Scaling up chlorhexidine for umbilical cord care in Nigeria

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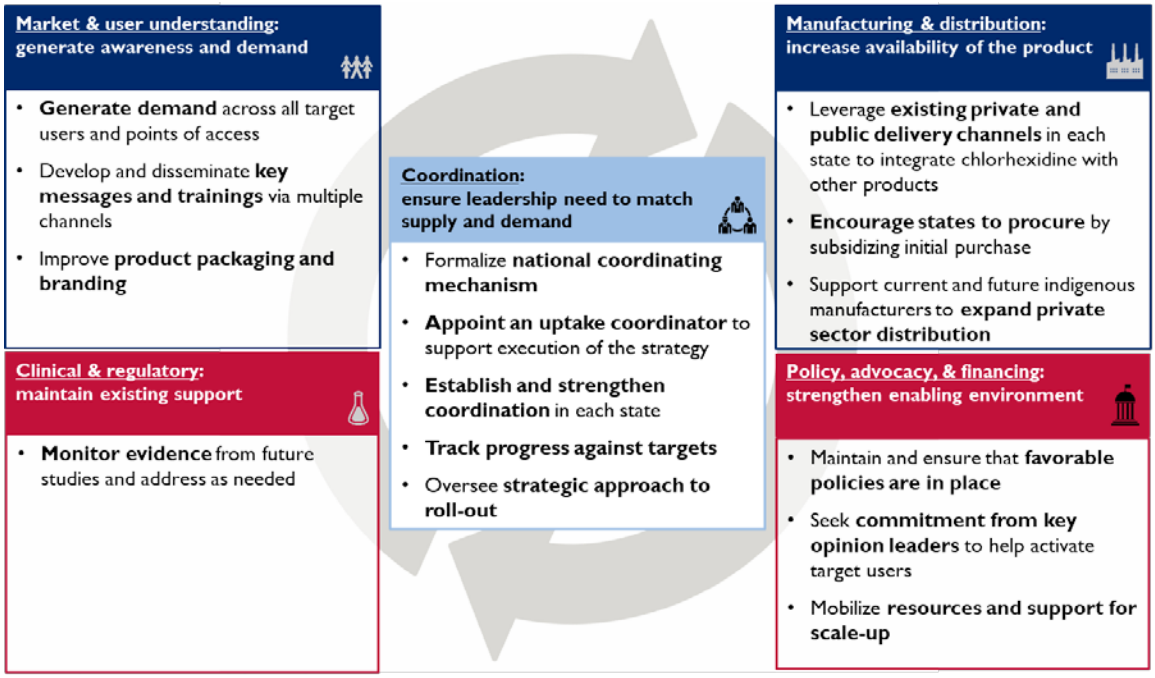
A Commitment to Reducing Newborn Deaths from Sepsis

While Nigeria's under-five mortality rate (128 per 1,000 live births in 2013) has declined over time, similar improvements in neonatal mortality have not been realized.[1] Nigeria's neonatal mortality rate—estimated at 37 per 1,000 live births in 2013—represents one of the highest rates in the world.[2] An estimated one in four neonatal deaths in Nigeria in 2016 were due to preventable infections, many of which could be averted through proper care of the umbilical cord.[3] Four percent chlorhexidine gel is an over-the-counter product with efficacy in reducing infection when applied to the umbilical stump after delivery and during the first week of life. Scale-up of this simple intervention is expected to drive significant reductions in neonatal mortality in Nigeria.

Figure 1. Five strategic priorities for scale-up as identified in the FMoH's Strategy for Scale-Up of Chlorhexidine in Nigeria



[1] National Population Commission (NPC) [Nigeria] and ICF International. 2014. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF International.
[2] Akinyemi, JO., Bamgboye, EA., Ayeni, O. 2015. Trends in neonatal mortality in Nigeria and effects of bio-demographic and maternal characteristics. BMC Pediatrics 15:36.
[3] United Nations Children's Fund. 2017. Child mortality estimates: causes of deaths of newborns in Nigeria, 2016. Estimates generated by the World Health Organization and Maternal and Child Epidemiology Estimation Group (MCEE) 2017.

Chlorhexidine for umbilical cord care was introduced in Nigeria in 2012 through the first stakeholders meeting as well as the US Agency for International Development's (USAID's) Targeted States High Impact (TSHIP) Project in two northern states: Sokoto and Bauchi.

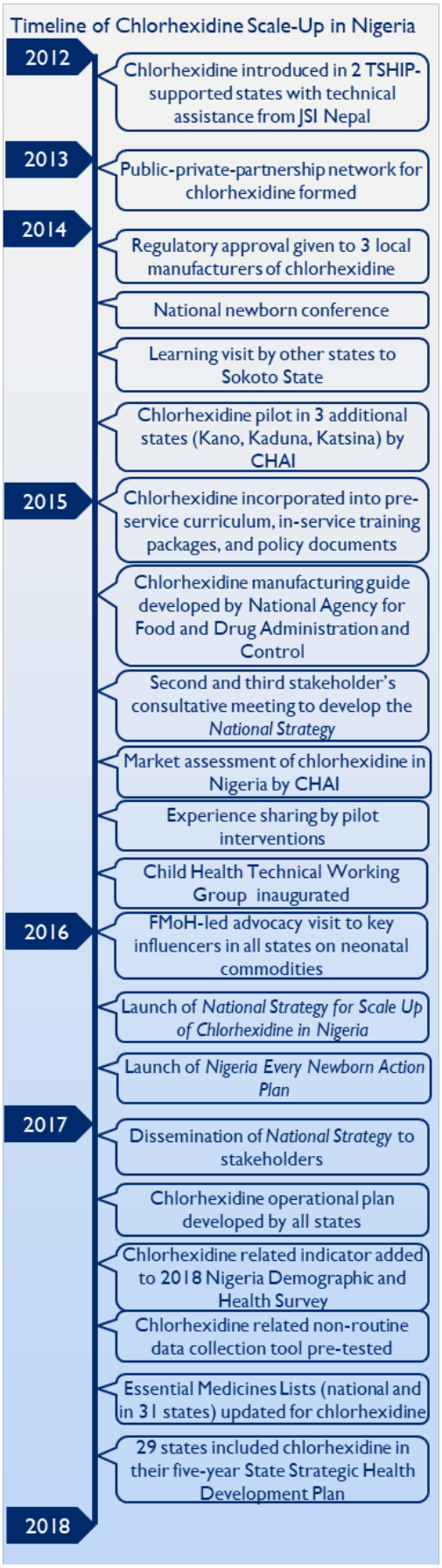
With technical assistance from USAID's Center for Accelerating Innovation and Impact, the Federal Ministry of Health (FMoH) developed and finalized the *National Strategy for Scale-Up of Chlorhexidine in Nigeria* (the *National Strategy*) in 2016. It outlines strategic interventions, guides programming, and sets a concrete target of 52% coverage of chlorhexidine after the fifth year of scale-up, estimated to avert 55,000 neonatal deaths over five years.

Honorable Minister of Health Prof Isaac F. Adewole showcases the *National Strategy* and *Nigeria Every Newborn Action Plan* at the national launch. Photo by Dr. Olayinka Umar-Farouk, MCSP

Nigeria's Approach to Scaling Up Use of Chlorhexidine

The *National Strategy* identifies ways to leverage existing systems, processes, and markets to ensure gains in coverage are sustained over time. It identifies organizations, individuals, and stakeholder groups to facilitate coordination of scale-up efforts across the multi-stakeholder environment or to implement specific aspects of the *National Strategy* (see **Figure 1**). The *National Strategy* proposes scale-up indicators at national and state level and includes cost projections to guide resource mobilization. The *National Strategy* also envisions distribution of chlorhexidine through both public and private sector channels. The government has adopted use of chlorhexidine for newborns, both in facility and home settings.

In Nigeria's decentralized governance system, national policy is set at the national level and implemented by the 36 states, the Federal Capital Territory, and the local government areas (LGAs). Each state-level ministry of health and primary health care development agency must take deliberate actions to implement the *National Strategy*. State-level ministries of health oversee the entire public health program while the state primary health care development agencies oversee primary health care activities at the LGA level.



To ensure seamless implementation of the strategy, the FMoH partnered with USAID's flagship Maternal and Child Survival Program (MCSP) to secure a full-time scale-up coordinator and foster key partnerships.

Commissioner of Health in Kogi State distributing chlorhexidine to a representative of General Hospital Idah. Photo by Dr. Kunle Aledare for Kogi State Ministry of Health

The Family Health Department of the FMoH engaged other departments and agencies, states, implementing partners, donors, professional health associations, manufacturers, and other stakeholder groups on multiple occasions through a series of consultative meetings to build capacity for implementation of the *National Strategy*. By 2017, chlorhexidine was incorporated into the national training curricula and appended to the National Essential Medicines List. The FMoH led participation at annual conferences of major professional associations and provided technical assistance to build sustainable financing and distribution models, including regular engagement with local manufacturers. FMoH encouraged state reproductive health and maternal child health coordinators to create a *WhatsApp* group in early 2018 to share experiences among states and maintain frequent communication on implementation progress. In less than three months, over 780 messages and links were shared, 224 of which were photos. Many of these show engagement of stakeholders (government officials, implementing partners, and key influencers) at subnational levels as well as community members with the *National Strategy* and chlorhexidine.

To accelerate the roll-out of chlorhexidine use, many states have used their funds or funds from the Saving One Million Lives program to procure and distribute the product to health facilities, while other states have undertaken advocacy efforts to raise funds from partners.[4] In addition, states have launched advocacy efforts to build champions among gatekeepers and influential figures such as hospital administrators, politicians, and community volunteers. Many states have also undertaken efforts to sensitize end users—including providers, traditional birth attendants, and families—on the importance of proper umbilical cord care using chlorhexidine.

Scale-Up Results

Across Nigeria, stakeholders have marshaled human and financial resources to implement the *National Strategy*. Early data suggest that their efforts will provide a return-on-investment in the form of increased coverage as well as institutionalization. Many states have met key milestones to plan for scale-up and to institutionalize chlorhexidine through integration in routine systems and processes.

At the national launch, the Minister of Health showcases the *National Strategy* and the *Nigeria Every Newborn Action Plan*. He is joined by directors from FMoH and representatives of USAID, WHO, Save the Children International, Nigerian Society of Neonatal Medicine, and MCSP. Photo by Dr. Olayinka Umar-Farouk, MCSP

[4] Nigeria-Program to Support Saving One Million Lives. World Bank

Figure 2. Number of states out of 37 reporting meeting key milestones (January–March 2018)

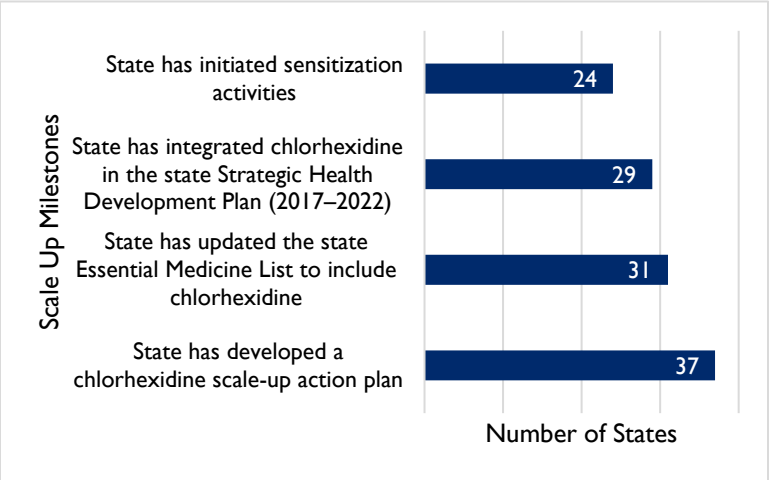


Figure 3. Primary procurement financing source by state (2017)

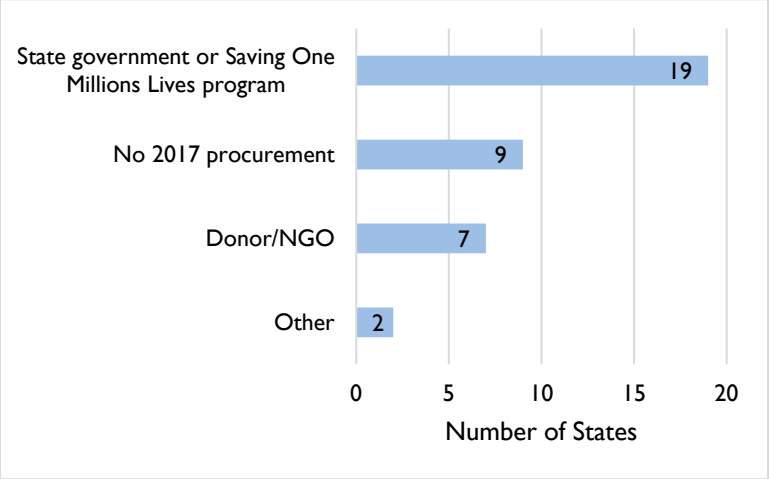


Figure 4. Application of chlorhexidine in MCSP-supported facilities in Kogi State (n=109 facilities)

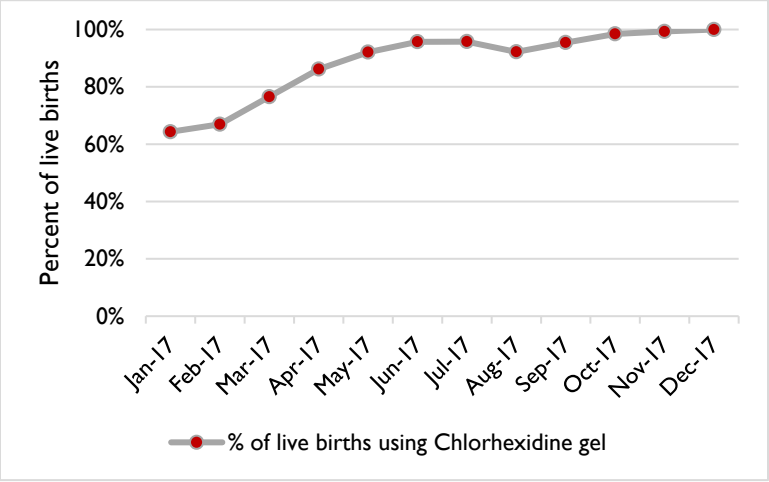


Figure 2 shows how many states have already reached milestones for developing a plan, including chlorhexidine on the State Essential Medicines List, committing public financing, and initiating implementation activities.

Major purchasers, including state governments, development partners, and hospitals are procuring larger volumes of chlorhexidine. In Ebonyi State, in the month following a two-day multi-stakeholder engagement organized by MCSP, 1,200 units of chlorhexidine were procured. Local manufacturers reported distributing an estimated 532,008 units of chlorhexidine within Nigeria in 2015; 1,536,532 in 2016; and 688,395 in 2017. The high quantity distributed in 2016 was in part due to a partnership with Society for Family Health through which 600,000 tubes were procured to stimulate the private sector. **Figure 3** shows that the majority of states (19 out of 37) relied on state government or Saving One Million Lives as the primary procurement financing source. Local manufacturers (Drugfield Pharmaceuticals, Emzor Pharmaceuticals, Jawa Industries and Tuyil Pharmaceuticals) report a combined capacity to produce 30 million units per year and have exported 130,000 units to Zambia, Mali, Republic of Benin, Mozambique, Ghana, and Niger Republic.

Efforts are underway within the FMoH to integrate chlorhexidine indicators into routine reporting systems at facility and community levels. Such national coverage data would enable coordinators and decision-makers to adapt their scale-up strategies and allocate human or financial resources where needed. The FMoH has also successfully advocated for data on utilization of chlorhexidine to be collected in the 2018 Demographic and Health Survey.

Results of that survey are expected in 2019 and will provide an estimate of national coverage. Meanwhile, results from one state suggest that when chlorhexidine is readily available and health workers are aware of its benefits, this product can become part of routine service delivery. In Kogi State, MCSP provided support to 121 facilities throughout the state to improve service readiness, quality of service delivery, and accuracy of data reporting, covering approximately 11% of all facilities in the state. Of the 109 facilities that reported use of chlorhexidine, 100% of the 961 newborns delivered at the facility in December 2017 received their first dose of chlorhexidine while at the facility (**Figure 4**).

Next Steps for Overcoming Barriers to Scaling Up Chlorhexidine

Since the launch of the *National Strategy*, the FMoH, state departments of health, and the private sector have identified the following approaches to overcome barriers to scale-up (**Table 1**).

Table 1. Approaches to overcome barriers to scale-up chlorhexidine

Scale-up priority	Barriers	Approaches to overcome scale-up barriers
Market and user understanding	• Low awareness • Competitive alternatives • Socio-cultural practices • Delayed cord separation	• Increase awareness among likely points of sale (for example, drug dispensers, public and private health facilities) of the relative advantage of chlorhexidine over alternative methods • Increase awareness among family members of newborns and community structures of the relative advantage of chlorhexidine over harmful cord practices
Clinical and regulatory		• Monitor safe manufacturing and use of chlorhexidine through routine pharmacovigilance systems
Coordination	• Weak coordination at state level • Weak reporting as a result of chlorhexidine not been captured in routine data system	• Coordinate stakeholder efforts to implement the *National Strategy* and state-level strategies • Use of labor and delivery registers in labor wards to capture chlorhexidine use in the facility while awaiting integration of chlorhexidine indicator into the national health management information system
Manufacturing and distribution	• Weak logistics system for maternal, newborn, and child health commodities	• Improve logistics management for maternal, newborn, and child commodities • Support local manufacturers to attain global Good Manufacturing Practice
Policy, advocacy, and financing	• Inadequate funding streams at all levels	• Improve long-term sustainability of financing for chlorhexidine

Conclusions

Nigeria is on track to scale-up and institutionalize use of chlorhexidine as outlined in the *National Strategy*. Chlorhexidine is now included in many national- and state-level policies, which will help create a policy environment conducive to service expansion. However, certain barriers and approaches to scaling up the intervention, as outlined above, require focused and strategic advocacy drives and behavior change agendas. Advocacy efforts to date have improved understanding of the intervention among policy makers at national and state level, program managers, and potential funders. Funding for chlorhexidine is on an upward trend while coordination efforts have helped align efforts by states and implementing partners. Despite local production, availability of chlorhexidine is still limited in different parts of the country due to weak logistics management for maternal, newborn, and child health commodities. As chlorhexidine is an over-the-counter drug, the need to match supply with demand should be targeted at increasing awareness and ensuring private sector (proprietary and patent medicine vendors and community pharmacies) and community engagement to improve accessibility and availability. Manufacturers have made huge investments in the production of chlorhexidine and thus the need to meet global standards for quality assurance to secure large procurements from donors and implementing partners cannot be overemphasized. Increased use will result in overall improvement in umbilical cord care, contribute to improved health outcomes for newborns, and reduce Nigeria's neonatal mortality rate.

A nurse midwife applies chlorhexidine to the cord of a baby boy born at Okene Zonal Hospital. Photo by Karen Kasmauski for MCSP

This brief is made possible by the Nigeria Federal Ministry of Health in collaboration with USAID and the Maternal and Child Survival Program and does not reflect the views of USAID or the United States Government.

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