world pneumonia day

An Urgent Call to Action to Stop Pneumonia

Reducing under 5 mortality

It was estimated that 5.3 million children below the age of five died globally in 2018. Over half (52%) of these deaths occurred in sub-Saharan Africa[1]. While these numbers are significantly lower than they were 30 years ago, there is still a substantial amount of work to be done. The target of Sustainable Development Goal (SDG) 3.2, agreed upon by the international community, is to end preventable deaths of newborns and children under five years. The aim is for all countries to reduce their under-five mortality rate (U5MR) to 25 deaths or less per 1,000 live births by 2030. While Kenya has made significant progress in reducing its U5MR from 106 deaths per 1,000 live births in 1990 to 46 in 2018[2], it still has a long way to go to reach the SDG target. To accelerate its progress, the country has adopted targeted strategies that prioritize interventions to reduce preventable deaths caused by the leading causes of child mortality.

This brief highlights pneumonia (Box 1) as a leading cause of child deaths in Kenya[3]. It describes the programmes put in place to control the disease, the gaps that have yet to be closed, and the steps that can be taken to reduce pneumonia deaths.

Key points:

1. Pneumonia is a leading killer of children below the age of five in Kenya
2. Key preventative and treatment interventions are not reaching all children
3. To reduce pneumonia deaths, prompt action is needed to ensure that protect, prevent and treat interventions are implemented uniformly nationwide

BOX 1

What is pneumonia?

Pneumonia is a type of an acute respiratory infection (ARI) that affects the lungs. It is caused by a range of infectious agents including bacteria and viruses. Some common symptoms of pneumonia include coughing, difficulty breathing, fever, chills, wheezing and lack of appetite. Undernourished children who have not been exclusively breastfed are at higher risk of developing pneumonia. In addition, environmental conditions such as exposure to indoor air pollution make children more susceptible to pneumonia. Pre-existing conditions such as HIV or measles also put a child at increased risk[4].

Available strategies for prevention, diagnosis and treatment are simple and effective. Prevention can be achieved through immunization with the pneumococcal conjugate vaccine (PCV) and *Haemophilus influenzae* type B (Hib) vaccines (both offered at no cost to children through the National Vaccines and Immunization programme), good nutrition for pregnant mothers and infants, and limiting exposure to smoke and fumes. Observing a child's pattern of breathing is the optimal means of diagnosis. Treatment is by antibiotics, and, in the more severe cases, oxygen therapy is also often required.

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Pneumonia: the forgotten child killer

Infectious diseases continue to be a leading cause of under-five deaths. Pneumonia (15%), malaria (5%) and diarrhea (8%) are the 3 biggest killers of children under five worldwide[1]. Even more worryingly, background factors such as undernutrition, lack of safe drinking water, inadequate sanitation and poor hygiene put children at greater risk of contracting and succumbing to these infectious diseases[4]. In Kenya, pneumonia was the second leading cause of mortality; accounting for 14.6% of all deaths in children under 5 in 2017 (Figure 1). If Kenya is to meet the SDG 3.2 goal set for 2030, it must reduce pneumonia deaths. Therefore, renewed efforts must be made to identify and close the gaps in accessing appropriate preventative and therapeutic care for this disease.

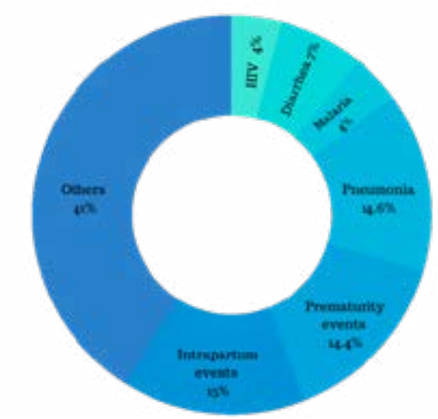

Figure 1: Causes of Mortality in Under five children in Kenya 2017. Source: WHO Maternal and Child Epidemiology Estimation Group (https://www.who.int/healthinfo/global_burden_disease/estimates/en/index2.html).

Ending pneumonia deaths by 2025

The Integrated Global Action Plan for the Prevention and Control of Pneumonia and Diarrhea (GAPPD) is a strategy developed by the WHO and UNICEF with the aim of reducing pneumonia deaths[5]. Its specific goals with regards to pneumonia are to:

- Reduce pneumonia deaths in children under 5 years to fewer than 3 deaths per 1000 live deaths
- Reduce incidence of severe pneumonia in children under 5 years by 75% compared to the 2010 levels

GAPPD provides an integrated framework that aims to guide national governments and their partners on how best to prevent pneumonia deaths using proven interventions. These interventions include those that would protect, prevent and treat pneumonia (Figure 2).

Protect: ensure promotion of good health practices that have been shown to decrease the risk of developing pneumonia.
Prevent: increase immunization coverage and promote healthy environments.
Treat: use appropriate treatment for children who are suffering from pneumonia.

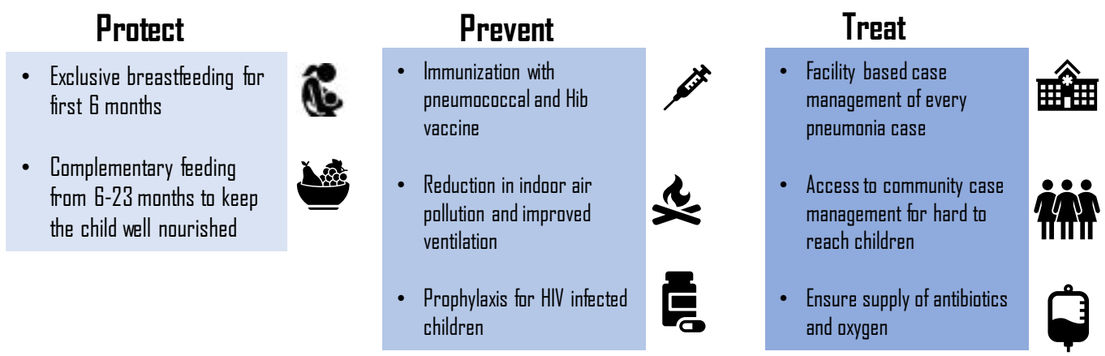

Figure 2: The Protect, Prevent and Treat framework developed by the WHO and UNICEF

Kenya pneumonia control strategies

Kenya adopted the Kenya Action Plan for the Prevention of Pneumonia and Diarrhea (KAPPD) to end the number of pneumonia and diarrhea deaths by 2025. Its goal was to develop policies that increase health service delivery and nutrition for children.

Protect

Programs such as *'Malezi bora'* which promote various high impact health interventions such as breastfeeding, complementary feeding and Vitamin A supplementation play a key role in protecting children from pneumonia.

Prevent

The National policy guideline on immunization guides health workers on the routine immunization schedule, which includes the PCV and Hib vaccines for all children at no cost. Vaccines are also administered at no cost. The goal is to achieve the target of 90% immunization coverage by 2025.

Treat

Kenya adopted the WHO and UNICEF recommend strategy known as the Integrated Management of Newborn and Childhood Illness (IMNCI) to provide guidance for health workers at health facilities classify and treat childhood illnesses such as pneumonia[6].

To cater to the children who are at the highest risk of dying from pneumonia and have no access to health facilities, the integrated Community Case Management (iCCM) strategy was developed[7]. This strategy is to be used by trained community health workers (CHWs) to provide and increase access to quality care to underserved and vulnerable children. However, the Ministry of Health is still examining safety and feasibility of this strategy for pneumonia case management.

Identifying the gaps

Interventions to prevent and treat pneumonia are available and cost-effective. In addition, there are strategies and guidelines in place to act as roadmaps for the control of this disease. Yet, it remains a leading cause of death for children in Kenya. This is because children are not receiving the interventions available to prevent and treat pneumonia. In particular, economically and geographically disadvantaged children are often underserved by formal health systems.

Protect: while exclusive breastfeeding has been shown to be a key intervention for protecting infants from pneumonia cases and death, only 61.3% of children under 6 months were exclusively breastfed in 2014.

Prevent: about 74% of Kenyan households use solid fuels for cooking; a practice that produces high levels of pollutants that irritate the lungs and puts a child at increased risk of developing pneumonia.

Treat: although effective antibiotic treatment of pneumonia exists, only 53.1% of children received antibiotic treatment for a suspected pneumonia case indicating that there was poor access to therapy[9]. In addition, it is estimated that 35% of caregivers did not seek care for a child suspected of having pneumonia[9] (Figure 3).

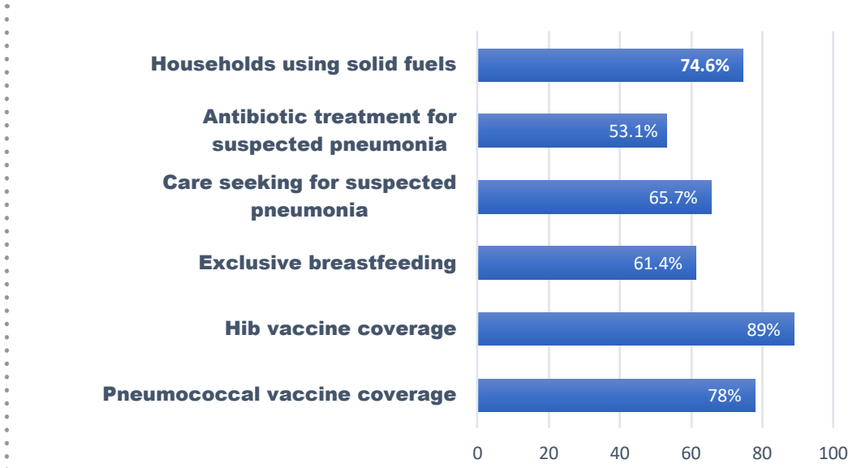

Figure 3: Pneumonia Intervention coverage in Kenya. Source: GAPPD visualization tool WHO (https://www.who.int/maternal_child_adolescent/epidemiology/gappd-monitoring/en/). Pneumococcal and Hib vaccine coverage data is reported for 2016 while all other values were reported for 2014

As health services in Kenya are planned, organized, and delivered at subnational level, it is important to understand pneumonia trends at this level as this would help address inequities. Uneven progress across the 47 Kenyan counties poses a significant challenge in pneumonia control strategies. For example, nutritional status and immunization coverage differs between counties (Figure 4). Nairobi county has a substantially lower average prevalence of under-nutrition among under-five children (3.8%) compared to the national average (11%) while in Wajir county, the average (21.1%) is almost double that of the national average[10]. Furthermore, full vaccination coverage ranges from

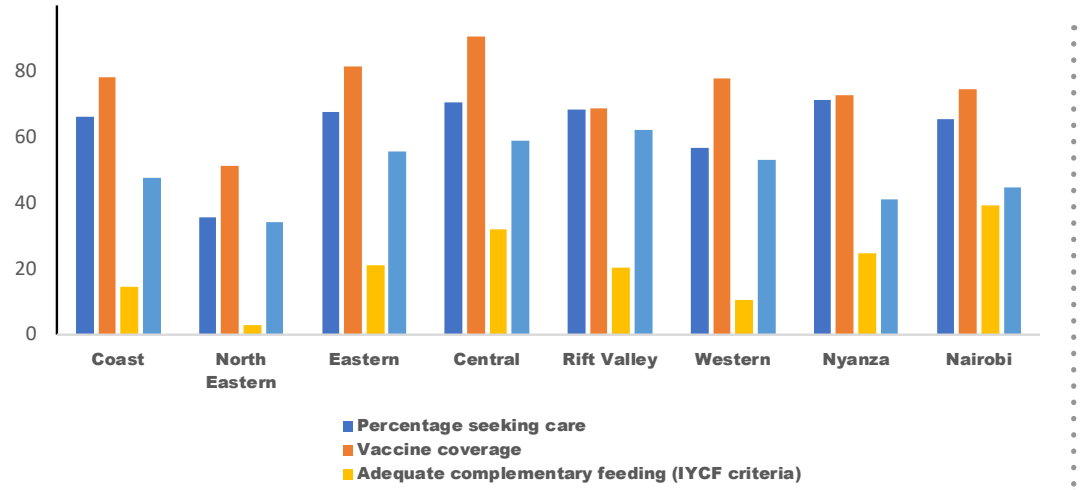

Figure 4: Pneumonia intervention coverage at the subnational level. Source: Kenya Demographics and Health Survey 2014.

97% in Kiambu to just 31% in West Pokot[11]. Identifying and understanding these variations between counties could help identify county-specific priorities for intervention thereby increasing the chances of Kenya achieving the SDG target[12].

Altogether these gaps have slowed Kenya's progress in reducing deaths caused by pneumonia. It is expected that identifying hard to reach children who are at the greatest risk of developing pneumonia and providing access to the interventions mentioned will close the gap and ultimately end pneumonia deaths.

Possible next steps

- **Make pneumonia control a priority.** National and county governments working with development partners and other stakeholders need to champion pneumonia action plans at the local and international level. This can be achieved by bringing together the major child health stakeholders to agree on priorities and plan clear strategies on advocacy and resource mobilization.
- **Ensure that child health programs** that include protective, preventive and curative activities are implemented at the county/subnational level for equitable progress. This can be achieved through improved co-ordination between county and national governments and technical representatives to establish better engagement and communication to facilitate the implementation process.
- **Focus on improving access to quality care** by specifically targeting the poorest and most vulnerable children to maximize health impact. This includes ensuring that health workers at all levels of the health system are trained on pneumonia case management.
- **Examine and determine the feasibility of integrated community case management (iCCM) in Kenya**. Training CHWs to identify and manage pneumonia cases would greatly improve access to care in hard to reach areas where there are no/few health facilities[12].
- **Renew and strengthen the health system** including ensuring adequate numbers of trained and motivated health care personnel and availability of essential commodities including vaccines, antibiotics, and oxygen for all children
- **Increasing awareness of pneumonia** through nationwide campaigns to empower the general public and caregivers to protect their children, identify symptoms and demand treatment for pneumonia.
- **Strengthen research and surveillance.** Measurement of progress and gaps in pneumonia control nationwide and within counties is challenged by weak health information systems and limited investment in research. Better data will provide much-needed evidence to inform policymaking.

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