



## Commentary

## Increasing coverage of vaccination by pharmacists in Nigeria; an urgent need

Yusuf Hassan Wada<sup>a,b,\*</sup>, Muhammad Kabir Musa<sup>c</sup>, Aniekan Ekpenyong<sup>d</sup>,  
Yusuff Adebayo Adebisi<sup>e</sup>, Mohamed Babiker Musa<sup>f</sup>, Garba Mohammed Khalid<sup>g</sup>

<sup>a</sup> Faculty of Pharmaceutical Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria

<sup>b</sup> West African Academy of Public Health, Abuja, Nigeria

<sup>c</sup> Faculty of Pharmaceutical Sciences, Ahmadu Bello University, Zaria, Nigeria

<sup>d</sup> Global Health Policy Unit, University of Edinburgh, Scotland, United Kingdom

<sup>e</sup> Faculty of Pharmaceutical Sciences, University of Ibadan, Oyo, Nigeria

<sup>f</sup> Faculty of Pharmacy, Omdurman Islamic University, Khartoum, Sudan

<sup>g</sup> Department of Pharmaceutics and Pharmaceutical Technology, Bayero University, Kano, Nigeria



## ARTICLE INFO

## Keywords:

Nigeria  
Vaccine  
Immunization  
Vaccination  
Pharmacists  
Community pharmacies

## ABSTRACT

Pharmacists have a key role to play to advance public health through immunization. Pharmacists are well trained and play a huge role in vaccine production, research and development, safety, pharmacovigilance, storage, logistics and distribution. There is a need for a revised national policy and strategy in Nigeria on vaccination and immunization programs with the involvement of community pharmacies and/or pharmacists. This will help accelerate getting a wider vaccination access coverage, establishing a greater healthcare delivery workforce for societal benefits and demonstrate the full potential of the community pharmacies and the pharmacists' role in immunization programs.

### 1. Introduction

Vaccines are known to stimulate the body's immune system for protection against subsequent exposure to the pathogen or disease while immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine [1]. Pharmacists' role in vaccination and immunization currently varies across countries in the world. They are empowered to play active roles in ensuring the safe supply, storage, administration and dispensing of vaccines, legally authorized to organize vaccination activities and campaigns, advocating for immunization as well as the integration of community pharmacies and pharmacists in national policies [2]. In Nigeria, the vaccination schedule is drafted as per the National Program on Immunization (NPI). The vaccines are administered across a wide range of government and private hospitals, yet pharmacies and/or pharmacists are not involved in the administration of vaccines and this has posed a great limitation to the uptake of vaccines. Globally, it is estimated that existing immunization programs prevent over 2–3 million deaths annually that could have resulted from vaccine-preventable diseases (VPDs) and approximately 19.4 million

children missed out on basic vaccination [3]. This places a great economic burden on VPDs as millions remain susceptible to potentially deadly VPDs despite effective vaccine availability. Although there is no official restriction limiting community pharmacists from providing immunization services in Nigeria, there have not been any policy directions or law towards the involvement of them into that [4]. This has caused limited acceptance and support by the healthcare system to recognize pharmacists as an integral member of the vaccine workforce. Nevertheless, there have also been pharmacist-led organizations who have been championing the inclusion of pharmacists in the vaccine workforce in Nigeria to resolve vaccine hesitancy. In middle and low-income countries where vaccine services are being offered, there is also diminishing perceived competition threat to other healthcare professionals providing immunization services through greater advocacy and wider coverage [2]. This will help Nigeria also in establishing a greater healthcare delivery workforce for the societal benefits of the country and demonstrate the full potentials of the community pharmacies and the pharmacists' role in immunization programs.

\* Corresponding author. Faculty of Pharmaceutical Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria.

E-mail address: [hasawa2011@gmail.com](mailto:hasawa2011@gmail.com) (Y.H. Wada).

## 2. Commentary: administration of the vaccine in pharmacies and training of the pharmacy workforce in Nigeria

Pharmacists practice in a broad multidisciplinary area including community, hospital, industrial, academia, regulatory and practice where they offer therapeutic interventions on drug and medication efficacy, safety and appropriate regimen [5]. Community pharmacy is one of the most accessible and most frequently consulted points of care to the public. Indeed, community pharmacies represent healthcare settings in the community where vaccines can be given to the public as pharmacists play a great role and are very well informed about vaccine product characteristics, manufacturing specificities and complexity, vaccine research and development [6]. They also have regular contact with high-risk individuals for vaccine-preventable diseases and they systematically and proactively review patient medications and medical histories, educate, and make recommendations around immunizations [7]. Many countries around the world have authorized vaccination in pharmacies (community practice) and/or by pharmacists. This practice has been initiated in countries like South Africa, United State of America (USA), United Kingdom (UK), Portugal, Argentina, Australia, Ireland, Philippines, and Switzerland [2]. In the USA and UK, pharmacies and/or pharmacists are playing a crucial role in the administration of COVID-19 vaccine. In the UK, high street pharmacies have been authorized to vaccinate people from high priority groups; care home residents and workers, the elderly/over-70s and the extreme clinically vulnerable by mid-February 2021 to reach the target number of 15 million people [8]. Similarly, in the USA, pharmacies have been partnered to distribute and administer the COVID-19 vaccine to the priority groups to provide a more efficient platform for distribution and administration than hospitals [9]. This shows that pharmacies and/or pharmacists have a great role to play to see hundreds of millions of Nigerians get wider COVID-19 vaccination access cover and enhance measures taken by all immunized within a short time in Nigeria. This will contribute to the development and increase access to health services and increasing implementation of immunization services especially adult vaccination thereby improving their healthy wellbeing, and reducing vaccine-preventable diseases. In a survey carried out by the International Pharmaceutical Federation (FIP) in 2016; the report revealed that community pharmacies in a sample of 45 countries and territories with over 940 million people population who are members of FIP organization (Nigeria inclusive) can potentially offer increase access to vaccination services with safe and highly vaccination centers [2]. This will provide a highly effective, safe and complement existing immunization coverage offer in Nigeria where the immunization rate is low. In Nigeria, research showed that in 2016, the pharmacy workforce had about 21,892 registered pharmacists with over a half (12807, 58.5%) being in active practice; with also 42% licensed pharmacists in community practice [10]. This high number of community pharmacists, compared to other areas of pharmacy practice, and coupled with ease of accessibility in community pharmacies and long operating hours will play a great role to increase vaccine uptake, as they mostly open throughout the day and evening hours which offers a great advantage to working and non-working individuals and places where vaccinations points are challenging especially rural, medically underserved, and isolated areas [2]. In Nigeria, where there are less and/or no pharmacies in rural areas, there is need to maintain the status quo with the use of community Health Environmental Workers (CHEWS) which are guided by the standing orders in hospitals which will also encourage more pharmacists and/or pharmacists in rural areas.

### 3. Recommendations

Pharmacies and pharmacists need to be involved in providing medication advice to patients and the public (benefits, adverse reactions, lifestyle modifications, etc.), immunization promotion activities, authorizing vaccination in pharmacies, participating in multidisciplinary campaigns by pharmacists, serving on immunization

advisory committees as well as storage, logistics and distribution of the central distribution mechanism to protect the cold storage requirements for vaccines [2]. Pharmacists are also well trained and will play a pivotal role in vaccine safety which is, therefore, highly imperative particularly in reducing vaccine hesitancy amongst populations. Nigeria also needs to develop a revised national policy and strategy on vaccination and immunization programs with the involvement of community pharmacies and/or pharmacists in using their huge network on the community to reduce pressure on other healthcare providers and increase vaccine coverage and therapeutic outcomes. At an international level, there is also a compelling need for professional bodies like FIP, World Health Organization (WHO), and locally like the Pharmaceutical Society of Nigeria (PSN) to call upon the government for the need to improve vaccine uptake by including Pharmacies and/or Pharmacists in vaccination and immunization programmes as well lobby the legislators and policymakers to provide appropriate legislation and policy in that regards. Pharmacists need to undergo a comprehensive training program on immunization which can be included in the annual mandatory continuous professional development (CPD) by the Pharmacists Council of Nigeria (PCN) for the community pharmacists. Furthermore, there is a need for the pharmacy school's curriculum to be revised and competencies for immunization incorporated. Pharmacists are fully involved in the production process of vaccines which are carried out by industrial pharmacists and pharmaceutical scientists in the various research and development units. Community pharmacists championing vaccines further demonstrates the reliability and necessity of pharmacists in the vaccine value chain. This will help to ensure appropriate knowledge of vaccine safety, reduced immunological reactions, dosage preparation, stability, documentation, ADR reportage, storage requirement and transportation are ensured to support the activity and meet the legislative requirement to provide vaccination services. Involvement of pharmacies and/or pharmacists in vaccine coverage in Nigeria will drastically reduce long waiting times for access to immunization and perhaps other healthcare services. Economic improvement is also a great factor that will reduce a great cost saving for the country's healthcare setting thereby becoming an improved source of revenue to the community pharmacies and the country at large.

### 4. Conclusion

To maintain and improve coverage, uptake and information dissemination in vaccination and national immunization programs, pharmacists should be involved to contribute to this effort and be prepared to respond to public concerns as part of the scope of pharmacy practice in Nigeria.

### Funding

We did not receive any financial support in any form regarding the study.

### Ethics approval and consent to participate

Not Applicable.

### Consent for publication

Not Applicable.

### Availability of data and materials

Not Applicable.

### Authors' contributions

Yusuf Hassan Wada conceived the idea, Yusuf Hassan Wada,

Muhammad Kabir Musa, Aniekan Ekpenyong wrote the draft of the Manuscript, collect data and literature. Yusuf Hassan Wada, Khalid Garba Mohammed, Mohammed Babiker, Aniekan Ekpenyong and Adebisi Yusuff critically reviewed the manuscript. All the authors read and approved the final manuscript.

#### Declaration of competing interest

None to declare. The authors have no competing financial interest.

#### References

- [1] World Health Organization. Immunization, vaccines and biologicals: Global vaccine action plan 2011-2020. Available at: [https://www.who.int/immunization/documents/general/ISBN\\_978\\_92\\_4\\_150498\\_0/en/](https://www.who.int/immunization/documents/general/ISBN_978_92_4_150498_0/en/).
- [2] International Pharmaceutical Federation (FIP), An Overview of Current Pharmacy Impact on Immunisation A Global Report 2016, The Hague: International Pharmaceutical Federation, 2016. [https://fip.org/files/fip/publications/FIP\\_report\\_on\\_immunisation.pdf](https://fip.org/files/fip/publications/FIP_report_on_immunisation.pdf). Accessed 8th January, 2021.
- [3] World Health Organization (WHO), Immunization coverage. <http://www.who.int/>, 2016. Available at: 8th January, 2021.
- [4] B.B. Agbo, E. Esienumoh, S.A. Inah, J.E. Eko, E.J. Nwachukwu, Community pharmacists, participation in immunization services in cross river state, Nigeria, *Int. J. Public Health, Pharm. Pharmacol.* 4 (3) (August 2019) 11–25.
- [5] G.M. Khalid, U.I. Idris, A.I. Jatau, Y.H. Wada, Y. Adamu, M.A. Ungogo, Assessment of occupational violence towards pharmacists at practice settings in Nigeria, *Pharm. Pract.* 18 (4) (2020 Oct-Dec), <https://doi.org/10.18549/PharmPract.2020.4.2080>, 2080.
- [6] Ecartot, et al., *BMC Publ. Health* 19 (2019) 1698, <https://doi.org/10.1186/s12889-019-8044-y>.
- [7] J.E. Isenor, M.S. Kervin, D.M. Halperin, J. Langley, J.A. Bettinger, K.A. Top, F. Lalji, K. Slayter, J. Kaczorowski, S.K. Bowles, N.M. Waite, S.A. Halperin, Pharmacists as immunizers to improve coverage and provider/recipient satisfaction: a prospective, Controlled Community Embedded Study with vaccinees with low coverage rates (the Improve ACCESS Study): study summary and anticipated significance, *Can. Pharm. J. : CPJ = Revue des pharmaciens du Canada : RPC* 153 (2) (2020) 88–94, <https://doi.org/10.1177/17151635199002217>.
- [8] COVID-19: High Street Chemists Start Vaccinations in England, BBC NEWS, Health Accessed 17 January 2021 <https://www.bbc.co.uk/news/amp/health-55649947>.
- [9] U.S. To send COVID-19 vaccine to pharmacies in hopes of speeding shots <https://www.usnews.com/news/us/articles/2021-01-06/us-health-secretary-states-should-not-let-prioritization-slow-covid-19-vaccinations%3fcontext=amp>.
- [10] A. Ekpenyong, A. Udoh, E. Kpokiri, I. Bates, An analysis of pharmacy workforce capacity in Nigeria, *J Pharm Policy Pract* 11 (2018) 20, <https://doi.org/10.1186/s40545-018-0147-9>. <https://www.eajournals.org/wp-content/uploads/Community-Pharmacists-Participation-In-Immunization-Services-in-Cross-River-State-Nigeria.pdf>.