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Pharmaceutical Benefits Scheme Hospital Medication Chart

National Evaluation

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Executive Summary

The Pharmaceutical Benefits Scheme Hospital Medication Chart (PBS HMC) enables the prescribing, administering, supply and claiming of eligible PBS and non-PBS medicines without the need to issue a separate prescription. The chart aims to:

- Reduce the regulatory and administrative burden for health professionals
- Improve efficiency in hospital settings
- Improve medication safety by reducing medication transcription errors
- Improve the quality use of medicines.

The PBS HMC was approved for use nationally in July 2016 following a comprehensive development process.

Eighteen months post the national rollout, the current evaluation has sought to establish implementation of the PBS HMC to date in the public and private sectors, including obstacles to uptake. It has also sought to establish barriers and enablers to implementation at a hospital level and confirm the safety and quality characteristics of the chart and its use.

The methodology has included:

- Workshops and semi-structured interviews to gain feedback from clinicians about the use of the PBS HMC
- Targeted questions to regulators to understand the legal status of the PBS HMC in each state and territory
- A survey of personnel overseeing chart implementation in public and private hospitals
- A review of PBS data from July 2017 to March 2018 supplied by the Australian Government Department of Health (the department)
- A safety snapshot of hospitals measured using the National Standard Medication Chart (NSMC) audit module.

Extent of implementation

The PBS data shows the number of hospitals using the PBS HMC increased steadily, from 27 in July 2017 to 89 in March 2018. Continued growth in implementation, particularly in the private sector was also evident from survey responses collected in April and May 2018. Given the commitment of major private hospital groups, this growth is expected to continue on a similar trajectory during 2019.

While the use of the PBS HMC is legislatively supported in all states, uptake by public hospitals is limited due to a number of factors, including the implementation of electronic medication management (EMM) systems and electronic discharge systems, and the limitations of pharmacy software systems. NSW is not a signatory to the National Health Act PBS Reforms and thus use of the form in public hospitals is not possible. In Western Australia, a state-wide form similar to the PBS HMC but not used for claiming via the PBS is being implemented. Growth in implementation in the public sector is therefore not expected.

Process of implementation

The online learning module developed by the NPS MedicineWise has been well utilised and well received. Up to 31 January 2019, 46,474 healthcare professionals and students have completed the course, and feedback as to its value has been positive for all professional categories including medical staff.

The value of the implementation materials made available by the Australian Commission on Safety and Quality in Health Care (the Commission) is less clear, however the hospital groups have tended to use these material as a basis for tailored localised implementation

materials. Awareness of the Commission-specific resources was therefore lower than might be expected.

A relatively small proportion of hospitals had conducted risk assessments to identify and resolve issues relating to implementation and workflows. The benefits of conducting such assessments were evident from the open-ended responses, which could be emphasised in future communications to hospitals.

Barriers and enablers identified by survey respondents also point to the importance of a planned and a systematic approach to implementation, for example:

- Almost half of respondents identified that there was a strong commitment to their existing charts and processes
- A third indicated that there was poor organisational awareness of the benefits of the PBS HMC
- A third indicated that there were competing priorities
- A third indicated that the chart had (or was perceived to have had) a significantly negative impact on workflow.

In relation to the chart itself, over half of respondents felt that the limited ability to make changes to the form had been a barrier.

Impacts of implementation

Respondents to the survey identified greater acceptance among nursing staff (68%) compared to medical staff (46%), despite indicating a greater impact on nursing workload, mainly due to poor completion of the charts.

Over half of respondents indicated that some aspects of the chart were poorly completed, most commonly the provider details (identified by 20/22 respondents), which is expected to improve with increased provider familiarity.

The survey secured limited information about the outcome benefits in terms of efficiency and safety, with many indicating it was too early to tell. The expected efficiencies in terms of removing the need for owing scripts was however identified.

Safety snapshot from NSMC national audit

The NSMC national audit conducted 1 October to 31 October 2018 captured data from 63 hospitals using the PBS HMC for 2,115 individual patient charts.

Like the findings for the NSMC, compliance with PBS HMC safety features was found to be sub-optimal. Of particular note, compliance with the patient identification, Adverse Drug Reaction (ADR) details, Venous thromboembolism (VTE) risk assessment and indication safety features require most improvement.

As a new chart in the early adoption phase, it is expected that increased user familiarity will result in an improvement in the use of the PBS HMC safety features.

Recommendations

1. The Commission should promote the NPS MedicineWise Online Learning Module to engage clinicians during implementation of the PBS HMC
2. The Commission should develop a PBS HMC (Paediatric) to extend the administrative efficiencies to hospitals with paediatric patients
3. The Commission should continue to review the use of the NIMC and encourage the use of the PBS HMC

4. Participating hospitals should share NSMC audit findings with clinicians to drive local review and development of action plans to address areas of sub-optimal performance.

Purpose

This report presents the work completed to design and implement a national evaluation of the Pharmaceutical Benefits Scheme Hospital Medication Chart (PBS HMC) in public and private hospitals.

The report is intended to inform stakeholders including the department, state and territory governments and the private hospital sector about issues affecting the implementation and use of the PBS HMC.

Scope

The PBS HMC was implemented nationally from June 2016 following a comprehensive development and trialling process involving 10 trial sites. The trial and heuristic evaluation focused on the usability of the charts and safety and quality issues relating to the chart, to inform final design and implementation.

Eighteen months subsequent to national rollout, the current evaluation has focused on establishing enablers and obstacles to implementation and barriers to uptake in public and private hospitals. It has also sought to confirm the safety and quality characteristics of the chart and its use.

The public sector was under represented in the initial PBS HMC trial. Nine contracts were issued to potential participants but only one of these hospitals completed the trial. This was due to a number of factors including; a lack of dispensing software capability in public hospitals to allow claiming under the trial arrangements; and some states not participating in PBS Reform.

The national evaluation has investigated whether these factors remain unresolved and if there are new factors preventing public hospitals from implementing the PBS HMC.

The Commission is not a regulator and does not have a role in measuring legal compliance of the charts in use.

Aims and objectives

This national evaluation has sought to assess the extent of implementation of the chart, the barriers and enablers to implementation and the impact on the prescribing, administering, claiming and supply of PBS-eligible medicines in public and private hospitals.

The specific objectives of the evaluation have been to:

Level and extent of implementation

- Establish the status of implementation with Australian jurisdictions
- Determine the number and characteristics of hospitals that have implemented the PBS HMC.

Process of implementation

- Establish the uptake and utility of the support materials available to hospitals
- Identify additional support that may enable greater uptake of the PBS HMC in public and private hospitals
- Identify barriers to the uptake of the PBS HMC in the public hospital sector.

Impacts of implementation

- Gauge the level of clinician acceptance of the PBS HMC
- Measure the safety profile of the PBS HMC in a sample of hospitals
- Examine the efficiencies gained by hospitals post-implementation.

Context and background

Towards standardisation of inpatient medication charts

Standardisation of hospital medication charts is an important strategy for reducing adverse medicine events in acute care[1]. In April 2004, Australian Health Ministers agreed that all public hospitals should use a common medication chart to support standardisation and medication safety. The Commission was appointed to develop and implement the National Inpatient Medication Chart (NIMC), which has reduced the incidence of prescribing errors in the medication management cycle in Australia[2].

Following the implementation of the NIMC, the Commission was engaged by the Australian Government Department of Health to develop a national standard chart for use in residential aged care facilities. The National Residential Medication Chart (NRMC) was intended to meet the specific requirements of this clinical setting, and to enable medication ordering, supply, administration and PBS claiming in a single form. The chart was developed to improve safety through the inclusion of standard fields, layout and intuitive design. Implementation of NRMC resulted in considerable improvements in safety and quality for residents. The chart also reduced the administrative burden on pharmacists and clinicians, and improved efficiencies by allowing PBS claiming through the single form, removing the need to issue a separate prescription.

Development and trialling of the PBS Hospital Medication Chart

Allowing the supply and claiming of PBS medicines directly from medication charts in public and private hospitals has been a further initiative in the standardisation of medication charts. The PBS HMC enables the prescribing, administering, supply and claiming of eligible PBS and non-PBS medicines without the need to issue a separate prescription. The chart aims to:

- Reduce the regulatory and administrative burden for health professionals
- Improve efficiency in hospital settings
- Improve medication safety by reducing medication transcription errors
- Improve the quality use of medicines.

The PBS HMC project set out to develop, trial and evaluate the PBS HMC in private and public hospitals[3]. The Commission worked closely with academic, human factors, jurisdictional, clinical and medication safety stakeholders over two years to develop and test the implementation of the chart.

Based on the NIMC, the PBS HMC underwent evaluation via hospital trials[4] and a human factors evaluation[5], which informed the final development of the PBS HMC, guidance and support materials. The evaluation also sought to identify any limitations or constraints on use of the chart, to form the basis of advice to governments.

The hospital trial was conducted to assess the PBS HMC suitability for implementation, and to secure evidence regarding outcomes for hospitals and clinicians. The trial evaluated:

- The safety and quality of PBS HMC relative to the NIMC
- Its compliance with regulatory requirements for PBS data fields
- Financial advantages to the hospital
- Workflow utility and efficiencies for hospitals, clinicians and pharmacies.

The 16-week trial was conducted in nine private and one public hospital[*] in Western Australia, Queensland, New South Wales and Victoria. During this period, 27,112 prescriptions were dispensed from PBS HMC. Participation required hospitals to modify their medicines dispensing and claiming software, however at the time of recruitment to the trial, most public hospitals were not able to modify their dispensing software as required.

The trial identified a range of factors which were likely to have influenced successful implementation of the PBS HMC, including executive sponsorship and clinical engagement, user training and engagement, implementation planning, and whole-of-hospital implementation rather than implementation in specific clinical departments.

The trial found the safety performance of the PBS HMC compared favourably to the existing medication charts used at the trial sites. There were no medication incidents reported in association with the PBS HMC and a reduction in medication transcription errors was observed.

The PBS HMC was found to remove a number of administrative obstacles to prescribing and claiming PBS medicines and facilitated timely supply of PBS medicines. In the public hospital where the PBS HMC was trialled, the chart removed a number of steps from the discharge process. The chart reduced the opportunity for errors to occur when prescribers transcribe from the chart to a separate prescription.

In the private hospital setting, the PBS HMC eliminated the need for 'owing' prescriptions, a costly administrative exercise that has no clinical relevance. The PBS HMC also ensured an accurate record of a prescriber's intention was available at all times.

Sixty per cent of respondents to a clinician survey indicated that they would like to continue to use the chart after the completion of the trial. Following the evaluation, the chart was in continued use in seven of the ten trial sites.

The heuristic evaluation identified some potential human factor risks related to use of the PBS HMC, which were confirmed by feedback from clinicians using the chart. Opportunities to mitigate these risks through change management strategies, process changes, improved training and improved chart design were recommended. Specific design recommendations included:

- Reducing visual clutter
- Increasing the prominence of safety-critical information through positioning font size and sharing
- Improving the grouping of elements on the chart to better support its use
- Increasing space for handwritten information to potentially improve the legibility and prominence of the handwritten information
- Enabling more medication orders per chart to reduce the risks and inefficiencies associated with re-charting.

The findings from the project have informed the final development of the PBS HMC, guidance and implementation support materials. The PBS HMC was approved for use in public and private hospitals in June 2016.

Among the recommendations made in the final report was that an evaluation of the PBS HMC and national implementation should be conducted eighteen months after the PBS HMC was authorised. This was intended to assess the ongoing safety performance and utility of the chart[6].

[*] Ten contracts were issued to public hospitals from the cohort of applicants but for a number of operational reasons nine hospitals withdrew from the trial.

Method

The evaluation strategy was informed by initial stakeholder consultation which took the form of interviews / meetings to establish the general status of implementation in the jurisdictions and among public and private health services. This consultation also informed the development of the evaluation tools.

The resulting methodology comprised a mixed method approach including:

- Workshops and semi-structured interviews to gain feedback from clinicians about the use of the PBS HMC
- Targeted questions to regulators to understand the legal status of the PBS HMC in each state and territory
- A structured survey that was distributed to personnel overseeing chart implementation in public and private hospitals
- A review of PBS data supplied by the Department
- A safety snapshot of hospitals measured using the national standard medication chart audit module.

Workshops and communication with regulators and private providers

The Project Manager conducted a number of workshops and made individual contact with jurisdictions and private providers to gain an understanding of the status of implementation and to secure feedback about the chart. This included establishing the legal and policy context as well as exploring the situation in relation to other initiatives that may conflict with the implementation of the charts, such as the implementation of electronic medication management systems (EMM).

These discussions informed the survey distribution strategy, with surveys being targeted to jurisdictions known to be implementing the charts.

Hospital survey

A survey was developed based on stakeholder consultation, with jurisdictions encouraged to consider how the content could assist them to support their own implementation.

Target audience:

- Public and private hospitals in states and territories where the PBS HMC was known to be implemented, based on discussions with regulators and private hospital networks
- Personnel within the hospitals who were likely to be overseeing/involved in implementation (e.g. Pharmacy Directors, Health Information Managers, Quality Managers, Directors of Nursing etc.).

Content

- Status of implementation including whether there is an intention to implement in the future
- Drivers for implementation
- Feedback regarding the implementation resources provided by the Commission, including awareness and utility
- Local implementation initiatives and enablers (e.g. local education)
- Reported acceptability of the chart among nursing and medical staff

- Reported benefits and limitations.

Distribution

- Distribution was supported through jurisdictions (Safer Care Victoria, Department of health WA, Queensland Health and SA Health) and private hospital networks, including through the Australian Private Hospital Association, Ramsay Healthcare and Healthscope
- Distribution points were able to be tracked using SurveyMonkey coding.

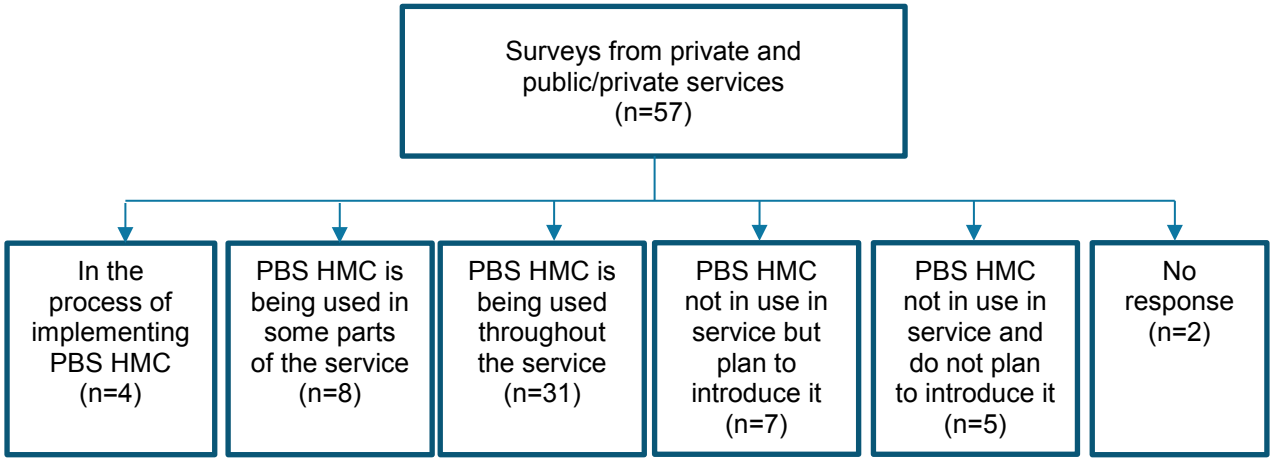
Response

- There were 83 individual responses to the survey
- 20 of the public hospital responses were from 10 WA hospitals where the state specific WA Medication Chart was being implemented (refer Appendix 1).

Analysis

- The survey was analysed to enable understanding of the implementation process within health services and the needs for ongoing implementation
- The majority of responses were from private hospitals, which was expected given the status of the charts in the jurisdictions. Given this, and that the vast majority of responses from public hospitals were from WA, the survey data analysis was conducted only for responses from private or combined private/public hospitals
- Responses to questions about the implementation resources and implementation experience, including barriers and enablers, based on the denominator of hospitals currently implementing the charts as per Figure 1.

Figure 1 Survey analysis breakdown



Review of PBS data

PBS data was sourced for the period July 2017 to March 2018 and analysed to establish the implementation of the chart over this period through an analysis of hospital and prescription numbers.

Safety snapshot

The National Standard Medication Chart (NSMC) national audit conducted between 1 October and 31 October 2018 provides a snapshot of the participating hospital's compliance with the safety features of the PBS HMC.

Findings

The findings are presented in relation to the evaluation objectives:

Extent of implementation

- Establish the status of implementation within Australian jurisdictions, including the public and private sectors
- Identify barriers to the uptake of the PBS HMC in the public hospital sector
- Determine the number and characteristics of hospitals that have implemented the PBS HMC.

Process of implementation

- Establish the uptake and utility of the support materials available to hospitals
- Identify additional support that may enable greater uptake of the PBS HMC in public and private hospitals
- Identify barriers and enablers to implementation.

Impacts of implementation

- Gauge the level of clinician acceptance of the PBS HMC
- Measure the safety profile of the PBS HMC in a sample of hospitals
- Examine the efficiencies gained by hospitals post-implementation.

Extent of implementation

The PBS HMC was approved by the Department in July 2016 for use in public and private hospitals to satisfy the requirements of the *National Health Act 1953*. A number of amendments were made to the regulations to recognise the PBS HMC as a form of prescription and to satisfy the PBS claiming rules. This removed the need for prescribers and pharmacists to have a conventional paper prescription for claiming purposes.

Status within Australian jurisdictions

The state and territory governments made similar amendments to the jurisdictional poisons legislation to recognise the PBS HMC as a form of prescription during 2016. The use of the PBS HMC is legislatively supported in all states and territories and the PBS HMC is recognised as a form of prescription (refer Appendix 2).

There are some subtle differences in legal requirements between each state. Most notably, in Tasmania, Schedule 8's have up until recently been required to be ordered via a separate traditional prescription. This has been the main barrier to implementation in that state. Similarly, in Queensland, Schedule 8's intended for discharge require additional information to be written on the chart by the prescriber.

Not all states and territories are signatories to the National Health Act public hospital pharmaceutical reforms (NSW and the ACT are not a signatory). In NSW, PBS dispensing and claiming in public hospitals is limited to outpatient S100 Highly Specialised Drug dispensing and claiming, thus the chart is not implemented in public hospitals in that state.

Lack of dispensing software functionality has been a barrier to implementation in some states. For example, the three public hospitals in Queensland that were issued contracts for the PBS HMC trial withdrew from the trial due to the limitations of the iPharmacy software. Implementation of the PBS HMC is limited in Queensland public hospitals for this ongoing reason, however newer versions of iPharmacy have the required functionality and are being

investigated. Implementation of the Cerner EMR system in that state is also likely to be a factor limiting implementation of a paper-based chart.

Similarly in Victoria, most public hospitals pharmacies use the iPharmacy dispensing software.

The establishment of electronic medication management (EMM) programs also renders the paper-based PBS HMC unsuitable for implementation in some states. Queensland has an extensive EMM program, as does the ACT and NT. EMM projects are also well established in a number of Victorian health services. South Australia is also focussing on implementing EMM systems in public hospitals, however some country hospitals have begun investigating the possibility of introducing the PBS HMC to relieve some of the burden of supplying PBS medicines.

The use of electronic discharge summary software is also a factor limiting uptake of the PBS HMC. In Tasmania, the electronic discharge summary software generates discharge prescriptions, thus adoption of the PBS HMC has been seen as detrimental to establishing a closed loop EMM system.

In Western Australia the WA Medication Chart Policy was published in January 2018 and public hospitals are in the process of implementing the state specific WA Hospital Medication Chart, with the same benefits as the PBS HMC but not linked to PBS claiming. Reflecting a state-wide policy for the management of anticoagulants in hospital, the chart incorporates the prescribing of anticoagulant medications. Western Australia has also implemented software to manage discharge prescriptions in a number of hospitals. It is likely that while the chart is in use across the state there may be little to no claiming of PBS medicines in these hospitals.

A range of other initiatives are likely to impact on PBS HMC implementation. In Victoria for example, the Partnered Pharmacist Charting program has been adopted by five health services covering seven hospitals. The use of a PBS Hospital Medication Chart would prohibit pharmacists from being able to 'chart' and would not make it possible for the program to be used. Some health services, such as Alfred Health, have pharmacists 'charting' nicotine replacement therapy, opioids, vancomycin and aminoglycosides on medication charts. Changing to a PBS Hospital Medication Chart would not allow for these services to continue. Also, not all medications are supplied by the hospital pharmacy on discharge.

In that state, there is limited supply of discharge medicines from public hospital pharmacies, thus the value of the PBS HMC for this purpose is not evident. The Royal Melbourne Hospital, for example, sends out about 30-35% of discharge scripts to community pharmacies. The reasons for this vary from patients having a Webster pack at their community pharmacy (the script is sent to the community pharmacy to allow changes to the pack), to enable a quick discharge (some patients do not want to wait 3 hours for a discharge script to be completed in hospital) and to allow clinical pharmacists more time to attend to clinical duties.

A summary of the status of the PBS HMC in the states and territories is shown in Appendix 3.

Status within the private hospital sector

The Private Hospital Sector Committee has endorsed the PBS HMC as a standard chart for the sector.

Discussions with representatives in the private sector during the evaluation identified that most private groups planned to implement the chart, including:

- Healthscope – the chart is being implemented organisation-wide
- St John of God - the chart has been implemented organisation-wide
- Ramsay Healthcare – a partial rollout has occurred
- Mater Brisbane - the chart has been implemented organisation-wide
- St Vincent's – partial roll-out anticipated

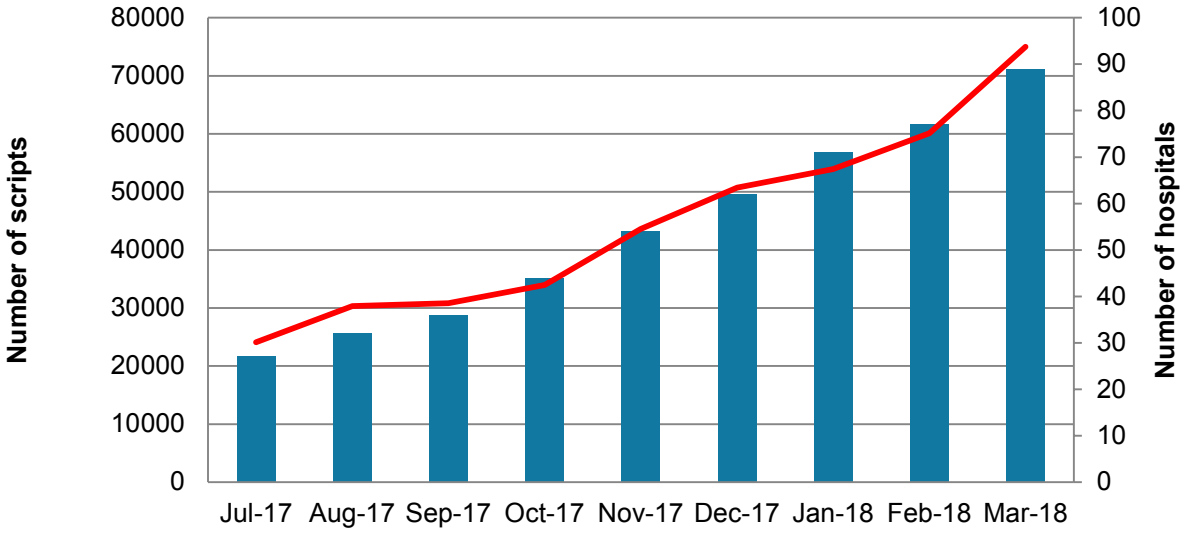
Details of this consultation are summarised in Appendix 4.

Evidence of implementation – PBS data

The circumstances within various jurisdictions and private hospital groups is reflected in the PBS data, which was collected from July 2017 to March 2018. The survey, undertaken during April/May provided further evidence of implementation, including the intention to implement.

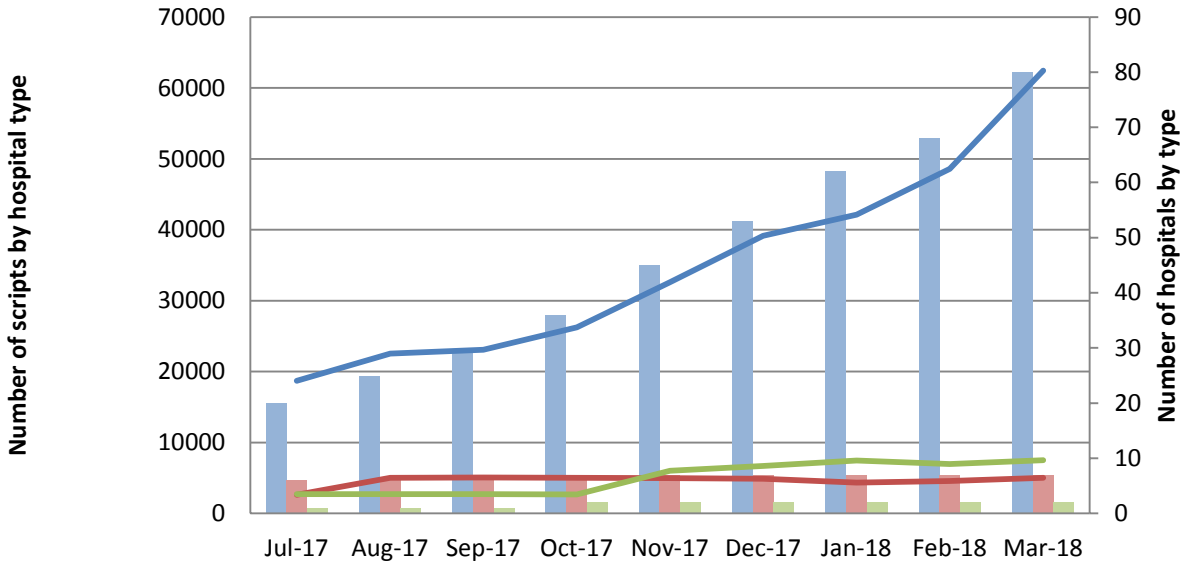
Over the PBS data collection period, the number of hospitals using the PBS HMC increased steadily, from 27 in July 2017 to 89 by March 2018 (Figure 2 and 3). The majority (90%) are private hospitals, reflecting the jurisdictional situations and private hospital policies described above (Table 1).

Figure 2 Cumulative trends in hospital participation in PBS HMC claiming from July 2017-March 2018



	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
Hospitals	27	32	36	44	54	62	71	77	89
Scripts	24085	30340	30843	33971	43604	50737	53926	60129	75014

Figure 3 Hospital and claims growth over time by hospital type (July 2017 to March 2018)



	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
Hospitals Private	20	25	29	36	45	53	62	68	80
Hospitals Public	6	6	6	6	7	7	7	7	7
Hospitals Both	1	1	1	2	2	2	2	2	2
Scripts Private	18714	22563	23070	26264	32596	39153	42120	48578	62448
Scripts Public	2621	5040	5053	5030	4965	4901	4349	4574	5039
Scripts Both	2750	2737	2720	2677	6043	6683	7457	6977	7527

Table 1 Total participating hospitals and claims by state and hospital type (from July 2017 to March 2018)

State	Hospitals n= 89 (%)			Claims n=75,014 (%)		
	Public	Private	Both	Public	Private	Both
ACT	**0**	**2**	**0**	**0**	**2,188**	**0**
NSW	**1**	**21**	**0**	**1**	**11,931**	**0**
QLD	**1**	**15**	**0**	**834**	**14,569**	**0**
SA	**0**	**7**	**0**	**0**	**8,838**	**0**
VIC	**5**	**28**	**0**	**4204**	**20,058**	**0**
WA	**0**	**7**	**2**	**0**	**4,834**	**7,527**
TOTAL	7 (8)	80 (90)	2 (2)	5,038 (7)	62,448 (83)	7,527 (10)

The 80 private hospitals implementing the PBS HMC by March 2018 represent approximately 13% of all Australian private hospitals (Table 2). The main private hospital groups represent the majority of those implementing the charts (66%).

Over half (50%) of Healthscope hospitals had made claims up to the end of March 2018, as well as 20% of Ramsay Healthcare hospitals and 37% of St John of God hospitals (Table 3). As reflected in the survey findings, these groups have mainly facilitated the implementation centrally, which has enabled the considerable task of introducing the charts. Appendix 4 summarises the status of all hospitals in these three private hospital groups.

Table 2 Implementation of PBS HMC by private hospitals by state / territory as of March 2018

State	Number of private hospitals*	Number (%) implementing PBS HMC (March 2018) (based on PBS claiming)
ACT	14	2 (14)
NSW	202	22 (11)
NT	3	0 (0)
QLD	118	16 (14)
SA	58	7 (12)
TAS	15	0 (0)
VIC	160	33 (21)
WA	57	9 (16)
Total	627	89 (14)
**Data extracted from list of Commonwealth declared hospitals*		

Table 3 Implementation of PBS HMC by main private hospital groups

Health group	Number of private hospitals*	Number (%) implementing PBS HMC (based on PBS claiming)
Healthscope	50	28 (56)
Ramsay Healthcare	76	15 (20)
St John of God	27	10 (37)
Total	**203**	**53 (26)**
**Information about hospitals sourced from group websites.* Healthscope, Ramsay Healthcare, St John of God		

Evidence of implementation – survey data

Given the limited applicability and uptake of the charts by the public sector (other than in WA), the results of the survey were analysed for private hospitals (or services with public and private services) only, to establish the status of implementation and the experience to date in these services.

Overall, 57 survey respondents were from private or private/public services (refer Table 4). Of these, over half (54%) were already using the charts throughout their service at the time of the survey, and a further third were in the process of implementing the charts or planning to.

Table 4 Status of implementation of the PBS HMC by hospital type (Private / Both)

	No. (%) of responses		
	Private (n=50)	Both public and private (n=7)	TOTAL (n=57)
The PBS HMC is not in use within our service and we do not plan to introduce it	5 (10)	0 (0)	5 (8)
The PBS HMC is not in use within our service but we plan to introduce it	7 (14)	0 (0)	7 (12)
We are in the process of implementing the PBS HMC	4 (8)	0 (0)	4 (7)
The PBS HMC is being used in some parts of our service	6 (12)	2 (29)	8 (14)
The PBS HMC is being used throughout the service	27 (54)	4 (57)	31 (54)
No response	*1 (2)*	*1 (14)*	*2 (4)*

Process of implementation

As above and as described in Section 3.2, the survey responses from private and private/public hospitals were analysed in relation to the implementation of the charts, including the utility of the supporting resources, the barriers and enablers to implementation and the experience to date in these services. Respondents that did not respond to any of the questions about implementation were removed from this analysis, leaving a total of 43 respondents for this aspect of the evaluation.

Awareness and utility of implementation resources

Half of respondents indicated that they had used the implementation kit and found it valuable; similarly for the User Guide and the online course. However, a significant number of respondents were not aware of the resources (Table 5). This may have been because implementation was tailored by hospital groups; both Ramsay and Healthscope produced localised implementation resources based on the resources provided. Indeed 70% of survey respondents indicated that their organisation produced local resources to support implementation, which reflects a consideration of local needs.

Table 5 Awareness and utility of resources provided by the Commission. (Private n=37, Both n=6, Total n=43)

	No. (%) of responses				
	I am not aware of this resource	I am aware of the resource but we have not used it	We have used this & found it valuable	We have used this but not found it valuable	*No response*
PBS HMC Implementation Guide	9 (21)	25 (58)	0 (0)	4 (9)	5 (12)
PBS HMC User Guide	9 (21)	25(58)	0 (0)	4 (9)	5 (12)
National standard medication chart course (NPS MedicineWise)	7 (16)	26 (60)	0 (0)	5 (12)	5 (12)

There was limited specific feedback provided about the resources, although some respondents requested that the Implementation Guide and User Guide be simplified. The difficulties of reaching VMOs was also highlighted in the comments.

- *We as a team have not received any direct education or directive over the change of the new charts and were not aware it was happening until this survey*
- *Ramsay produced a simplified version which we used. Most information was captured on a 1 page summary which we distributed and this was well received*
- *Resources were good quality - Ramsay Pharmacy Services also provided information which was similar but targeted to RHC facilities*
- *Healthscope elected to produce internal education processes to implement PBS*
- *NPS medicine wise education forms part of our Mandatory training program for Nursing and medical staff employed by the organisation*
- *NPS modules are informative but onerous to complete*
- *The NPS training was undertaken by all pharmacists and this was useful however nursing and other hospital staff have not chosen to do course*
- *We were given a talk describing the new charts*
- *Unaware of resources. Have done learning module on NPS*
- *NPS online module has been designed very thoughtfully as it is specific for the occupation. It is a very valuable tool in the implementation process. The user guide and implementation guide is in-depth, however can be time consuming to go through to an end-user e.g. prescribing doctor*
- *The user guide is quite lengthy for busy practitioners. We have used other means of promoting key messages*
- *Useful.*

The NPS MedicineWise online learning was evaluated separately in terms of overall usage as well as acceptability of the resource.

As of 31 January 2019, over 46,474 individuals completed the online learning course developed by the NPS MedicineWise, 71% of which were nursing personnel, 18% medical personnel and 7% pharmacy personnel (Table 6). There was a high usage among students of various disciplines, which accounted for approximately 45% of course completions. The course appears to have been strongly promoted by teaching/educational staff and was set as mandatory learning by at least one private hospital.

Table 6 Completion of the NPS MedicineWise online training course

	No. (%) responses
Nursing personnel	**32,930 (71)**
Nurse - Practitioner	150 (0.3)
Registered (RN Div 1)	14,049 (30.2)
Nurse - Enrolled (RN Div 2)	3,376 (7.3)
Nurse - Other	958 (2.0)
Student - Nursing	14,244 (30.6)
Student - Nurse practitioner	153 (0.3)
Medical personnel	**8,182 (18)**
Medical staff	2,665 (5.7)
General Practitioner	246 (0.5)
Student - Medical	4,586 (9.9)
Hospital Intern	685 (1.5)
Pharmacy personnel	**3,178 (7)**
Pharmacist	1,297 (2.8)
Student – Pharmacy	1,549 (3.3)
Pharmacist - Intern	332 (0.7)
Other	**2,184 (5)**
Other - Other Health Professionals	242 (0.5)
Student - Other	444 (1.0)
Other	1,498 (3.2)
TOTAL	**46,474**

Feedback about the value of the online learning resource was sought via a form completed at the time of completion of the course. This feedback was very positive in terms of the relevance of the material and the impact on knowledge and confidence in completing the charts (refer Table 7).

Given the high proportion of students undertaking the training, the data was analysed separately for nursing staff and medical staff. The learning module was well received by both disciplines (Table 8). Fifty seven per cent of medical staff and 73% of nursing staff indicated that they were highly likely to recommend the learning to a colleague, scoring 8, 9 or 10 on a ten point scale (Table 9).

Table 7 Feedback regarding the online learning course, all users (n=2,717)

	No. (%) of responses n= 2,717				
	Agree	Not sure	Disagree	Not applicable	No response
The content and activities were relevant to my work/studies	2,495 (92)	95 (3)	65 (2)	5 (0.2)	57 (2)
My knowledge about accurately completing and/or reviewing a medication chart has increased as a result of completing this course	2,447 (90)	144 (5)	61 (2)	2 (0.1)	63 (2)
My confidence in using the NSMC correctly has increased as a result of completing this course	2,358 (87)	213 (8)	46 (2)	4 (0.1)	96 (4)
Adequate instruction was provided to enable me to navigate through the course (e.g. how to start a module, how to progress to the next module)	2,413 (89)	132 (5)	45 (2)	4 (0.1)	123 (5)

Table 8 Feedback regarding the online learning course (Medical staff n=153, Nursing staff=1,152)

		No. (%) of responses				
		Agree	Not sure	Disagree	Not applicable	No response
The content and activities were relevant to my work/studies	Medical	143 (93)	3 (2)	4 (3)	0 (0)	3 (2)
	Nursing	1,047 (91)	52 (5)	28 (2)	3 (0.3)	22 (2)
My knowledge about accurately completing and/or reviewing a medication chart has increased as a result of completing this course	Medical	131 (86)	8 (5)	11 (7)	0 (0)	3 (2)
	Nursing	1,034 (90)	66 (6)	26 (2)	1 (0.1)	25 (2)
My confidence in using the NSMC correctly has increased as a result of completing this course	Medical	117 (76)	19 (12)	10 (7)	1 (1)	6 (4)
	Nursing	999 (87)	97 (9)	15 (1)	2 (0.2)	39 (3)
Adequate instruction was provided to enable me to navigate through the course (e.g. how to start a module, how to progress to the next module)	Medical	138 (90)	6 (4)	2 (1)	0 (0)	7 (5)
	Nursing	1,013 (88)	61 (5)	24(2)	1 (0.1)	53 (5)

Table 9 Users likelihood of recommending the online learning to a colleague (Medical staff n=153, Nurses n=1,152, all professionals n=2,717)

	No. (%) responses		
Answer Choices	**Medical staff**	**Nursing staff**	**All groups**
0 (Extremely unlikely)	5 (3)	8 (1)	29 (1.1)
1	1 (1)	8 (1)	18 (0.7)
2	0 (0)	10 (1)	16 (0.6)
3	5 (3)	11 (1)	22 (0.8)
4	6 (4)	21 (2)	45 (1.7)
5	14 (9)	58 (5)	141 (5.2)
6	13 (9)	75 (7)	156 (5.7)
7	19 (12)	84 (7)	219 (8.1)
8	23 (15)	177 (15)	418 (15.4)
9	24 (16)	188 (16)	431 (15.9)
10 (Extremely likely)	40 (26)	487 (42)	1,153 (42.4)
No response	*3 (2)*	*25 (2)*	*69 (2.5)*

Use of risk assessment and audits

The Commission implementation guide recommended that health services undertake a risk assessment to establish the impact on work flows and address accordingly to support smooth implementation. Perhaps reflecting the awareness and use of the implementation resources, less than a quarter of respondents indicated that a risk assessment had been conducted (Table 10).

Use of audits to support implementation was widespread with two thirds of respondents identifying that they used or plan to use the NIMC audit tool or another audit tool to conduct audits. Most have developed a specific audit tool.

Table 10 Risk assessment re impact on workflows (Private / Both)

Answer Choices	**No. (%) of responses**		
	Private (n=35)	**Both (n=6)**	**TOTAL (n=41)**
Risk assessment conducted	8 (23)	2 (33)	10 (24)
Risk assessment not conducted	10 (29)	0 (0)	10 (24)
Not sure	16 (46)	4 (67)	20 (49)
No response	*1 (3)*	*0 (0)*	*1 (2)*

The value of undertaking a risk assessment was evident in some of the open-ended comments, which describe some of the issues encountered and the mitigation strategies:

- *Risk assessment led to training of staff and briefings at meetings to address concerns raised.*
- *A risk assessment was completed which documented the need for a documented process for all staff to follow to ensure consistency in the ordering of medications from the supplier.*

- *Population of charts occurs at entrance to theatre, this has the effect of delaying access to charts by nursing and pharmacy until after exiting from recovery. This has the net effect of delay identification of medication or administration issues, until late in day or after hours*
- *Work flow process were reviewed by Ramsay working party and feedback provided*
- *This created a huge backlog on our fax machine. As staff had to photocopy the order OR fax it, they just chose to fax it therefore creating a higher level of pressure on one device. We implemented an email address and system to help alleviate this pressure*
- *Communication with our external pharmacy and meetings to discuss transfer of patient information to them in a secure manner - achieved. Achieving Medical officer signature and prescriber number on front of chart - in progress still*
- *Authority prescription number is ONLY on the front page. It would be more user-friendly if this number was also on the inside of the chart. In addition, if prescriber details would be on the main chart as well for the purposes of copying the chart for pharmacy dispensing. There is less risk of mixing charts up when there is more than one active chart with authority drug*
- *Risk assessment has not been a very formalised process. Issues identified include ensuring completion of prescriber details, with extra pharmacists rostered during the first stage of implementation, presentations to medical staff and communication with individual prescribers on specific problems arising post-implementation*
- *Multiple meetings with relevant stakeholder groups occurred prior to implementation, where we discussed the need for a coordinated approach to changing over to the new charts. Education (verbal and email) was delivered to users of the chart prior to implementation. Global emails were also circulated to inform staff to be aware that the change is coming and again, another email was sent once change over occurred. Time was spent to search all clinical areas known to carry charts to ensure that all superseded charts were removed and replaced with new charts.*

Barriers and enablers to implementation

The survey explored the barriers and enablers to implementation (Table 11 and Table 12). The results point to the importance of a planned and a systematic approach to implementation of such a significant change, for example:

- Almost half of respondents identified that there was a strong commitment to their existing charts and processes
- A third indicated that there was poor organisational awareness of the benefits of the PBS HMC
- A third indicated that there were competing priorities
- A third indicated that the chart had (or was perceived to have had) a significantly negative impact on workflow.

In relation to the chart itself, over half of respondents felt that the limited ability to make changes the form had been a barrier.

Table 11 Barriers to implementation (Private n=35, Both n=6, Total n=41)

Answer Choices	No. (%) of responses n=41			
	Agree	Not sure	Disagree	*No response*
The implementation guidance materials have not provided adequate / suitable guidance	6 (15)	9 (22)	23 (56)	*3 (7)*
There has been a strong commitment to our existing charts and processes	18 (44)	6 (15)	14 (34)	*3 (7)*
There is poor organisational awareness of the potential benefits of the PBS HMC	12 (29)	5 (12)	19 (46)	*5 (12)*
There are competing priorities at present (e.g. accreditation)	12 (29)	5 (12)	21 (51)	*3 (7)*
We have not had adequate capacity / resources to manage the implementation	9 (22)	3 (7)	24 (59)	*5 (12)*
The charts have had (or perceived to have had) a negative impact on workflows	13 (32)	3 (7)	22 (54)	*3 (7)*
The lack of availability of specialist chart versions has been a barrier	7 (17)	6 (15)	25 (61)	*3 (7)*
There are perceived legal impediments to the use of the charts	6 (15)	4 (10)	28 (68)	*3 (7)*
System readiness has delayed implementation	6 (15)	5 (12)	25 (61)	*5 (12)*
The limited ability to make changes the form has been a barrier	17 (41)	1 (2)	19 (46)	*4 (10)*

Table 12 Enablers to implementation (Private n=35, Both n=6, Total n=41)

Answer Choices	No. (%) of responses			
	Agree	Not sure	Disagree	*No response*
There is strong executive support for the introduction of the charts	34 (83)	1 (2)	3 (7)	*3 (7)*
We have established clear accountability for implementation	29 (71)	5 (12)	4 (10)	*3 (7)*
There is widespread awareness of potential benefits of the charts	19 (46)	6 (15)	13 (32)	*3 (7)*
Potential impacts of workflow have been addressed early in the implementation process	23 (56)	3 (7)	12 (29)	*3 (7)*
There is strong clinical leadership and support for the charts	26 (63)	6 (15)	6 (15)	*3 (7)*

Impacts of implementation

Clinician acceptance

Respondents to the survey identified greater acceptance among nursing staff (68%) compared to medical staff (46%), despite indicating a greater impact on nursing workload, mainly due to incompletion of the charts (Table 13).

Over half of respondents indicated that some aspects of the chart were poorly completed, most commonly the provider details (identified by 20/22 respondents).

> *The only aspect that is difficult is medical practitioners filling in the front of the chart with their details. The reason given is that it is against the workflow.*

Other areas identified as not well completed, included:

- VTE prophylaxis section
- Discharge medications
- Authority code numbers
- Number of (active) charts
- Chart validity
- Indication
- PRN medications (frequency and 24 hour maximum dose)
- Duration of supply.

Table 13 Chart utility (Private n=35, Both n=6, Total n=41)

Answer Choices	No (%) of responses			
	Agree	Not sure	Disagree	*No response*
The charts seem to be well accepted by medical staff	19 (46)	10 (24)	9 (22)	*3 (7)*
The charts seem to be well accepted by nursing staff	28 (68)	2 (5)	8 (20)	*3 (7)*
The charts have resulted in increased workload for nursing staff	19 (46)	4 (10)	15 (37)	*3 (7)*
The charts have resulted in increased workload for medical staff	11 (27)	4 (10)	23 (56)	*3 (7)*
Some aspects of the chart are poorly completed (please provide details below)	28 (68)	5 (12)	5 (12)	*3 (7)*

Respondents were asked to provide information about the impact of the charts in terms of efficiency. There was a poor response to this question with only 21 respondents indicating either yes or no. A further 16 indicated they were not sure or it was too early to tell (Table 14).

The main benefit described was less owing prescriptions.

- *Rates of scripts required from doctors have reduced by 90%. Charts never leave the wards*
- *Improved efficiency with discharge process as separate discharge script not required if PBSHMC used correctly.*

Table 14 Benefits of the PBS HMC – Improved efficiency? (Private n=35, Both n=6, Total n=41)

Improved efficiency achieved?	No. (%) of responses
Yes	17 (41)
No	4 (10)
Not sure / it is too early to tell	16 (39)
No response	*4 (22)*

Twelve respondents identified the chart had improved medication safety and a third indicated they were not sure or it was too early to tell (Table 15).

Table 15 Benefits of PBS HMC – Improved medication safety? (Private n=35, Both n=6, Total n=41)

Improved medication safety achieved?	No. (%) of responses
Yes	12 (29)
No	10 (24)
Not sure / it is too early to tell	15 (37)
No response	*4 (10)*

- *A VMO needs to still write clearly*
- *We don't have errors specifically associated with transcription as a result of the current chart (other than re-charting errors, which will be no different). We will still need to transcribe from the chart to our electronic discharge summary and this process will not change*
- *Minimal medication transcription errors beforehand and none identified since implementation*
- *Previous "Medical Director" software much superior to written charts*
- *To be more apparent post audit and patterned with recorded medication error incidences*
- *Frequency on prn medications on discharge are our main problem. Often not changing 2 hourly prn medications (e.g. oxycodone) to at least 4 hourly on discharge. Increase communication to medical staff*
- *Due to the layout of the chart the variable and VTE section of the chart is getting missed and increasing medication errors*
- *No benefit over NIMC in this regard*
- *Human errors still occur. There has been no change.*

Post implementation, the Commission has continued to receive feedback in regard to the PBS HMC. A PBS HMC (Paediatric) has been the most frequently requested change by users.

Safety snapshot from NSMC national audit

The NSMC national audit conducted 1 October to 31 October 2018 captured 2,115 responses for individual patient charts from 63 hospitals using the PBS HMC. Compliance with PBS HMC safety features was able to be determined (Table 16).

Table 16 Compliance with PBS HMC safety features from NSMC national audit 2018

Safety element	Explanation – Implication for safety	2018 audit finding PBS HMC	2018 audit finding NSMC
Patient identification completed correctly on all pages	Patient wrongly identified and receives unintended medicine	23%	32%
Prescriber details section legible and complete on PBS HMC	Delay in therapy due to inability to clarify medicine order with prescriber	39%	39% (Only auditing PBS HMC)
Adverse Drug Reaction (ADR) details documented completely and correctly on all charts	Re-exposure of patients to a medicine or similar class of medicines previously causing an ADR	27%	74%
Medication history documented on chart or documented elsewhere and cross-referenced on chart	Discontinuity of appropriate therapy, or inappropriate recommencement of previously ceased medicine	55%	44%
Venous thromboembolism (VTE) risk assessment completed and where indicated prophylaxis prescribed	Patient does not receive appropriate VTE prophylaxis and develops a deep vein thrombosis	3% (Only PBS HMC Acute)	9%
VTE prophylaxis prescribed in VTE prophylaxis order section only (where VTE prophylaxis has been prescribed)	Patient does not receive appropriate VTE prophylaxis and develops a deep vein thrombosis	85% (Only PBS HMC Acute)	89%
Slow-release (SR) boxes ticked where SR medicines prescribed	Patient receives incorrect medication formulation	64%	63%
Pharmaceutical review of all charts documented	Medicine error e.g. drug interaction not detected resulting in adverse outcomes for the patient	41%	43%
Medicine orders complete and correct	Patient receives incorrect medication, or intended medication via incorrect route, frequency or duration	50%	53%
Indication documented on all medicine orders	Patient receives incorrect medication, or intended medication via incorrect route, frequency or duration relevant to the indication it is being used for	22%	33%
Doses of medicines documented as administered (i.e. not missed) or reason for not administering specified	Patient receives no dose or a double dose of a medication	98%	98%

Similar to the NSMC, the audit findings identify that there are safety features of the PBS HMC at a level of compliance that requires significant improvement including:

- Patient identification completed correctly on all pages
- Prescriber details section legible and complete on PBS HMC
- ADR details documented completely and correctly on all charts
- Medication history documented on chart or documented elsewhere and cross-referenced on chart
- VTE risk assessment completed and where indicated prophylaxis prescribed
- Pharmaceutical review of all charts documented
- Medicine orders complete and correct
- Indication documented on all medicine orders.

In comparison to the full suite of the NSMC, compliance was observed to be lower with the PBS HMC for the following indicators: patient identification, ADR details, VTE risk assessment and indication.

Conclusions and recommendations

Conclusions and recommendations are presented in relation to the extent, process and impacts of implementation.

Conclusion 1

The online learning module developed by the NPS MedicineWise has been well utilised and well received. Up to 31 January 2019, 46,474 healthcare professionals and students have completed the course, and feedback as to its value has been positive for all professional categories including medical staff.

The value of the implementation materials made available by the Commission is less clear, however the hospital groups have tended to use these material as a basis for tailored localised implementation materials. Awareness of the Commission-specific resources was therefore lower than might be expected.

Recommendation 1

The Commission should promote the NPS MedicineWise Online Learning Module to engage clinicians during implementation of the PBS HMC.

Conclusion 2

Feedback received following the implementation included requests for the development of a PBS HMC (Paediatric). A PBS HMC (Paediatric) would extend the observed administrative efficiencies to those hospitals with paediatric services.

Recommendation 2

The Commission should develop a PBS HMC (Paediatric) to extend the administrative efficiencies to hospitals with paediatric patients.

Conclusion 3

The PBS data shows the number of hospitals using the PBS HMC increased steadily, from 27 in July 2017 to 89 in March 2018. Continued growth in implementation, particularly in the private sector was also evident from survey responses collected in April and May. Given the commitment of major private hospital groups, this growth is expected to continue on a similar trajectory over the coming 12 months.

Expected efficiencies in terms of removing the need for owing scripts was identified and compliance with the PBS HMC safety features was similar to those observed for the NSMC.

Ongoing EMM implementations particularly in public hospitals are also expected to reduce use of the NIMC.

Given NIMC safety features are present on the PBS HMC and it is legislatively supported in all states and territories, it could replace the NIMC.

Recommendation 3

The Commission should continue to review the use of the NIMC and encourage the use of the PBS HMC.

Conclusion 4

The NSMC national audit conducted 1 October to 31 October 2018 captured data from 63 hospitals using the PBS HMC for 2,115 individual patient charts.

Like the results for the NSMC, compliance with PBS HMC safety features was found to be sub-optimal. Of particular note, findings for the patient identification, ADR details, VTE risk assessment and indication indicators was found to be lower than those for the whole NSMC audit.

As a new chart in the early adoption phase, it is expected that increased user familiarity will result in an improvement in the use of the PBS HMC safety features.

Recommendation 4

Participating hospitals should share NSMC audit findings with clinicians to drive local review and development of action plans to address areas of sub-optimal performance.

Appendices

Appendix 1 – Survey responses

Table 17 Number of survey responses by jurisdiction and hospital type (public / private)

Jurisdiction	Public		Private		Public & Private		TOTAL	
	Hospitals	Individuals	Hospitals	Individuals	Hospitals	Individuals	Hospitals	Individuals
Australian Capital Territory	0	0	2	2	0	0	2	2
New South Wales	0	0	10	14	0	0	10	14
Northern Territory	0	0	1	1	0	0	1	1
Queensland	1	1	8	9	0	0	9	10
South Australia	1	1	4	7	0	0	5	8
Tasmania	0	0	0	0	0	0	0	0
Victoria	4	4	10	12	0	0	14	16
Western Australia	10	20	4	4	4	7	18	31
TOTAL	**16**	**26**	**39**	**50**	**4**	**7**	**59**	**83**

Table 18 Survey responses (number and percentage) by hospital type metropolitan / regional / rural

Hospital geographical type	No. (%) of survey responses							
	Public		Private		Public& Private (both)		TOTAL	
	Hospitals (n=16)	Individuals (n=26)	Hospitals (n=39)	Individuals (n=50)	Hospitals (n=4)	Individuals (n=7)	Hospitals (n=59)	Individuals (n=83)
Metropolitan hospital / health service	9 (56)	15 (58)	29 (74)	39 (78)	3 (75)	6 (86)	41 (70)	63 (76)
Regional hospital / health service	2 (13)	6 (23)	10 (26)	11 (22)	0 (0)	0 (0)	12 (20)	17 (20)
Rural hospital / health service	4 (25)	4 (15)	0 (0)	0 (0)	1 (25)	1 (14)	5 (8)	5 (6)
No response	*1 (6)*	*1 (4)*	*0 (0)*	*0 (0)*	*0 (0)*	*0 (0)*	*1 (2)*	*1 (1)*
TOTAL	**15**	**26**	**39**	**50**	**4**	**7**	**59**	**83**

Appendix 2 – Status of PBS HMC in Australian jurisdictions (states and territories)

Table 19 The legal and implementation status of the PBS HMC in the states and territories

State	Legal status[a] (Recognised as prescription)	Signatory to PBS Hospital Reforms	Currently implemented in public hospitals	Other contibuting factors	Likely long term outcome for public hospitals
Australian Capital Territory	Yes	No	No	• EMM systems implemented	• Paper charts unlikely to be implemented
New South Wales	Yes	No	No		• Cannot be implemented in public hospitals as not signatory to PBS Reforms
Northern Territory	Yes	Yes	No	• EMM systems to be implemented • Don't access PBS on discharge	• Paper charts unlikely to be implemented
Queensland	Yes*	Yes	Some	• *iPharmacy* does not have the claiming functionality available • EMR implementation (Cerner) also progressing	• Exploring feasibility of ipharmacy upgrade • Interested in electronic version and implications for new Medicines and Poisons Bill development
South Australia	Yes	Yes	No	• EMM implementation has commenced	

State	Legal status[a] (Recognised as prescription)	Signatory to PBS Hospital Reforms	Currently implemented in public hospitals	Other contibuting factors	Likely long term outcome for public hospitals
Tasmania	Yes	Yes	No	• The Poisons Regulation in Tasmania required Schedule 8 medicines to be written on conventional prescriptions. • Hobart Hospital uses electronic discharge summary software • Prefer features of the NMIC	
Victoria	Yes	Yes	Some	• The Partnered Pharmacist Charting could not continue under PBS HMC • Limited supply of discharge medicines from some public hospital pharmacies • EMM projects are well established in a number of Victorian health services • *iPharmacy* does not have the claiming functionality available	• Unlikely to be implemented in public hospitals
Western Australia	Yes	Yes	No	• WA Medication Chart Policy MP 0078/18 published in January 2018 (an adaption of PBS HMC) • Mandatory implementation by March 2018	• WA Medication Chart being implemented

* In Queensland Schedule 8 on discharge must be annotated with the quantity to be supplied in words and figures
Doctors' qualifications must be included in the prescriber's details

Appendix 3 – PBS claims July 2017- March 2018

Table 20 shows the hospitals by state that have claimed via the PBS HMC between July 2017 and March 2018, including the date of first claim during this period. The hospitals are ordered according to their corporate grouping.

Table 20 Summary of PBS claims by hospital and state (July 2017 – March 2018) – includes private and public

	HOSPITAL NAME	Healthgroup	Hospital type	Month of first claims
	ACT			
1.	Calvary John James Hospital	Calvary	Private	Nov-17
2.	National Capital Private Hospital	Healthscope	Private	Jul-17
	NSW			
3.	Calvary Day Procedure Centre	Calvary	Private	Mar-18
4.	Calvary Private Hospital Wagga Wagga	Calvary	Private	Jul-17
5.	Maitland Private Hospital	Healthe Care Australia	Private	Jan-18
6.	Toronto Private Hospital	Healthe Care Australia	Private	Sep-17
7.	Campbelltown Private Hospital	Healthscope	Private	Feb-18
8.	Hills Private Hospital	Healthscope	Private	Nov-17
9.	Hunter Valley Private Hospital	Healthscope	Private	Aug-17
10.	Mosman Private Hospital	Healthscope	Private	Nov-17
11.	Nepean Private Hospital	Healthscope	Private	Feb-18
12.	Newcastle Private Hospital	Healthscope	Private	Dec-17
13.	Norwest Private Hospital	Healthscope	Private	Oct-17
14.	Prince of Wales Private Hospital	Healthscope	Private	Jul-17
15.	Sydney Southwest Private Hospital	Healthscope	Private	Jul-17
16.	The Sydney Clinic	Healthscope	Private	Dec-17
17.	Kareena Private Hospital	Ramsay	Private	Mar-18
18.	Lake Macquarie Private Hospital	Ramsay	Private	Mar-18
19.	North Shore Private Hospital	Ramsay	Private	Jan-18
20.	Wollongong Private Hospital	Ramsay	Private	Jan-18
21.	Mater Sydney	St Vincent's Health	Private	Jan-18
22.	Grafton Base Hospital	Other	Public	Jul-17
23.	Metropolitan Rehabilitation Hospital	Other	Private	Mar-18
24.	St Luke's Hospital	Other	Private	Mar-18
	QLD			
25.	Eden Healthcare Centre Inc	Healthe Care Australia	Private	Jul-17
26.	Mackay Rehabilitation Hospital	Healthe Care	Private	Feb-18

	HOSPITAL NAME	Healthgroup	Hospital type	Month of first claims
		Australia		
27.	Brisbane Private Hospital	Healthscope	Private	Nov-17
28.	Pine Rivers Private Hospital	Healthscope	Private	Jul-17
29.	Sunnybank Private Hospital	Healthscope	Private	Nov-17
30.	Mater Adult Hospital	Mater	Public	Jul-17
31.	Mater Private Hospital	Mater	Private	Aug-17
32.	Mater Private Hospital Redland	Mater	Private	Oct-17
33.	Mater Private Hospital Springfield	Mater	Private	Jul-17
34.	Caboolture Private Hospital	Ramsay	Private	Feb-18
35.	Cairns Private Hospital	Ramsay	Private	Mar-18
36.	North West Brisbane Private Hospital	Ramsay	Private	Jan-18
37.	Sunshine Coast University Private Hospital	Ramsay	Private	Sep-17
38.	Allamanda Private Hospital	Other	Private	Nov-17
39.	Canossa Private Hospital	Other	Private	Jan-18
40.	Friendly Society Private Hospital	Other	Private	Jul-17
	SA			
41.	Calvary Central Districts Hospital	Calvary	Private	Feb-18
42.	Calvary North Adelaide Hospital	Calvary	Private	Mar-18
43.	Calvary Wakefield Hospital	Calvary	Private	Mar-18
44.	Griffith Rehabilitation Hospital	Healthscope	Private	Nov-17
45.	Ashford Community Hospital	Other	Private	Dec-17
46.	Flinders Private Hospital	Other	Private	Dec-17
47.	Memorial Hospital	Other	Private	Dec-17
	VIC			
48.	Como Private Hospital	Healthscope	Private	Oct-17
49.	Dorset Rehabilitation Centre	Healthscope	Private	Oct-17
50.	Frankston Private Day Surgery	Healthscope	Private	Jul-17
51.	Geelong Private Hospital	Healthscope	Private	Jul-17
52.	John Fawkner Private Hospital	Healthscope	Private	Jul-17
53.	La Trobe Private Hospital	Healthscope	Private	Aug-17
54.	Melbourne Private Hospital	Healthscope	Private	Jul-17
55.	North Eastern Rehabilitation Centre	Healthscope	Private	Dec-17
56.	Northpark Private Hospital	Healthscope	Private	Dec-17
57.	The Geelong Clinic	Healthscope	Private	Dec-17
58.	The Melbourne Clinic	Healthscope	Private	Oct-17
59.	Victorian Rehabilitation Centre	Healthscope	Private	Aug-17

	HOSPITAL NAME	Healthgroup	Hospital type	Month of first claims
60.	Monash Medical Centre, Clayton Campus	Monash Health	Public	Jul-17
61.	Linacre Private Hospital	Ramsay	Private	Mar-18
62.	Mitcham Private Hospital	Ramsay	Private	Mar-18
63.	Peninsula Private Hospital	Ramsay	Private	Jul-17
64.	Warringal Private Hospital	Ramsay	Private	Jan-18
65.	Waverley Private Hospital	Ramsay	Private	Mar-18
66.	Barwon Health - Geelong Hospital Campus	Other	Public	Jul-17
67.	Jessie McPherson Private Hospital	Other	Private	Jul-17
68.	Mt Alexander Hospital	Other	Public	Nov-17
69.	Peter MacCallum Cancer Institute	Other	Public	Jul-17
70.	The Bays Hospital	Other	Private	Sep-17
71.	Western Private Hospital	Other	Private	Nov-17
72.	St John of God Health Care Bendigo	St John of God	Private	Jul-17
73.	St John of God Health Care, Berwick	St John of God	Private	Jul-17
74.	St John of God Hospital (Geelong)	St John of God	Private	Jul-17
75.	St John of God Hospital (Warrnambool)	St John of God	Private	Oct-17
76.	St John of God Hospital, Ballarat	St John of God	Private	Jul-17
77.	St John of God Nepean Rehabilitation Hospital	St John of God	Private	Aug-17
78.	St John of God Pinelodge Clinic	St John of God	Private	Feb-18
79.	St Vincent's Hospital	St Vincent's Health	Public	Jul-17
80.	St Vincents Private Hospital Werribee	St Vincent's Health	Private	Jan-18
	WA			
81.	Mount Hospital	Healthscope	Private	Nov-17
82.	Attadale Private Hospital	Ramsay	Private	Mar-18
83.	Glengarry Private Hospital	Ramsay	Private	Jul-17
84.	Joondalup Health Campus	Ramsay	Public and private	Jul-17
85.	Mercy Hospital Mount Lawley	St John of God	Private	Sep-17
86.	St John of God Hospital, Bunbury	St John of God	Private	Jul-17
87.	St John of God Hospital, Murdoch	St John of God	Private	Oct-17
88.	St John Of God Midland Public & Private Hospital	St John of God	Public and private	Oct-17
89.	Bethesda Hospital	Other	Private	Jan-18

Appendix 4 – Private hospital implementation between July 2017- March 2018

This appendix details the implementation among three of the main private hospital groups: Healthscope, Ramsay Healthcare and St John of God.

Table 21 shows the implementation among Healthscope hospitals, including whether the hospital completed a survey and the implementation status reported in the survey.

Of the 50 hospitals nationally, 28 (56%) had made claims up to March 2018, including hospitals from the majority of states and territories.

The Commission liaised closely with the implementation project manager during 2017 and 2018 on a number of matters, as the PBS HMC is quite different from the chart typically used in Healthscope. The VTE prophylaxis section had not been added to many Healthscope charts in Victoria, thus the PBS HMC was able to drive this change.

Healthscope mainly rely on faxing charts to pharmacies and the PBS HMC presented some problems in this regard. Healthscope also required some additional boxes to be added to assist with supply arrangements through their third party provider.

During the implementation in Tasmania and Northern Territory, a question about the legal status of the PBS HMC was raised, highlighting the importance of hospitals to contact the local Department of Health to ensure the status of the PBS HMC.

The HIM team at Healthscope developed tailored shorter resources to support the roll out of the chart as the user guide was not practical for them. The organisation has mandated the NPS MedicineWise education modules for inductees and annually for nurses.

Table 21 Healthscope Health Services - status of implementation

	HOSPITAL NAME	Month of first claim	State	Survey completed (May 2018)	Status of implementation (per survey)
	Health services making claims to the end of March 2018				
1.	National Capital Private Hospital	Jul-17	ACT	Yes	Implemented
2.	Campbelltown Private Hospital	Feb-18	NSW		
3.	Hills Private Hospital	Nov-17	NSW		
4.	Hunter Valley Private Hospital	Aug-17	NSW		
5.	Mosman Private Hospital	Nov-17	NSW		
6.	Nepean Private Hospital	Feb-18	NSW		
7.	Newcastle Private Hospital	Dec-17	NSW		
8.	Norwest Private Hospital	Oct-17	NSW		
9.	Prince of Wales Private Hospital	Jul-17	NSW		
10.	Sydney Southwest Private Hospital	Jul-17	NSW		
11.	The Sydney Clinic	Dec-17	NSW		
12.	Brisbane Private Hospital	Nov-17	QLD		
13.	Pine Rivers Private Hospital	Jul-17	QLD	Yes	Implemented

	HOSPITAL NAME	Month of first claim	State	Survey completed (May 2018)	Status of implementation (per survey)
14.	Sunnybank Private Hospital	Nov-17	QLD		
15.	Griffith Rehabilitation Hospital	Nov-17	SA		
16.	Como Private Hospital	Oct-17	VIC		
17.	Dorset Rehabilitation Centre	Oct-17	VIC		
18.	Frankston Private Day Surgery	Jul-17	VIC		
19.	Geelong Private Hospital	Jul-17	VIC		
20.	John Fawkner Private Hospital	Jul-17	VIC		
21.	La Trobe Private Hospital	Aug-17	VIC		
22.	Melbourne Private Hospital	Jul-17	VIC		
23.	North Eastern Rehabilitation Centre	Dec-17	VIC	Yes	Implemented
24.	Northpark Private Hospital	Dec-17	VIC		
25.	The Geelong Clinic	Dec-17	VIC		
26.	The Melbourne Clinic	Oct-17	VIC	Yes	Implemented
27.	Victorian Rehabilitation Centre	Aug-17	VIC		
28.	Mount Hospital	Nov-17	WA		
	Health services with no claims to the end of March 2018				
29.	Lady Davidson Private Hospital	NA	NSW		
30.	Northern Beaches Hospital	NA	NSW		
31.	The Hills Private Hospital	NA	NSW		
32.	Tweed Day Surgery	NA	NSW	Yes	Planning to implement
33.	Darwin Private Hospital	NA	NT	Yes	Implementing
34.	Gold Coast Private Hospital	NA	QLD	Yes	Implemented
35.	Pacific Private Hospital	NA	QLD		
36.	Peninsula Private Hospital	NA	QLD		
37.	Ashford Hospital	NA	SA		
38.	Flinders Private Hospital	NA	SA		
39.	Parkwynd Private Hospital	NA	SA		
40.	The Memorial Hospital	NA	SA		
41.	Hobart Private Hospital	NA	TAS		
42.	St Helen's Private Hospital	NA	TAS		
43.	Bellbird Private Hospital	NA	VIC		
44.	Cotham Private Hospital	NA	VIC		
45.	Frankston Private Hospital	NA	VIC		
46.	Holmesglen Private Hospital	NA	VIC		
47.	Knox Private Hospital	NA	VIC	Yes	Implemented

	HOSPITAL NAME	Month of first claim	State	Survey completed (May 2018)	Status of implementation (per survey)
48.	Ringwood Private Hospital	NA	VIC		
49.	The Victoria Clinic	NA	VIC		
50.	The Victorian Rehabilitation Centre	NA	VIC	Yes	Implemented
List of Healthscope health services taken from their website: www.healthscope.com.au					

Table 22 shows the implementation among Ramsay Healthcare hospitals, including whether the hospital completed a survey and the implementation status reported in the survey.

Of the 76 hospitals nationally, 15 (20%) had made claims up to March 2018, including hospitals from New South Wales, Queensland, Victoria and Western Australia.

Ramsay played a large part in the trial of the PBS HMC in WA and NSW. Of the two, North Shore in NSW withdrew the chart at the end of the trial due to lack of prescriber engagement. Joondalup in WA however had a very successful trial which was run in two wards with wide support from the executive and pharmacy. Elbow to elbow support was used during the initial weeks of the chart to ensure the prescribers were comfortable with the effort required to produce a compliant chart and to minimise the nursing effort.

The organisation is now in the situation where a number of hospitals have fully implemented the chart and the organisation would like a standard national chart. They have undertaken some consultation and have approached the Commission about some structural changes that they would like to make to the charts – essentially to create two types of long stay – one with warfarin and VTE and another a continuation chart which has just regular medicines panels.

The acute chart will have a panel for a picture to be added to a mental help chart. They have also made a paediatric version PBS HMC which they intend implementing despite it not being a valid prescription for claiming purposes. They feel the benefit of having charts that look very similar is more important.

Further implementation is on hold until these matters have been resolved.

Table 22 Ramsay Health Services - status of implementation

	HOSPITAL NAME	Date of first claim	State	Survey completed (May 2018)	Status of implementation (survey)
	Health services making claims to the end of March 2018				
1.	Kareena Private Hospital	Mar-18	NSW		
2.	Lake Macquarie Private Hospital	Mar-18	NSW		
3.	North Shore Private Hospital	Jan-18	NSW		
4.	Wollongong Private Hospital	Jan-18	NSW	Yes	Implemented
5.	Linacre Private Hospital	Mar-18	VIC		
6.	Mitcham Private Hospital	Mar-18	VIC		
7.	Peninsula Private Hospital	Jul-17	VIC		
8.	Warringal Private Hospital	Jan-18	VIC		

	HOSPITAL NAME	Date of first claim	State	Survey completed (May 2018)	Status of implementation (survey)
9.	Waverley Private Hospital	Mar-18	VIC		
10.	Caboolture Private Hospital	Feb-18	QLD	Yes	Implemented
11.	Cairns Private Hospital	Mar-18	QLD	Yes	Implemented
12.	North West Brisbane Private Hospital	Jan-18	QLD		
13.	Sunshine Coast University Private Hospital	Sep-17	QLD		
14.	Attadale Rehabilitation Hospital	Mar-18	WA		
15.	Glengarry Private Hospital	Jul-17	WA		
	Health services with no claims to end March 2018				
16.	Albury Wodonga Private Hospital	NA	NSW		
17.	Armidale Private Hospital	NA	NSW		
18.	Baringa Private Hospital	NA	NSW		
19.	Berkeley Vale Private Hospital	NA	NSW		
20.	Castlecrag Private Hospital	NA	NSW		
21.	Coolenberg Day Surgery	NA	NSW		
22.	Dudley Private Hospital	NA	NSW		
23.	Figtree Private Hospital	NA	NSW		
24.	Hunters Hill Private Hospital	NA	NSW		
25.	Kingsway Day Surgery	NA	NSW		
26.	Lakeside Clinic	NA	NSW		
27.	Lawrence Hargrave Private Hospital	NA	NSW		
28.	Mt Wilga Private Hospital	NA	NSW	Yes	Implemented
29.	Northside Cremorne Clinic	NA	NSW		
30.	Northside Macarthur Clinic	NA	NSW		
31.	Northside St Leonards Clinic	NA	NSW		
32.	Northside Wentworthville Clinic	NA	NSW		
33.	Nowra Private Hospital	NA	NSW	Yes	Implemented
34.	Port Macquarie Private Hospital	NA	NSW		
35.	Southern Highlands Private Hospital	NA	NSW		
36.	St George Private Hospital	NA	NSW		
37.	Strathfield Private Hospital	NA	NSW		
38.	Tamara Private Hospital	NA	NSW	Yes	Implemented
39.	Warners Bay Private Hospital	NA	NSW		
40.	Western Sydney Oncology	NA	NSW		
41.	Westmead Private Hospital	NA	NSW		

	HOSPITAL NAME	Date of first claim	State	Survey completed (May 2018)	Status of implementation (survey)
42.	Albert Road Clinic	NA	VIC		
43.	Beleura Private Hospital	NA	VIC	Yes	Implementing
44.	Donvale Rehabilitation Hospital	NA	VIC		
45.	Frances Perry House	NA	VIC	Yes	Implementing
46.	Glenferrie Private Hospital	NA	VIC		
47.	Masada Private Hospital	NA	VIC		
48.	Mildura Base Hospital	NA	VIC		
49.	Murray Valley Private Hospital	NA	VIC		
50.	Shepparton Private Hospital	NA	VIC		
51.	The Avenue Hospital	NA	VIC		
52.	Wangaratta Private Hospital	NA	VIC		
53.	Cairns Day Surgery	NA	QLD		
54.	Caloundra Private Clinic	NA	QLD		
55.	Caloundra Private Day Hospital	NA	QLD		
56.	Greenslopes Private Hospital	NA	QLD		
57.	Hillcrest Rockhampton Private Hospital	NA	QLD		
58.	John Flynn Private Hospital	NA	QLD	Yes	Planning to implement
59.	Nambour Selangor Private Hospital	NA	QLD		
60.	New Farm Clinic	NA	QLD		
61.	Noosa Hospital	NA	QLD		
62.	North West Private Hospital	NA	QLD		
63.	Pindara Day Surgery	NA	QLD	Yes	Planning to implement
64.	Pindara Private Hospital	NA	QLD		
65.	Short Street Day Surgery	NA	QLD		
66.	Southport Private Hospital	NA	QLD		
67.	St Andrew's Ipswich Private Hospital	NA	QLD		
68.	The Cairns Clinic	NA	QLD		
69.	Adelaide Clinic	NA	SA	Yes	Planning to implement
70.	Fullarton Private Hospital	NA	SA		
71.	Kahlyn Day Centre	NA	SA		
72.	Hollywood Private Hospital	NA	WA		
73.	Joondalup Health Campus	NA	WA		
74.	Joondalup Private Hospital	NA	WA		

	HOSPITAL NAME	Date of first claim	State	Survey completed (May 2018)	Status of implementation (survey)
75.	Peel Health Campus	NA	WA		
76.	The Hollywood Clinic	NA	WA		
List of Ramsay Health Services taken from their website: www.ramsayhealth.com.au					

Table 23 shows the implementation among St John of God hospitals, including whether the hospital completed a survey and the implementation status reported in the survey.

Of the 27 hospitals nationally, ten had made claims up to March 2018, seven from Victoria and three from Western Australia.

St John of God is less centralised than the other private hospital groups and permits its hospitals greater autonomy in how they implement national projects.

Table 23 St John of God Health Services - status of implementation

	HOSPITAL NAME*	Month of first claim	State	Survey completed (May 2018)	Status of implementation (per survey)
	Health services making claims to the end of March 2018				
1.	St John of God Health Care Bendigo	Jul-17	VIC		
2.	St John of God Health Care, Berwick	Jul-17	VIC		
3.	St John of God Hospital (Geelong)	Jul-17	VIC		
4.	St John of God Hospital (Warrnambool)	Oct-17	VIC		
5.	St John of God Hospital, Ballarat	Jul-17	VIC		
6.	St John of God Nepean (Frankston) Rehabilitation Hospital	Aug-17	VIC		
7.	St John of God Pinelodge Clinic	Feb-18	VIC		
8.	St John of God Hospital Mount Lawley	Sep-17	WA	Yes	Implemented
9.	St John of God Hospital, Bunbury	Jul-17	WA		
10.	St John of God Hospital, Murdoch	Oct-17	WA	Yes	Implemented
	Health services with no claims to the end of March 2018				
11.	St John of God Hawkesbury District Health Service	NA	NSW		
12.	St John of God Burwood Hospital	NA	NSW		
13.	St John of God Raphael Services Blacktown	NA	NSW		
14.	St John of God Richmond Hospital	NA	NSW		
15.	St John of God Accord	NA	VIC		
16.	St John of God Raphael Services Ballarat	NA	VIC		
17.	St John of God Raphael Services Bendigo	NA	VIC		

	HOSPITAL NAME*	Month of first claim	State	Survey completed (May 2018)	Status of implementation (per survey)
18.	St John of God Raphael Services Berwick	NA	VIC		
19.	St John of God Raphael Services Geelong	NA	VIC		
20.	St John of God Geraldton Hospital	NA	WA		
21.	St John of God Mandurah Consulting Suites	NA	WA		
22.	St John of God Midland Private & Public	NA	WA	Yes	Implemented
23.	St John of God Raphael Services Fremantle	NA	WA		
24.	St John of God Raphael Services Midland	NA	WA		
25.	St John of God Raphael Services Wembley	NA	WA		
26.	St John of God Subiaco Hospital	NA	WA		
27.	St John of God Wembley Day Surgery	NA	WA		
Full list of St John of God health services taken from their website: www.sjog.org.au					

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