COVID-19

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Some history of international health regulation

1830s	• Cholera pandemic
1851	• International Sanitary Conference, France, cholera, plague, yellow fever
1892	• International Sanitary Convention
1948	• World Health Organization was created
1951	• International Sanitary Regulations
1969	• International Health Regulations
1995	• Ebola outbreaks Africa
2003	• SARS epidemic
2005	• Revised International Health Regulations – any outbreak with international implications for human health

International Health Regulations 2005

- Granted WHO power to declare a public health emergency of international concern (PHEIC)

- Recommend how states-parties should deal with emergencies

- Roster of Experts appointed by the Director-General of WHO with relevant expertise

Role of Roster of Experts:

- event constitutes a PHEIC?

- termination of PHEIC

- issuance, modification, extension or termination of temporary recommendations

COVID-19 what makes a PHEIC: https://youtu.be/46fb8RX-Pnc?t=900

UNDIAGNOSED PNEUMONIA - CHINA (HUBEI): REQUEST FOR INFORMATION
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Hot Topics: • 70th anniversary of the founding of the PRC • China's changemakers • White Papers of the Government

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China detects large quantity of novel coronavirus at Wuhan seafood market

Xinhua, January 27, 2020   💬 0 Comment(s) 🖨 Print ✉ E-mail

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BEIJING, Jan. 26 (Xinhua) -- Experts of the Chinese Center for Disease Control and Prevention (CDC) have successfully isolated the novel coronavirus (2019-nCoV) in the environmental samples of a seafood market in Wuhan, indicating that the virus stems from wild animals on sale at the market.

Thirty-three of the 585 environmental samples collected from the Wuhan's Huanan Seafood Wholesale Market were found to contain the nucleic acid of the novel coronavirus, according to the National Institute for Viral Disease Control and Prevention under the China CDC.
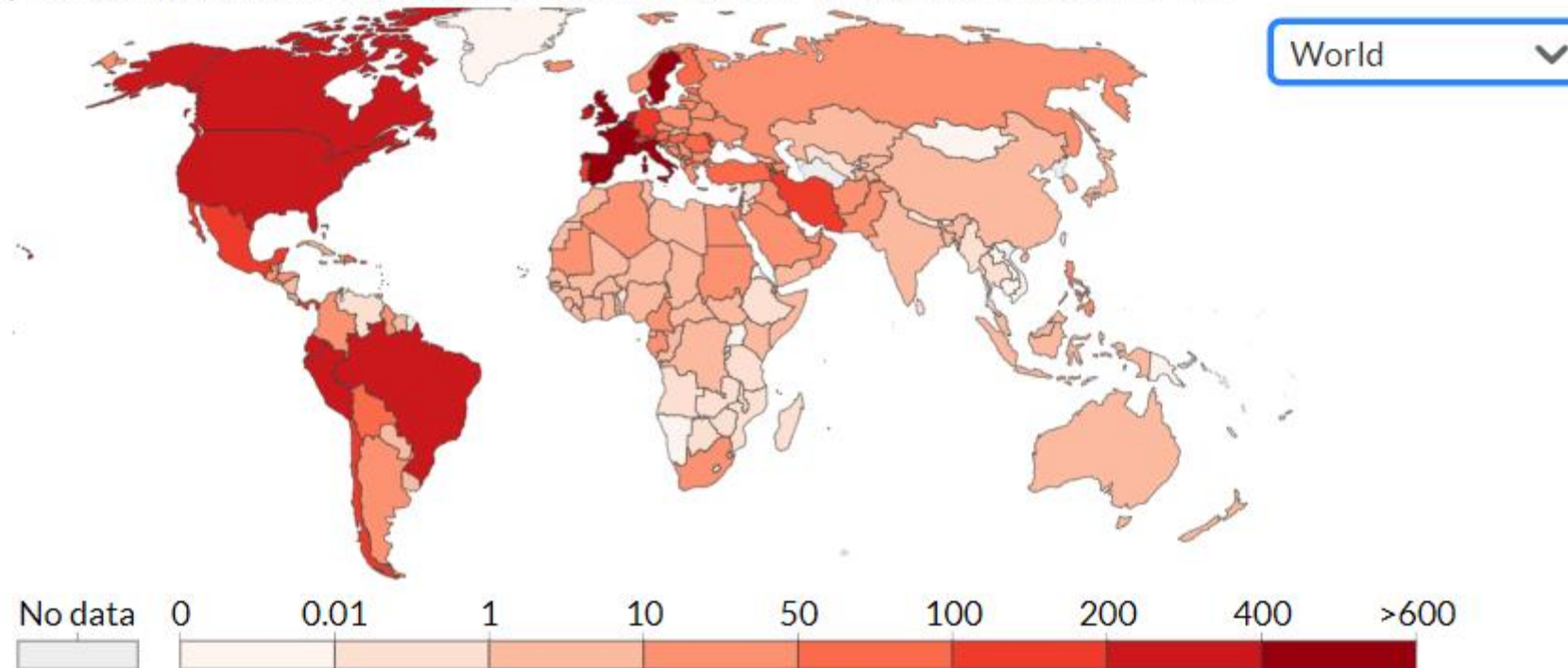
China CDC publicly shared the gene sequence of the novel coronavirus; completed PCR

Total confirmed COVID-19 deaths per million people, Jun 16, 2020

Our World in Data

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true total number of deaths from COVID-19.

World ⌄

No data   0   0.01   1   10   50   100   200   400   >600

Source: European CDC – Situation Update Worldwide – Last updated 16th June, 11:00 (London time)
OurWorldInData.org/coronavirus • CC BY

2019   2020
            Outbreak Period

https://www.nejm.org/doi/full/10.1056/NEJMoa2001316

Figure 1. Onset of Illness among the First 425 Confirmed Cases of Novel Coronavirus (2019-nCoV)–Infected Pneumonia (NCIP) in Wuhan,

New South Wales epidemic curve

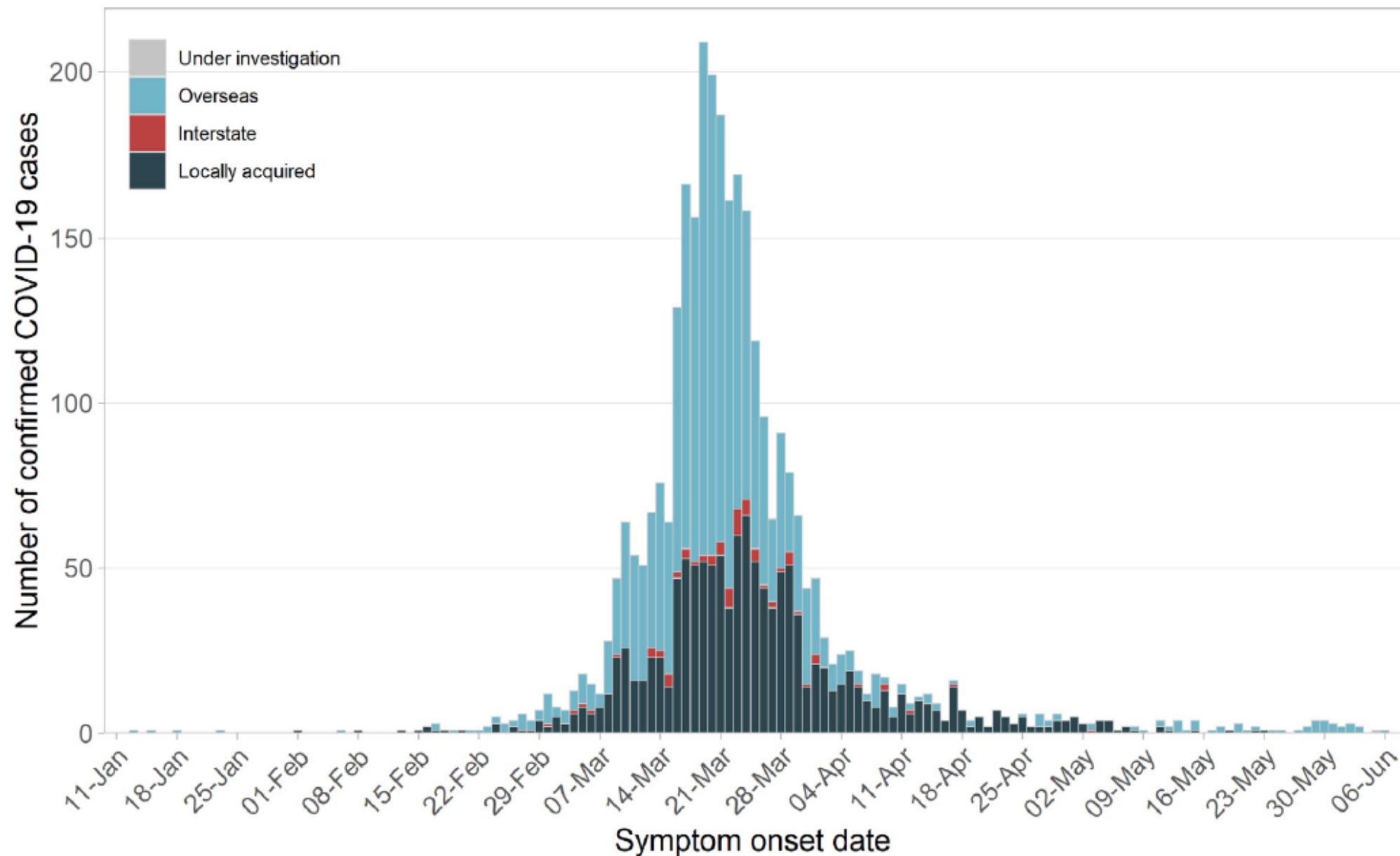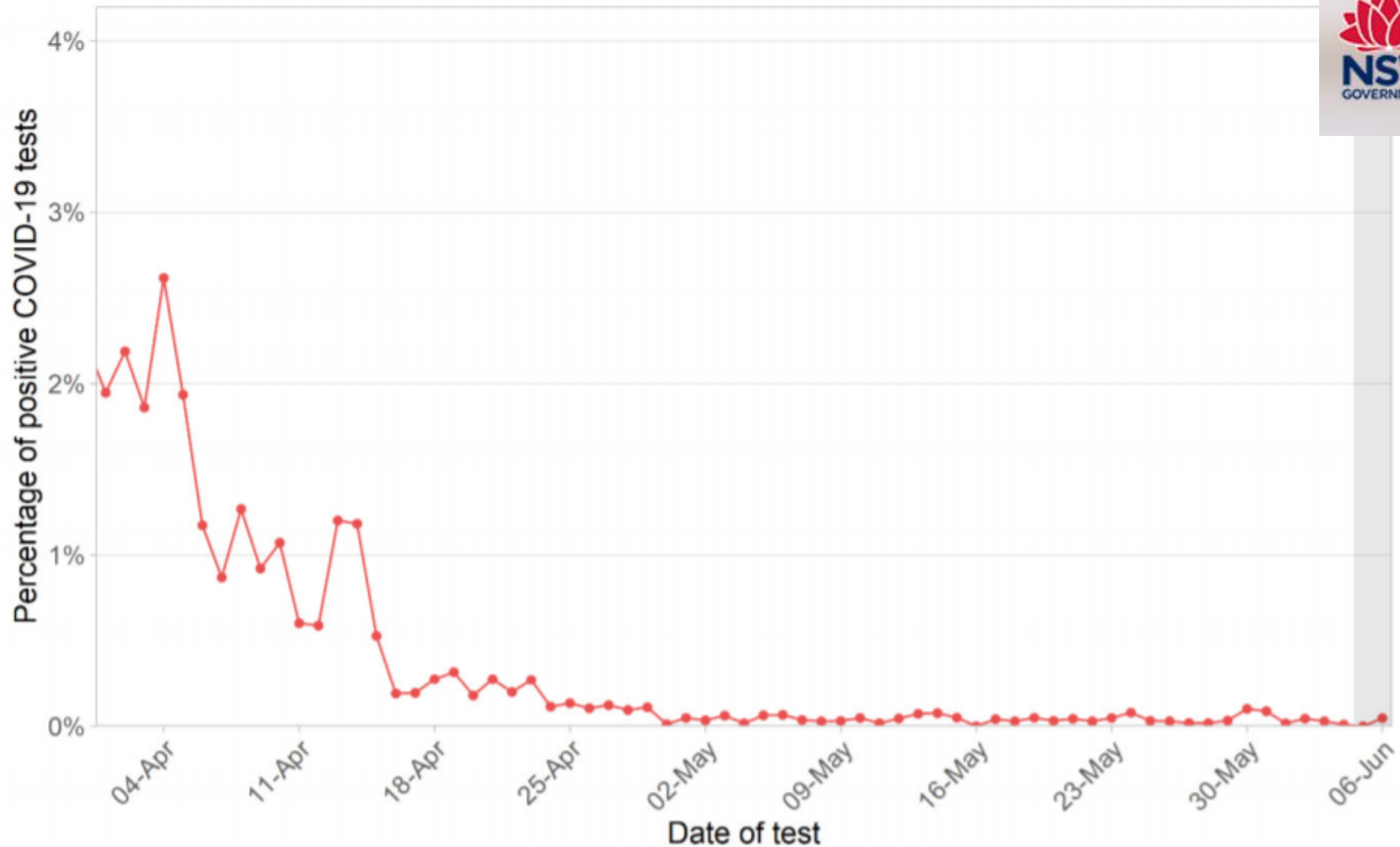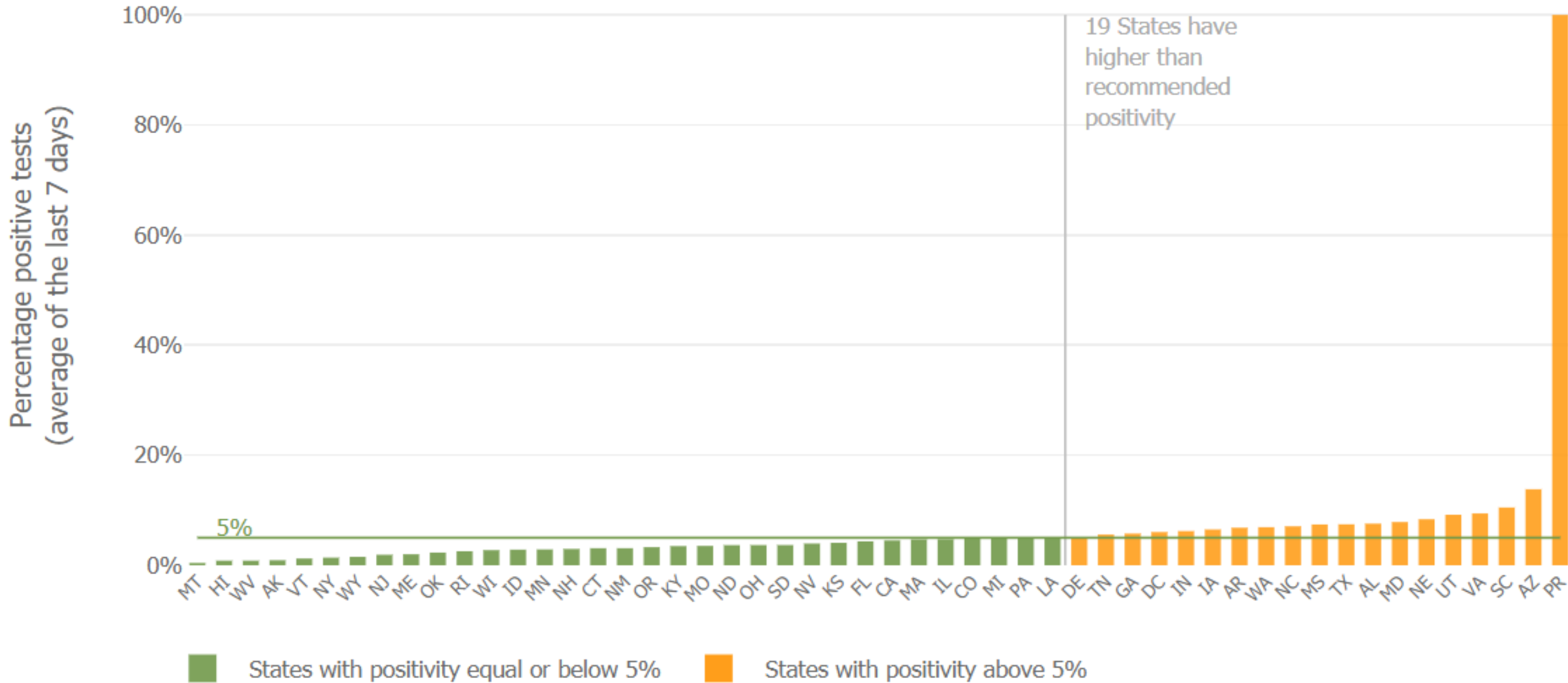Figure 1. COVID-19 cases by onset of illness per day, NSW, 2020

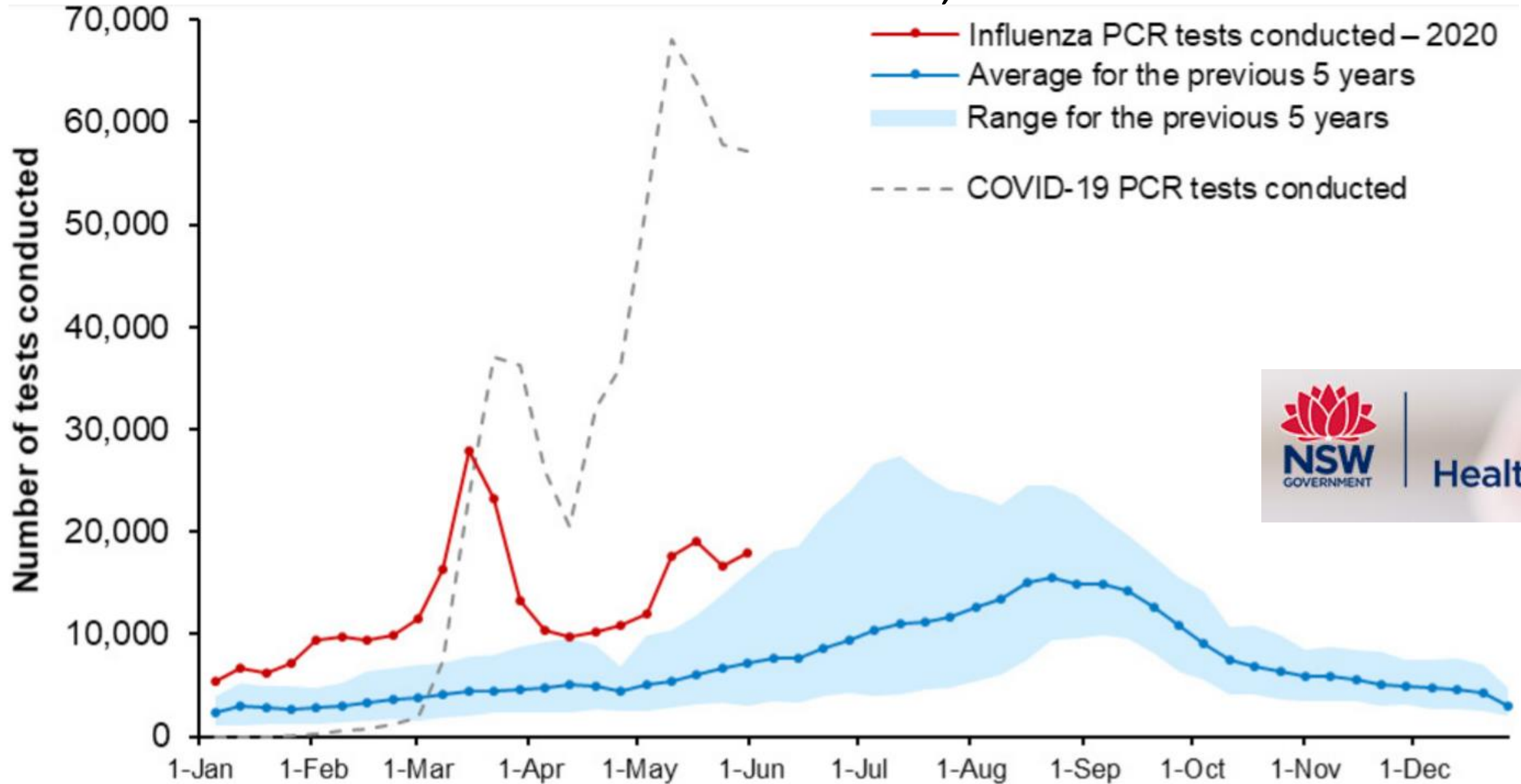Figure 5. Proportion of tests positive for COVID-19, NSW, 2020

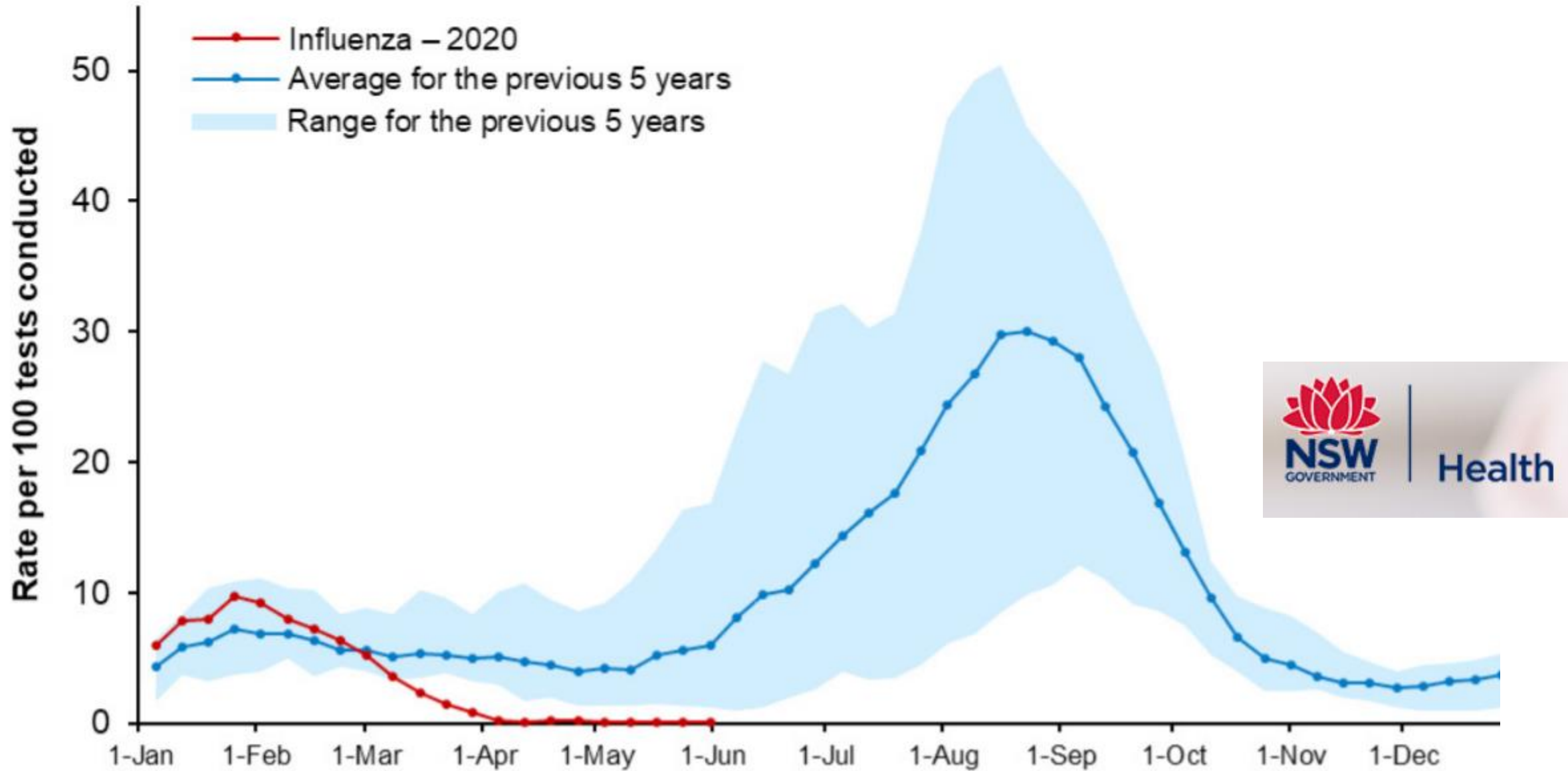Note: PCR tests performed after becoming a confirmed case are excluded.

https://www.health.nsw.gov.au/Infectious/covid-19/Documents/covid-19-surveillance-report-20200606.pdf

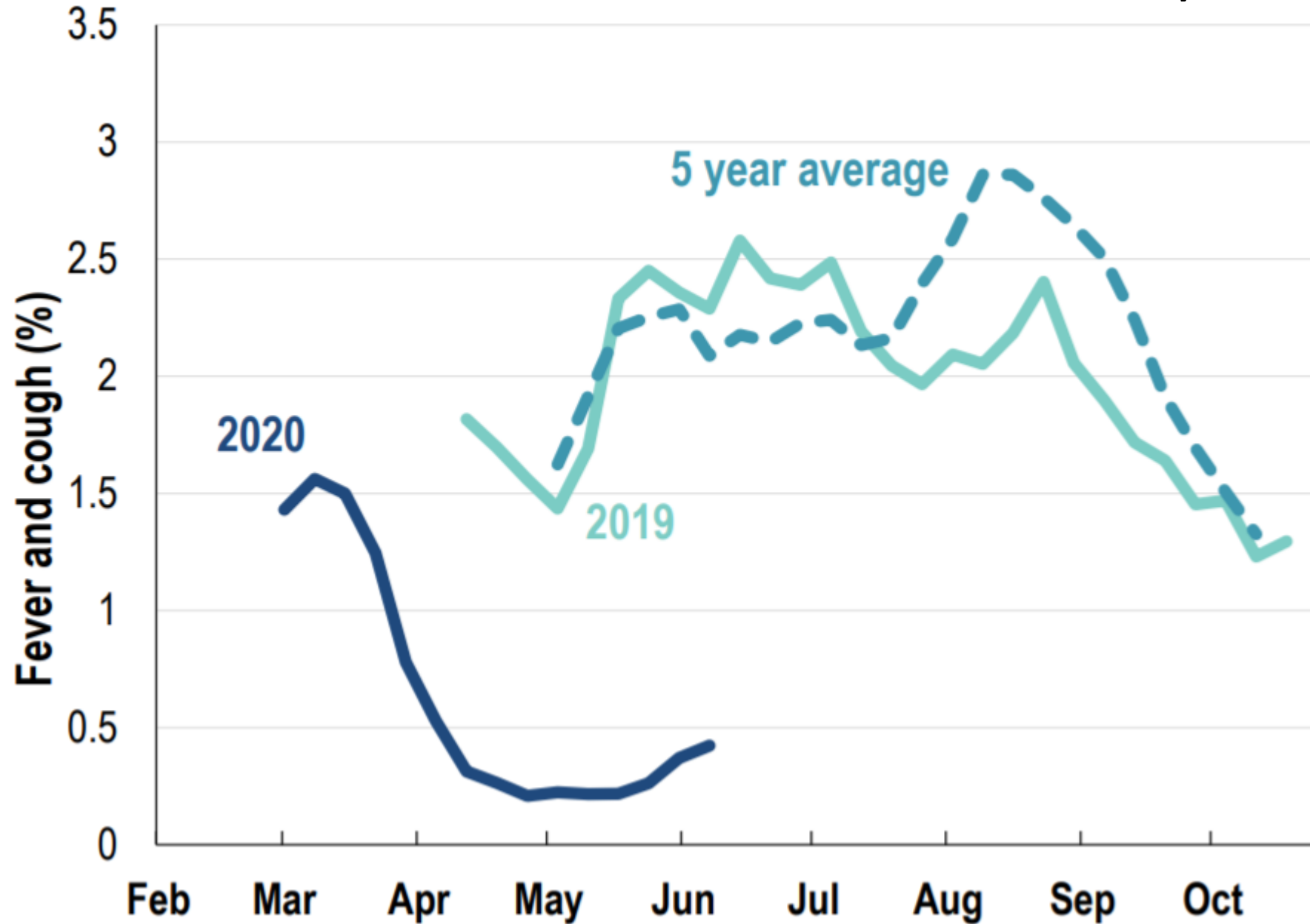# Test positivity by US state

COVID-19 and influenza tests, NSW

Influenza test positivity, NSW
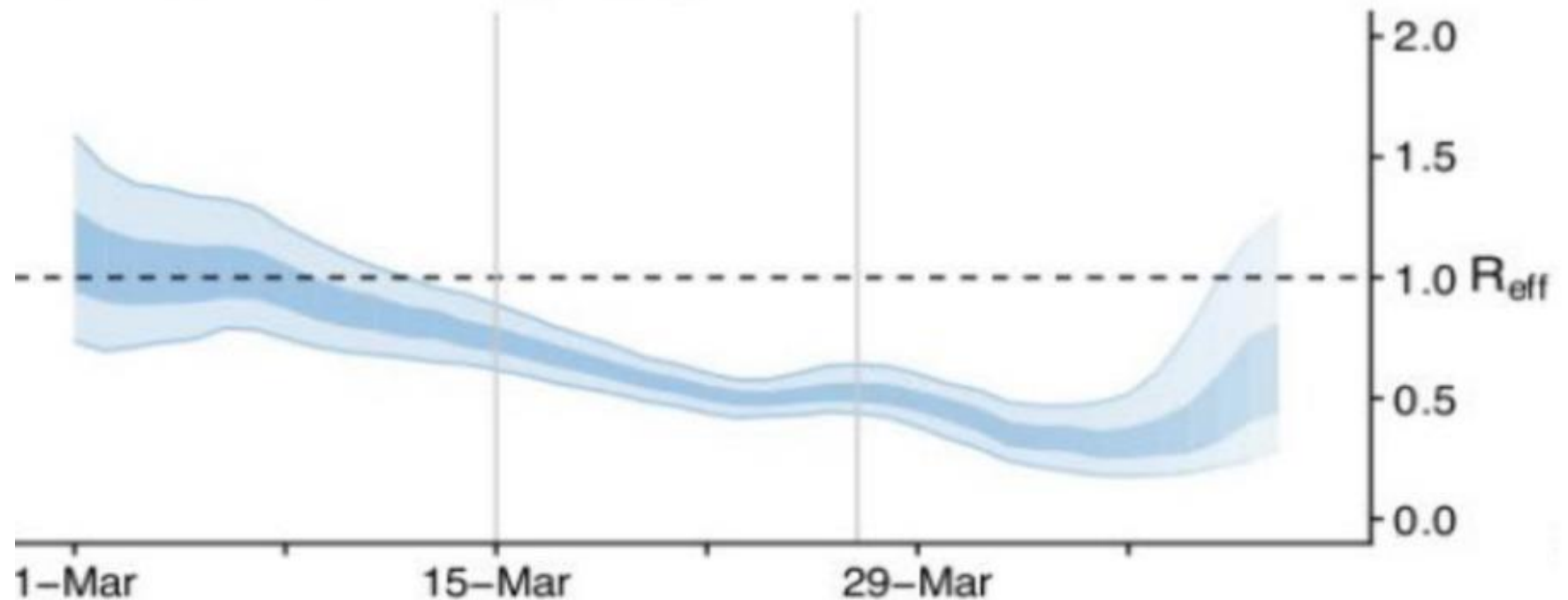
Flu-like illness in the community, Australia

How infectious is COVID-19?

- Estimated by R0 – basic reproduction number

- How many other people infected, on average, by each infected person when everyone is suceptible

- < 1 – epidemic dies out, > 1, epidemic grows

- Wuhan early epidemic – normal life, susceptible population: 2.7

- Measles R0 = 12-18

- Pandemic and seasonal flu R0 = 1.3 – 1.8

Effective reproduction number

- R_{eff} - when susceptibility reduced by control measures or immunity through infection
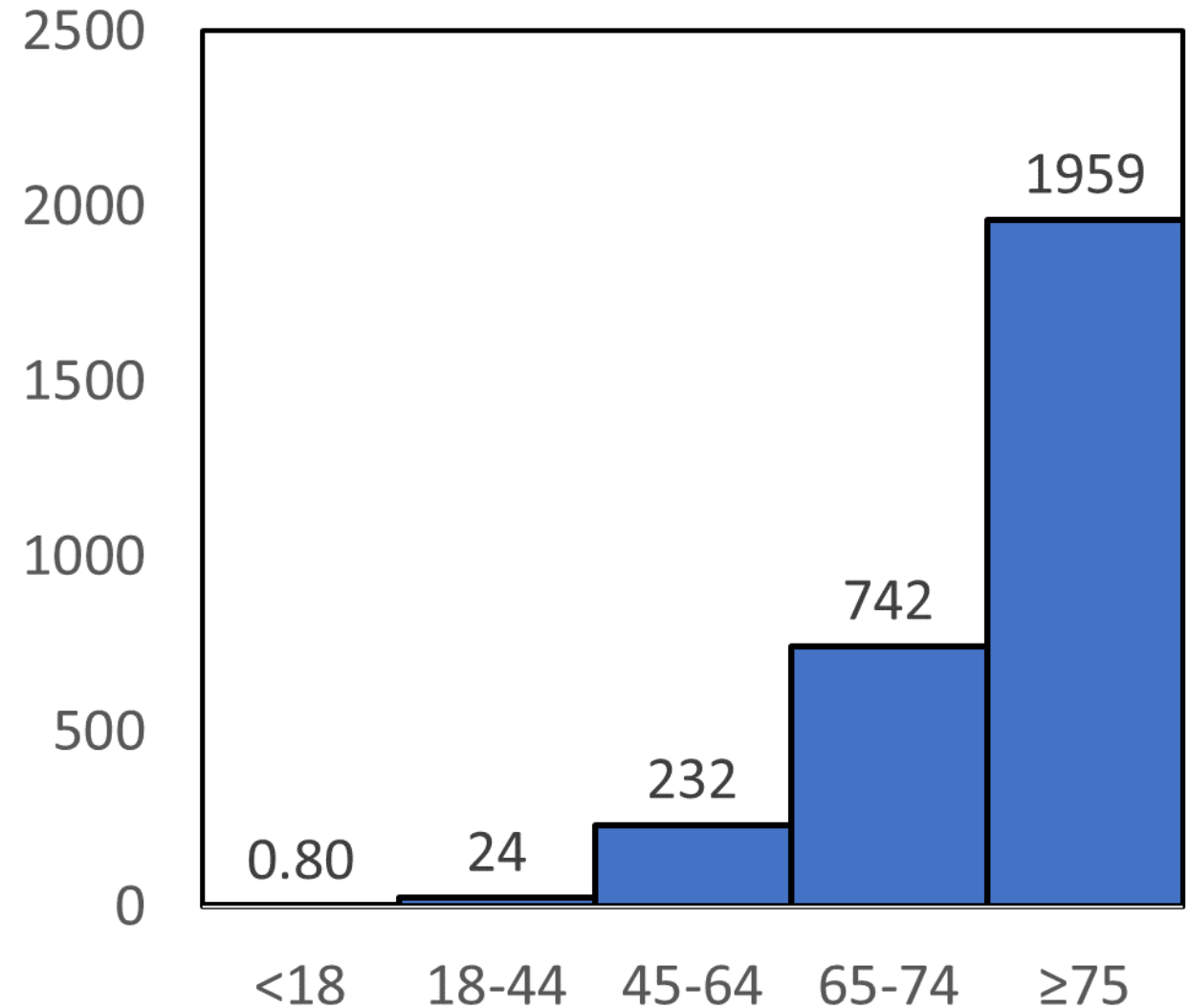- Varies – contact patterns, how many already infected and immune

New South Wales (NSW)
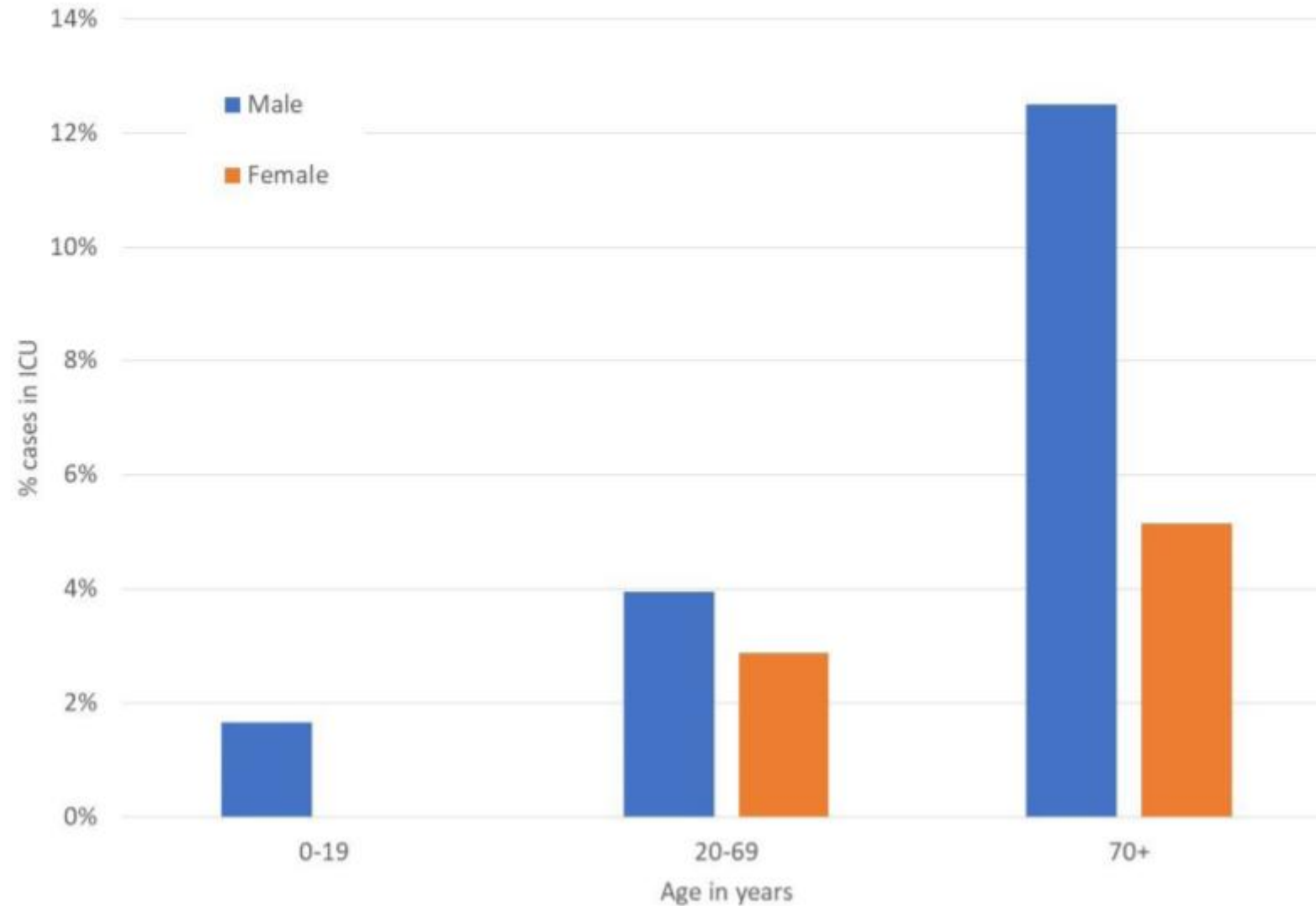
Risk factors

- Older age

- Asthma

- Chronic kidney disease being treated with dialysis

- Chronic lung disease

- Diabetes

- Hemoglobin Disorders

- Immunocompromised

- Liver disease

- People in nursing homes or long-term care facilities

- Serious heart conditions

- Severe obesity

- Smoking

Confirmed & probable death rate/100,000, by age (years), New York City

Bar chart of death rate per 100,000 by age group:
- <18: 0.80
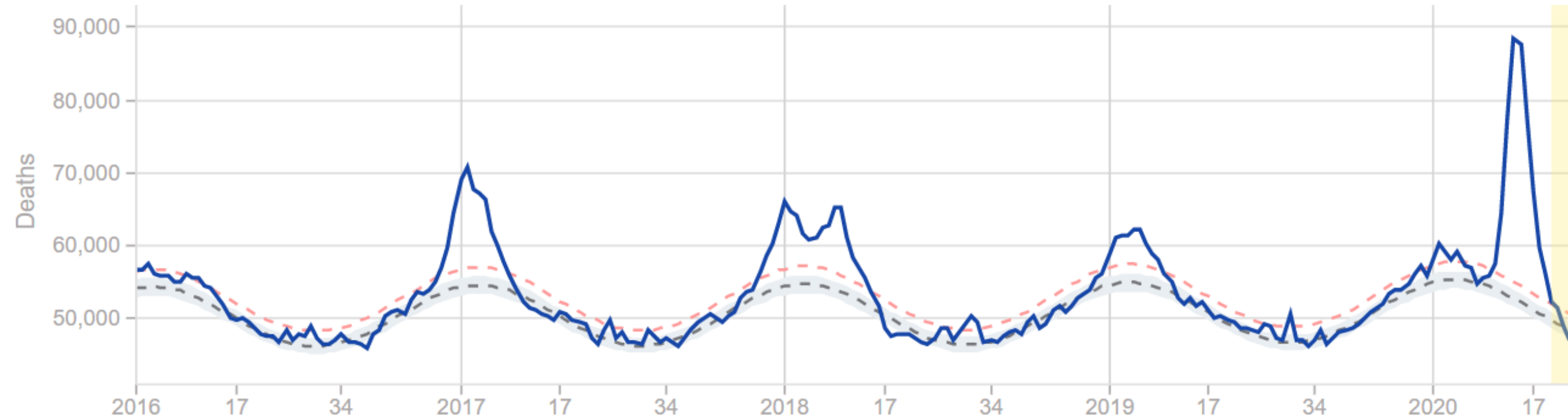- 18-44: 24
- 45-64: 232
- 65-74: 742
- ≥75: 1959
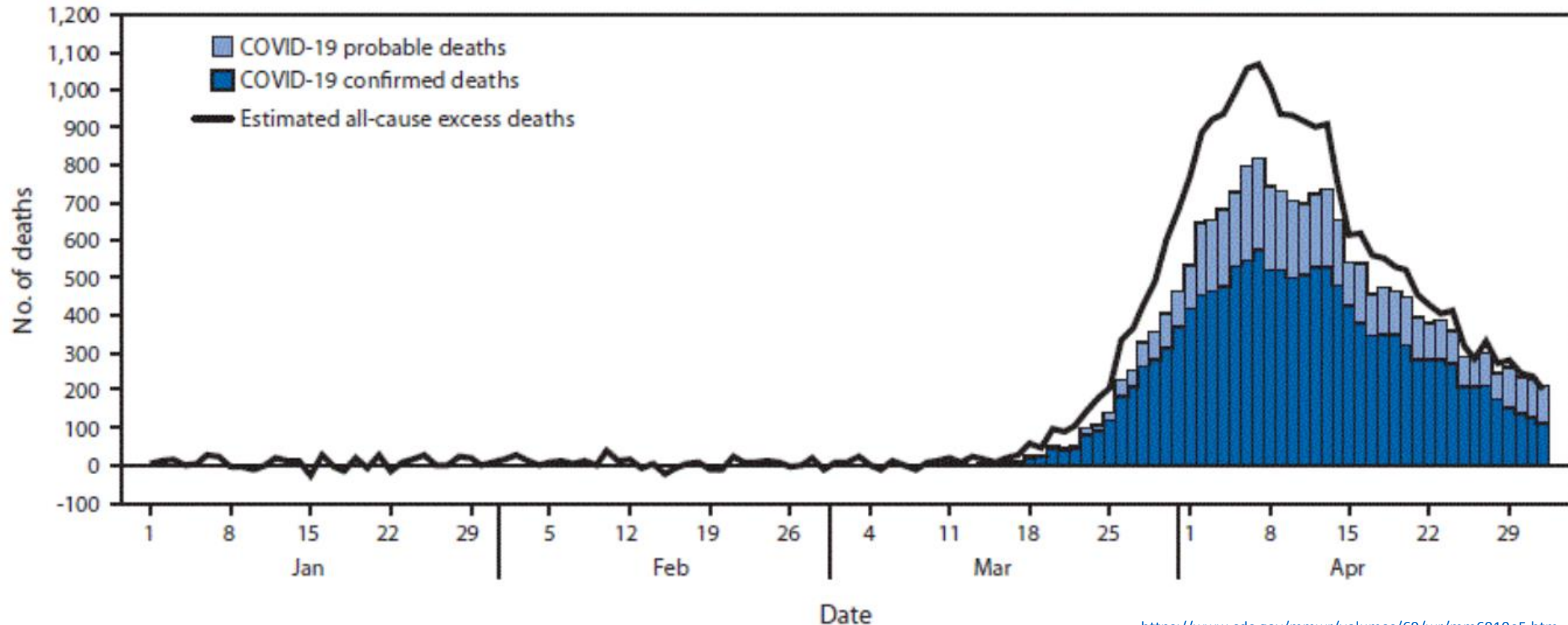
New South Wales – males and intensive care

Percentage of COVID-19 cases in ICU by age and sex

Excess deaths – 21 European countries

Excess deaths New York City ~5,000 more than official count of ~19,000

"Key ethical considerations that governments, vaccine manufacturers and funders should take into account to ensure a fair distribution of vaccines globally"

- "Countries are equally vulnerable to COVID-19 and have a shared responsibility, grounded in solidarity, to collaborate globally to mitigate the outbreak. Each government has special obligations to its own citizens, but the fair allocation of vaccines globally requires us not to simply appeal to self-interest,…"

- "Health care workers (caring for patients) and first responders can justifiably be prioritized when allocating some resources because of their contribution to the health and well-being of the community. Their health helps preserve the health of others."

https://www.who.int/blueprint/priority-diseases/key-action/EthicsCOVID-19resourceallocation.pdf