GERIATRIC MEDICINE
Acute Hospital Outcomes
2021/22 Report

An overview of outcomes of acute geriatric medicine services in Scotland before, during and after the covid lockdown
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SCoOP Geriatric Medicine Acute Hospital Outcomes Report

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We are pleased to present the third Scottish Care of Older People (SCoOP) acute hospital outcomes report which provides invaluable data-driven evidence on the care of older adults presenting to our hospitals. This national report, based on two years of data, highlights the variations in care and outcomes that exist across the country, and aims to stimulate discussion among healthcare professionals, policymakers and stakeholders.

While data has its limitations, it is a helpful tool for reducing unwanted variation in care and identifying areas for improvement. It is particularly important in the context of the COVID-19 pandemic which presented unique challenges for healthcare providers. Admissions were down by 15% during that first year while mortality increased, underscoring the need for ongoing vigilance and innovation in the care of older adults.

Some variability should be expected around Scotland due to the differences in the Boards in terms of deprivation codes, remote and rural and existing services e.g., community hospitals. For instance, the high percentage of people staying longer than thirty days may reflect the difficulties in accessing home care for people, care home provision, guardianship and/or availability of rehabilitation services in the community.

The report also sheds light on the impact of deprivation on healthcare outcomes, with the highest levels of deprivation concentrated in the West coast of Scotland. This underscores the importance of addressing health inequalities and ensuring that all patients receive the care and support they need. It is also important to note the increase in younger people living with frailty comparing 2020 to 2022 and the potential links with deprivation codes.

On a positive note, the report highlights the growth of hospital at home services which saw a 15% increase in the number of patients. This approach enables collaboration and integration across health and social care, and holds promise for improving outcomes for older adults in Scotland. Furthermore, the report found that those hospitals with dedicated frailty units had a higher proportion of discharges within 48 hours and shorter length of stay for older adults. This highlights the importance of specialised care for this population and the benefits of frailty units improving outcomes, senior decision making at the front door and reducing healthcare costs. It is also reassuring that those hospitals, in the main with a shorter length of stay did not have an increase in readmissions.

Overall, this report provides an important snapshot of the state of care for the older adults presenting to our hospitals in Scotland and we hope it will provide a catalyst for ongoing reflection, improvement, and innovation in the years to come.

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This is SCoOP’s third 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.

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 Public Health Scotland. These rely on health boards correctly identifying and coding admissions under geriatric medicine teams.
What is SCoOP?

“SCoOP is a Scottish national evaluation project focusing on care of older people across Scotland in both primary and secondary care settings.”

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 settings 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, and the University of Aberdeen as the lead academic institution, with representation from the other Scottish universities with clinical academic departments in Geriatric Medicine.
Executive summary

- The report measured outcomes of emergency admissions to geriatric medicine in the 19 largest hospitals in Scotland. Since our last report, Ayr Hospital ceased to provide acute geriatric medicine services so is no longer included.

- The covid pandemic saw specialty admissions fall overall by 15% in 2020/21, before largely recovering to levels close to pre-pandemic activity in 2021/22.

- Changes in annual admission numbers varied widely across hospitals, with some units busier than ever while others saw a large decline in admissions.

- Case-mix in respect to age and social deprivation varied widely across hospitals, though within each hospital it remained broadly consistent before and after the pandemic.

- The previously noted wide variation in length of stay across hospitals remain, with up to 20-fold differences. Hospitals with higher activity levels generally had lower lengths of stay, but this does not explain all the variation.

- Same day discharges (discharges on the day of admission) virtually never occur in some hospitals, but are common (up to 9% of all admissions) in others.

- As in previous years, Aberdeen Royal Infirmary had a median length of stay less than half that of any other hospital throughout the pandemic but higher than expected readmission rates.

- Differences in readmission rates and mortality were varied up to two-fold between hospitals. Case-mix may account for some of the variation.

- Death rates were higher at 18% during 2020/21, before falling to 16.5% in 2021/22, which was slightly higher than the 15% recorded in 2019/20.

- Ten health boards have now reported the activity of their ‘Hospital at Home’ schemes from four such schemes in the last period (2018/19).

- The report highlights significant variation in outcomes across the country, and provides potential benchmarks for future quality improvement and greater consistency in outcomes.
Mean annual admissions to Geriatric Medicine Apr 2017- Mar 2020

by sex, age group and quintiles of social deprivation indices

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Average Admissions</th>
<th>Female %</th>
<th>Average Age Group Distribution (%)</th>
<th>Average Deprivation Distribution by Quintile* (%)</th>
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<td>65-74</td>
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*Q1 = most deprived, Q5 = least deprived
### Distribution of admissions to Geriatric Medicine 2020/21

by sex, age group and quintiles of social deprivation indices

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<thead>
<tr>
<th>Hospital</th>
<th>Admissions</th>
<th>Female %</th>
<th>Average Age Group Distribution (%)</th>
<th>Average Deprivation Distribution by Quintile* (%)</th>
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</table>

*Q1 = most deprived, Q5 = least deprived
Distribution of age across acute geriatric admissions to Scottish hospitals in 2020/21 by age group
Deprivation index of acute geriatric admissions to Scottish hospitals in 2021/21 by deprivation quintile
### Distribution of Geriatric Medicine admissions 2021/22

by sex, age group and quintiles of social deprivation indices

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Admissions</th>
<th>Female %</th>
<th>Average Age Group Distribution (%)</th>
<th>Average Deprivation Distribution by Quintile* (%)</th>
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*Q1 = most deprived, Q5 = least deprived
Distribution of age across acute geriatric admissions to Scottish hospitals in 2021/22 by age group

Number of admissions (percent of total acute geriatric admissions)

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Deprivation index of acute geriatric admissions to Scottish hospitals in 2021/22 by deprivation quintile
Acute Hospitals Report 2021/22 Activity

- The covid pandemic saw specialty admissions fall overall by 15% in 2020/21, before largely recovering to levels close to pre-pandemic activity in 2021/22.

- Since our last report, Ayr Hospital ceased to provide acute geriatric medicine services so is no longer included.

- Annual admissions varied widely across hospitals, but variations year to year even within the same hospital have been previously noted.

- Changes in annual admission numbers during the pandemic varied widely across hospitals, with some units busier than ever (e.g. Ninewells Hospital) while others saw a large decline in admissions (e.g. Royal Alexandra Hospital and Aberdeen Royal Infirmary).
Acute geriatric activity before, during and after the Covid-19 pandemic lockdowns


St John's Hospital  Raigmore Hospital  Perth Royal Infirmary  Inverclyde Royal Hospital  Borders General Hospital  Dumfries & Galloway Royal Infirmary  University Hospital Crosshouse  Ninewells Hospital  Victoria Hospital  University Hospital Wishaw  Western General Hospital  Royal Alexandra Hospital  Royal Infirmary of Edinburgh at Little France  University Hospital Harrowes  University Hospital Monklands  Aberdeen Royal Infirmary  Glasgow Royal Infirmary  Forth Valley Royal Hospital  Queen Elizabeth University Hospital
Acute Hospitals Report 2021/22
Length of stay

• There remains significant variation in median length of stay (LOS) across the country, from 2 to 34 days.

• The pandemic had marked, but widely varying, effects on median LOS within each hospital. Some hospitals had historic high LOS and others historic low LOS.

• Several hospitals markedly reduced their median LOS, e.g. Crosshouse, St. John’s, Borders General and Western General Hospitals. However, Inverclyde, Royal Alexandra and Raigmore Hospitals increased their median LOS.
Median length of stays for acute geriatric admissions before, during and after the covid pandemic lockdown

- **Aberdeen Royal Infirmary**
- **University Hospital Monklands**
- **Ninewells Hospital**
- **University Hospital Crosshouse**
- **Forth Valley Royal Hospital**
- **Victoria Hospital**
- **Queen Elizabeth University Hospital**
- **University Hospital Hairmyres**
- **Royal Infirmary of Edinburgh at Little France**
- **Glasgow Royal Infirmary**
- **Dumfries & Galloway Royal Infirmary**
- **University Hospital Wishaw**
- **St John's Hospital**
- **Borders General Hospital**
- **Perth Royal Infirmary**
- **Western General Hospital**
- **Raigmore Hospital**
- **Royal Alexandra Hospital**
- **Inverclyde Royal Hospital**

**2017/18 - 2019/20 (Average)**

**2020/21**

**2021/22**
Proportions discharged within 7 days of admission

- Funnel plots of all hospital’s rates of discharge within 7 days of admission versus activity. Dotted lines represent 2 and 3 standard deviations from the mean.

- Aberdeen Royal Infirmary discharged a higher than expected percentage of patients within 7 days.

**2020/21**

**2021/22**
Same day discharge rate for acute geriatric admissions before, during and after the Covid-19 pandemic lockdown

- As in previous years, same day discharge (SDD) rates varied widely between hospitals from 0% to around 9%
- The effect of lockdown on SDD varied widely even within the same health board, with some hospitals increasing their rates and others having lower rates than usual
Same or next day discharge rate for acute geriatric admissions during and after the Covid-19 pandemic lockdown

<table>
<thead>
<tr>
<th>Hospital</th>
<th>2020/21</th>
<th>2021/22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aberdeen Royal Infirmary</td>
<td>35.0</td>
<td>40.0</td>
</tr>
<tr>
<td>University Hospital Crosshouse</td>
<td>30.0</td>
<td>25.0</td>
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</tr>
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<td>University Hospital Monklands</td>
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<tr>
<td>Ninewells Hospital</td>
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<tr>
<td>University Hospital Haemyres</td>
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<td>Royal Infirmary of Edinburgh at Little France</td>
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<td>Borders General Hospital</td>
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<td>0.0</td>
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<tr>
<td>Perth Royal Infirmary</td>
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<tr>
<td>Dumfries &amp; Galloway Royal Infirmary</td>
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<td>Raigmore Hospital</td>
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<td>Glasgow Royal Infirmary</td>
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<tr>
<td>Inverclyde Royal Hospital</td>
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</table>

- For the first time, we also measured same or next day discharge rates to see if this provided additional information over SDD.
- The distribution and ranking of hospital performance largely mirrors that of SDD rates, with rates varying from 0% to 40%.
Deaths - 30 days post-admission

- From a historical average of 16.4%, mortality rate at 30 days rose to 17.9% in 2020/21. It had fallen as low as 15% in 2019-20
- In 2021/22, mortality was a more typical 16.6%
- As previously observed, there were two-fold differences in mortality rates across hospitals, with most hospitals maintaining a similar mortality rate year on year
- All 30-day mortality rates were within two standard deviations of the mean, except Queen Elizabeth University Hospital having lower than expected death rates
Readmissions - 7 days post-discharge

- Mean readmissions 7 days post discharge have remained steady since 2013 at about 6.5%
- Mean emergency readmission rates averaged 6.8% (range 5-10%) in 2020/21 but were lower at 5.9% in 2021/22 (range 4%- 9%)
- Mean emergency readmission rates at 28 days varied widely by site (mean 16%, range 12-22%)
- Both Aberdeen Royal Infirmary and Monklands had higher than expected readmission rates
**Hospital@Home**

- The number of hospital boards reporting activity from Hospital at Home services rose from four prior to the pandemic to six in 2020/21 and ten in 2021/22.

- The total number of people seen has increased every year from its inception and reached a record 8774 in 2021/22.

- Median duration of episodes ranges from 3 to 6 days across health boards.

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

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### Hospital at Home - Median duration of episode by financial year and NHS Board

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</tbody>
</table>
University Hospital Crosshouse

Total throughput 2021/22 = 1141
%Change since 2017-19 mean = -8.9%
Age 85+% = 32.0% (rank 19)
Most deprived quintile = 35.1% (rank 4)
Median LOS = 7 days (rank 4)
Change since 2017-19 mean = -6 days
Readmissions 7 days = 4.4% (rank 1)
Readmissions 28 days = 13.8% (rank 7)
Mortality 30 days 12.9% (rank 1)

University Hospital Crosshouse: Acute geriatric medicine admission length of stays for adults aged 65 and over 2021/22
Borders General Hospital

Total throughput 2021/22 = 1235
%Change since 2017-19 mean = +11.6%
Age 85+% = 54.8% (rank 7)
Most deprived quintile = 7.7% (rank 17)
Median LOS = 14 days (rank 14)
Change since 2017-19 mean = -6 days
Readmissions 7 days = 5.4% (rank 8)
Readmissions 28 days = 11.9% (rank 1)
Mortality 30 days 19.1% (rank 16)
Dumfries & Galloway Royal Hospital

Total throughput 2021/22 = 941
%Change since 2017-19 mean = -18.7%
Age 85+\% = 55.0\% (rank 5)
Most deprived quintile = 6.6\% (rank 18)
Median LOS = 12 days (rank 11)
Change since 2017-19 mean = +2 days
Readmissions 7 days = 5.3\% (rank 6)
Readmissions 28 days = 14.3\% (rank 10)
Mortality 30 days 21.0\% (rank 19)
Victoria Hospital

Total throughput 2021/22 = 2105
%Change since 2017-19 mean = +21.1%
Age 85+% = 46.7% (rank 8)
Most deprived quintile = 22.6% (rank 8)
Median LOS = 8 days (rank 6)
Change since 2017-19 mean = -1 day
Readmissions 7 days = 5.8% (rank 12)
Readmissions 28 days = 14.5% (rank 12)
Mortality 30 days 17.5% (rank 13)
Forth Valley Royal Hospital

Total throughput 2021/22 = 4492
%Change since 2017-19 mean = -7.5%
Age 85+% = 41.2% (rank 16)
Most deprived quintile = 18.3% (rank 11)
Median LOS = 7 days (rank 5)
Change since 2017-19 mean = +1 day
Readmissions 7 days = 5.8% (rank 11)
Readmissions 28 days = 13.6% (rank 5)
Mortality 30 days 17.3% (rank 10)
Aberdeen Royal Infirmary

Total throughput 2021/22 = 2578
%Change since 2017-19 mean = -27.0%
Age 85+% = 56.2% (rank 4)
Most deprived quintile = 8.0% (rank 16)
Median LOS = 2 days (rank 1)
Change since 2017-19 mean = -1 day
Readmissions 7 days = 8.6% (rank 19)
Readmissions 28 days = 18.1% (rank 17)
Mortality 30 days 14.6% (rank 7)
Glasgow Royal Infirmary

Total throughput 2021/22 = 3678
%Change since 2017-19 mean = -11.7%
Age 85+% = 42.8% (rank 14)
Most deprived quintile = 50.7% (rank 1)
Median LOS = 11 days (rank 10)
Change since 2017-19 mean = +2 days
Readmissions 7 days = 5.2% (rank 4)
Readmissions 28 days = 14.8% (rank 13)
Mortality 30 days 14.4% (rank 6)
Inverclyde Royal Hospital

Total throughput 2021/22 = 590
%Change since 2017-19 mean = -33.7%
Age 85+% = 43.2% (rank 13)
Most deprived quintile = 46.8% (rank 2)
Median LOS = 35 days (rank 19)
Change since 2017-19 mean = +9 days
Readmissions 7 days = 5.6% (rank 9)
Readmissions 28 days = 13.9% (rank 8)
Mortality 30 days 14.2% (rank 5)
Queen Elizabeth University Hospital

Total throughput 2021/22 = 6409
%Change since 2017-19 mean = -3.1%
Age 85+% = 45.7% (rank 9)
Most deprived quintile = 32.8% (rank 5)
Median LOS = 8 days (rank 7)
Change since 2017-19 mean = 0 days
Readmissions 7 days = 5.8% (rank 13)
Readmissions 28 days = 14.5% (rank 11)
Mortality 30 days 13.6% (rank 2)
Royal Alexandra Hospital

Total throughput 2021/22 = 1722
%Change since 2017-19 mean = -16.6%
Age 85+% = 44.1% (rank 12)
Most deprived quintile = 27.1% (rank 7)
Median LOS = 21 days (rank 18)
Change since 2017-19 mean = +4 days
Readmissions 7 days = 5.1% (rank 2)
Readmissions 28 days = 13.0% (rank 3)
Mortality 30 days 13.9% (rank 3)
Raigmore Hospital

Total throughput 2021/22 = 541
%Change since 2017-19 mean = -14.8%
Age 85+% = 44.7% (rank 11)
Most deprived quintile = 12.4% (rank 13)
Median LOS = 19 days (rank 17)
Change since 2017-19 mean = +5 days
Readmissions 7 days = 5.9% (rank 14)
Readmissions 28 days = 12.8% (rank 2)
Mortality 30 days 17.4% (rank 12)

**Raigmore Hospital:** Acute geriatric medicine admission length of stays for adults aged 65 and over 2021/22
University Hospital Hairmyres

Total throughput 2021/22 = 3173
%Change since 2017-19 mean = +12.4%
Age 85+% = 45.7% (rank 10)
Most deprived quintile = 22.5% (rank 9)
Median LOS = 10 days (rank 8)
Change since 2017-19 mean = +1 day
Readmissions 7 days = 5.1% (rank 3)
Readmissions 28 days = 15.3% (rank 14)
Mortality 30 days 19.2% (rank 17)
University Hospital Wishaw

Total throughput 2021/22 = 2113
%Change since 2017-19 mean = +17.3%
Age 85+% = 42.6% (rank 15)
Most deprived quintile = 32.6% (rank 6)
Median LOS = 13 days (rank 12)
Change since 2017-19 mean = 0 days
Readmissions 7 days = 5.3% (rank 5)
Readmissions 28 days = 13.8% (rank 6)
Mortality 30 days 20.4% (rank 18)

**University Hospital Wishaw:** Acute geriatric medicine admission length of stays for adults aged 65 and over 2021/22
University Hospital Monklands

Total throughput 2021/22 = 2814
% Change since 2017-19 mean = -6.3%
Age 85+% = 34.6% (rank 18)
Most deprived quintile = 39.6% (rank 3)
Median LOS = 6 days (rank 2)
Change since 2017-19 mean = +1 day
Readmissions 7 days = 7.7% (rank 18)
Readmissions 28 days = 19.1% (rank 19)
Mortality 30 days 18.7% (rank 15)
Royal Infirmary of Edinburgh

Total throughput 2021/22 = 2598
%Change since 2017-19 mean = +1.2%
Age 85+% = 56.9% (rank 3)
Most deprived quintile = 11.0% (rank 14)
Median LOS = 10 days (rank 9)
Change since 2017-19 mean = +2 days
Readmissions 7 days = 5.7% (rank 10)
Readmissions 28 days = 13.4% (rank 4)
Mortality 30 days 17.6% (rank 14)
St John’s Hospital

Total throughput 2021/22 = 989
%Change since 2017-19 mean = +85.9%
Age 85+% = 36.7% (rank 17)
Most deprived quintile = 16.3% (rank 12)
Median LOS = 13 days (rank 13)
Change since 2017-19 mean = -18 days
Readmissions 7 days = 7.4% (rank 17)
Readmissions 28 days = 18.7% (rank 18)
Mortality 30 days 15.2% (rank 8)

St John’s Hospital: Acute geriatric medicine admission length of stays for adults aged 65 and over 2021/22
Western General Hospital

Total throughput 2021/22 = 1755
%Change since 2017-19 mean = -9.1%
Age 85+ % = 58.5% (rank 2)
Most deprived quintile, = 36% (rank 4th)
Median LOS = 18 days (rank 16)
Change since 2017-19 mean = -7 days
Readmissions 7 days = 5.4% (rank 7)
Readmissions 28 days = 14.3% (rank 9)
Mortality 30 days 16.6% (rank 6)
Ninewells Hospital

Total throughput 2021/22 = 2129
%Change since 2017-19 mean = +46.6%
Age 85+% = 54.9% (rank 6)
Most deprived quintile = 19.2% (rank 10)
Median LOS = 6 days (rank 3)
Change since 2017-19 mean = -4 days
Readmissions 7 days = 6.4% (rank 15)
Readmissions 28 days = 16.8% (rank 16)
Mortality 30 days 17.3% (rank 11)
Perth Royal Infirmary

Total throughput 2021/22 = 968
%Change since 2017-19 mean = +34.4%
Age 85+% = 59.6% (rank 1)
Most deprived quintile = 6.2% (rank 19)
Median LOS = 14 days (rank 15)
Change since 2017-19 mean = -7 days
Readmissions 7 days = 7.0% (rank 16)
Readmissions 28 days = 16.0% (rank 15)
Mortality 30 days 13.9% (rank 4)
Data

Data from Public Health Scotland Data and Intelligence (formerly Information Services Division)

Data Sources: SMR01 and SMR01E

Date of Extract: 08/12/2022

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: Emergency admissions were selected for this output. Data for non acute sites are only available at board level.
An overview of outcomes of acute geriatric medicine services in Scotland before, during and after the covid