

Review of: "The Changing Trajectory of Covid-19 and How Immunity is Evolving with It"

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Potential competing interests: No potential competing interests to declare.

The review discusses the emergence of SARS-CoV-2 variants, their ability to evade immunity from vaccination or previous infections, and the evolving landscape of the Covid-19 pandemic. It also explores the evolving host immunity with SARS-CoV-2 and the challenges associated with vaccine effectiveness and long-term protection.

The main strengths are

-Comprehensive coverage: The text provides a detailed overview of the emergence of SARS-CoV-2 variants, including their specific sub-lineages and mutations. It also discusses the impact of these variants on immunity and the evolving nature of the pandemic.

-Incorporation of research findings: The text references several studies and research findings to support its statements and provide a scientific basis for the information presented.

-Emphasis on monitoring and continued research: The text highlights the importance of monitoring variants, immune evasion, and vaccination efforts to effectively respond to the pandemic.

While there are good elements, as indicated, there are some shortcomings which can be improved upon revision.

There is limited discussion of the current pandemic context. While the text mentions the importance of monitoring variants and ongoing research, it does not delve deeply into the broader context of the pandemic, such as the impact on public health systems, social and economic consequences, or mitigation strategies.

Aspects that need improvement, highlighting the importance in the current context of the pandemic:

-Clarity on implications and recommendations: The text could benefit from clearly articulating the implications of the emerging variants and their impact on public health measures. Additionally, providing specific recommendations for policymakers, healthcare professionals, and the general public would enhance its practical relevance.

-Inclusion of potential solutions: While the text acknowledges the challenges posed by variants and waning immunity, it does not discuss potential solutions or ongoing efforts to address these issues. Providing information on advancements in vaccine development, booster shots, or other strategies to combat the evolving variants would be valuable, and how the burden of these new panoply of variants will dilute out the effect of vaccines.

-Addressing vaccine hesitancy and vaccine equity: Given the importance of vaccination in mitigating the impact of variants and achieving population immunity, the text could address vaccine hesitancy and the need for equitable

distribution of vaccines. Providing information on vaccine safety, effectiveness, and the importance of vaccination in the current pandemic context would be beneficial.

In the current context of the pandemic, it is crucial to provide accurate and accessible information that addresses public concerns, highlights the importance of vaccination and ongoing monitoring, and offers potential solutions to combat the evolving variants. By addressing the shortcomings and incorporating the suggested improvements, the text can better serve its purpose in informing and guiding readers during the pandemic.

Overall, the review is well written and authors can improve this by revising the manuscript as per my suggestions.