Mapping the vaccine and immunization evidence ecosystem in Nigeria; a tale of "no use"

Section 1: Overview

Globally, vaccines have led to remarkable decline in diseases and have helped to avert their consequent morbidity, disability and mortality.[1, 2] Despite these successes, vaccine uptake and immunization coverage remain unacceptably low in Nigeria, with less than half of children being fully immunized and about one in every eight of them dying before their fifth birthdays, mostly from vaccine preventable diseases (VPDs).[3, 4] In spite of Nigeria's high burden of VPDs, the country's low research capacity and weak evidence-base have continued to undermine disease prevention efforts and ongoing strategies aimed at improving immunization coverage.[5] To compound these are the poor linkages between research and practice, resulting in delays in the timely and efficient use of evidence to inform key decision-making.[5, 6] Addressing these challenges requires a deep and broad understanding of the evidence ecosystem and its features.[7] This evidence map therefore provides an overview of the vaccine and immunization ecosystem in Nigeria, while identifying the main role players and how their roles either buttress ecosystem strengths or reinforce its weaknesses.

On the supply side (evidence production) of the ecosystem are researchers mainly based in academic institutions such as universities or affiliated with government-owned research institutes such as the Nigerian Institute of Medical Research (NIMR) or non-profit research consortia such as AFENET and EpiAfric.[8] Research is poorly funded; governmental funding from NIMR and Tertiary Education Trust Fund (TETfund) are too meagre, with bureaucratic bottlenecks posing barriers to efficient trickling down of limited fund to drive evidence production.[9] Coupled with weak research infrastructure, research outputs are therefore often of low quality, and usually ending up published in low-impact journals at best. Independent researchers, who are usually motivated by the sheer zeal to publish, conduct personally-funded research with even poorer quality and lower impact. Importantly, there is weak synergy and little collaboration between these actors., often leading to duplication of evidence and lack of coordination of research efforts.

The limited availability and quality of evidence mean that the translation of available evidence into practice is of vital importance.[6] In the Nigerian context, however, evidence translation is weakened by the very few number of actors in this terrain, with even weaker synergy and collaboration among them. As a result, the limited amount of high-quality evidence available has made very little impact beyond publication. Consequently, evidence such as those that have shed more light on understanding the cultural, religious, ideological and other contextual barriers to low vaccine uptake have been largely untapped.[10] There has been little or no translation of such potentially impactful evidence to inform key vaccines and immunization decision making at local and national levels. Notably, the main government agency (NIMR) which is supposed to co-ordinate the translation of evidence is more involved in evidence production as earlier illustrated. This responsibility has been taken up by a few non-governmental evidence translation groups such as the Health Policy Research Group (HPRG), Nigerian Implementation Science Alliance (NISA) and recently EpiAfric.[8]

The main evidence users include the federal ministry of health and its relevant agencies such as National Primary Healthcare Development Agency (NPHDCA) and the Nigerian Centre for Disease Control (NCDC) who jointly coordinate the National Programme on Immunization (NPI); the states ministries of health and the local government departments of health with their relevant agencies. Donors such as the Bill and Melinda Gates foundation, multinational agencies like Gavi and local pro-vaccine NGOs are also involved in making key decisions around strategies, funding and implementation of vaccination and immunization programmes in the country. Due to the over-reliance on global guidelines and recommendations, decision-making by these actors create little or no demand for locally-derived and contextually relevant evidence,

Section 2: Evidence map
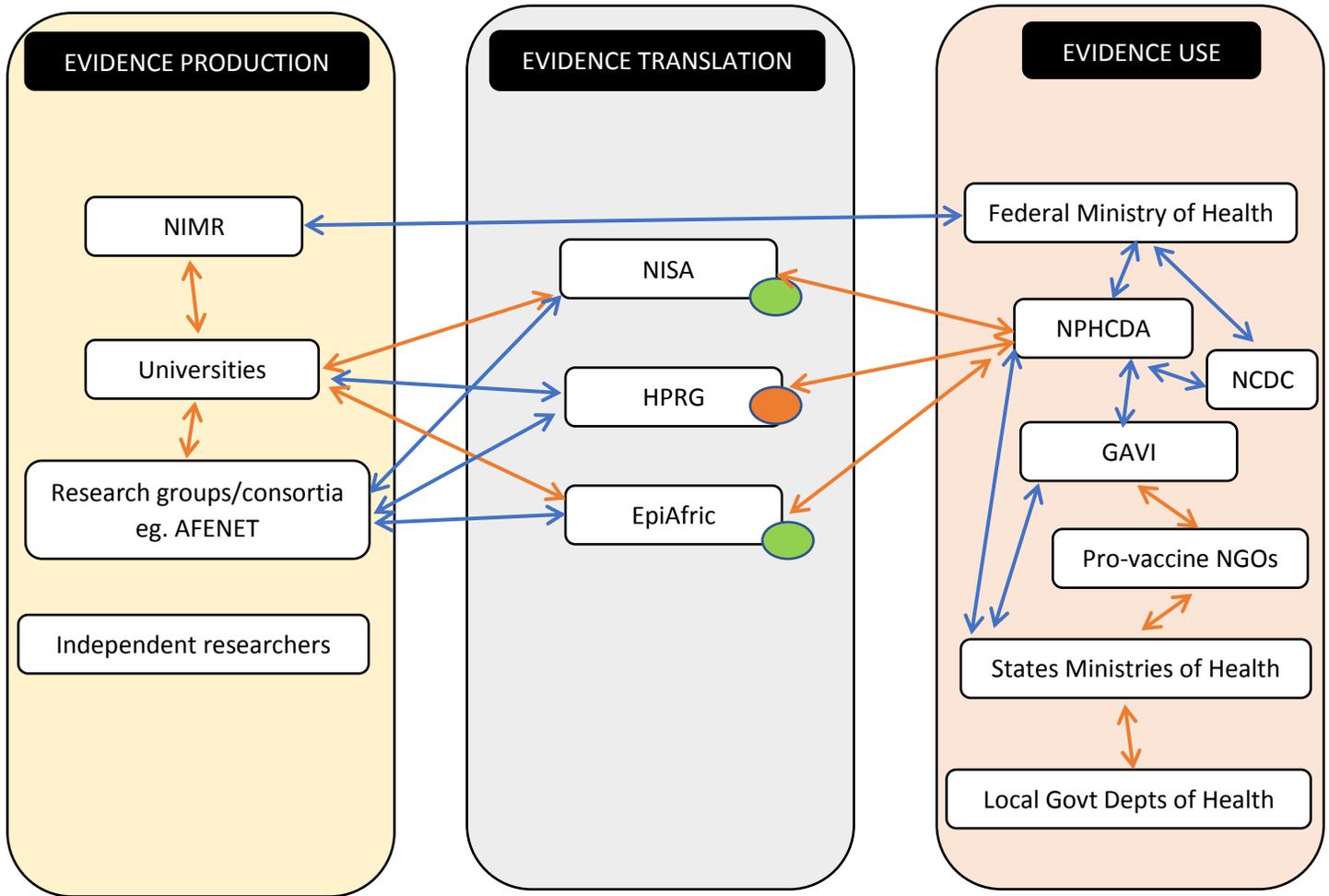
Keys

←→ (blue)	substantial relationship
←→ (orange)	weak relationship
⬭ (orange)	engages in capacity-building to support evidence use
⬭ (green)	network or a community of practice to support evidence use

Section 3: Conclusion

This evidence map has illustrated the vaccine and immunization research and evidence landscape in Nigeria, by identifying the key role players and how their roles shape the outcome of evidence production, translation and use in a multiplayer, complex and adaptable ecosystem. Addressing the identified gaps will immensely help to improve vaccine and immunization coverage outcomes in Nigeria through the effective production, synthesis, transfer and use of best current evidence between researchers, decision makers and implementers. Ways in which such gaps can be effectively bridged include increased funding to drive production of high-quality evidence, capacity building and collaboration to foster synergy and effective translation from producers to the users. Other strategies include integration of knowledge-sharing and evidence translation within the core framework of the health system at all levels. Another strategy is to strengthen existing policy frameworks to catalyze collaboration and enhance communication between researchers, policy-makers and health programme implementers.[5] These will improve linkages between researchers and key decision-makers in a system that enables decision-makers to easily access researchers who can readily provide timely and relevant evidence to inform interventions.

Glaringly, the realities in the ecosystem depicted on this map relate quite aptly with all three themes of the Evidence 2018 Conference: "Engage, Understand, Impact". To improve the current unacceptably low immunization uptake in Nigeria, there is the need to first have a holistic understanding of the evidence ecosystem, foster better engagement of all relevant role players which will then enhance the effective flow of evidence from producers to users for better impact. Like the economic principles of demand and supply; all forces of demand (use), supply (production) and intermediaries must be in balance. While the government and other demand-side actors must be ready to fund and put research infrastructure in place to enhance the production of good quality evidence; producers must, on their part, be able to produce relevant evidence of acceptable quality, to meet the evidence need of the sector, while intermediaries have the duty to foster capacity building, improve collaboration among researchers and enhance better linkages between researchers and key decision makers. Overall, the evidence ecosystem presents a stark reality of very little or no use of evidence to inform critical public health decision making – a tale of "no use" that is indeed very useful for understanding and addressing existing gaps for better outcomes.

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