

LMICS Cancer Service Performance Indicator (CSPI) Audit 2018

Loddon Mallee Region (LMR) Key Performance Indicator (KPI) Stratified by Tumour Stream

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1 Introduction

The Victorian State Government Department of Health and Human Services (DHHS) utilise the Victorian Integrated Cancer Services (VICS) to conduct audits of central medical records (CMRs) to monitor the progress of multidisciplinary cancer care across the state. These audits, known as Cancer Services Performance Indicators (CSPI) audits, focus on key performance indicators (KPIs) pertaining to multidisciplinary team meeting (MDM) recommendations, documented cancer stage at MDMs, documented Eastern Cooperative Oncology Group (ECOG) performance status at MDMs, and supportive care screening (SCS) with a validated tool. This page summarises the data obtained at health services across the Loddon Mallee region (LMR) for 2018.

2 Method

The method used to conduct the CSPI Audit 2018 across the LMR is described in Appendix A. DHHS performed central sampling of patients for all VICS, including LMICS.

2.1 Eligibility criteria

Patients eligible for the LMR audit are Victorian residents diagnosed with cancer over the period 1/01/2018-31/12/2018 who received their initial treatment for the particular cancer at one of the following six health services: Bendigo Day Surgery (BDS), Bendigo Health (BH), Echuca Regional Health (ERH), Mildura Base Hospital (MBH), Mildura Private Hospital (MPH), and Saint John of God Bendigo Hospital (SJOGB). All of these health services have previously participated in the CSPI Audit in the LMR except for BDS. The main host site was BH.

2.2 Patient sampling

Staff at DHHS sampled potentially eligible patients for LMICS using data from the Victorian Admitted Episodes Dataset (VAED), before providing a Microsoft Excel spreadsheet for data collection across the LMR. As the LMR is a non-metropolitan region, there was an expectation to include at least 250 patients from across the region in the audit.

DHHS identified quotas of patients to be audited at each health service and within each tumour stream in proportion to the actual numbers of patients at each site and within each

tumour stream. The pre-defined quotas for each health service are provided in Appendix B. The patients to be audited to meet these quotas were identified through random centralised sampling, with a list of all spares also provided in case patients met at least one exclusion criterion during auditing. Due to the potential for ineligibility, the auditors were expected to audit patients in the given order until the pre-defined quota for each tumour stream had been met or there were no patients left in the spares list. Please note that the patient sampling methodology employed in the 2018 CSPI Audit differs to the methodologies used previously and, thus, may not be directly comparable.

2.3 Data collection

Across LMR, seven LMICS staff members undertook data collection for the CSPI audit. At the beginning of the auditing process, the eligibility of each patient was confirmed using pertinent information from the CMR. Ineligible patients were excluded from the audit. Subsequently, the CMRs of each patient eligible for inclusion at a particular health service were checked against the following four KPIs:

- 1.** Documented evidence of MDM recommendations. The target set by DHHS was 80%.
- 2.** Documented evidence of cancer staging in the MDM recommendations. The target set by DHHS was 100%.
- 3.** Documented evidence of patient ECOG performance status in the MDM recommendations. The target set by DHHS was 100%.
- 4.** Documented evidence of SCS in the CMR. The target set by DHHS was 80%. Please note that this target has been increased from 50% in previous CSPI audits, based on findings from the recent statewide Supportive Care Screening Point Prevalence Study.

The following KPI included in previous years of the CSPI audit was excluded this round:

Documented evidence of communication of initial treatment plan to the patient's GP within two weeks of treatment initiation or MDM discussion (whichever came first). The target set by DHHS was 100%.

For each eligible patient, a 'yes' or 'no' was recorded against each of the four KPIs based on documentation in the CMR. The Microsoft Excel template was developed in such a way that

unnecessary responses (e.g. documentation of staging in MDM for patients not presented at an MDM) were marked as 'N/A'. As MDM recommendations may be present in the CanMAP® MDM software used at BH but not in the CMR, a further post-hoc audit of KPIs 1-3 was conducted using CanMAP®. The auditors input data directly into a password-protected version of the Excel template provided by DHHS before securely transferring the dataset to the Data and Quality Specialist at LMICS.

2.4 Data analysis

The proportion of LMR patients who met each KPI was calculated and expressed as a percentage (p). Four formulae were utilised:

$$1. p(\text{MDT Recommendations}) = \frac{\sum \text{New cancer patients with documented MDT recommendations}}{\sum \text{New cancer patients audited}} * 100$$

$$2. p(\text{Disease Staging}) = \frac{\sum \text{New cancer patients with documented disease staging in MDT recommendations}}{\sum \text{New cancer patients with documentation of MDT recommendations}} * 100$$

$$3. p(\text{ECOG}) = \frac{\sum \text{New cancer patients with documented ECOG performance in MDT recommendations}}{\sum \text{New cancer patients with documentation of MDT recommendations}} * 100$$

$$4. p(\text{SCS}) = \frac{\sum \text{New cancer patients with documented SCS}}{\sum \text{New cancer patients audited}} * 100$$

where \sum denotes the summation.

The proportion of patients who met each KPI was also broken down by tumour stream. The results were presented graphically using bar charts. All data analysis was performed using Microsoft Excel 2013.

2 Results

2.1 Quotas of patients

The pre-defined quotas at LMR health services were met for each of the health services except BDS, MBH and SJGB, where six, three and one fewer patients (respectively) were included in the audit (Appendix B). This shortfall of ten patients at the two hospitals was made up for by additional auditing conducted at other sites. Overall, across all LMR health services, the

minimum number of 250 was met. Two patients were later excluded after their MDM recommendations retrieved from CanMAP® indicated their diseases were a recurrence. This was not initially captured in their CMRs.

3.2 Proportions of LMR patients who met CSPI audit KPIs

The proportions of LMR patients who met each of the four KPIs based on an audit of the CMR with or without CanMAP® auditing, along with the corresponding targets, are shown in Figures 1a-9b.

Based on the audit of the CMR with or without CanMAP® auditing for LMR cancer patients across all tumour streams combined, the targets set by DHHS were not met for any of the for KPIs (Figures 1a and 1b). The lowest result was observed for SCS (41%).

There were, however, some tumour streams for which the DHHS targets were met for particular KPIs. Based on auditing of the CMR by itself, the targets set by DHHS were only met for colorectal cancer stage in MDMs (Figure 3a) and haematological cancer MDM presentation (Figure 6a). When further information was considered from the CanMAP® MDM software, in addition to the CMR, the DHHS targets were also met for breast cancer MDM presentation (Figure 2b) and colorectal cancer MDM presentation (Figure 3b). It is important to note, however, that when further MDMs for colorectal cancer were considered from CanMAP®, the target for colorectal cancer stage in MDMs was not met (Figure 3b).

3.2.1 CSPI KPIs for all Loddon Mallee region (LMR) cancer patients

Figure 1a: CSPI KPIs for all LMR cancer patients based on an audit of the central medical record

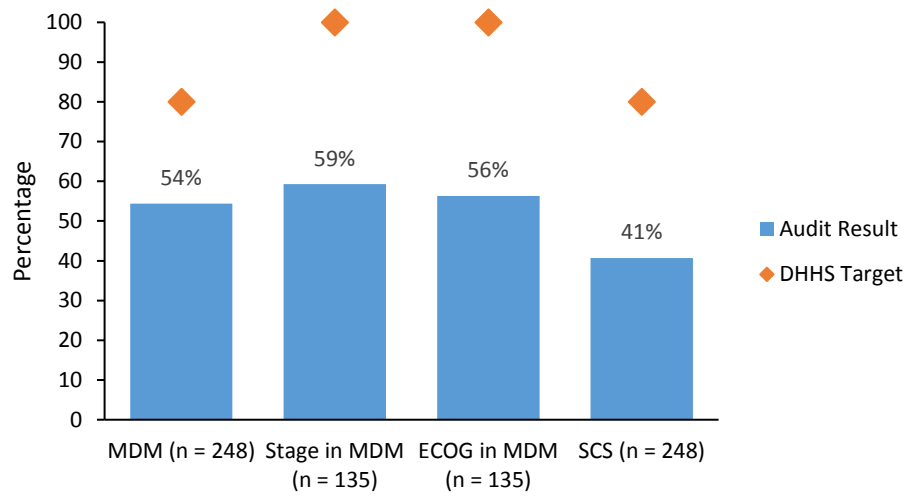
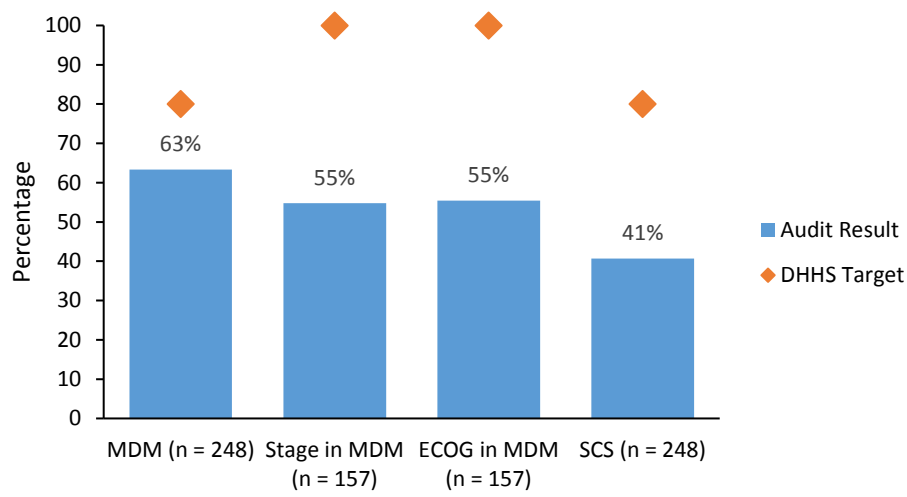


Figure 1b: CSPI KPIs for all LMR cancer patients based on an audit of the central medical record and CanMAP®



3.2.2 Breast cancer CSPI KPIs for the Loddon Mallee region (LMR)

Figure 2a: CSPI KPIs for LMR breast cancer patients based on an audit of the central medical record

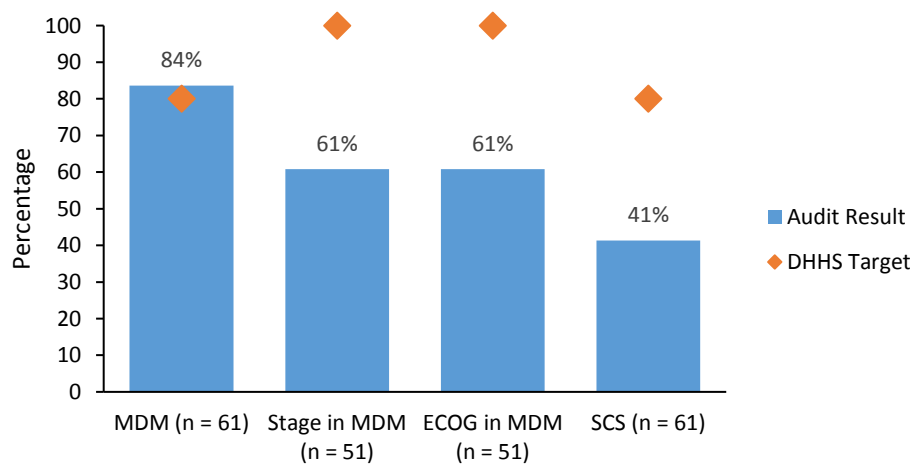
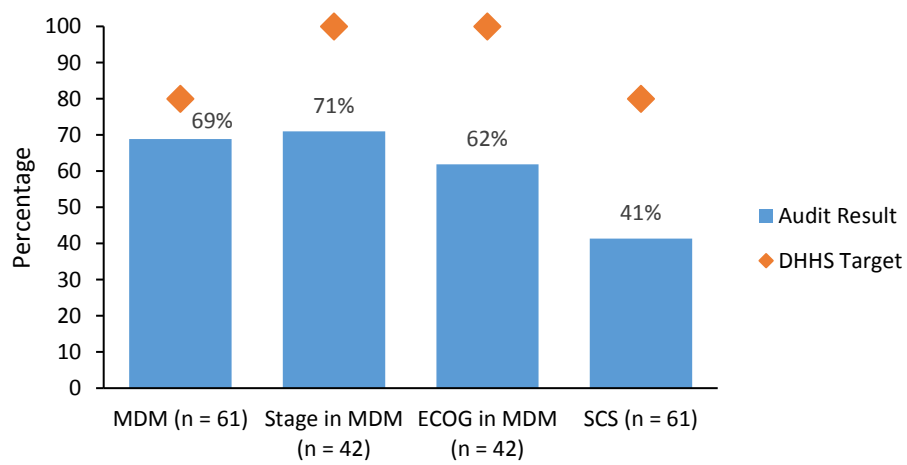


Figure 2b: CSPI KPIs for LMR breast cancer patients based on an audit of the central medical record and CanMAP®



3.2.3 Colorectal Cancer CSPI KPIs for the Loddon Mallee region (LMR)

Figure 3a: CSPI KPIs for LMR colorectal cancer patients based on an audit of the central medical record

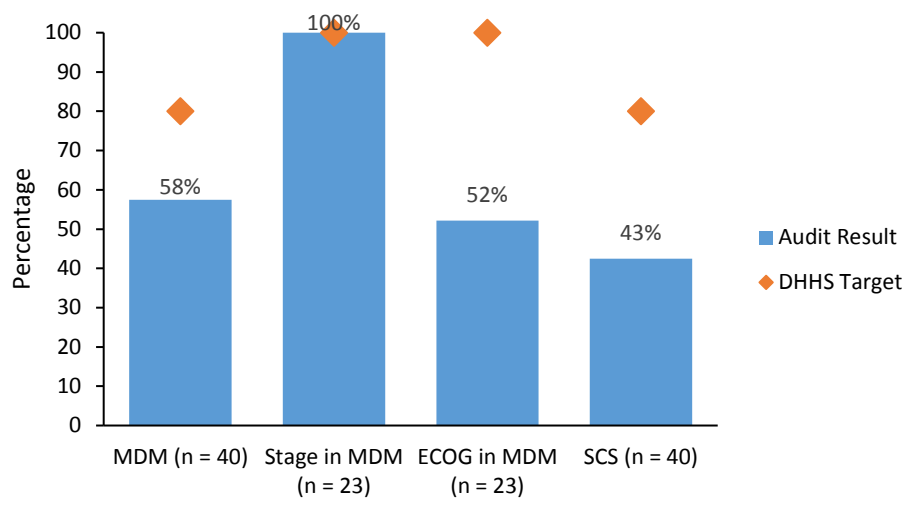
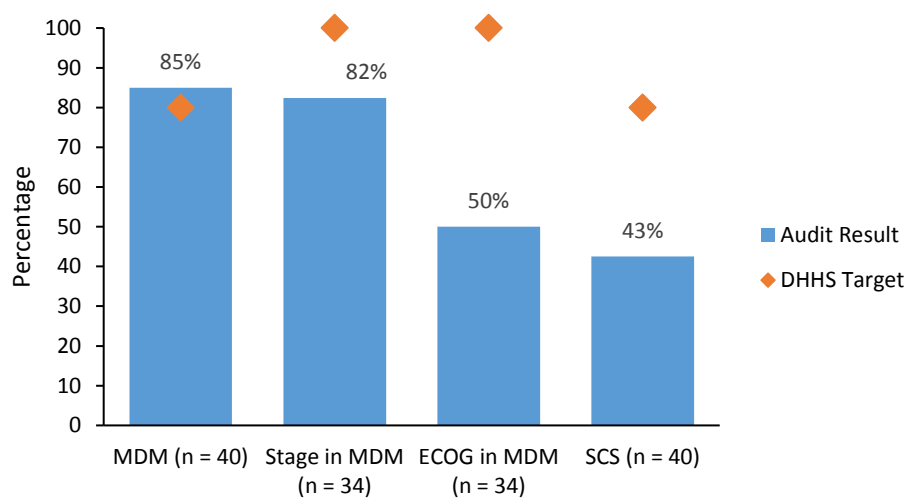


Figure 3b: CSPI KPIs for LMR colorectal cancer patients based on an audit of the central medical record and CanMAP®



3.2.4 Genitourinary Cancer CSPI KPIs for the Loddon Mallee region (LMR)

Figure 4a: CSPI KPIs for LMR Genitourinary cancer patients based on an audit of the central medical record

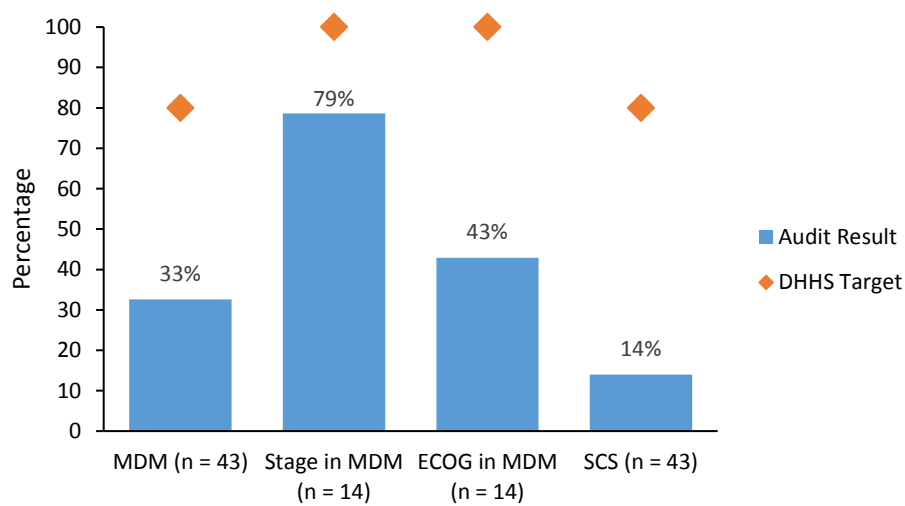
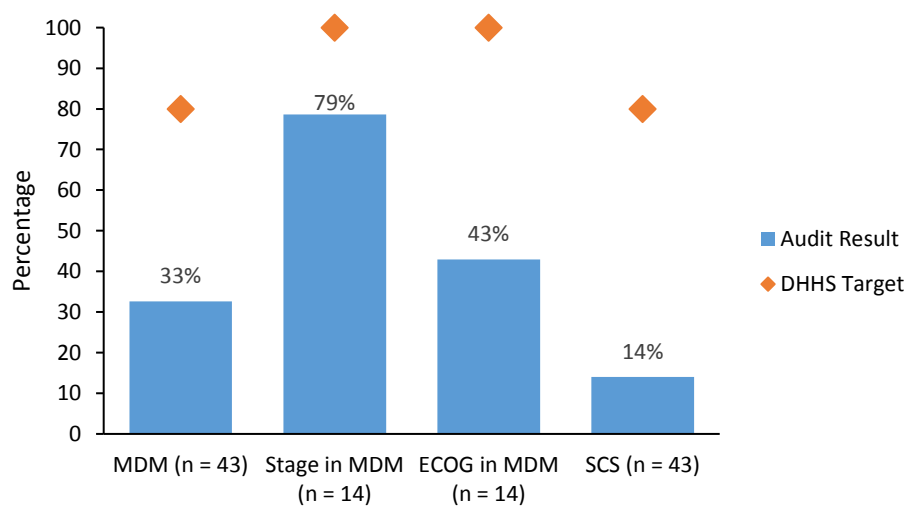


Figure 4b: CSPI KPIs for LMR genitourinary cancer patients based on an audit of the central medical record and CanMap®



3.2.5 Gynaecological Cancer CSPI KPIs for the Loddon Mallee region (LMR)

Figure 5a: CSPI KPIs for LMR **gynaecological cancer** patients based on an audit of the **central medical record**

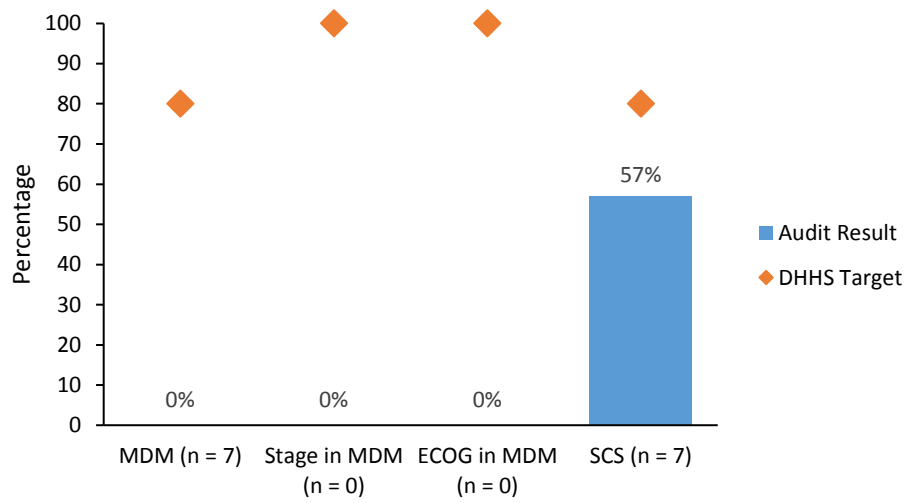
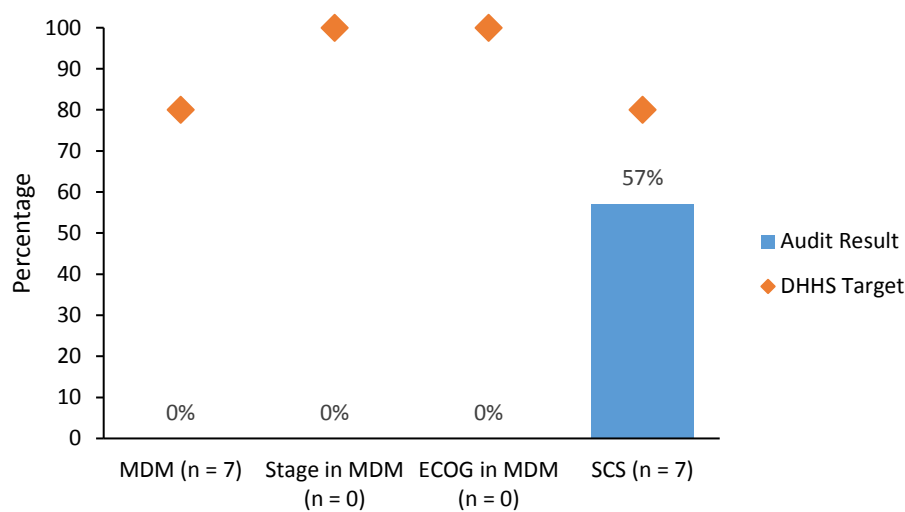


Figure 5b: CSPI KPIs for LMR **gynaecological cancer** patients based on an audit of the **central medical record and CanMAP®**



3.2.6 Haematological Cancer CSPI KPIs for the Loddon Mallee region (LMR)

Figure 6a: CSPI KPIs for LMR **haematological cancer** patients based on an audit of the **central medical record**

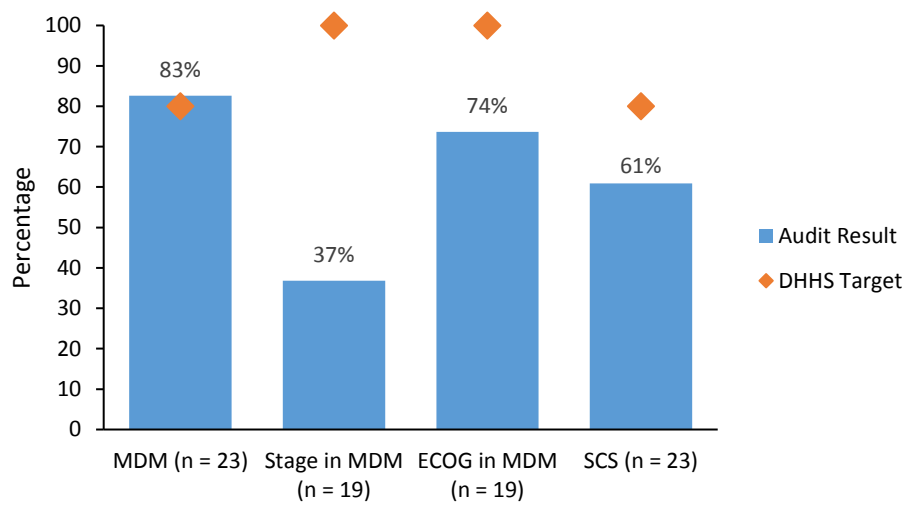
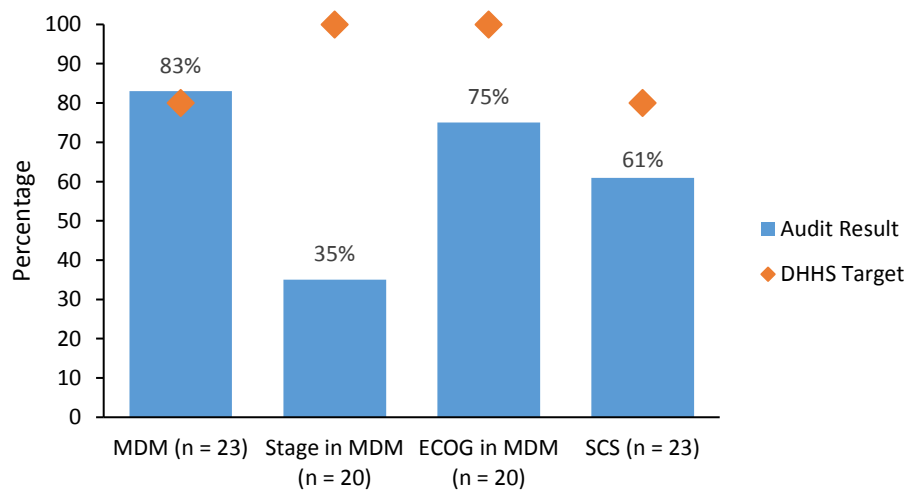


Figure 6b: CSPI KPIs for LMR **haematological cancer** patients based on an audit of the **central medical record and CanMAP®**



3.2.7 Lung Cancer CSPI KPIs for the Loddon Mallee region (LMR)

Figure 7a: CSPI KPIs for LMR lung cancer patients based on an audit of the central medical record

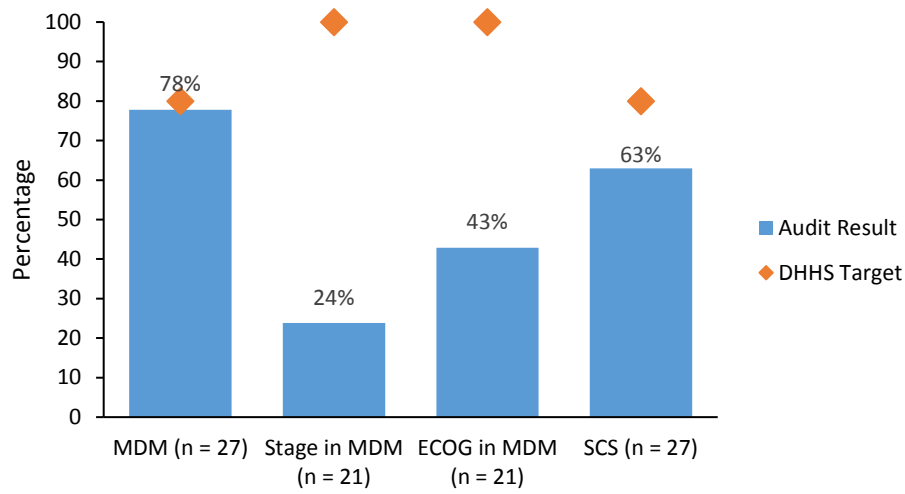
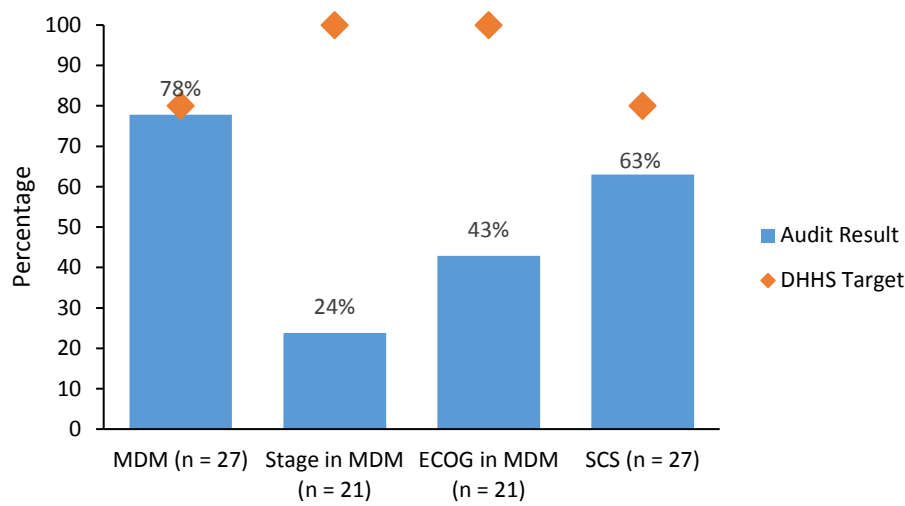


Figure 7b: CSPI KPIs for LMR lung cancer patients based on an audit of the central medical record and CanMAP®



3.8 Melanoma CSPI KPIs for the Loddon Mallee region (LMR)

Figure 8a: CSPI KPIs for LMR melanoma patients based on an audit of the central medical record

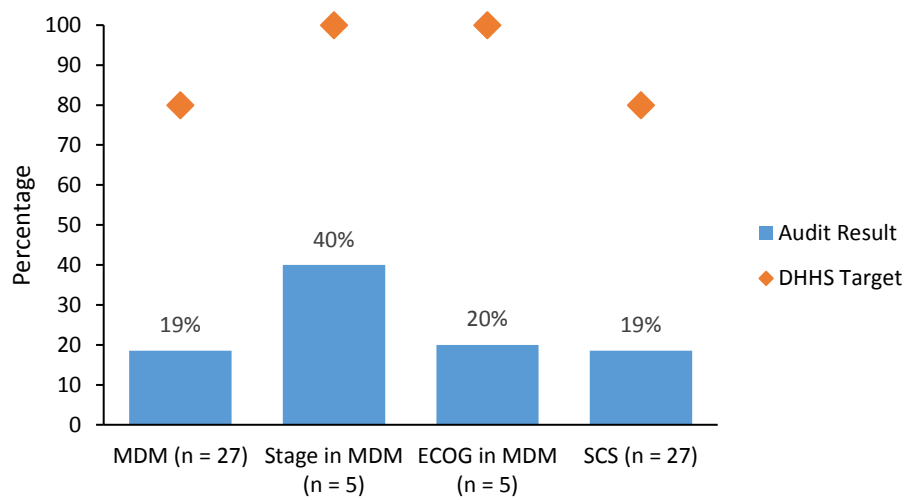
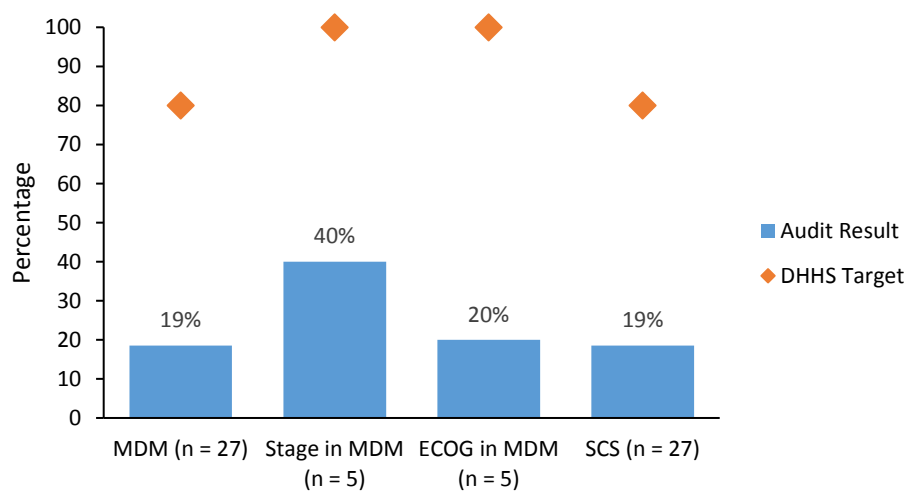


Figure 8b: CSPI KPIs for LMR melanoma patients based on an audit of the central medical record and CanMAP®



3.9 Upper Gastro-Intestinal cancer CSPI KPIs for the Loddon Mallee region (LMR)

Figure 9a: CSPI KPIs for LMR upper gastro-intestinal cancer patients based on an audit of the central medical record

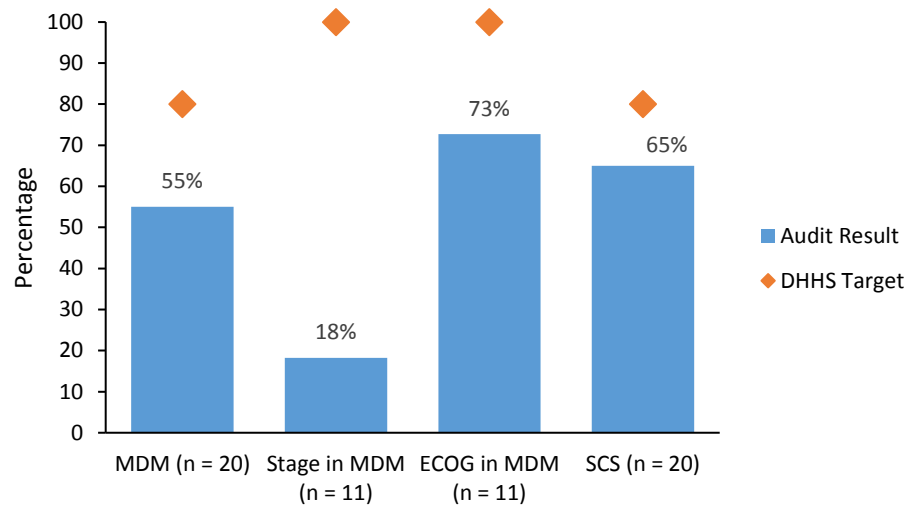
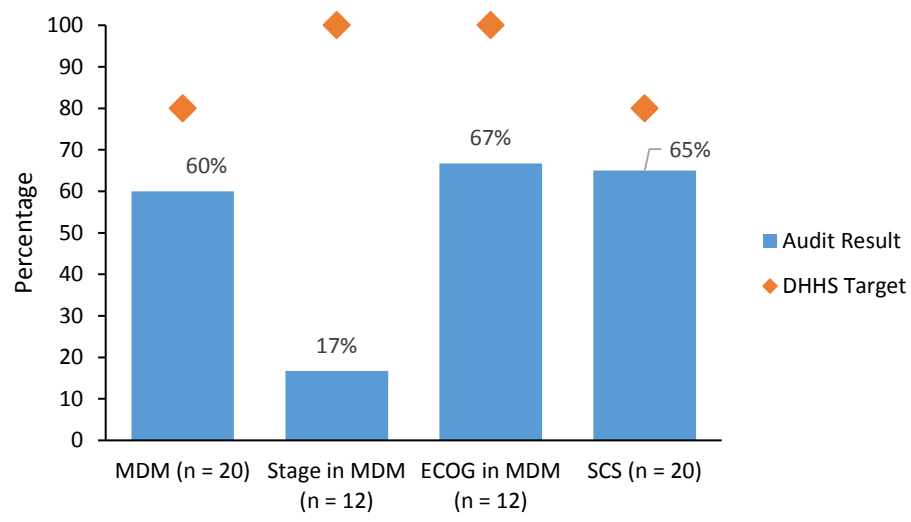


Figure 9b: CSPI KPIs for LMR upper gastro-intestinal cancer patients based on an audit of the central medical record and CanMAP®



3. Discussion

According to the results of the CSPI audit conducted among 248 cancer patients at LMR health services for the calendar year 2018, none of the performance targets set by DHHS were met. The worst results with the greatest room for improvement was SCS: 41% of audited patients were screened using a validated tool compared with the DHHS target of 80%. The overall results for MDM presentation, documentation of staging in MDM recommendations and documentation of ECOG in MDM recommendations were all close to 50%. These results are well below the corresponding DHHS targets. It is noteworthy that, although the LMR result for documented SCS is below the current DHHS target of 80%, it is closer to the DHHS target of 50% in most previous years of the CSPI audit. Notably, the prior DHHS target of 50% documented SCS was met for the gynaecological, haematological, lung and upper gastrointestinal tumour streams. Among all the tumour streams assessed at LMR health services, the results were consistently most favourable across the three MDM KPIs for breast cancer and CRC. This finding reflects the fact that BH runs a joint breast cancer and CRC MDM that is well attended by all specialities and non-medical staff.

Due to the potential for MDM recommendations from the CanMAP[®] system to be missing from the CMR, an ad-hoc audit of this MDM software was conducted. This additional auditing revealed that an absolute percentage of 9% more patients had MDM recommendations than were picked up in the CMR alone. This result indicates the slight extent to which the lack of transfer of MDM recommendations from BH through to regional CMRs led to an underestimated proportion for KPI 1.

The results of this audit suggest room for quality improvements in the following aspects of the multidisciplinary cancer care provided to cancer patients in the LMR:

1. Continue to promote appropriate referrals to MDMs and optimise the process of filing MDM recommendations in the CMR.
2. Continue to ensure the recording of staging (where available) and ECOG performance status at MDMs.
3. Ensure supportive care screens that are conducted, are done so on validated forms and placed in CMRs. Efforts should also be made to screen more patients – something that would be feasible following a recently-commenced LMICS review of the SCS process. This review has been triggered by clinicians' feedback that the current supportive care

screening tool (SCST) is not fit for purpose as resources have not been allocated to meet all identified needs. Once this underlying issue has been addressed, then clinicians may be more likely to conduct SCS.

This audit has several strengths. Potentially eligible patients for the current audit were randomly sampled in proportion to subgroups of tumour stream. This means that the sample of LMR patients in the current audit is likely to be representative of the whole population of cancer patients treated at regional health services. Furthermore, the use of a Microsoft Excel spreadsheet streamlined data collection and may have improved data quality by minimising the potential for errors.

An important limitation of the current audit is incomplete information on KPIs at LMR health services. Auditing a patient's CMR at one particular site is restrictive in that the auditors cannot account for MDMs and SCSTs completed at other sites. Cancer patients who are first treated at a given hospital in LMR may also receive care at other hospitals within the region, in different regions or even interstate. This means that audit results presented here may underestimate the true results to an unknown degree. A particular example in this audit is gynaecological cancer patients, who have their MDMs and workup in Mercy Hospital in Melbourne.

A further limitation of this audit is the unclear distinction between clinical processes and administrative processes. One should note that documented evidence of KPIs provides a crude performance measure of the care provided to cancer patients in clinical practice. If a given auditor did not find documented evidence of a KPI in a CMR, then the reason for this could be clinical or administrative. "Absence of evidence is not evidence of absence", as the maxim goes. It was shown, for instance, that 9% of audited cancer patients who were presented at an MDM did not have the MDM recommendations filed in the CMR. This issue was mainly evident at MBH and MPH. In order to improve KPIs across the LMR, one would need to focus on quality improvement in clinical services and related administrative processes.

4. Conclusion

The current CSPI audit shows that, during 2018 at LMR health services, DHHS targets were not met for any of the four KPIs: MDM recommendations, staging in MDM recommendations, ECOG performance status in MDM recommendations, and SCS. There is room for quality improvement in these KPIs. In the first instance, efforts should be made to improve the administrative process of filing documentation in the CMRs at regional health services. Once documentation is optimised, then it will be possible to more accurately assess the clinical processes underlying KPIs.

Appendix A: CSPI Audit 2018 Data Collection Method (Please see separate file)**Appendix B: Pre-defined and actual quotas of patients audited at Loddon Mallee health services by tumour stream**

Health Service	Pre-defined no. patients (%)	Actual no. patients (%)
BDS	11 (4%)	5 (2%)
BH	128 (51%)	131 (53%)
ERH	17 (7%)	20 (8%)
MBH	26 (10%)	22 (9%)
MPH	10 (4%)	14 (6%)
SJOGB	58 (23%)	56 (23%)
Total (LMR)	250 (100%)	248 (100%)

BH – Bendigo Health, SJOGB – Saint John of God Bendigo, MPH – Mildura Base Hospital, MPH – Mildura Private Hospital, ERH – Echuca Regional Health, SHDH – Swan Hill District Health, KDH – Kerang District Health, KDHS – Kyabram District Health Service