HKU Med LKS Faculty of Medicine
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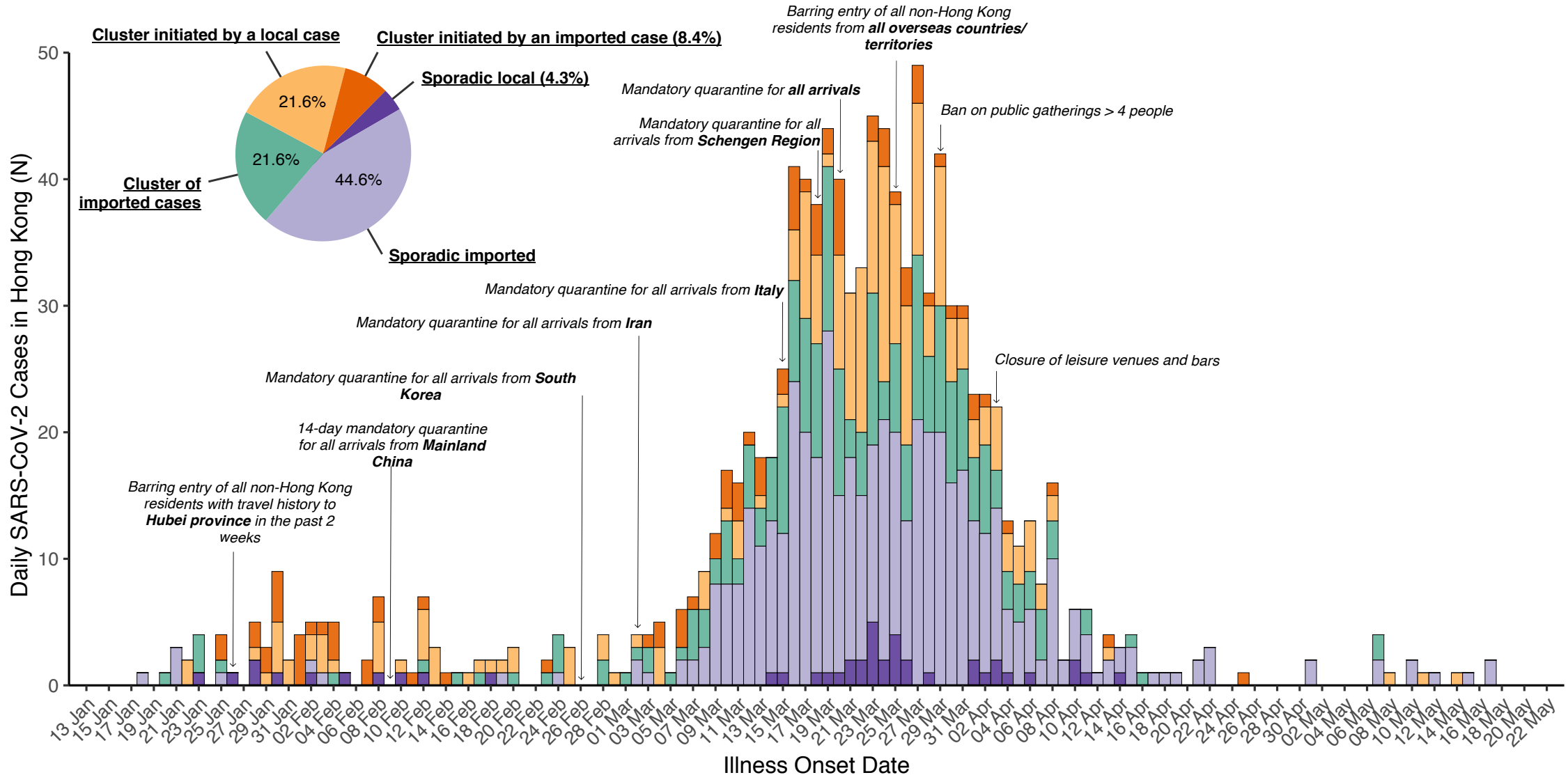
香港大學李嘉誠醫學院

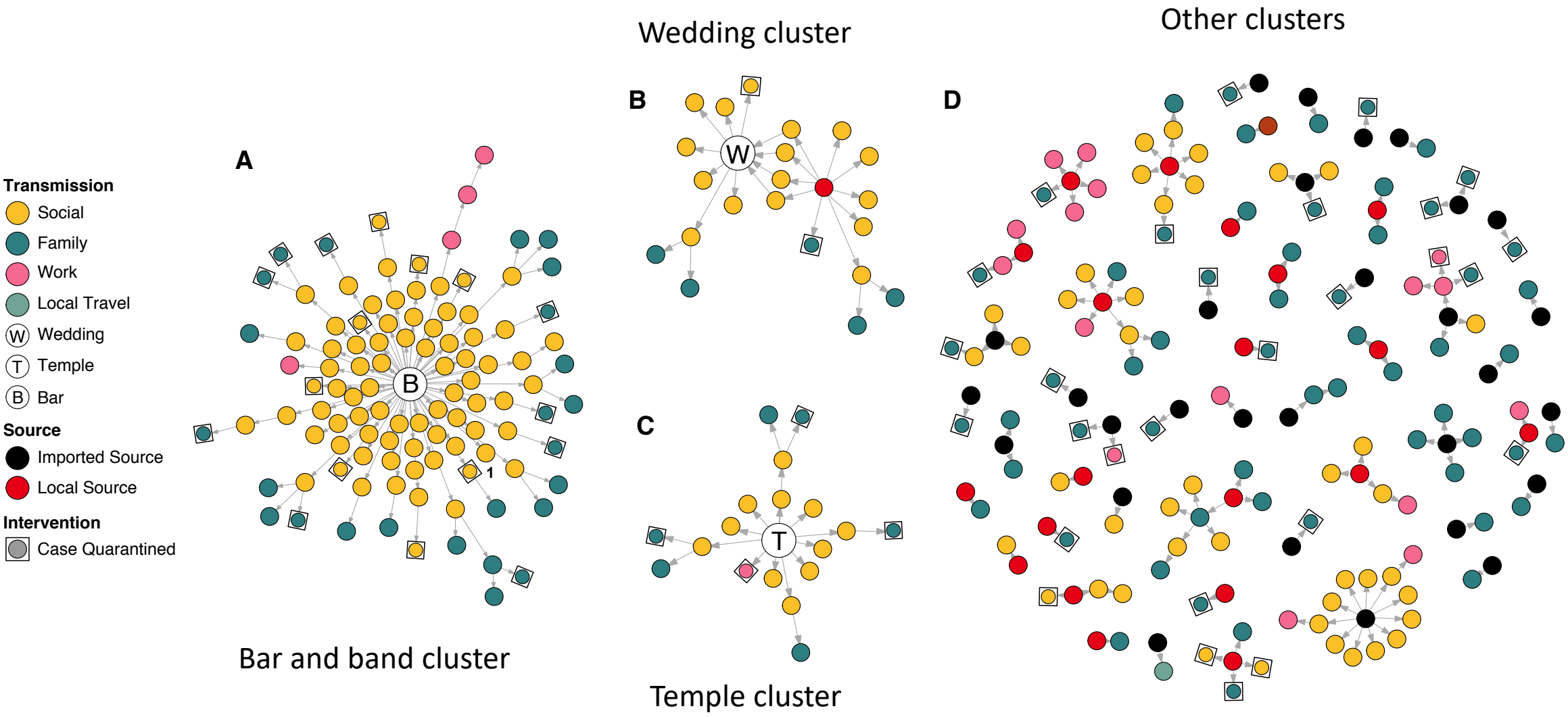
HKUMed WHO Collaborating Centre for Infectious Disease Epidemiology and Control releases Superspreading and Latest Epidemiologic Update of COVID-19

港大醫學院世衛傳染病流行病學及控制合作中心發表有關新型冠狀病毒（COVID-19）超級傳播及流行病學最新概況

Clustering of local infections – but majority of infections imported

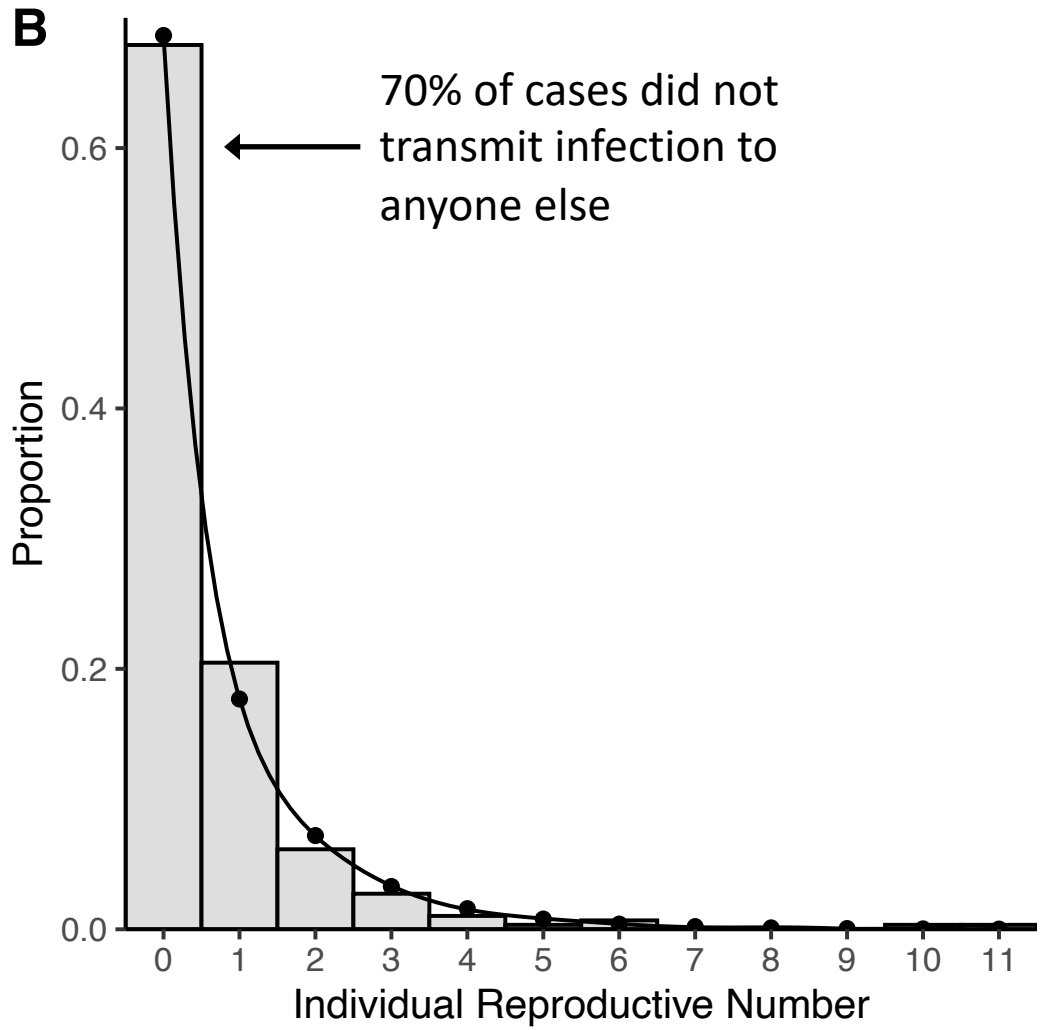


Clustering of COVID-19 infections



https://www.researchsquare.com/article/rs-29548/v1

20% of cases responsible for 80% of transmission events



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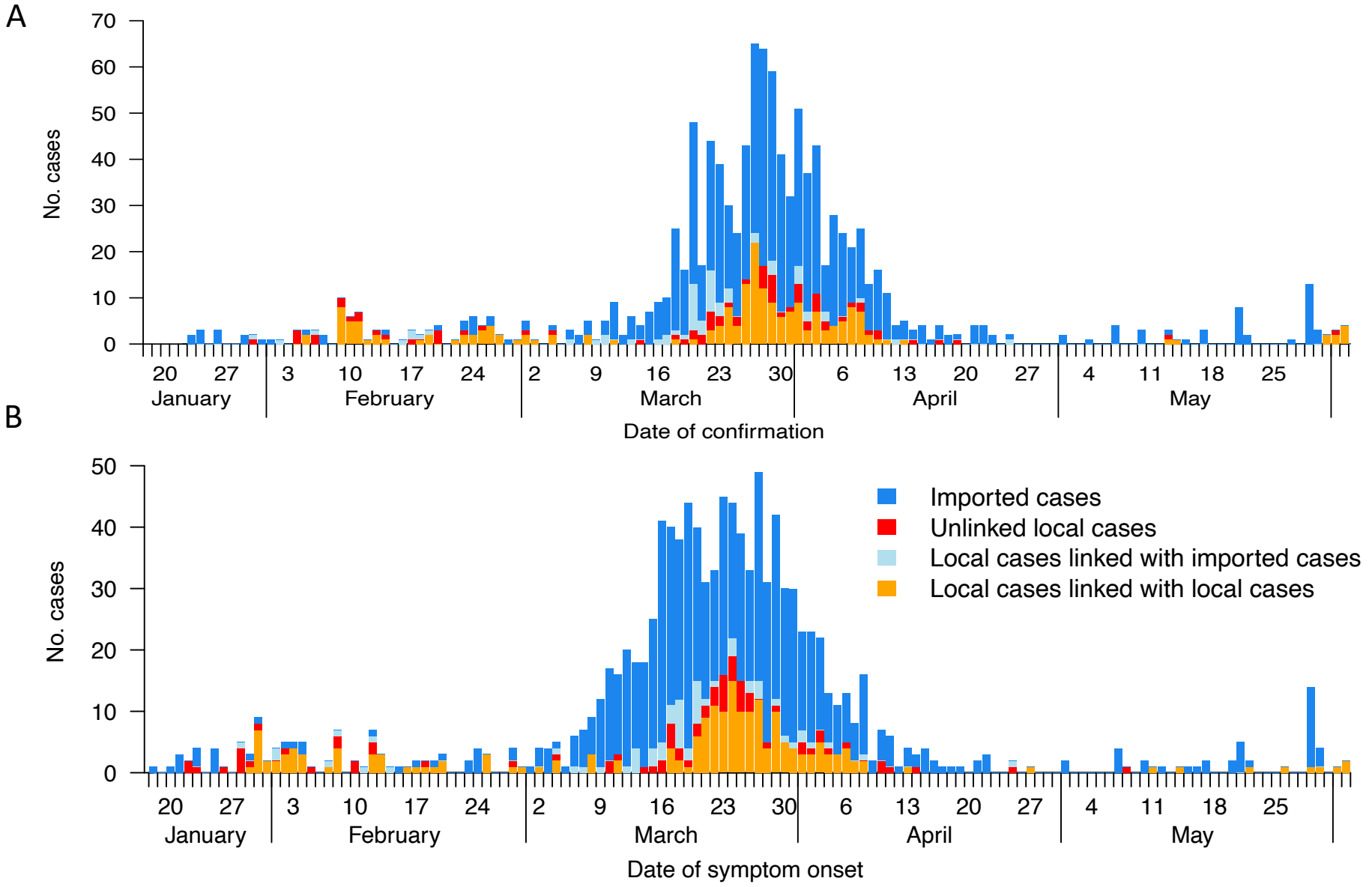
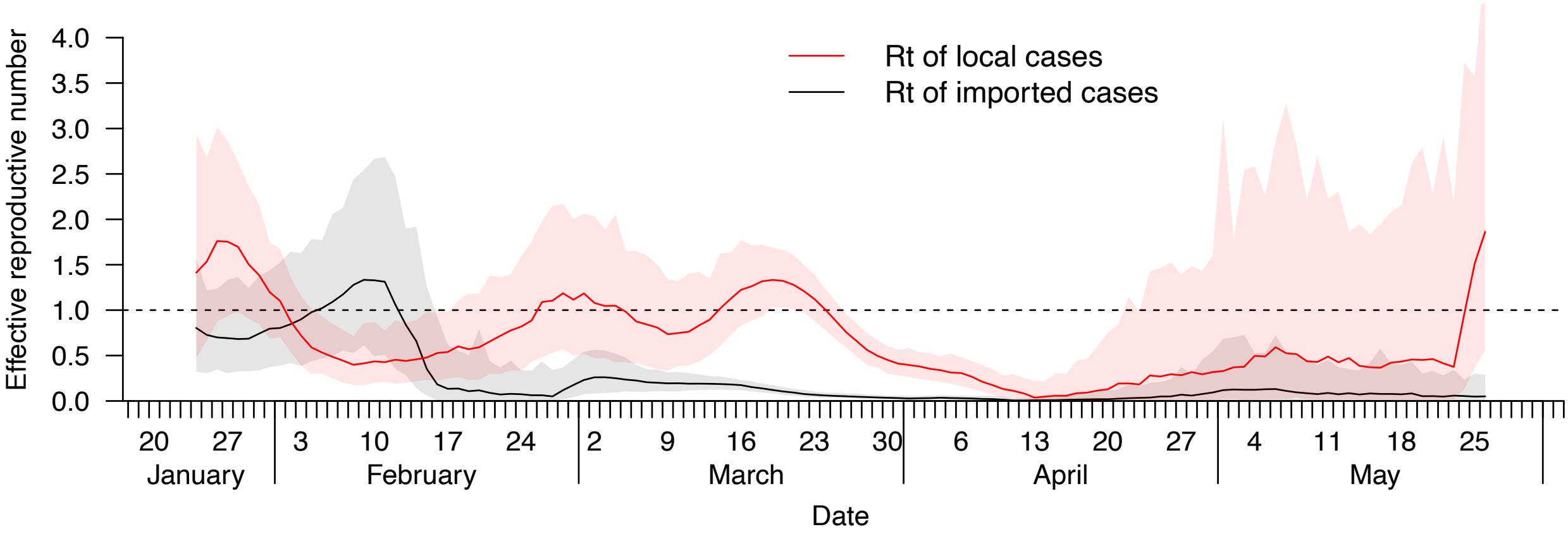
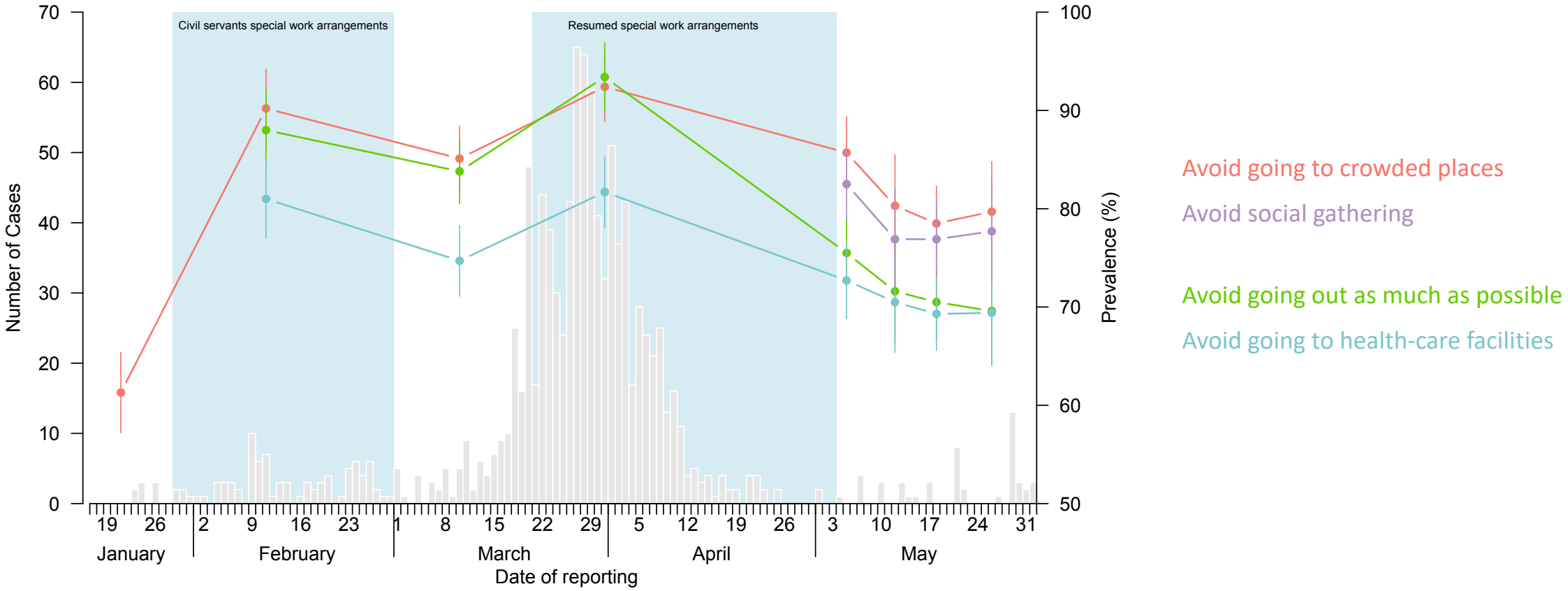
Current situation



Effective R_t in Hong Kong today



Findings from telephone surveys on preventive measures taken at individual level

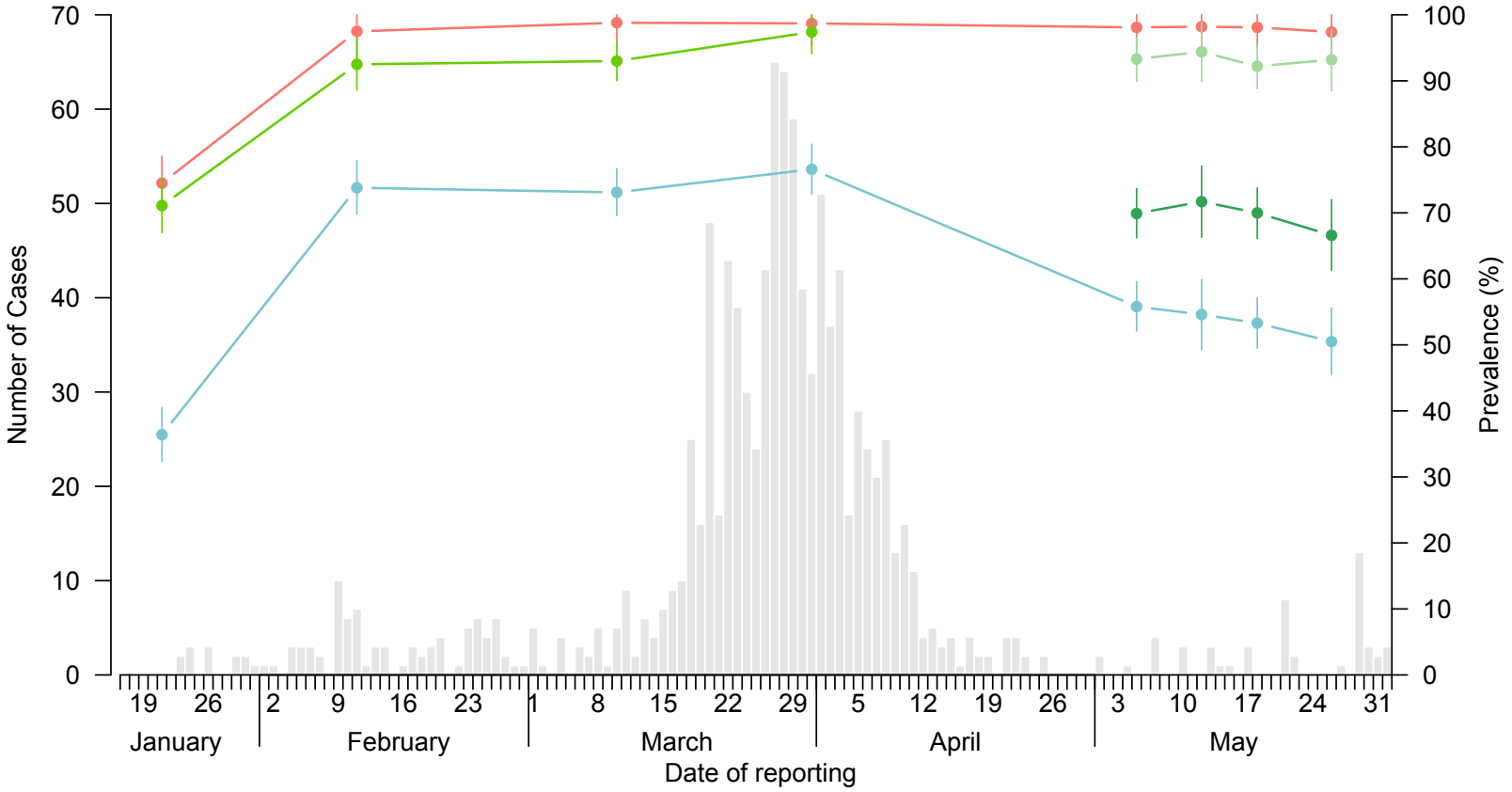


Physical distancing behaviours against COVID-19 overlaid on COVID-19 epidemic by date of reporting

Abbreviation: CI = confidence interval

Telephone surveys were conducted among Hong Kong adults aged 18 years or above. Participants were recruited using random-digit dialling of both landline and mobile telephone numbers. Proportions were weighted by age, sex and socioeconomic status distributions to the adult population in Hong Kong.

Findings from telephone surveys on preventive measures taken at individual level



Wear face masks when going out

Wash or sanitise hands more often

Wash hands immediately after going outside

Wash or sanitise hands immediately after touching common objects

Avoid touching or use protective measures with common objects

Personal hygiene practices against COVID-19 overlaid on COVID-19 epidemic curve by date of reporting

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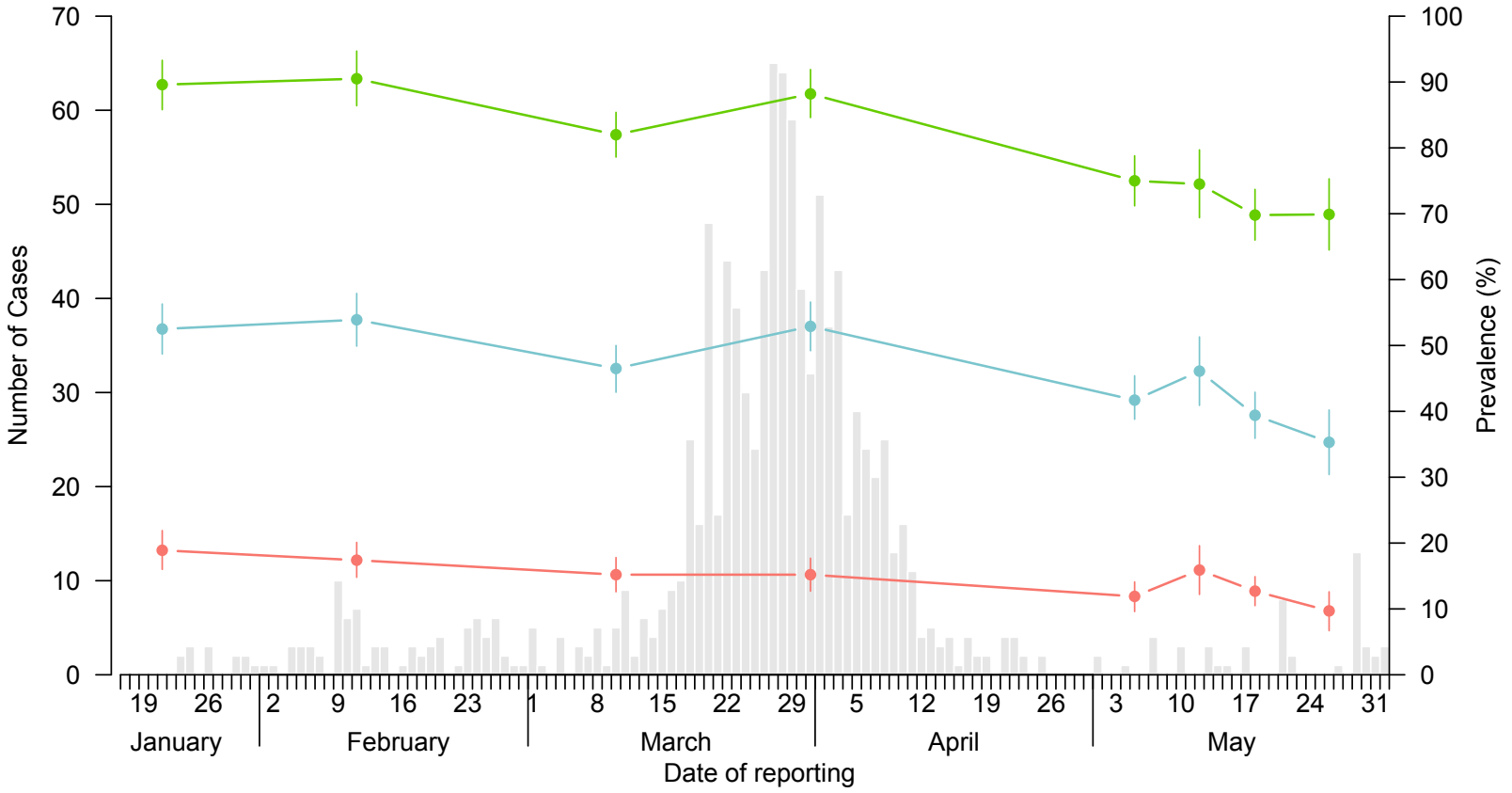
Findings from telephone surveys on risk perception towards COVID-19



Higher perceived severity of COVID-19

Higher worry about being infected with COVID-19 in the next month

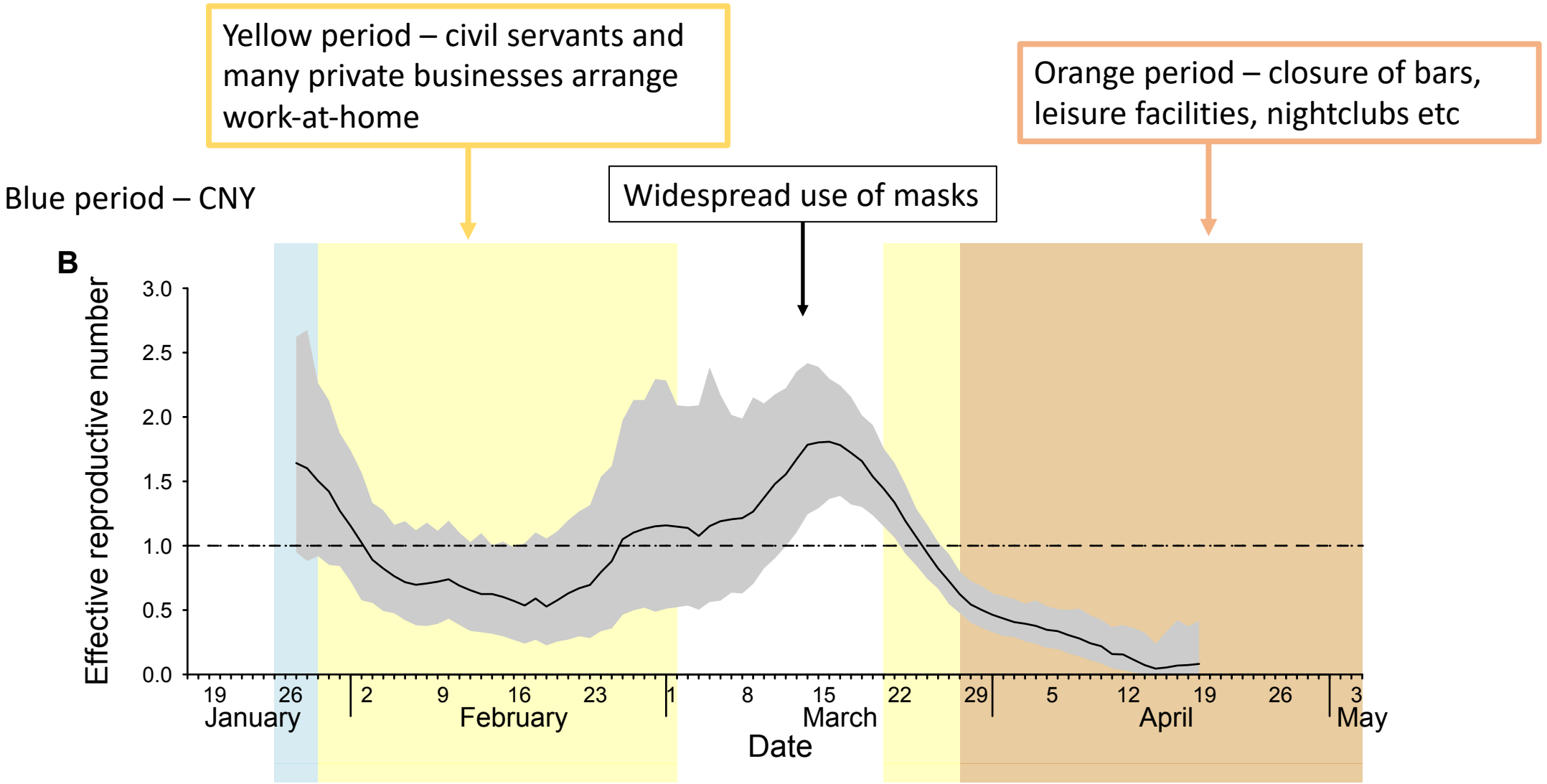
Higher perceived susceptibility to COVID-19 in the next month

Risk perception towards COVID-19 overlaid on COVID-19 epidemic curve by date of reporting

Abbreviation: CI = confidence interval

Telephone surveys were conducted among Hong Kong adults aged 18 years or above. Participants were recruited using random-digit dialling of both landline and mobile telephone numbers. Proportions were weighted by age, sex and socioeconomic status distributions to the adult population in Hong Kong.

Masks are necessary but insufficient



Next steps

1. Risk that a second wave will develop
2. Masks help but are insufficient to stop transmission
3. Need to improve testing in primary care
4. Need to scale up contact tracing capacity
5. Need to co-ordinate of the 3 sets of outbreak control measures:
   - Travel/border measures
   - Test and isolate cases, trace and quarantine contacts
   - Physical distancing and general preventive measures in the community
6. Advance procurement of vaccines

Appendix

Reproductive number

- Basic reproduction number (R_0): The average number of secondary cases per one case in a population where all individuals are susceptible to infection
  - Inherent to pathogen but can vary by location because of population density and contact patterns
- Effective reproductive number at time t (R_t): The average number of secondary cases per one case in a population over time
  - Will vary over time and indicates real-time transmissibility
- Reasons for R_t to change – (1) immunity after infection; (2) reduction in transmission because of effective control measures and behavioral changes

HKU COVID-19 dashboard

- Our estimates of the effective reproductive number shown at https://covid19.sph.hku.hk

- We estimate R_t with a 7-day lag. We cannot estimate how much transmission is occurring today because we only have information on infections that occurred in the past.

- We pause R_t estimation when there were no local cases, resume when local cases occur