5.1 Hospital Standardised Mortality Ratio (HSMR) in Lanarkshire – a Public Health Perspective

Introduction

Hospital Standardised Mortality Ratio (HSMR) is a statistical tool that is used to compare mortality within hospitals over time, and to compare mortality between hospitals and a standard, while factoring out differences in case-mix (the type or mix of patients treated by a hospital). HSMR is calculated as the ratio of observed deaths in a hospital (total number of deaths within 30 days of hospital admission, irrespective of the place of death) to the number of predicted deaths for that hospital as determined by applying the HSMR statistical model to the available data on patients that have been admitted over a particular time period (usually three months). Using the persistent HSMR outlier status at Monklands Hospital, and to a lesser extent at Wishaw General and Hairmyres Hospitals, as a ‘smoke alarm’, a Health Improvement Scotland (HIS) Rapid Review of the Safety and Quality of Care for Acute Adult Patients in NHS Lanarkshire was conducted in autumn 2013. Part of NHS Lanarkshire’s work explored the factors that might be contributing to the persistent, raised HSMR.

HSMR as a statistical tool

HSMR is based on a statistical model and it can be affected by the quality of data feeding the model and the validity of assumptions that underpin it. Some potential shortcomings with HSMR are clearly outlined in a Faculty of Public Health Position Paper that describes some important differences in how hospitals and local healthcare systems are organised and some differences in coding practices. These factors and others can lead to problems in reliably interpreting HSMR data and in developing appropriate responses to improve care and offer assurance to the general public.

During 2013, Information and Services Division (ISD), part of NHS National Services Scotland, carried out some exploratory and sensitivity analyses to examine the robustness of the HSMR statistical model and to provide recommendations on future strategies for calculating HSMR. This work concluded that the Scottish HSMR model was fairly robust when applied to large hospitals (such as district general hospitals and teaching hospitals) in respect to coding errors, differences in how hospital care is organised, and some of the different characteristics of hospital catchment populations. The only factor that did affect the outlier status of some large hospitals was to replace the use of co-morbidities information from a previous hospital admission with information from the current admission.

The report from the HIS Rapid Review referred to a number of issues that had been previously highlighted by NHS Lanarkshire and ISD. ISD suggested...
that late submission of SMR01 records was adversely affecting the HSMR data, particularly at Monklands, possibly related to the timeliness and quality of some hospital discharge reports. The overall findings are summarised in Table 5.1.1.

Table 5.1.1
ISD assessment of HSMR model issues raised in discussions with NHS Lanarkshire

<table>
<thead>
<tr>
<th>Factors potentially affecting HSMR in Lanarkshire</th>
<th>ISD assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of clinical coding</td>
<td>Highly unlikely to affect HSMR</td>
</tr>
<tr>
<td>Hospital at home service at Monklands</td>
<td>Highly unlikely to affect HSMR</td>
</tr>
<tr>
<td>Accuracy of diagnosis on initial admission</td>
<td>Highly unlikely to affect HSMR</td>
</tr>
<tr>
<td>Palliative and end-of-life care</td>
<td>Highly unlikely to affect HSMR</td>
</tr>
<tr>
<td>Quality and timeliness of discharge documentation</td>
<td>May be impacting on HSMR through impact on submission of SMR01 records</td>
</tr>
<tr>
<td>Late submission of SMR01 records</td>
<td>Affects HSMR based on initial submission (some correction in the revised submission)</td>
</tr>
</tbody>
</table>

Deaths in Lanarkshire acute hospitals
There is no single benchmark that determines whether there is a mis-specification of the HSMR observed and predicted deaths for a given hospital. To examine this, Tables 5.1.2 and 5.1.3 provide information on total deaths (in and out of hospital) in the catchment populations for each Lanarkshire acute hospital for comparison purposes. The catchment populations for each acute hospital were obtained from the NHS Lanarkshire Change and Innovation Department.

Table 5.1.2
HSMR observed and predicted deaths and total deaths, 2012: comparison within NHS Lanarkshire

<table>
<thead>
<tr>
<th></th>
<th>Hairmyres</th>
<th>Monklands</th>
<th>Wishaw</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSMR predicted deaths:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number (% of NHSL total)</td>
<td>999</td>
<td>936</td>
<td>1021</td>
<td>2956</td>
</tr>
<tr>
<td>(%)</td>
<td>(34%)</td>
<td>(32%)</td>
<td>(35%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>HSMR observed deaths:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number (% of NHSL total)</td>
<td>927</td>
<td>982</td>
<td>965</td>
<td>2874</td>
</tr>
<tr>
<td>(%)</td>
<td>(32%)</td>
<td>(34%)</td>
<td>(34%)</td>
<td>(100%)</td>
</tr>
<tr>
<td>Total deaths by catchment population:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number (% of NHSL total)</td>
<td>1881</td>
<td>2384</td>
<td>2123</td>
<td>6388</td>
</tr>
<tr>
<td>(%)</td>
<td>(29%)</td>
<td>(37%)</td>
<td>(33%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Table 5.1.3
HSMR observed and predicted deaths and total deaths, 2012: comparison with Scotland

<table>
<thead>
<tr>
<th></th>
<th>Hairmyres</th>
<th>Monklands</th>
<th>Wishaw</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSMR predicted deaths:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number (% of Scotland total)</td>
<td>999</td>
<td>936</td>
<td>1021</td>
<td>2956</td>
</tr>
<tr>
<td>(%)</td>
<td>(3.4%)</td>
<td>(3.1%)</td>
<td>(3.4%)</td>
<td>(9.9%)</td>
</tr>
<tr>
<td>HSMR observed deaths:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number (% of Scotland total)</td>
<td>927</td>
<td>982</td>
<td>965</td>
<td>2874</td>
</tr>
<tr>
<td>(%)</td>
<td>(3.5%)</td>
<td>(3.7%)</td>
<td>(3.6%)</td>
<td>(10.8%)</td>
</tr>
<tr>
<td>Total deaths by catchment population:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number (% of Scotland total)</td>
<td>1881</td>
<td>2384</td>
<td>2123</td>
<td>6388</td>
</tr>
<tr>
<td>(%)</td>
<td>(3.4%)</td>
<td>(4.3%)</td>
<td>(3.9%)</td>
<td>(11.6%)</td>
</tr>
</tbody>
</table>
Compared to Wishaw General and Hairmyres, Monklands seems to have the lowest predicted HSMR deaths as a proportion and the highest observed HSMR deaths as a proportion. However, even higher again is the proportion of the total deaths (in and out of hospital) that occur in the Monklands catchment population. The Scottish HSMR tool does not adjust for deprivation (unlike England) and it would be interesting to note if such an adjustment would significantly alter the persistent outlier status of Monklands.

**Key Points**

- Where HSMR flags up higher than expected mortality this may be due to deficiencies in the organisation of hospital care or due to deficiencies in the HSMR tool.
- If trusted evidence exists to show that processes of care are not the main contributor to a flagged HSMR level, the balance of probabilities will swing towards deficiencies in the HSMR tool, albeit that these deficiencies will not necessarily be remediable.

**Priorities for Action**

- A consistent approach to monitoring HSMR will be required until the end of 2015 because the Scottish Government patient safety programme target in relation to reducing HSMR at national level will require regular reporting until this time.
- After the end of 2015 the following issues should be considered in any revisions to the HSMR model:
  - Incorporate co-morbidities information from the current hospital admission to replace the use of co-morbidities information from the previous hospital admission.
  - Adjust HSMR data for socio-economic deprivation in Scotland, particularly to assess the impact on Monklands Hospital.

**References**


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A Review of NHS Homoeopathy Services in Lanarkshire

Background
NHS Lanarkshire contracts with NHS Greater Glasgow and Clyde for services from the Homoeopathic Hospital (now the Centre for Integrative Care or CIC). This includes homoeopathy but also other interventions such as mindfulness-based cognitive therapy (MBCT), HeartMath – a form of biofeedback, mistletoe for adverse effects of cancer treatment, and music and movement therapy. In 2012/13, 148 new outpatients and an estimated 890 return outpatients used the CIC, down from 179 and 1,076 respectively in 2011/12.

The Lanarkshire Homoeopathy Review Project Group was set up in November 2012 to review homoeopathy service use in Lanarkshire. Reviewing services is important because if they are not effective, resources are denied for other, more effective treatments.

Evidence gathered
The Group gathered evidence which included:
• A literature review including systematic reviews and meta-analyses (analyses of existing studies) on the therapies noted above.
• A survey of patients’ views using a modified Care Measure questionnaire.
• A survey of Lanarkshire GPs’ views using SurveyMonkey.
• A description of outpatient and inpatient, including the types of interventions used at the CIC and patient assessment.

Results
The literature review found that the evidence was either weak or lacking for homoeopathy, MBCT, HeartMath, mistletoe extracts for cancer patients, and music and movement therapy.1

Of 153 questionnaires from service users, 107 (69.9%) were completed. Of those, 76 (71.0%) were aged over 45, 74 (69.2%) had a disability or long-term condition, and 94 (87.9%) said the treatment made them feel better.

Fifty-seven GPs replied (15.4%) out of a total of 370. Of those who replied, 19 (33.3%) rated the service of good/great value, 26 (45.6%) rated it of no/little value, and 12 (21.1%) were neutral. If homoeopathy services were not available, 34 GPs would refer patients to pain management, counselling, psychology, acupuncture or cognitive behavioural therapy.

The CIC produced three reports. The first reported on usage of therapies by 388 patients: 179 (46.1%) received homoeopathic treatment as part of a package of care, 129 (33.2%) received only homoeopathic treatment, and 80 (20.6%) received other care not including homoeopathic treatment. The second reported on 60 patients who attended the Wellness Enhancement and Learning (WEL) programme: 43 (71.7%) felt the programme was necessary for recovery, 44 (73.3%) felt it had a positive impact on their sense of wellbeing, 31 (51.7%) felt it had a positive impact on their physical symptoms, and 44 (73.3%) felt that it had a positive impact on their ability to cope with
stress. The third reported on assessments of homoeopathic intervention in new patients using the ‘Measure Yourself Medical Outcome Profile’ (MYMOP) questionnaire. In all four self-assessment measures, patients had reported improvements in the severity of main and second symptoms, wellbeing, and activity.

Conclusions
The findings from the literature are clear – there is insufficient or no evidence for homoeopathy or for the other interventions. The GP response rate is low but only a third rated the service of value. However, the treatments offered by the CIC are popular with patients. This highlights the issue when different aspects of quality run counter to one another, i.e. in this case ‘effectiveness’ (the treatments are ineffective) against ‘patient-centred’ (treatments that are popular with patients).

This work is now in the next phase. As agreed with Scottish Health Council, NHS Lanarkshire is engaging with stakeholders and sharing with them the findings of our work before a final decision is made.

Key Points
• There is little or no evidence in the literature for the effectiveness of a range of treatments provided by the CIC.
• The relatively small number of patients using CIC services state their health has improved.

Priorities for Action
• Collate the outcome of the engagement process.
• Conclude the process with a decision by Lanarkshire NHS Board on services provided by the CIC.

References
1 Homoeopathy Services for Lanarkshire Residents. Report of the Lanarkshire Homoeopathy Review Project Group to the NHS Lanarkshire Modernisation Board. 5 August 2013.

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Acknowledgements:
My thanks to colleagues in NHS Lanarkshire who helped in the review – Isobel Frize, Planning Manager and Colin Lauder, Head of Planning and Development.
Syphilis is a sexually transmitted bacterial infection. Infectious early syphilis has re-emerged as an important disease in the UK, mostly among men who have sex with men but also among young heterosexuals.\textsuperscript{1,2}

People may not always be aware they have syphilis infection. Those with symptoms may present to many services with a variety of clinical presentations. Syphilis is relatively easy to treat and cure. If left untreated, patients may develop severe, life-threatening disease five to thirty years later.\textsuperscript{3}

An increase in the number of cases of syphilis diagnosed in Lanarkshire in 2012 among young heterosexuals led to the establishment of an incident management team which developed and implemented a syphilis prevention and control plan.\textsuperscript{4}

\textbf{Epidemiology of cases diagnosed during 2012 and 2013}

During 2012 and 2013, 48 cases of syphilis were diagnosed – there were 20 females and 28 males, 56\% of whom were less than 25 years old. Sexuality was heterosexual for 34 (20 females and 14 males), and MSM (men who have sex with men) or bisexual for 14 males.

Data for stage of syphilis at diagnosis shows a reduction in cases of primary and secondary syphilis and an increase in early and late latent syphilis.

\begin{table}
\centering
\caption{Stage of syphilis by year of diagnosis}
\begin{tabular}{|c|c|c|c|}
\hline
\textbf{Stage} & \textbf{2012} & \textbf{2013} & \textbf{2012–2013} \\
\hline
Primary and secondary & 15 & 11 & 26 \\
Early and late latent & 6 & 15 & 21 \\
Other & 0 & 1 & 1 \\
\hline
Total & 21 & 27 & 48 \\
\hline
\end{tabular}
\end{table}

Syphilis may be transmitted to the fetus during pregnancy. High levels of antenatal testing for syphilis have been achieved. No cases of congenital syphilis have been diagnosed.

\textbf{The Sexual Health Promotion Team}

Key messages – to raise awareness of syphilis, to encourage testing, treatment and partner notification, and to promote prevention – were communicated to target populations by:

\begin{itemize}
\item Distribution of a leaflet to the service users of partner services.
\item Dissemination of a detailed information sheet for staff working with target populations.
\item Website \url{www.lanarkshiresexualhealth.org} updated with information and details of services.
\item Questionnaire used to ascertain what prompted clinic attendance.
\item Facebook advertising – encouraging those at risk to attend for testing.
\item Letter sent to parents of pupils in secondary school years four to six
\end{itemize}
(S4 to S6) about key messages and planned input.

- Delivery of key messages to all S4 to S6 pupils in 44 secondary schools following discussion with education departments and the Scottish Catholic Education Service.

The Clinical Sexual Health Service
The NHS Lanarkshire Clinical Sexual Health Service has:

- Raised awareness among clinicians of the increase in cases and the indications for testing.
- Increased the provision of clinics for young people, set up quick check clinics and performed partner notification for all cases.
- Provided additional education and training.
- Expanded outreach work to engage with young people.

Key Points

- Syphilis can cause severe and life threatening disease.
- Syphilis increased among young heterosexuals in Lanarkshire in 2012 and 2013.
- A syphilis prevention and control plan was implemented.

Priorities for Action

- Awareness raising of the risk of syphilis, prevention measures and testing should continue.
- Sexual health services should be developed to improve access and increase capacity to diagnose people with syphilis.
- High levels of antenatal screening for syphilis should be maintained.

References


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Acknowledgement: Members of the Syphilis Incident Management Team
Reshaping Care for Older People

Background
Reshaping Care for Older People is a Scottish Government policy aimed at supporting an increasing proportion of older people at home, in keeping with the wishes of most older people. It requires that NHS boards, local authorities, third and independent sectors work in partnership along with older people and carers.

People in Lanarkshire are living longer and, generally, healthier lives. This means older people will make up a greater proportion of the population. Over the next 20 years, the number of adults aged 65 years and over is expected to double. Research shows that older people would prefer to remain in their own home, with support, if they are unable to look after themselves. The aim is to shift the balance of care so older people can live full, independent and positive lives in their own homes or a homely setting.

Demography – life expectancy
The shift in life expectancy, and the corresponding relative increase in years that people may expect to live in poor health, has implications for the way we support older people. The majority of people being admitted to hospital are aged 70 years and over. The highest proportional growth in our communities will be in those aged 80 years and over.

Healthy life expectancy estimates the number of years that men and women can expect to live in good health and, by implication, the number of years they might expect to live in poor health due to illness or disability. For example, in South Lanarkshire women can expect to live 55.6 years without a long-term condition. This means that these women may expect twenty years or more of life with a long-term condition.

Reshaping care pathway
The Scottish Government identified four key areas or ‘pillars’ to which investment was to be directed (see Figure 5.4.1). In determining these pillars, it is recognised that it is just as important to facilitate local communities to have networks of support in place for older people as well as to have targeted services when these are required.

After a period of extensive consultation, North and South Lanarkshire partners agreed their respective Joint Strategic Commissioning Plans 2013–2023. The plans outline partnership intentions in the provision and purchase of older people’s services within integrated health and social care services.

Figure 5.4.1
The four pillars of the reshaping care pathway

<table>
<thead>
<tr>
<th>Community capacity building</th>
<th>Proactive care and support at home</th>
<th>Effective care at times of transition</th>
<th>Hospital and care homes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support for carers</td>
<td>Preventative and anticipatory care</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Key Points

- The proportion of older adults in the population is increasing.
- Reshaping Care for Older People aims to support more older people at home.
- Both North and South Lanarkshire Partnerships have agreed plans which outline how they will deliver older people’s services.

Priorities for Action

North Lanarkshire:
- Implementation of Community Capacity Building and Support for Carers Strategy.
- Implementation of a locality model for older people’s services in a whole-system outcome-based approach.
- Proactively supporting the workforce.

South Lanarkshire:
- Providing integrated health and social care support in people’s own homes.
- Developing enhanced models of shared and intermediate care in the community.
- Supporting older people to die well in their own home if that is their preferred place of death.

References


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