SCoOP

ACUTE HOSPITAL OUTCOMES REPORT

An overview of outcomes of acute geriatric medicine services in Scotland
SCoOP Acute Hospital Outcomes Report

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This is the SCoOP’s first Acute Hospitals Report to NHS Boards and Health and Social Care Partnerships. It aims to help them assess their specialist acute geriatric medicine services’ performance by highlighting variation in outcomes across Scotland.

There are many factors that can account for variation in outcomes, including differences in case-mix, service configuration, resources and staffing. The report does not attempt to explain the variation but aims to stimulate thoughtful discussion, learning and action.

The report should be used to help benchmark some key patient outcomes and inspire a culture of inter-organisational learning and continuous improvement. The wider goal is to reduce unwarranted and unjustifiable variation in outcomes, which may represent a threat to patient safety and/or a failure to learn from best practice.

The report includes figures comparing outcomes across 19 acute hospital sites and a summary for each hospital site. Data for some smaller hospital sites were removed for disclosure reasons. Data for the Western General Hospital in Edinburgh are not available for this report as it does not have a major emergency department.

For the purposes of this report, admissions were only counted where the majority of the total hospital stay was spent in an acute hospital site.

All data were provided by the Information Statistics Division (ISD).
SCoOP has the following overarching aims:

- To evaluate the variation in service provision for older people who require health and social care in various settings to serve as a driver for standardisation and improvement of care across Scotland

- To provide benchmarking tools for various care aspects of older people in Scottish NHS health and social care setting to support improvement work in services across Scotland

- To provide a health intelligence and knowledge transfer hub for service users, health care providers and policy makers through annual evaluation cycles

This is a joint initiative set up in late 2016 by three key partners: Healthcare Improvement Scotland, the British Geriatrics Society Scotland Council, and the University of Aberdeen as the lead academic institution, with representation from the other Scottish universities with clinical academic departments in Geriatric Medicine.
• The report measured outcomes of admissions to geriatric medicine in the 19 largest hospitals with major emergency departments in Scotland. Admissions rose by around 10% per year for three consecutive years, reaching 43,311 by 2017/18. This represents a growth in capacity most likely achieved through a reduction in length of stay.

• The number of admissions varied widely across sites, with some areas showing large increases in activity while others are in decline.

• There was enormous variation in length of stay across hospitals, with up to 12-fold differences in median length of stay. This was not explained by differences in length of stay in non-acute wards. Hospitals with higher activity levels usually had lower lengths of stay, but this does not explain all the variation.

• There was a strong correlation between total length of stay and time spent out of specialty, suggesting delays in accessing specialist services lead to longer stays in hospital.

• Length of stay has decreased across all sites by a median one day in the last three years (range -7 to +5).

• Differences in readmission rates and mortality were less marked between hospitals. However, there were up to two-fold differences in mortality rates at 30 days after admission between hospitals. Case-mix may account for some of the variation.

• Readmission and death rates have remained broadly stable over the last 3 years, despite the substantial increases in activity.

• Three health boards reported the activity of their ‘Hospital at Home’ schemes, all of which have grown to accommodate around 2,000 to 3,000 annual episodes each.

• The report highlights significant variation in outcomes across the country, and provides potential benchmarks for future quality improvement and greater consistency in outcomes.
Activity

- There were 43,311 admissions to acute geriatric medicine beds in 2017/18

- Activity has increased nationally by around 10% in each of the last 3 years from 32,009 admissions in 2014/15

- Changes in activity over the last 3 years varied widely by hospital from a 41% drop in Ayr to an 84% increase in Borders General Hospital

- Levels of activity in 2017/18 varied widely by hospital from 187 to 7,113 admissions
Hospitals Report Length of Stay

• Shown here as complete length of stay in acute beds including time spent in non-specialty beds

• Length of stay has fallen by a median of 1 day across sites overall in the last 3 years (range -7 to +5)

• There is a 12-fold variation in median length of stay across the country

• Length of stay in non-acute settings ranged from 29 to 57 days, with little correlation to length of stay in acute settings
Hospitals Report 2017/18

LOS by activity and time out of speciality

- Funnel plots of all hospital rates versus activity, where dotted lines represent 2 and 3 standard deviations from the mean
• Hospitals with shorter patient stays out of specialty (usually denoting faster access to specialist care) had significantly shorter overall lengths of stay ($r=0.86$, $p<0.001$)
Same Day Discharge

- Percentage of admissions to geriatric medicine discharged on the same day they were admitted
- Rates varied from 0% to 10.4%
Deaths

- Mortality rates at 30 days after admission have remained fairly steady nationally since 2013, averaging around 16.5%
- For 2017/18, mortality rates at 30 days across hospitals ranged from 11.4% to 22.8%
- All 30-day mortality rates were within 2 standard deviations of the mean
Hospitals Report 2017/18

Readmissions

- Mean emergency readmission rates at 7 and 28 days post discharge from geriatric medicine have remained steady since 2013
- Mean emergency readmission rates at 7 days averaged 6% (range 5-7%)
- Mean emergency readmission rates at 28 days averaged 15.3% (range 12-17%)
- Aberdeen Royal Infirmary had a slightly higher than expected 7-day readmission rate of 7.3% but at 28 days readmission rates were not significantly different across sites
Hospitals Report 2017/18

Hospital at Home

- Only three health boards reported data for their Hospital at Home schemes
- Number of episodes increased 5-fold from 1,343 to 7,003 in three years
- Median duration of episodes is similar at 5 or 6 days across health boards

Hospital at Home - Number of episodes by financial year* and NHS Board

<table>
<thead>
<tr>
<th>NHS Board of Treatment</th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
<th>2017/18</th>
<th>2017/18 comparison</th>
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Hospital at Home - Median duration of episode by financial year* and NHS Board

<table>
<thead>
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<th>2015/16</th>
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<tr>
<td>NHS Lothian</td>
<td>7</td>
<td>6</td>
<td>5</td>
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</tbody>
</table>

* data prior to 2016/7 are marked as provisional
Aberdeen Royal Infirmary

Total throughput 2017/18 = 4,104
Change over 3 years = +14%
Median LOS = 3 days (rank 1st)
Change since 2014/15 = none
Median out of specialty care = 1 day
Median LOS in non-acute care = 41 days
Readmissions 7 days 7.3% (rank 18th)
Readmissions 28 days 16.2% (rank 13th)
Mortality 30 days 16.9% (rank 9th)
Hospitals Report 2017/18

Borders General Hospital

Total throughput 2017/18 = 985
Change over 3 years = +84%
Median LOS = 24 days (rank 16th)
Change since 2014/15 = -3 days
Median out of specialty care = 6 days
Median LOS in non-acute care = 42 days
Readmissions 7 days 5.6% (rank 4th)
Readmissions 28 days 13.7% (rank 3rd)
Mortality 30 days 22.8% (rank 19th)
Hospitals Report 2017/18

Dumfries and Galloway Royal Infirmary

Total throughput 2017/18 = 1,141
Change over 3 years = -7%
Median LOS = 10 days (rank 8th)
Change since 2014/15 = none
Median out of specialty care = 2 days
Median LOS in non-acute care = 42 days
Readmissions 7 days 6.6% (rank 13th)
Readmissions 28 days 17.1% (rank 19th)
Mortality 30 days 18.6% (rank 13th)
Hospitals Report 2017/18
Forth Valley Royal Hospital

Total throughput 2017/18 = 5,723
Change over 3 years = +5%
Median LOS = 7 days (rank 3rd)
Median out of specialty care = 1 day
Change since 2014/15 = none
Median LOS in non-acute care = 51 days
Readmissions 7 days 5.9% (rank 6th)
Readmissions 28 days 14.2% (rank 6th)
Mortality 30 days 15.3% (rank 7th)
Hospitals Report 2017/18

Glasgow Royal Infirmary

Total throughput 2017/18 = 4,272
Change over 3 years = +50%
Median LOS = 10 (rank 8th)
Change since 2014/15 = -3 days
Median out of specialty care = 2 days
Median LOS in non-acute care = 35 days
Readmissions 7 days 5.9% (rank 6th)
Readmissions 28 days 16.5% (rank 15th)
Mortality 30 days 14.1% (rank 3rd)
Hospitals Report 2017/18

Inverclyde Royal Hospital

Total throughput 2017/18 = 985
Change over 3 years = +12%
Median LOS = 25 days (rank 17th)
Change since 2014/15 = none
Median out of specialty care = 5 days
Median LOS in non-acute care = 35 days
Readmissions 7 days 6.5% (rank 12th)
Readmissions 28 days 15.8% (rank 11th)
Mortality 30 days 15.1% (rank 6th)
Hospitals Report 2017/18

Ninewells Hospital

Total throughput 2017/18 = 1,354
Change over 3 years = +33%
Median LOS = 12 days (rank 12th)
Change since 2014/15 = -2 days
Median out of specialty care = 2 days
Median LOS in non-acute care = 29 days
Readmissions 7 days 6.3% (rank 11th)
Readmissions 28 days 13.9% (rank 4th)
Mortality 30 days 21.0% (rank 18th)
Perth Royal Infirmary

Total throughput 2017/18 = 187
Change over 3 years = -22%
Median LOS = 36 days (rank 19th)
Change since 2014/15 = none
Median out of specialty care = 15 days
Median LOS in Non-acute care = 29 days
Readmissions 7 days 7.0% (rank 17th)
Readmissions 28 days 15.5% (rank 9th)
Mortality 30 days 19.8% (rank 17th)
Hospitals Report 2017/18
Queen Elizabeth University Hospital

Total throughput 2017/18 = 7,113
Change over 2 years = +70%*
Median LOS = 7 days (rank 3rd)
Change since 2015/16 = -3 days*
Median out of specialty care = 3 days
Median LOS in non-acute care = 35 days
Readmissions 7 days 5.4% (rank 3rd)
Readmissions 28 days 14.6% (rank 7th)
Mortality 30 days 14.7% (rank 5th)

*results compared over a two-year period since QEUH opened in April 2015
Hospitals Report 2017/18

Raigmore Hospital

Total throughput 2017/18 = 644
Change over 3 years = +66%
Median LOS = 10 days (rank 8th)
Change since 2014/15 = -5 days
Median out of specialty care = 3 days
Median LOS in non-acute care = 59 days
Readmissions 7 days 5.1% (rank 1st)
Readmissions 28 days 11.8% (rank 1st)
Mortality 30 days 18.6% (rank 13th)
Hospitals Report 2017/18
Royal Alexandra Hospital

Total throughput 2017/18 = 2,189
Change over 3 years = +18%
Median LOS = 17 days (rank 15th)
Change since 2014/15 = -1 day
Median out of specialty care = 5 days
Median LOS in non-acute care = 35 days
Readmissions 7 days 5.9% (rank 6th)
Readmissions 28 days 15.6% (rank 10th)
Mortality 30 days 11.8% (rank 2nd)
Hospitals Report 2017/18

Royal Infirmary Edinburgh

Total throughput 2017/18 = 2,914
Change over 3 years = +59%
Median LOS = 8 days (rank 5th)
Change since 2014/15 = -5 days
Median out of specialty care = 2 days
Median LOS in Non-acute care = 29 days
Readmissions 7 days 5.1% (rank 1st)
Readmissions 28 days 13.9% (rank 4th)
Mortality 30 days 16.4% (rank 8th)
Hospitals Report 2017/18

St John’s Hospital

Total throughput 2017/18 = 616
Change over 3 years = +16%
Median LOS = 30 days (rank 18th)
Change since 2014/15 = -3 days
Median out of specialty care = 10 days
Median LOS in non-acute care = 29 days
Readmissions 7 days 5.7% (rank 5th)
Readmissions 28 days 15.1% (rank 8th)
Mortality 30 days 11.4% (rank 1st)
Mortality 60 days 14.3% (rank 1st)
Hospitals Report 2017/18

University Hospital Ayr

Total throughput 2017/18 = 382
Change over 3 years = -41%
Median LOS = 12 days (rank 12th)
Change since 2014/15 = +5 days
Median out of specialty care = 4 days
Median LOS in non-acute care = 57 days
Readmissions 7 days 6.0% (rank 9th)
Readmissions 28 days 16.8% (rank 17th)
Mortality 30 days 17.8% (rank 11th)
Hospitals Report 2017/18

University Hospital Crosshouse

Total throughput 2017/18 = 1,465
Change over 3 years = -32%
Median LOS = 10 days (rank 8th)
Change since 2014/15 = +2 days
Median out of specialty care = 3 days
Median LOS in non-acute care = 57 days
Readmissions 7 days 6.0% (rank 9th)
Readmissions 28 days 13.3% (rank 2nd)
Mortality 30 days 14.1% (rank 3rd)
Hospitals Report 2017/18

University Hospital Hairmyres

Total throughput 2017/18 = 2,846
Change over 3 years = +39%
Median LOS = 9 days (rank 6th)
Change since 2014/15 = -4 days
Median out of specialty care = 2 days
Median LOS in non-acute care = 29 days
Readmissions 7 days 6.8% (rank 16th)
Readmissions 28 days 16.7% (rank 16th)
Mortality 30 days 17.1% (rank 10th)
University Hospital Monklands

Total throughput 2017/18 = 3,162
Change over 3 years = +31%
Median LOS = 5 days (rank 2nd)
Change since 2014/15 = -3 days
Median out of specialty care = 2 days
Median LOS in non-acute care = 29 days
Readmissions 7 days 6.6% (rank 13th)
Readmissions 28 days 17.0% (rank 18th)
Mortality 30 days 18.4% (rank 12th)
Hospitals Report 2017/18

University Hospital Wishaw

Total throughput 2017/18 = 1,792
Change over 3 years = +24%
Median LOS = 13 days (rank 14th)
Change since 2014/15 = none
Median LOS in Non-acute care = 29 days
Median out of specialty care = 3 days
Readmissions 7 days 6.6% (rank 13th)
Readmissions 28 days 15.9% (rank 12th)
Mortality 30 days 18.8% (rank 15th)
Hospitals Report 2017/18

Victoria Hospital

Total throughput 2017/18 = 1,749
Change over 3 years = +54%
Median LOS = 9 days (rank 6th)
Change since 2014/15 = -3 days
Median out of specialty care = 2 days
Median LOS in non-acute care = 39 days
Readmissions 7 days 7.3% (rank 18th)
Readmissions 28 days 16.3% (rank 14th)
Mortality 30 days 19.3% (rank 16th)
Data Sources: SMR01 and SMR01E

Date of Extract: 01/02/2019

Data relate to Scottish residents only. NHS boards based on the boundaries as at 1st April 2014.

Health Board: Health Board is Health Board of Treatment.

The basic unit of analysis for these figures is a Continuous Inpatient Stay (CIS) in hospital. Probability matching methods have been used to link together individual SMR01/SMR01E hospitals episodes for each patient, thereby creating “linked” patient histories. Within these patient histories, episodes are grouped according to whether they form part of a continuous spell of treatment (whether or not this involves transfer between specialties, consultants, hospitals or health boards).

Only stays that contained a Geriatric Medicine Speciality code (AB) were selected.

Same day discharges were included in all measures and expressed as percentage of all discharges.

Stays with a main diagnosis of stroke were excluded.

Age: Age (years) relates to the age of the patient on admission.

Types of Admission: Both elective and emergency admissions were selected for this output, although elective admissions to geriatric medicine are rare. Data for non acute sites are only available at board level.

Hospital level data were not available for the Western General Hospital, Edinburgh.