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POLICY BRIEF

**Strengthening Outpatient Management
of Childhood Pneumonia in Pakistan**

**Using Primary Healthcare Platforms
to Reduce Under-five Mortality**

1. BACKGROUND

The Persistent Burden of Pneumonia

In 2023 alone, 4.8 million children died before reaching the age of five and childhood pneumonia, an acute infection of the lungs, continues to be one of the leading causes of under-five mortality globally. Pakistan is among the top five countries contributing to nearly one-third of global pneumonia deaths. An estimated 7 deaths per 1,000 live births in Pakistan are attributable to pneumonia.

World Health Organization's 2014 guidelines recommend outpatient management of chest indrawing pneumonia using oral amoxicillin through the Integrated Management of Childhood Illness (IMCI) strategy. While 45 countries, including Pakistan, have adopted this approach, real-world

evidence from primary healthcare (PHC) settings remains limited, particularly in low-resource contexts.

This policy brief draws on findings from a multi-country, multi-site, prospective observational cohort study (Jan 2023–Feb 2025) conducted in seven countries globally, following the CIPAM method. In Pakistan, the study was conducted at PHC facilities in Punjab (Lahore and Rawalpindi), Sindh (Thatta), and Islamabad. The primary objective of the study was to evaluate treatment outcomes for children aged 2–59 months with chest indrawing pneumonia treated by PHC health workers

2. THE STRATEGIC IMPERATIVE:

Strengthening PHC to Reduce Pneumonia Burden

Recent data show that the cost to households of treating severe pneumonia via community-based interventions, e.g. through Lady Health Workers, is lower than when hospital referral is required. Household costs for referral cases are approximately 30-fold higher than for community-managed cases. PHCs and community health programs already have structures in place through the IMCI strategy and the LHW programme, which can be leveraged to scale up access. Efforts to strengthen PHC pneumonia care will reduce hospital referrals, alleviate pressure on secondary and tertiary health facilities, lower costs borne by families and improve health outcomes for children across Pakistan, especially those in underserved regions.

3. Key Bottlenecks

Findings from field implementation reports and health system assessment highlight gaps across the supply, demand and enabling environment dimensions that constrain outpatient management of pneumonia at the PHC level.

Supply-Side Challenges	Demand-Side Barriers	Enabling Environment Constraints
<ul style="list-style-type: none">• Inconsistent availability of essential commodities, particularly oral first-line antibiotics, due to procurement delays and weak stock management systems.• Limited diagnostic and treatment support at the PHC level, including pulse oximeters and job aids, undermines timely and standardized case management.• Inadequate training and supervision of healthcare providers, resulting in variability in adherence to IMCI protocols and weak supply chain coordination, with the absence of buffer stocks.	<ul style="list-style-type: none">• Delays in care-seeking and frequent refusal of referrals due to cost, access barriers and cultural factors.• Incomplete adherence to prescribed treatment courses among some care givers, influenced by inadequate counselling and follow-up.• Reliance on informal or traditional care in some communities, leading to delayed or inappropriate treatment.	<ul style="list-style-type: none">• Limited systematic monitoring of pneumonia case management and treatment outcomes at the PHC level.• Weak behaviour-change communication (BCC) and insufficient community engagement efforts to build awareness and demand for timely pneumonia care.• Fragmented program coordination with limited integration of pneumonia management into child health financing and insufficient accountability mechanisms to ensure adherence to protocols

4. POLICY CONTEXT & STRATEGIC OPPORTUNITY

- National IMCI protocols already recommend outpatient treatment for pneumonia cases.
- PHC platforms have national reach and can be scaled up.
- Reducing unnecessary referrals aligns with health system strengthening, UHC and AMR reduction goals.

5. RECOMMENDATIONS

Financing & Procurement

- Establish dedicated budget lines for pneumonia drugs (oral amoxicillin) and related commodities at federal and provincial levels and ensure uninterrupted supply of antibiotics and diagnostics at PHC level.

Supply Chain & Logistics

- Strengthen PHC staff capacity through regular IMCI refresher training. Standardise pneumonia management protocols and adherence audits at facilities and introduce decision support tools and job aids for HCPs.

Demand Generation & Community Engagement

- Launch targeted BCC campaigns to build caregiver trust in oral treatment and engage LHWs, CHWs and community influencers to promote timely care-seeking.

Monitoring & Accountability

- Integrate pneumonia indicators into existing LMIS and DHIS2 platforms and track stockouts, adherence rates and outcomes in real-time.

<i>Intervention Area</i>	<i>Key Actions</i>	<i>Expected Impact</i>
<i>Supply Chain</i>	Ensure uninterrupted supply of oral amoxicillin	Reduced stockouts; increased coverage
<i>Service Delivery</i>	Strengthen PHC protocols & training	Improved treatment adherence and outcomes
<i>Community Demand</i>	BCC campaigns, LHW engagement	Increased timely care-seeking and antibiotic adherence
<i>Monitoring & Accountability</i>	Pneumonia indicators in DHIS2/LMIS	Data-driven decision-making; early identification of gaps
<i>Policy & Governance</i>	Dedicated pneumonia budget & scale-up plan	Sustained intervention & health system strengthening

CALL TO ACTION

The federal and provincial governments must urgently scale up outpatient pneumonia management through PHC platforms. Ensure uninterrupted supply of oral amoxicillin, strengthen health worker capacity, and engage communities to promote timely care-seeking. Embedding real-time monitoring will drive data-informed decisions, reduce hospital referrals, and save lives of children under five.

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