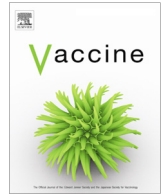




Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Conference report

The role of vaccines and vaccine decision-making to achieve the goals of the Grand Convergence in public health

David C. Kaslow^{a,*}, Jorge Kalil^b, David Bloom^c, Gianluca Bregghi^d, Anna Maria Colucci^d, Ennio De Gregorio^d, Guru Madhavan^e, Genevieve Meier^d, Richard Seabrook^f, Xiaoning Xu^g

^aPATH, Seattle, WA, USA^bInstituto Butantan, Brazil^cHarvard School of Public Health, Boston, MA, USA^dGSK, Siena, Italy^eNational Academy of Sciences, Washington, DC, USA^fWellcome Trust, London, England^gImperial College, London, England

ARTICLE INFO

Article history:

Available online 22 December 2016

Keywords:

Grand Convergence
Global Health
Vaccines
SMART vaccines
Workshop

ABSTRACT

On 17 and 18 July 2015, a meeting in Siena jointly sponsored by ADITEC and GlaxoSmithKline (GSK) was held to review the goals of the Global Health 2035 Grand Convergence, to discuss current vaccine evaluation methods, and to determine the feasibility of reaching consensus on an assessment framework for comprehensively and accurately capturing the full benefits of vaccines. Through lectures and workshops, participants reached a consensus that Multi-Criteria-Decision-Analysis is a method suited to systematically account for the many variables needed to evaluate the broad benefits of vaccination, which include not only health system savings, but also societal benefits, including benefits to the family and increased productivity. Participants also agreed on a set of “core values” to be used in future assessments of vaccines for development and introduction. These values include measures of vaccine efficacy and safety, incident cases prevented per year, the results of cost-benefit analyses, preventable mortality, and the severity of the target disease. Agreement on this set of core assessment parameters has the potential to increase alignment between manufacturers, public health agencies, non-governmental organizations (NGOs), and policy makers (see Global Health 2035 Mission Grand Convergence [1]).

The following sections capture the deliberations of a workshop (Working Group 4) chartered to: (1) review the list of 24 parameters selected from SMART vaccines (see the companion papers by Timmis et al. and Madhavan et al., respectively) to determine which represent factors (see Table 1) that should be taken into account when evaluating the role of vaccines in maximizing the success of the Global Health 2035 Grand Convergence; (2) develop 3–5 “core values” that should be taken into account when evaluating vaccines at various stages of development; and (3) determine how vaccines can best contribute to the Global Health 2035 Grand Convergence effort.

Abbreviations: ADITEC, Advanced Immunization Technologies, a collaborative research programme; AMR, Anti-Microbial Resistance; DALY, Disability-adjusted life years; EDD, Enterics and Diarrheal Diseases; GAS, Group A *Streptococcus*; GBS, Group B *Streptococcus*; HICs, High-Income Countries; HIV, Human Immunodeficiency Virus; LICs, Low-Income Countries; LMICs, Lower- and Middle-Income Countries; MDGs, Millennium Development Goals; MIC, Middle-Income Countries; NCD, Non-Communicable Diseases; NGO, Non-governmental organization; POC, Point-of-Care; QALY, Quality-adjusted life years; RF, Rheumatic Fever; RHD, Rheumatic Heart Disease; RSV, Respiratory Syncytial Virus; SDGs, Sustainable Development Goals; SMART, Strategic Multi-Attribute Ranking Tool; TB, Tuberculosis; TRIPS, Trade-Related Aspects of Intellectual Property Rights; UN, United Nations; WHO, World Health Organization; WG, Working Group.

* Corresponding author at: PATH, 2201 Westlake Blvd, Suite 200, Seattle, WA 98121, USA.

E-mail addresses: dkaslow@path.org (D.C. Kaslow), jkaliil@butantan.gov.br (J. Kalil), debloom1@aol.com (D. Bloom), bregghi@sclavo.org (G. Bregghi), anna.m.colucci@gsk.com (A.M. Colucci), ennio.x.de-gregorio@gsk.com (E. De Gregorio), gmadhavan@gmail.com (G. Madhavan), GENEVIEVE.C.MEIER@GSK.COM (G. Meier), r.seabrook@wellcome.ac.uk (R. Seabrook), x.xu@imperial.ac.uk (X. Xu).

1. Background

Global Health 2035: The Grand Convergence in Public Health is an effort to address and eliminate global disparities in infectious, child and maternal mortality rates [1]. If the effort realizes its aims, by 2035 the mortality rates of lower-income countries (LICs) and rural areas of middle-income countries (MICs) will converge with those of higher-income countries (HICs) and the best-performing middle-income countries (MICs) (see Fig. 1). Convergence would prevent about 10 million deaths in 2035 across lower- and middle-income countries (LMICs) relative to an anticipated scenario of stagnant investments and no improvements in technology [2].

Of the many tools available to help achieve this goal, vaccines remain one of the most effective means to efficiently, rapidly, and affordably improve public health. In fact, World Health Organization (WHO) has estimated that vaccines have saved more than 500 million lives in the past 50 years and that they currently save an estimated 2.5 million lives annually, even with non-optimal use. However, despite their proven public health benefits, vaccines appear to be undervalued when a more comprehensive understanding of their intrinsic value is determined by using a “full income” approach. Full income approaches suggest that the value of vaccines are likely to be more than 2.5-fold greater than the value based on costs of illnesses averted [3]. The full income approach to valuing vaccines provides planning ministries in LMICs, as well as donor agencies, with a strong new rationale for increasing investment in developing and introducing new vaccines and scaling up existing ones.

Given the reality of public health funding limits, prioritized allocation of resources for vaccine development and implementation is sorely needed. The process of determining which vaccines to develop and how best to use existing vaccines has become progressively more complex. There is a long list of attributes that may be considered for prioritization (see Table 1), and the relative importance of each attribute may vary greatly across different settings and according to the needs of different decision-makers, who may come from the public, private, nongovernmental, or other sectors of the vaccine enterprise. To help facilitate improved decision making and to provide a common language for decision-makers, the United States (US) Institute of Medicine (US IOM), in collaboration with the US National Academy of Engineering, has developed the Strategic Multi-Attribute Ranking Tool for Vaccines—**SMART Vaccines** [5].

2. Working group 4 (maximizing the success of the Grand Convergence in Health: The role of vaccines) mandate

The working group was chartered to:

- Review the list of 24 parameters (see companion paper by Timmis et al.) selected from SMART vaccines (see Table 1) to determine which represent factors that should be taken into account when evaluating the role of vaccines in maximizing the success of the Grand Convergence in Health.
- Revise the wording of the parameters selected from SMART vaccines list and/or identify missing parameters to develop a small set (3–5) “core values” which represent factors that should be taken into account when evaluating vaccines for development and introduction.
- Discuss how vaccines can best contribute to the Grand Convergence effort.

3. Working group approach

The working group (WG) discussion was focused on two main topics:

1. Achieving the Global Health 2035 Grand Convergence through the reduction of under-5 mortality rates.
2. Achieving the Global Health 2035 Grand Convergence from a more comprehensive public health and “full income approach” perspective, considering the role of vaccines.

The WG first discussed both topics from a global perspective (i.e., consider the needs of all countries), but then when selecting the specific vaccine attributes to prioritize, the WG focused the discussion on the needs of LICs and rural areas in LMICs in achieving the Global Health 2035 Grand Convergence, particularly under-5 mortality.

For the first topic, the WG reviewed the List of Attributes from the SMART Vaccines platform (see the companion papers by Timmis et al. and Madhavan et al., respectively) and identified those attributes that would most contribute to the reduction of under-5 mortality. The discussion was then focused on identifying the top three attributes that would help achieve this reduction, particularly in LICs and in rural areas of LMICs.

In approaching the second topic, the WG took a more comprehensive view. Again, the WG reviewed the List of Attributes from

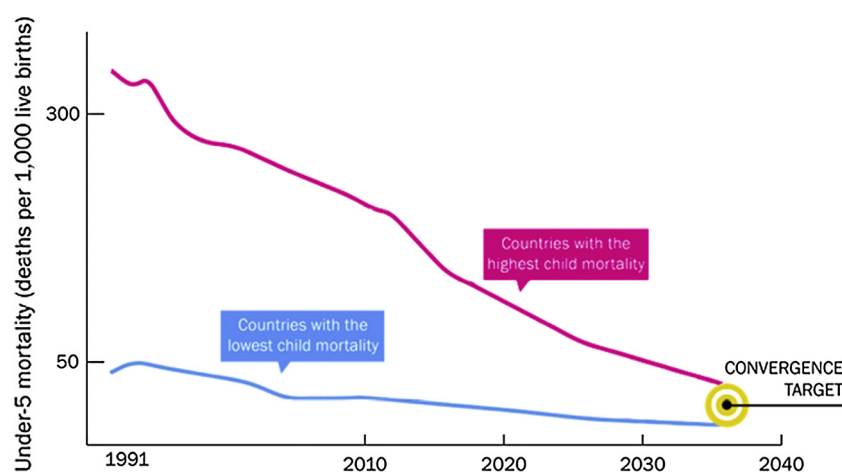


Fig. 1. Convergence of under-5 mortality rate in countries with the highest child mortality with under-5 mortality rate in countries with the lowest child mortality by enhanced health investments in low- and lower-middle-income countries ([4] ref: <http://globalhealth2035.org/report/key-messages-global-health-2035-report#grand-convergence>).

Download English Version:

<https://daneshyari.com/en/article/5537232>

Download Persian Version:

<https://daneshyari.com/article/5537232>

[Daneshyari.com](https://daneshyari.com)