

Child Health in Tanzania

Identifying policy pathways to help prevent child deaths from pneumonia and diarrhea





A baby receives a vaccine in Tanzania. The country's death rates among children has dropped substantially, largely because of widespread access to lifesaving vaccines.

INTRODUCTION

The number of deaths among children less than five years old has decreased from nearly 12 million in 1990 to 6.6 million in 2012, and the rate of decline continues to accelerate, with more children's lives saved today than ever before. The outlook in Tanzania is just as promising. Mortality rates among children below age five have dropped, placing the country on track to meet the child mortality target outlined in Millennium Development Goal (MDG) 4, 64 deaths per 1,000 live births. Despite these important advances, thousands of children still die each year from diarrhea and pneumonia—both preventable and treatable diseases.

Many global policies and initiatives exist to decrease morbidity and mortality among children less than five years old. For example, the Integrated Global Action Plan for the Prevention and Control of Pneumonia and Diarrhea (GAPPD), launched by the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) in April 2013, provides the first integrated global framework to prevent and treat pneumonia and diarrhea using proven interventions.

Similarly, the Government of Tanzania has made a clear commitment to reducing child mortality by signing on to global policies; passing national policies to help improve access to basic health services and medicines; and prioritizing three, low cost, essential medicines targeting two of the leading killers of children: amoxicillin dispersible tablets for pneumonia, and oral rehydration solution (ORS) and zinc for diarrhea. Yet, the need for progress remains. In order to ensure all children have the chance to lead a healthy life, Tanzania must strengthen and expand effective policies that align with the latest pneumonia and diarrheal disease evidence and best practices to better support access to high-quality and essential health programs.

IDENTIFYING POLICY GAPS AND OPPORTUNITIES

In 2013, PATH conducted a mapping in Tanzania to identify opportunities to strengthen policies associated with prevention and treatment of diarrhea and pneumonia by aligning them with the best practices and emerging evidence as outlined by the GAPPD;

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supplementary WHO recommendations for pneumonia and diarrhea; and the United Nations Commission on Life-Saving Commodities for Women and Children (Commodities Commission). These initiatives emphasize the use of ORS plus zinc as comprehensive first-line treatment for diarrhea, as well as amoxicillin dispersible tablets as first-line treatment for children diagnosed with pneumonia.

PATH conducted 20 key informant interviews between August and November 2013 with a range of stakeholders familiar with the barriers and challenges that impede access to quality diarrhea and pneumonia care in Tanzania. Interviewees included representatives of the Ministry of Health and Social Welfare (MOHSW), multilateral agencies, and implementing civil society and nongovernmental organizations.

The Integrated Global Action Plan for the Prevention and Control of Pneumonia and Diarrhea

The GAPPD outlines a roadmap for national governments and partners to plan and implement cohesive, integrated approaches to end preventable pneumonia and diarrhea deaths by 2025. The framework includes critical services and interventions to create healthy environments, protect children from disease, and ensure that all children have access to proven preventive and treatment interventions. The GAPPD recognizes that for successful implementation, all relevant stakeholders must be engaged, especially frontline health care providers working at the community level.

The United Nations Commission on Life-Saving Commodities for Women and Children

The United Nations Commission on Life-Saving Commodities for Women and Children (Commodities Commission) was established in 2012 as a new component of the Every Woman Every Child movement, focused on elevating the importance of affordable, effective medicines and health supplies that too often do not reach the women and children who need them most. The Commodities Commission highlighted the need to improve access to 13 essential health supplies—including ORS, zinc, and amoxicillin dispersible tablets—and established an important global platform for building consensus around priority actions to increase access and availability of these specific commodities.

CHILD HEALTH ENVIRONMENT IN TANZANIA

Tanzania has made rapid progress toward reducing childhood mortality. Targeted malaria control, increased Vitamin A supplementation, and consistently high immunization rates have contributed to Tanzania's success. According to the 2010 Demographic and Health Survey (DHS), under-five mortality rates have declined from 147 deaths per 1,000 live births in 1999, to 81 deaths per 1,000 live births in 2010.¹ Reports from the United Nations in 2011 showed a further decline, with the under-five mortality rate reaching 68 deaths per 1,000 live births, and putting Tanzania on track to meet MDG 4.².³

Tanzania has a fairly robust health system, starting at the district and local level, moving to secondary and tertiary levels where care is offered, and moving into the central level, which includes policy making and monitoring and evaluation. Part of district- and local-level care encompasses Tanzania's cadre of village health workers (VHWs), who serve to mobilize communities and link them to health centers, dispensaries, and hospitals. VHWs, who cannot provide treatment, simply serve as referral mechanisms between the home and the health facility.

Tanzania has demonstrated strong capacity for vaccine coverage, reaching between 80 and 90 percent coverage with diphtheria, pertussis and tetanus (DPT3), and polio vaccines. In December 2012, Tanzania simultaneously launched rotavirus and pneumococcal vaccines, broadening the vaccine package available and protecting millions of children against diarrhea and pneumonia, respectively.

Despite Tanzania's rapid improvements in child survival, there is significant room for progress. One in 12 children still die before the age of five. Among the poorest Tanzanian households, the impact is even greater: 10 percent of children die before they reach their fifth birthday. Pneumonia and diarrhea, both preventable illnesses, are the second and third leading causes of child death in Tanzania, accounting for 21 and 17 percent of child deaths, respectively.

In order for child mortality to decline further, there will need to be a specific commitment to improved access to diarrhea and pneumonia prevention and treatment. There are several key advocacy opportunities to improve the accessibility and affordability of ORS, zinc, and amoxicillin dispersible tablets, ultimately putting Tanzania on track to end preventable childhood deaths from pneumonia and diarrhea by 2035.

ESTABLISHING PNEUMONIA AND DIARRHEA POLICIES IN TANZANIA

An enabling policy environment is an essential component for improving children's health. National health policies have been shaped by the MOHSW for more than 50 years and serve as important implementation

guideposts for the Tanzanian health care sector. Specific policies that direct child health, including issues relating to diarrhea and pneumonia, are enveloped in broader national plans for reproductive, maternal, newborn and child health (RMNCH).

Challenges to centralized policymaking

Policymaking in Tanzania is centralized; the national government creates and implements policies and disseminates to the subnational level. There are Regional Health Management Teams (RHMTs) that function as key liaisons between national and subnational levels, and are responsible for effectively disseminating policies. According to the Tanzania Ministry of Health and Social Welfare office of policy and planning, "RHMTs play an extremely important role in translation and orientation to [local government authorities]." Oftentimes, however, the nuances of a new policy are not completely clear and funding may not accompany the rollout. Due to a lack of clarity and funding, subnational governments are often unable to actualize policy recommendations and put them into action.



To ensure all children have the chance to grow strong and healthy, affordable medicines must be accessible no matter where a child lives.

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Table 1 outlines the child health policies that currently govern Tanzania's health sector, including those related to diarrhea and pneumonia. The expansive policy environment in Tanzania demonstrates the government's commitment to health sector improvements.

Despite the robust policy space, equitable access to affordable diarrhea and pneumonia interventions are not explicitly prioritized as part of the national framework. Two of the leading killers of children—diarrhea and pneumonia—have not received the same deliberate prioritization or funding commitments as programs directed at malaria or malnutrition.

TABLE 1. National child health policies in Tanzania	
National Health Policy	 Updated in 2003, this policy: "Facilitates the provision of equitable, quality, and affordable basic health services; Outlines objectives to [reduce] the burden of disease, maternal and infant mortality and increase life expectancy through the provision of adequate and equitable maternal and child health services";⁵ and Identifies a greater commitment to cost effective interventions.
National Road Map Strategic Plan to Accelerate Reduction of Maternal, Newborn, and Child Deaths in Tanzania 2008 – 2015 (National Road Map Strategic Plan)	 Also known as "the one plan," this policy removed user fees for pregnant women and children in public health facilities and increased primary health care access. It further serves as: "One integrated maternal, newborn, and child health strategic plan[to] ensure improved coordination of interventions and delivery of services across the continuum of care;"5 Recognition of the critical linkages between maternal, newborn, and child health, and the need for essential interventions to reduce morbidity and mortality across the continuum. Identification of Integrated Management of Childhood Illness (IMCI) as a key factor for the appropriate management of pneumonia, diarrhea, and malaria.
Primary Health Services Development Program	 This national plan: "Directs [the] establishment of a dispensary in every village, a health center in every ward, and a district hospital in each district," and Specifically highlights malaria, nutrition, and immunization as priority focus areas.
National Strategy for Growth and Reduction of Poverty 2010	 This policy seeks to improve survival, health, nutrition, and well-being, especially among children, women, and vulnerable groups. The policy: References reducing health inequities, strengthening community care, and improving the procurement system; and Acknowledges the disparities persisting between regions and districts, urban, and rural areas: "children living in rural areas and those in poverty stricken families were more disadvantaged"
IMCI guidelines	 Initially introduced in health care facilities to establish the national standard for assessment of a sick child, the IMCI guidelines: Clearly identify treatment of diarrhea with oral rehydration solution but do not clearly outline pneumonia treatment with amoxicillin; and Influenced the Ministry of Health and Social Welfare to establish an IMCI unit and to appoint a national IMCI coordinator.⁷

LEVERAGING GLOBAL INITIATIVES FOR NATIONAL IMPACT

Global initiatives are powerful vehicles for enhancing the focus and prioritization of ending preventable child deaths from diarrhea and pneumonia. However, the multitude of initiatives, each with its own focus and objectives, makes alignment and coordination among the initiatives—and across national and subnational governments—difficult. Resources specifically allocated for pneumonia and diarrhea are limited, and competing priorities across the RMNCH continuum often unintentionally deemphasize diarrhea and pneumonia commodities, programs, and services.

As previously recognized, the Tanzanian government has repeatedly demonstrated its commitment to child health at the global level, signing onto many of the global initiatives, declarations, and plans aimed at drawing attention to child health and reducing child morbidity and mortality.

TABLE 2. Global child health initiatives and commitments	
Abuja Declaration	Tanzania pledged to increase government funding for health to at least 15 percent of the national budget. Since the meeting, health sector spending has increased and the government has committed to increasing from the current 12 percent to the committed 15 percent by 2015. In spite of this increase, Tanzania households still provide the greatest proportion of heath financing, including out-of-pocket expenses.
Every Woman Every Child	Tanzania contributed to the development of the UN Secretary-General's Global Strategy for Women's and Children's Health. The Tanzanian government has been supportive of the strategy, focusing on health system strengthening, infrastructure, and human resources for development. Tanzania made specific commitments to the global strategy, including improved recruitment, deployment, and retention of health training institution graduates, and innovative pay-for performance schemes for maternal and child health." ^{8,9}
United Nations Commission on Information and Accountability for Women's and Children's Health	Co-created by Tanzania's President Jakaya Kikwete as a way to determine the most effective international arrangements for reporting, oversight, and accountability for women's and children's health, the initiative developed a system to track timeliness of donations, resource allocations and spending, as well as overall results and impact, demonstrating Tanzania's commitment "to help save the lives and improve the living conditions of many innocent children and mothers." 8,9
Campaign for Acceleration of Reduction of Maternal Mortality in Africa	This campaign declares that " no child should die from preventable diseases." Objectives, which Tanzania has adopted, include improving access to equipment, medicines, and supplies for child health broadly.
United Nations Commission on Life-Saving Commodities for Women and Children	Tanzania is one of the initial pathfinder countries to develop a work plan that prioritizes improved access to 13 lifesaving commodities for women, children, and newborns. Tanzania's plan includes specific activities relevant to oral rehydration solution, zinc, and amoxicillin dispersible tablets. Regulatory improvements, quantifications of commodities, and enhanced health care worker training are also included.
Essential Medicines Initiative	The Ministry of Health and Social Welfare and partners have developed a scale-up plan to achieve universal coverage of ORS, zinc, and amoxicillin. Commitments include improved access to "rational diagnosis and treatment of diarrhea, malaria, and pneumonia in order to reach universal coverage and continue on [the] path toward fulfilling MDG 4" Resource mobilization for these plans has been very limited.
Child Survival Call to Action: A Promise Renewed	The Government of Tanzania publically prioritized the health and well-being of children, and as part of the commitment, revised mortality targets to 20 deaths per 1,000 live births by 2035. The commitment also includes a specific focus on ending preventable deaths from pneumonia and diarrhea.



A child receives oral rehydration solution at a health clinic. Along with zinc, ORS can help babies and children completely recover from severe diarrhea.

CHILD HEALTH CHALLENGES AND POLICY GAPS

Despite Tanzania's momentum to prioritize and improve child health, consistent challenges remain, including:

- Low access to high-quality treatment and care.
- Restrictive regulatory policies, including product registration.
- Restricted role of VHWs and Accredited Drug Dispensing Outlets (ADDO).
- · Poor supply chain and logistics management.
- · Low care-seeking behavior.
- · Outdated policies and guidelines.
- Insufficient national funding for diarrhea and pneumonia interventions.

For many Tanzanian families, especially those living in rural communities, access to high-quality lifesaving treatment and care is challenging. The Primary Health Care Service Development Program (2007–2012) recognized a shortfall of more than 5,100 dispensaries, 2,000 health centers, and eight district hospitals in Tanzania. Although progress has been made since these initial numerations, there is still an overwhelming lack of access to health services in many regions and

districts. Only 35 percent of Tanzanian families have access to health facilities. This is further compounded by severe staffing shortages in remote districts. There is an estimated staff vacancy rate of up to 60 percent in the most remote districts, which impacts the quality of services and increases waiting time to see a health care professional.

Semi-private ADDOs, overseen by the Tanzanian Food and Drug Authority (TFDA), are meant to provide access to affordable, high-quality, and effective medicines, and also serve the purpose of improving the quality of health services in rural and peri-urban areas. As private-sector entities, ADDOs are an important source of information and access to treatment. However, ADDOs are restricted from providing treatments or medicines without a prescription. ADDOs are expected to provide initial treatment and refer a child to a health facility for a full diagnosis. These providers are a vital link between caregivers, VHWs, and the public health center or dispensary, yet ADDOs are not able to fully serve communities, leaving them underutilized by the public.

As ADDOs are accredited and trained through a TFDA program, the National Road Map Strategic Plan should reflect this reality and be updated to allow ADDOs to treat children fully. If this accreditation and training is

conducted in a comprehensive way and acceptable to the Government of Tanzania, ADDOs could be fully equipped to treat children under five, thereby improving access to health services among communities in need.

Tanzania has a well-established cadre of VHWs that provide an important referral mechanism between communities and facilities; they have the most consistent access to children and their families. According to national policy, VHWs cannot diagnose illnesses, prescribe treatment, or dispense any drugs; except in cases where a VHW receives special training and is allowed to dispense drugs—mostly malaria medications—at the community level. After a VHW assesses a child's health, they can only urge the caregiver to seek treatment at the nearest facility. However, only 35 percent of Tanzanians have access to health facilities, which means a referral can lead to hours of travel time, transportation expenses, and a potential fee for treatment, all of which may be untenable for some families.

VHWs could serve a greater good if national policies allowed them to treat children in the community. This could improve care-seeking behavior and quality of care. Simultaneously, an updated policy would relieve the burden on caregivers to decide when to seek care at a dispensary or a health center—which are fewer in number and often more difficult to reach. Tanzania has already adopted IMCI guidelines as standard care protocol within health facilities, and global evidence demonstrates that training VHWs to follow the IMCI guidelines and allowing them to fully treat children at the community can markedly reduce child deaths especially those caused by pneumonia and diarrhea. In the districts where IMCI is followed, there has been a 13 percent mortality reduction in children; however, research shows only 14 percent of health workers are up to date with IMCI training.5

The TFDA, responsible for ensuring quality, safety and effectiveness of food, drugs, cosmetics and medical devices, requires all medicines to be registered in the country. Slow product registration is a major hindrance to effective and efficient supply chains. For example, after the policy change to identify amoxicillin as first-line treatment for pneumonia, amoxicillin dispersible tablets were slow to be approved for importation. Without any approved local manufacturers, amoxicillin dispersible tablets are very difficult to procure efficiently.

Similarly, the recommended treatment for diarrhea—ORS plus zinc—should be co-packaged and made available together; yet it has not been nationally registered. A new co-package would improve caregiver knowledge and use,

which is currently high for ORS, while knowledge and use of zinc lags behind. ORS and zinc are independently registered and neither product requires a prescription; however, the co-package is a new treatment product and therefore must receive its own approval.

The TFDA process has direct implications on the supply of medicines to health facilities in Tanzania. The Medical Stores Department (MSD) sits within the MOHSW and manages the storage and distribution of public-sector commodities to medical stores and facilities. The MSD is dependent on government funding to procure commodities, often leading to slowed or delayed registration processes. This challenge, along with budget constraints and limited resources often delay the restock of ORS, zinc, and amoxicillin dispersible tablets. The quantification system is poor, thus limiting the consistency with which new supplies are delivered. As a result, facilities often over-procure to avoid stockouts, which leads to drug expiration and waste.5 The difficulties accessing health facilities, combined with the inconsistent supply creates an environment with very little use of medicines when children are sick. Caregivers are often disinclined to seek out a trained medical professional, wary that treatment commodities may not be available or affordable.

IMCI policy guidelines identify ORS as proper first-line treatment for a child with diarrhea. Although zinc is available and several key informants alluded that comprehensive treatment is commonly understood to be ORS plus zinc, the official guidelines have not been updated to include zinc. Zinc use is woefully low; according to the 2010 DHS, only 4.7 percent of children with diarrhea were given zinc. ORS use is better; about two-thirds of children receive some sort of fluid replacement (including ORS or a homemade fluid solution), but 17 percent of children with diarrhea still receive no treatment.

Similarly, IMCI policy vaguely denotes treatment for pneumonia with the "proper antibiotic." Amoxicillin dispersible tablets have already been identified as the first-line treatment, yet they are not specifically included in the current IMCI policy. The next IMCI update should officially identify amoxicillin dispersible tablets as part of the recommended course of treatment and ensure all health workers are appropriately trained and following revised guidelines to effectively treat sick children.

At a national level, Tanzania does not have a clear policy outlining comprehensive resources to ensure a framework for diarrhea and pneumonia control is implemented in the country. While the focus on child health is rightfully integrated into broader RMNCH guidelines and strategies, including the National Health Policy and the National Road Map, specific budget lines and resource allocations for child health are often diluted or deprioritized among a broad spectrum of health needs. There is no governing guidance on which resources are available at a national or subnational level to correspond to global child health commitments, such as those prioritizing pneumonia and diarrhea.

POLICY RECOMMENDATIONS

Given Tanzania's global and national commitments to reducing child mortality and reaching MDG 4, there are numerous opportunities that could help improve access to and availability of diarrhea and pneumonia programs and commodities. Tanzania's proactive attention to child health and the presence of strong partners creates a unique set of opportunities that can be taken forward to help Tanzania achieve their targets in 2015, 2035, and beyond.

- Registration of co-packaged ORS and zinc to Tanzania's Approved Medicinal Products List. Research has shown that availability of a co-package, or a "diarrhea treatment kit," improves the chances that a caregiver is aware of zinc and a sick child is given zinc alongside ORS.11 The introduction of an ORS plus zinc co-package would allow Tanzanian caregivers to buy the two products together, and therefore could improve knowledge, understanding, and use of zinc. In response, select partners are working with a local manufacturer to explore options to enhance local production capacity. A new co-packaged product must be registered by the TFDA and placed on the Approved Medicinal Products List. Initial conversations have begun, and the TFDA has alluded to "fast-tracking" the registration process, yet the co-pack remains unavailable until registration is officially approved. The co-package must be approved and added to the medicines list before it can be made available to Tanzanian caregivers.
- Revise IMCI guidelines to denote diarrhea
 treatment as ORS plus zinc. In order to align with
 WHO global recommendations, Tanzania must
 formally update the IMCI guidelines to include ORS
 plus zinc as proper diarrhea treatment. Although
 commonly understood and used, the guideline update
 has never been formalized to include zinc with ORS.
 Under the auspices of the GAPPD framework, and in
 line with the Commodities Commission's priority
 commodities, this guideline update would officially

- align Tanzania's treatment protocols to the global standard, and mandate that future health providers trained in the IMCI algorithm specifically learn about ORS plus zinc for treating a child with diarrhea and preventing deadly dehydration.
- Revise IMCI guidelines to denote amoxicillin dispersible tablets as first line pneumonia **treatment**. Based on the recent policy update to identify amoxicillin as first-line pneumonia treatment, and in order to promote pneumonia treatment in line with WHO recommendations and aligned with the GAPPD, IMCI guidelines should be updated to specifically call for amoxicillin dispersible tablets as first-line treatment for pneumonia. Once a health care provider has gone through the algorithm and assessed the child, a pneumonia diagnosis should be followed with amoxicillin dispersible tablets specifically, as opposed to the current generic identification of antibiotics. Amoxicillin dispersible tablets are already included on the Essential Medicines List, so the corollary next step is to update the pneumonia treatment policy-IMCI guidelines-with the correct treatment.
- Community case management policy for VHWs. Policy updates are needed to lift the ban on stocked VHWs and to bring trained, supervised VHWs into the more remote areas of Tanzania to help close the equity treatment gap between rural and urban families and communities. If children in rural Tanzania are able to access similarly high-quality care as those in the urban areas—a tenant of the Commodities Commission—Tanzania will be more on its way to sustaining marked improvements in child survival. Data show that when VHWs are appropriately stocked with essential lifesaving commodities, they are effective health care providers at the community level. VHWs play a critical role in providing a local context for proven health solutions, and provide a connection for caregivers and communities to the health system. Task shifting is a proven way to reduce the demand for crowded, overburdened health facilities, thus improving access to care and reducing the need for facility level care. However, VHWs can only mitigate this burden if policy allows them to diagnose and treat at the community level.
- ADDO treatment policy. More than 7,100 dispensers have been trained as ADDOs, bringing improved access to affordable, quality, and effective treatments to improve health services in rural and peri-urban areas in Tanzania.⁷ However, ADDOs are unable to dispense medications without prescriptions.



One approach to increasing access to ORS and zinc, which is not currently utilized in Tanzania, is through oral rehydration therapy corners: clusters of chairs tucked in the corners of health clinics, where children can receive ORS and zinc, and caregivers get information on preventing and treating diarrhea.

TFDA guidelines already require ADDOs to undergo accreditation and approval, so it would be efficient for the process to ensure ADDOs are trained extensively enough to provide proper diagnosis and treatment. These providers cannot administer malaria rapid diagnostic tests for children with a fever, thus raising the potential that a child with pneumonia is given a presumptive antimalarial, the incorrect medicine which will not treat pneumonia. A new or revised ADDO policy or treatment guideline that outlines training requirements and implements treatment protocols will provide a private-sector mechanism that delivers high-quality child health care and defines the ADDO's role so their value is fully realized.

• Specific diarrhea and pneumonia budget allocations. Many of Tanzania's health successes have come from areas that received government prioritization and significant resources. In order to end preventable child deaths, the same focused priority and resource mobilization will be required for diarrhea and pneumonia. National and subnational budgets should have specific budget lines that allocate dedicated resources to diarrhea and pneumonia

programs, commodities, and services. The National Road Map Strategic Plan, focused on improved service delivery, may be an ideal place to include an appendix or addendum detailing budget allocation figures. Comprehensive policy changes are needed to ensure decision-makers and policymakers prioritize resources for diarrhea and pneumonia commodities and programs.

CONCLUSION

There is no shortage of diarrhea and pneumonia policy opportunities in Tanzania. While the government has made a concerted effort to prioritize child health through malaria control, immunization campaigns, and Vitamin A supplementation, more emphasis must be placed on two of the leading killers of children: pneumonia and diarrhea.

The Government of Tanzania has shown a commitment to child health at a global and national level; new policies are not necessarily needed, but updated policies that reflect the latest scientific evidence and address health

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inequities are imperative to reducing child deaths. By specifically funding the delivery of high-quality medicines—including ORS, zinc, and amoxicillin dispersible tablets—and updating IMCI guidelines, and allowing VHWs and ADDOs to treat at the community level and without prescriptions, more Tanzanian families will have access to lifesaving health services and commodities and fewer children will die of preventable diseases. Revised and specific budget allocations will help ensure that Tanzania is efficiently and effectively making progress towards their MDG target in 2015, to 20 deaths per 1,000 live births by 2035.

Lasting change will only be possible if policies prioritize sustainable improvements in child health. Tanzania's policymakers can maximize investments and help ensure every child has the opportunity to secure a prosperous future by ensuring the health policies of Tanzania effectively and comprehensively tackle the pneumonia and diarrhea burden. The cumulative impact of prioritizing child health—lower fertility levels, improved educational indicators, and enhanced economic gains—will improve the future of Tanzania.

REFERENCES

- 1 Tanzania National Bureau of Statistics (NBS) and ICF Macro. Tanzania Demographic and Health Survey, 2010. Dar es Salaam, Tanzania: NBS and ICF Macro. 2011
- 2 United Republic of Tanzania Ministry of Health and Social Welfare (MOHSW). Tanzania Plan for Implementation of the Recommendation of the UN Commission on Life-Saving Commodities for Women and Children. Dar es Salaam, Tanzania: MOHSW. 2013.
- 3 Tanzania Country Report on the Millennium Development Goals, 2010. Dar es Salaam, Tanzania: United Republic of Tanzania and the University of Dar es Salaam. 2011. Available at: http://www.undp.org/content/dam/tanzania/ Tanzania%20MDG%20Report%202010.pdf.
- 4 United Nations Children's Fund (UNICEF). Annual Report 2011 for the United Republic of Tanzania. Geneva: UNICEF. 2012. Available at: http://www.unicef. org/about/annualreport/files/Tanzania_COAR_2011.pdf.
- 5 MOHSW. National Health Policy, October 2003. Dar es Salaam, Tanzania: MOHSW. 2003. Available at: http://apps.who.int/medicinedocs/documents/ s18419en/s18419en.pdf.
- 6 United Republic of Tanzania Ministry of Finance and Economic Affairs. National Strategy for Growth and Reduction of Poverty II. United Republic of Tanzania. 2010. Available at: http://www.acdi-cida.gc.ca/INET/IMAGES. NSF/vLUImages/Tanzania/sfile/NATIONAL-STRATEGY-FOR-GROWTH-ANDREDUCTION-OF-POVERTY-TANZANIA.PDF.
- 7 US Agency for International Development (USAID). Report of the Tanzania Assessment of Community Services for Childhood Illness. USAID. 2012. Available at: http://www.shopsproject.org/sites/default/files/resources/ Tanzania%20Assessment%20of%20Community%20Services%20for%20 Childhood%20Ilnesses_report.pdf.
- 8 Page on Commission on Information and Accountability for Women and Children's Health. Every Woman Every Child website. Available at: http://www. everywomaneverychild.org/resources/accountability-commission. Accessed January 30, 2014.
- 9 Page on Commission on Information and Accountability for Women's and Children's Health. World Health Organization. Available at: http://www. who.int/woman_child_accountability/about/coia/en/index2.html. Accessed January 30, 2014.
- 10 MOHSW. Scale-up strategy for Essential Medicines for Child Health: Diarrhea, Malaria, and Pneumonia 2012-2014. Dar es Salaam, Tanzania: MOHSW. 2012. Available at: http://www.rhsupplies.org/fileadmin/user_upload/CoLSC/ Documents/Tanzania_Scale_Up_Strategy.pdf.
- 11 USAID praises PSI for 'First-of-its-kind' initiatives in Benin and DRC [press release]. Coutonou, Benin: PSI. September 28, 2008. Available at: http://www.psi.org/news/clips/2009/09/usaid-hails-efforts-treat-diarrhea-benin.





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