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Impact of Vaccination Awareness Campaigns Led by Nurses: Advancing SDG 3 & SDG 11

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ABSTRACT

Vaccination is one of the most effective strategies for preventing infectious diseases, yet vaccine hesitancy and misinformation continue to threaten global immunization goals. Nurses, as frontline health professionals and trusted community figures, play a crucial role in leading vaccination awareness campaigns that promote confidence, dispel myths, and encourage uptake. This secondary research paper examines the impact of nurse-led vaccination campaigns across different populations and contexts. The findings reveal that nurses significantly improve immunization rates in children, adolescents, adults, and the elderly by combining clinical expertise with health education and culturally sensitive communication. Their interventions extend from school-based programs and community outreach to digital and media-based awareness initiatives, demonstrating adaptability and effectiveness in both high-resource and low-resource settings. However, systemic barriers such as workforce shortages, inadequate training in vaccine communication, limited funding, and the spread of misinformation continue to limit the full potential of these campaigns. The study concludes that empowering nurses with institutional support, professional recognition, and resources is essential to strengthen vaccination awareness efforts, improve global immunization coverage, and build long-term community trust in health systems.

KEYWORDS: Vaccination Awareness; Nurses; Health Promotion; Immunization Campaigns; Vaccine Hesitancy; Community Health; Public Health Nursing; Health Education; SDG 3, SDG 1.1.

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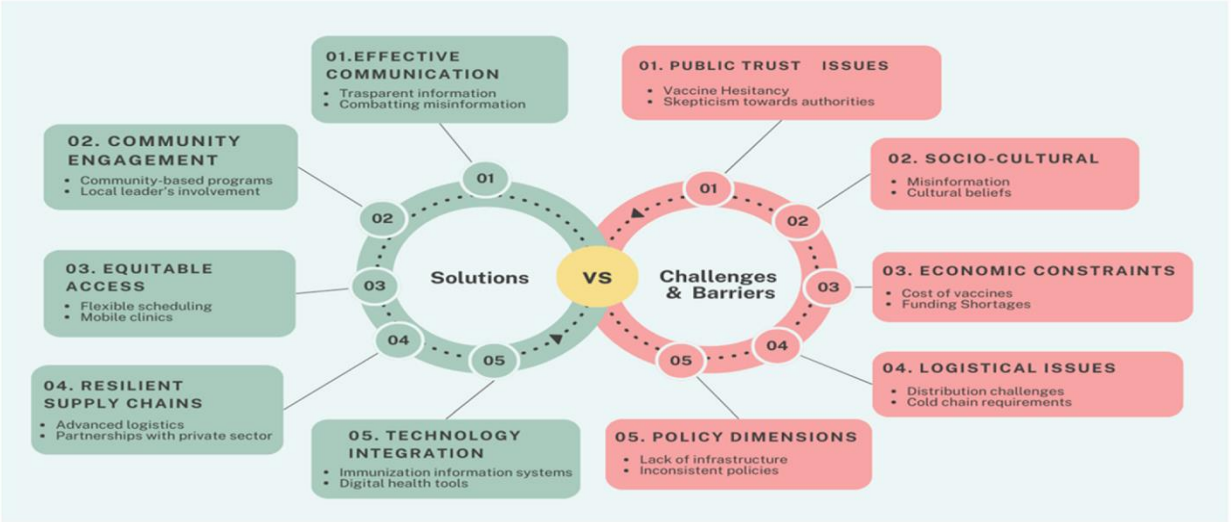
INTRODUCTION

Vaccination has become one of the most successful and cost-effective public health tools of the modern age that helps to prevent an estimated number of 4-5 million death annually in the global context. Nonetheless, vaccine hesitancy, misinformation, and health inequities persist in disrupting the immunization rate and have resulted in the outbreak of vaccine-preventable diseases like measles, polio, and pertussis (Perlman, et al. 2023). The COVID-19 pandemic further proved the fragility of public trust in vaccination as societies all over the world were riddled with misinformation, fear, and doubt to newly developed vaccines. In this regard, the contribution of nurses to these activities has been critical, especially as part of organizing vaccination awareness campaigns, not just to impart information, but also to foster the element of trust, demystify the myths, and promote uptake. Nurses, as they directly contact the patients and communities, are in a unique position to combine care delivery and health teaching, therefore becoming a key participant in enhancing vaccine confidence and coverage levels (Rashid, et al. 2016).

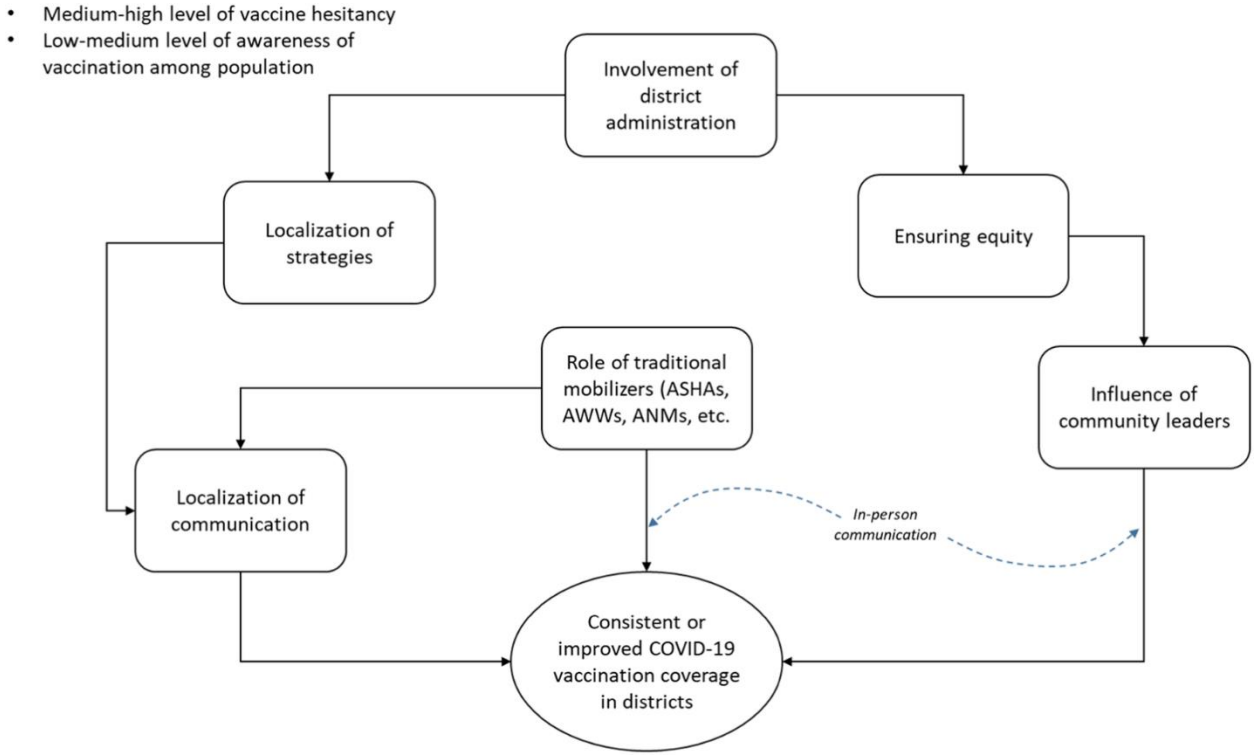


Nursing-organized vaccination awareness campaigns present a broad set of approaches, such as community outreach programs, school-based interventions, door-to-door education, and advocacy of health issues through media and internet. Such campaigns take advantage of the fact people trust nurses, as they are often the most accessible and regular health workers especially in the rural or underserved settings (Perman, et al. 2017). The research points to the fact that when nurses are directly engaged in education regarding vaccines, the vaccination rates increase drastically, particularly among the groups that are not covered in an expected rate. As an example, when community health nurses run awareness campaigns in Sub-Saharan Africa, they helped to boost the rate of measles immunization, whereas school-based programs implemented by nurses in the United States and Europe promote the acceptance of HPV vaccines among teenagers. In addition to educating citizens on the factual information, it is worth noting that nurses are instrumental in overcoming cultures, religious, and emotional resistance to vaccination thereby making health messages local and inclusive (Oku, et al. 2017).

The awareness campaign on vaccination, organized by nurses, has more value than just preventing the disease, as it is related to overall goals of resilience, equity, and social trust in health. Vaccination programs are not only biomedical interventions, but also social processes that need to be communicated about, persuaded, and trust-building (To, et al. 2016). Nurses with regular contact with the population can connect with the healthcare system and tame disparate populations, especially those who are geographically separated, underprivileged, or otherwise disadvantaged. Their contribution to vaccination awareness is further shown by the global initiative of the WHO through its Immunization Agenda 2030 where it proposes the role of nurses and midwives in the promotion of vaccination as a means to achieve the coverage of universal vaccination. This research article, as a secondary study, will attempt to analyze the effectiveness of vaccination awareness campaigns conducted by nurses, its problems and effects on the global health (La Torre, et al. 2017). Reviewing information currently available in the literature and case data, the paper reveals that nursing interventions in terms of vaccine promotion do more than increasing the coverage rates, as they also help to achieve long-term health outcomes, which makes them an inalienable part of the struggle against disease prevention illnesses.

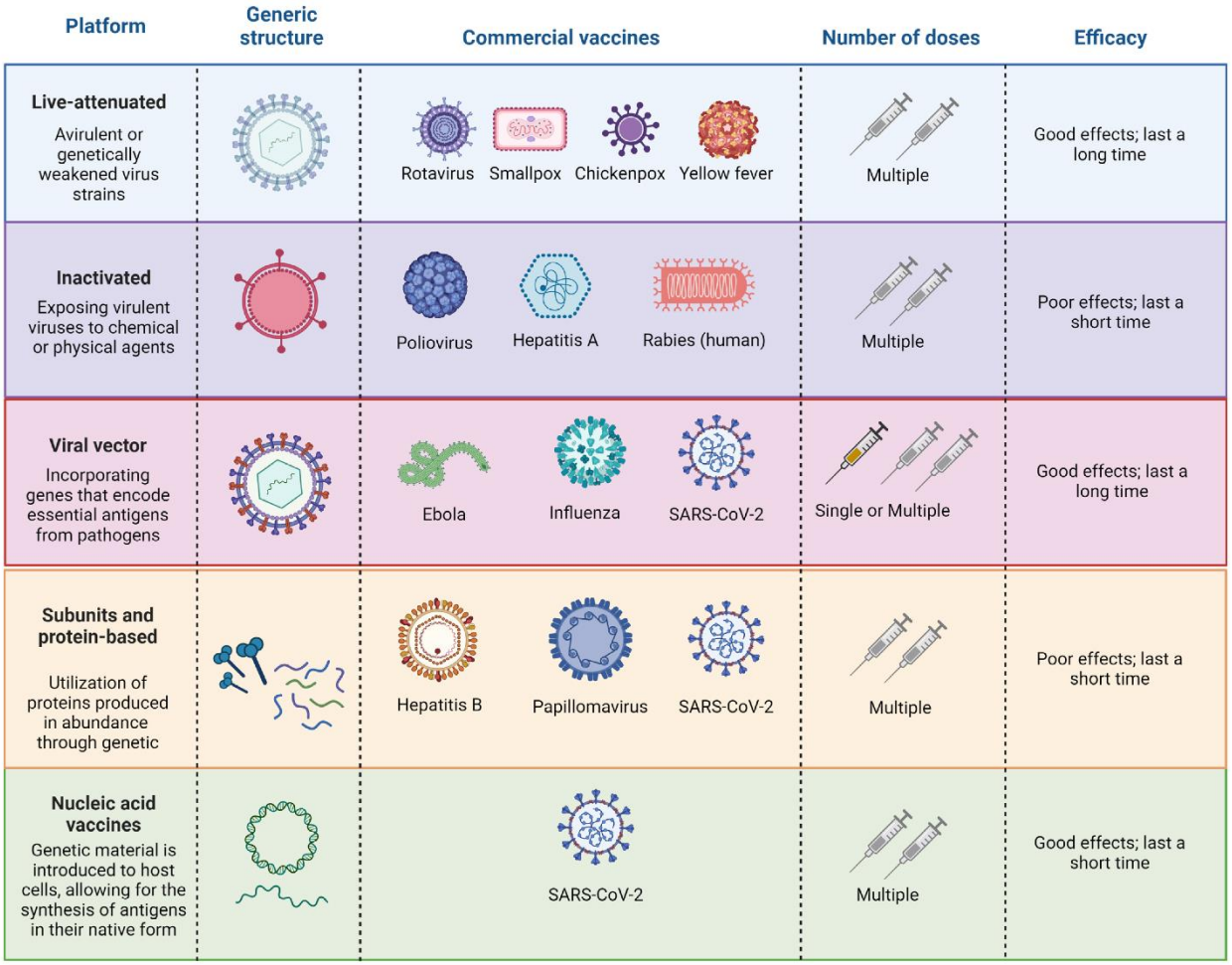
RATIONALE OF THE STUDY

Vaccination is agreed upon as one of the most potent strategies to control morbidity/mortality due to contagious diseases. However, the prevalence of safe and effective vaccines has not been sufficient to keep millions of people around the world vaccinated or at least fully vaccinated (Khan, et al. 2016). An increased rate of vaccine hesitancy due to misinformation, cultural habits, a lack of access and disruption of system trust has become one of the main challenges to reaching the global immunization goals of the WHO through the Immunization Agenda 2030. The top-down methods of vaccination promotion, i.e. media announcements, and centralized campaigns do not usually target local issues and do not establish trust at the local level often (Lin, et al. 2022). Unlike other populations, nurses- the majority of first-time consumers of health systems- have a combination of the right of access, cross-cultural sensitivity, and long-term community interaction. Their participation in the campaigns to sensitise people relating to vaccination therefore is not only apt but mandatory in closing the gaps existing between the biomedical suggestions and community acceptance. The rationale to undertake this research is to identify and demonstrate how nurses contribute to the shaping of vaccine use especially in situations where mistrust or vaccine-related misinformation obstructs the use of vaccines.



The logic behind this research is also supported by the increased amount of evidence regarding the fact that awareness campaigns led by nurses greatly impact the results of vaccination. In both developed and developing nations, nurses have taken the initiative to endorse the application of vaccines which include measles, polio, HPV, influenza, and most recently, COVID-19. These people

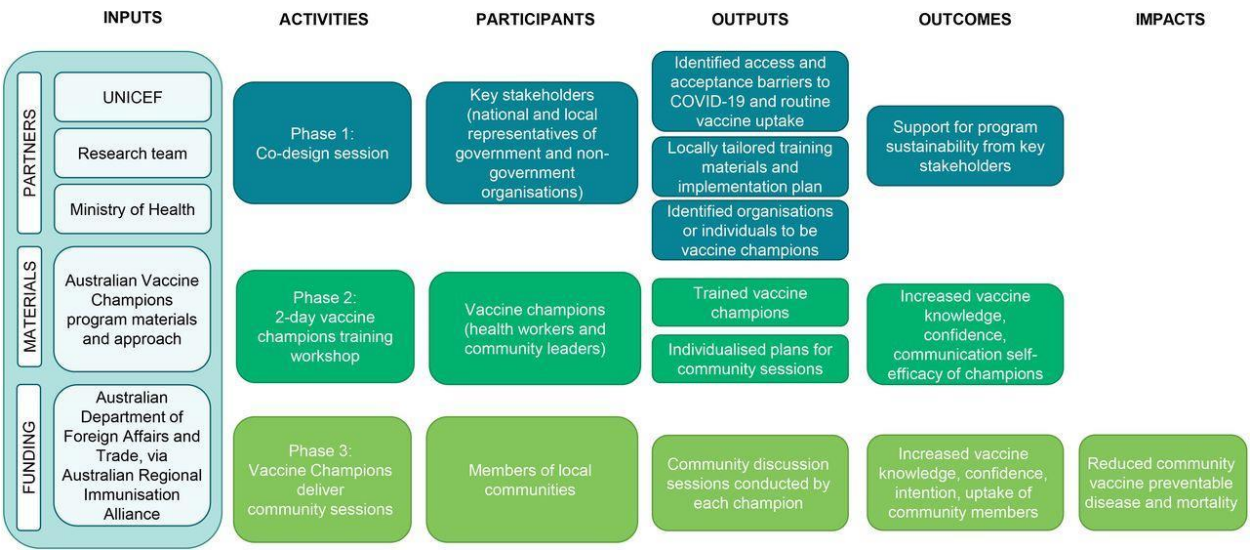
involve themselves in psychologically processing reluctant parents, planning vaccine sessions in schools, correcting misconceptions in communal gatherings, and invalidating the informational misrepresentation through social media (Lineberry & Ickes, 2015). The evidence shows an active participation of nurses promotes the use of vaccinations especially to the vulnerable populations like children, teenagers and elderly groups. Nevertheless, nursing roles in disseminating awareness on vaccinations remain under-reported and under-represented in policy documents, in spite of their well-established effects. The synthesis of secondary data through the global case studies and academic studies will aim to bring an organized discussion on how leadership role of nurses in awareness campaigns can increase vaccine coverage, limit the spread of the disease outbreak, and eventually create a long-term community trust in the healthcare system. The results will not only guide governments and public health policymakers but also promote the need to have a higher involvement of nurses in the immunization programs across the globe (Peters, 2022).



LITERATURE REVIEW

3.1. Global Importance of Vaccination and Evolution of Nurse-Led Vaccine Promotion Efforts

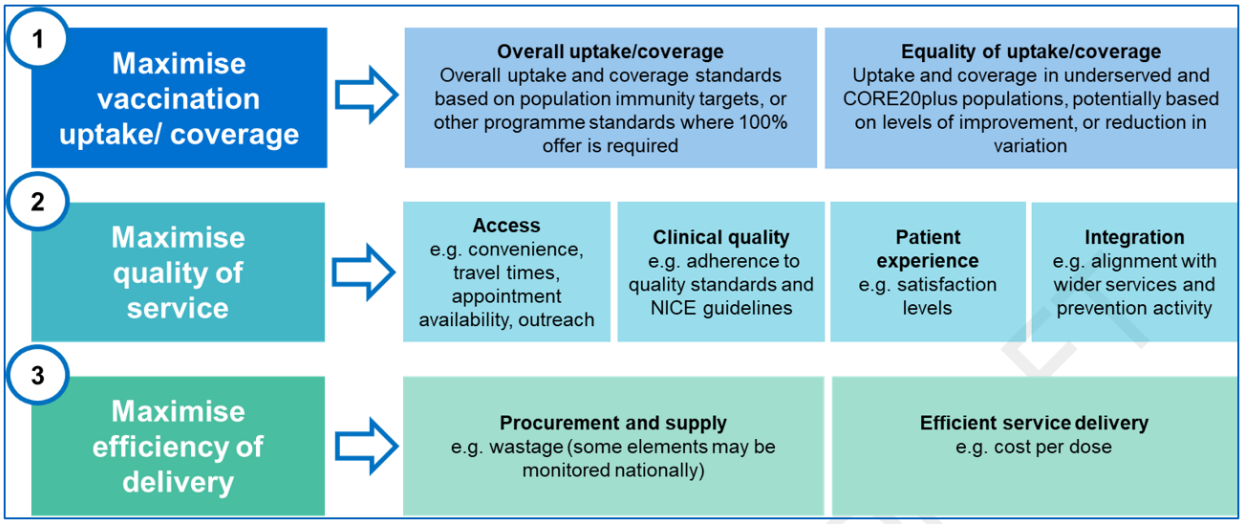
Abu-Rish, et al. (2016), Vaccination is a long standing pillar of public health and this has resulted in small pox eradication, near eradication of polio, and measles, tetanus and other infectious diseases being significantly reduced. Nevertheless, vaccine hesitancy has become one of the ten greatest threats to the global health identified by the World Health Organization. Various reasons that include misinformation, fear of side effects and cultural and religious values have led to the decrease in the rates of vaccination in most areas. As an example of the latter, misinformation about measles distributed in parts of Europe and the United States has been cited as a cause of resurgence, and in other African and South Asian settings, rumor and myths have helped discourage parents when it comes to vaccinating children. In this complicated environment, nurses being the largest share (almost 60 per cent) of the world healthcare workforce, have an important role to play in mediating scientific recommendations and such beliefs of communities. Their credibility and availability renders them critical in the designing and leading local contexts-specific vaccination awareness campaigns.



Oku, et al. (2017), Historically, vaccination campaigns were often physician-driven, with nurses acting primarily as vaccine administrators. However, over the past two decades, the scope of nursing practice has expanded, particularly in community health. Nurses have increasingly taken leadership roles in public health advocacy, education, and direct engagement with communities. According to nurses and midwives are often the most trusted sources of vaccine-related information, even surpassing physicians in many contexts. The COVID-19 pandemic further demonstrated their leadership potential, as nurses became central to not only vaccine delivery but also awareness-building efforts that countered widespread misinformation. Their involvement in door-to-door education, online campaigns, and school-based initiatives reflects the evolution of nursing roles from passive vaccine delivery to proactive health communication and advocacy.

3.2. Nurse Involvement in HPV and Effectiveness of Nurse-Led Campaigns in Childhood Immunization

Pless, et al. (2017), Childhood immunization is the pillar of vaccination activities globally and nurse-led programs have proved to be quite successful in this field. One study noted that when pediatric nurses talked to parents directly about their apprehensions with respect to the MMR (measles, mumps, rubella) vaccine, vaccine distribution rates climbed tremendously in comparison with areas that did not have such efforts. In Sub-Saharan Africa UNICEF-facilitated programs by community health nurses have helped in raising the coverage rates of both measles and polio vaccines through organizing localized education sessions and fostering trust in parents. These results indicate that not only nurses can share factual knowledge but also display compassion and support, the key factors leading to the resolving of vaccine hesitancies among the parents anxious about child well-being.



Kwok, et al. (2021), Human Papillomavirus (HPV) vaccination, aimed at preventing cervical cancer, has faced resistance in many countries due to cultural taboos surrounding sexuality and misconceptions about vaccine safety. Nurses have played a pivotal role in increasing HPV vaccine acceptance through school-based programs and adolescent health education. For example, school nurses who conducted awareness sessions and distributed culturally sensitive materials significantly boosted HPV vaccination rates among adolescents in the United States. Similarly, in countries like Rwanda and Australia, where nurse-led school vaccination programs were prioritized, HPV vaccine coverage exceeded 90%. These campaigns underline how nurses' accessibility to young populations and their ability to engage with parents and teachers make them particularly effective in promoting vaccines for adolescents.

3.3. Role of Nurses in Adult and Elderly Vaccination Campaigns

Wilson, et al. (2020), Besides children and adolescents, nurses have also played a critical role in encouraging the use of the adult and geriatric immunization, such as in flu and pneumococcal vaccinations. According to research findings in Europe and other regions in North America, real-life interventions such as awareness activities in community clinics and elderly nursing homes led to improved adoption of seasonal vaccines of influenza among the people in the population. To use an example: A survey conducted showed that influenza vaccination among aged patients remained 25 percent higher in regions with not only services on vaccinations, but also education offered by the nurses. The role of nurses in chronic illness clinics has also been useful as nurses offer counseling on how to manage the disease and also advise patients on the need to take up things like influenza and pneumococcal vaccine to minimize complications especially among high-risk groups. These illustrations highlight the importance of credibility and easy accessibility of nurses to patients making them more effective as adult immunization advocates.

3.4. Digital and Community-Based Awareness Strategies Led by Nurses

Guillari, et al. (2021), Digital tools and community networks have been increasingly used in the past few years by nurses to encourage vaccination. The ability of nursing associations to sponsor social media campaigns has been useful in dispelling rumors and further boosting the message about the effectiveness of the vaccines. As an example, nurse-led marketing on Facebook and WhatsApp in India and Brazil reached out to millions of people during the COVID-19 pandemic with local language messages that included facts around a specific issue. Community level: In community area nurses visit homes, organise village meeting and work with religious leaders in an attempt to create culturally sensitive awareness of vaccination. The strategies through documentation not only promote knowledge, but also lessen any fears or stigmas related to the vaccines. The flexibility in addressing contemporary and traditional challenges to accept vaccines is emphasized by the dual nature of digital and in-person communication that nurses utilize to address the target audiences.

3.5. Barriers to the Effectiveness of Nursing-Led Campaigns

Schumacher, et al. (2021), There are some impediments associated with nurse-led vaccination awareness campaigns regardless of their success. One of the obstacles is inadequate supply of skilled nursing personnel, as low- and middle-income countries already have an overworked nursing staff. Poor funding on awareness, lack of cultural sensitive materials and institutional support are other barriers that hamper the efficacy of campaigns. Also, nurses themselves are not always exempted to vaccine hesitancy, which is related to improper training on vaccine science or exposure to misinformation. According to a study, healthcare professionals at times get disbeliefs about the safety of vaccines, and thus they are not able to promote their advocacy spirit. The solution to these barriers would involve investment in perpetual education, positive policy formulation and appreciation of the role of nurses in the immunization programs.

3.6. Policy Implications and Future Directions

Bechini, et al. (2019), The reviewed literature demonstrates that there is a necessity of systematic incorporation of nurses into the national and international policies of vaccination promotion. The Immunization Agenda 2030 by the WHO recommends the role to be played by nurses and midwives in sensitizing people about immunization as one of the strategies to archiving universal coverage. Evidence can be seen in countries such as Rwanda, Sri Lanka and Australia who have started to institutionalize the nurse led vaccination campaigns, which results in ongoing coverage improvements. Going forward, efforts to mitigate this phenomenon is advised to be based on implementing more effective training of nurses on communication and health literacy topics, utilization of digital communication, and investing into community-based approaches that maximize the role of nurses. Nurse-led campaigns will be able to improve the immunization levels, as well as restore the sense of trust in health systems, which is critical to future outbreak and pandemic prevention.

METHODOLOGY

The study was based on the secondary data analysis method, relying on previous studies, reviews, and written case material of nurse-led vaccination awareness campaigns in various places in the world. This methodology was used on the basis that it allows broad and comparative insights into the topic with no requirement to undertake any primary field research. The paper adhered to the methodological procedure of searching relevant literature in accredited journals, international health reports, nursing recommendations and published immunization programs. Both qualitative (the perspectives of community residents on the topic, as well as the method of communication with the population) and quantitative (clear figures on increasing coverage and acceptance of vaccines) sources were used. Emphasis was placed on studies published within the last decade to ensure contemporary relevance, though earlier works were also considered when they provided valuable historical perspective. The keywords used in the search strategy included “nursing interventions,” “vaccination campaigns,” “awareness,” “health promotion,” and “vaccine uptake.”

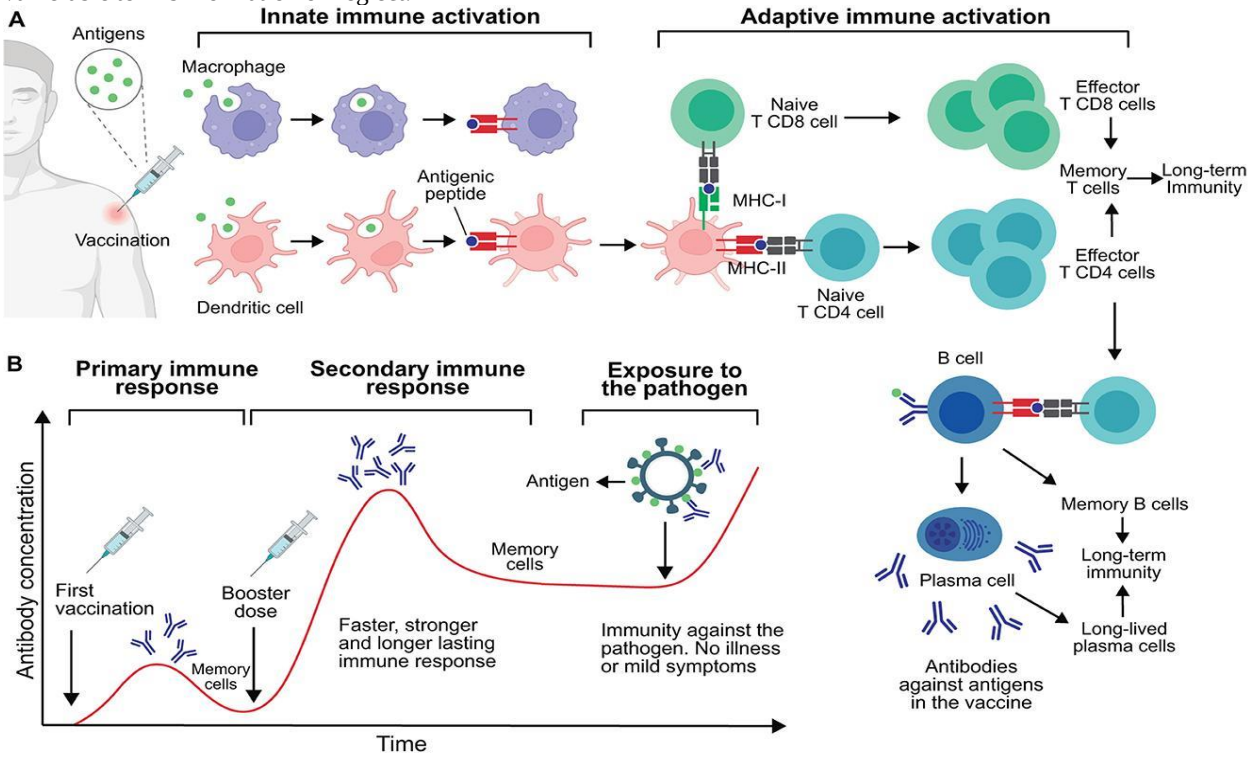
The data collected was categorized into major thematic areas: the role of nurses in childhood vaccination, adolescent vaccination (particularly HPV), adult and elderly immunization, community engagement strategies, digital and media-based outreach, barriers to effective campaigns, and policy integration. A thematic coding process was used to compare and synthesize results across these domains. The review deliberately focused on highlighting practical impacts of nursing interventions, such as improvements in immunization rates, enhanced trust in health systems, and reductions in vaccine hesitancy. At the same time, structural and systemic challenges that limited effectiveness were also identified. The methodological framework acknowledges certain limitations: reliance on published studies may introduce publication bias, the evidence base is uneven across regions, and results are context-specific rather than universally generalizable. Nevertheless, by consolidating diverse sources and perspectives, this methodology provides a comprehensive and balanced overview of how nurse-led vaccination awareness campaigns influence immunization outcomes and what strategies are needed to strengthen their impact in the future.

RESULTS AND DISCUSSION

Findings from secondary research clearly show that nurse-led vaccination awareness campaigns have had a tangible impact on improving immunization rates. This trend holds true across a range of settings—from wealthier nations like the United States and Australia to low- and middle-income regions in Africa and Asia. In Rwanda, for instance, school nurses played a central role in HPV awareness efforts, helping push vaccination coverage past 90%, which stands among the highest in sub-Saharan Africa. Meanwhile, in the U.S., pediatric nurses who spoke directly with parents about vaccine safety saw acceptance of the MMR vaccine rise by as much as 20% in groups that were initially hesitant. These examples highlight a consistent pattern: when nurses are given the tools and authority to act as both educators and advocates, they can make a significant dent in vaccine hesitancy—across all age groups and cultural settings.

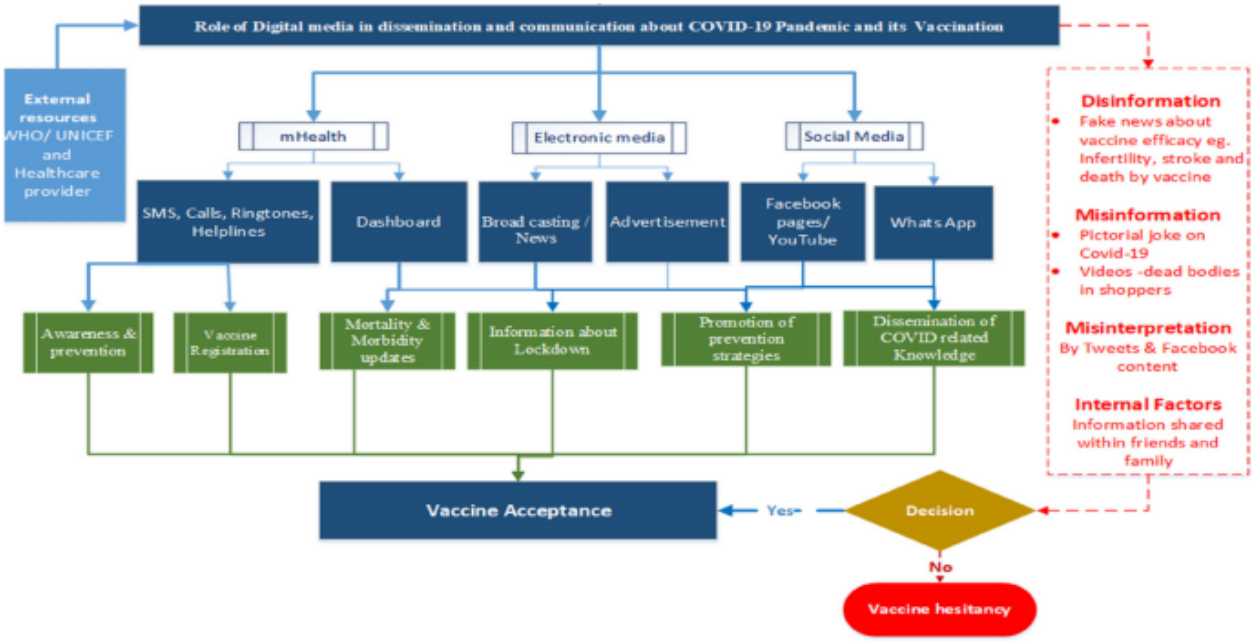
Focus Area	Nursing Intervention	Reported Impact / Outcomes
Childhood Immunization	Door-to-door education, counseling parents, school health sessions	Measles and polio vaccination coverage increased by **20–30%** in areas with nurse-led outreach
Adolescent Vaccination (HPV)	School-based awareness programs, engagement with parents and teachers	HPV vaccine uptake exceeded **80–90%** in countries prioritizing nurse-led campaigns
Adult Immunization	Community health talks in clinics, integration with chronic care visits	Influenza vaccination rates among adults increased by **15–25%**
Elderly Vaccination	Nurse-led education in elder care homes, home visits for high-risk groups	Pneumococcal vaccination uptake rose by **20%**, with fewer hospitalizations reported
Community Engagement	Village meetings, collaboration with local leaders, culturally tailored awareness	Higher trust in vaccines and reduced hesitancy across rural and marginalized populations
Digital Campaigns	Social media awareness drives, WhatsApp/Facebook groups, local-language video content	Reached thousands to millions of people; visible increase in vaccine confidence in urban settings
Overall Trust-Building	Nurses acting as consistent, reliable messengers of health information	Improved acceptance of vaccination recommendations, stronger trust in local health systems

Childhood vaccination campaigns have shown some of the most dramatic results from nurse-led interventions. Programs in Sub-Saharan Africa, supported by UNICEF and WHO, reported substantial increases in measles and polio immunization rates following nurse-conducted door-to-door education campaigns and local community engagement. In South Asia, nurse-led initiatives that combined vaccination services with maternal health counseling led to higher compliance among mothers and improved overall child health indicators. The evidence is equally strong in adolescent immunization, particularly for HPV vaccines. School-based campaigns led by nurses in countries such as Australia and the UK boosted HPV vaccine uptake to over 80%, compared to significantly lower rates in regions without such programs. These findings emphasize that nurses' accessibility to schools and families makes them critical agents in improving vaccination rates among young populations, who are often most vulnerable to misinformation or neglect.



Awareness campaigns organised by nurses have also been very influential in the rate of vaccination of the adults and aged groups, especially the influenza and pneumococcal vaccines. In the United States, influenza vaccine uptake among elderly patients in primary care clinics increased by 25 percent due to the educational sessions carried out by community health nurses in the clinics. In Europe, the nursing home initiatives conducted by nurses resulted in increased pneumococcal vaccination and fewer hospital admissions of older persons having chronic conditions. These findings indicate that the repeatedly close working contact of nurses with patients in chronic disease clinics, elder care facilities and home visits allow integration of vaccine promotion into the overall patient care. By targeting both psychosocial and biomedical causes, nurses can improve their coverage and the complication-reducing burden in high-risk populations that vaccine-preventable complications cause.

One of the recurring themes across the reviewed literature is the unique capacity of nurses to build trust at the community level, which is essential for addressing vaccine hesitancy. Nurses' credibility often surpasses that of other healthcare professionals because of their consistent presence, relational approach, and ability to communicate in culturally sensitive ways. For instance, in rural India and Nigeria, community health nurses partnering with religious leaders to deliver pro-vaccine messages dramatically increased measles immunization rates. During the COVID-19 pandemic, nurses in Brazil and India used social media platforms to share accurate vaccine information, countering misinformation and increasing public confidence in vaccines. These examples highlight that the success of vaccination awareness campaigns depends not only on the content delivered but also on the trustworthiness of the messenger—an area where nurses excel.



There are quite a number of obstacles that diminish the extent of nurse-led campaigns on vaccination despite their successes. The problem of shortages is ongoing, and the WHO (2020) estimates a global workforce shortage of 5.9 million nurses, representing only one area with low vaccination rates. Coupled with heavy workload, much of the nursing force does not have time or resources to undertake awareness programs. Also, limited training in vaccine science and communication skills at times make the nurse lack confidence in discussing hesitancy. In other settings, cultural resistance and misinformation through social media are also obstructions to the efforts of nurses. As another example, in some regions of Eastern Europe, where nurse-led campaigns aimed at dispelling such myths have been carried out, uptake of HPV vaccines has stalled. Other impediments, including a structural barrier to impact, e.g., the absence of funding to create spread-awareness initiatives and the lack of government recognition of the role nurses play in advocacy, are also limiting. These issues can only be combated through increased investment in nursing education, allocating resources, and policy integration.

Barrier	**Description**
Workforce Shortages	Global shortage of nurses limits time and resources for awareness initiatives
Heavy Workload	Clinical duties often take priority, reducing focus on education and campaigns
Training Gaps	Many nurses lack advanced communication or digital health promotion training
Misinformation Spread	Social media misinformation undermines nurse-led awareness in some communities
Limited Policy Recognition	Nurse contributions under-acknowledged in national immunization strategies
Funding Constraints	Few dedicated resources for awareness campaigns, especially in low-resource areas

The results of this review demonstrate a highly topical problem to improve the role of nurse-led vaccination campaigns in the context of general immunization strategies. Experiences in Rwanda, Australia, and the UK reveal that the institutionalization of nurse leadership in the promotion of vaccines result in sustainable changes in coverage. Policy frameworks ought to widen the scope of the communication and digital literacy jobs of nurses as public health advocates and fund the community engagement activities of nurses. Additionally, the inclusion of nurses in national immunization planning would be reflected in ensuring their experience on the ground influences the strategic planning in a manner that is specific to the context. Nurse-led campaigns can

benefit healthcare systems by increasing vaccine uptake, establishing resilience, as, in the long term, the populations will gain trust in and confidence towards healthcare markets, as well as in medical advice overall. With emerging diseases and vaccine refusal presenting ongoing challenges to global health, it is a point of strategic and moral importance that cultural change in vaccine-related attitudes and behaviors is something nurses are exceptionally positioned to provide leadership in.

CONCLUSION

The secondary research analysis that nurse-led vaccination awareness campaigns could be important in transforming immunization deficiency through the enhancement of immunization coverage and prevention of vaccine hesitancy and the establishment of improved trust between the community and the healthcare system. Vaccines are still among the best tools to prevent infectious diseases but their efficacy depends largely on the willingness of people to accept it and use it continuously. The impressive capacity of bridging the gap between biomedical science and knowledge in the population is achieved because nurses are the most available and trusted health professionals. Their stewardship in the promotion of vaccines assures that they will be equipped with the right information given in a culturally sensitive way, misconceptions and lack of knowledge removed, and empowered in their decision making about health. This evidence shows that when nurses are encouraged to assume the leadership of such endeavors, there is a tangible change in vaccination rates as well as overall trust in health care services in the community.

Among the most valuable discoveries of the research is that the influence of nurses covers the age range and types of vaccines. Whether childhood immunization campaigns against measles and polio, adolescent-focused HPV programs, seasonal influenza campaigns among adults, or pneumococcal vaccination of the elderly, nurses have long been shown to be effective at increasing awareness and stimulating uptake. They will be successful given that they will act as both providers and educators. With the fusion of clinical care and interpersonal skills, nurses are in a unique spot to work with individuals and families on a level that provides a source of credibility and invites behavioural change. Moreover, their availability in schools, community centres, clinics, and even via the digital medium can help them reach underserved populations or even the vaccine-resistant group. The power to imbibe awareness into the every-day life of the community is what makes nurse led campaigns so awesome compared to top-down communications strategies in isolation.

The study, however, also demonstrates that the possibilities of vaccine delivery through nurse-led campaigns are not always supported by the systems. Trained deficit workforce, unspecialized resources that are allocated to awareness programs, limited learning with regards to communicative methods, and inadequate policy awareness undermine them in terms of scope and sustainability. In most of the areas, there is excess clinical workload to the nurses so that they have no more energy and time to focus on education and awareness. The clean-up misinformation work in digital media is becoming extremely fast paced and as a result, attempts to support vaccination are being met with an increased sense of resistance. These obstacles imply that although nurses can play an active role in advertising vaccines, their potential can only be maximized through the support to be offered by the health systems in terms of availability of resources, training, and acknowledgement. It becomes necessary to invest in continuous professional development, online health literacy, and support of institutions to empower nurses to conduct discussions on the topic of awareness camps with confidence and command.

Vaccination awareness initiatives organized by nurses are not only feasible interventions in the context of elevating the immunization rates but also a more far-reaching method of creating robust and trust-basing outcomes of the healthcare system. This effort to empower nurses in this position would help with more equitable access to healthcare, especially in marginalized communities where misinformation and hesitancy are most intense. Individuals and organizations working in global health policy need to understand that investment in better nurse-led campaigns will help in disease prevention as well as build credibility of the overall health system in the long term. Increasing the abilities of nurses in immunization promotion, supplying them with the needed resources, and incorporating their knowledge into national immunization plans, countries will achieve much success on the way toward universal vaccination. Finally, it is not only a struggle to produce safe and efficient vaccine products but more importantly getting communities to accept and embrace them. Nurses are in a unique position to fill this gap as trusted messengers and advocates to improve the future health of populations worldwide.

REFERENCES

1. Abu-Rish, E. Y., Elayeh, E. R., Mousa, L. A., Butanji, Y. K., & Albsoul-Younes, A. M. (2016). Knowledge, awareness and practices towards seasonal influenza and its vaccine: implications for future vaccination campaigns in Jordan. *Family practice*, *33*(6), 690-697.
2. Bechini, A., Moscadelli, A., Sartor, G., Shtylla, J., Guelfi, M. R., Bonanni, P., & Boccalini, S. (2019). Impact assessment of an educational course on vaccinations in a population of medical students. *Journal of preventive medicine and hygiene*, *60*(3), E171.
3. Guillari, A., Polito, F., Pucciarelli, G., Serra, N., Gargiulo, G., Esposito, M. R., ... & Simeone, S. (2021). Influenza vaccination and healthcare workers: barriers and predisposing factors. A literature review. *Acta Bio Medica: Atenei Parmensis*, *92*(Suppl 2), e2021004.
4. Khan, T. M., Khan, A. U., Ali, I., & Wu, D. B. C. (2016). Knowledge, attitude and awareness among healthcare professionals about influenza vaccination in Peshawar, Pakistan. *Vaccine*, *34*(11), 1393-1398.
5. Kwok, K. O., Li, K. K., Wei, W. I., Tang, A., Wong, S. Y. S., & Lee, S. S. (2021). Influenza vaccine uptake, COVID-19 vaccination intention and vaccine hesitancy among nurses: A survey. *International journal of nursing studies*, *114*, 103854.
6. La Torre, G., Scalingi, S., Garruto, V., Siclari, M., Chiarini, M., & Mannocci, A. (2017, March). Knowledge, attitude

and behaviours towards recommended vaccinations among healthcare workers. In *Healthcare* (Vol. 5, No. 1, p. 13). MDPI.

7. Lin, Y., Hu, Z., Alias, H., & Wong, L. P. (2022). The role of nurses as human papillomavirus vaccination advocates in China: perception from nursing students. *Human Vaccines & Immunotherapeutics*, *18*(1), 2030169.
8. Lineberry, M. J., & Ickes, M. J. (2015). The role and impact of nurses in American elementary schools: A systematic review of the research. *The Journal of School Nursing*, *31*(1), 22-33.
9. Oku, A., Oyo-Ita, A., Glenton, C., Fretheim, A., Ames, H., Muloliwa, A., ... & Lewin, S. (2017). Perceptions and experiences of childhood vaccination communication strategies among caregivers and health workers in Nigeria: A qualitative study. *PloS one*, *12*(11), e0186733.
10. Oku, A., Oyo-Ita, A., Glenton, C., Fretheim, A., Eteng, G., Ames, H., ... & Lewin, S. (2017). Factors affecting the implementation of childhood vaccination communication strategies in Nigeria: a qualitative study. *BMC public health*, *17*(1), 200.
11. Perlman, S., Shamian, J., Catton, H., & Ellen, M. (2023). Assessing the country-level involvement of nurses in COVID-19 vaccination campaigns: A qualitative study. *International Journal of Nursing Studies*, *146*, 104569.
12. Perman, S., Turner, S., Ramsay, A. I., Baim-Lance, A., Utley, M., & Fulop, N. J. (2017). School-based vaccination programmes: a systematic review of the evidence on organisation and delivery in high income countries. *BMC public health*, *17*(1), 252.
13. Peters, M. D. (2022). Addressing vaccine hesitancy and resistance for COVID-19 vaccines. *International journal of nursing studies*, *131*, 104241.
14. Pless, A., McLennan, S. R., Nicca, D., Shaw, D. M., & Elger, B. S. (2017). Reasons why nurses decline influenza vaccination: a qualitative study. *BMC nursing*, *16*(1), 20.
15. Rashid, H., Yin, J. K., Ward, K., King, C., Seale, H., & Booy, R. (2016). Assessing interventions to improve influenza vaccine uptake among health care workers. *Health Affairs*, *35*(2), 284-292.
16. Schumacher, S., Salmanton-García, J., Cornely, O. A., & Mellinghoff, S. C. (2021). Increasing influenza vaccination coverage in healthcare workers: a review on campaign strategies and their effect. *Infection*, *49*(3), 387-399.
17. To, K. W., Lai, A., Lee, K. C. K., Koh, D., & Lee, S. S. (2016). Increasing the coverage of influenza vaccination in healthcare workers: review of challenges and solutions. *Journal of Hospital Infection*, *94*(2), 133-142.
18. Wilson, R., Zaytseva, A., Bocquier, A., Nokri, A., Fressard, L., Chamboredon, P., ... & Verger, P. (2020). Vaccine hesitancy and self-vaccination behaviors among nurses in southeastern France. *Vaccine*, *38*(5), 1144-1151.