Royal Australasian College of Surgeons
Victorian Audit of Surgical Mortality

Victorian Audit of Surgical Mortality (VASM)

2020 Annual report

Appendix

Royal Australasian College of Surgeons
Australian and New Zealand Audits of Surgical Mortality

VICTORIA State Government | Health and Human Services

SCV Safer Care Victoria

Victorian Perioperative Consultative Council

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Excellence in Women's Health

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Image on the front cover, "*Standing Tall*" by Elisa Coceski (watercolour, February 2021).

The information contained in this annual report has been prepared by the Royal Australasian College of Surgeons, Victorian Audit of Surgical Mortality Management Committee. Safer Care Victoria provides the funding for the project and guidance through the complexities of the health systems.

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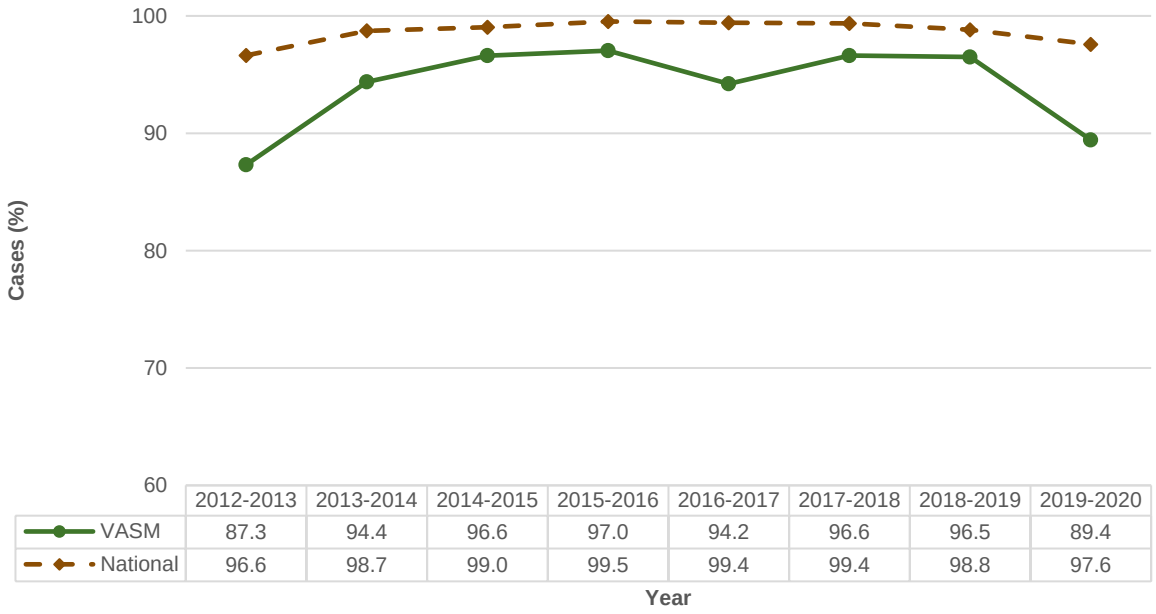
Table 1: Mortalities identified by VAED and VASM, 2012–2020

Audit period	Total interventional procedures	VAED reported interventional mortalities	VASM reported surgical mortalities	VASM report mortality per 1,000 interventional procedures
2012–2013	630,713	1,882	1,514	2.40
2013–2014	663,762	1,924	1,548	2.33
2014–2015	672,957	1,966	1,624	2.41
2015–2016	679,676	2,009	1,690	2.49
2016–2017	693,970	2,018	1,728	2.49
2017–2018	703,530	2,041	1,774	2.52
2018–2019	709,906	1,989	1,769	2.49
2019–2020	660,583	1,901	1,770	2.68
Total	**5,415,097**	**15,730**	**13,417**	2.48

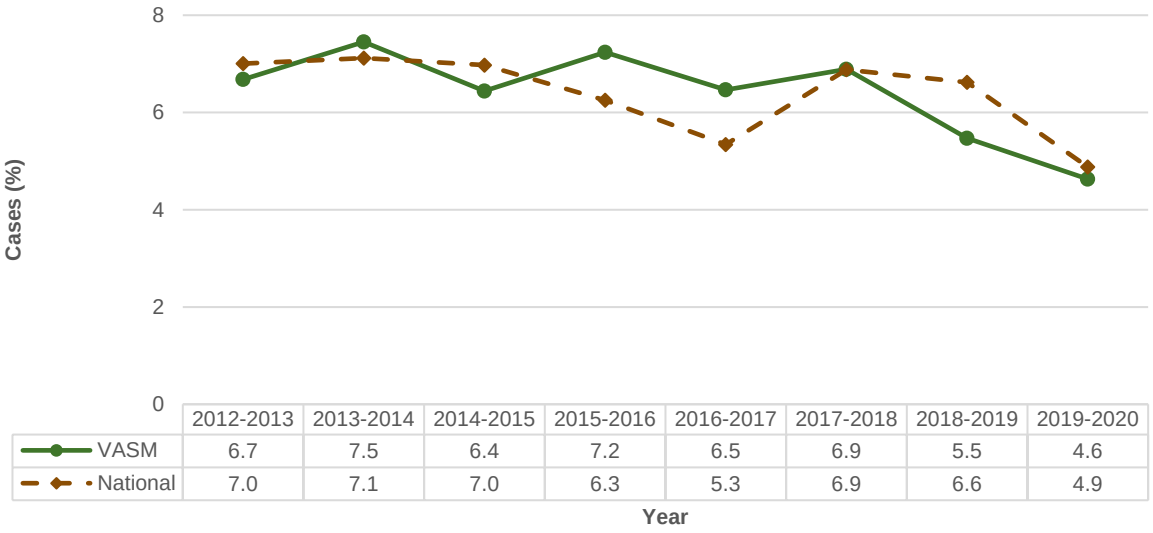
Figure 1: Return rate of SCFs, VASM compared to national data, 2012–2020



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	87.3	94.4	96.6	97.0	94.2	96.6	96.5	89.4
National	96.6	98.7	99.0	99.5	99.4	99.4	98.8	97.6

Notes:
n=12,624 SCFs returned out of 13,417 reported cases in Victoria (1 July 2012 to 30 June 2020).
n=21,198 SCFs returned out of 21,483 reported cases reported nationally (1 July 2012 to 30 June 2020).
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The percentage drop in returned SCFs for the current audit period (2019–2020) is due to the data extraction date. In the next report, the 2019–2020 figures will be more complete as more time is available for surgeons to return their SCFs.

Figure 2: Deaths with delay in surgical diagnosis, VASM compared to national data, 2012–2020

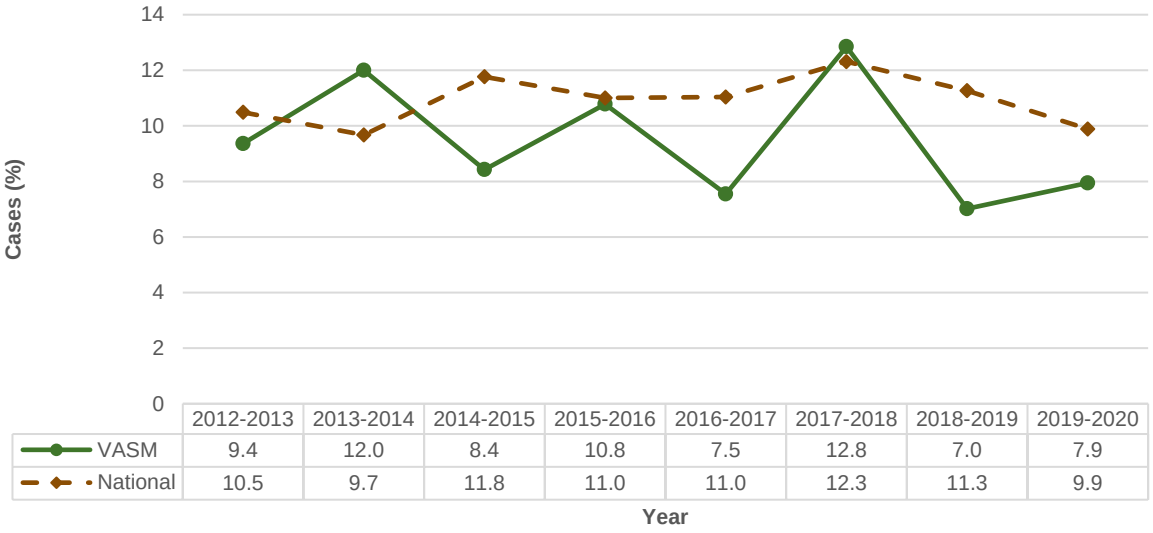


	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	6.7	7.5	6.4	7.2	6.5	6.9	5.5	4.6
National	7.0	7.1	7.0	6.3	5.3	6.9	6.6	4.9

Year

Notes:
n=616 out of 9,594 Victorian audited deaths had delays in surgical diagnosis (1 July 2012 to 30 June 2020). Data not available: n=44.
n=1,171 cases out of 18,274 national audited deaths had delays in surgical diagnosis (1 July 2012 to 30 June 2020). Data not available: n=238.
From 12 March 2015, data collection changed from gathering data on both delay and errors in surgical diagnosis, to focus only on delay.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

Figure 3: Deaths with delay in hospital transfer, VASM compared to national data, 2012–2020

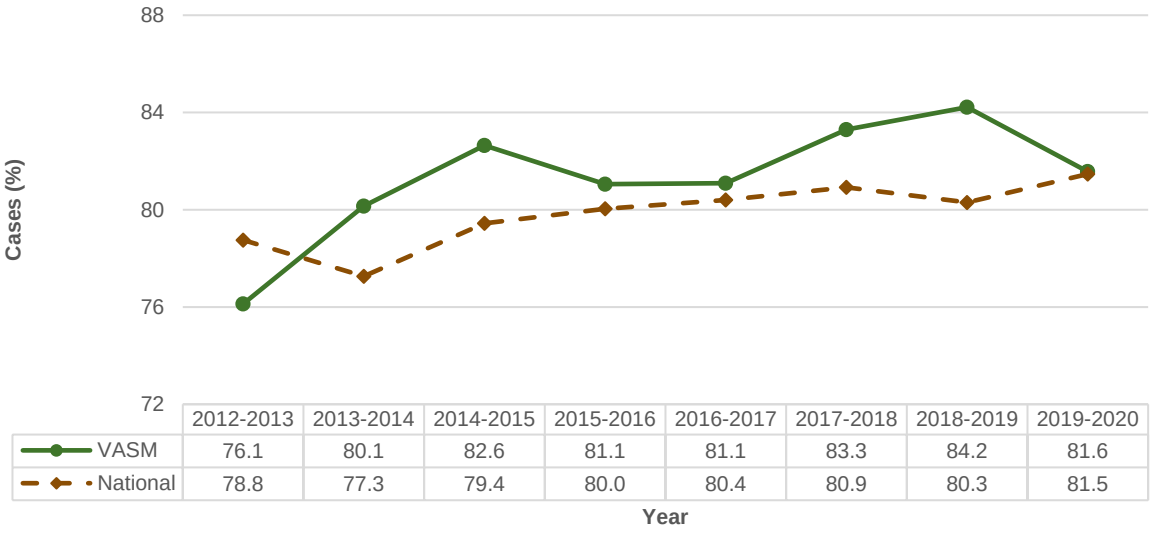


	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	9.4	12.0	8.4	10.8	7.5	12.8	7.0	7.9
National	10.5	9.7	11.8	11.0	11.0	12.3	11.3	9.9

Year

Notes:
n=192 audited deaths out of 2,022 Victorian patients with delays in transfer (1 July 2012 to 30 June 2020). Data not available: n=134.
n=505 audited deaths out of 4,611 national patients with delays in transfer (1 July 2012 to 30 June 2020). Data not available: n=329.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

Figure 4: Deaths with use of DVT prophylaxis, VASM compared to national data, 2012–2020

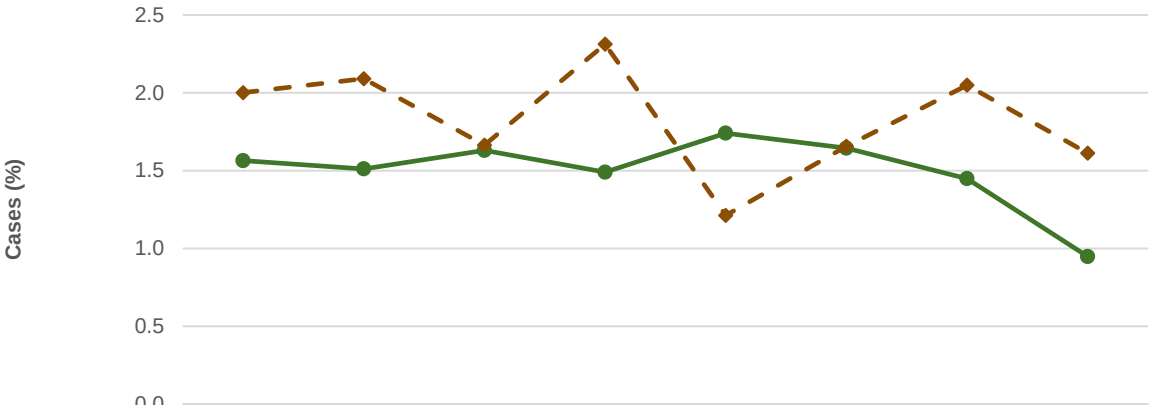


	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	76.1	80.1	82.6	81.1	81.1	83.3	84.2	81.6
National	78.8	77.3	79.4	80.0	80.4	80.9	80.3	81.5

Year

Notes:
n=7,724 out of 9,482 Victorian audited deaths had DVT prophylaxis (1 July 2012 to 30 June 2020). Data not available: n=155.
n=14,440 out of 18,095 national audited deaths had DVT prophylaxis (1 July 2012 to 30 June 2020). Data not available: n=418.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

Figure 5: Assessor finding of inappropriate choice of DVT prophylaxis, VASM compared to national data, 2012–2020

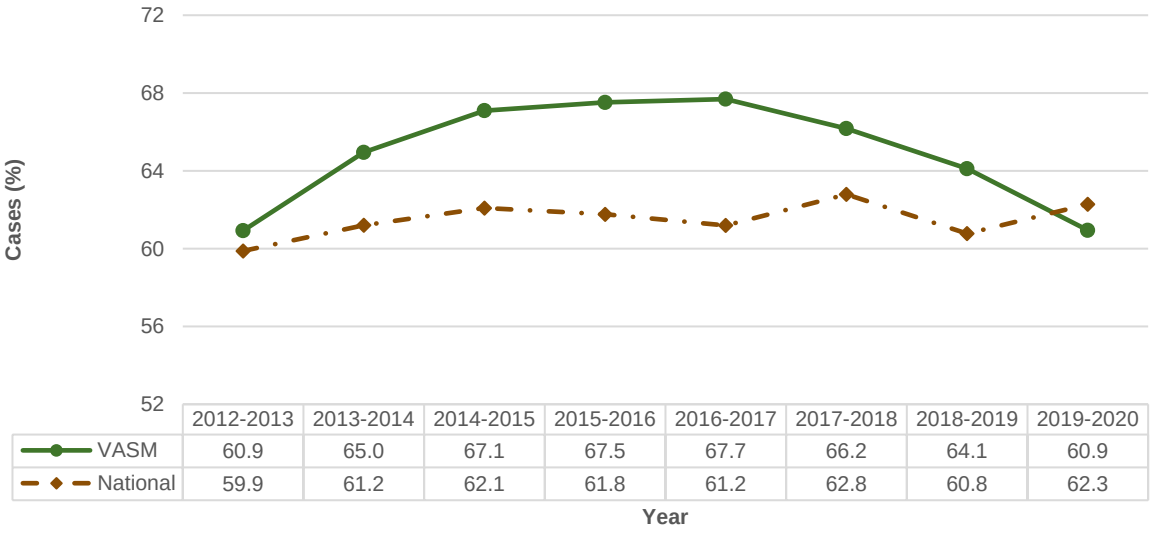


	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	1.6	1.5	1.6	1.5	1.7	1.6	1.4	0.9
National	2.0	2.1	1.7	2.3	1.2	1.7	2.0	1.6

Year

Notes:
n=143 out of 9,489 Victorian audited deaths were considered to have an inappropriate choice of prophylaxis (1 July 2012 to 30 June 2020). Data not available: n=147.
n=322 out of 17,609 national audited deaths were considered to have an inappropriate choice of prophylaxis (1 July 2012 to 30 June 2020). Data not available: n=893.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

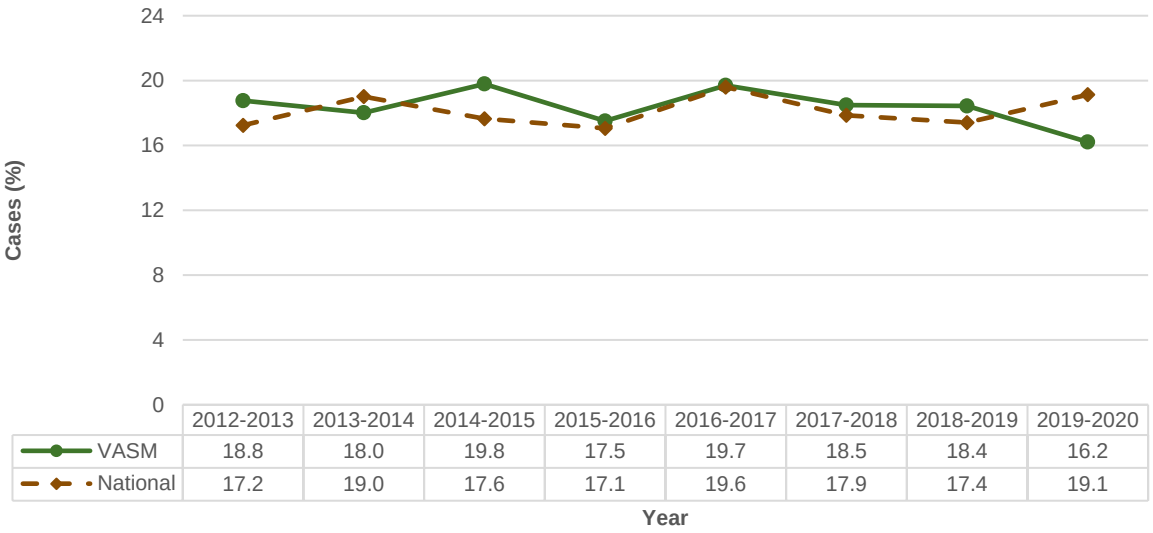
Figure 6: Deaths with use of critical care support, VASM compared to national data, 2012–2020



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	60.9	65.0	67.1	67.5	67.7	66.2	64.1	60.9
National	59.9	61.2	62.1	61.8	61.2	62.8	60.8	62.3

Notes:
n=6,264 out of 9,617 Victorian audited deaths received critical care support (1 July 2012 to 30 June 2020). Data not available: n=21.
n=11,269 out of 18,319 national audited deaths received critical care support (1 July 2012 to 30 June 2020). Data not available: n=193.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

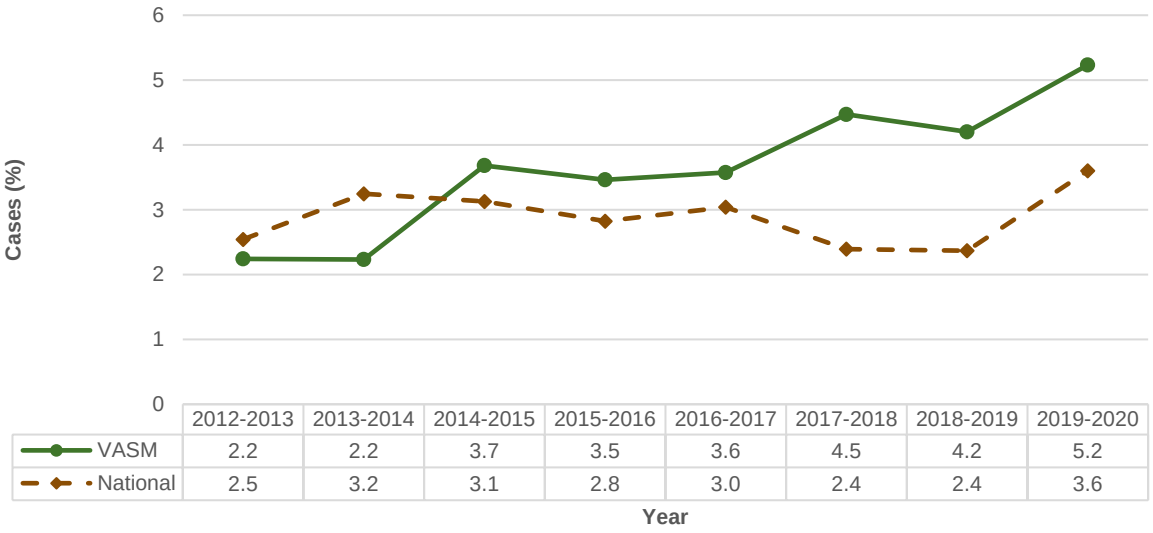
Figure 7: Deaths with unplanned admission to CCU, VASM compared to national data, 2012–2020



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	18.8	18.0	19.8	17.5	19.7	18.5	18.4	16.2
National	17.2	19.0	17.6	17.1	19.6	17.9	17.4	19.1

Notes:
n=1,755 out of 9,539 Victorian audited deaths had an unplanned CCU admission (1 July 2012 to 30 June 2020). Data not available: n=99.
n=3,263 out of 18,019 national audited deaths had an unplanned CCU admission (1 July 2012 to 30 June 2020). Data not available: n=493.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

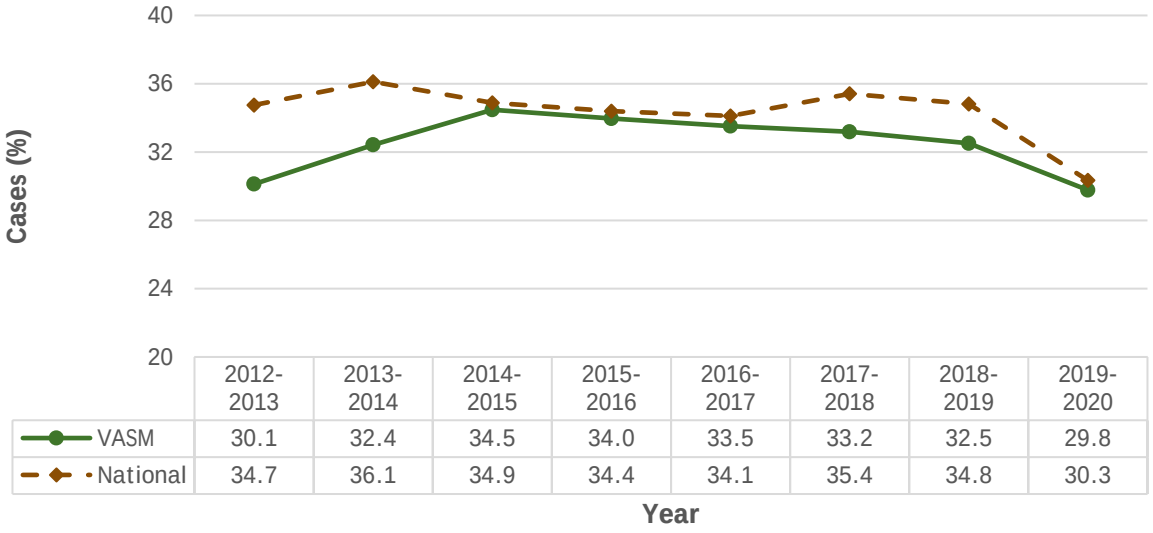
Figure 8: Deaths with unplanned readmission, VASM compared to national data, 2012–2020



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	2.2	2.2	3.7	3.5	3.6	4.5	4.2	5.2
National	2.5	3.2	3.1	2.8	3.0	2.4	2.4	3.6

Notes:
n=350 out of 9,510 Victorian audited deaths had an unplanned readmission (1 July 2012 to 30 June 2020). Data not available: n=128.
n=519 out of 17,984 national audited deaths had an unplanned readmission (1 July 2012 to 30 June 2020). Data not available: n=528.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

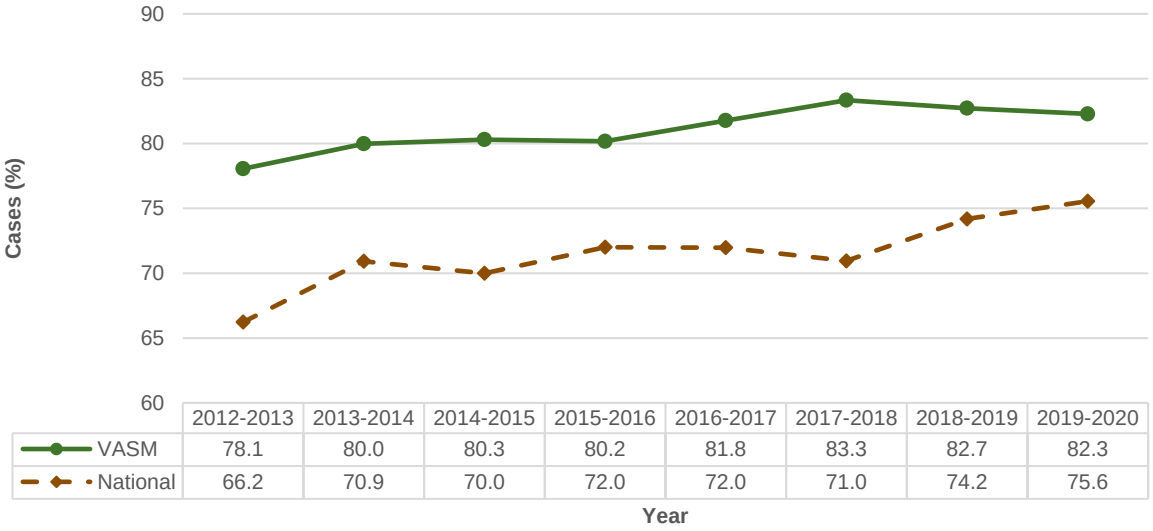
Figure 9: Deaths with clinically significant infection, VASM compared to national data, 2012–2020



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	30.1	32.4	34.5	34.0	33.5	33.2	32.5	29.8
National	34.7	36.1	34.9	34.4	34.1	35.4	34.8	30.3

Notes:
n=3,085 out of 9,453 Victorian audited deaths had a clinically significant infection (1 July 2012 to 30 June 2020). Data not available: n=185.
n=6,182 out of 17,958 national audited deaths had a clinically significant infection (1 July 2012 to 30 June 2020). Data not available: n=554.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

Figure 10: Deaths with operations with consultant surgeon present in theatre, VASM compared to national data, 2012–2020



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	78.1	80.0	80.3	80.2	81.8	83.3	82.7	82.3
National	66.2	70.9	70.0	72.0	72.0	71.0	74.2	75.6

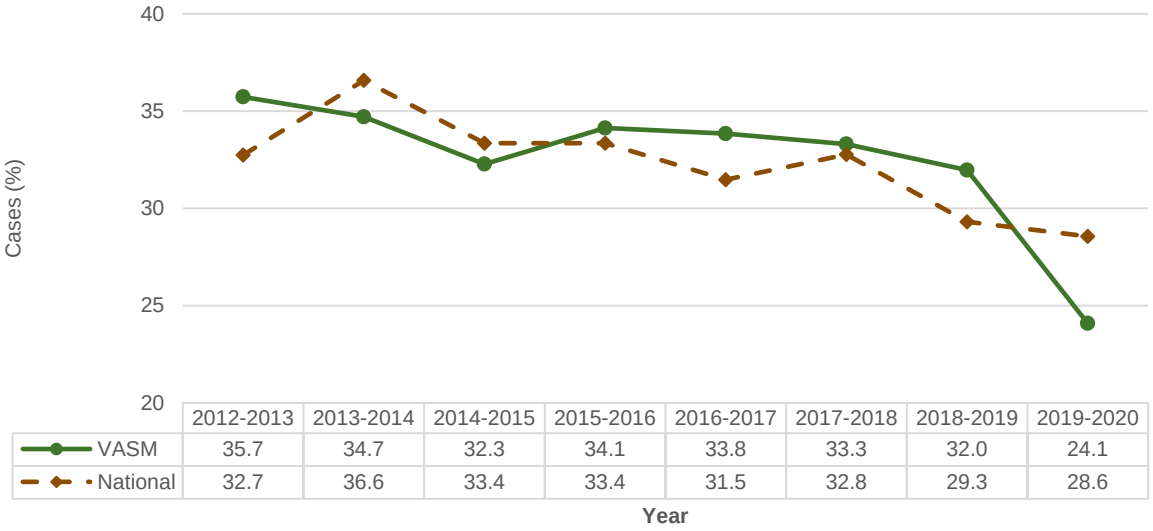
Notes:
n=10,112 out of 12,452 operative episodes for 8,857 operative Victorian patients had a consultant present in theatre (1 July 2012 to 30 June 2020).
n=13,891 out of 19,437 operative episodes for 13,847 operative national patients had a consultant present in theatre (1 July 2012 to 30 June 2020).
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

Table 2: Deaths with operations with consultant surgeon present in theatre and hospital status, VASM compared to national data, 2012–2020

	Private		Public	
Audit period	**VASM**	**National**	**VASM**	**National**
2012–2013	80.9% (259/320)	88.2% (186/211)	77.1% (701/909)	64.2% (1,276/1,989)
2013–2014	85.8% (291/339)	87.2% (462/530)	78.0% (787/1,009)	66.5% (1,280/1,925)
2014–2015	85.0% (339/399)	86.9% (432/497)	78.9% (972/1,232)	65.8% (1,357/2,061)
2015–2016	88.0% (353/401)	86.2% (451/523)	77.7% (1,037/1,334)	68.2% (1,343/1,968)
2016–2017	88.1% (384/436)	89.8% (353/393)	79.4% (977/1,230)	68.6% (1,399/2,040)
2017–2018	94.3% (414/439)	90.8% (433/477)	80.1% (1,129/1,410)	66.6% (1,414/2,123)
2018–2019	91.3% (368/403)	93.0% (387/416)	80.0% (1,029/1,286)	70.4% (1,438/2,044)
2019–2020	93.3% (235/252)	97.5% (398/408)	79.5% (801/1,007)	70.4% (1,231/1,748)
Total	**88.4% (2,643/2,989)**	**89.8% (3,102/3,455)**	**78.9% (7,433/9,417)**	**67.5% (10,738/15,898)**

Note:
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.

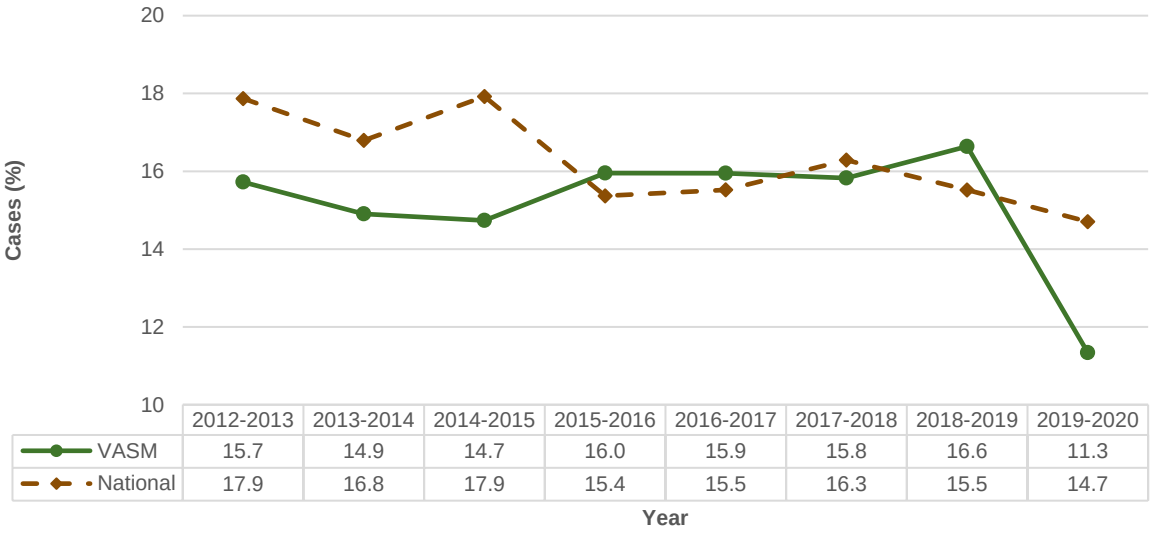
Figure 11: Deaths with postoperative complications, VASM compared to national data, 2012–2020



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	35.7	34.7	32.3	34.1	33.8	33.3	32.0	24.1
National	32.7	36.6	33.4	33.4	31.5	32.8	29.3	28.6

Notes:
n=2,857 out of 8,776 Victorian audited deaths had postoperative complications (1 July 2012 to 30 June 2020). Data not available: n=81.
n=4,427 out of 13,696 national audited deaths patients had postoperative complications (1 July 2012 to 30 June 2020). Data not available: n=151.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

Figure 12: Deaths with unplanned return to theatre, VASM compared to national data, 2012–2020



	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
VASM	15.7	14.9	14.7	16.0	15.9	15.8	16.6	11.3
National	17.9	16.8	17.9	15.4	15.5	16.3	15.5	14.7

Notes:
n=1,344 out of 8,828 Victorian audited deaths had an unplanned return to theatre (1 July 2012 to 30 June 2020). Data not available: n=29.
n=2,217 out of 13,656 national audited deaths had an unplanned return to theatre (1 July 2012 to 30 June 2020). Data not available: n=191.
National is defined as other participating jurisdictions, exclusive of Victoria and New South Wales data.
The 2019-2020 data will be more complete in the next report as more cases become available for analysis.

Table 3: Areas of VASM CMIs, 2012-2020

Year	2012–2013	2013–2014	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020
No issues identified	70.8% (704/994)	67.5% (732/1,084)	69.0% (854/1,237)	69.0% (882/1,279)	70.0% (884/1,262)	68.6% (927/1,352)	70.5% (928/1,316)	74.7% (790/1,057)
Area of consideration	17.4% (173/994)	20.7% (224/1,084)	17.6% (218/1,237)	16.5% (211/1,279)	14.7% (186/1,262)	15.0% (203/1,352)	12.6% (166/1,316)	12.4% (131/1,057)
Area of concern	7.8% (78/994)	7.9% (86/1,084)	7.8% (97/1,237)	9.9% (126/1,279)	8.9% (112/1,262)	8.4% (114/1,352)	6.3% (83/1,316)	5.0% (53/1,057)
Adverse event	3.7% (37/994)	3.7% (40/1,084)	5.0% (62/1,237)	4.2% (54/1,279)	5.9% (74/1,262)	7.9% (107/1,352)	10.4% (137/1,316)	7.9% (83/1,057)
Preventable issues	15.3% (152/994)	17.0% (184/1,084)	16.7% (207/1,237)	16.7% (213/1,279)	17.2% (217/1,262)	18.8% (254/1,352)	17.0% (224/1,316)	13.3% (141/1,057)
Adverse event or concern that was preventable	9.0% (89/994)	9.0% (98/1,084)	9.5% (117/1,237)	11.1% (142/1,279)	11.3% (142/1,262)	12.6% (170/1,352)	11.9% (157/1,316)	8.6% (91/1,057)
Adverse event or concern that was preventable that contributed to the death	1.8% (18/994)	2.7% (29/1,084)	2.1% (26/1,237)	2.7% (35/1,279)	3.4% (43/1,262)	3.0% (41/1,352)	3.4% (45/1,316)	2.3% (24/1,057)

Royal Australasian College of Surgeons

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