Department of Health & Human Services

Productive Series project

Evaluation report: September 2015
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Executive summary

Background
The Productive Series was developed by the United Kingdom’s National Health Service (NHS) in 2008 to support frontline clinical teams in undertaking improvement. The program provides a range of quality improvement products ('toolkits') that guide health services through an improvement program where local solutions are led by frontline staff.

The NHS Productive Series aligns with the Redesigning Hospital Care Program’s (RHCP) objectives and builds on the achievements of the RHCP program to date. As a result, implementation of the Productive Series has been a high priority for the Department of Health & Human Services.

Following a successful pilot initiative, the department provided 19 Victorian health services with the opportunity to implement one or more Productive Series programs. Each was iteratively rolled out from April 2013. Implementation was completed in December 2014, followed by a six-month follow-up period to test sustainability.

Approximately $560,000 has been invested in this initiative, with the purchase of 1,398 licences across health services. This has allowed 400 staff to participate in the program. The three main programs offered to health services were Productive Ward (1,052 licences), Productive Mental Health Ward (142 licences) and Productive Operating Theatre (29 licences). These were complemented by a fourth program, Productive Leader (165 licences).

This evaluation report explores the degree to which the specific goals of each foundation module of the Productive Ward, Productive Mental Health Ward and Productive Operating Theatre were achieved.

The Productive Series aim to:
- release staff time to redirect patient care (increase direct care time)
- increase the quality and safety of the ward.

Implementation model
The RHCP’s role in this initiative was multipronged:
- providing funding
- managing the expression of interest process
- dedicating a senior project manager to the day-to-day management of the project
- fostering capability building in health services
- establishing project governance.

Participating health services were clustered into networks and met regularly at workshops and via webinars, where opportunities were provided for peer-to-peer sharing and collaboration. In each participating health service the engagement of executive sponsors was a key influencing factor to the success of the project.

Project governance
A sector-based project steering group was established to provide advice to the department on the implementation and evaluation of the program. The members of the steering group brought a unique set of skills and experiences, which contributed to developing an in-depth understanding of the complexity, strengths and benefits of implementing the Productive Series both at the local level as well as coordinating the program across 19 disparate health services.

Results
There is strong evidence that implementing the Productive Series improved safety, productivity and efficiency within health services (details of results are available in Table 1).
Health services reported increased staff engagement in frontline problem solving, leadership capability, patient satisfaction and the time available to provide direct care to patients. The overall improved patient experience was attributed to the standardisation of processes and efficiencies, the introduction of visual displays on wards, and the application of lean principles, particularly the ‘5S’ method, which facilitated reorganisation of wards and theatre. This had an immediate impact both visually and functionally. Centrally located performance information boards (‘KHWD boards’) provided a visual approach to communication and engaged staff in ward and theatre activities.

A number of themes emerged as critical to successfully implementing the program. These themes aligned well with the existing literature (King’s College London 2010a) and included:

- building collaboration and relationships
- developing a culture of trust and feeling safe
- leadership and governance
- staff understanding of improvement methodology processes and change
- strong executive support
- linking to the National Standards for Quality and Safety in Health Care
- small changes and quick wins
- dedication of time to implement the program
- effective communication
- a positive attitude and involvement in change.

It is, however, difficult to precisely apportion the successful outcomes of this program to implementing the Productive Series alone. A range of activities or initiatives can potentially influence change, contribute to or influence improvement simultaneously. For example, the introduction of the Mental Health Act 2014, which occurred in the same timeframe as this project, may well have influenced the results seen in health services participating in the Productive Mental Health Ward.

The return on investment

Analysis of the return on investment results submitted by health services has enabled the department to model improvements over five years (assuming sustained and expanded improvements). Our model has been structured to allow 75 per cent of total benefit to be achieved in year 1 and then 10 per cent savings over each of four subsequent years.

Departmental funding to undertake the Productive Ward Series resulted in 20 ward-based projects and affected 962 beds across 14 health services over the 12-month implementation period. For each dollar invested, $15.68 of gross value was released, which allowed an additional 4.3 patients to be treated in each bed per health service funded. This was a saving of 26,980 bed days per year.

Our modelling is based over five years. If the improvements were to be sustained and expanded to affect 1,500 beds, we would have a total saving of 42,069 bed days and an additional 538 beds would be affected.

Departmental funding to undertake the Productive Mental Health Ward Series resulted in five ward-based projects and affected 145 beds across five health services over the 12-month implementation period. For each dollar invested over the implementation period, $10.64 of gross value was released, which allowed an average additional two patients to be treated in each bed per health service funded. This was a saving of 879 bed days per year.

Our modelling is based over five years. If the improvements were to be sustained and expanded to affect 500 beds, we would have a total saving of 3093 bed days and an additional 355 beds would be affected.
Departmental funding to undertake the **Productive Operating Theatre Series** resulted in nine health service-based projects and affected 42 theatres over a 12-month period. For each dollar invested over the implementation period, $18.70 of gross value was released, which provided an average additional 11.2 theatre hours per theatre affected per year.

Our modelling is based over five years. If the improvements were to be sustained and expanded within the health services to affect 100 theatres, we would have a **total saving of 648.6 theatre hours** and an additional 58 theatres would be affected.

**Sustainability**

The Productive Series *does* deliver what it sets out to; however, long-term monitoring of sustainability and spread across health services will be required to truly evaluate the impact on the health service, staff and the patients in their care.

To assess the impact of the Productive Series in Victorian health services, health services submitted post-observation reports to the department in March (for Productive Ward and Mental Health Ward) and June (Productive Operating Theatre) 2015. Post-observation data was compared with data submitted in final reports. Sustainability and improvement was widely demonstrated; however, comparison data indicated the challenge of sustaining improvements in quality measures such as pressure sores. Although attributed to more vigilant reporting it also demonstrates the need for robust systems to be created and team ownership of the improvements.

A number of health services report plans to self-fund the spread of the Productive Series program across wards and theatres, empowering their clinical teams to ‘think differently’ and embrace the improvements as a new way of life.
Project achievements against indicators

Data was collected pre and post implementation under the following three domains: staff wellbeing, patient wellbeing and efficiency of care. Table 1 provides an overview of each domain, the relevant indicators, and whether each indicator was met as a result of implementation of the program.¹

### Implementation data

**Table 1: Overview of the % improvement in each Productive Series domain at the end of the implementation period**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicator</th>
<th>Outcome</th>
<th>PW</th>
<th>PMHW</th>
<th>T-POT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staff wellbeing</strong></td>
<td>Staff engagement</td>
<td>Improved staff engagement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Staff absenteeism</td>
<td>Decrease in staff unplanned leave</td>
<td>18.4%</td>
<td>6.9%</td>
<td></td>
</tr>
<tr>
<td><strong>Patient wellbeing</strong></td>
<td>Patient satisfaction</td>
<td>Improved patient satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Efficiency of care</strong></td>
<td>Direct care time</td>
<td>Increase in direct time of care</td>
<td>18%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Length of stay</td>
<td>Reduced length of stay</td>
<td>2.7%</td>
<td>6.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mitigation of risk</td>
<td>Fewer medication errors</td>
<td>49% per 1,000 bed days</td>
<td>69.1% per 1,000 bed days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduced seclusion in mental health wards</td>
<td>n/a²</td>
<td>13.3% per 1,000 bed days</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reduced incidence of falls in wards</td>
<td>9% per 1,000 bed days</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Change in pressure injuries in wards</td>
<td>33% increase in pressure injuries</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Financial benefits of gross released value for time to care and improve processes</strong></td>
<td>For every $1 invested, there is an average gross released value of ....... at year 1</td>
<td>$15.68 (year 1)</td>
<td>$10.64 (year 1)</td>
<td>$18.70 (year 1)</td>
<td></td>
</tr>
</tbody>
</table>

¹ The Productive Operating Theatre Series did not contribute data for the second domain, ‘patient wellbeing’.
² n/a = not applicable
<table>
<thead>
<tr>
<th>Domain</th>
<th>Indicator</th>
<th>Outcome</th>
<th>PW</th>
<th>PMHW</th>
<th>T-POT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Improved redesign capability</td>
<td></td>
<td>156.7% across both ward types</td>
<td>395.6%</td>
<td></td>
</tr>
<tr>
<td>Theatre utilisation</td>
<td>Improved theatre utilisation</td>
<td></td>
<td></td>
<td></td>
<td>5.4%</td>
</tr>
<tr>
<td></td>
<td>Improved on-time starts</td>
<td></td>
<td></td>
<td></td>
<td>4.86%</td>
</tr>
<tr>
<td></td>
<td>Decrease in hospital-initiated postponed surgery</td>
<td></td>
<td></td>
<td></td>
<td>1.25%</td>
</tr>
</tbody>
</table>

**Sustainability data**

The table below provides an overview of indicator data submitted for each of the Productive Series at baseline, the end of implementation and six months after the end of implementation.

Data in red indicates a parameter that was not sustained between the end of implementation period and the post observation measurement. Each represents a challenge to health services to keep testing and measuring improvements. Only quality measures measured per 1000 occupied bed days was included.

**Table 2**: Sustainability post implementation

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Average baseline measurement</th>
<th>Average end of implementation period measurement</th>
<th>Average 6 month after end of implementation period measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Productive Mental Health Series</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average length of stay (days)</td>
<td>26.6</td>
<td>24.6</td>
<td>23.9</td>
</tr>
<tr>
<td>% Direct patient care time</td>
<td>38.75</td>
<td>56.75</td>
<td>44.33</td>
</tr>
<tr>
<td>Seclusion Rate per 1,000 bed days</td>
<td>13.0</td>
<td>11.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Medication errors times per 1,000 bed days²</td>
<td>5.97</td>
<td>1.85</td>
<td>1.43</td>
</tr>
<tr>
<td>Unplanned absences² (%FTE)</td>
<td>4.5</td>
<td>4.3</td>
<td>4.93</td>
</tr>
<tr>
<td><strong>Productive Ward Series</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average length of stay (days)</td>
<td>7.36</td>
<td>7.21</td>
<td>7.00</td>
</tr>
</tbody>
</table>

² Data from two of five health services only at the post-observation point (six months following the end of the implementation period.

³ Data from two of five health services only for baseline and at the end of implementation. Data from two health services only for six months after the implementation period.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Average baseline measurement</th>
<th>Average end of implementation period measurement</th>
<th>Average 6 month after end of implementation period measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Direct patient care time</td>
<td>37.3</td>
<td>48.3</td>
<td>51.87</td>
</tr>
<tr>
<td>Falls per 1,000 bed days</td>
<td>7.97</td>
<td>7.25</td>
<td>7.16</td>
</tr>
<tr>
<td>Medication errors per 1,000 bed days</td>
<td>14.23</td>
<td>7.28</td>
<td>7.20</td>
</tr>
<tr>
<td>Pressure sores per 1,000 bed days</td>
<td>1.58</td>
<td>2.11</td>
<td>1.90</td>
</tr>
<tr>
<td>Unplanned absences(%FTE)</td>
<td>6.06</td>
<td>4.95</td>
<td>4.65</td>
</tr>
</tbody>
</table>

**Productive Operating Theatre Series**

| Hospital-initiated postponements (average cancellations per month) | 7.79 | 6.32 | 5.77 |
| On-time starts (% all starts) | 58.64 | 61.04 | 56.66 |
| Theatre utilisation (% total availability) | 77.36 | 81.48 | 82.89 |
Introduction

The Redesigning Hospital Care Program

The Redesigning Hospital Care Program (RHCP) was established in 2005–06 as a statewide initiative of the former Department of Human Services. The program delivers significant health system improvements through applying process improvement methodologies in Victorian public hospitals.

Redesign methodologies use a systematic approach to analyse and improve processes surrounding patient care, with the aim of minimising non-value-adding activity and increasing efficiency and quality of care. The approach is also being successfully applied across non-clinical areas of hospitals to improve efficiency and reduce costs.

The redesign approach is underpinned by developing organisational capability for redesign and improvement and is built on a foundation of operational management principles including experience from the manufacturing industry.

The program objectives are to:

- increase redesign capability and capacity by training staff across the system to lead projects, implement change and train their peers
- measurably improve health delivery processes and outcomes across the system.

To meet these objectives, the department:

- provides funding to renumerate redesign leads in 32 health services, whose principal role is to increase redesign capacity within their respective health services
- provides funding for specific redesign projects
- provides health services with necessary tools, techniques and support to plan, deliver and measure improvements in priority areas
- supports the development of collaborative relationships between health services to share ideas and innovation so the benefits of improvement activities are realised at the system level.

A small expert team based at the department coordinates the RHCP by:

- providing expert advice, coaching and mentoring
- facilitating redesign capability sessions
- developing a range of redesign tools to support the work of health services
- coordinating networking events to support the development of a community of practice.

The RHCP is based on the following principles:

- explicit recognition that sustained improvement requires investment in developing the capability of managers and clinicians to help drive the process of change
- the autonomy of health services to choose how best to tackle their redesign priorities within a framework of statewide support
- creating a medium-term perspective by ensuring that many of the benefits are planned for a number of years ahead – as well as realising benefits in the short term
- coordinating redesign work, connecting isolated projects to wider priorities and not reinventing work
- linking the program to existing performance monitoring frameworks for health services through rigorous tracking and measurement of benefits.

The RHCP program is directly contributing to enhancing health service capability to create, spread and sustain improvements in delivering patient care. It provides a systematic and integrated approach
to redesign, assisting health services to tackle local access, efficiency and service quality challenges as well as system-wide priorities.

**The 2012 DLA Piper Review**

The *Piper report*, an external RHCP evaluation, identified a number of strengths of the program. The reviewers noted the flexibility offered to Victorian health services in setting redesign priorities as the key point of difference of the program compared with those offered in other Australian states. The provision of direct specialist support, together with the development of tailored tools such as the return on investment (ROI) tool developed by the Bevington Group and the department, were considered key successes of the program.

The reviewers encouraged ongoing financial support for redesign leads in health services and estimated that health services could achieve sustainable process improvement capability within their resource allocation over the following four years.

**The Productive Series**

The National Health Service (NHS) Institute for Innovation and Improvement Productive Series was officially launched in the United Kingdom (UK) in May 2008 (King’s College London 2010b, p. 8). The Productive Series aims to achieve measurable improvement in direct care time, length of stay, theatre utilisation and key quality measures within health services. The Productive Series is underpinned by the lean methodology, which was initially developed by Toyota car manufacturing to eliminate waste, improve flow and simplify processes. A key principle of lean is to identify customers, understand their needs and to design new processes with the customer.

The NHS Productive Series has the benefit of aligning well with national quality standards and associated activities. It includes a range of quality improvement programs (‘toolkits’) to encourage frontline teams in the design of their work, and in addressing quality and safety issues. Each program comprises a number of guides divided into semi-structured modules that instruct and support staff through an improvement program. The Productive Series comprises the following programs:

- Productive Ward
- Productive Mental Health Ward
- Productive Operating Theatre (T-POT).

Productive Leader is a separate, complementary program.

Each program consists of a number of ‘modules’ designed to provide a practical structure to improvement, and to be used by a facilitator leading a team. Each module is designed for self-directed learning, with three ‘foundation’ modules and a number of more challenging ‘process’ modules, which focus on improving ward efficiency and quality and safety.

The three foundation modules are:

- Knowing How We are Doing (KHWD)
- Well-Organised Ward/Theatre (WOW)
- Patient Status At a Glance (PSAG).

**The Victorian context**

The Productive Series has been a high-priority project for the department, as it aligns with two RHCP program objectives – to increase staff capability in improvement methods, and to achieve measurable change in healthcare delivery. It also supports the department’s Sustainable Hospital project and builds on the achievements of the RHCP program to date.
In 2010, under the RHCP, two projects were undertaken in a number of Victorian health services in readiness for implementing the Productive Series:

- NHS Sustainability Pilot Project – five health services opted to voluntarily apply the NHS model and tool to their redesign projects
- The Productive Ward: releasing time to care – 11 health services participated in this module and seven received funding to purchase a licence.

A further three health services received partial funding from the department’s Mental Health and Drugs Program to pilot ‘The Productive Mental Health Ward: releasing time to care’.

Following successful implementation and evaluation of the above initiatives, the department invested $508,107 to implement the NHS Productive Series in 19 Victorian health services over an 18-month period from April 2013. This report evaluates this initiative.

**Scope of the evaluation report**

This evaluation report focuses on the implementation of three components of the Productive Series: the Productive Ward, Productive Mental Health Ward and Productive Operating Theatre (T-POT).

This evaluation report also identifies the benefits and achievements of participant health services, together with implementation issues and recommendations.

The scope of the report does not include evaluation of any ‘process’ modules undertaken by health services. Process modules were optional; however, the following process modules were completed by at least one health service during the project period:

- shift handover
- medicines
- meals
- admission and patient discharge
- patient observation.

**Reporting timeline**

**Departmental**

Two reports, the interim report and the final report, have been prepared to accommodate a staggered implementation.6

The interim report was prepared in December 2014 and incorporated the 12-month status of Productive Ward and Productive Mental Health Ward, and included participant feedback from surveys, interviews and site visits. The results of the evaluation were incorporated into a final report in August 2015.

**A final consolidated report** will incorporate an update on sustainability of the project for all components of the Productive Series.

**Health services**

As part of their participation in this initiative, health services submitted the following reports:

- business case
- baseline A3 report, with baseline measures

---

5The project started with 21 health services; however, two health services withdrew from the project in the early phases.
6The Productive Leader was implemented initially, followed by implementation of the Productive Ward / Mental Health Ward and, three months later, implementation of T-POT.
- final reports with final measures
- post-observation report.

Participants in the Productive Leader module were not required to submit a report; however, they did participate in an 'expression of interest' (EOI) process at the outset.
1. The implementation model

The RHCP used an iterative approach to introduce the four Productive Series programs to Victorian health services. Health services were asked to self-select, consistent with their organisational strategy.

The Productive Leader was introduced in April 2013, followed by rollout of the Productive Ward and Productive Mental Health Ward in July 2013. Three months later, in October 2013, T-POT was launched.

There were six main phases of the project (A–F). Some phases overlapped, rather than occurring sequentially, and each phase had specific outcomes (details for each phase can be seen in Figure 1).

A. Project planning
B. Project set-up
C. Capability building
D. Health service implementation
E. Monitoring and reporting
F. Final evaluation and recommendations.

The department engaged Qualitas Consortium to roll out the Productive Series in 19 Victorian health services. Forty-seven wards (including mental health, subacute, medical and surgical wards), 29 operating theatres and more than 400 health service staff were engaged in the project.

Figure 1 illustrates the project implementation timeline from February 2013 to April 2015.

Health services participating in the project

Table 3 details the Victorian health service participants in the Productive Series, including the completed modules.

All health services participating in Productive Ward, Productive Mental Health Ward and T-POT completed their respective foundation modules.

For participants of the Productive Mental Health Ward program, one health service completed two additional modules (medications and shift handover).

For participants of the Productive Ward program: three health services completed the medication element; an additional three health services have completed the shift handover element; two have completed the admission and discharge element; one has completed the meals element; and another has completed the patient observation element.
Figure 1: An overview of the implementation timeline: February 2013 – April 2015

Key: A. Project plans, EOI and governance established
B. Setup
C. Capability building
D. Health service implementation—problem solving, application and implementation
E. Monitoring and reporting
F. Final evaluation and recommendations

Project planning
1. Project planning and sign-off
2. Manage EOI process
3. Governance established
4. Establish contractual arrangements with Qualitas

Key outcomes
1. Ministerial support
2. Funding structure established
3. EOI distributed
4. Development and agreement of high-level operational implementation plan including KPIs
5. Project scope agreed
6. Steering committee established
7. Agreement with Qualitas

Project setup
1. Select health service
2. WS and webinars scheduling
3. Communication, risk and evaluation planning
4. Resource health service

Key outcomes
1. Selection of participating health services
2. Formation of project team (project manager, project support)
3. Communication and implementation plan
4. Communication, evaluation and initial risk assessment

Capability building
1. Iteratively roll out the productive series
2. Support health service, mentoring, on-site visits
3. Coordinate WSIs and events
4. Capability building as required
5. Facilitation of networking and collaboration

Key outcomes
- Within health service, develop teams, problem solve and manage capability through training and establishing effective visual controls

HS Implementation
1. Setup phase—select wards, theatres, commence foundation modules
2. Diagnostics and analysis
3. Solution design activities (e.g. VSM flow and standardisation)

Key outcomes
- Complete foundation modules using problem-solving activities and daily application: Visual control

Monitoring and reporting

Key outcomes
- Ongoing issue and risk management
- Reporting framework for health service
- Reporting framework for project team and Qualitas

Final evaluation and recommendations

Key outcomes
- Final report, recommendations and next steps
Table 3: Health service participants in the Productive Series

<table>
<thead>
<tr>
<th>Health service</th>
<th>Productive Leader</th>
<th>Productive Mental Health Ward</th>
<th>Productive Operating Theatre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albury Wodonga Health</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Alfred Health</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Bairnsdale Regional Health</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ballarat Health Services</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Bendigo Health</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Gippsland Health Service</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Djerriwarrh Health Services*</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Echuca Regional Health</td>
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<td>Latrobe Regional Health Service</td>
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<td>Mildura Base Hospital</td>
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</tr>
<tr>
<td>Northern Health</td>
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<td></td>
<td>Y</td>
</tr>
<tr>
<td>Peninsula Health</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>St Vincent’s Melbourne</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Stawell Regional Health*</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Western Health</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>14</td>
<td>5</td>
</tr>
</tbody>
</table>

* Health service not currently funded under the RHCP program, and does not have a formal redesign program
The role of the RHCP in the project

The RHCP’s role in this initiative was multipronged: providing funding, managing the EOI process, fostering capability building in health services, dedicating a senior project manager to the day-to-day implementation and management of the project, and establishing a project steering committee, whose membership is broad and represents a range of key stakeholders.

1. Funder

The department provided $198,705 to purchase licences for health services. Some health services obtained licences for more than one of the modules:

- Productive Ward (1,052 licences were purchased across 14 health services)
- Productive Mental Health Ward (142 licences were purchased across five health services)
- T-POT (29 licences were purchased across nine health services).

The above modules were complemented by the Productive Leader module (165 licences were purchased across 16 health services).

The department also provided funding for the required number of Productive Series licences, and to assist staff to participate in support and capability-building workshops associated with the series. Workshops and webinars were delivered by the Qualitas Consortium, which holds the licence to implement the Productive Series in Australia.

2. Management of the expression of interest process

Forty Victorian public health services (activity-based funded) were invited to participate in the EOI process. Three of the 19 health services that were selected to participate are not currently part of the RHCP and have no dedicated redesign program. These health services required additional support, particularly in using the A3 reporting template and in harnessing the capability requirements to undertake the program. A number of on-site visits were also provided.

3. Coordinated capability building

The department coordinated capability building with health services, which was facilitated by mentoring provided by the project manager at the department, on-site visits, collaboration and networking opportunities for health services at workshops. Workshop participants were encouraged to present their progress and discuss enablers, as well as barriers to progress with their peers.

Productive Ward and Productive Mental Health Ward participants were offered three workshops and 10 webinars, and an additional workshop was delivered to participants of T-POT.

Health services were clustered into seven geographically linked networks, which came together at workshops with the objective of fostering project-related relationship including building trust, sharing of ideas and experiences:

- three networks of five to six health services were formed for the Productive Leader module
- three networks of four to five health services came together for the Productive Ward module
- one network of five health services was formed for T-POT.

Appendix 1 details the names, numbers of staff and sites of each of the abovementioned networks.

4. Project governance

A senior project manager from the department was responsible for all aspects of the project, including the day-to-day activities, networking events and providing coaching and mentoring to health services in accordance with the project plan.
A seven-member project steering committee was established to provide advice to the department on implementing and evaluating the program.

Members were selected to ensure representation from rural, regional and metropolitan health services. A further consideration was to have representatives from health services who had previously implemented one or more elements of the Productive Series. Qualitas Consortium was invited as ex-officio members.

The department was fortunate to secure the participation of Dr Lynne Maher on the steering committee. Dr Maher was involved in developing and implementing the Productive Series in the NHS.

The members of the steering committee brought a unique set of skills and experiences that contributed to developing an in-depth understanding of the complexity, strengths and benefits of implementing the Productive Series at a local level as well as coordinating the program across 19 disparate health services.

Section 3 of this document details the participant feedback on the project management aspect of the project.

Appendix 2 details the members of the steering committee.
2. Project evaluation

Evaluation themes
This section draws on information from the final reports submitted by participant health services for the following three key areas:

• critical success factors
• achievements and enablers
• challenges for health services, including lessons learnt.

A number of common themes have been identified and are discussed below.

Critical success factors
Ten themes emerged as being critical to implementing the Productive Series. The ongoing commitment and engagement of all staff, including executive sponsors (and participants), was the most critical success factor for all participants, followed by leadership/governance, a positive attitude to change and effective communication.

Themes identified as critical to implementing the Productive Series

1. Strong executive support
2. Leadership and governance
3. Positive attitude to, and involvement in, change
4. Effective communication
5. Developing a culture of trust and feeling safe
6. Staff understanding of improvement methodology processes and change
7. Links to the National Standards for Quality and Safety in Health Care
8. Collaboration and relationship building
9. Small changes and quick wins
10. Time dedicated to implementing the Productive Series

Enablers
Key enablers included the dedication of staff time, the modular approach to implementation, workshops and other capability-building activities, and linking the foundation modules to the national standards.

The dedication of staff time to the Productive Series
The greatest outcomes were achieved when there was an existing culture of improvement and a resource dedicated to undertake and drive the work of the Productive Series, spread the workload and engage staff members.
The modular approach to improvement

This enabled a systematic approach to improvement and assisted health services in determining realistic timeframes.

Workshops and other capability-building activities

Activities such as webinars, where networking and collaboration was encouraged, enabled sharing and the ‘stealing of new ideas shamelessly’ between peers and encouraged improvement across project networks.

Linking the foundation modules to aspects of the national standards

The linking of the foundation modules, including the KHWD board, to aspects of the national standards provided a transparent approach to ward and theatre management. KHWD boards facilitated communication and awareness of the series for both staff and patients (and their carers). Ward teams learnt that by aligning the work of the series with clinical and quality standards of care, efficiencies in clinical practice were achieved in areas such as hygiene, medication safety and infection control.

‘The executive sponsor was able to approve some additional time for the ward champions to work with the Redesign lead to facilitate commencement of the modules. The champions had eight days, spread over six months, to dedicate to Productive Ward activities. These days were instrumental in achieving success with WOW work [and] staff and patient surveys. One [nurse unit manager] has requested ongoing allocation of time for the champions to work on Productive Ward modules.’

Rural health service

Achievements

Key achievements included standardising processes to achieve efficiencies, creating the visual displays of KHWD boards, applying lean principles (particularly the ‘5S’ model) and WOWing the ward or theatre.

An overall improvement in patient experience was attributed to standardisation of processes and efficiencies as a result of:

- cultural change in improvement and leadership
- decreased length of stay
- introduction of KHWD boards
- linking the project to the national standards (and associated accreditation)
- more efficient and engaging use of staff
- releasing time to direct patient care
- skills development
- standardisation of processes
- a WOW.

Volunteer feedback: ‘What is going on with ward 3E and 3F? The patient satisfaction has gone through the roof; the whole atmosphere on the ward has changed.’

Patient feedback: ‘I love the bedside handover – I get to talk to the nurses about why I am here: It’s like a military exercise every day – my name band is checked, my tubes are checked, they make me comfortable, and tell me what is happening for the day.’
A physician said, ‘It is a pleasure to ask a nurse about a patient now, no-one ever says “It’s not my patient” and the information just seems to flow on this ward so much better. I am very impressed by the changes here.’

**Metropolitan health service**

**The Knowing How We are Doing board**

The KHWD board provides a ‘five-second story’ regarding performance information. The information displayed includes incidence of falls and pressure sores, highlights issues and actions towards achievements (see Figure 2) and is updated regularly depending on the indicator.

Weekly ‘huddles’ were introduced in some wards and it was not unusual for patients to listen into meetings around the boards. Using an iPad to photograph the KHWD board meant staff could meet elsewhere to discuss confidential issues (such as in discharge planning meetings).

The visual and transparent approach to errors and risks achieved through KHWD boards motivated staff to participate in the program. All health services celebrated their achievements and shared learnings through staff and patient stories.

‘Of notable mention throughout the organisation is the acceptance, and continued use of, the KHWD boards. These boards have been standardised into quadrants/dimensions. They received a special mention in the summation provided by the [Australian Council on Healthcare Standards] accreditors.’

**Metropolitan health service**

A key success factor is regularly updating the KHWD board and refining the communication strategy. We have applied extra clerical support hours to the perioperative service, where the plan is to generate graphs and reports for the KHWD board, and to develop a monthly newsletter. Well-organised theatre continues to be refined. All position descriptions will incorporate Productive principles and practices. The current meeting practice for T-POT will continue, and T-POT will be an agenda item at leadership meetings (monthly), VMO meetings (monthly), anaesthetic meetings (quarterly) and clinical improvement committee (monthly). The sustainability tool has shown two areas for greatest gain regarding improvement are adaptability of the improved process and staff behaviours.

**Rural health service**

**Figure 2: Examples of visual displays on a KHWD board**
Reorganisation using lean principles of 5S

For the majority of health services, reorganising the two hubs of wards – the store room and medication room – had an immediate impact, both visually and functionally. Participant services were encouraged to take many photos, including ‘before’ shots, to record their achievements.

The Well-Organised Ward/Theatre module

The WOW module assists nurses in providing more direct time to care for patients. Superfluous equipment is removed, clutter eliminated and hallway access restored.

Health services completed ‘pre and post WOW’ infection control audits and time and cost measures associated with searching items in areas affected by the WOW module.

Figure 3: Examples of the immediate impact of a Well-Organised Ward/Theatre

Wasted space and time ELIMINATED!
Challenges and lessons learnt

Challenges

Four major challenges were identified by health services across the three components of the Productive Series.

Resistance to change

Overwhelmingly, health services struggled if their culture was resistant to change, if their staff had not previously participated in improvement work or a project lead had not been provided with dedicated time to lead and focus on the project.

As implementation progressed, particularly the instalment of visual communication through journey boards, attitudes towards the series changed. Over time, it was reported that even the most resistant staff developed an improvement culture attitude, more routinely asked questions and adopted a ‘can do’ approach to potential changes or improvements.

Availability of staff to participate due to existing workloads

Conflicting priorities, such as accreditation and changes to the Mental Health Act, required some staff members to be away from the ward for long periods of time.

Multiple changes occurring simultaneously added to the pressure on staff, who felt they were completing a series of activities concurrently. Developing resources such as checklists assisted in minimising confusion while allowing health services to complete the respective elements prior to progressing to the next element.

Staff leave, changes at the executive level and turnover of staff, often champions, impacted on the continuity of implementation in some health services. Checklists, documented roles/responsibilities and formal orientation processes helped make transitions smoother.

Staff engagement

Establishing and maintaining staff ‘buy-in’ was essential to maintaining momentum and motivation. Regular and effective communication with the ward/theatre team and senior management, and identifying champions already respected among peers, proved a wise strategy in facilitating change.

Collaboration and relationship building meant the workload was more likely to be shared across the entire ward or theatre. By developing a culture of trust, staff were more likely to have a ‘positive attitude to, and be involved in change’. This resulted in staff reporting they were no longer afraid to speak up and get involved.

‘Once the CEO approved additional hours to be budgeted, implementation of the modules went ahead in leaps and bounds.’

‘The Productive Series created a “culture of inquisition”’. - Rural health service

Wards and theatres with engaged executive sponsors and leaders consistently reported that they enjoyed being recognised as exemplars across the organisation, where they were celebrated for their achievements. Visibility, including ward rounds by executives and CEOs, was common in these organisations.

A number of health services also involved allied health staff in the project, which had a positive impact on the team. Some also identified the strengths of staff members. Identifying these, particularly in staff
not previously recognised such as ‘wizards’ with graphs and data, assisted in changing the mindset of ‘resisters’ to that of ‘adopters’.

Some health services did not begin T-POT until three or four months after the initial launch date due to the challenge of engaging staff. Therefore, practice and evidence was not as embedded and greater caution should be applied when interpreting some results. However, there were incidences reported where the Productive Series proved a great facilitator for staff engagement.

‘T-POT has provided a great tool to engage staff in change, and in change processes. It has provided reason and structure to undertake long-desired activities. It has provided sustainable change through a coordinated approach linked to the national standards. Staff are making time to look at the KHWD board – a big shift in cultural thinking. Theatre has embraced the process – we are starting small. Linking to the national standards is a great way to focus on change. Theatre suites are now at the tipping point – best to come!’

Metropolitan health service

Effective governance

Effective governance assisted in guiding and driving implementation. By implementing the series in an incremental manner, realistic timeframes were established from the outset and goals were achievable. One health service reported that the concept of working ‘as a team’ on the Productive Ward was new, and articulating what was required of ward members was challenging. The governance process, established prior to implementation, provided a clear guide on roles and responsibilities, and was a critical success factor to overcoming this problem.

‘Robust governance and strong leadership has been vital to the success of this program:

- Staff with a good understanding of the program rolled it out smoothly, rather than desiring a quick fix.
- Staff adaptability is important; we have three different cultures of staff at three different sites within the organisation. Involving more successful wards in the rollout to other wards has also been beneficial.
- Communication at all levels has been crucial to success, and has included nursing grand rounds, workshops, education sessions, one-on-one conversations, newsletters, etc.
- To guide wards to progress through each foundation module, the facilitator developed individual Gantt charts for each ward, which has been instrumental in keeping wards to a timeline.
- Replication of the Qualitas Consortium workshop held “in house” was a major success, and feedback suggested that they benefited from the workshop prior to commencing the program.’

Metropolitan health service

Lessons learnt

Health services identified a range of lessons learnt, including the following.

Embedding change practices

Embedding change was not always easy, and one of the biggest challenges for health services was achieving the engagement and commitment of all staff. Staff buy-in required time, patience and reinforcement, particularly for new processes. Standardising processes and creating checklists helped embed new processes.
The WOW went really well, but we still have staff using the back equipment room as a store room – very frustrating!

Nurse unit manager

Linking the national standards to new processes

Accreditation for the National standards for quality in health care often distracted wards from the work of the Productive Series, particularly in the initial stages. All health services gradually came to understand that, by linking accreditation to the work of the series, this facilitated readiness in meeting accreditation requirements, as the work is complementary. Embedding the Productive Series into regular operational activities also assisted in sustaining improvements.

Health services that linked the series to the national standards viewed the project as a very positive experience. ‘We are ready for accreditation every day. Productive Ward has become the answer, and not the excuse, to get work done.’ In addition, some wards used elements of the sustainability tool for verification work required for the national standards survey.

Appendix 3 provides a summary of the linkages between the Productive Ward to the national standards.

Managing staff turnover

Staff turnover acted as a barrier to driving the project, particularly if the staff member had a position of leadership on the ward or theatre.

Some health services engaged new staff in the redesign process through ward and theatre orientation. In order to embed a culture of improvement, new processes were introduced to new staff ‘so they knew what we want to achieve, and how we do things’. Role responsibilities were also identified in position descriptions.

Self-selection to the program

Some wards and theatres self-selected to participate in the Productive Series and others were nominated by their executive. Health services commented that those who did not self-select were much slower to begin implementation and took much longer to see the benefits of participation.

Time allocation/priorities

Exposure to lean principles led to a different way of thinking when developing plans and priorities for the ward and theatre. Allocation of specific time for leaders to undertake the requirements of the modules was a crucial factor in maintaining the momentum of change.

Timing of networking opportunities

Timing of webinars in the mornings aligned with the busiest time in health services. In future, webinars should be scheduled, where possible, later in the day.

Understanding data

There was considerable variance in knowledge, understanding and practice within health services associated with the collection, analysis and reporting of measures. A lack of understanding in the interpretation of data in some health services resulted in inconsistent application of methodologies and analyses. The department’s project management team emphasised the importance of appropriate data collection, analyses and display in engaging staff, and in demonstrating the value of the project for the health service, its patients and its staff. It also recommended only one compulsory
measure for collecting data for T-POT at baseline and end measure points – percentage theatre utilisation.

At times, the enthusiasm of engaged staff to undertake and progress changes led to a lack of robust evaluation of the initiatives, with ‘pre-change’ data and other evidence either lacking or insufficient. Some health services undertook cycles of quality improvement through a Plan-Do-Study-Act (PDSA) process. For example, they tested improvements in a small way and learnt from it before refining the processes, then extended the changes across the ward or health service: ‘We started with a small focus, and showcased the ward’.
Evaluating the project indicators

This section draws on the quantifiable measures submitted by health services at baseline and at the conclusion of implementation. A number of indicators have been identified under three domains in Table 4. These domains have been selected because they align with key findings within the literature, including those detailed in Moore et al. (2013) as well as the main goals of the Productive Series. The three domains are:

- staff wellbeing
- patient wellbeing
- efficiency of care.

Each indicator was measured by health services pre and post project, and submitted in the final report. The collection of data varied according to the context. The indicators examined in T-POT relate to staff wellbeing (redesign capability), released value and efficiency of care (theatre utilisation, on-time starts, and hospital-initiated postponements or ‘HiPs’). The productive ward and mental health indicators covered all three domains.

Table 4: Indicators and achievements for each domain

<table>
<thead>
<tr>
<th>Domains</th>
<th>Indicator</th>
<th>Outcome required</th>
<th>The achievement of the project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Staff wellbeing</td>
<td>• Staff engagement</td>
<td>• Increase in staff engagement</td>
<td>✓ Met</td>
</tr>
<tr>
<td></td>
<td>• Staff absenteeism</td>
<td>• Redesign capability</td>
<td>✓ Met</td>
</tr>
<tr>
<td></td>
<td>• Patient satisfaction</td>
<td>• Decrease in staff absenteeism</td>
<td>✓ Met</td>
</tr>
<tr>
<td>2 Patient wellbeing</td>
<td>• Mitigation of risk</td>
<td>• Increase in patient satisfaction</td>
<td>✓ Met</td>
</tr>
<tr>
<td></td>
<td>• Direct care time</td>
<td>• Reduction in falls, medication errors, seclusion rates and pressure sores</td>
<td>✓ Met for falls, seclusion rates and medication errors</td>
</tr>
<tr>
<td></td>
<td>• Length of stay</td>
<td>• Reduced length of stay</td>
<td>✓ Met</td>
</tr>
<tr>
<td></td>
<td>• Financial benefits of net released value for time to care and improve processes</td>
<td>• Financial benefits of releasing time to care and improving processes</td>
<td>✓ Met</td>
</tr>
<tr>
<td></td>
<td>• Theatre utilisation</td>
<td>• Improved theatre utilisation</td>
<td>✓ Met</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Improved on time starts</td>
<td>✓ Met</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Reduced HiPs</td>
<td>✓ Met</td>
</tr>
</tbody>
</table>
Domain 1: Staff wellbeing

Staff engagement and absenteeism

Health services reported that staff felt able to have a say and participate in ward and theatre outcomes and were more excited and motivated by the goals and opportunities identified as requiring change or improvement. Meetings improved, including questioning of their requirement, length and who was to be involved. This contributed to a more attractive workplace.

Staff absenteeism costs health services millions of dollars in lost productivity annually. It also results in less than ideal replacement clinical services and increased management costs.

Implementation of the Productive Series within Victorian health services resulted in:

18.4 per cent reduction in staff absenteeism at Productive Ward sites
6.9 per cent reduction in staff absenteeism at Productive Mental Health Ward sites.

These results align well with those within the NHS7 (NHSI 2011).

For example, one rural health service reported an improvement from 68 per cent to 93 per cent for the indicator staff ‘enjoy coming to work’. Over the same timeframe, a 14 per cent reduction in unplanned leave was recorded (2.3 FTE to 2.0 FTE).

Reduced absenteeism could have been attributed to the visual tracking on the KHWD board (Smith & Rudd 2010) but could also be due to improved workplace safety and the engagement of employees in the initiative. An improvement in staff morale and wellbeing is also documented in the evidence reported from a collection of NHS Productive Series case studies from the UK.8

Staff comments

‘This all fits in with the national standards!’ Director of nursing

‘I was very negative about it all to start off with, now I am very impressed!’ Senior staff member

‘Now I can finally see what we are measuring – all in one place.’ Senior staff member

Redesign capability

Building capability in redesign supports one of the core objectives of the RHCP. The purchase of nearly 1,400 licences enabled more than 400 health service staff to participate and to gain new skills.

The challenge and experience of the Productive Series has enabled staff to develop both personally and professionally. Evidence from implementation within the NHS Trusts supports these findings, where professional development aligned with improved staff satisfaction in their jobs (NHSI 2011).

Participating staff attended workshops (provided internally by peers and externally by the project) and webinars. Three of the 19 health services are not currently part of the RHCP program so benefited from a structured approach to redesign through the modules. Participant development included exposure to improvement techniques such as value mapping and streamlining efficiencies, project management and leadership.

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7 Opportunity costs from a reduction in annual absence rates in NHS hospitals are evident and sustained in those organisations that have embraced the productive series (NHSI 2011).

8 They demonstrate how employees have been empowered to lead change and make positive changes to the way they work (for example, Rampton Hospital and Derbyshire Mental Health Hospital (NHSI 2010)).
A changed atmosphere on the wards was observed, which is supported by the NHS implementation experiences. Patients noted that the ward seemed calmer and patients were more actively involved in their care.

Participants were asked to self-score their redesign capabilities to quantify ability rather than knowledge. The following parameters were scored 0–4 by each participant at baseline and at 12 months: lean thinking, 5S, process mapping, patient status board, KHWD board, change management and project management.

Although redesign capability is self-scoring, the upward improvement in redesign capability of 156.7 per cent for Productive Ward and Mental Health Ward and 395.6 per cent for T-POT participants signifies that a key goal of the project was achieved.

The score is somewhat arbitrary because it is self-enumerated; however, it shows an upward trend for each health service, irrespective of the Productive Series program selected.

The significant improvement in capability building is supported qualitatively by a range of comments within the final reports of participating health services.
Domain 2: Patient wellbeing

Patient safety and reliability of care

Health services have a duty of care to offer patients an environment that is as safe and error-free as possible.

Health services attributed the overall improvement in the recording and management of risk within the ward environment to the visual management performance measures related to patient safety and reliability of care. An improvement (reduction) in the incidence of falls, seclusion rates in mental health wards and medication errors were achieved. Some health services, however, reported an increase in the rate of error, particularly for pressure sores. This was attributed by the health services to more accurate and honest reporting, particularly in the initial phases of the project.9

- An average 9 per cent reduction in falls per 1,000 bed days in Productive Wards
- An average 49 per cent reduction in medication errors per 1,000 bed days in Productive Wards
- An average 69.1 per cent reduction in medication errors per 1,000 bed days in Productive Mental Health Wards
- A reduction in seclusion times within Productive Mental Health Wards of 13.3 per cent per 1,000 bed days
- An average rise in pressure injuries of 33 per cent per 1,000 bed days for Productive Ward

Health services reported that the transparent approach to tracking risks raised its profile. In some cases this was sufficient in reducing incidence. Victorian health services used the following tracking tools for risk:

- *A safety cross-tracking tool displayed visually on the KHWD board.* This comprised 30–31 boxes, equivalent to the number of days of each month. Incidents were noted and adverse events discussed at staff meetings, enabling staff to further investigate patterns of incidents and implement interventions, including standardisation of processes.
- *Process mapping, including spaghetti diagrams.* This was used to track movement and processes, enabling interpretation and applications of improvements.

‘The changes to the storage rooms had an immediate impact on the ward, both visually and functionally. Infection control audits were completed pre and post WOWing of the main store rooms, with positive results. Pre WOWing, the store room met 83 per cent of infection control standards, and a second audit completed post WOWing achieved 100 per cent of infection control standards.’

Rural health service

Patient satisfaction

Wards within participating health services asked patients to complete a patient satisfaction survey focusing on the quality, safety and dignity of the care provided while they were receiving services within the health service.

The patient experience questionnaires were based on key drivers for improving the patient experience and increasing the confidence in care provided. Displaying the results of patient feedback and experiences enabled staff, visitors and patients to track satisfaction rates and record suggestions for improvement.

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9 Increases in rates of error were also experienced in the NHS, where it was found that nurses were not equipped to report or interpret the results of incidence of error (Wilson 2009).
‘The ward was being interrupted all through each day by phone calls from relatives. This is now managed proactively. The next of kin details are added to the new “above bed charts”. Nurses now ring the relatives of each patient daily. This is done in front of the patient. The nurse usually hands the phone over to the patient at the end of the call. The board includes details of preferred next of kin for contact, diet preferences, photos, day of discharge, nurse for the shift etc.’ **Metropolitan health service**

‘I liked that they asked me my opinion while I was still in hospital.’ **Rural health service patient**
Domain 3: Efficiency of care

Productive Wards and Mental Health Wards

Length of stay

Improvement in the indicator ‘length of stay’ varied between the participating health services but resulted in an overall improvement of both ward types over 12 months.

Specifically a:

- 6.9 per cent improvement in length of stay in Productive Mental Health Wards
- 2.7 per cent improvement in the length of stay in Productive Wards.

There is a direct correlation between improvements in time spent in direct care and the quality of care (through fewer falls and pressure sores) provided to patients who spend less time in hospital. There was a shared sense among health services that the activities of the Productive Series impacted positively on any improvements experienced in length of stay.

Productive Mental Health Wards

The overall improvement in length of stay of participating mental health wards was due mainly to that experienced at one specific health service. This health service achieved a 28.6 per cent reduction in length of stay (from 23 days to 15 days).

Productive Wards

The length of stay increased in two health services participating in the Productive Ward, which impacted on the overall results. Analysis revealed that the specific patient mix on these wards over the period of implementation changed significantly, which impacted on the care and length of stay of patients.

Direct care time

Time released due to improved efficiencies, better ward organisation and standardisation of processes can be redirected to more valuable tasks such as providing care. All participating health services reported increases in the time released for care.

Specifically an:

- 18 per cent improvement in time released for care in Productive Mental Health Wards (average of 39 per cent time at baseline to 57 per cent time at 12 months)
- 11 per cent improvement in time released for care for Productive Wards (average of 37 per cent time at baseline to 48 per cent time at 12 months).

Productive Operating Theatres

Small sample sizes made comparison and evaluation challenging but did provide an indication of trends occurring in health services. Table 5 summarises the indicators and outcomes for efficiency of care in T-POT participants.

10 Theatre utilisation measures were collected by eight of the nine participating health services. In addition, HiPs and on-time start measures were collected by five health services. A sixth collected two related measures ‘patients into theatre on time’ and ‘surgery starting on time’.
Table 5: T-POT indicators and outcomes in efficiency of care domain

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Outcome required</th>
<th>Mean change</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theatre utilisation (eight health services)</td>
<td>Maximise theatre usage</td>
<td>5.4%</td>
<td>0.0 to 17.1%</td>
</tr>
<tr>
<td>On-time starts (five health services)</td>
<td>Increase in on-time theatre starts</td>
<td>4.86%</td>
<td>–2.67 to 15.22%</td>
</tr>
<tr>
<td>Hospital-initiated postponements (five health services)</td>
<td>Decrease in postponed surgery</td>
<td>1.25%</td>
<td>–2.0 to 3.38%</td>
</tr>
</tbody>
</table>

**Theatre utilisation** requires measurement of theatre start and finish times, as well as the periods in which the theatre is not being used for surgical procedures. This measurement varied over the 12-month period, with a mean utilisation of 5.4 per cent. Utilisation was improved in seven out of eight health services but ranged from 0 per cent utilisation improvement at one health service to a maximum 17.1 per cent utilisation.

Five of the nine participating health services recorded ‘on-time starts’ over the 12-month period. The results were variable, with two health services recording significant improvements in on-time starts (15.22 per cent and 10.81 per cent respectively). The other three health services either recorded no improvement, a slight improvement or a minor decline.

The overall improvements recorded for theatre utilisation and on-time starts over the 12-month period can at least in part be attributed to the tools and techniques of T-POT, which equip clinicians and other staff to gain greater insight into any problems, including reviewing current processes and identifying areas for improvement. One metropolitan health service noted that late starts were an issue. By collecting data through T-POT, the reasons were revealed and solutions determined using a combination of quality and improvement leadership at the program director level and introducing a different medical model in the theatre.

**Hospital-initiated postponements** (HiPs) were recorded by five of the nine participating health services, with improvements recorded in three of the five.

**The return on investment**

Improvement projects create a range of financial and non-financial benefits for health services. The ‘released value’ created is not easily reflected on the budget or cash-flow. Examples of released value include improving theatre utilisation or reducing length of stay. These benefits typically allow more patients to be treated with the same number of resources and cannot be mapped to budget or cash-flow.

Table 6 depicts the average gross released values across health services participating in the Productive Series over the 12-month period.

Table 6: Average gross released values over the 12-month period

<table>
<thead>
<tr>
<th>Average gross released value per dollar invested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productive Ward</td>
</tr>
<tr>
<td>$15.68</td>
</tr>
</tbody>
</table>

11 Please note that data provided to calculate gross released values and return on investment are self-reported and sourced from health services, limited by their consistency and approach to measurement.
The average gross released value per dollar invested over 12 months of funding has enabled additional patients to be treated in beds and theatre hours to be released.

Analysis of ROI results submitted by health services has enabled the department to model improvements over five years (assuming sustained and expanded improvements). Our model has been structured to allow 75 per cent of total benefit to be achieved in year 1 and then 10 per cent savings over each of four subsequent years.

Departmental funding to undertake the **Productive Ward Series** resulted in 20 ward-based projects and affected 962 beds across 14 health services over the 12-month implementation period. For each dollar invested, $15.68 of gross value was released, which allowed an additional 4.3 patients to be treated in each bed per health service funded. This was a **saving of 26,980 bed days per year**.

Our modelling is based over five years. If the improvements were to be sustained and expanded to affected 1,500 beds, we would have a **total saving of 42,069 bed days** and an additional 538 would be affected.

Departmental funding to undertake the **Productive Mental Health Ward Series** resulted in five ward-based projects and affected 145 beds across five health services over the 12-month implementation period. For each dollar invested over the implementation period, $10.64 of gross value was released, which allowed an average additional two patients to be treated in each bed per health service funded. This was a **saving of 879 bed days per year**.

Our modelling is based over five years. If the improvements were to be sustained and expanded to affect 500 beds, we would have a **total saving of 3,093 bed days** and an additional 355 beds would be affected.

Departmental funding to undertake the **Productive Operating Theatre Series** resulted in nine health service-based projects and affected 42 theatres over a 12-month period. For each dollar invested over the implementation period, $18.70 of gross value was released, which provided an average additional 11.2 theatre hours per theatre affected per year.

Our modelling is based over five years. If the improvements were to be sustained and expanded within the health services to affect 100 theatres, we would have a **total saving of 648.6 theatre hours** and an additional 58 theatres would be affected.

### 3. Project management

One aspect in the evaluation of an initiative is to assess the project management rigour, which in this case was the responsibility of the department. A survey was emailed to each health service that participated in Productive Leader, Ward and Mental Health Ward. A further survey was distributed to participant health services for T-POT, after the final workshop in October 2014.

Fourteen of the 19 health services that participated in the Productive Series responded to the survey.
Overview of findings

Overall, the results were very positive, with 80 per cent of participants choosing ‘a high or very high response’ where they would recommend the Productive Series.

The main findings from the survey included:

- Health services would have preferred to have heard from sites about what they were doing, rather than the same ones at every workshop, or to have a way of hearing from other health services not within their network.
- Workshops were viewed as generally constructive, including some feedback regarding their structure and location.
- The webinars were viewed both positively and negatively, with nearly half of service respondents commenting on their high frequency. Feedback also included the issue of timing of webinars – as this was often not suitable for clinical routines.
- Regarding support and communication from the department, respondents viewed this as excellent, with the majority stating that their needs had been met in a timely and appropriate manner.
- Regarding reporting format, feedback was mainly positive, though for some respondents additional support may have assisted, particularly in usage and interpretation of A3 reporting.

Lessons learnt

Some additional lessons learnt from the survey include:

- If adopting a network approach, it would be beneficial to arrange a forum for all health services. Opportunities to visit participating health services would also assist in sharing, learning and connection.
- When using a redesign report format, some additional support may be needed for health services that have not had the opportunity to formally participate in redesign initiatives.
4. Limitations

The Productive Series has been widely adopted by health services. However, it is difficult to assess the extent to which improvements can be attributed to the program alone. Wards can be simultaneously inundated with more than one priority or change initiative, creating at one extreme synergies or, alternatively, competing priorities and chaos. It was evident that health services that were already actively involved in improvement activities were advantaged in their participation in the program. Project support varied across the sector. In particular, two health services not currently funded through the RHCP required significant additional support and capability building to bridge the skills gap between themselves and the remaining health services.

Professor Helen Bevan (NHS Institute for Innovation) has warned that the Productive Series may not demonstrate its full potential until it is fully embedded. Ongoing executive support and encouragement is also essential in maintaining drive, enthusiasm and engagement of staff, and in embedding these service improvement initiatives. Embedding new processes takes time and requires the investment of people and resources. In some Victorian health services the ‘pace of implementation’ was challenging; the buy-in and ground swell of involvement took at least six months to harness. This was particularly evident in some theatre projects. As a result, the window of opportunity for implementation in the project timeline was shortened. In such contexts, planning for the next phase beyond the project-funding period became paramount. For sustained improvements in quality and productivity to occur across Victorian health services frontline clinicians need to be encouraged to question how they work and be provided with simple but effective and appropriate tools for improvement. Spreading the program throughout Victoria (in particular the Productive Ward and Productive Mental Health Ward) is planned and included in sustainability planning across a number of health services for 2015.

Research indicates that the Productive Series appeals to the intrinsic values of frontline staff, harnessing a social movement approach and mobilising their personal energies and drivers for change (King’s College London 2010a). Implementation of the Productive Series in Victoria aligned well with the recent national accreditation process. The strategy of linking the modules with the national standards was considered a sensible solution for reducing the feeling of being overwhelmed by conflicting priorities and initiatives.

The participation by and support of executive sponsors for the program varied across health services. Health services that progressed in this initiative (experiencing measurable improvements) were greatly assisted by engaged and enthusiastic executive leaders and were recognised for their achievements across their organisations.

Participating health services varied in location, size, operational complexity, organisational culture and development. Three health services returned a negative ROI for their participation in Productive Ward and Mental Health Ward. On investigation the following was reported:

- A number of new people commenced key roles over the 12-month period of the program including the introduction of a care coordinator position. This resulted in some delayed discharges while services were being reorganised.
- A couple of long-term patients skewed the data.
- A higher acuity occurred on one ward during the first year of the program driven by a review in admissions criteria and models of care for the unit.

There were a number of issues which contribute to data validity, particularly in the early phases, related to data availability, measurement consistency and interpretation. Some health services omitted baseline measurement or ‘before’ photos, which did not assist in quantifying or celebrating improvements. The variation in ward size did not allow direct comparison of results across wards. For example, the following three measures were submitted by health services for length of stay: per 1,000 bed days, per month and percentage increase over time.
The transparent approach to tracking risk generally resulted in an initially negative trend prior to a stronger positive improvement, assisted by more accurate reporting of error, more honest reporting and a focus on what was being measured. Feedback from staff indicated that the raised awareness of pressure sores was a typical example of this.

**Return on investment**

There was a wide range of ROI or net released values reported across participating health services. Results were dependent on the significance of total costs (implementation and maintaining change) and the huge variance in proportions of total investment costs to gross release value. For one health service in particular, total costs comprised 75 per cent of the value of gross released value.

Despite the acknowledged limitations, implementation and support for the Productive Series was widespread and the net released value provided an increase of 4.3 patients per bed affected per year in general wards, two patients per bed affected per year in mental health wards and 11.2 theatre hours per theatre affected per year.
5. The Productive Leader

Productive Leader was offered to health services, in part, as a strategy to facilitate the release of staff time for redesign opportunities and initiatives. Though this program was optional for health services, 17 of the 19 health services participated in the program. However, not all health services completed all modules, or allowed the intended target audience\textsuperscript{12} to participate. In particular, a number of health services sent middle, rather than executive, managers to workshops. Interestingly, one of the reasons given for incompletion of modules was ‘lack of time’.

Health services that completed all modules achieved significant time and monetary savings, including streamlined management of emails and reduction and removal of non-essential meetings and agenda items. The evidence strongly suggests that compulsory participation by executive sponsors would have greatly assisted overall implementation of the series, including demonstrated time and monetary savings.

Examples of achievements attributed to the Productive Leader program include:

- development of email management guidelines
- reduced printing costs and paperless meetings in some health services
- reduced time in discharge and other meetings through improved processes
- spread of Productive Leader training to other nurse unit managers and team leaders.

The review of meetings, particularly costings, purpose and associated time, assisted in motivating participants to make improvements. Examples of reduced meeting hours across a range of health services include:

- 570 hours released annually at health service A (12 meetings reviewed)
- 162 hours released from monthly meetings at health service B
- 108 hours released from executive operations meetings at health service C
- reduction of monthly to bimonthly meetings, with the duration reduced from two hours to one hour, at health service D.

As a result of time saved from (and in) meetings, health services were able to direct ‘saved time’ to working groups focusing on the national standards, or to provide more direct care time.

A saving in printing costs of 1,404 pages/month through reduced email attachments, and a paperless meeting policy, saved one health service 2.5c per page not printed = $3,510 per month, or $38,610 per year, for each Productive Leader.

As there were five leaders involved, this saved $193,000 per year for the health service.

\textbf{Outer urban health service}

\textsuperscript{12} The intended target audience for the Productive Leader modules were senior staff and executives. Staff who completed the Productive Leader modules predominantly held frontline staffing roles on wards and in theatres.
6. Conclusions

The RHCP provides a structured approach to improving the delivery, management and quality of care provided to Victorian patients. Supporting Victorian health services to implement the NHS Productive Series has been a high priority for the RHCP.

Implementation has been an overwhelmingly positive experience for health services and the RHCP. Evaluation of indicators, including the ROI, indicates that all goals of the Productive Series have been met by the participating health services. Staff time has been released for redirection to patient care (increasing direct care time) and the quality and safety of wards has been improved.

The program objectives align with those of the RHCP by improving health service efficiency, minimising waste and duplication, reducing errors in patient care and being cognisant of safety requirements. The series has also fostered workplace health and wellbeing, which is critical and sustaining.

A range of benefits were experienced by participating health services and the patients they treated. Wards affected reported enhanced patient satisfaction and improved safety, productivity and efficiency. The overall improvement in patient experience was attributed to standardising processes and creating efficiencies.

The program had an immediate positive impact not only for frontline improvements but also for the staff implementing the changes. The modular approach to improvement allowed health services to implement the initiative at their own pace and in a systematic way.

Participating Victorian health services reported a reduced incidence of falls and medication errors on all ward types as well as a reduction in seclusion time for mental health wards, increased staff engagement, increased patient satisfaction and increased time spent in providing direct care to patients. Furthermore, development of leadership capability and staff engagement in frontline problem solving were identified as key benefits.

Implementation of the Productive Series across Victorian health services indicated a positive ROI to health services and Victoria more widely, with value released improving theatre utilisation and reducing length of stay for general and mental health wards. This allows more patients to be treated with the same number of resources, enhancing the efficiency and effectiveness of care in Victorian health services.

The achievements across a range of patient, staff and efficiency indicators are consistent with improvements demonstrated across NHS Trusts (King’s College London 2010a).
7. Sustainability

Early analysis of the Productive Series indicates that the program does deliver what it sets out to; however, long-term monitoring of sustainability and spread is required to truly evaluate the impact on health services, their staff and the patients in their care.

The Productive Series journey of improvement in Victoria is early in its genesis compared with the six years of implementation in the UK. By 2011, four years following implementation, only 50 per cent of wards in the UK showed some evidence of sustainability.

Data was submitted by health services at baseline, at the end of the implementation period and then nine months following implementation. The final set of data enabled the sustainability of processes to be tested.

Sustainability and improvement was widely demonstrated, however the achievements of the implementation period were not sustained in 3 parameters (this data is highlighted in red in tables 7 to 9 below).

Where only a small number of health services submitted data it is best to interpret any shift as an indication only. For example, there were only 5 health services submitting data for the Productive Mental Health Series and only 2 of these submitted unplanned absence data.

Health services varied their approach to quality measurement some measuring ‘incident per month’ and others measuring more correctly ‘per 1000 occupied bed days’. Tracking quality measures per month does not account for how full or empty a unit is at any given time and so as these results cannot be compared they have not been included in this report.

Table 7 demonstrates variable improvement in reported parameters. The significant improvement in seclusion rates is noted.

Table 7: Overview of indicator data submitted by participants of the Productive Mental Health Series

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Average baseline measurement</th>
<th>Average end of implementation period measurement</th>
<th>Average 6 month after end of implementation period measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average length of stay (days)</td>
<td>26.6</td>
<td>24.6</td>
<td>23.9</td>
</tr>
<tr>
<td>% Direct patient care time</td>
<td>38.75</td>
<td>56.75</td>
<td>44.33</td>
</tr>
<tr>
<td>Seclusion Rate per 1,000 bed days</td>
<td>13.0</td>
<td>11.3</td>
<td>7.4</td>
</tr>
<tr>
<td>Medication errors times per 1,000 bed days(^\text{13})</td>
<td>5.97</td>
<td>1.85</td>
<td>1.43</td>
</tr>
<tr>
<td>Unplanned absences(^\text{14}) (%FTE)</td>
<td>4.5</td>
<td>4.3</td>
<td>4.93</td>
</tr>
</tbody>
</table>

\(^{13}\) Data from two of five health services only at the post-observation point (six months following the end of the implementation period.

\(^{14}\) Data from three of five health services only for baseline and at the end of implementation. Data from two health services only for six months after the implementation period.
Table 8 contains data from participants of the Productive Ward Series. It reinforces the challenge of maintaining transparency and ongoing tracking of quality measures such as incidents of pressure sores. In addition, this pressure sore incidence data was not recorded consistently across participating health services (three health services recorded per 1,000 bed days and six health services recorded per month).

Table 8: Overview of indicator data submitted by participants of the Productive Ward Series

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Average baseline measurement</th>
<th>Average end of implementation period measurement</th>
<th>Average 6 month after end of implementation period measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average length of stay (days)</td>
<td>7.36</td>
<td>7.21</td>
<td>7.00</td>
</tr>
<tr>
<td>% Direct patient care time</td>
<td>37.3</td>
<td>48.3</td>
<td>51.87</td>
</tr>
<tr>
<td>Falls per 1,000 bed days</td>
<td>7.97</td>
<td>7.25</td>
<td>7.16</td>
</tr>
<tr>
<td>Medication errors per 1,000 bed days</td>
<td>14.23</td>
<td>7.28</td>
<td>7.20</td>
</tr>
<tr>
<td>Pressure sores per 1,000 bed days</td>
<td>1.58</td>
<td>2.11</td>
<td>1.90</td>
</tr>
<tr>
<td>Unplanned absences(%FTE)</td>
<td>6.06</td>
<td>4.95</td>
<td>4.65</td>
</tr>
</tbody>
</table>

Table 9 represents an overview of indicator data submitted by seven of the nine T-POT participants. The data indicates the challenge in sustaining improvement in hospital-initiated postponements and on-time starts.

Table 9: Overview of indicator data submitted by participants of the T-POT

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Average baseline measurement</th>
<th>Average end of implementation period measurement</th>
<th>Average 6 month after end of implementation period measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital-initiated postponements (average cancellations per month)</td>
<td>7.79</td>
<td>6.32</td>
<td>5.77</td>
</tr>
<tr>
<td>On-time starts (% all starts)</td>
<td>58.64</td>
<td>61.04</td>
<td>56.66</td>
</tr>
<tr>
<td>Theatre utilisation (% total availability)</td>
<td>77.36</td>
<td>81.48</td>
<td>82.89</td>
</tr>
</tbody>
</table>

Participants noted the following in their post-observation reports:

- An improvement in seclusion data was also attributed to the planning and implementation of the 2014 Mental Health Act.
- A number of health services have found efficiencies implementing the handover process module. One health service reduced handover meeting times from 120 minutes at baseline to 30 minutes at the end of the implementation period; a second health service reduced a multidisciplinary team handover time from 60 minutes to 15 minutes.
• Large bodies of work related to clinical handover, patient observation and nursing procedures has been aligned with the national quality standards.
• Ward communication and documentation improved, attributed to and facilitated by the KHWD boards.
• Huge gains to transparency and efficiency have been established with the ongoing use of journey boards and WOWing within wards. Weekly huddles have become the communication forum.
• A number of health services are looking at improved discharge planning such as staggering of discharge times and linking with pharmacy to improve medication flow.

Health services report a spread of the Productive Series across their networks. For example, one health service is self-funding a further eight wards in both acute and subacute clusters and a second is spreading the program to a further three wards.

**Lessons learnt** during the sustainability phase include the following:
• Aligning the processes with the national standards helps ongoing review and sustainability.
• Using checklists and the whole ward team adhering to the new processes and standards is important.
• Champions exist at all levels of a team and are not always in formal leadership positions. These people have the capacity to drive change while projecting enthusiasm and positively influencing the team.
• Sustainability will most likely be maintained if there is team ownership.
• It is recommended that two months be allocated per process module. This will enable a thorough assessment and completion of improvement initiatives.
• Developing standard operating procedures relevant to each module is a good way to communicate and sustain changes.
8. Recommendations

There are a range of options that the steering committee could consider regarding future implementation and embedding of this initiative in Victorian health services.

Data and measurement
Capability building in managing and interpreting data is still required at all levels of health services.
Bringing together cross-functional teams and creating buy-in from experts in finance, strategy and planning is encouraged across health services.

Return on investment
An ongoing emphasis on working across teams to interpret organisational ROI should be integrated into RHCP-funded projects.
This critical and useful tool assists health services to understand added value in terms of additional patients seen, reducing length of stay, increasing direct care time, increasing on-time theatre starts and reducing theatre postponements.

Spread
The Productive Series supports this RHCP objective.
Health services are encouraged to continue the activities and modules of the Productive Series, including a visual approach to ward and theatre care, and are encouraged to embed these improvements across the entire health service.

Sustainability
Long-term planning and collective ownership of the improvements are required to support sustainability.
Health service planning should include evidence of the cultural shift required to embed a systems approach to improvement sustainability. Exemplar health services are encouraged to showcase their insights and to mentor others.

Project management
Encourage further collaboration, arrange on-site visits and consider including mentors in the next iteration of implementation – both internally and externally to individual health services.
The Productive Leader series is strongly recommended as a professional development opportunity for health service executives, including senior executives.
The inclusion of non-funded RHCP health services in such initiatives facilitates improvement across the entire health service sector and demonstrates that, first and foremost, enthusiasm and commitment by a health service – including executives and clinicians – is fundamental to the success of improvement initiatives such as the Productive Series.
# Appendix 1: Networks developed for each module of the Productive Series

## Productive Leader (PL) networks

<table>
<thead>
<tr>
<th>PL network</th>
<th>Health service</th>
<th>Sum of PL staff</th>
<th>Sum of sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Alfred Health</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Bairnsdale Regional Health Service</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mercy Public Hospitals</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Monash Health</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Peninsula Health</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Peter MacCallum Cancer Institute</td>
<td>14</td>
<td>1</td>
</tr>
<tr>
<td>D total</td>
<td></td>
<td>49</td>
<td>9</td>
</tr>
<tr>
<td>E</td>
<td>Ballarat Health Services</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Bendigo Health</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Djerriwarrh Health Services</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Maryborough District Health Service</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Stawell Regional Health</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>E total</td>
<td></td>
<td>40</td>
<td>5</td>
</tr>
<tr>
<td>C</td>
<td>Albury Wodonga Health</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Echuca Regional Health</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Melbourne Health</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mildura Base Hospital</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Northern Health</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Western Health</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>C total</td>
<td></td>
<td>55</td>
<td>8</td>
</tr>
<tr>
<td>Grand total</td>
<td></td>
<td>144</td>
<td>22</td>
</tr>
</tbody>
</table>

## Productive Ward (PW) networks

<table>
<thead>
<tr>
<th>PW network</th>
<th>Health service</th>
<th>Sum of PW staff</th>
<th>Sum of Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Albury Wodonga Health</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Alfred Health</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Mercy Public Hospitals</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Mildura Base Hospital</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>St Vincent’s Melbourne</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>H total</td>
<td></td>
<td>50</td>
<td>7</td>
</tr>
<tr>
<td>F</td>
<td>Bairnsdale Regional Health Service</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Central Gippsland Health Service</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Monash Health</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Peninsula Health</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>F total</td>
<td></td>
<td>45</td>
<td>6</td>
</tr>
<tr>
<td>G</td>
<td>Ballarat Health Services</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Djerriwarrh Health Services</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Maryborough District Health Service</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Stawell Regional Health</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Western Health</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>G total</td>
<td></td>
<td>50</td>
<td>6</td>
</tr>
<tr>
<td>Grand total</td>
<td></td>
<td>145</td>
<td>19</td>
</tr>
</tbody>
</table>
### Productive Mental Health (MH) Ward

<table>
<thead>
<tr>
<th>PMHW network</th>
<th>Health service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Mercy Public Hospitals</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Mildura Base Hospital</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Monash Health</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Peninsula Health</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>St Vincent’s Melbourne</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

### Productive Operating Theatre (TPOT)

<table>
<thead>
<tr>
<th>TPOT network</th>
<th>Health service</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Bendigo Health</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Central Gippsland Health Service</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Latrobe Regional Hospital</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Melbourne Health</td>
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# Appendix 2: The Productive Series Steering Committee

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<tr>
<th>Position</th>
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<tr>
<td>Chairperson</td>
<td>Dr Linda Mellors</td>
<td>Mercy Public Hospitals</td>
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<tr>
<td>Metropolitan health service participating in the current program</td>
<td>Ms Cheyne Chalmers</td>
<td>Monash Health</td>
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<tr>
<td>Metropolitan health service that has implemented Productive Series</td>
<td>Ms Gayle Smith</td>
<td>Eastern Health</td>
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<tr>
<td>Rural health service participating in the current program</td>
<td>Ms Betty Meumann</td>
<td>Stawell Health</td>
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<tr>
<td>Regional health service participating in the current program</td>
<td>Ms Laura Martin</td>
<td>Ballarat Health Services</td>
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<tr>
<td>External consultant</td>
<td>Ms Lynne Maher</td>
<td>Ko Awatea</td>
</tr>
<tr>
<td>Manager, Acute Programs</td>
<td>Ms Katy Fielding</td>
<td>Department of Health &amp; Human Services</td>
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<tr>
<td>Manager, Health Reform Programs</td>
<td>Vivienne Hadj</td>
<td>Department of Health &amp; Human Services</td>
</tr>
<tr>
<td>Senior Project Manager, RHCP</td>
<td>(Anton Freischmidt)</td>
<td>Department of Health &amp; Human Services</td>
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<tr>
<td></td>
<td>Reitai Minogue</td>
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<tr>
<td>Project Officer</td>
<td>(Melissa McIlvain)</td>
<td>Department of Health &amp; Human Services</td>
</tr>
<tr>
<td>Vendor (ex officio)</td>
<td>Pieter Walker</td>
<td>Qualitas Consortium</td>
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<tr>
<td>Vendor (ex officio)</td>
<td>Marion Dixon</td>
<td>Qualitas Consortium</td>
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Appendix 3: Alignment of the national standards with the Productive Series

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<td>Patient hygiene</td>
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<td>Ward round</td>
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<tr>
<td>Knowing How We are Doing</td>
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<td>M</td>
<td></td>
<td></td>
<td>L</td>
<td></td>
<td></td>
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<tr>
<td>Well-Organised Ward</td>
<td>M</td>
<td>L</td>
<td>M</td>
<td></td>
<td>L</td>
<td></td>
<td></td>
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<tr>
<td>Patient status at a glance</td>
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<td></td>
<td>H</td>
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</table>

- Degree of relationship between Productive Ward and the 10 national standards: low (L), medium (M), high (H). Based on document by Laura Martin, Ballarat Health Services.
- Highlighted cells are the most directly related.
Key terms and definitions

- **Capability building** refers to the enhancement of knowledge, attitudes and skills within employees required to implement redesign within a health service.

- **Direct care time** is the number of hours worked per week applying professional knowledge and care for a patient. It includes time spent at the bedside caring for the patient, as well as away from the bedside applying professional knowledge.

- **Foundation modules** are the modules that are essential to complete prior to progressing to the next level of the Productive Series. The activities covered in these modules are fundamental requirements for a productive workplace.

- **Gross released value** is the total released value (see definition below) as a result of the project.

- **Hospital-initiated postponement** (HIP) is a postponement of a patient’s scheduled admission date that has been initiated by the hospital.

- **Knowing How We are Doing** board (KHWD board) is a visual display board that contains vital information including the measurement and status of various elements relevant to running a productive and efficient ward (such as falls data, pressure sore data, staff absenteeism, communications and patient feedback).

- **Length of stay** refers to the duration of a hospital stay, calculated by subtracting the date the patient is admitted from the day of separation. All leave days, including the day the patient went on leave, are excluded. A same-day patient is allocated a length of stay of one day.

- **Average length of stay** is calculated by dividing the total patient days in a given period by the total number of hospital separations in that period.

- **Net released value** is the released value (see definition below) as a result of the project, less the cost of the project.

- **Quality measures** are the mechanisms that enable the user to quantify the quality of a selected aspect of care by comparing it with an evidence-based quality criterion.

- **Released value** is the value released by the project, measured in additional bed days/hours or theatre capacity. The value is released, allowing more patients to be treated with the same (or similar) cost described in dollar terms. It does not include savings achieved through incremental cost reduction or a bottom-line saving.

- **Return on investment (ROI) tool** used for the Productive Series was designed to examine the return on investment to health services focusing on emergency department, ward or theatre improvements. The tool can be used prospectively, retrospectively or throughout the project cycle to assist in decision making.

- **Sustainability** is the ability of the organisation to maintain the changes or improvements that have been implemented.

- **Theatre hours released per day/year** is the potential additional theatre hours released per day/year as a result of the project. It is calculated by multiplying the increase in theatre utilisation by the total available theatre hours per day, divided by the number of working days in the year (250 days).

- **Theatre utilisation** is the rate of efficiency of time theatres are being used for surgical procedures. It requires a measurement of theatre start and finish times, as well as the times the theatre is not being used for surgical procedures.

- **The total released value** is the computation of ‘bed days saved per year’ multiplied by ‘cost per day’.

- **The Well-Organised Ward/Theatre (WOW) module** is one of three or more Productive Series foundation modules that helps understand, use and consistently manage the ward, mental health
ward or operating theatre. It simplifies the workplace and reduces waste by having everything in its place, at the right time, ready to go.
References

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