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Caution advised when considering “Exceptional” extended or single dose COVID-19 vaccination strategies



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“Desperate times call for desperate measures”—Hippocrates

We read with interest the recently published editorial in *The Lancet Infectious Diseases* endorsing the current UK policy, proposed by UK chief medical officers [1], for extending the Pfizer-BioNTech recommended COVID-19 vaccination dosing interval from 3 to 4 weeks to a 12 week period in order to prioritize single dose mass vaccination of the public due to constraints on vaccine supply [2]. In the current situation, with more than 3800 and 1280 daily COVID-19 related deaths in the United States and UK on the day this editorial was published, the impact of cold weather in the northern hemisphere on spread of respiratory viruses, health care systems overloaded, and the emergence and spread of SARS-CoV-2 variants, exceptional vaccination policies individualized to particular countries may be warranted. However, we would like to caution the medical community before rushing to conclusions and endorsing the current UK policy to extend the recommended vaccination dosing interval, even as an expedient, short-term decision. A significant portion of this argument centers on the Joint Committee on Vaccination and Immunization (JCVI)’s estimation of single-dose protection rate of 90%. It is important to understand that this efficacy rate was calculated based on a shorter interval (15–28 days since vaccination) than the efficacy rate reported in the Pfizer-BioNTech data of 52.4% [3,4]. The recalculation is not entirely valid, as it introduces an element of selection bias and misappropriates the trial data, as a one-dose regimen was not intended to be studied. It also does not allow for any understanding of the durability of single-dose immunity. While the length of provided protection with one or two doses of vaccines remains a matter of speculation, the second booster dose of vaccine has been demonstrated to induce higher antibody production [5]. As such, the two-dose regimen has a higher chance to induce longer lasting immunity. Extending the vaccination dosing interval may decrease the two-dose vaccination efficacy of 95% [4] and durability of immunity. In addition, the risk of behavior change (use of personal protection equipment PPE and social distancing) in single-dose vaccinated individuals, leading to increased infections and subsequent loss of public confidence in the vaccination program, should not be overlooked. While some countries and policy makers may decide to accept the untested single-dose regimen at the risk of suboptimal immunity, we strongly

recommend administration of the recommended two doses of vaccine with a 3–4 week interval to the public, or at least to the health-care providers and high-risk individuals, until further evidence is produced to demonstrate adequate immunity from single-dose protocols.

Declaration of competing interest

None.

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