

Progress towards standardized measurement of the behavioural and social drivers of vaccination

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Background

Immunization Agenda 2030¹ prioritizes vaccination demand as a key strategy, based on people-centered, country-owned, partnership-based, and data-guided principles. The WHO/UNICEF Behavioral and social drivers² (BeSD) tools support an understanding of barriers to COVID-19 and early childhood immunization. Tools include validated surveys, interview guides and a guidance in their application. In 2021, the WHO Strategic Advisory Group of Experts on immunization made recommendations on routine collection and use of BeSD data to guide programme planning and evaluation³.

Objectives

Our study had three objectives. Firstly, to assess the progress of using behavioral surveys for childhood and COVID-19 vaccination by reviewing available data from December 2020 to February 2023. Secondly, to demonstrate the challenges and benefits of gathering and using comparable measures and indicators to understand the BeSD of vaccination at national, regional, and global levels through cross-country analysis. Lastly, to specifically promote the use of the globally validated BeSD tools as a common approach to guide strategic and targeted planning at all levels.

Methods

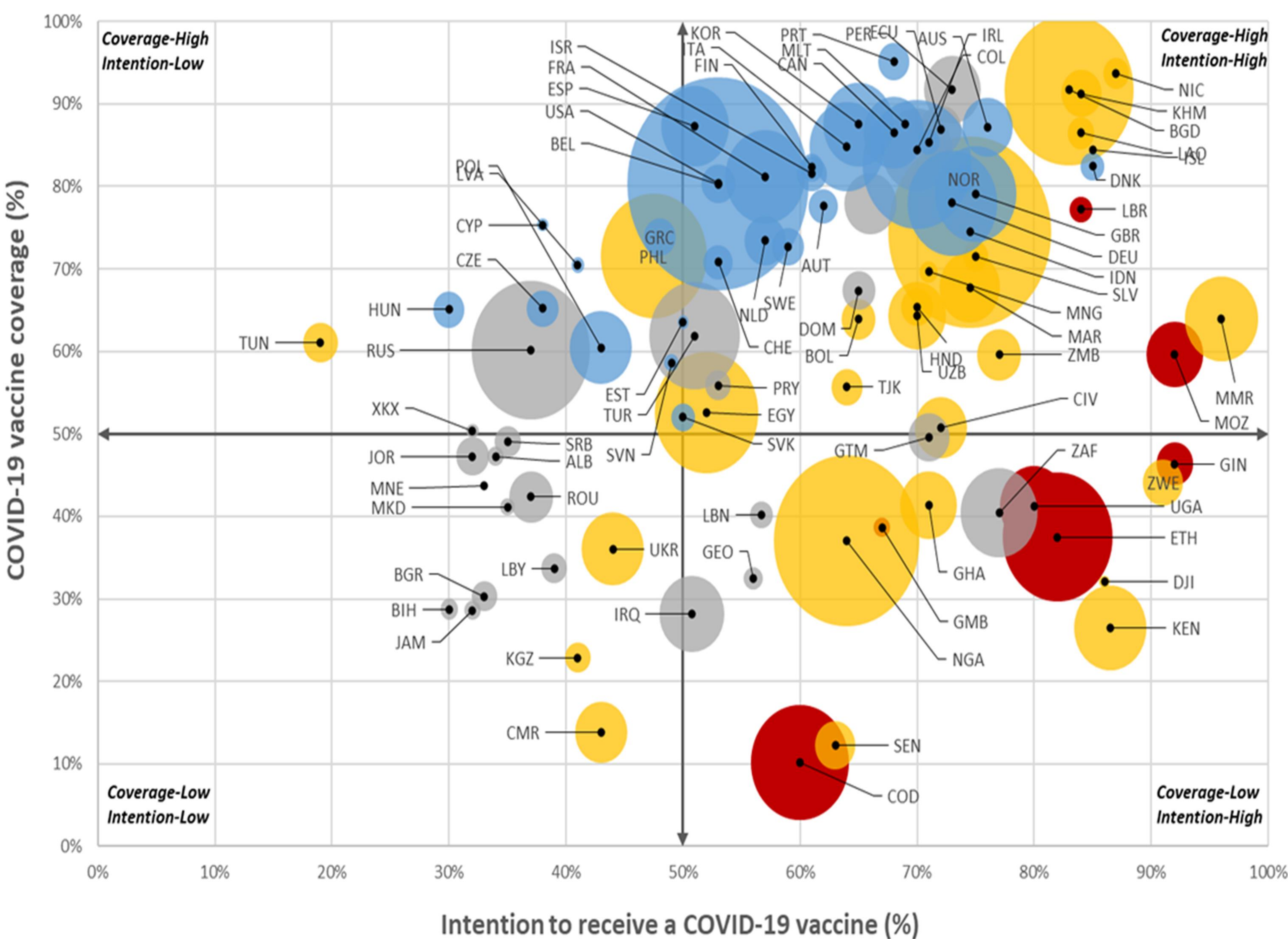
We reviewed studies assessing demand-related reasons for vaccination and collected behavioral data from various sources, including the WHO/UNICEF Joint Reporting Form (JRF) in 2021 and 2022 submissions, published sources and dashboards, and regional technical working group data banks. Our analysis included data from national BeSD surveys and other tools with comparable measures. To demonstrate the value of comparable measures and indicators, we conducted a global analysis of the relationship between COVID-19 vaccination coverage and the most measured construct, intention to get vaccinated, using the abundance of data on drivers of COVID-19 vaccination in the period December 2020 to February 2023.

Figures

Figure 1: Relationship between intention and COVID-19 vaccine coverage as of February 2023

A sample of 91 countries across the 6 WHO regions are aggregated by income group and displayed as bubbles which size increases with the total population in 2022.

● Low Income ● Lower middle income ● Upper middle income ● High Income



Conclusions

The BeSD tools were developed to measure a broad range of drivers of vaccination from the caregiver/adult vaccine recipient's perspective. The surveys had already been used in at least 59 countries by 2023 with an increase in use expected as countries are encouraged to use behavioural data. The ongoing JRF updates will facilitate the collection of raw BeSD data from 2022 onwards for global monitoring. A preliminary analysis of available data on COVID-19 vaccination intentions highlights the limitation of relying solely on a single indicator without accounting other dimensions such as thinking and feeling, social norms, or practical issues. A comprehensive and standardized approach to understanding the BeSD of vaccination is crucial for implementing and evaluating effective strategies in programmes. Countries should prioritize collecting data on BeSD to enable this. This study focused on COVID-19 vaccination. As pandemic recovery continues in the context of "The Big Catch-up"⁷, it is important to understand the drivers of childhood vaccination.

Results

Review of JRF data:

- 37% (77/205) of WHO respondent countries assessed reasons for under-vaccination in 2021 and 2022.
- 83% (64/77) of these included behavioural measures of vaccination, 51 in 2021 and 13 in 2022.

BeSD globally validated tools:

- By March 2023, at least 30% (59/194) of WHO member states have used globally validated BeSD tools, mainly from the African, Eastern Mediterranean, Pan American and Western Pacific Regions.

Demand for COVID-19 vaccination:

- Over 150 global and national studies on COVID-19 vaccination from December 2020 to February 2023.
- Among the 41 national surveys on COVID-19 vaccination demand that collected items comparable to BeSD questions, only 17% (7/41) were deemed to have high quality in terms of method and representativeness. The majority (83%, or 34/41) of the surveys were classified as having moderate or severe bias, indicating a significant variability in survey methods and potential limitations in the robustness of the results.
- The most commonly measured construct across national surveys on COVID-19 vaccination was "intention to accept a COVID-19 vaccine", however, it did not always correlate with actual uptake at the national level, as shown in Figure 1.
- The majority (75%) of the 41 studies collected cross-sectional behavioral data, while 24% (10/41) used a longitudinal approach with at least two survey rounds.
- Multi-round studies mostly rely on web-based collection channels and convenience sampling, which are less likely to represent the entire population.
- Thinking and feeling, social norms and practical barriers (affordability, ease of access) are less frequently measured constructs.

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