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Letter to the Editor

## Vaccine hesitancy terminology: A response to Bedford et al.

Dear Editor,

As former members of the SAGE WHO Working Group on vaccine hesitancy, we read the paper by Bedford et al. [1] with great interest. We agree wholeheartedly that defining vaccine hesitancy and its scope is of critical importance especially for those who are charged with addressing low vaccine acceptance rates such as immunization program managers. Having a common theoretical understanding of vaccine hesitancy can help them be more thoughtful in recognizing, measuring and addressing hesitancy.

"Vaccine hesitancy" is a relatively new concept in vaccination discourse that challenges previously held perspectives that individual vaccination attitudes and behaviours are a simple dichotomy of accept or reject. It represents a shift from the traditional focus on the "access/supply-side" of vaccination to include "demand-side" factors. The recognition that there are enabling environmental and opportunity factors as well as individual, subgroup and community attitudes and behaviours toward recommended vaccinations that impact on vaccine uptake rates were core in the creation of the Working Group on vaccine hesitancy [2].

The Working Group wrestled throughout its first year of existence on a definition. It needed to be easy to understand and practical for immunization managers and to embed the assumption that vaccine(s) are available and affordable (to distinguish this from supply-side problems). Finally, the definition needed to highlight that equivocation on the decision on whether to accept vaccine(s) is the core issue, with many factors impinging on this *complex* decision. Indeed, the WHO definition recognizes that "vaccine hesitancy is complex and context specific, varying across time, place and vaccines. It is influenced by factors such as complacency, convenience and confidence." [2].

Bedford and colleagues argue that the concept of vaccine hesitancy is a psychological state and should apply only to "those parents whose deliberations demonstrate something akin to indecision" [1]. In suggesting this, they present a 'literal' critique of use of the word 'hesitancy' but not one of the definition itself. In contrast, the WHO definition recognizes vaccine hesitancy to be vaccination behaviour *per se* ("delay in acceptance or refusal of vaccines despite availability of vaccine services"). While the WHO definition refers to behaviour, it also acknowledges that factors such as beliefs, perceptions, environment, culture, opportunity, attitudes and knowledge can lead to vaccine hesitancy [2]. The explicit recognition that attitudes and beliefs play an important role in influencing behaviour suggests aspects that can be addressed by public health interventions at the program level.

Bedford and colleagues also argue that adding "convenience" as a factor influencing vaccine hesitancy is problematic [1]. In refining the definition of vaccine hesitancy, the Working Group assessed a number of conceptual models for understanding and grouping of vaccine hesitancy determinants. The models were assessed for potential usefulness in informing the development of vaccine hesitancy indicators, survey questions and interventions for use at the global and country levels. Review of the different models reenforced that vaccine hesitancy is complex and is not driven by a simple set of individual factors. Two models were determined to best meet the criteria set out by the Working Group. The Complacency, Convenience and Confidence ("3Cs") model was intuitive and easiest to grasp. It was already used by immunization managers and adapted to vaccine hesitancy. A complementary Working Group Matrix that captures the complexity of vaccine hesitancy was also developed [2]. This Matrix has three categories of determinants: *contextual*, *individual and group* and *vaccine /vaccination-specific influences*. Of note, the Vaccine Hesitancy Matrix very much emphasizes social determinants of vaccination (under contextual influence). The review of the 2014 WHO/UNICEF immunization Joint Reporting Form data showed that countries do understand SAGE Working Group vaccine hesitancy definition and concept [3].

Bedford and colleagues consider that "hesitancy is used inaccurately as the explanation for under-vaccination in a population when causes are related to pragmatics, competing priorities, access, or the failure of services and policies" [1]. We cannot agree more. In its recommendation, the working group emphasized that although vaccine hesitancy may be present in situations where vaccine uptake is low because of lack of access to vaccination services, hesitancy is not the main driver of under-vaccination in these settings and the priority is to address the system failure that limits vaccine access and availability.

Bedford et al. rightly point to the need for developing and evaluating tailored interventions to address vaccine hesitancy, a point we heartily endorse. Defining the scope of vaccine hesitancy and differentiating hesitancy from other reasons children/adults are not vaccinated is of critical importance in developing tailored interventions.

We have a collective responsibility, as researchers, program implementers and decision-makers, to address the clear and pressing call by countries/Member States to translate research and knowledge to practice, and to address the barriers to vaccine uptake, including hesitancy, that allow vaccine-preventable diseases to persist. We posit that the urgency now is not in further deliberation on the definition, but on taking-up the practical application of what is known about vaccine hesitancy, testing and adapting different approaches, and dismissing those that do not affect vaccine uptake or acceptance.

### Conflict of interest

None of the authors had any potential conflict of interest. One of the authors is World Health Organization staff members. The

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opinions expressed in this article are those of the authors and do not necessarily represent the decisions, official policy or opinions of the World Health Organization.

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