

COVID-19 Epidemiology

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28th May 2020

In 6 months, what have we found out?

Clinical features:

- New onset dry cough
- Raised temperature 37.8
- ANOSMIA recently added

- Also breathlessness, fatigue, headache, muscle pain, runny nose, sneeze etc
- Illness typically lasts up to 2 weeks and cough for many more weeks
- Many people report lethargy for several weeks after recovery
- May become severely ill in second week, with respiratory failure and multi-organ failure

Transmission

- Transmitted mainly by respiratory droplets and aerosols, and from contaminated surfaces
- Organism survives longer in cold conditions and is destroyed by UV light so transmission probably low in daytime outdoor environments
- Superspreaders have been identified from mass gatherings in enclosed spaces (eg. Weddings)
- Incubation period 2 to 14 days, median around 5 days
- People with illness are infectious from around 2 days before to around 7-9 days after symptom onset, longer in those with serious illness
- Viral shedding can occur in people with asymptomatic infection but some of those go on to develop symptoms
- Antigen PCR test does not distinguish between viable virus and viral fragments. Shedding may continue for weeks

Treatment

- No specific treatments routinely available but oxygen can be lifesaving
- Many trials underway
- Most people recover at home but gain relief from analgesics
- Onset of respiratory failure is gradual and not accompanied by marked breathlessness. Anecdotally these people may do better with early oxygen therapy
- Oxygen via CPAP (continuous positive airways pressure) may avoid need to intubate and has lower risks
- Supportive therapies (ventilation, dialysis etc) may be needed for weeks while lungs recover.
- Survivors may need prolonged rehabilitation

Immunity

Surveys suggest 0.27% of people in England outside hospital and the care home sector had COVID-19 in the last two weeks

It is possible only 5-10% of the UK population have been infected, which will pose a challenge when lockdown restrictions ease

Antibody tests are needed to understand immunity distribution

Vaccination

- No licensed vaccine for the other serious coronaviruses SARS-CoV-1 and MERS-CoV
- Immune response to natural coronavirus is short-lived
- Trials of many different approaches underway, some involving humans
- Markers will initially be immune responses but real outcome is whether they protect from subsequent serious disease.
- May have to wait for several years to see such outcomes at population level
- Still too early to know if natural infection confers long-lasting immunity

Coronavirus (COVID-19) in the UK

Last updated on Wednesday 27 May 2020 at 4:11pm

Total number of lab-confirmed UK cases

267,240

Includes tests carried out by commercial partners which are not included in the 4 National totals

Daily number of lab-confirmed UK cases

2,013

Number of additional cases on Wednesday 27 May 2020

Total number of COVID-19 associated UK deaths

37,460

Deaths of people who have had a positive test result confirmed by a Public Health or NHS laboratory

Daily number of COVID-19 associated UK deaths

412

Number of additional deaths on Wednesday 27 May 2020

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Nation ▼

Total cases ⬆️

Rate ⬆️

England

150,903

269.6

Northern Ireland

4,663

247.8

Scotland

15,240

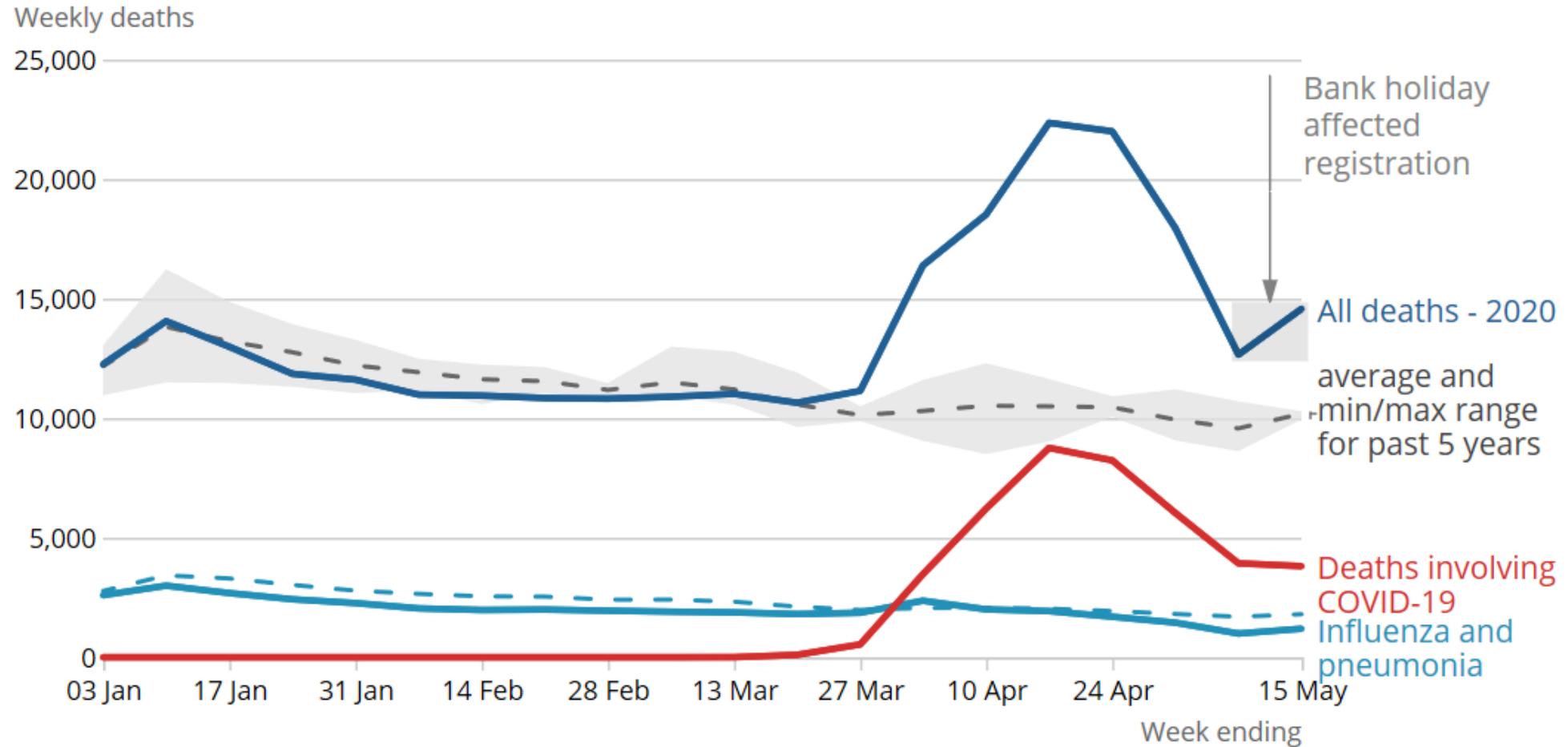
280.2

Wales

13,653

435.0

Number of deaths registered by week, England and Wales, 28 December 2019 to 15 May 2020

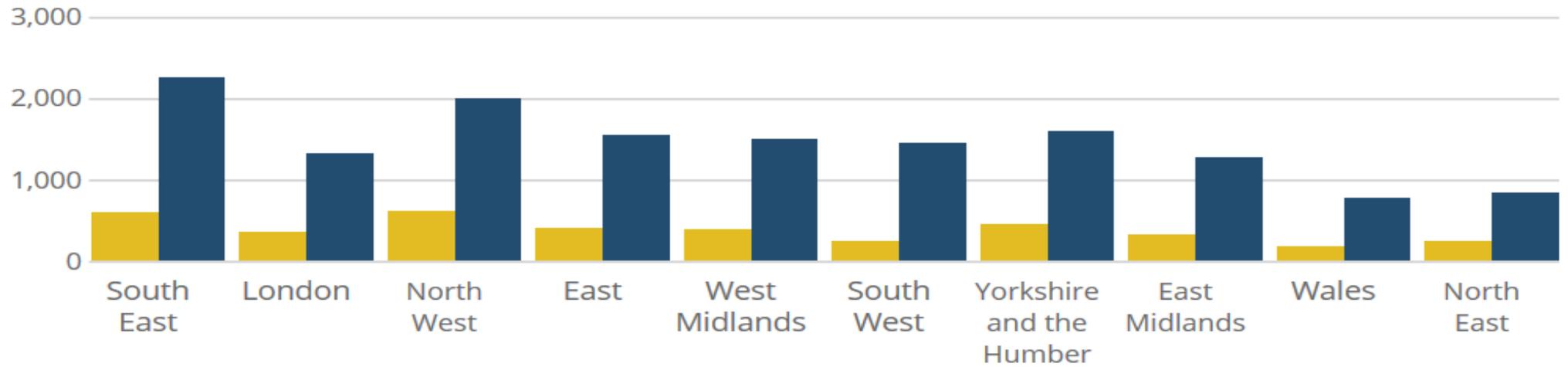


Source: Office for National Statistics - Deaths registered weekly in England and Wales

5. Deaths by region in England and Wales

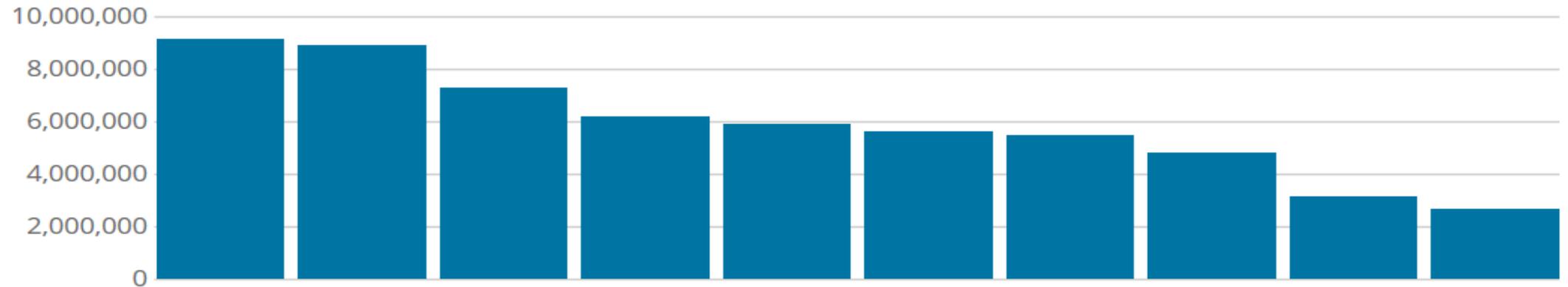
 Covid-19 deaths  All deaths

Number of deaths



 Population

Number of people



Analysis of E+W deaths between 1 March and 17 April

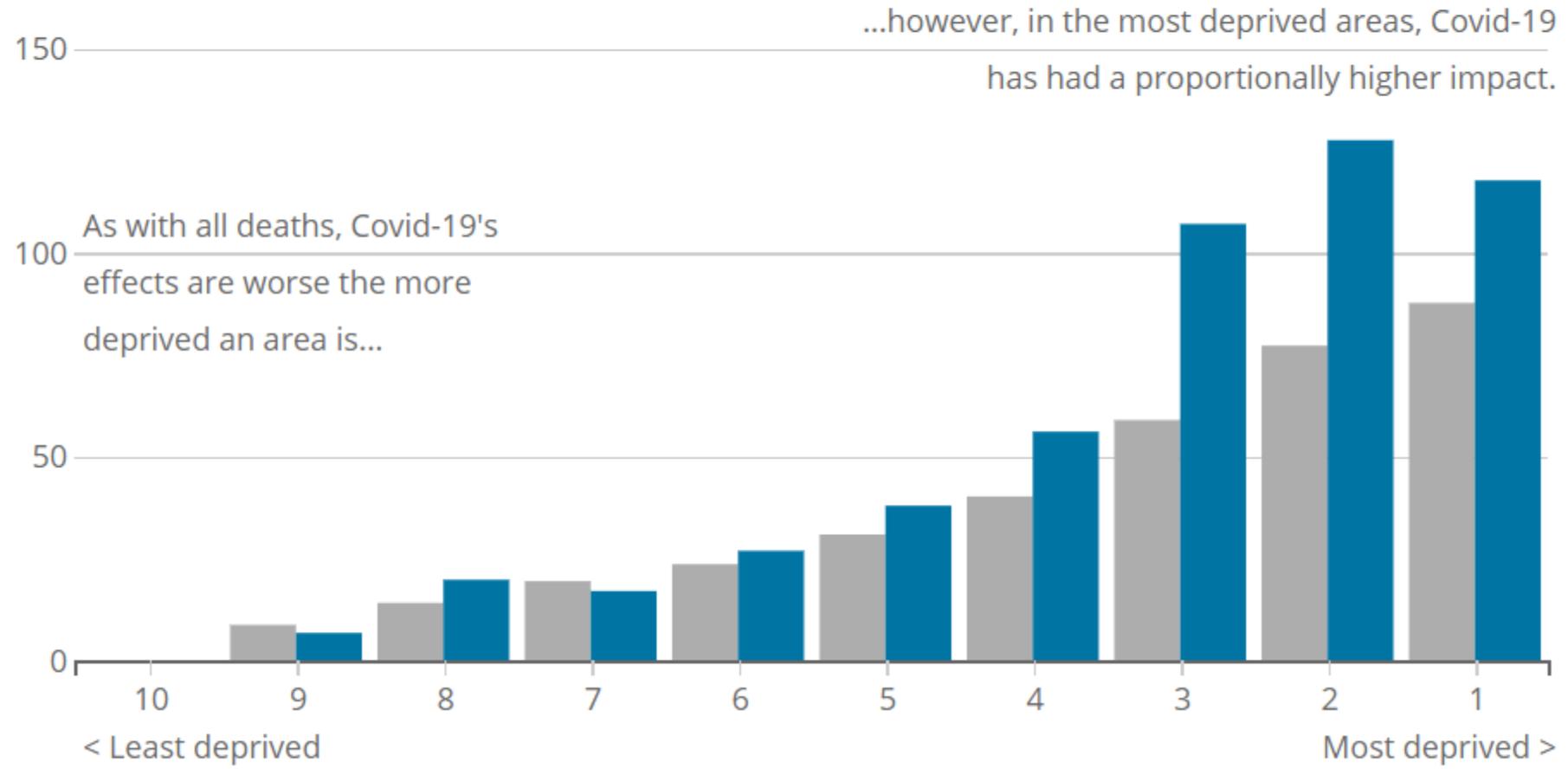
Urban major conurbation had a significantly higher age-standardised mortality rate than any other Rural Urban Classification

The 11 local authorities with the highest age-standardised mortality rates were all London boroughs

Age standardised mortality rates involving COVID-19, English deaths between 1 March and 17 April

■ All deaths ■ Covid-19 deaths

Death rate as a % difference from the least deprived decile

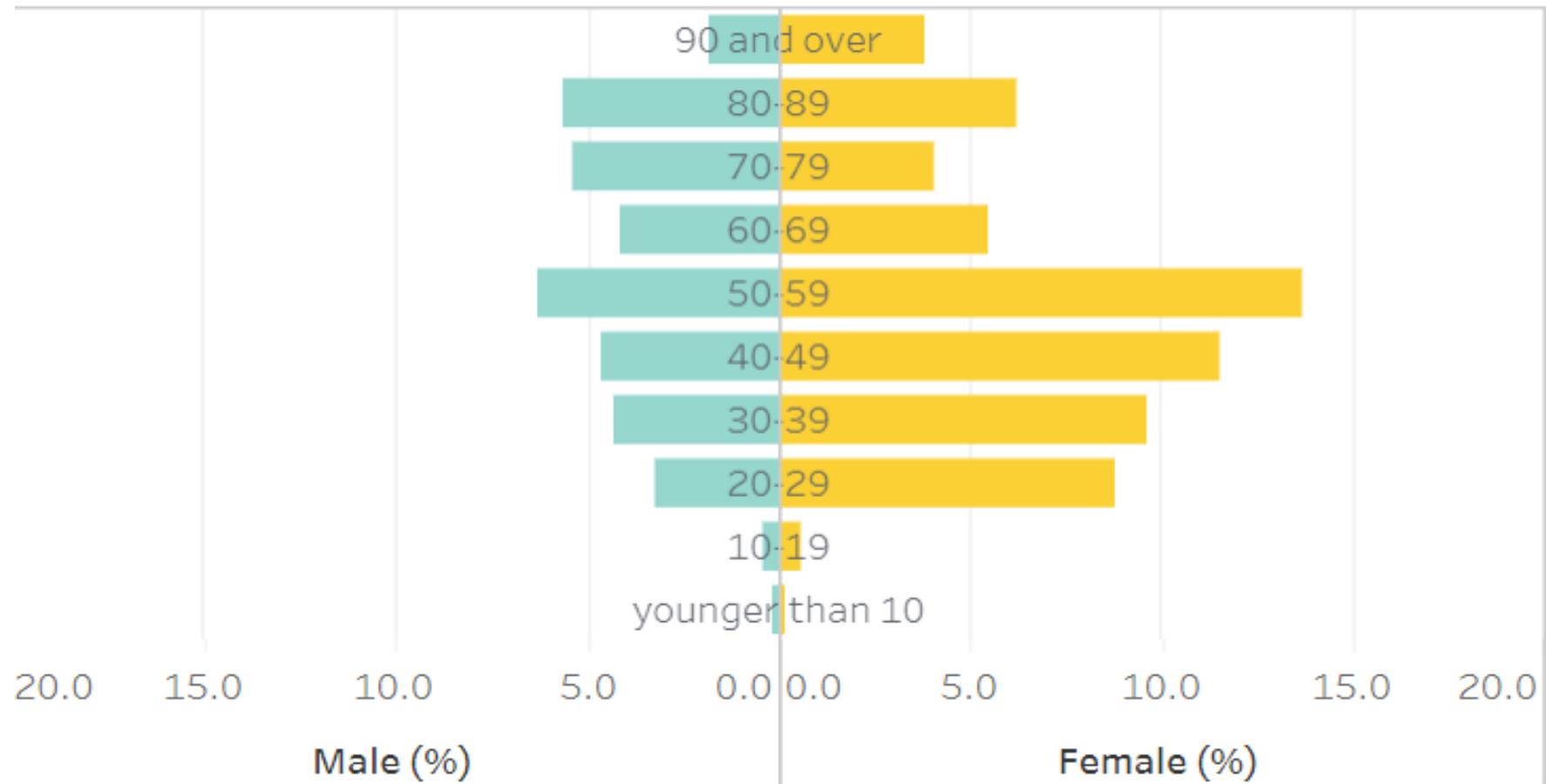


Age and sex distribution of confirmed cases

Location

All cases

Wales
Data

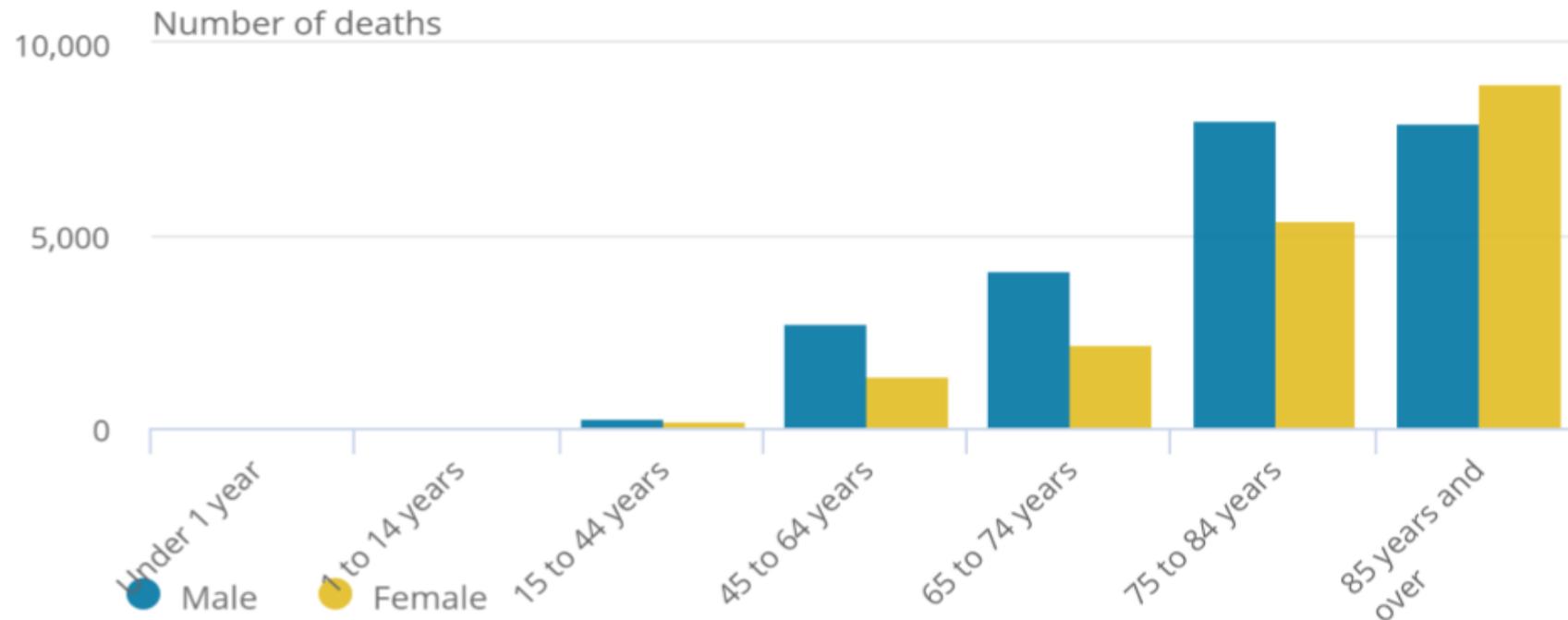


ONS
report
25 May
2020

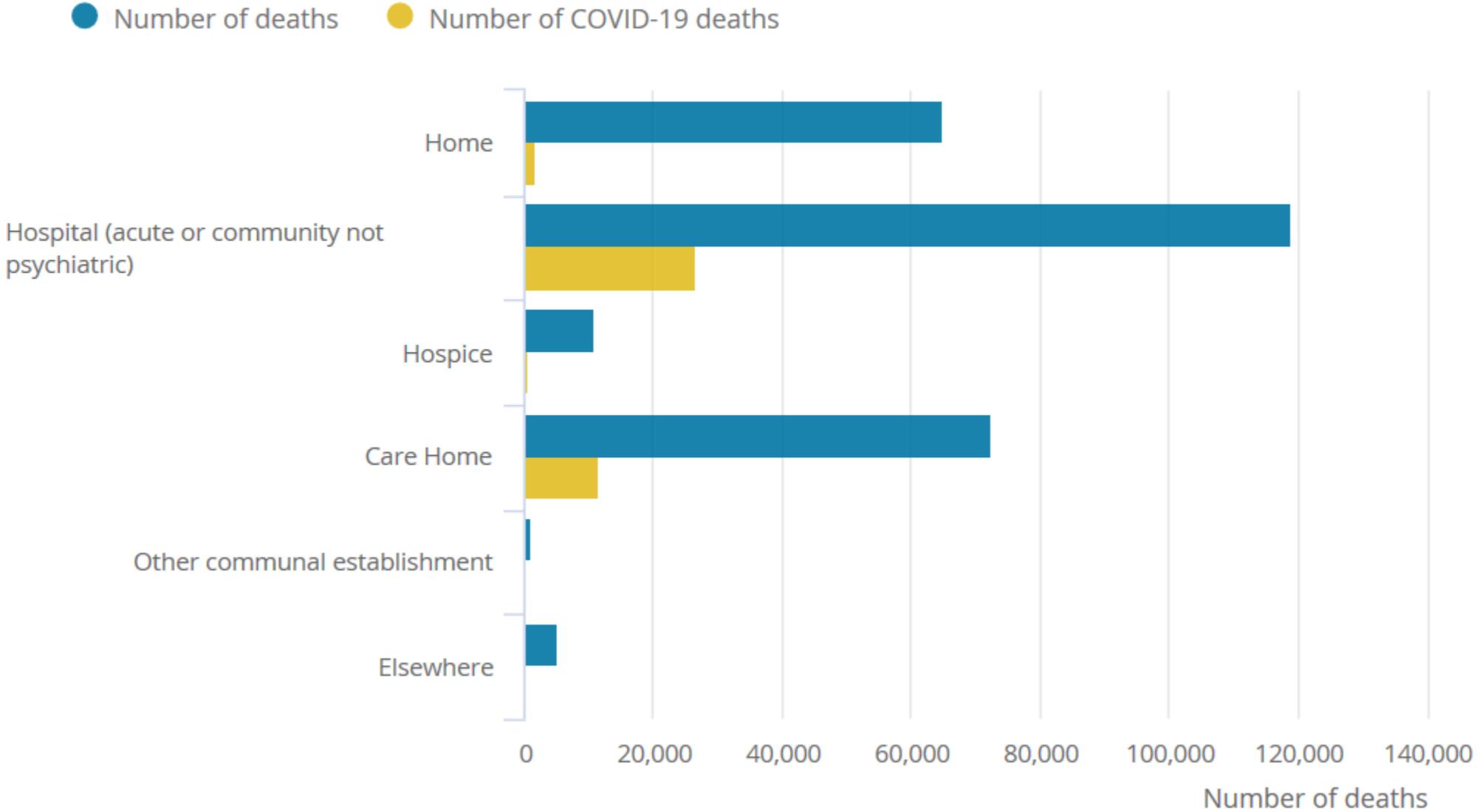
Deaths involving COVID-19 registered between Week 1 and Week 20 of 2020 by sex and age group, England and Wales

Figure 4: The number of deaths involving COVID-19 was highest in women aged 85 years and over for the third week running

Deaths involving COVID-19 registered between Week 1 and Week 20 of 2020 by sex and age group, England and Wales

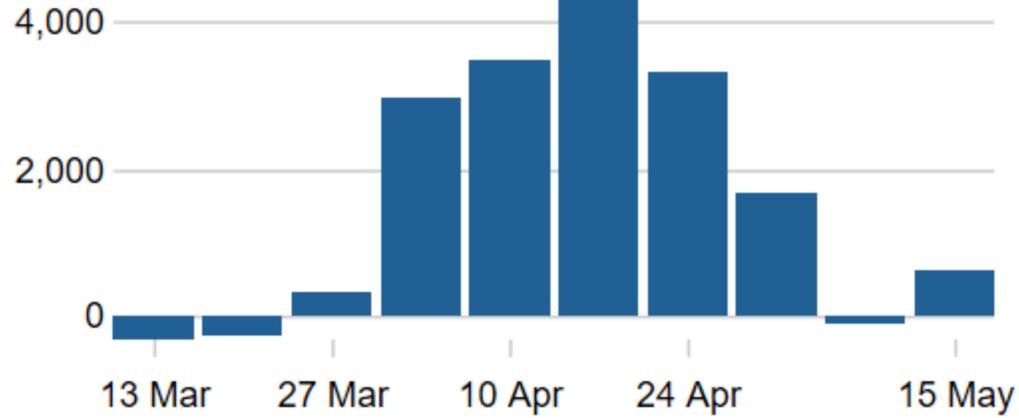


Deaths involving COVID-19 registered between Week 1 and Week 20 of 2020 by place of occurrence, England and Wales

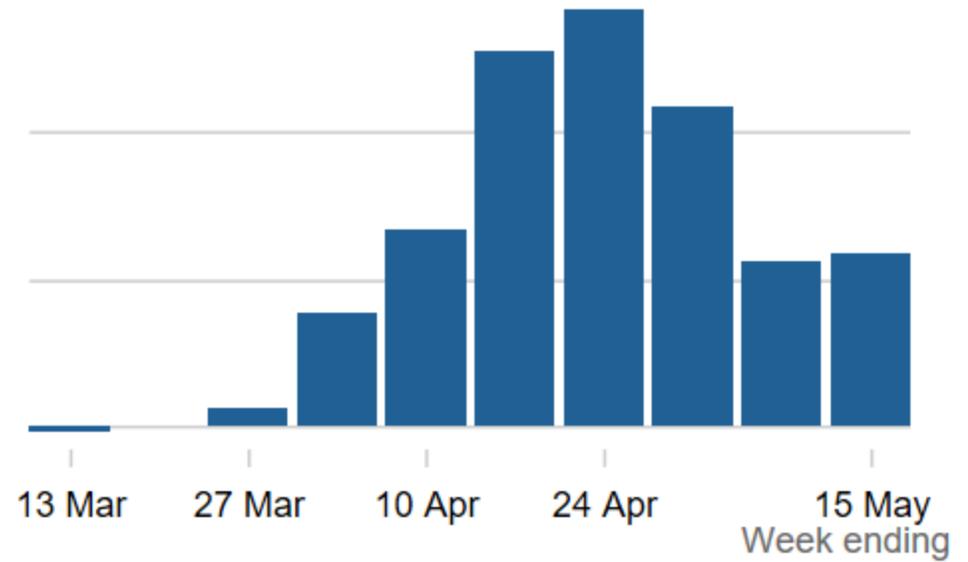


■ Excess deaths

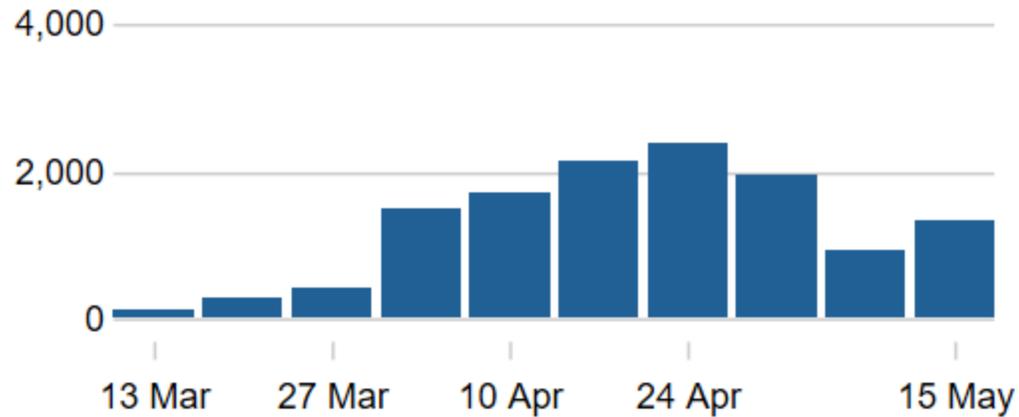
Hospital



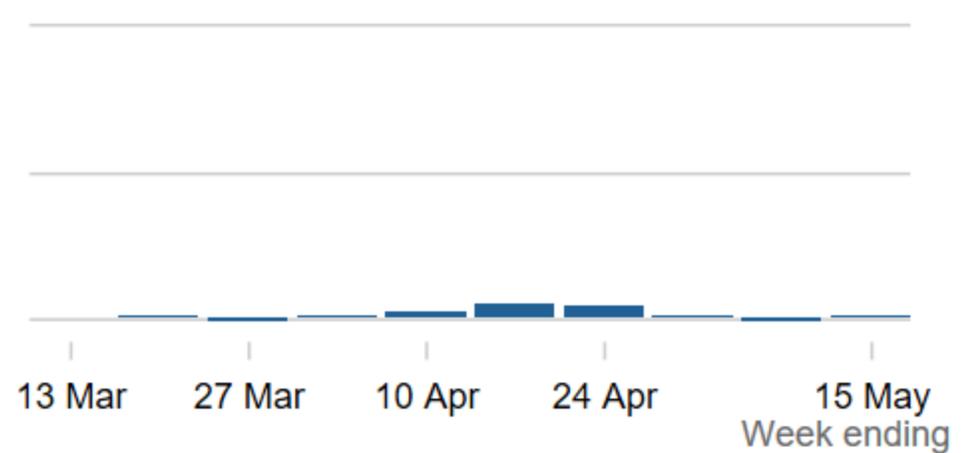
Care home



Home



Other communal establishment



It will be several years and many PhDs before we know the full impact of COVID-19 globally

Thank you for listening

Any questions

Public Health Wales Rapid COVID-19 surveillance



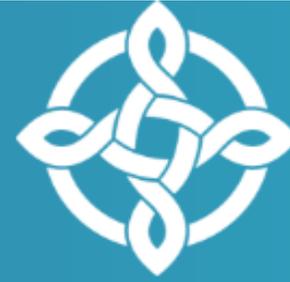
GIG
CYMRU
NHS
WALES

Iechyd Cyhoeddus
Cymru
Public Health
Wales

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Cumulative confirmed COVID-19 case total	13,653
of which were new reports today	97
Cumulative individuals who were tested negative	53,519
Cumulative individuals tested	67,172
Cumulative number of tests carried out	79,926
Number of tests yesterday	2,206
Cumulative number of suspected COVID-19 deaths* reported to PHW	1,293
of which were newly reported	11

Data from 26th May 2020



GIG
CYMRU
NHS
WALES

Iechyd Cyhoeddus
Cymru
Public Health
Wales

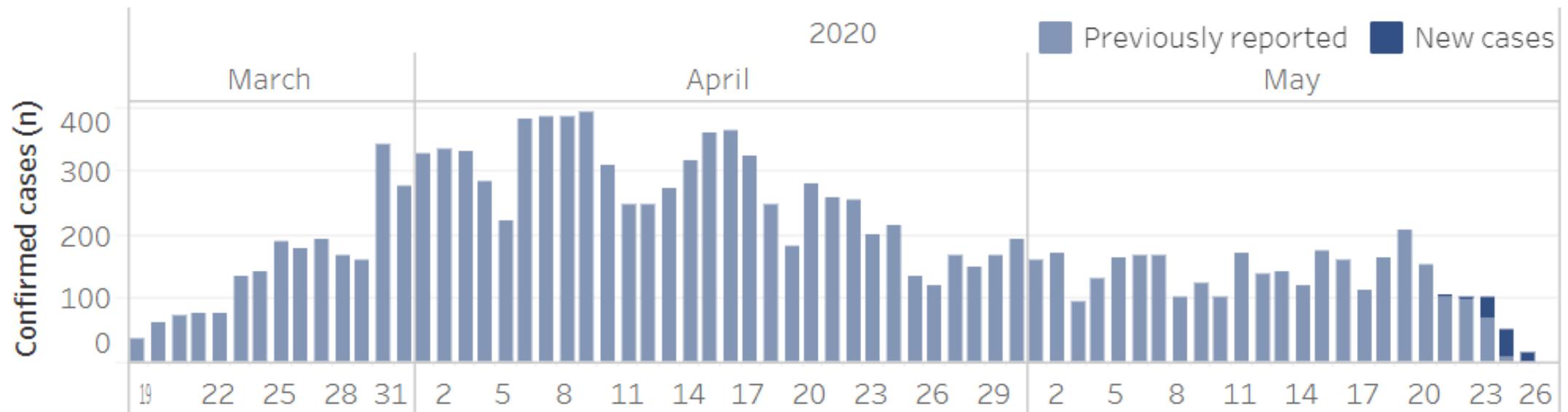
Data correct as of:

26 May 2020 13:00

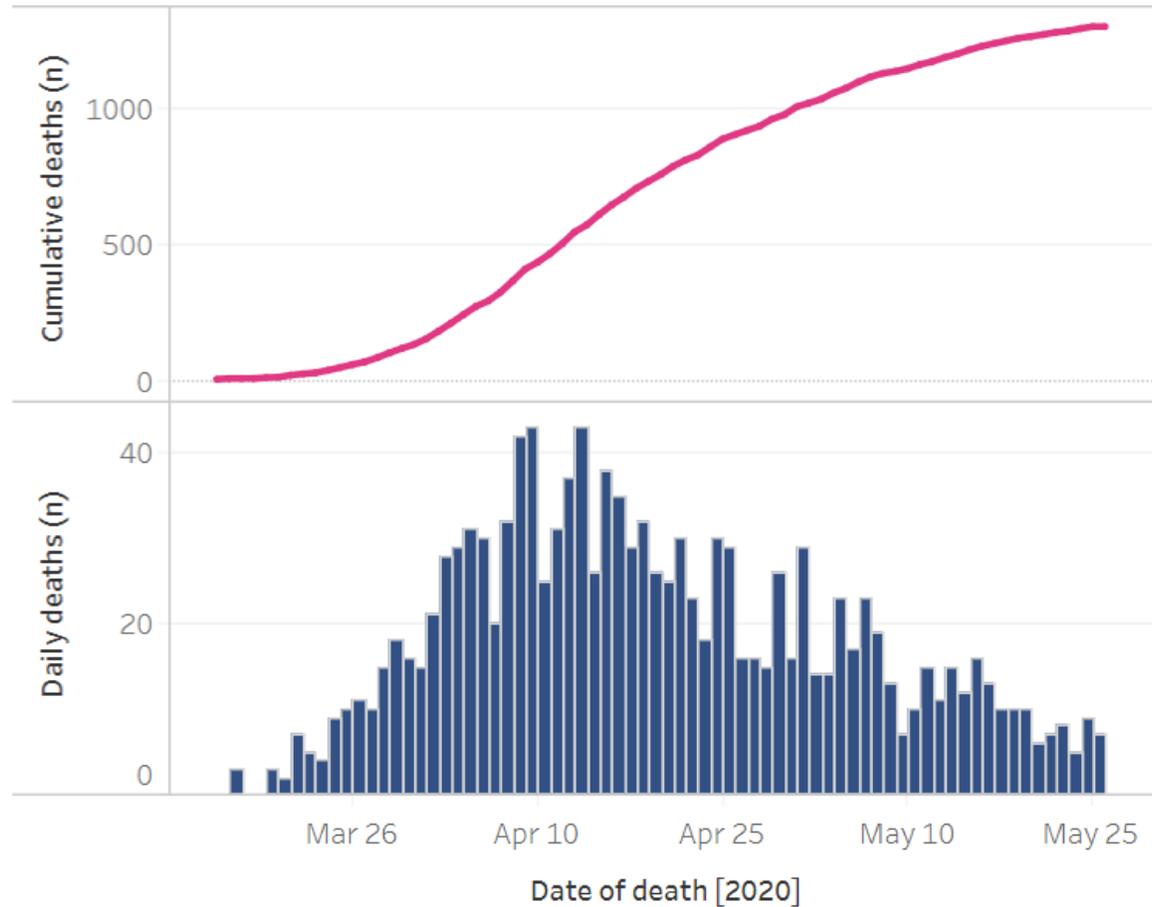
Confirmed cases, by sample date

LHB

(All)



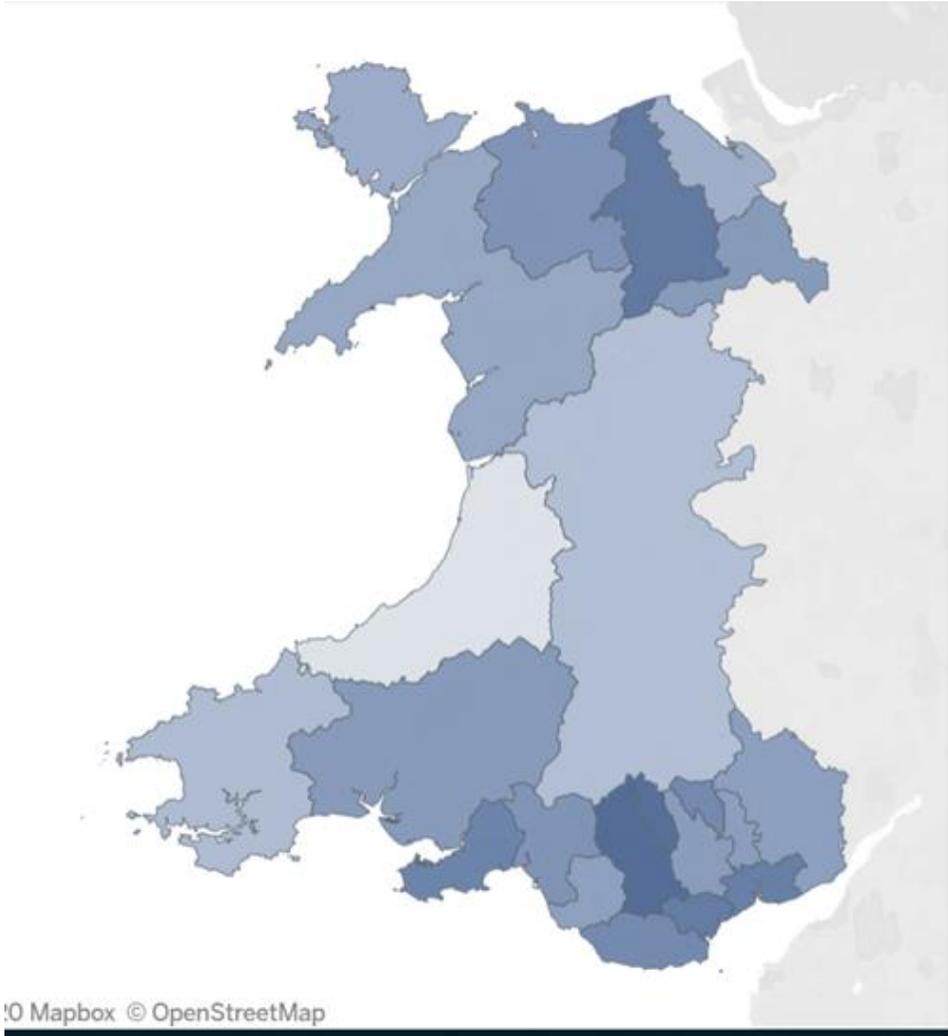
Deaths



Local Health Board of residence	Cumulative deaths
Aneurin Bevan University Health Board	263
Betsi Cadwaladr University Health Board	242
Cardiff and Vale University Health Board	241
Cwm Taf Morgannwg University Health Board	273
Hywel Dda University Health Board	59
Powys Teaching Health Board	13
Swansea Bay University Health Board	199
Resident outside Wales	3
Total	1293

Confirmed cases, by Local Health Board of residence

	New	Cumulative
Aneurin Bevan University Health Board	8	2,522
Betsi Cadwaldr University Health Board	42	2,619
Cardiff and Vale University Health Board	14	2,654
Cwm Taf Morgannwg University Health Board	19	2,463
Hywel Dda University Health Board	1	1,044
Powys Teaching Health Board	4	276
Swansea Bay University Health Board	8	1,855
Unknown	1	105
Wales total	97	13,538
Resident outside Wales	0	115



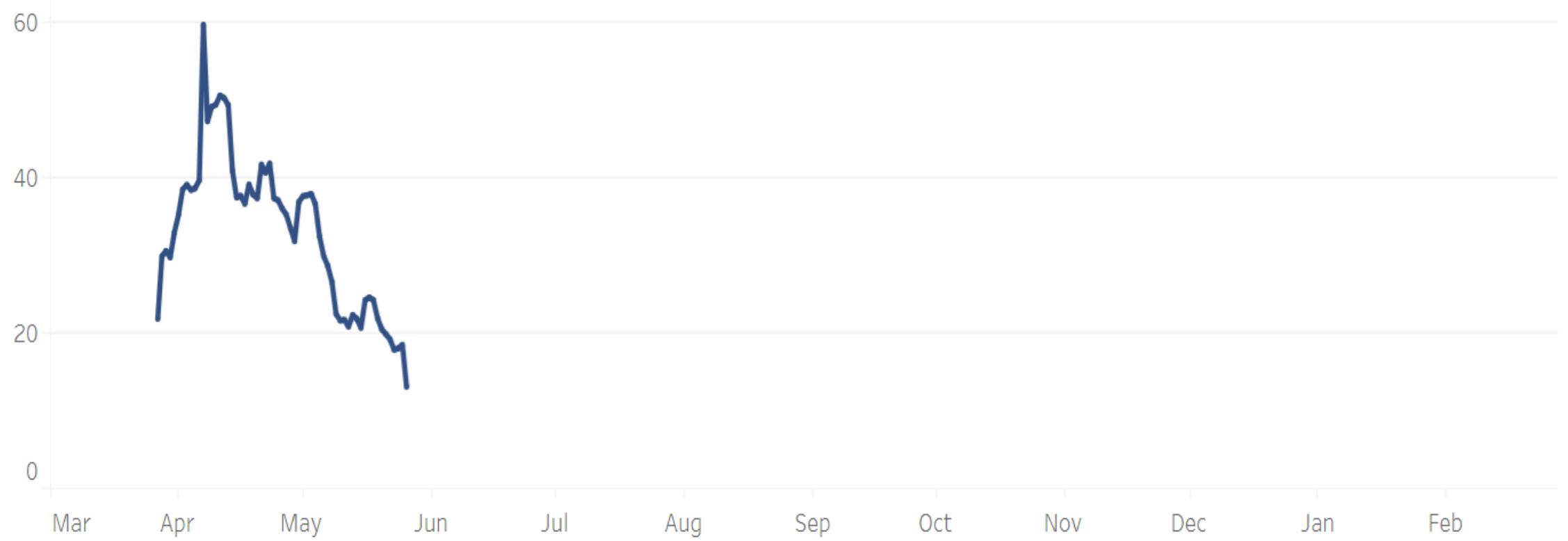
Cumulative rates by Local Authority
26th May 2020

Data up to 25 May 2020 from PHW Tableau

		New cases	Cumulative cases	Cases per 100,000 population	Testing episodes	Testing per 100,000 population	Positive proportion
Aneurin Bevan University Health Board	Blaenau Gwent	1	331	474.8	1,380	1,979.5	24.0%
	Caerphilly	7	680	375.7	3,101	1,713.1	21.9%
	Monmouthshire	0	333	353.7	1,372	1,457.4	24.3%
	Newport	6	827	539.5	3,150	2,054.8	26.3%
	Torfaen	1	342	367.5	1,677	1,802.3	20.4%
Betsi Cadwaldr University Health Board	Anglesey	3	204	291.6	1,220	1,743.8	16.7%
	Conwy	16	490	418.2	2,507	2,139.4	19.5%
	Denbighshire	12	542	568.6	2,717	2,850.1	19.9%
	Flintshire	12	440	282.8	2,059	1,323.3	21.4%
	Gwynedd	2	389	313.3	2,458	1,979.4	15.8%
	Wrexham	22	512	376.1	2,397	1,760.9	21.4%
Cardiff and Vale University Health Board	Cardiff	20	2,012	552.4	7,950	2,182.6	25.3%
	Vale of Glamorgan	4	627	474.4	3,333	2,521.8	18.8%
Cwm Taf Morgannwg University Health Board	Bridgend	4	513	354.1	3,152	2,175.7	16.3%
	Merthyr Tydfil	5	382	634.7	1,470	2,442.6	26.0%
	Rhondda Cynon Taf	17	1,549	645.1	5,523	2,300.0	28.0%
Hywel Dda University Health Board	Carmarthenshire	2	723	385.5	4,119	2,196.0	17.6%
	Ceredigion	1	42	57.5	821	1,124.8	5.1%
	Pembrokeshire	1	278	222.3	1,930	1,543.3	14.4%
Powys Teaching Health Board	Powys	2	272	205.4	1,645	1,242.0	16.5%
Swansea Bay University Health Board	Neath Port Talbot	2	597	417.8	2,940	2,057.3	20.3%
	Swansea	1	1,250	507.2	5,606	2,274.6	22.3%
	Unknown location	0	106		2,252		4.7%
	Wales total*	141	13,441	428.2	64,779	2,063.9	20.7%
	Resident outside Wales	0	115		497		23.1%

Rolling seven day GP consultation rate per 100,000 population (All age groups in All practices)

Suspected Coronavirus



Influenza-like illness (ILI)

