



University  
of Glasgow

# National analysis of hospital discharges into care homes

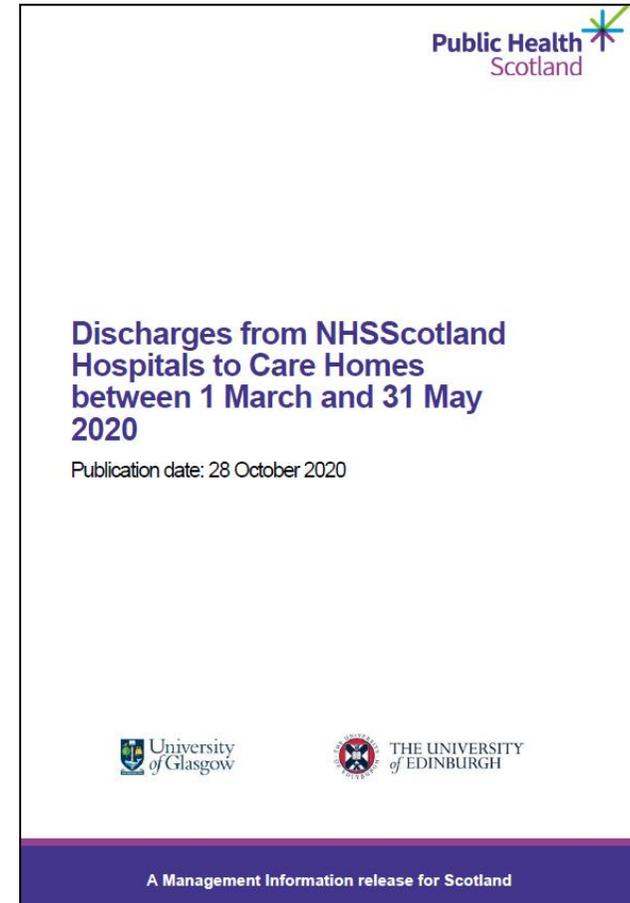
**Jenni Burton**

SCREDS Clinical Lecturer & Honorary Specialist Registrar  
Geriatric Medicine, University of Glasgow



@JenniKBurton

- **Context**
- **Methods**
- **Key findings**
- **Recommendations**



Available from: <https://beta.isdscotland.org/find-publications-and-data/population-health/covid-19/discharges-from-nhsscotland-hospitals-to-care-homes/>

At least **1 in 20** care home residents in Scotland **died** due to COVID-19 in Wave One of the pandemic

Hospitals discharged **larger numbers** than usual in March & April to **create capacity** – concerns have been expressed about this practice and the role in care home outbreaks

**NHS Boards** have been subject to **repeated Freedom of Information requests** around those **discharged to care homes** many of which have not been answered

## **To identify all adults discharged from NHS Scotland Hospitals into Care Homes March – May 2020**

Description of population

What was their COVID-19 status (positive, negative, untested)?

When were they discharged?

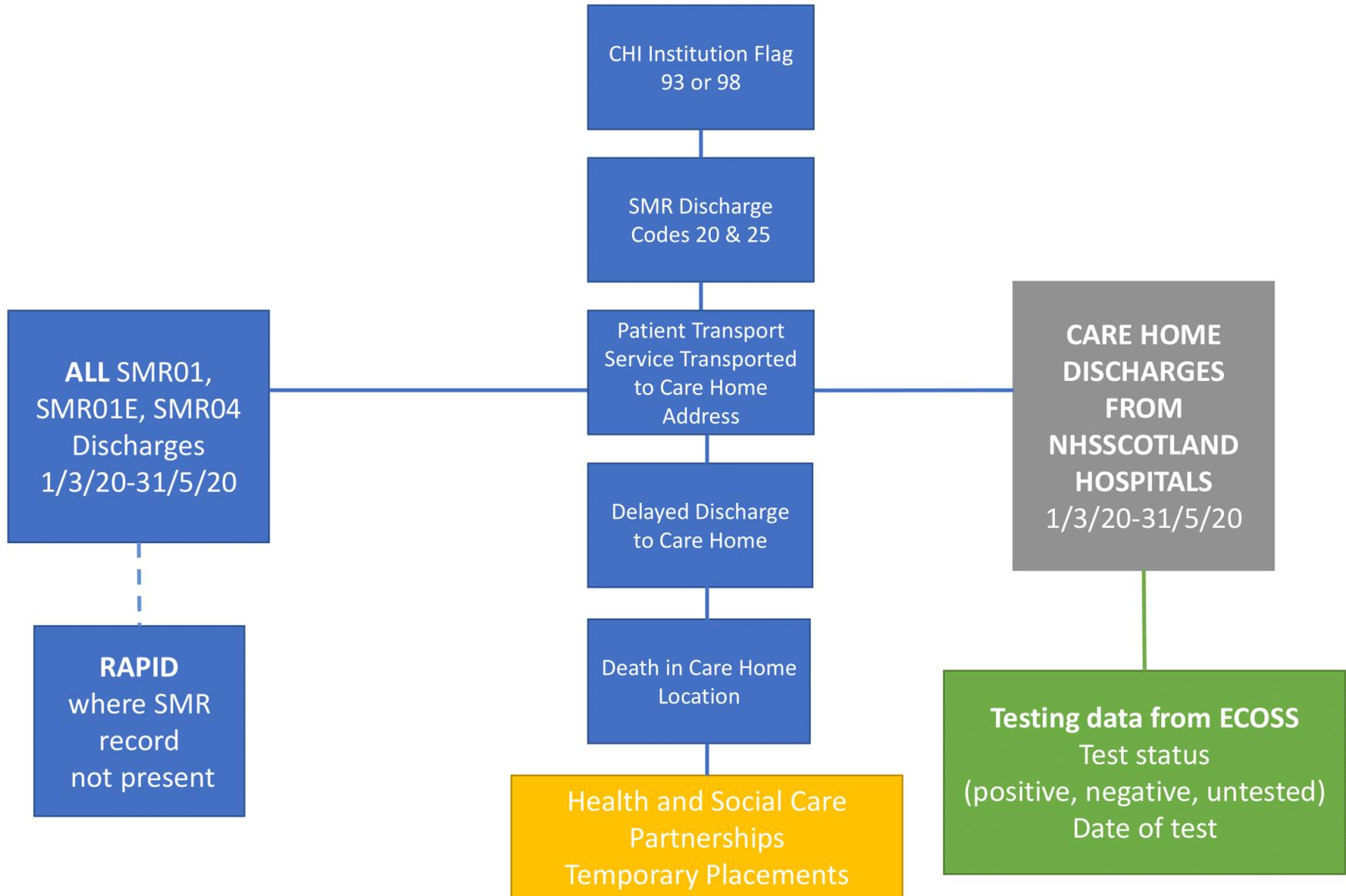
Which NHS Boards were they discharged by?

What was the pattern of outbreaks in care homes in Scotland?

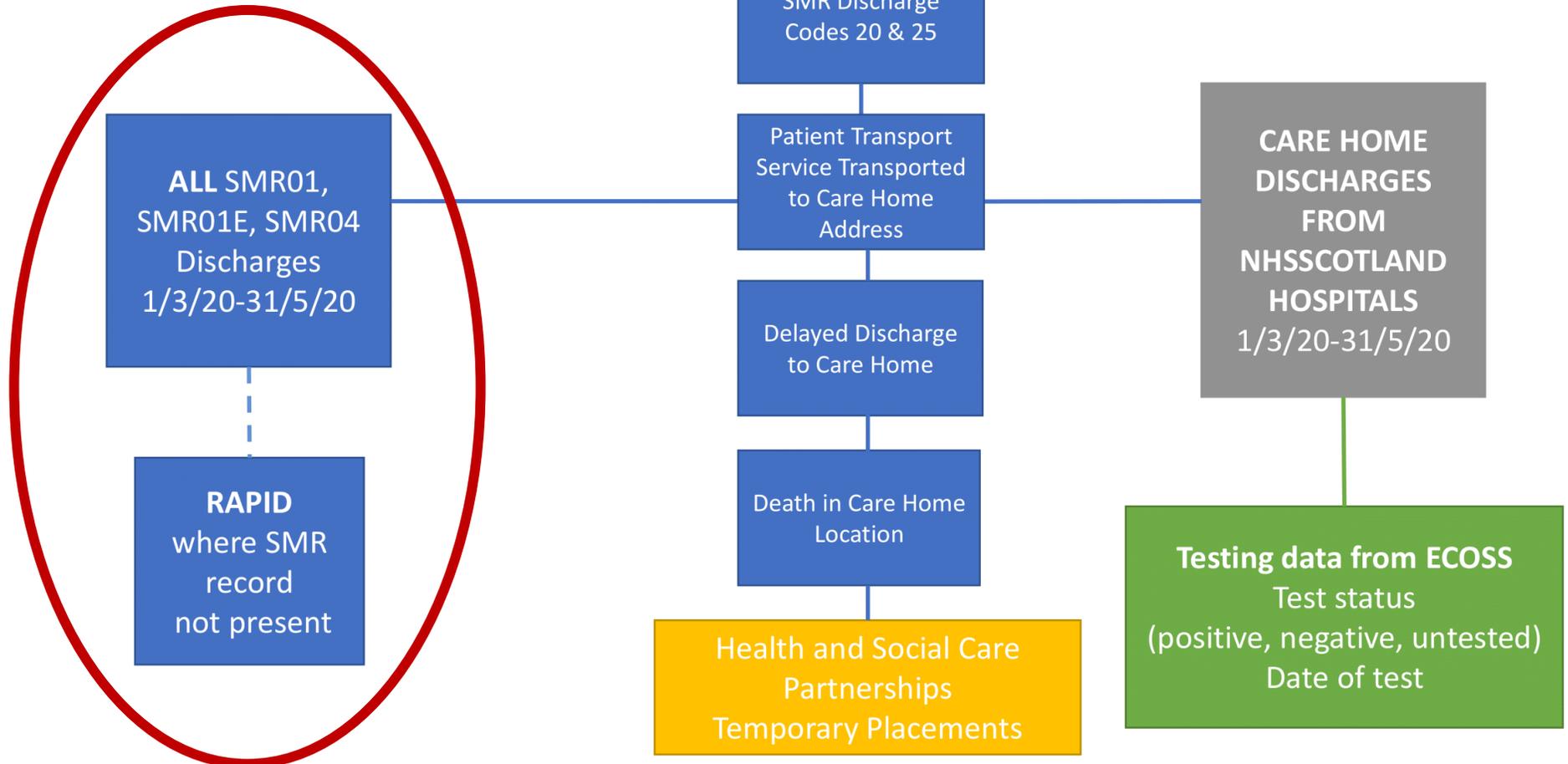
What was the role of hospital discharge policy in care home outbreaks?

## Three distinct groups

1. **Existing residents** – returning home
2. **New admissions to care homes** – moving into their new home
3. **Temporary residents** – moving in to care home setting while awaiting alternative care arrangements



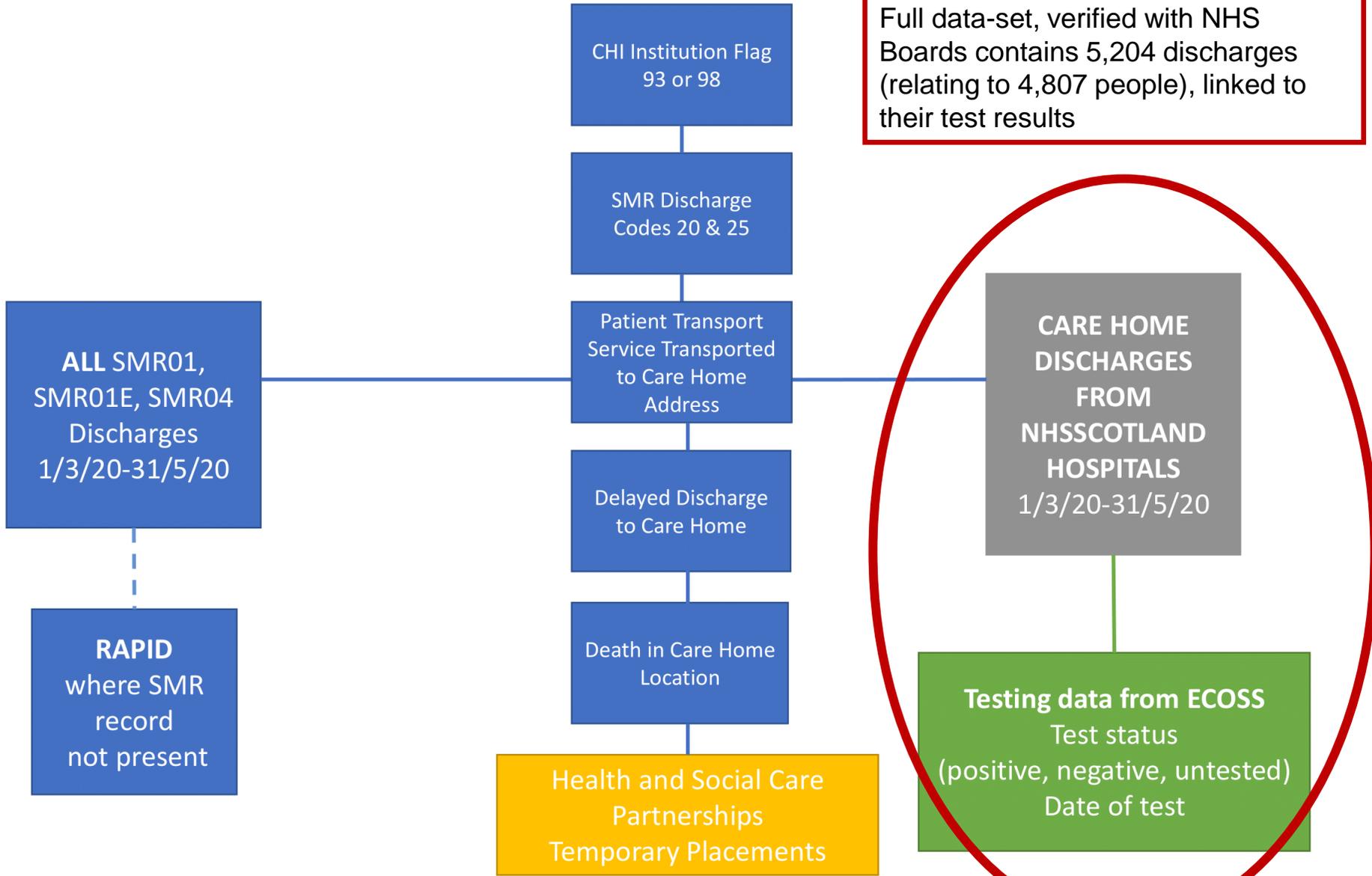
The main hospital data-sets only explicitly identified 69% of discharges to care homes and wrongly included other discharges



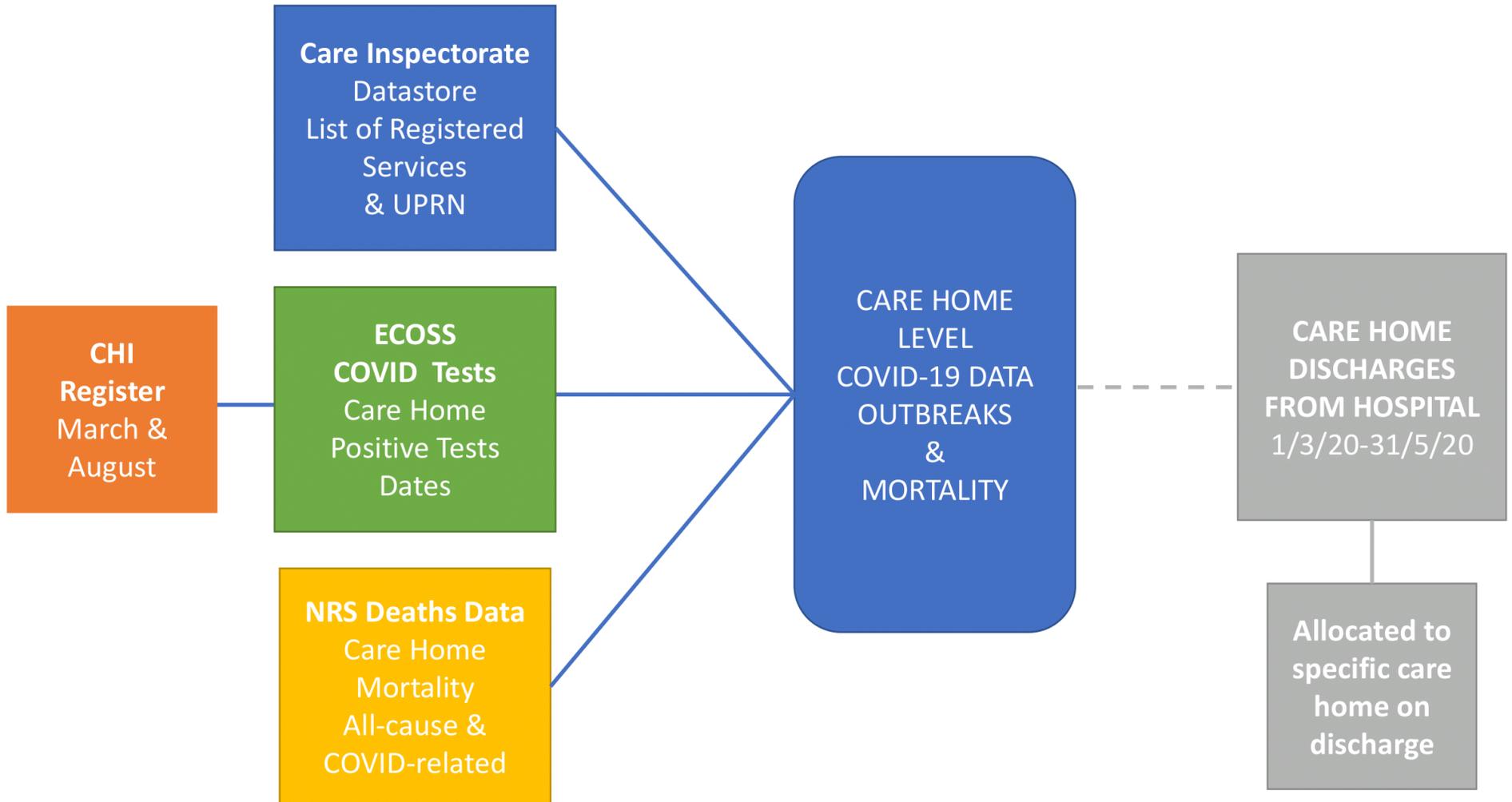


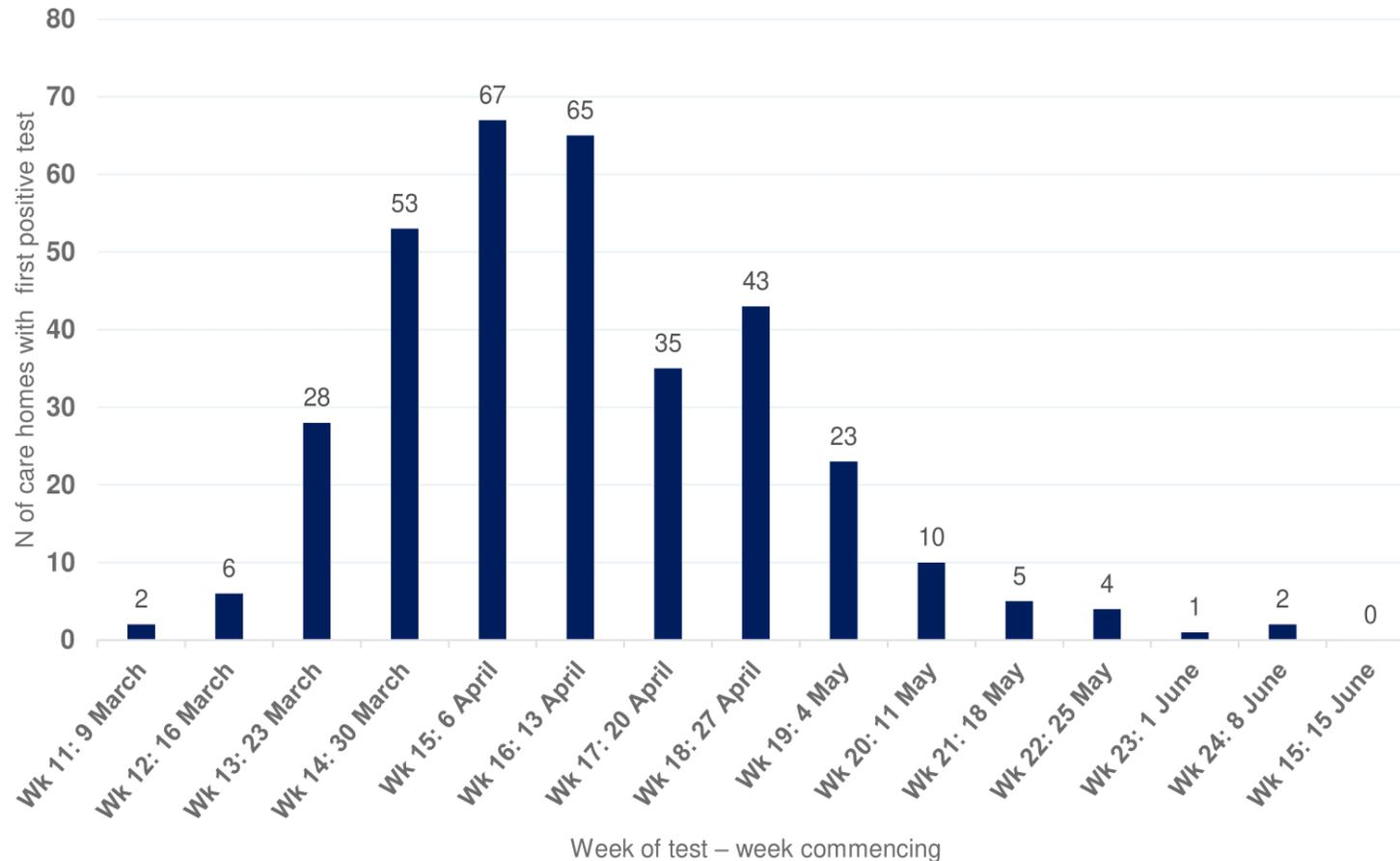
# Discharge Identification

Full data-set, verified with NHS Boards contains 5,204 discharges (relating to 4,807 people), linked to their test results



	1-31 March	1-21 April	22-30 April	1-31 May
Number of discharges to care homes	2,555	1,044	350	1,255
<b>Number not tested prior to discharge<sup>2</sup></b>	2,309	640	73	39
<b>Number tested prior to discharge<sup>2</sup></b>	246	404	277	1,216
<b>All tests done were negative<sup>3</sup></b>	242	330	224	991
<b>Positive test then negative test before discharge<sup>4</sup></b>				
One negative test before discharge	-	4	7	5
At least two negative tests before discharge	-	6	24	197
<b>Positive test without negative test before discharge<sup>5</sup></b>				
First positive test >14 days before discharge	-	11	4	8
First positive test 8-14 days before discharge	1	24	7	6
First positive test 0-7 days before discharge	3	29	11	9

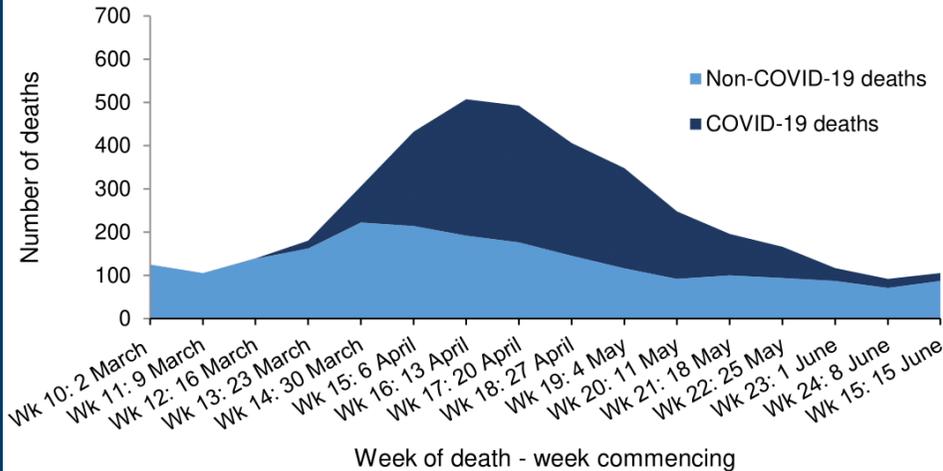




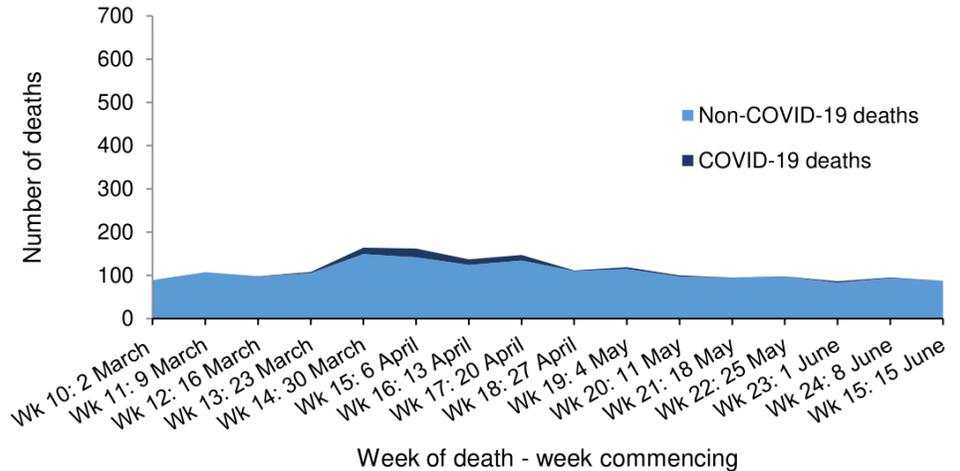
348 homes (32.1%) had a laboratory confirmed outbreak



### B: Deaths of residents occurring in the care home – homes with an outbreak



### C: Deaths of residents occurring in the care home – homes without an outbreak



More than **half** of all COVID-19 deaths were in **64** homes

A **quarter** of all COVID-19 deaths were in just **25** homes

**843 care homes received 5,191 'discharges'**

[13 discharges were to English care homes or could not identify which care home]

**Care homes received 1 to 46 discharges, average of 6 per home**

**2,357 went to a care home which did not experience an outbreak**

**2,834 went to a care home which did experience an outbreak**

- 1,020 were on same day/after care home outbreak had started
- 1,814 were discharged before an outbreak started

- 1. Descriptive analysis** – compare factors in homes with and without outbreaks, looking at numbers & proportions in each group
- 2. Statistical analysis (proportional hazards)** – look at factors which make the risk of an outbreak more likely and describes the hazard (or risk) associated with each factor

**Conclusions of the statistical analysis are based on what is 'statistically significant' which relies on our confidence in estimating risk**



Care home characteristic	Number of homes with outbreaks	Univariate Hazard Ratio 95% Confidence Interval
<b>Care home size</b>		
<20	4%	Reference
20-29	20%	<b>5.8 (2.9 to 11.4)</b>
30-39	28%	<b>8.8 (4.6 to 17.1)</b>
40-49	38%	<b>12.3 (6.5 to 23.4)</b>
50-59	46%	<b>15.9 (8.1 to 31.3)</b>
60-69	62%	<b>25.4 (13.4 to 48.0)</b>
70-79	78%	<b>40.4 (20.2 to 81.0)</b>
80-89	75%	<b>38.0 (18.6 to 77.6)</b>
≥90	90%	<b>60.3 (31.1 to 116.8)</b>
<b>Discharges</b>		
No discharge	14%	Reference
Discharge	38%	<b>2.9 (2.3 to 3.6)</b>



Care home characteristic	Number of homes with outbreaks	Univariate Hazard Ratio 95% Confidence Interval	Adjusted Hazard Ratio 95% Confidence Interval
<b>Care home size</b>			
<20	4%	Reference	Reference
20-29	20%	<b>5.8 (2.9 to 11.4)</b>	<b>3.6 (1.6 to 8.0)</b>
30-39	28%	<b>8.8 (4.6 to 17.1)</b>	<b>4.5 (2.1 to 9.9)</b>
40-49	38%	<b>12.3 (6.5 to 23.4)</b>	<b>6.6 (3.0 to 14.5)</b>
50-59	46%	<b>15.9 (8.1 to 31.3)</b>	<b>7.6 (3.3 to 17.7)</b>
60-69	62%	<b>25.4 (13.4 to 48.0)</b>	<b>9.7 (4.4 to 21.6)</b>
70-79	78%	<b>40.4 (20.2 to 81.0)</b>	<b>14.4 (6.1 to 33.9)</b>
80-89	75%	<b>38.0 (18.6 to 77.6)</b>	<b>16.4 (6.8 to 39.6)</b>
≥90	90%	<b>60.3 (31.1 to 116.8)</b>	<b>17.3 (7.5 to 40.1)</b>
<b>Discharges</b>			
No discharge	14%	Reference	Reference
Discharge	38%	<b>2.9 (2.3 to 3.6)</b>	<b>1.2 (0.9 to 1.5)</b>

Also adjusted for subtype, sector, RAD score, nursing care and Integration Authority

**The care home characteristic most strongly associated with care home outbreaks was care home size**

**No statistical evidence that discharge associated with initial outbreaks**

**Limited power, can't examine outbreaks within outbreaks**

Lack of data from the care home sector

No data on transfers between homes or admissions from community

Lack of staff testing data

Observational data – association not causation

Care home size – means more than just number of beds

- Improving routine recording of admission from and discharge to care home in NHS systems: **30% not identified using routine data**
- Embedding UPRN (unique property reference number) within public sector, health and social care data systems
- Developing reliable national data on who lives in a care home (including temporary placements)



University  
of Glasgow

# Any questions?

**Full report & methodology available from:**

<https://beta.isdscotland.org/find-publications-and-data/population-health/covid-19/discharges-from-nhsscotland-hospitals-to-care-homes/>



@JenniKBurton