General overview of the current measles work around SIAs from multiple groups

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I have no conflicts of interest to declare.

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Process

- Measles SIA working group established by VIMC, led by LSHTM measles modelling team.
- Initial focus on setting targets for the transition from SIA+RI to RI only.
- Brought together researchers and policy advisors involved in developing or using measles models (both internal and external of VIMC).
- First meeting: 3 May 2023, with subsequent discussion over email.
- Feedback was that scope needed to be expanded beyond the SIA transition, partly due to setbacks during the pandemic.
- Researchers and modellers shared current activities/priorities and we matched them to each other.

Measles SIA working group

Organisers: Kaja Abbas, Han Fu, Mark Jit (LSHTM)

VIMC secretariat: Katy Gaythorpe[§], Caroline Trotter, Kim Woodruff (Imperial)

Researchers/modellers: Matt Ferrari (Penn State University), Sebastian Funk (LSHTM), Niel Hens (Hasselt), Caroline Mburu (LSHTM/KEMRI), Kevin McCarthy (BMGF), Siuli Mukhopadhyay[§] (IIT Bombay), Rama Pal[§] (IIT Bombay), Surabhi Pandey (IIPH Delhi), Allison Portnoy (Boston University), Edson Utazi (University of Southampton), Emilia Vynnycky (UK HSA), Amy Winter (University of Georgia)

Policy advisors: Bilal Ahmed (UNICEF), Marguerite Cornu (Gavi), Natasha Crowcroft (WHO), Philipp Lambach (WHO), Todi Mengitsu (Gavi), Patrick O'Connor (WHO), Niket Thakkar (BMGF)

[§]Apologies for absence in the initial meeting on 3rd May, 2023

Matched priorities 1
Transition away from preventive SIAs

- What is the outbreak risk when pSIAs are discontinued? At what coverage rates of MCV1 and MCV2 can pSIAs be discontinued without risk of measles outbreaks?
- What is the potential role of school-entry vaccination check and vaccination in moving from RI plus pSIA to RI only and ensuring we continue not to need pSIA?
- What is the potential role of new technologies (e.g., microarray vaccination to improve coverage and ensure VE, IgM RDTs to trigger faster outbreak response, IgG RDTs to identify immunity gaps) in moving from RI plus pSIA to RI only and ensuring we continue not to need pSIA?
- What is the impact of COVID-19 pandemic disruptions to measles routine and campaign immunisation activities? How will the disruptions affect the transition from RI plus pSIA to RI-only strategies?

Matched priorities 2

Adapt current SIAs strategies at subnational, national, and regional levels

- Modelling health and economic impact of broadening the upper age limit of preventive SIAs beyond 5 years
- If, when, and how should countries transition from national SIA to targeted subnational SIA, or other tailored SIA approaches?
- What are the predominant reasons for children being missed by RI (hesitancy, awareness, community norms, facility access, facility readiness to deliver, …) in a given setting, and how can pSIAs or other immunization activities (school entry, PIRI, outreach…) be tailored to overcome these specific barriers?
- Where should countries focus their sub-national SIA activities to optimize control?
- How important is synchronization of campaigns either within countries or within regions?

Matched priorities 3

Develop SIA strategies for outbreak response

- Modelling on the timeliness of outbreak response (vaccinating in build-up to peak vs after peak) impact
- Modelling on outbreak response effectiveness and cost-effectiveness of vaccinating only outbreak-affected districts vs only neighbouring vs a mix

Matched priorities 4

Understand immunity gaps and SIA effectiveness

- Where/among whom do measles immunity gaps lie and what is the impact of closing these gaps on measles outbreak risk?
- What is the predictive value of seroprevalence studies / immunity and infection data for identifying immunity gaps?
- What is the effectiveness of SIAs?
- What are the effects of vaccine hesitancy on disrupting the effectiveness of vaccine campaigns and RI?

Matched priorities 5
Understand the implications of measles and rubella elimination

- What does rubella elimination tell us about measles elimination progress? What do measles and rubella seroprevalence distributions tell us about vaccination program performance?
- The coverage targets and campaign approaches are really designed to prevent measles outbreaks. How does rubella elimination change what we should be doing in terms of reaching children regardless of measles before they reach adulthood?
- Modelling at regional level to take account of the context of each region and the lessons learned from achieving elimination – or not. For example, the PAHO experience of achieving, losing and restoring elimination. What does it imply for other regions?

Unmatched priorities

Of interest to policy advisors only

- Global policy to address inequity by accelerating progress for innovations towards measles elimination might be a help, if that were in scope.
- Root Cause Analysis for identifying the system inadequacies that lead to poor performance of EPI, SIAs and ORI (Outbreak Response Immunization)
- Whether the policy on early MCV should be reconsidered (at 6 months)
- What is the outbreak risk in relation to immunity after vaccination based on serological data and outbreak data on breakthrough infection?

Unmatched priorities

Of interest to modellers only

- What are the cost and health impacts of “discontinuing pSIAs with accelerated RI coverage increase” compared to “keeping pSIAs with gradual increase in RI coverage”?
- Do measles high-risk areas overlap with those of other diseases? How can integrated service delivery help with transitioning from RI plus pSIAs to RI-only strategies in LMICs?