92</td>
<td>2 hours</td>
<td>3</td>
</tr>
<tr>
<td>5*</td>
<td>59.43</td>
<td>11 hours</td>
<td>170</td>
</tr>
<tr>
<td>6</td>
<td>7.31</td>
<td>34 hours</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>6.03</td>
<td>40 hours</td>
<td>2</td>
</tr>
<tr>
<td>8*</td>
<td>0.84</td>
<td>12 hours</td>
<td>1</td>
</tr>
<tr>
<td>9*</td>
<td>9.09</td>
<td>26 hours</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>17.17</td>
<td>31 hours</td>
<td>5</td>
</tr>
</tbody>
</table>

*Please note services 2, 5, 8 and 9 have the provision of night time confinement in their state/region or territory. This means that the rates, duration and multiple use of seclusion might be different if night time confinement was not an option.

**Rate of seclusion per 1000 Occupied Bed Days**

Service 5 indicated their high rate of seclusion was due to having four violent patients who spent a considerable time in and out of seclusion during the study period. They also cared for a patient who was very aggressive and was released from seclusion many times, but was often returned to seclusion. This service also has the provision of night time confinement and this as a result may also skew the data as every morning once night time confinement ends there will be a new seclusion event. Staff in
this same service were trying to get these patients out of seclusion and manage them on the open ward to reduce seclusion. For these reasons this service was been removed from the following analysis of the rate of seclusion per 1000 bed days. With service 5 removed three rates of seclusion per 1000 bed days were reported.

- The group mean rate of seclusion per 1000 OBDs = **8.8 per 1000 OBDs**
- The night time confinement group mean rate of seclusion per 1000 OBDs = **5.01 per 1000 OBDs**
- The no night time confinement group mean rate of seclusion per 1000 OBDs = **11.38 per 1000 OBDs**

**Average duration per patient for seclusion**

To examine the Delphi group data, it is helpful to explore the national data across Australia and New Zealand.

Australian data for general adult mental health services:

- 2013/2014 6.3 hours
- 2014/2015 5.6 hours
- 2015/2016 5.5 hours


While Australian data for FMHS:

- 2013/2014 64.7 hours
- 2014/2015 78.1 hours
- 2015/2016 87.9 hours


The New Zealand average National duration of seclusion events for adults (this includes general mental health and forensic data) was as follows:

- 2013/2014 24.7 hours
- 2014/2015 23.9 hours
- 2015/2016 21.2 hours

The above rates indicate the differences between general and FMHS, which is explained primarily by ‘outliers’ (a few people in forensic services experiencing very long periods of seclusion). Five services are below an average of 24 hours per episode, and five services were above an average of 24 hours per episode. When investigating the data from the Delphi participants the following picture emerged:

- The average duration of an episode of seclusion for the entire group was **19hrs: 48 mins**
- The average duration of services that do have night time confinement was **12hrs: 37 mins**
- The average duration of seclusion for services that do not have night time confinement was **43hrs: 31 mins**

Services that do not have night time confinement had a higher duration because the episode is continuous and is not interrupted with a period that is not considered to be seclusion, which is the case for some services that have night time confinement.

### Seclusion events per patient

There was no national data reported at the time of this study in either Australia or New Zealand that examined average events per patient in a way that we could meaningfully compare the data we collected. The data collected across Australia and New Zealand is also outlined in Table two. When investigating the data from the Delphi participants the following picture emerged:

- The average number of events per person for the entire group was 9.5
- The average number of events per person of services that have night time confinement was 18.7
- The average number of events per person for services that do not have night time confinement was 3.6

The number of seclusion events for services that utilize night time confinement were higher because once the night time confinement period ends the patient is considered to be entering a new episode of seclusion (if that service uses night time confinement for a person in seclusion), whereas if you consider the same scenario if a service does not have night time confinement, then the patient would have a longer episode of seclusion and less events as the episode is continuous.
BENCHMARKING FOR PHYSICAL RESTRAINT

While all services involved in the Delphi study use physical restraint in their service, not all services at the time of this study were required to collect and report data to their Department or Ministry of Health. In this study seven out of the ten services captured data for physical restraint, and out of those seven services, there were two services that did not collect data on the duration of the physical restraint. Service 1 had the highest number of physical restraint episodes, the highest number per 1000 OBDs, highest duration, and greatest number of episodes experiences by a single individual. This service has a policy that requires all patients to be restrained during the seclusion process (for example patients must be physically restrained to be secluded, and physically restrained for any medical reviews and entry by staff into seclusion). Delphi participants were requested to provide physical restraint data per month. Due to some services not collecting data on the duration of the physical restraint and the Delphi group indicating a preference for yearly benchmarking the data was returned to the group as yearly data.

<table>
<thead>
<tr>
<th>Service</th>
<th>Physical restraint per 1000 OBD</th>
<th>Average duration (minutes)</th>
<th>Average number of episodes experienced by a single patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>211</td>
<td>3</td>
<td>70</td>
</tr>
<tr>
<td>2</td>
<td>0.59</td>
<td>N/A</td>
<td>1.6</td>
</tr>
<tr>
<td>3</td>
<td>7.02</td>
<td>6</td>
<td>7.6</td>
</tr>
<tr>
<td>6</td>
<td>2.4</td>
<td>15</td>
<td>1.7</td>
</tr>
<tr>
<td>7</td>
<td>7.32</td>
<td>5</td>
<td>3.3</td>
</tr>
<tr>
<td>9</td>
<td>3</td>
<td>N/A</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>9.31</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

**Physical restraint per 1000 OBDs**

The only national data we could locate on physical restraint was in Australia, and during the time of this study the only data reported was the rate of physical restraint rate per 1000 OBDs. The Australian rate of physical restraint per 1000 OBDs 2015-2016 were as follows:

- General: 5.0
• Forensic services: 110.2


The rate of restraint per 1000 OBDs from the services participating in this study ranged from a low of 0.59 to a high of 211 episodes of restraint per 1000 OBDs. Due to service 1 having such a high rate of physical restraint, their data were excluded from the group data and the participants were presented with the following information on physical restraint.

• 110 restraints per 1000 OBDs
  *(The Australian National rate for physical restraint)*
• 60 restraints per 1000 OBDS
  *(The rate for the entire group)*
• 4 restraints per 1000 OBDs
  *(The rate excluding service 1)*

**Duration for physical restraint**

Out of the seven services that collected data on physical restraint, only five services collected data on the duration of the restraint. For the five services that did report duration, there was a total of 2152 hours and 33 minutes for the 2015/2016 financial year. At the time of this study, there were no national data on the duration of physical restraint for us to compare with. The average duration across the services that recorded physical restraint ranged from 3.3 minutes to 14.48 minutes. Based on the data collected, participants were asked to consider the following for duration (in any restraint position).

• 4 minutes per physical restraint
  *(Just above the lowest duration recorded in the group)*
• 7 minutes per physical restraint
  *(The average of the group)*
• 12 minutes per physical restraint
  *(Below the highest time recorded in the group)*
Physical restraint events per patient

There is no national data that examine average events per patient, per annum for physical restraint. The data collected across Australia and New Zealand is outlined in Table 3. When combining the services data, the following picture emerges:

- The average number of physical restraint events per person for the entire group was 36
- The average number of physical restraint events per person excluding service 1 was 3

Services were then asked to take into account again the physical restraint practices of their service. If services use physical restraint to seclude patients, and when exiting and entering seclusion their service will have higher average number of events per patient for physical restraint.

Services were asked to consider if the average number of events per person should be set at:

- 36 events per patient, or
- 3 events per patient

BENCHMARKING FOR MECHANICAL RESTRAINT

Out of the ten services, there were only three services that reported mechanical restraint use in their service, and one of these services could not provide data on the duration of mechanical restraint. Service 1 during the 2015/2016 financial year also use handcuffing during transportation of people off site, which is recorded as mechanical restraint. This should not be recorded as restrictive intervention data as handcuffing is a requirement from corrections, and is enacted under a different provision of the Mental Health Act in that particular jurisdiction (section 296 of the Mental Health Act 2014). Service 1 also uses a technique of wrapping patient’s legs in a blanket in some instances to exit seclusion. While the blanket can quickly and easily be removed by the patient, it is recorded and monitored as mechanical restraint, another service also reported infrequent use of this technique. The other two services that have reported on mechanical restraint have very low rates, with one service reporting one event for the 2015/2016 financial year, and the other a total of five. These services reported the use of a mechanical restraint devices such as wrist or ankle restraints.
### TABLE FOUR MECHANICAL RESTRAINT USE

<table>
<thead>
<tr>
<th>Service</th>
<th>Mechanical restraints per 1000 OBD</th>
<th>Average duration</th>
<th>Average number of episodes experienced by a single patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>61.28</td>
<td>34.46</td>
<td>26</td>
</tr>
<tr>
<td>6</td>
<td>0.20</td>
<td>0.08</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>0.14</td>
<td>No data</td>
<td>2.5</td>
</tr>
</tbody>
</table>

- Including service one- the total rate of mechanical restraint per 1000 OBDs is **61**
- Excluding service one the total rate of mechanical restraint per 1000 OBDs is **0.3**

### DISCUSSION

The aim of this project was to examine the use of restrictive interventions in forensic mental health services across Australia and New Zealand and to establish suitable benchmarks for seclusion, physical restraint and mechanical restraint. This project has also provided some insight into different practices in the use of restrictive interventions across Australian and New Zealand forensic mental health services, specifically the practice of night time confinement. Each of the projected benchmarks as agreed upon by the Delphi members will be presented in the following sections.

### SECLUSION BENCHMARKS

#### Rate of seclusion

Responses from Delphi members varied according to their services ability to use night time confinement. The Delphi group was of the opinion there is a need to have two sets of benchmarks, one for services with night time confinement and one for services without night time confinement. The Delphi group was able to reach a consensus on the rate per 1000 OBDs of seclusion for forensic services.

- Services with night time confinement **5**
- Services with no night time confinement **11**

The rate per 1000 OBDs agreed on by the Delphi group is lower than the Victorian target which is current set at 15 per 1000 OBDs. If the general mental health and forensic mental health benchmarking data for restrictive interventions is separated as suggested by the Delphi group, then this may see a need for a reduction in the target for general mental health services which may be below the rate that was agreed on for forensic services by the Delphi study.
Recommendation 1:
Consider separating the current data reporting for rate of general mental health rate per 1000 OBDs and forensic mental health rate per 1000 OBDs.

Recommendation 2:
The rate of seclusion per 1000 OBDs be set at 5 for services that use night time confinement and 11 for services without night time confinement.

Average duration per patient for seclusion
All Delphi participants/senior consultants reached agreement that there should be different benchmarks set for average duration for services that have night time confinement and services that do not. For those utilising night time confinement the maximum someone can be in seclusion is around 12 hours (depending on your night time confinement hours). The agreed benchmarks were as follows:

- For services with night time confinement 11 hours
- For services without night time confinement 43 hours

There is currently no benchmark set in Victoria for the average duration per episode of seclusion. If a benchmark was to be set for forensic mental health services in Victoria the benchmark would be recommended at 43 hours, as Forensicare does not have the provision of nighttime confinement. The rate agreed upon by the Delphi group is significantly lower than the average duration for Australia which in the same data collection of this period was 87.9 hours.

Recommendation 3:
The average duration of seclusion episodes per patient is set at 11 hours for services that use night time confinement and 43 hours for services without night time confinement.

The benchmark for non-forensic services would possibly be set at a significantly lower rate than this as the average duration in Australia for general mental health services at the same time as this data collection period was 5.5 hours.
Seclusion events per patient

All Delphi members reached an agreement that there should be different benchmarks set for multiple seclusion events per patient depending on whether a service has night time confinement or not. The following benchmarks were agreed on by the Delphi group:

- For services with night time confinement the average number of events at 19 events per patient per year
- For services without night time confinement the average number of events per person for services with no night time confinement was 4 events per person.

There is currently no benchmark set in Victoria for the number of seclusion events per patient. If a benchmark was to be set for forensic services in Victoria, the benchmark would be recommended at 4 events per patient as Forensicare does not have the provision of nighttime confinement.

Recommendation 4:
The average number of multiple seclusion episodes should be set at 19 events per patient for services that use night time confinement, and four events per person per year for services without night time confinement.

The benchmark for non-forensic services would possibly be set at a lower rate than this.

PHYSICAL RESTRAINT BENCHMARKS

Rate of physical restraint per 1000 OBDs

Given that there was such a wide variation between the rates of physical restraint and there were five services that indicated a rate between 60 and 110, and the initial benchmark was set at:

- 60 physical restraints per 1000 OBDs

Recommendation 5:
The benchmark proposed for FMHS by the Delphi group, the rate of physical restraint per 1000 OBDs would be set at 60. As Forensicare was the outlier in terms of physical restraint practices there should be a review into restraint practices to ensure practice is contemporary.
Duration for Physical Restraint Episode

The Delphi group was asked to consider a rate from either 4 minutes per physical restraint event, 7 minutes per physical restraint event, or 12 minutes per physical restraint event.

The Delphi group agreed on the following:

- 7 minutes per physical restraint

Recommendation 6:
The average duration of physical restraint episodes per patient is set at 7 minutes per restraint.

Physical Restraint Events per Patient

For this benchmark, there was no national data available to examine the average events per patient for physical restraint across Australia and New Zealand. One service was an outlier in regards to the average number of physical restraint events experienced by each person. In this service, it is common practice to restrain patients when staff are entering and exiting seclusion. This practice is unique to this service. So, this service has been excluded in the data. Given this information the benchmark for the average number of restraint events per person was set at:

- 3 events of physical restraint per patient

Recommendation 7:
The average number of multiple restraint episodes should be set at three events per person per year.

MECHANICAL RESTRAINT BENCHMARKS

For this benchmark, we asked for some suggestions about how we should approach benchmarks for mechanical restraint when only three services use mechanical restraint, and as there is a huge discrepancy between those that do. We collected policies from the services that use mechanical restraint and have provided the summary of results in table five (please note that while only three services use mechanical restraint, four services supplied policies on mechanical restraint).
<table>
<thead>
<tr>
<th>Table 5</th>
<th>Service A</th>
<th>Service B</th>
<th>Service C</th>
<th>Service D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before application of restraint</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Staff education</strong></td>
<td>Staff applying the restraint must have completed specific training in its use. Staff receive education about relevant legislation and cultural considerations. Staff receive education about the use of restraints and alternatives.</td>
<td>Staff will have an awareness of restraint minimisation and safe practice standards. Staff will be trained in the safe and appropriate use of restraint.</td>
<td>Training will be in accordance with National guidelines.</td>
<td>Used in accordance with aggression management techniques which all clinical staff are required to be trained.</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Individual assessment to ensure restraint is appropriate. Assessment should be completed with thought given to cultural considerations, respect for dignity, patients privacy*.</td>
<td>Prior to use through clinical assessment must occur*. Less restrictive interventions will be attempted first.</td>
<td>Assessment will inform restraint minimisation practices*.</td>
<td></td>
</tr>
<tr>
<td><strong>Authorisation</strong></td>
<td>Responsible clinician must support RNs decision to apply restraint</td>
<td>Discussed with Clinical Director prior to initiation.</td>
<td></td>
<td>Consultant Psychiatrist or registered medical practitioner or senior nurse if Consultant not immediately available.</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>Patients to be repeatedly reminded of reason for restraint.</td>
<td>Patients will be informed of the reasons why restraint is indicated and strategies available to end restraint as soon as possible.</td>
<td>The person should be made aware of the visual observations, purpose and duration and where possible they should be involved in the decision making about observations.</td>
<td></td>
</tr>
<tr>
<td><strong>Application of restraint</strong></td>
<td>Procedure details how to apply restraint*.</td>
<td></td>
<td></td>
<td>Only to be used on a patient in order for staff to exit a seclusion room safely.</td>
</tr>
<tr>
<td><strong>Consideration of needs</strong></td>
<td>Ensure as much movement as safely possible.</td>
<td>Restraint will be used safely and respectfully for the least amount of time possible.</td>
<td>Distress and tensions are identified and minimised or removed.</td>
<td></td>
</tr>
<tr>
<td><strong>Monitoring observation</strong></td>
<td>30-minute observation of restrained limbs, check for colour warmth, movement sensation and digital pulses*.</td>
<td>The health and wellbeing of the patient will be closely observed.</td>
<td>Monitoring of mental state at each clinical contact. Airway clear and unobstructed. Constant communication with patient by one staff member, physical obs when indicated.</td>
<td>Constant visual observations.</td>
</tr>
<tr>
<td><strong>Care provided</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td>Involve the patient and family in the evaluation.</td>
<td>Each episode must be evaluated as soon as possible by the MDT.</td>
<td>Reviewed by senior manager.</td>
<td>Restrictive intervention review will occur*.</td>
</tr>
<tr>
<td><strong>Post restraint debrief</strong></td>
<td>Ensure patient support and debriefing needs are appropriately met.</td>
<td>Debrief for patient, those who witness, staff and family.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Family/carer involvement</strong></td>
<td>Family should be informed as early as possible.</td>
<td>Where possible participation of the patient and their family/carer will be sought.</td>
<td>As above.</td>
<td>Must be notified.</td>
</tr>
</tbody>
</table>

*Detailed in the policy
At this stage, we are unable to benchmark on the use of mechanical restraint. From the data collected it appears that there is very low use of mechanical restraint in FMHS across Australia and New Zealand, and if this trend continues or reduces further there may be no need in the future to develop benchmarks for this particular intervention.

**Implications for practice**

From this Delphi study, it would seem that there is a considerable variation in practice among FMHS across Australia and New Zealand. Some of this variation is due to legislation in each of the states, territories and jurisdictions. Some of the variation can also possibly be contributed to local practices in the services. As FMHS are often the only ones within each state or region, linking in and networking with other FMHS is important to ensure the best possible service provision of care for forensic mental health patients. The establishment of a forensic mental health network across Australia and New Zealand much like the forensic mental health network that has been established in the United Kingdom might assist with networking and future endeavors to benchmark. There is currently no such network and the establishment of such a network could assist in sharing information, setting practice standards, benchmarking and oversight.

This Delphi study has highlighted some practices in regards to physical restraint intervention that would benefit from review at Forensicare. It has also highlighted the low use of mechanical restraint among FMHS making it difficult to commence benchmarking in this intervention.

**LIMITATIONS**

This study is not without its limitation. We were not able to get consent from all forensic mental health services across Australia and New Zealand, and there was one forensic mental health service that was not able to participate as they were not operational at the time we needed the benchmarking data. Exclusion of these services may limit the generalisability of the findings. The benchmarks are projected from data gathered in 2015/16, and there may have been changes to the use of restrictive interventions since. This study relied on services gathering data and sending this to the researchers therefore relying on the services to accurately gather and report their data. Some of the services also reported difficulty in gathering this data which delayed the first round of data collection considerably. This study has highlighted the need for and importance of having accurate consistent data, and the importance of sharing data among services.
CONCLUSION

This study has suggested a number of different benchmarks for forensic services for seclusion and physical restraint. Benchmarks for mechanical restraint were not possible due to the low use among the services that participated in the Delphi study. The findings from this study suggest that there is a need to separate forensic mental health service data from general mental health data, and it is likely that the rates set for the different services will be different with FMHS having higher benchmarks for seclusion and physical restraint. Due to the low use of mechanical restraint in forensic mental health services it is likely benchmarks for mechanical restraint may be lower in FMHS than general mental health services (especially if mechanical restraint used in emergency departments is included). Delphi members were agreeable to yearly benchmarking which might be achieved through the establishment of a forensic mental health network.
REFERENCES


