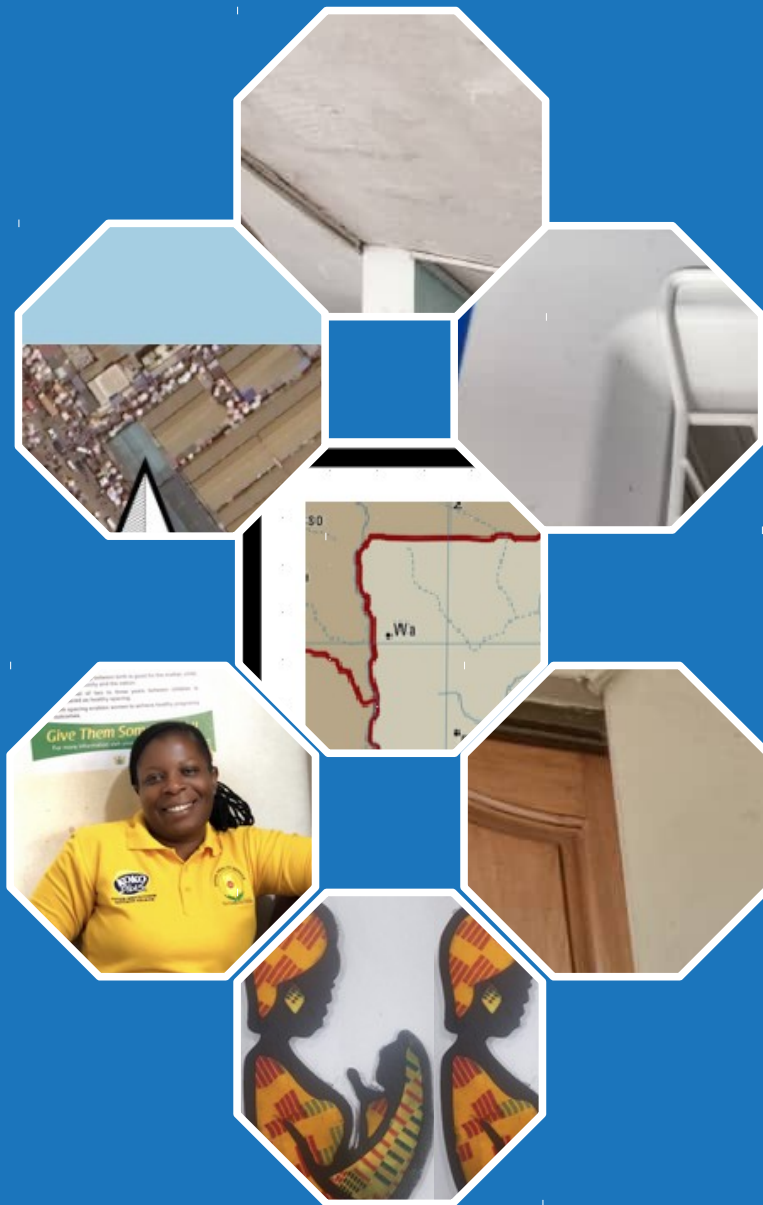


Immunization in Ghana: Long-Term Successes Admit Challenges

HUMAN CENTERED STORIES



The Right People in the Right Places

Immunization in Ghana has gained worldwide recognition for its quality and achievements. The country has justified this reputation by achieving significant coverage in the implementation of the COVID-19 vaccine. However, this success has not come without challenges. Vaccine hesitancy and refusal remain prevalent issues. Overcoming these challenges requires dedication from multiple stakeholders, whose personal motivation and engagement are key drivers of success. Various actors continue to contribute at different levels, including top-level advisors serving as a Council of Elders, strong partnerships, and committed individuals across all levels of the health system and within communities.

The nimble feet of the tiny hands

The primary challenge of immunization, especially in contexts where health infrastructure is limited and demand for vaccines is not yet strong enough to encourage the use of vaccination services, is to develop strategies that ensure access for all.

In this regard, bringing vaccination closer to communities and ensuring its administration at their doorstep are the most relevant approaches. The success of these strategies relies primarily on careful planning but, above all, on the teams and personnel responsible for expanding vaccination access to every corner. They are the agile feet and diligent hands of vaccination that turn these approaches into reality.

Beyond mass communication efforts using broad-reaching channels, it is the local vaccination advocates who bring information directly to households, ensuring that no parent remains uninformed and no child is left behind. These same dedicated individuals navigate the streets of cities and the remote paths of rural areas to deliver vaccines to children.

For a long time, the fight against polio has depended on this last-mile workforce. Today, they remain key players for various vaccines, including the COVID-19 vaccine—just like this team on the streets in Accra, administering COVID-19 vaccines and directing parents to fixed vaccination sites when needed. With regular support from colleagues such as Supervisor Patricia Yeboah and Regional Supervisor Patience Baoh, street teams interact with each potential vaccine recipient to ensure they receive the required doses. Ghana’s vaccination success story would not be complete without them.



THE COUNCIL OF ELDERS



The performance of Ghana's Expanded Program on Immunization (EPI) benefits greatly from the expertise of experienced elders who offer valuable insights and recommendations to enhance immunization efforts. Among these distinguished leaders are Dr. K.O. Antwi-Agyei, former National Immunization Program Manager, and Dr. John Eleeza, a retired Director of the Ghana Health Service. Recently, these two outstanding figures contributed to the development of a new strategic plan for immunization in Ghana. We call them the *Council of Elders* of the immunization program.

Dr. K.O Antwi - Agyei retired and former EPI manager of Ghana

Dr. K.O. Antwi Agyei, service, serving from 1983 until 2013, had a remarkable career with the Ghana Health. During this time, he held several critical positions. From 1997 until 2003, he served as the Brong Ahafo region's first Director of Public Health, making important contributions to public health efforts. Following that, he was appointed National Immunization Program Manager in 2003, giving him the ability to influence national immunization strategies.



Dr. Agyie also worked as a program manager for the Expanded Program on Immunization (EPI), PATH Ghana, and as a consultant for the Ministry of Health. His significant skills and leadership have had a long-term impact on public health in Ghana and immunization.

Personal Motivations and Key Influences Driving a Lifelong Commitment to Vaccination Advocacy and Public Health

His dedication to preventive medicine was greatly impacted by seeing firsthand the catastrophic effects of the 1983 measles outbreak while working as a medical officer at Brong Ahafo District Hospital during his rotation. Observing measles-related deaths in youngsters underscored the vital importance of vaccination, igniting a keen interest in public health. He was inspired to pursue a profession in medicine with an emphasis on disease prevention by his early witness to the misery brought on by a variety of ailments. Motivated by a desire to avert the misery he had witnessed in hospitals, he persevered in overcoming the obstacles encountered in the practice of public health. Knowing the background of Ghana's immunization programs, which started in 1968, strengthened his commitment. All of these encounters influenced his desire to prioritize immunization.

The Social and Professional Contexts and Challenges that Strengthened My Commitment to Immunization Efforts

In managing immunization programs, financing presents a recurring challenge, particularly reliant on external donors and partners. Historically, Ghana's government shouldered this responsibility, evident during the polio campaigns when substantial financial contributions were made. However, the landscape shifted with the advent of Gavi's support in 2002, marking a crucial transition in funding dynamics. Before external assistance, Ghana funded immunization efforts independently since 1978, highlighting reliance on governmental resources.

Over time, the introduction of new vaccines like pentavalent (combining DPT with hepatitis B) expanded the financial burden. Despite government efforts to procure traditional vaccines such as measles-rubella and polio, costs escalated with each addition to the immunization regimen. This financial strain necessitated diverting funds from other sectors, underscoring the delicate balance in resource allocation. The sustainability of immunization programs in Ghana faced a critical challenge as Gavi's support, initially perceived as enduring, began to diminish. Gavi introduced a Financial Sustainability Plan (FSP) to guide countries like Ghana in gradually taking over financing responsibilities. Despite efforts to plan for financial independence, the reality proved challenging as Gavi extended support through bridge financing due to countries' struggles to adhere to sustainability plans. This dependency highlighted the difficulty of transitioning from subsidized vaccines, like DPT, to more costly alternatives such as pentavalent, which rose to \$3.5 per dose.

The dual pressures of financial constraints and ongoing disease burden underscored Ghana's dilemma. The country sought to balance introducing new vaccines to combat diseases while grappling with limited resources. This dynamic illustrates the precarious nature of health financing in low-income settings, where external aid plays a crucial role but cannot fully substitute sustainable, domestic funding. Ghana's experience reflects broader global challenges in immunization financing, emphasizing the need for strategic planning and resilient health systems to navigate transitions and ensure continued access to essential vaccines.

The Millennium Development Goal aimed to reduce child mortality by two-thirds by 2015, a target challenging for Ghana given its high initial death rates (120 per 1000 live births). Malaria, measles, pneumonia, and diarrhea were leading causes, managed through early treatment and vaccination. Sustainable financing was pivotal, often reliant on external partners. Despite progress with partner support, ensuring long-term vaccination sustainability remained a persistent challenge. Ghana's strategy focused on balancing immediate health needs with future financial independence to secure ongoing access to life-saving vaccines amid evolving global health funding dynamics.

The challenge of balancing vaccine expansion with financial sustainability was stark in Ghana's health strategy. Despite high mortality rates among children under five from diseases like malaria, measles, pneumonia, and diarrhea, introducing new vaccines was essential but financially burdensome. The Millennium Development Goals spurred efforts to reduce child mortality, highlighting the urgent need for effective prevention through vaccination. However, reliance on external partners for funding posed risks of sustainability once support waned. Ghana's approach involved seizing current opportunities while partners were active, but long-term planning and financial preparation lagged, often leading to delays in vaccine introduction. The proverbial Ghanaian wisdom of "crossing the bridge when we get there" mirrored the reactive approach to funding challenges, where immediate needs sometimes overshadowed future planning. This dilemma persisted, delaying the introduction of vaccines like pentavalent and PCV (pneumococcal and rotavirus), despite their potential to significantly reduce child mortality. Ultimately, achieving sustainable immunization coverage required navigating these

complexities and securing stable, domestic funding sources to safeguard public health gains. The challenge of financing immunization in Ghana is exacerbated by the uncertainty and unpredictability of funding from international partners. Despite efforts to plan under the National Immunization Strategic Plan, Ghana faces significant hurdles due to partners' inability to commit to long-term financial support. Partners like WHO and UNICEF often cannot forecast funding beyond one or two years, hindering Ghana's ability to develop sustainable immunization programs. This lack of forward-loaded funding jeopardizes preparedness for outbreaks and undermines the country's capacity to ensure consistent vaccine availability and delivery. The situation reflects a critical need for more stable financing mechanisms that can support Ghana's immunization goals over extended periods. Addressing these funding uncertainties is essential to maintaining progress toward reducing childhood mortality and achieving broader health objectives effectively.

The financing of Ghana's immunization program faces critical challenges, primarily due to unreliable and short-term funding from international partners. Despite significant gains like eliminating measles-related deaths from 2003 to 2022, the program's stability is threatened by fluctuating financial support. Measles, once a leading cause of under-five mortality, has been effectively controlled, contributing to Ghana's progress towards reducing child deaths. However, sustaining these gains and introducing new vaccines like those for malaria requires consistent funding.

The unpredictability of partner contributions, often reactive during outbreaks rather than proactive, undermines Ghana's ability to plan and maintain immunization efforts effectively. Achieving the Millennium Development Goal of reducing child mortality to 40 deaths per 1000 live births by 2015 was partly successful, yet ongoing financial insecurity poses a formidable barrier to further progress. Ghana's immunization achievements underscore the importance of robust, long-term financing strategies to ensure continued success in public health initiatives and the overall well-being of its population. The speaker critiques the traditional disconnect between public health experts and politicians regarding budgeting and financing. They highlight how funds are often used reactively rather than strategically in health sectors. They commend the collaborative effort involving Ghana's Ministry of Health, Finance, NGOs, and partners to integrate immunization funding into the national budget towards Gavi's 2030 graduation roadmap. They advocate for a structured approach akin to the District Assembly Common Fund, proposing a dedicated administrator to ensure consistent financing. They stress that health investment, not expenditure, is essential, citing the cost-saving benefits of preventing diseases like measles and reducing hospitalization burdens on families. This underscores the need for sustained governmental commitment to prioritize health as a strategic investment.

Best practices in EPI in Ghana

In examining the impact of diseases like measles on public health, it becomes evident that beyond immediate health concerns, there are significant broader societal implications. Measles, known for its high contagiousness, not only poses direct health risks but also disrupts educational opportunities.

Children afflicted with measles often require isolation in hospital settings to prevent further spread, affecting their ability to attend school and participate in normal activities. This not only hampers their education but also potentially exacerbates socio-economic disparities, as those from less fortunate backgrounds may face greater challenges in accessing healthcare and education during illness episodes.

Historically, hospitals have dedicated specific sessions to manage measles outbreaks due to its potential to spread rapidly among children nearby. This strategic approach aims to contain the disease and minimize its impact on vulnerable populations. These observations underscore the need for comprehensive public health strategies that address both the medical and socio-economic dimensions of infectious diseases like measles to mitigate their broader societal consequences effectively.

Since 2009, the number of districts in Ghana has significantly increased from 110 to 261, presenting challenges in public health planning, particularly for immunization programs. The creation of new districts is generally welcomed, but it complicates demographic data collection and allocation of resources. Immunization strategies rely heavily on accurate population targets to ensure coverage and effectiveness. However, the lack of clear population denominators for newly formed districts hinders these efforts. Local authorities often lack detailed knowledge about community compositions within newly created districts, further complicating logistical planning and resource allocation. This situation underscores the importance of synchronized administrative and health planning to ensure that expanding district boundaries do not impede public health initiatives, particularly critical ones like immunization programs aimed at achieving comprehensive population coverage.

In Ghana, the rapid proliferation of districts from 110 in 2009 to 261 currently has brought to the forefront significant challenges in public health planning, particularly in the implementation of immunization programs. The creation of new districts is generally welcomed but has highlighted deficiencies in legislative frameworks governing their establishment. Currently, there is a critical need for laws that clearly define district boundaries, specify accurate population figures, and list communities within each district.

The expansion of districts in Ghana has exacerbated challenges in public health management due to unclear boundaries and community lists. Local governments struggle to clarify administrative divisions, such as in Accra, where former entities like Accra Metro have been subdivided into numerous municipalities. This fragmentation leads to boundary disputes, especially along peripheral areas like Ga South, complicating healthcare delivery and immunization efforts. Internally, ambiguous areas during vaccination campaigns can result in missed coverage, becoming hotspots for disease outbreaks. Despite routine immunization showing strong community participation, campaigns face logistical hurdles in ensuring comprehensive household coverage. Addressing these issues requires enhanced administrative clarity and targeted public education efforts to ensure effective healthcare access and coverage across all districts.

This lack of legislative clarity poses obstacles in health planning, where disparities in immunization coverage rates between districts are observed. Some districts report coverage exceeding 100%, while

standardized data and administrative practices to ensure equitable healthcare distribution and optimize resource allocation based on reliable demographic information.

Moving forward, aligning legislative measures with health planning needs is crucial to address these challenges effectively and ensure that the expansion of district boundaries supports, rather than hinders, public health objectives like comprehensive immunization coverage

Success story

Ghana takes pride in its achievements in immunization, primarily focused on reducing mortality rates and preventing diseases effectively. The success is evident in the significant decline of under-five mortality rates, reflecting successful disease prevention efforts. Ghana has met international targets, such as maintaining a polio-free status since 2007, despite occasional vaccine-derived polio outbreaks swiftly contained within six months. This continuous maintenance of polio-free status demonstrates Ghana's commitment to sustaining immunization success and preventing wild polio cases. Overall, these achievements underscore Ghana's effective immunization strategies and ongoing efforts to ensure public health through rigorous disease prevention measures and international compliance with immunization goals.

Ghana celebrates significant milestones in its immunization efforts, notably achieving zero measles deaths since 2003 and eliminating neonatal tetanus around the same period. Elimination of neonatal tetanus signifies reducing cases to less than one per thousand live births per district annually, meeting global elimination standards. These achievements highlight Ghana's successful adherence to international targets for disease eradication and elimination. The country's commitment to achieving and maintaining these milestones demonstrates effective public health strategies and robust immunization programs. Moving forward, Ghana aims to sustain these successes while continuing to strive towards global eradication goals, ensuring continued protection against preventable diseases through comprehensive immunization initiatives.

Lessons learnt

In fostering a successful immunization program, sustainable financing emerges as crucial. Viewing immunization as an investment rather than a mere expenditure underscores its long-term benefits. Close collaboration with politicians is imperative to ensure mutual understanding and support for public health initiatives. Sustainable financing not only secures resources for ongoing immunization efforts but also ensures resilience against fluctuating external funding. This approach encourages stability and predictability in healthcare planning, vital for achieving sustained immunization coverage and disease prevention goals. Effective engagement with policymakers enhances advocacy and facilitates informed

decision-making, aligning political support with public health priorities for the benefit of communities nationwide.

During a pivotal session arranged by UNICEF with Ghana's Parliamentary Select Committee on Health, concerns were raised about the perceived rapid introduction of vaccines. As the then EPI manager, I highlighted that between 2003 and 2008, Ghana had not recorded any measles-related deaths. This presentation underscored the effectiveness of Ghana's Expanded Program on Immunization (EPI) in preventing measles mortality. The session served to clarify misconceptions and emphasize the program's positive impact on public health. It highlighted the importance of evidence-based decision-making in public health policy, demonstrating that strategic vaccine introductions contribute significantly to disease prevention and mortality reduction. This engagement with policymakers is critical for ensuring informed support and effective implementation of immunization strategies that benefit the health and well-being of Ghana's population.

testimony from older mothers highlighted the historical impact of measles on child mortality, motivating acceptance of other vaccines. Presenting this testimony to parliament emphasized the real-world benefits of immunization, urging evidence-based decision-making in public health policy.

In sessions with Ghana's Parliamentary Select Committee on Health, the EPI manager advocates for evidence-based decision-making in immunization policy. Utilizing cost-effective and cost-benefit analyses, they emphasize the impact of immunization on reducing child mortality and illness. The manager stresses the importance of disease-focused strategies over mere coverage metrics, urging for data-driven assessments of vaccine efficacy and cold chain practices. They highlight the need for capacity building at district levels to ensure quality vaccination practices. The manager encourages transparent reporting and dialogue to align coverage rates with disease outcomes, fostering informed strategies for disease prevention and health promotion nationwide.

Dr John Eleeza

A retired Director of the Ghana Health Service provides his experiences with vaccination in the country.



1. Motivation

The effectiveness of immunization was observed when Vaccine-Preventable Deaths (VPDs) were

reduced, evidenced by zero mortalities from measles. This became a motivator when I reflected and remembered the number of children who used to die from measles and other VPDs while I was practicing as a medical doctor. I understood the importance of vaccinations and decided to engage myself in vaccination activities by receiving education in public health and specializing in immunization.

The specific moment from my personal life that was decisive in my future choice that led to my involvement with vaccinations and putting myself in the forefront was the firsthand experience with smallpox vaccination. As a child, receiving a smallpox vaccine from health workers who had travelled to my community to help protect us from a disease was impactful. Although I did not know much about vaccination at the time, that memory in my adult medical life helped me appreciate the effort of the health workers then and motivated me to be at the forefront of vaccination activities. Looking at data from the past, the morbidity and mortality rates of smallpox at the time, I now appreciate the smallpox shot some health workers gave me, ensuring that I did not become a statistic in the smallpox data.

2. Specific problems with immunization

The inability of the vaccination activities to reach all the target groups, with some left out is a major challenge for immunization activities. Some of the reasons for this challenge were hard-to-reach communities in the country. There are some populations living in areas not classified as hard to reach, but there are no health facilities and health workers in those areas to provide health services including immunization. Another factor influencing the problem above is the lack or low motivation among health workers to carry out the activities. It is especially a challenge when vaccines are readily available.

Zooming into measles, the country is not achieving over 90% coverage for measles doses one and two, with dose two far less encouraging. This gives cause for worry as this gradually builds cohorts of unvaccinated children with the potential outbreaks of measles in the country. This threatens the gains made in reducing the morbidity and mortality of measles in the country. This is largely due to missed opportunities for children who are usually in their second year of life.

3. Problem-solving practices and ideas

Amid vaccines and health staff availability, there needs to be deliberate efforts to reach the populations in the hard-to-reach communities. There needs to be proper planning to visit the hard-to-reach communities such as the islands and scattered communities. When plans are in place to visit places like the islands, plans must be made to acquire a safe boat, ensuring there is enough fuel for the trip, as well as safety equipment for the health staff such as life jackets. The food for the health staff during their stay on the island during service provision has to be allocated also. Without proper planning, this activity will not be successful as it is quite costly. During my time as a district director in Kpando, I used to send staff to the island communities to provide health services. Proper planning was always made to ensure that safe boats from WHO were available, as well as fuel for the trip. Plans were also made for food and water for the health staff while on the island, as well as tents for camping as they usually spent a week in the island communities. This proved very beneficial in improving vaccination coverage and minimizing the risk of outbreaks. This is a very good way of reaching communities on the islands, and although this strategy is usually costly, it is doable, and the benefits outweigh the costs involved.

Inland hard to hard-to-reach communities also need proper planning to help visit those communities and provide life-saving interventions to the populates. Districts with poor road networks should mobilize for motorbikes, fuel and other resources and visit those communities. This activity can be planned to be conducted every month to help reduce defaulter rates. Occasionally, supplementary immunization activities such as mop-ups and mass immunization campaigns can be organized to catch up with the few children who are still missed.

In the case of low measles coverage, a practice that can help in ensuring that parents of children who visit the health facilities for other interventions and are eligible for vaccinations provide their maternal and child health record booklets to assess their immunization status. Children who have missed doses of vaccines can then be referred to the Reproductive and Child Health unit to receive the required vaccines. This activity will go a long way to help identify children who have defaulted or have not received any vaccines and vaccinate them, thereby increasing the coverage and limiting the chance for outbreaks and morbidity.

Caregivers also need to be educated on the 2nd year of life vaccination and its importance to help create awareness and improve measles coverage, especially the 2nd dose of measles. This is important because some mothers are used to the previous information that vaccinations ended at nine months and so they need to be reminded that children receive life-saving vaccines in their second year of life. This is especially important to help change the narrative for the 2nd year vaccines.

4. Training suggestions

The knowledge of our health staff needs to improve, firstly on the immunization policy, as they need to have a grip on what exactly the policy says. This is important because some health staff are not very familiar with the policy and think once a child misses a vaccine that is it for the child, and the child can

no longer take the vaccine again. Health staff need training and sensitization on the policy as a whole so that they become aware of the minimum age and maximum age for each vaccine.

Finally, I'll recommend that health staff on different levels be trained on proper microplanning for immunization activities. Although GIS Ghana has trained some staff on Geo-enabled microplanning, there needs to be further training for all staff at all levels to ensure that immunization activities are effective and efficient. This training needs to be done by national and regional teams at the district and sub-district levels. This is because training done at the regional level for district teams who are supposed to train sub-district level staff (Training of Trainers) is not usually effective, sometimes due to small resources allocated to the training.

5. Success stories

The minimization of outbreaks of vaccine-preventable diseases is a major success for EPI in Ghana. Though there are occasionally a few pockets of cases, they are very limited. The number of confirmed measles cases has reduced drastically since the introduction of the measles vaccine in 1978 from over 140,000 cases to a little over 80 cases in 2023. This is a huge success for the Expanded Program in Immunization for Ghana.

Another success is the elimination of the wild poliovirus from Ghana. Ghana has not detected any wild poliovirus since 2007, and that means the population are free from the wild poliovirus infection and the disabilities it comes with. Also, no measles-related mortality has been reported in some years. Yellow fever is also a vaccine-preventable disease that has been reduced due to the introduction of vaccines. Generally, the reduction in under five mortalities from over 150 mortalities per 1000 live births in the late 1990s to under 60 mortalities per 1000 live births in 2023 is a wonderful success for immunization.

6. Lessons learnt

Methodical Technical planning is key for any successful EPI activity. To have a strong EPI system, stakeholders need to plan at the beginning of every year and make sure the resources required are made available or have proper plans of making them available when needed. These resources include the vaccines and the appropriate cold chain system to maintain the vaccines. The country has a huge and reliable health workforce, but there are some knowledge gaps regarding immunizations that need bridging to maximize the output of the workforce and thereby increase coverage and reduce vaccine-preventable diseases.

7. Managerial level issues

Non-proactiveness at the national level (Ministry of Health) is an issue as it causes occasional shortages of certain vaccines, threatening the gains made in vaccinations. At the national EPI level, there is a challenge with transportation. Transporting vaccines from the national level to the regional level is sometimes difficult due to fewer vehicles at the national level. At the regional level, knowledge gaps pose a challenge to the EPI as well as poor teamwork. The region also faces some challenges with

the transportation of vaccines to the districts due to the number of vehicles at the regional level. At the district level, poor knowledge of vaccination and EPI among some directors poses a challenge to successful EPI activity in those districts. Such directors may have challenges understanding the need to support EPI activities with resources. The district EPI managers also seem to have challenges with vaccine forecasting, leading to regular shortages in the district or overstocking of vaccines in the district. These districts need to be identified and given training on vaccine forecasting.

8. Conclusions

It is evident that for a successful EPI campaign, there needs to be an effective workforce for EPI. The district directors should liaise with district assemblies and other stakeholders to provide accommodation for health staff in areas where there is none, as this is likely to help with frequent immunization sessions and improve coverage, thereby reducing the risk of outbreaks. A personal experience of liaising with a district assembly to provide accommodation for a doctor in one district proved that it is doable. Vaccination is a cost-effective public health intervention that needs to be supported by all levels of stakeholders.

Dedicated practitioners



TRANSLATING A PASSION FOR CARING IN A DEDICATION TO PREVENTION

When Lucy finds fulfillment as a Community Health Nurse



Ms. Lucy, a 41-year-old Registered Community Nurse (RCN), began her career as a Community Health Nurse (CHN) in 2008. Over the years, she advanced in her profession and now holds the rank of Senior Staff Nurse (SSN). Her journey started in the Dangbe West district, where she was first stationed, and she currently serves at the Korle Klotey Municipal Health Directorate.



This very active vaccine advocate like caring for people, and that passion for caring for people pushed her into nursing.

“When I was applying for the nursing program, I had no idea of the preventive and curative aspects and only bought forms for Community Health Nursing because that was what was available, but after finishing the course and practicing as a CHN, I must say I have never regretted once working as a preventive nurse. Currently, I have been working for close to 17 years and although my passion for caring for people pushed me into nursing, I have enjoyed my role as a preventive nurse and I still enjoy it.”

No specific element or facts of her personal or family life was decisive in her choice, but just the love she had for caring for people. Spreading happiness and seeing the joy she can provide directly on the faces of people when they receive care, and on the face of mothers are the principal sources of her motivation. Her motivation is not about money as the per diem for vaccination campaigns is nothing too huge to be a motivation. She finds her fulfillment in knowing that her services will protect children from diseases that can disable them or even kill them.

Some problems related to vaccine uptake mainly refusal or hesitancy convinced her that there is still a lot to do to improve demand for immunization.

“my encounter with persons with strong vaccine hesitancy and mistrust for health workers was a challenge that strengthened my commitment to vaccination activities. My encounters with several individuals who were reluctant to receive vaccines due to myths or cultural beliefs that contradicted the benefits of vaccination and convincing these individuals to trust medical advice over misinformation became a daily challenge. However, experiencing these challenges deepened my commitment to vaccination activities.”

Lucy has few experiences that could affect her involvement in immunization activities. Some of these experiences indicate that her work is not as easy as some may think and in some situations like in door-to-door activities, as done during mop-up immunization sessions, it even can be risky. Despite living suspicions, accusations and abusive attitudes from anti-vaccination individuals, she is still engaged in promoting immunization when and where ever it is necessary.

“A vaccination-related event I have experienced is an Adverse Event Following Immunization (AEFI). In the facility where I work, a child experienced swelling on the face immediately after receiving a routine immunization. But the proper channels and processes were followed, and I can say that the child recovered nicely and is doing very well now.

I have experienced some vaccination-related events. Recently, during the peak of COVID-19 and mass vaccination campaigns had started, I was once verbally abused in my house-to-house activities to get people vaccinated. I remember one man who rained a lot of insults on me mainly because he had heard

a lot of misinformation about the COVID-19 vaccine and thought I was part of the ploy to use the vaccines to harm them.”

As to the solutions to issues identified, Lucy has many ideas, some of which are more urgent. The problem-solving practices or approaches that she thinks are essential and that need to be used are continued education to the public on the benefits of immunization and the information on safety and efficacy of vaccines.

“ We have to continually educate the general public to reduce health misinformation in the communities. Most of the refusals are related to some misinformation that they have heard so if we continue to actively educate the public on the safety and effectiveness of vaccines, I think it will help solve some problems.”

Success and achievements are measured of courses, in terms of reduction in the number of vaccine preventable disease cases and deaths for Lucy. The fact that it is less common to hear of children dying from measles, pneumonia or diarrhea is a big success. However, for her, beyond these considerations success is a matter of contributing to populations' satisfaction.

“The joy I get when I provide services to caregivers is a major success for me, knowing that children have been protected from diseases.”

Lucy has concerns about many issues in immunization activities. In her view, as a lesson learned, communication is one of the areas that requires changes including in mop-up campaigns for more effectiveness.

“... currently, information on vaccination activities is not given to the general public in time. This makes it difficult for vaccinators to reach clients and vaccinate them without much trouble. Vaccination teams visit the homes of caregivers during immunization campaigns and are told that they were not aware of any vaccination campaign. Dissemination of information on vaccination activities has to come down early to ensure successful vaccination campaigns and also help improve routine immunization activities.”

For Lucy, it is evident that vaccine save lives and there is a need of more committed health workers to ensure that the gains are maintained. For her, without personnel that are committed, the success stories may die off.

**Experienced and engaged supervisors, disease control
and surveillance Officers**





Juliana Asamoah has dedicated the past 15 years to her role as a disease control officer. Her responsibilities include monitoring and managing the surveillance of diseases, particularly emerging and re-emerging threats. As the TB focal person in her district, she oversees the tracking of tuberculosis cases. In addition to her surveillance duties, she actively participates in Expanded Program on Immunization (EPI) activities, including mass immunization campaigns and routine vaccinations, ensuring the health and well-being of her community. Being a key player in immunization activities finds its explanations rooted in Juliana's family life.

"I can remember a family member who got polio when I was young. She was my cousin's second daughter. When it started, we all did not understand what was happening as she was strong and healthy, and then she could not walk again. It was later that we were told she had suffered from polio,

and while she was able to walk again, it wasn't as good as before she had the virus. Seeing this event first-hand, I was motivated to understand such diseases and know how to fight against them and prevent future occurrences. And this is how I ended up being at the forefront of vaccination activities."

Juliana has always been passionate about people and she thinks, that passion was very decisive in her choice of being a disease control officer today. Having the opportunity to help people have an understanding of their health, how to protect themselves from diseases and reducing illness and death are all aspects of that passion. Grown up in a village where access to healthcare was not easy as health services were usually far away from them, she embodied that challenge of lack of access to healthcare services and transformed it to a strengthening ingredient for her commitment to ensure that people in villages and hard-to-reach areas receive the necessary care needed.

Regarding the Covid-19, Juliana has got a particular experience that gave the vaccines rollout a celebration and salvation moment. As a consequence of that she became more concerned about children not getting the vaccines.

"I got COVID-19 myself in 2021 and it was not easy at all. I was very weak, I could not smell, and it took me a while to fully recover, and I became excited when I heard that a vaccine had been invented and was more motivated to do even more to get more people vaccinated to ensure their protection. For someone who has seen polio firsthand, and for someone who lives in the community and is part of the community, I think my biggest motivation is seeing children grow up without experiencing vaccine-preventable diseases that may cause disabilities or harm to them. Whenever I see a child in my community grow up without experiencing polio, measles and frequent diarrhea, I become motivated to do more."

From her position, she has a wide knowledge of what affects negatively immunization activities. The main problems she considers as strongly affecting immunization are misinformation and myths. She still remember the experience she lived when trying to do her work during the Covid-19 mass vaccination campaign:

"During the COVID-19 mass vaccination era, I had an encounter with one man who had taken the first dose of the vaccine (AstraZeneca) and was due for the second dose but refused to take it. He insisted that, if he had the opportunity to take the vaccine (first dose) he took out of his body, he would do it, and he was advocating for others not to take it. He even said his wife is a nurse and she had taken the first and second dose without his consent, and that the way he has spoken to his wife about his hate for the vaccine, he doesn't think his wife will take the booster doses. He insisted that if his wife had informed him before taking the first and second doses, he would have prevented her from taking it. And then there were several people in the district who had taken the first dose but were unwilling to take the second dose because they experienced some side effects after they took the first dose."

Juliana has her ideas and approaches for solving problems of this kind that she can use in her practices. For her, it is important to engage the community members on the importance of vaccination. As an example, she remember that during the COVID-19 vaccination campaigns, there were people who had initially refused to take the vaccine due to some information they had received from friends on some side effects as well as some misinformation that the vaccine was harmful. However, after engaging

these people one-on-one to explain the benefits of the vaccines and emphasizing on the safety and effectiveness of the vaccines, her team had quite a number of the refusals now accepting to take the vaccine. *“So one major problem solving technique I usually use and I think can be used is proper community engagement as well as social mobilization.”*

For this disease control officer success stories of immunization begin with the huge number of children health services have been able to vaccinate and protect from diseases over the years. One example of the success in that in her professional career, she hasn't seen as many measles cases as it used to be in the years gone by as a result of vaccinations. She also remember that before the introduction of the Rota vaccines, there were quite a number of diarrheal cases that were reported for children under five years. However, these days, the number of diarrhoea cases has reduced very much, with the number of cases reported on the weekly IDSR an indicator of this. All these are very good successes that are sources of happiness. Reducing morbidities and mortalities among children under five years through vaccination is a big success and that goes beyond health as she explains.

“I think my lessons learned will be that vaccines save lives; vaccines are safe and effective and they protect people from diseases. Vaccinations increase productivity as the parent of a healthy child will not spend hours or days that could have been used for work in hospitals seeking care for their sick child.

For Juliana, addressing misinformation in the communities and ensuring proper community engagement is a very good way to improve the populates trust in health workers and vaccines. This will help vaccinate everyone who needs it and eventually eradicate or eliminate these vaccine preventable disease.



Simon Adu-Poku, is a Senior Public Health Officer currently working in the Okere district in the Eastern Region. *“I have been in the district for four years, but in the service, I have been actively engaged for the past 15 years as a disease control officer. My responsibilities involve surveillance activities, cold chain management for vaccines and the actual vaccination campaigns.”*

The reasons driving stakeholders' commitment to vaccination are quite diverse. For Mr. Adu-Poku as well, various personal motivations led him to place vaccination at the heart of his engagement and

activities. As a disease control officer, his role encompasses many responsibilities, including surveillance and immunization. For him, as the saying goes, 'vaccines save lives,' making immunization essential. Growing up in the late 1970s and early 1980s, he witnessed the devastating impact of vaccine-preventable diseases such as measles, which claimed the lives of many children.. *“So, I grew up in a community where you realize that younger ones were dying as a result of these vaccine-preventable diseases, so growing up and seeing that we have available vaccines which is the tool and men to push, I had the intrinsic motivation to make the tool available to the community which will help to save lives. So really, it's true that vaccines save lives and now we are seeing a sharp decline in some conditions that used to kill a lot of children, so that shows that the efforts and the increasing motivation make an impact and that's why I'm motivated to make vaccinations a pivotal role in my life.*

Some specific elements of his family life were decisive in his choice, a story he has been sharing over and over during his engagement and during the recent measles-rubella campaign. *“In fact, a younger sister who were twins but one departed because measles cleared her from the system which is very sad. So, growing up, my mother used to tell me that you need to give birth to many people so that*

when some of these measles and other conditions killed some of them, some will still survive. In the early stages we thought that it was due to some spiritual thing, but growing up knowing that it was as a result of measles which can be prevented, I decided to make myself available not because of the money involved but because of the passion and zeal to save the lives of an individual through vaccinations. And lucky enough for Ghana and developing countries, the partners are supporting us with the tools which is the vaccine, so ours is just to move to the community especially, the hard-to-reach, underserved communities and make the vaccines available and that is the passion I have.”

Various social and professional challenges have reinforced his choice and commitment to vaccination. One major issue is illiteracy, which leads many people to reject vaccination. Some still believe that vaccine-preventable diseases have spiritual causes or are linked to supernatural forces, making them hesitant to accept immunization. As a result, vaccine demand tends to be lower among the illiterate populations of his district compared to those who are educated, which he sees as an important issue to address.

In his area, beyond illiteracy, certain religious beliefs also discourage vaccine uptake. Additionally, accessibility remains a significant barrier. Some individuals are willing to get vaccinated but live in hard-to-reach areas, making it difficult for them to travel to vaccination sites. These social challenges contribute to the overall difficulty in increasing vaccine demand. *“But as part of our service, we move to all these areas, and we engage the communities such that there would be a higher demand for vaccines and that is the challenge now moving and making sure that vaccines reach these hard-to-reach areas. As we speak now there are even some people who are still zero dosed, that they've not even taken vaccines, but they are grown up, so we need to reduce that by reaching them, and as of now WHO is also promoting catching up with children of zero dose. So, all these challenges strengthen my commitment to ensuring that we reach all these people to ensure maximum protection for everyone.”*

Mr. Adu-Poku experienced several significant events that deeply concerned him regarding the COVID-19 vaccine rollout and vaccination campaign. When the COVID-19 vaccines were first introduced, widespread misinformation and misconceptions created major challenges. Due to social media, many people believed the vaccine was some kind of harmful chemical, and various false claims circulated. As a result, convincing people to participate in the vaccination campaign and take the vaccine became extremely difficult. *“Others also ascribe to some political connotation that the vaccine is associated with a particular government or a particular leader. We talk about political engagement because politicians can also support as they are major stakeholders and they support, so when the politician supports the activity or vaccination campaign, some people understand that these politicians have peculiar interests and because of that they either do not take it or because of that they take it.”* From his experience, COVID-19 was a challenge deeply rooted in misinformation and beliefs. Some people believed that the COVID-19 vaccination was a scheme to reduce the African population by causing infertility, making it extremely difficult to convince them to accept the vaccine.

He encountered similar challenges with measles immunization. During a recent measles vaccination campaign in one community, a child eligible for the vaccine was denied it by their family. The family believed that their spiritual gods would protect the child, despite the fact that the child was already unwell at the time. Through the nurse's engagement, the child was eventually provided with medical care, and the family later agreed to the vaccination.

These challenges remain prevalent in the working environment of this Senior Public Health Officer, highlighting the ongoing struggle to combat misinformation and improve vaccine acceptance.

Significant events often impact workers and give meaning to their commitment. The fight against polio, measles, and COVID-19 has highlighted ongoing challenges that must be addressed to enhance the overall immunization program.

“As I said there are lots, depending upon the domain that you find yourself in. In my previous workstation, during a national polio campaign, the teams reported several individuals refusing for their children to be vaccinated. The district team then did a follow-up and realized that they were all worshipping in a particular church and their refusal was as a result of the teaching their leader gives in the church. They believed that God is the protector and as such they do not need vaccines to be protected from diseases. After engaging with the leader, he still insisted that they do not need vaccines and that they are protected by spiritual beings. In the end, we had to bring other stakeholders in, including the police before they agreed to let their children get vaccinated. It was a big concern because of the large numbers of the worshipers in that church and because of the involvement of the police and other stakeholders, it made it a dramatic event.”

Problem-solving practices and ideas

The challenges faced by immunization teams call for a range of strategies. Addressing issues related to perceptions and beliefs requires different approaches than those needed for logistics and planning. Regardless of the methods used, all efforts must ultimately ensure that vaccines move from storage to the arms of children and other recipients. Mr. Adu-Poku has his own ideas on potential solutions.

“For me continuing engagement of all stakeholders is one, so we engage all the parties, all the stakeholders including the target group; mothers, the heads of their families and other community leaders, and now we are seeing improvement in the uptake so continued engagement of community members and target group is one of the cardinal ways that we can continue to solve this issue and it also involves the involvement of other stakeholders, including the disassembly, the religious leaders in all the activities that we do, so once we are involving the opinion leaders including traditional leaders we are able to solve some of these issues. But it's not one time, it needs to be a process so once we are educating and engaging, there will be a time that all these issues will be solved. And then there is also another issue of reality as some of them think our health workers don't even allow their children to take the vaccines or maybe we prevent our people from taking them because we have some kind of ulterior motives, so when we make ourselves available for the vaccination public it helps. An example is the

COVID-19 vaccination exercise where most of us were taking it in public just for them to see, so once we take the vaccine, they realize it is not harmful because if it's harmful we will not be taking it. This is a practice that was also done by our political leaders including our president who was the first to take the COVID-19 jab, and a lot of people realize that once the president has taken it, then we can take it so I think all these approaches are effective and has worked for us.”

Roots of professional achievement

They are countless as I said the number of years that we've worked as an individual, as a team at district level, facility and community level I know that we've had a lot of sources. I remember a particular kind of picture that I saw in one of the national presentations when we went to one of the hard-to-reach areas about some 10 years ago, and we thought that nobody saw our efforts but I didn't know how the picture surfaced and the national has taken it so we are saving lives through vaccines. As I said partners are providing the tool which is the vaccine so ours is just to make sure that it reach the unreachable, reach those who are underserved and those hard to reach areas. Since 2003 up to now Ghana has not recorded any deaths from measles, which is credited because in the latter part of 70s and early part of 80s you could realize that lot of children were dying from measles but because of vaccination now all these challenges has been eliminated, and apart from that, when you look at the number of cases not even the death, the number of cases that reported to our facilities are very minimal. In fact, at times you pick samples that you think that is measles, and after running tests for measles and rubella and they're all come back negative which tells us that the vaccines are working. Now we are seeing that our children are very healthy, moving around and very strong to take the mantle of feature so that is the kind of achievement that we see, and this is due to the fact that we are able to maintain a high coverage in any where that we find ourselves. So vaccination coverage has been sustained at least 95% for every year and we know that if we can maintain, we can see the success that we anticipate and eliminate vaccine preventable disease out of our system.

Motivation to success

The first one is the support that I derive from superiors. My district director is such a person that is always on their field, having the aspiration and giving us the directive. As a leader, she will push you to work, so that is one of my sources of motivation. The enabling environment created by leaders is one of the things that motivates me, as we have communities in my district that are not accessible with cars, but motorbikes are made available to reach them, creating some motivation to work. Another motivation is the availability of the vaccines. If not recently that we are getting interrupted vaccine supply, we were having smooth vaccine supply. So once you have vaccines, then you have the tool to move so that is one of motivation, but we hope that partners will continue to support Ghana so that we'll be able to have continuous supply of vaccines, so that we can reach all the unreachable. In addition to that, one other motivated ways to succeed is the intrinsic. As I told you, anytime I see that a child is given a vaccine I get a joy knowing that the vaccine is going to prevent the child from getting an infection that can easily kill them. The cost of managing any of these vaccine-preventable is also

very high, apart from the mortality aspect of it, so I have joy anytime I see a child taking a vaccine. Another thing that motivates me to succeed is the kind of teamwork that exists in my district (Okere). Anytime you see the kind of people that you're also working with, and they are motivated to succeed, they are motivated to get vaccines to the people, then you are also motivated. So, teamwork, leadership, and availability of vaccines and the enabling environment are some of the things that motivate me to succeed.

Lessons learned

The main lesson learnt is that vaccines save lives. It is one thing I've come to realize, that vaccine saves lives and if there is any weapon which is very effective against vaccine-preventable diseases, then it is vaccine. So that is one thing I've realized, the other thing is that communities need to be continually engaged. Communities are not that difficult, but they need continuous engagement. You might go today, and they will not accept you or they will have a lot of reasons why they are not accepting vaccines, so we need to engage to help us understand their reasons for their actions. Also, we need to intensify the engagement of other stakeholders as the health workers cannot do all the work alone. Engagement of media men, traditional leaders and religious leaders, as Africans are full of beliefs, so religious leaders play a major role. The other thing has to do with political commitment, now we're talking about the need for an uninterrupted supply of vaccines, so our politicians both at the central and decentralized levels need to be committed to pushing the vaccination agenda making vaccines accessible and providing enabling environment and transport.

Rational thinking recipients



INTEGRATING COVID-19 VACCINE TO ROUTINE IMMUNIZATION: ONE VISIT FOR TWO
The journey of mother Lawrencia and her baby



Introduction

Mrs Lawrencia Ampofo, is a 28-year-old nursing mother, married with one kid and share her journey on routine vaccination. To her understanding, vaccines are drugs given to children to protect them from illnesses. She remembers that the last vaccine her child took was the Measles/Rubella 1 vaccine and the date he took it. She is also informed about the appointment for the next visit to the child welfare clinic at the Kanda clinic at North Ridge in Accra she usually attend.

The personal motivations and key influences driving Lawrencia's commitment to vaccination are related to the health expectations she has for her child. She understands that vaccinations are important for her child's proper growth as they help protect the child from illness and diseases. Her personal motivation is thus her wanting to make sure that her child is protected from all illnesses and grows up healthy. No specific element in her life or in the life of her family and friends was decisive in her choice to vaccinate her child.

“ the fact that the child would not be kept in a room and in isolation, that he would be taken to public places and events where he would interact with all sorts of people, I find it important that he is

protected from illness as you may never know the illness one is carrying in this public places and events. So I think the specific fact would be that my child will not live in isolation so he needs to be protected from illnesses, and if it is vaccinations that will provide the protection then I decide to get him vaccinated. I haven't been through any challenge or seen anyone go through it. My choice to be committed to vaccination is strengthened by the fact that I really need to make sure my child remains healthy, without illness and diseases, and since he will have other people carrying him every once in a while, I think it is very important that he is vaccinated to protect him from diseases."

Lawrencia heard about some wearisome issues due to vaccination, but personally she has not witnessed any problem, concern, dramatic or a significant event related to vaccination or non-vaccination. These are information that can influence decision or the motivation to get the child vaccinated.

"I have also heard people say that their child had a problem after receiving vaccination, but I haven't seen any of them yet and my child has not experienced any such thing. He has been receiving vaccines since birth and he is nine (9) months now, and we haven't experienced any side effects."

The lady's experiences with health workers were all positive and, for her, can be considered as good practices. When the child was born, she was provided the appropriate information on the vaccines to be taken. She was informed that she would need to get her child vaccinated when he is 40 days old. She was also informed about the benefits of the vaccination and those explanations and education made it easier for her to take the child to get him vaccinated. She understood that she was responsible for the health of her baby and had to do everything that was required of her to make sure the child remains healthy and strong. It was not difficult for her to apply the instructions.

"I remember I was educated on the different vaccines and the type of diseases it would protect my child against. Recently I remember the last vaccines he took, which was the measles vaccines, and it was explained to me that it is to protect my child from the measles disease and if he comes into contact with any child who has it, the vaccine would protect him."

Lawrencia really appreciate the interaction she had with the health workers. They were always friendly and took the time to explain the details of the vaccines they are giving to her baby. Their welcoming nature makes a big difference, and it's one of the reasons why she continued to bring her child back for vaccinations. Any rudeness or negative behavior from the health workers, would have probably ruined her confidence and cause her to stop with the visits. This positive and welcoming attitude is something she believes is worth sharing.

Has already reported, Lawrencia had no personal bad experience with vaccines specifically for her child, however she was hesitant to take the Covid-19 vaccines. The first time she was proposed the vaccine, she realized that she wasn't prepared enough for it.

"When I first took my child for vaccination, I was introduced to the COVID-19 vaccine, but I refused at the time. I told the nurse I needed a bit of time to think about it and prepare myself. So that day I did not take any vaccination myself. However, later I returned and took the COVID-19 vaccination.[...]"

after I had sat and thought about it, I realized it was for my own benefit, so I later went to the clinic and took my shot.”

Lawrencia strongly recommends that every mother ensures her child is vaccinated because vaccination is crucial for protecting babies from various illnesses and diseases. It contributes to their strength and overall health while safeguarding them from potential diseases. For this mother, vaccination is a vital aspect of health that every mother should prioritize as her own responsibility.

“ After giving birth, it's essential to remember that you would not be the only one caring for your child, so getting them vaccinated is key to their protection. Since we can not see harmful organisms like viruses, germs, and bacteria, it's important to provide our children with the best defense possible, as we never know when they might encounter these pathogens. Children often put everything they find into their mouths, whether it's a shoe someone has worn or something they picked up off the floor. This makes it even more critical for them to be vaccinated. Once they put these items in their mouths, there's little we can do, but if they have received vaccines that help combat diseases, their bodies will be better equipped to fight off these threats. Overall, I believe vaccination is an essential responsibility for every mother, as it supports their child's healthy growth and Shields them from illnesses.