

SARS-CoV-2: public health measures for managing the transition to endemicity

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SARS-CoV-2 is transitioning to endemicity. This will be typified by the continuing presence of the virus and a stabilisation of infections resulting from a build-up of immunity in the population. Seasonal outbreaks are likely to be fuelled by pockets of susceptible individuals, waning population immunity and viral mutation.^{1–3} In contrast, a pandemic state is characterised by the rapid spread of the virus in a completely susceptible population.⁴ Transition in the UK is evidenced by the fact that despite very high case prevalence with 12 million cases in January, death and hospitalisation rates from SARS-CoV-2 are not following the same trend as in previous waves.^{5,6} Patient numbers in the intensive care unit are not significantly higher than those normally present with pneumonia⁷ and, the Omicron variant appears to result in milder symptoms than previous variants, more akin to the common cold,^{8,9} and reinfections are increasing.

It is critical, therefore, to consider what the ‘new equilibrium’ between humans and the virus might look like,³ and which public health measures are needed. In this, we can be guided by well-established principles of public health.

The appropriate control of infectious diseases depends on the seriousness of the disease and the means and ease of transmission.^{10,11} It is thought that endemic SARS-CoV-2 will probably become like other endemic human coronaviruses, whereby 60%–70% population seroprevalence reflects a spectrum of immunity, dynamically maintained by intermittent reinfection, as is occurring now, thereby protecting the vulnerable from severe infection¹ and displacing more virulent variants.

While exceptional departures from normal health policy¹² may have been justified early in the pandemic to save people from imminent threat regardless of the cost, they are no longer appropriate.

Here we outline the need to return to classic measures of public health needed in endemicity.

What’s needed in endemicity

- (1) Systems for public health surveillance and infectious disease notification rely on the continuous, systematic collection, analysis and interpretation of health-related data. Data serve as an early warning system for impending outbreaks; enable monitoring and evaluation of the impact of an intervention, help track progress towards specified goals; clarify the epidemiology of health problems, and guide priority-setting and planning and evaluation public health policy and strategies.¹³ For example, the general practitioner syndromic surveillance system is an important early warning system and could be expanded.¹⁴ The ONS infection survey used for research and epidemiological monitoring should continue and be expanded and extended to other respiratory viruses.
- (2) COVID was made a notifiable disease in March 2020, but as the infection fatality rate falls it should be removed from the list of notifiable diseases. Instead there should be continuing monitoring through the respiratory and flu disease surveillance and reporting systems used by local general practices, NHS laboratories and hospitals.¹⁵ The disease notification system should be revised and reviewed to ensure it is responsive for any future epidemics.
- (3) Contact tracing, quarantine and self-isolation are traditional public health measures for dealing with outbreaks. Local outbreak teams in local authorities are best placed to assess the risks of

infections. It is essential that public health in local authorities, health protection teams and laboratories are well coordinated and resourced. The government should decentralise health protection teams into local authorities under public health from their current location in UKHSA following the abolition of PHE. The focus should now be carefully targeted at controlling outbreaks and protecting vulnerable groups such as those living in care homes, hospital workers and households of immunosuppressed people.¹⁶

- (4) Symptomatic testing should be reintegrated into clinical care as part of a clinical diagnosis where deemed necessary and used judiciously as part of outbreak control.¹⁷ Where tests are used it is essential that they are evaluated and strict standards in place with respect to for example gene targets and laboratory cycle thresholds.¹⁸ Contact tracing and isolation of contacts should be stopped because reinfections are now common and the hospital admissions and case fatalities are low, as Switzerland has done.¹⁹
- (5) Asymptomatic testing is screening. The UK national screening committee should be consulted regarding any proposals and should be grounded in evidence, following Wilson and Junger's principles of screening.^{20,21} These principles are important because no test is perfect and all tests do harm. Of particular relevance to the pandemic are three of these principles; that tests should be suitable and acceptable for their application; that there should be an agreed policy on whom to treat; and that the cost of case finding should be economically balanced in relation to possible expenditure on medical care as a whole. However, current lateral flow devices (LFDs) were developed for use in symptomatic people, as an aid to clinical diagnosis rather than being deployed for mass use on asymptomatic people. Screening asymptomatic people in areas of high prevalence increases the risks of false negatives and false reassurance while screening in areas of low prevalence increases the risks of false positives and unnecessary isolation of cases and contacts. To date, the government has spent more than £6bn on LFDs,²² 300 million of them distributed in December 2021 alone.²³ The cost-effectiveness of any future mass testing and contact tracing interventions should be evaluated.
- (6) The focus of any future vaccine programmes should be on boosters for vulnerable elderly or immunocompromised individuals providing that vaccines provide protection against newer variants.²⁴ Any booster programme should be carefully evaluated prior to implementation and

subject to phase-4 clinical trials, with all clinical study reports and trial data released into the public domain.²⁵ The case for vaccination of children and young people for COVID should be urgently reviewed given the lack of evidence of benefit, evidence of harms such as myocarditis and potential for unknown harms, the EU regulator has recently warned of the potential risks of repeat boosters to the immune system.²⁶

- (7) Health and social care capacity should be rebuilt. The pandemic exposed the inherent weaknesses in the UK's health service and public health capacity with beds and staffing rates among the lowest in Europe.²⁷ Lack of capacity in the NHS was a key factor underpinning decisions to implement lockdowns. Staff shortages have also contributed to poor outcomes from COVID-19 in nursing homes.²⁸ On average, 30% of total national COVID-19 deaths occurred in nursing homes in a study of 25 countries.¹⁶ Public money currently being invested in private hospitals²⁹ should be used to rebuild capacity and staffing levels, which are a measure of quality of care and predictor of outcomes.^{30,31} The terms of reference for the forthcoming UK public enquiry must address the structural and systemic issues relating to the communicable disease control systems in the UK and in particular how the structural changes in England which were enacted by the Health and Social Care Act 2012 may have affected the effectiveness of the response to the pandemic³².
- (8) Therapeutic drugs to treat severe COVID-19 or protect those particularly at risk of adverse outcomes are already being rolled out and must be evaluated.³³ All population-based non-pharmaceutical interventions, including masks, should be evaluated through trials prior to implementation to minimise waste and unintended harm. Public health campaigns in respect of hygiene, handwashing and sanitation, and symptoms should resume.
- (9) Severe disease, hospitalisation and death from COVID-19 are significantly associated with age, socioeconomic deprivation, obesity, ethnic group and with co-morbidities whether vaccinated or unvaccinated.³⁴ It is important to note that the risk of death from causes other than COVID-19 is higher in unvaccinated groups and so the factors affecting this need to be understood.³⁵ These social determinants of health should continue to be the focus of public health.

Much is still to be learned about SARS-CoV-2 and there are many unknowns including the factors that

influence transmission, viral load and infectiousness. As restrictions are rolled back, it is vital to learn to apply the lessons from this pandemic for the future, particularly regarding the rushed roll-out of tests, mass testing, masks and other non-pharmaceutical interventions.³⁷

Conclusion

The biological inevitability of endemicity of SARS-CoV-2 is now accepted. If emergency legislation enacted at the start of the pandemic is to be continued, it must demonstrate that it meets the requirements of legality, necessity, proportionality and non-discrimination.^{38,39} Now is the time for a very different way of thinking about public health and to ensure that policy decisions are based on sound evidence with a renewed focus on the social determinants of health and rebuilding the system, services and capacity for communicable disease control and health and social services capacity.

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