

CEC eChartbook Portal Extract

Medication Safety and Quality

Participation in the Medication Safety Self-Assessment (MSSA) Program

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MEDICATION SAFETY AND QUALITY

Participation in the Medication Safety Self Assessment Program

Why is this important? The management of medications is complex and there are many opportunities for errors and other adverse events to occur. Medication related admissions have been estimated to cost the Australian health care system upwards of \$1.2 billion per year and medication incidents represent 27 per cent of all clinical incidents occurring in Australian hospitals [1],[2]. In NSW, medication and intravenous fluid-related incidents are the third-most frequently reported incident type [3]. Each year, approximately 20,000 incidents involving medications and IV fluids are reported to the NSW Incident Information Management System [3]. Some of these incidents result in patient harm, occasionally this harm is severe.

The Medication Safety Self-assessment (MSSA) is a tool comprised of 302 self-assessment questions related to the systems and processes that are in place to ensure the safe use of medicines. It was developed by the Institute for Safe Medication Practices (ISMP) in the USA and adapted for use in Australia by the Clinical Excellence Commission (CEC) and the NSW Therapeutic Advisory Group, with the permission of ISMP in 2006, and officially launched in 2007. The Australian MSSA was revised to be more current and relevant for the Australian context and re-released in December 2015. The aims of the MSSA are to heighten awareness of the structures and practices that define a safe medication use system, to provide a structured framework for assessing current medication management practices and to enable hospitals to systematically identify gaps in practice and areas for improvement. The self-assessment is divided into ten key elements:

1. patient information
2. medication information
3. communication of medication orders and other medication information
4. medication labelling, packaging and nomenclature
5. medication standardisation, storage and distribution

6. medication device acquisition, use and monitoring
7. environmental factors, workflow and staffing patterns
8. staff competency and education
9. patient education
10. quality processes and risk management.

These key elements have been shown to significantly influence the safety of medicines use. The MSSA has been used extensively throughout North America, where it has been a key driver for improving medication management systems and reducing opportunities for patient harm. The Australian tool is supported by an on-line database developed and supported by ISMP-Canada. This allows facilities to obtain a score for the self-assessment, for key elements and for individual questions. The scores obtained can be used to prioritise areas for action and to measure improvement over time.

Findings: Chart MA01 shows that up to May 2017, a total of 227 hospitals in NSW (both public and private) completed the MSSA and submitted their data to the CEC with 115 hospitals (35%) completing the survey more than once.

Chart MA02 demonstrates that 87 per cent (126 out of 145) of NSW public hospitals in peer groups A1 (acute hospitals treating more than 30,000 acute casemix weighted separations per annum) to D2 (non-acute, treating less than 200 separations, or 2,000 or less acute casemix weighted separations per annum), completed the MSSA and submitted their data to the CEC. Overall participation rate in the MSSA program is very high. Gaps in uptake are largely in smaller sites where completion of the tool may be more difficult (participation for D peer group 56% compared to A at 81%). A number of factors, including, but not limited to, lack of pharmacists to participate and lead the self-assessment, differences in the way medicines are managed,

workforce shortages leading to the inability to form the multi-disciplinary team required to complete the tool, may be involved.

The self-assessment is designed to provide a weighted score, as a percentage of the maximum possible score, for the entire assessment and for component elements. Chart MA03 presents the aggregate scores recorded for the MSSA by 56 NSW hospitals (public and private) for their most recent three self-assessments. The mean aggregate overall self-assessed weighted score improved from 52.7 per cent in the first assessment to 59.4 per cent in the second assessment to 66.0 per cent in the third assessment. All increasing trends across the ten key elements are statistically significant.

It is important to note that the data displayed in Chart MA03 includes a combination of self-assessments completed using the previous and current versions of the MSSA. While both versions are based on the same ten key elements, there is some variation in the self-assessment items and scoring between these two versions.

Implications: The majority of NSW public hospitals have assessed their medication management systems for potential risks to patient safety. In doing so facilities have highlighted opportunities for local improvement and gathered baseline data, against which they can measure their performance over time.

The high participation rate shows a firm commitment to improve medication management systems and, in doing so, reduce the risk of patient harm. Chart MA03 demonstrates that repeated assessments are useful to illustrate local improvements that have been made to medicines use systems over time. The commitment to medication safety, demonstrated through participation, needs to be matched by a commitment to improve systems and processes that support medicines use.

What we don't know: We do know that patients are harmed by inappropriate or unsafe use of medicines and that certain actions, as highlighted in the MSSA, can help to reduce this harm. It has proven very difficult, however, to measure reliably the safety of medicines use. Many different measures and methods of collecting them have been tested. Some can tell us meaningful information about discrete aspects of medicines use or

about outcomes in particular disease categories. Determining one robust and reliable global measure of safe medicines use, however, has not been possible.

This limits the ability to draw conclusions about the absolute impact of the MSSA program. We know that facilities have identified areas where they can act to improve the safety of medicines use. We know that some facilities have actively made improvements to their systems. We do not, however, know what absolute impact this has had on the incidence or severity of harm to patients from inappropriate or unsafe medicines use.

References:

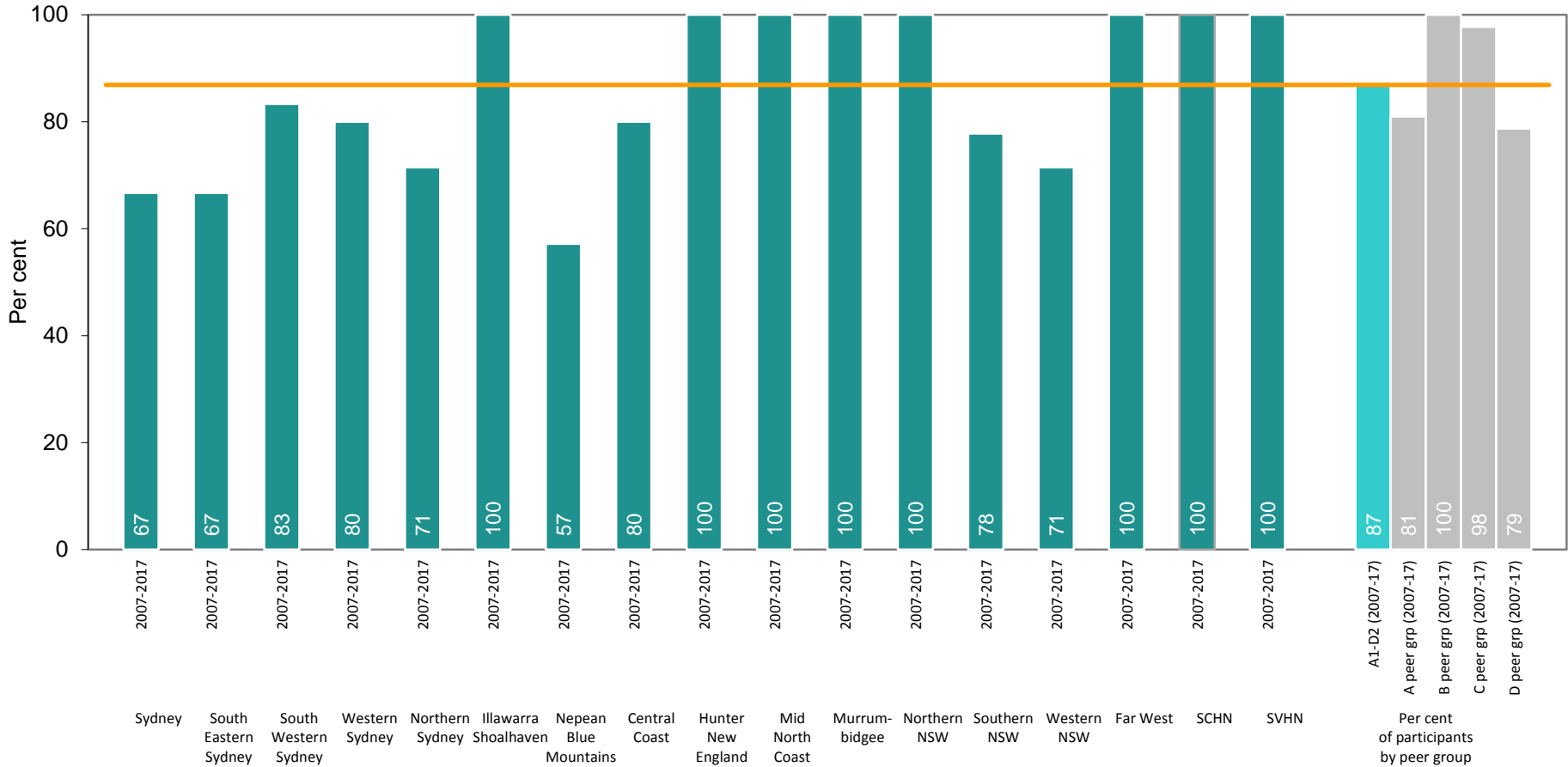
- [1] Roughhead L, Semple S, Rosenfeld E, *Literature Review: Medication Safety in Australia (2013)*. Australian Commission on Safety and Quality in Health Care, Sydney
- [2] Runciman, W., Roughead, E., Semple, S., & Adams, R. Adverse drug events and medication errors in Australia. *International Journal for Quality in Health Care*. 2003; 15(suppl 1): i49-i59.
- [3] Clinical Excellence Commission. *Patient Safety and Clinical Incident Management in NSW: Analysis of IIMS Data 2010 to 2014*. Sydney: Clinical Excellence Commission.

Chart MA01 – Participation in the Medication Safety Self-Assessment (MSSA), NSW
 227 facilities completed 423 self-assessments between 15-May-2007 and 25-May-2017

		Year comp	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Number of assessment rounds	
Assessment Round	Seventh											1		1	
	Sixth								1	1	0	1	1	4	
	Fifth					1	0	0	0	3	0	3	1	8	
	Fourth				1	0	1	4	2	0	2	2	2	12	
	Third			1	0	4	5	3	7	2	19	15	15	56	
	Second		2	14	8	5	5	11	34	2	30	4	4	115	
	First	111	16	26	6	2	0	6	26	4	27	3	3	227	
	Total	111	18	41	15	12	11	25	73	8	83	26	26	423	

Source: Medication Safety Self-Assessment (MSSA) program data collection: Clinical Excellence Commission.

Chart MA02 – Participation in the Medication Safety Self-Assessment (MSSA) by LHD/SN, NSW
 Percent of Peer group A1-D2 facilities completed MSSA by LHD/SN, NSW, May 2007 to May 2017

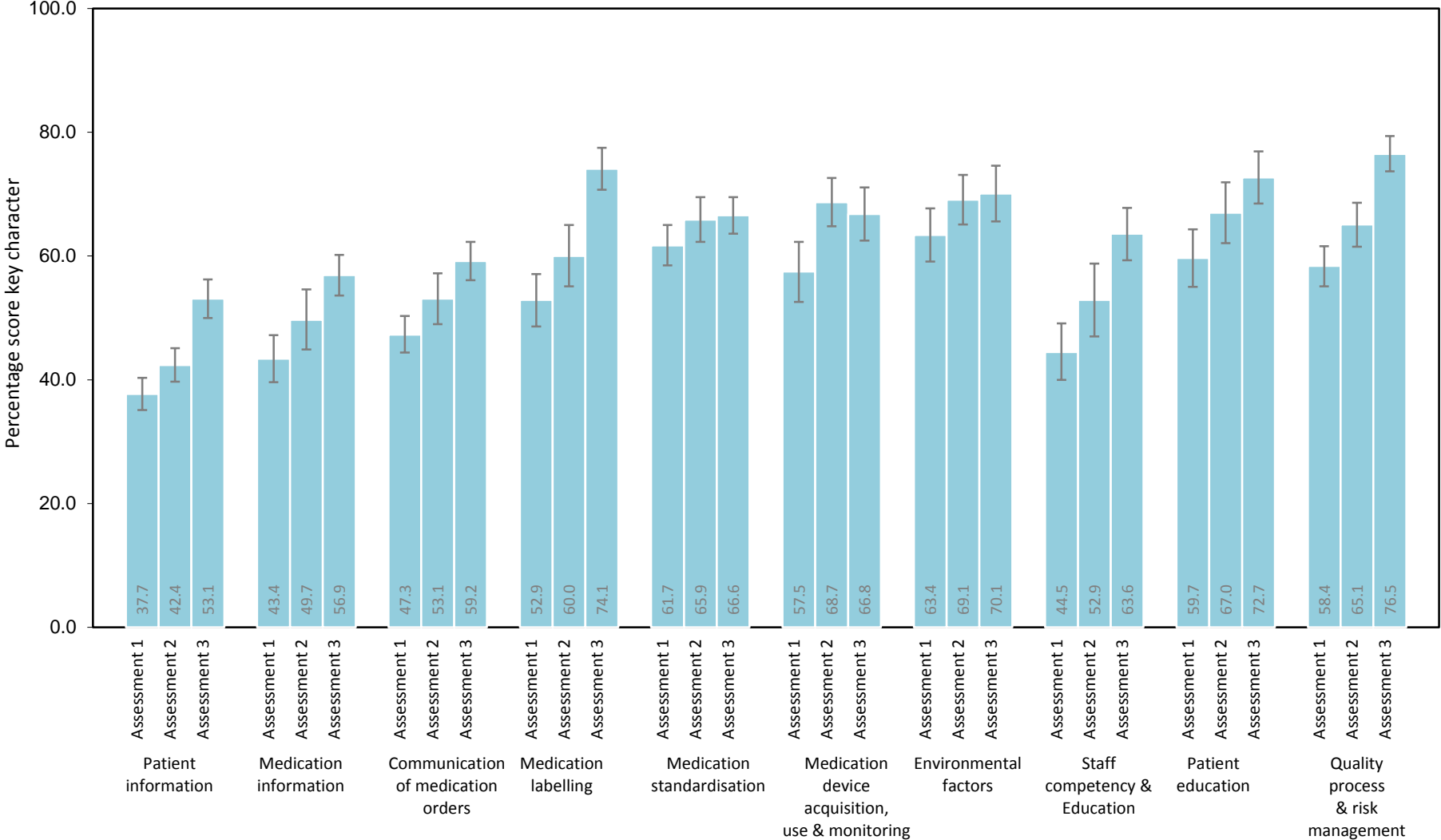


n,MSSA:A1-D2	2	4	5	4	5	5	4	4	28	6	20	11	7	15	3	2	1	126	17	21	43	48
N, NSW:A1-D2	3	6	6	5	7	5	7	5	28	6	20	11	9	21	3	2	1	145	21	21	44	61
Percent	67	67	83	80	71	100	57	80	100	100	100	100	78	71	100	100	100	87	81	100	98	79

Source: Medication Safety Self -Assessment program data collection: Clinical Excellence Commission. Note: Total includes one VIC network hospital and Justice Health.

Chart MA03 – Average percentage score of 10 key MSSA characters

Average percentage score of 10 key MSSA characters of the most recent 3 assessments, 22-May-2007 to 25-May-2017 (n=56)



Source: Medication Safety Self -Assessment program data collection: Clinical Excellence Commission.

Data Definitions

Chart:	MA01
Admin Status:	Current, May 2017
Indicator Name:	Participation in the Medication Safety Self-Assessment (MSSA), NSW, May-2007 to May-2017
Description:	Number of facilities (n=227) completed 423 MSSA by year of completion, May-2007 to May-2017
Dimension:	Patient safety
Clinical Area:	Initiatives in safety and quality health care
Data Inclusions:	All public and private hospitals that participated in the MSSA between May 2007 and May 2017
Data Exclusions:	None
Numerator:	Number of hospitals that participated in the MSSA
Denominator:	None
Standardisation:	None
Data Source:	Medication Safety Self-Assessment program data collection, Clinical Excellence Commission and NSW Ministry of Health
Comments:	Not Applicable

Chart:	MA02
Admin Status:	Current, May 2017
Indicator Name:	Participation in the CEC's Medication Safety Self-Assessment (MSSA) program by LHD/SN, NSW
Description:	Percentage of NSW A1 to D2 peer group hospitals participating in the CEC's MSSA program by LHD/SN, NSW, May 2007 - May 2017
Dimension:	Patient safety
Clinical Area:	Initiatives in safety and quality health care
Data Inclusions:	Number of eligible peer group hospitals (A1 to D2, public and private) in NSW that participated in MSSA program by LHD/SN
Data Exclusions:	NSW peer group hospitals classified as D3 and above were excluded
Numerator:	Number of eligible hospitals (A1 to D2) that participated in MSSA program by LHD/SN between May 2007 and May 2017
Denominator:	Total number of eligible peer group hospitals (A1 to D2) by LHD/SN
Standardisation:	None
Data Source:	Medication Safety Self-Assessment program data collection, Clinical Excellence Commission and NSW Ministry of Health
Comments:	Not Applicable

Chart:	MA03
Admin Status:	Current, May 2017
Indicator Name:	Self-Assessed score obtained through participation in the CEC's MSSA program
Description:	Average scores for 10 key elements of the MSSA program, expressed as percentage of maximum weighted score for each element, 56 hospitals that participated in the CEC's MSSA and completed the most recent 3 assessments
Dimension:	Patient safety
Clinical Area:	Initiatives in safety and quality healthcare
Data Inclusions:	Number of eligible hospitals (public and private) that participated in MSSA program by LHD
Data Exclusions:	Hospitals outside NSW
Numerator:	Weighted average self-assessed score for each of the key elements by LHD
Denominator:	Possible maximum score which can be achieved for each of the key elements by LHD
Standardisation:	None ,percentage was calculated: $\text{Score (per cent)} = (\text{weighted score}/\text{maximum possible score}) \times 100$
Data Source:	Medication Safety Self-Assessment program data collection, Clinical Excellence Commission and NSW Ministry of Health
Comments:	<p>Each of the 10 Key elements of medication item contains a set of specific core questions. ISMP assigns a weight to each question for the purpose of calculating an absolute score in the self-assessment of each item, core characteristic, key element and self-assessment as a whole. Each of the items in self-assessment has a score range from A to E.</p> <ul style="list-style-type: none"> A. There has been no activity to implement this item. B. This item has been formally discussed and considered, but has not been implemented. C. This item has been partially implemented in the organisation for some or all areas, patients, drugs and/or staff. D. This item is fully implemented in the organisation for some or all areas, patients, drugs and/or staff. E. This item is fully implemented throughout the organisation for all patients, drugs and/or staff. <p>The scoring is not same for all items, as some identify situations representing a higher safety risk than others. The minimum score for each of item is 0 and maximum score for each item ranges from 4 to 16 (0 for A; 1 to 3 for B; 2 to 8 for C; 3 to 12 for D; 4 to 16 for E).</p>