



SCALING UP CHLORHEXIDINE IN PAKISTAN: A game changer for saving newborn lives



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RATIONALE

In 2015, UNICEF estimated that Pakistan, after Angola, had the highest newborn mortality rate (NMR) in the world, and with an estimated 244,746 newborn deaths, the second-highest number (after India) of new newborn deaths.¹ Pakistan alone accounted for 9 percent of the global newborn death burden in 2015.¹ Data from the Pakistan Demographic Health Surveys (PDHS) show that the NMR has remained stagnant over the last three decades: in 1990 the NMR was estimated at 51/1,000 live births; in 2013 it was 55/1,000 live births (Figure 1).² Sepsis is the third leading cause of newborn death in Pakistan, accounting for an estimated 18 percent of overall newborn deaths³ (Figure 2).

FIGURE 1. Causes of Neonatal Deaths in Pakistan, 2015

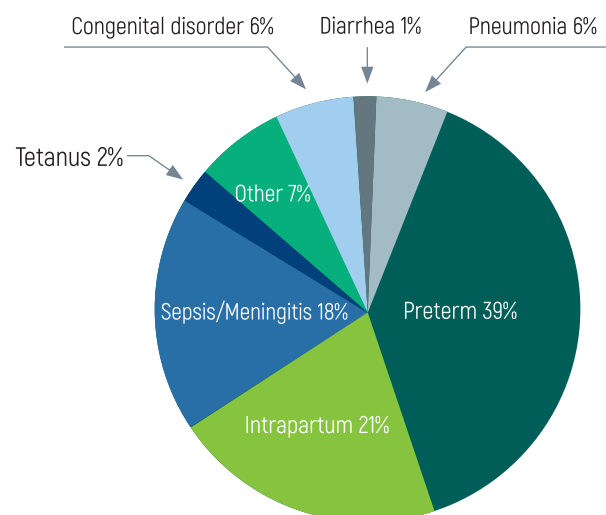


FIGURE 2. Trends in child mortality rates according to the Pakistan Demographic and Health Surveys



Evidence about the effectiveness of chlorhexidine (CHX) for reducing newborn infections and mortality has been documented across Southeast Asia, where the burden of newborn mortality is highest.⁴⁻⁷ In 2014, WHO recommended the use of CHX for cord care in areas where the NMR is above 30/1,000 live births, and included CHX in its list of essential medicines for children.⁸ As seen in Table 1, CHX reduces the risk of both umbilical cord infections and newborn mortality. In Pakistan, at-scale delivery of CHX has the potential to reduce the risk of umbilical cord infection by 42 percent and the risk of newborn death by 38 percent.⁴ CHX use, at-scale, would greatly reduce newborn umbilical infection and death, and would be a cost-effective way to reduce the stubbornly high NMR in Pakistan. In light of the evidence base, and WHO recommendations, CHX advocacy and service delivery programs have been working to increase awareness and CHX service delivery across Pakistan. Advocacy efforts begun in 2014 at the provincial and national levels involved all provincial health departments and public and private stakeholders, which led to the inclusion of CHX in the Pakistan essential drug list for all provinces and regions.

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To reduce Pakistan's stubborn newborn mortality rate, health workers must have interventions usable in both health facilities and in communities. Here, a lady health worker applies CHX to the umbilical cord of Pari Gul's five-day-old son, who was born at home. (Photo by Veronique de Viguerie/ The Verbatim Agency for JSI)

TABLE 1: Evidence base of CHX application in umbilical cord infection and neonatal mortality

REGION	REDUCTION IN RISK OF NEWBORN UMBILICAL INFECTION	REDUCTION IN RISK OF NEONATAL MORTALITY
Community settings in developing countries ⁷	27-56%	23%
Nepal ⁵	75%	24%
Bangladesh ⁶	65%	20%
Pakistan ⁴	42%	38%





Training health workers on CHX counseling and application is an important component of national scale-up. Here, Dr. Sidra shows a mother how to apply CHX on her newborn's umbilical stump at a basic health unit in Moosa district. (Photo by Veronique de Viguerie/The Verbatim Agency for JSI)

Although CHX had been added to the essential drug list, the lack of coordination between implementing partners and non-existent standard guidelines and protocols has resulted in fragmented CHX delivery in Pakistan. This fragmentation prohibited possibilities for scale-up, as implementing partners were using different drug protocols and often working in silos. There was inadequate CHX supply because it was not locally manufactured, and there was little community-based demand. USAID/Pakistan acknowledged the need for a coordinating mechanism to realize the National Scale-Up Initiative, and in 2015 tasked the Health Systems Strengthening Component (HSS Component) of USAID's Maternal and Child Health program, implemented by JSI Research & Training Institute, Inc., to streamline efforts between the Ministry of National Health Services Regulations and Coordination (MNHSR&C), provincial health departments, and other development partners. The HSS Component embarked on a collaborative systems-based approach to develop national scale-up policies and guidelines and ensure availability and use of a standardized CHX regimen.

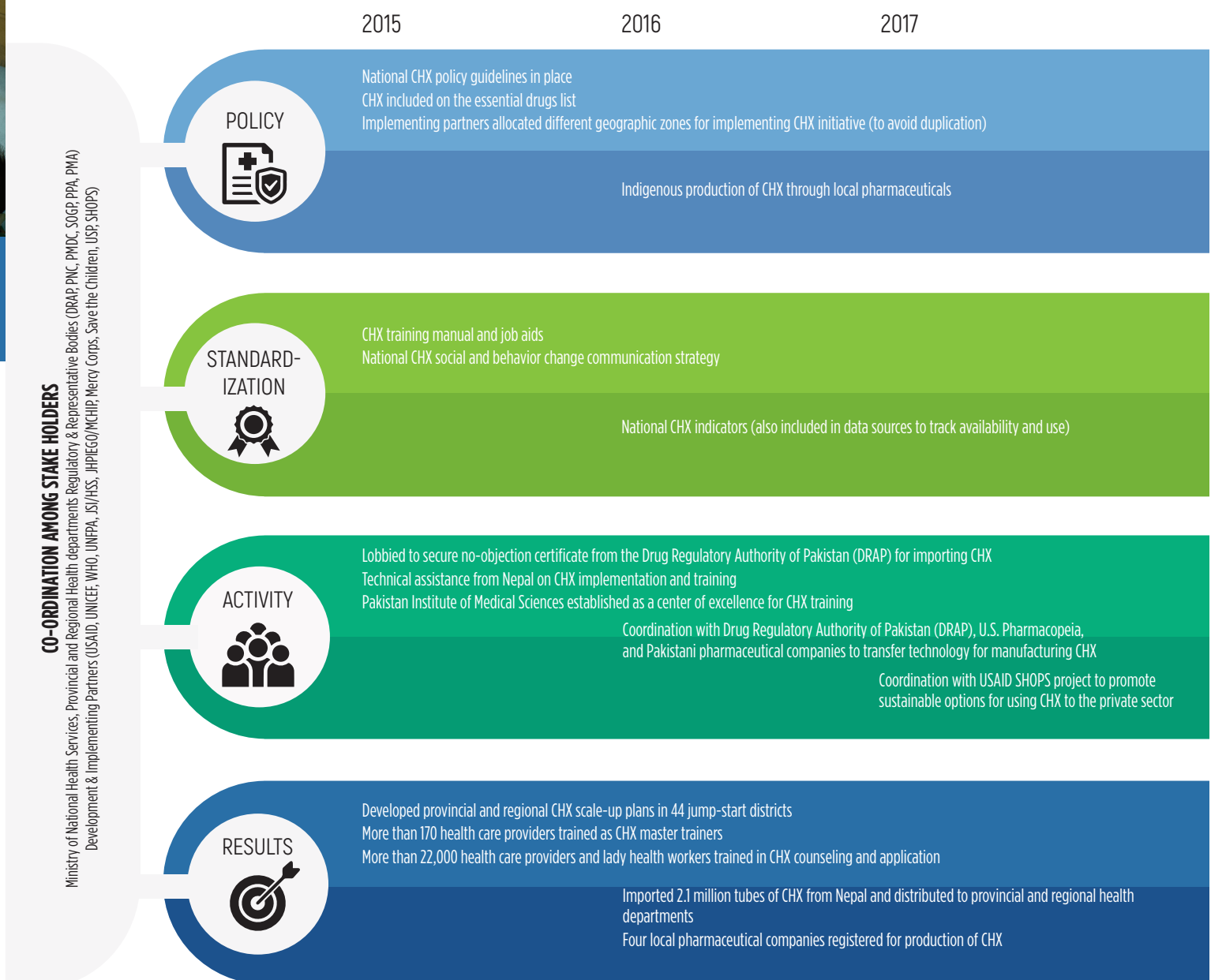
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ACTIVITIES

Figure 3 presents the timeline of HSS Component activities. The HSS Component worked with partners at all levels of the system to coordinate the national CHX scale-up initiative in Pakistan. Focusing on cultivating synergy between implementing partners, the HSS Component identified and strengthened systems necessary for successful CHX scale-up. Based on findings that harmful substances are applied to treat the cord stump until it sheds, the HSS Component worked with partners to advocate for the seven-day regimen to be included in national guidelines. Based on these cross-sector efforts, the MNHSR&C 2015 national guidelines for umbilical cord infection prevention called for using 7.1% chlorhexidine gluconate gel for seven days.

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FIGURE 3. Scaling Up CHX: MNHSR&C and HSS Component Accomplishments





A grandmother proudly holds her grandson in a hospital in Punjab Province. The newborn just had CHX applied to his umbilical stump, which will prevent infections such as sepsis, a major contributor to Pakistan's high newborn mortality rate. (Photo by Veronique de Viguerie/The Verbatim Agency for JSI)

In 2015, the HSS Component convened a national consultative workshop to develop an action plan for CHX implementation and scale up across Pakistan. This resulted in the formation of four main technical working groups to standardize the CHX application protocols, develop a CHX social and behavior communication strategy, and build consensus on CHX indicators and their inclusion in current community and facility-level data. In addition, the HSS Component mobilized local pharmaceutical companies and the Drug Regulatory Authority of Pakistan (DRAP) to streamline and expedite the process of local production and registration of CHX in collaboration with United States Pharmacopeia. 2.1 million CHX tubes were imported from LOMUS Pharmaceuticals Nepal after fulfilling the pre-requisites of the Drug Regulatory Authority of Pakistan (DRAP), and 121 master trainers were trained at the Pakistan Institute of Medical Sciences (PIMS).

Throughout 2015–2016, the HSS Component supported the development of provincial action plans for CHX scale up in Punjab, Sindh, Baluchistan, Khyber Pakhtunkhwa, Azad Jammu and Kashmir, Gilgit Baltistan, Federally Administered Tribal Areas, and Islamabad Capital Territory. This was followed by the provision of CHX tubes. The HSS Component worked with provinces and regions to estimate CHX needs and adequate availability. Implementing partners were allocated different geographical zones to execute the CHX initiative without duplication.





RESULTS

The HSS Component's systems-based approach, implemented in 44 districts of Pakistan, set the stage for national CHX scale up. The HSS Component worked with leadership and governance at national, provincial, and district levels to use evidence to standardize CHX protocol and ensure its inclusion in essential drug listings. In parallel, the HSS Component and partners developed messages and information to increase the acceptability and use of CHX, and to increase the health care workforce trained in its application. Local production of CHX is expected to start by October 2017, with four local pharmaceutical companies registered with DRAP for manufacturing. Until local production of CHX is available, USAID has ensured continuous availability, through the donation of 2.1 million tubes of CHX to the MNHSR&C for distribution across all provincial health departments, and an additional 650,000 CHX tubes to be distributed in Sindh Province.

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WAY FORWARD

Collaboration with DRAP and advocacy to begin local manufacture of CHX should continue. Collaboration with the private sector also should continue and it would be ideal for CHX to be sold over the counter. Collaboration with pharmaceutical retailers could be an avenue to expand CHX access to clients. Financial resources and allocations for CHX procurement should be ensured by the public sector. The public sector should consider ensuring financial resources and allocations are adequate for procuring CHX.

CHX should become a standard medicine in lady health worker and community midwife delivery kits. Information, education, and communication efforts should continue to build community support for CHX, and service provision records to capture use of CHX in communities should be kept. Finally, systems should be strengthened to ensure a coordinated effort to scale up interventions.

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It is important for CHX scale-up efforts to be well coordinated to assure stakeholder buy in, standardized protocols and procedures, scaled production, and community demand. If efforts are not coordinated, service delivery will be fractured and unsustainable. Scale-up demands coalition building and synergized efforts at the national, provincial, and district levels. Continued support for strong coordination between these groups will uphold the Pakistani government's efforts to end preventable newborn deaths from umbilical cord infections.





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