

Ecosystem of Evidence-Based Vaccinology in South Africa

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Section 1

The key players in the vaccine space, their roles in the evidence-based vaccinology ecosystem and relationships with each other are described below.

Research production

National health agency

- An example of a national health agency in South Africa is the National Institute for Communicable Diseases (NICD), a division of the National Health Laboratory service. The NICD is responsible for infectious disease surveillance in the country. Reports from the NICD are used to outline the need for generation and synthesis of vaccine research by both basic and translational research groups as well as WHO bodies such as the Strategic Group of Experts on Immunisation.

WHO Body

- An example of a WHO Body is the Strategic Group of Experts on Immunisation (SAGE). SAGE often conducts translational research such as systematic reviews for use by the WHO or by National Immunisation Technical Advisory Groups (NITAGs). WHO bodies support both the production and use of evidence.

Vaccine producers

- An example of a vaccine producer in South Africa is BioVac. BioVac develops vaccines in the country based on need or demand outlined by national health agencies, basic research units and translational research units.

Basic research units

- An example of a basic science vaccine research unit in South Africa is the South African Tuberculosis Vaccine Initiative (SATVI). SATVI's research is informed by national health agencies, WHO bodies, translational research units and vaccine producers. Relationships and information from these entities help basic research units form their research agendas.

Translational research units

- An example of a translational research group is the Vaccines for Africa Initiative (VACFA), which works to package evidence for use by bodies involved in translation of evidence to policy. VACFA's research is informed by national health agencies, WHO bodies, basic science research units and vaccine producers. Relationships and information from these entities help translational research units form their research agendas.

Research translation

World Health Organisation (WHO)

- The WHO is a key player in translation of evidence to policy. The WHO formulates global positions on vaccine use and administration through the review of available scientific evidence produced by entities in the vaccine space. These position papers are often used by National Immunisation Technical Advisory Groups to formulate context-specific immunisation policies.

The National Immunisation Technical Advisory Group

- The South African National Immunisation Technical Advisory Groups (NITAG) is called the National Immunisation Technical Advisory Groups (NAGI). NAGI provides technical and scientific guidance to the National Department of Health on immunization policy and practices. NAGI conducts a review of available scientific evidence in order to formulate immunisation policy recommendations for the country.

Information networks

- An example of an information network in the vaccine space is the Network for Education and Support in Immunisation (NESI). NESI generates content from translational research units and aims to build expertise in immunisation by providing education and information to the media and general public.

Media

- The media can either be a positive or negative player in the vaccine space, depending on the quality of information delivered to the general public.

Research use

National Department of health

- The National Department of Health (NDoH) is comprised of a number of bodies, including healthcare centres and vaccinators. In the best-case scenario, the NDoH formulates immunisation policies based off of recommendations by the WHO and NAGI.

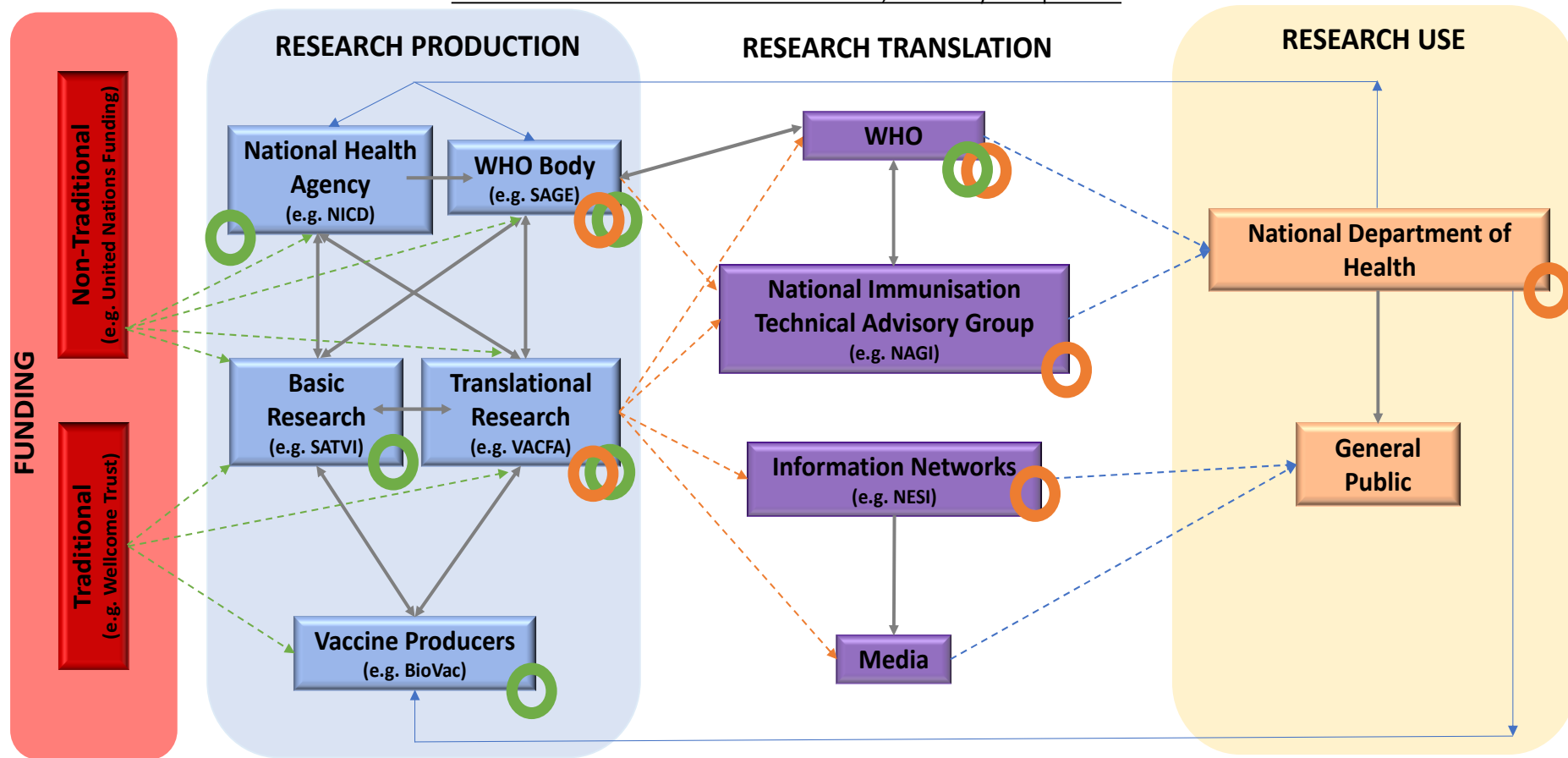
General public

- In the best-case scenario, the general public is well informed by the media and seek vaccination information from information networks.

Section 2

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Ecosystem Legend:

- Green circle: Entity engages in capacity-building to support evidence use
- Orange circle: Entity supports practice of evidence use
- Grey arrow: Established relationship
- Blue arrow: Information feedback
- Dashed green arrow: Relationship supports production of evidence
- Dashed orange arrow: Relationship supports translation of evidence
- Dashed blue arrow: Relationship supports use of evidence

Section 3

Aspects within the ecosystem that work well

The practice of evidence-based vaccinology is relatively new in South Africa. While relationships between entities in the ecosystem seem relatively well founded, there is much work to be done on meaningful use of these connections.

Aspects within the ecosystem that need strengthening

There is an existing “know-do” gap in the evidence-based vaccinology ecosystem. Given this, there are many areas in which changes could be made to lessen the “know-do” gap. A few examples are listed below:

- Increase capacity-building of NITAG members

A new partnership between the WHO and VACFA aims to increase NITAG capacity in Africa. VACFA is aiming to create a stronger alliance between translational research groups and NITAG members as well as to train more NITAG members in the generation and synthesis of vaccine related evidence so that immunisation policy recommendations can be made more efficiently to national departments of health.

- Convert the media into an entity that supports practice of evidence use

A major issue in the evidence-based vaccinology ecosystem is public confidence in vaccines, represented by rising vaccine hesitancy South Africa. False information is often spread by the media and public figures, which fuels the anti-vaccination network. If translational research groups could work to disseminate research findings more widely to the media, the public acceptance of vaccines may increase as opinions could be more well founded.

- Increase the impact of evidence on the National Department of Health

Formation of immunisation policies is tricky business. Vaccines are expensive interventions and must compete within the health budget to support political agendas. Because of this, even when quality evidence is produced and translated for use in policy, the NDoH often seems to ignore certain findings or to contradict recommendations by NAGI and the WHO for political gains. Though there are many moving parts in this dilemma, the evidence-based vaccinology ecosystem cannot function until the impact of evidence is fully realised by decision-makers.

Aspects of the ecosystem and themes of Evidence 2018

The themes of Evidence 2018 are well reflected in the Evidence-Based Vaccinology Ecosystem (*engage, understand, impact*), however work necessary to strengthen the systems within relate most closely to the theme of *impact*. The production of research in vaccinology is phenomenal; in some cases, research of infectious diseases is “flooded”. Advancements in science have led us to engage with and understand so many aspects of vaccinology, however the impact of these understandings in formulation of immunisation policies is limited. The Evidence 2018 conference is the perfect opportunity for myself, a representative of VACFA (translational research unit), to delve into conversations on how the impact of evidence on policy and decision-making in South Africa can be increased.