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The Independent Scientific Advisory Group for Emergencies (SAGE)

The Independent SAGE Report 23

Response to Announcement of Successful COVID-19 Vaccine Trial

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Submitted to The UK Government and the People of Great Britain
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Response to Announcement of Successful COVID-19 Vaccine Trial

The announcement by Pfizer and BioNTech of results from the third phase of their vaccine trial has been greeted with enthusiasm around the world. It is particularly welcome for the populations of countries whose governments have failed so spectacularly in protecting them from the burden of disease generated by COVID-19. It also demonstrates that the immune responses elicited by many other vaccines in human trials may lead to protection, a view supported by the early results from the Sputnik 5 vaccine in [Russia](#). We can expect preliminary results from other trials over the next few weeks.

The availability of an effective vaccine will make a major contribution to limiting the morbidity and mortality associated with the virus. However, press releases from vaccine manufacturers are inadequate for announcing such important news in the midst of a pandemic and there remain several important hoops to be gone through. First, the vaccine must fulfil the criteria that are designed to ensure that only vaccines that are safe and effective can be approved for use. Given the expedited timetable that has been followed, successfully, in creating this first vaccine, and the limited period of follow up, it is important to safeguard public confidence by avoiding any suggestion that there could be a weakening in the safety requirements that must be met before the vaccine can be brought into widespread use. Press release data suggest the vaccine is safe, but full transparency will be essential to ensure that there is an understanding amongst populations worldwide that vaccination is a safe and effective intervention to prevent harm from COVID-19. We urge that the trial data informing the decision of the Data Safety Monitoring Board to recommend announcement of results, are made available as soon as possible.

There are significant logistical difficulties surrounding the implementation of a successful vaccination programme for the population of the UK. This will be a unique event, as no other mass vaccination has been attempted before across such a large proportion of the UK population in such a short timescale. Some of the difficulty is created by the necessity to maintain the effectiveness of the Pfizer/BioNTech vaccine by transporting and storing it at extremely low temperatures until a few days prior to its use. These issues of transportation and storage of the vaccine will need careful consideration, as will training of those implementing the vaccination programme. It is important that the distribution of the vaccine is carried out by an organisation in which the public has confidence, given problems experienced by some large distribution companies in recent years. Once vaccines become available, careful attention will be needed to ensure that they reach those identified as priorities for early vaccination.

Prioritisation

In September, the Joint Committee on Vaccination and Immunisation (JCVI) produced interim priority guidance on how administration of the vaccine should be targeted in the early phases of its availability. Given that age is a dominant risk factor for the development of serious COVID-19 disease it is entirely appropriate that the vaccine should be made

available initially for the vaccination of people in older age groups, particularly those in residential care settings, their health and social care workers and to NHS frontline staff. This is supported by [research](#) modelling the effects of different approaches to population vaccination against COVID-19.

Beyond these groups, it will be important to know the extent to which the vaccine is effective in not only preventing symptomatic illness following infection but also in preventing onward transmission of the virus from infected individuals. Until this is known, the vaccine cannot be assumed to be effective as a primary means of preventing transmission of the virus, nor of promoting herd immunity, so its use should be aimed primarily at protecting those who are most vulnerable to the effects of the disease.

Local communities with high levels of ongoing transmission

In planning the rollout of the vaccination campaign some communities should be given priority. We know that areas that have a high deprivation index, overcrowded housing, and a high proportion of black and ethnic minority residents often have the highest level of circulating virus. In decisions being made about the use of the vaccine in local areas consideration should be given to commencing immunisation programmes in communities where the incidence of infection with the COVID-19 virus and vulnerability to disease is highest.

Messaging

Communication with the public about the vaccination programme is of the utmost importance. As with other aspects of COVID-19, it is vital that information provided is clear, consistent and informed by the now considerable body of evidence on vaccine-related messaging, taking particular account of the risk of “backfire” (i.e. having the opposite effect to the one intended) and the already widespread circulation of disinformation. Key predictors in encouraging vaccine uptake are decreasing complacency, ensuring credible sources of information and increasing trust and confidence in efficacy and safety, and convenience of access. Resources should be made available in advance to local authorities and their public health teams so that they can commence preparation of on-the-ground messaging from public health and clinical leaders as well as trusted community leaders, in multiple languages, so as to achieve a high uptake of the vaccine and also to combat misinformation should it appear.

Efficacy

Whilst the Phase 3 trial data are very encouraging, the effectiveness of the vaccine in the population may not reach the high level of protection achieved in the trial. In any event, it will be important that those who are particularly vulnerable (and their carers and families) understand that vaccination will not be 100% effective and that as long as the virus is circulating in communities it will be sensible to maintain a level of caution.

Safety

Those involved with the delivery of vaccination programmes to members of the public should be well versed in the requirements and processes involved in reporting adverse events following vaccination. There is need for an enhanced post licence surveillance scheme in light of the speed of implementation. Patient education material about vaccination should contain vaccine safety information and information on the contents of the vaccine.

Conclusion

Independent SAGE shares the enthusiasm with which the vaccine announcement has been greeted across the world. Taking maximum advantage of what the vaccine has to offer will be a difficult task and require considerable organisational and practical public health skills and expertise in human behaviour. We would argue strongly that the vaccine should be offered and delivered within the public sector to ensure not only efficiency and equity but also to build confidence amongst the public that the vaccine programme is in their interests.

We must be careful not to ease up on our efforts to control the transmission of the virus across the UK just because the deployment of an effective vaccine is in sight. Rather we should continue to seek improvements in the whole process of Find, Test, Trace, Isolate and Support. Similarly, social distancing and hand and surface hygiene remain priorities and we continue to urge the government to reinstate the two-metre social distancing rule. The more that COVID-19 is under control the easier it will be to organise and implement a successful and effective vaccination campaign.

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Following the science