Strategies to Control Pneumonia and Diarrhoea:

Tackling the deadliest diseases for the world’s poorest children

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GLOBAL BURDEN
Number of Under-Five Deaths, by Region, 2010 (Thousands):
7.6 Million Total Deaths (6.9 Million in 2011)
Pneumonia and diarrhoea account for nearly one-third of child deaths

Note: Undernutrition contributes to more than a third of deaths among children under age 5. Values may not sum to 100 per cent because of rounding.
Source: Adapted from Liu and others 2012; Black and others 2008.
Different patterns of child deaths in high- and low-mortality countries

Note: Country selection was based on high- and low-mortality countries that are not in conflict and with a population greater than 40 million to improve data reliability and reduce uncertainty around the estimates. The distribution of deaths among children under age 5 by cause in these two countries is comparable to other high- and low-mortality countries.
Source: Adapted from Liu and others 2012.
Number of Under-Five Deaths, by Country, 2010 (Thousands)

India: 1,696
Other countries: 2,958
Nigeria: 861
Pakistan: 423
China: 315
Ethiopia: 271
Indonesia: 151
Sudan*: 143
Uganda: 141
Afghanistan: 191

* Data refer to Sudan as it was constituted in 2010, before South Sudan seceded on 9 July 2011.
TREATMENT COVERAGE
Across developing countries fewer than a third of children with suspected pneumonia receive antibiotics

Share of children under age 5 with suspected pneumonia receiving antibiotics, by region, 2006–2011 (per cent)
(Lack of) Progress in care-seeking for suspected pneumonia over the past decade
Only a third of children with diarrhoea in developing countries receive ORS

Share of children under age 5 with diarrhoea receiving ORS (ORS packet or prepackaged ORS fluids), by region, 2006–2011 (per cent)
Gaps in appropriate careseeking for suspected childhood pneumonia exist across household wealth quintiles

Share of children under age 5 with suspected pneumonia taken to an appropriate healthcare provider or facility, by household wealth quintile and region, 2006–2011 (per cent)
Updated treatment guidelines of severe and non-severe pneumonia:

- **Amoxicillin (40 mg/kg/dose)** is now the recommended antibiotic for first line treatment of childhood pneumonia
- For **non-severe pneumonia in countries with low HIV prevalence**, the dosage is **twice daily for 3 days**
- For **non-severe pneumonia in high HIV settings and severe pneumonia** the required dosage is **twice daily for 5 days**

Recommended formulation is **250 mg amoxicillin dispersible tablets** and is in line with WHO/UNICEF “**Priority medicines for mothers and children 2011**”

http://www.who.int/childmedicines/progress/Unicef_priority_meds_child_survival.pdf
EXPANDING ACCESS TO TREATMENT: INTEGRATED COMMUNITY CASE MANAGEMENT
2012 WHO-UNICEF Joint Statement on integrated community case management (iCCM) – A priority strategy to improve access to treatment
WWW.CCMCentral.com - website of global CCM Task Force
Status of community case management policies and implementation in 40 sub-Saharan African countries in 2010: *Is there any policy for CCM and does it authorise CHW Treatment?*

<table>
<thead>
<tr>
<th>Category</th>
<th>Diarrhoea</th>
<th>Pneumonia</th>
</tr>
</thead>
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<td>CCM policy</td>
<td>34</td>
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<td>CHW treatment policy</td>
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*Diarrhoea* and *Pneumonia*
### Current treatment recommendations

<table>
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<tr>
<th>Condition</th>
<th>Treatment</th>
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<tbody>
<tr>
<td>If diarrhoea (less than 14 days AND no blood in stool)</td>
<td>- Give oral rehydration salts (ORS). Help caregiver give child ORS solution in front of you until child is no longer thirsty.</td>
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<td></td>
<td>- Give caregiver 2 ORS packets to take home. Advise to give as much as child wants, but at least 1/2 cup of ORS solution after each loose stool.</td>
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<td></td>
<td>- Give zinc supplement. Give 1 dose daily for 10 days:</td>
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<tr>
<td></td>
<td>- Age 2 to 6 months — 1/2 tablet (total 5 tabs)</td>
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<tr>
<td></td>
<td>- Age 6 months to 5 years — 1 tablet (total 10 tabs)</td>
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<tr>
<td>If fever (less than 7 days) in a malaria-endemic area</td>
<td>- Do a rapid diagnostic test (RDT).</td>
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<tr>
<td></td>
<td>- Positive            - Negative</td>
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<tr>
<td></td>
<td>- If RDT is positive, give oral antimalarial artemether-lumefantrine (AL).</td>
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<td></td>
<td>- Give twice daily for 3 days:</td>
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<tr>
<td></td>
<td>- Age 2 months to 3 years — 1 tablet (total 6 tabs)</td>
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<tr>
<td></td>
<td>- Age 3 to 5 years — 2 tablets (total 12 tabs)</td>
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<tr>
<td>If fast breathing</td>
<td>- Give oral antibiotic (250 mg amoxicillin tablet). Give twice daily for 5 days:</td>
</tr>
<tr>
<td></td>
<td>- Age 2 to 12 months — 1 tablet (total 10 tabs)</td>
</tr>
<tr>
<td></td>
<td>- Age 12 months to 5 years — 2 tablets (total 20 tabs)</td>
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GLOBAL MOMENTUM BUILDING...
New UNICEF Global Report on Pneumonia & Diarrhea launched in June 2012
Declaration on Scaling Up Treatment of Diarrhea and Pneumonia

For decades, governments, donors, non-governmental organizations, and private sector partners have contributed technical knowledge, research, funding and other resources to prevent and treat childhood diarrhea and pneumonia in some of the world’s most impoverished countries. Over the past fifty years, great progress has been made and child mortality has dropped by seventy percent worldwide. While this progress is impressive, it is not enough to achieve a two-thirds reduction in child mortality by 2015.

Diarrhea and pneumonia are among the leading killers of children under the age of five worldwide—responsible for 29 percent of child deaths, or more than 2 million deaths every year. The majority of these deaths occur in just a few high-burden countries in sub-Saharan Africa and South Asia. Yet, most deaths could be prevented with highly effective interventions such as exclusive breastfeeding, hand washing with soap, micronutrient supplementation, safe drinking water and improved sanitation, vaccinations, as well as low-cost treatment.

The timing is ripe for a concerted global effort to end preventable child deaths from diarrhea and pneumonia in high-burden countries within a generation. The recent UN Commission on Life-Saving Commodities for Women and Children included oral rehydration salts (ORS), zinc and amoxicillin within their mandate. In conjunction with that effort, several of the highest burden countries — including Nigeria — are developing and adopting ambitious plans to rapidly expand the proportion of children with access to essential medicines for the treatment of diarrhea and pneumonia — plans that highlight the need for coordinated interventions since many of the strategies to prevent and treat both diseases are similar. But, no one government, organization or company can reach these ambitious targets alone. With unique partnerships that harness the resources, expertise, and innovation of the public and private sectors, partners will work together to mobilize action to scale up treatment of diarrhea and pneumonia to save children’s lives.

For More Information, please visit: www.apromiserenewed.org

Saving Mothers, Giving Life

Saving Mothers, Giving Life (Saving Mothers) was launched with the goal of supporting countries where women are dying at alarming rates during pregnancy and childbirth to aggressively reduce maternal mortality. A partnership between the U.S. Government, the Norwegian Government, Merck for Mothers, the American College of Obstetricians and Gynecologists, and Every Mother Counts, Saving Mothers intends to help mothers during labor, delivery, and the first 24 hours postpartum – the period when an estimated two out of every three maternal deaths and nearly half of newborn deaths occur. Work is beginning in countries where maternal mortality rates are disproportionately high, starting in districts in Uganda and Zambia.

The goal of Saving Mothers is to support countries to reduce maternal deaths by up to 50 percent in targeted districts in resource-limited countries. Saving Mothers will develop models of quality maternal health services through district health network strengthening to achieve maximum sustainable impact; galvanize the American public to create a domestic constituency to support saving mothers’ lives around the world; and engage new public and private partners around the world to leverage expertise and co-invest in saving mothers.

mPowering Frontline Health Workers

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Under the banner of *A Promise Renewed*, a movement for child survival is growing to re-energize, refocus and build on two decades of significant progress, with an aim to end preventable child deaths.

Since June, more than half the world’s governments have signed up and renewed their commitment to child survival.
WHO-UNICEF Global Action Plan for Pneumonia and Diarrhea (GAPPD)

- A ‘Lancet Series’ on pneumonia and diarrhea – presenting a state-of-the-art situational analysis of the global burden, risk factors, trends, potential interventions/programs and evidence gaps to address the persisting burden of childhood diarrhea in developing countries

- A global review and consultation process - to bring together key stakeholders, partner organizations and institutions to consider this area for action

- Global Action plan for Childhood Pneumonia & Diarrhea (GAPPD) - which will aim to guide public health policy for action

Launch in April 2013
ASSISTANCE TO SCALE-UP
With the leadership of the UN Commission on Life-Saving Commodities for Women and Children, there is an opportunity to catalyze change.

“Making sure that women and children have the medicines they need is critical for our push to achieve MDGs”

Secretary-General Ban Ki-Moon

Leadership Structure and Roles

**UN Commission**

*Advocates at the highest levels to catalyze change*

**Chairs:**
Pres. G. Jonathan of Nigeria  
PM J. Stoltenberg of Norway

**Vice-chairs:**
UNFPA  
UNICEF

**Technical Working Group (3 Themes)**

*Supports the Commission to examine barriers to scale-up*

- Market shaping
- Regulatory environment
- Best practices & innovations

Translate Commission recommendations into actions for countries  
Identify barriers to scale-up and translate country needs into concrete decisions for Commission

**Diarrhea & Pneumonia Working Group (UNICEF-CHAI)**

*Provides near-term support to countries in efforts to scale-up access to treatment*

Across 10 high-burden countries:

- **The Goal:** Save lives of children dying from pneumonia, diarrhea and malaria and accelerate progress towards MDG4 by improving access to available treatment

- Development of scale-up plans for pneumonia & diarrhea treatment

- **By 2015:** 60-80% coverage of diarrhea, pneumonia and malaria treatment for children under five
Executive summary – country scale-up plans

• Each year, **almost 2 million children are dying from diarrhea and pneumonia** globally despite the availability of simple, affordable, and life-saving treatments; approximately 60% of these deaths are occurring in just 10 priority countries: India, Nigeria, Dem. Rep. of Congo, Pakistan, Ethiopia, Kenya, Uganda, Tanzania (UR), Bangladesh and Niger

• **National Strategies** have been developed in these 10 priority countries, under the leadership of the UN Commission, to improve access to appropriate treatment for diarrhea and pneumonia, by proposing activities in four areas of intervention:
  1. Generate **awareness and demand** for appropriate treatment and promote care-seeking
  2. Ensure wide **availability** of high-quality, affordable treatments in public and private sectors
  3. Improve **health provider awareness** and knowledge of appropriate treatments practices
  4. Secure a conducive and supportive **policy and regulatory environment**
Executive summary – country scale-up plans

- Diarrhea and pneumonia offer a particularly ripe opportunity for impact towards MDG4 and offer significant potential to decrease child mortality, since ...
  - ... costs of implementation are modest in comparison to other disease areas
  - ... speed of uptake can be high, as seen in other relevant scale up programs
  - ... working with private sector retailers offers an exceptional opportunity to rapidly reach the majority of care-seekers with appropriate treatments
More than 60% of deaths due to pneumonia and diarrhea are occurring in 10 high-burden countries.

Source: WHO/CHERG, 2010
Challenge and Opportunity: care-seeking and treatment in the private sector

**Pneumonia** treatment seeking behaviour
Percentage, 2010 estimates

- Private sector: 74%
- Public sector: 26%

**Diarrhea** treatment seeking behaviour
Percentage, 2010 estimates

- At home: 16%
- Private sector: 58%
Across the 10 countries, national scale-up plans call for four primary interventions that have been part of successful small programs:

- **Generate awareness & demand**
  - Launch a **national action campaign** for child health
  - Use partnerships with **mobile operators**
  - Health diplomacy through national & community leaders

- **Ensure availability of the product**
  - Engage manufacturers to ensure availability of an affordable product
  - Optimize **packaging & branding**
  - Incentivize expanded distribution in the private sector

- **Increase provider awareness**
  - Improve **skills and knowledge** of public and private health workers
  - Facilitate supplier promotional reach of rural areas through **facilitated detailing**

- **Secure a conducive policy environment**
  - Build **broad support** and mobilize **additional resources** from local & international donors
  - Ensure adjustment & wide dissemination of **treatment guidelines**
  - Ensure **OTC (zinc) and EML** status

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This initiative has potential to save lives from pneumonia and diarrhea and achieve a significant reduction in child mortality by 2015. Diarrhea and pneumonia treatment offer perhaps the greatest untapped opportunities to further progress towards MDG 4.

Preliminary demand forecast across 49 ‘Every Women, Every Child’

Conservative estimate based on current treatment coverage 200,000,000 children under five (excludes 128 million in India)

<table>
<thead>
<tr>
<th>TARGET POPULATION</th>
<th>INCIDENCE&lt;sup&gt;1&lt;/sup&gt;</th>
<th>COVERAGE&lt;sup&gt;2&lt;/sup&gt;</th>
<th>IF ALL CASES WERE TREATED</th>
</tr>
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<tbody>
<tr>
<td>200 million children under 5</td>
<td>60 million pneumonia cases</td>
<td>17 million treated with antibiotics (equiv. to 298 million tabs of Amoxicillin 250 mg)</td>
<td>60 million treated with antibiotics (equiv. to 1,050 million tabs of Amoxicillin 250 mg)</td>
</tr>
<tr>
<td>600 million diarrhea cases</td>
<td>234 million receive ORS (equiv. to 468 million 1L sachets)</td>
<td>&lt;30 million receive Zinc (equiv. to 300 million zinc 20mg tabs)</td>
<td>600 million receive ORS (equiv. to 1,200 million 1L sachets)</td>
</tr>
</tbody>
</table>

(1) Based on 0.3 cases of pneumonia/child/year and 3 cases of diarrhea/child/year. Individual estimates per country can vary widely.
(2) Source: Pneumonia and diarrhoea. Tackling the deadliest diseases for the world’s poorest children. Coverage of Zinc below 5%.
Support to scale-up
Appropriate products for pneumonia

- Amoxicillin 250mg DT offers a convenient way to administer treatment to under fives:

  ![Diagram showing loose blisters, dispensing pack, and patient packs]

UNICEF has included boxes of 10 blisters and individual patient packs in the range of products it offers, but there is need to determine what are the pro’s and con’s of both options so programmes can make informed choices during selection.

There is need to increase registration of Amoxi DT in countries, especially in those adopting Amoxicillin as first line.
Support to scale-up

Appropriate products for diarrhea

- Zinc 20mg DT and low osmolarity ORS form the basis of treatment of diarrhea. Use of flavored ORS and co-packing of the two products is considered as a way to increase acceptability, compliance with treatment and opportunities for wide distribution especially in private sector.

UNICEF has Zinc and ORS (flavored and unflavored) in its range of products, but sources are still limited. Lack of registration in countries is a barrier for adoption. Innovation to deliver a full pack for diarrhea through public and private sectors is sought.

www.unicefinnovation.org
Conclusion: Taking advantage of new opportunities for pneumonia and diarrhoea

- Pneumonia and diarrhoea are largest child killers and their control is **essential for achieving MDG 4**

- The introduction of **PCV, Hib and rotavirus** vaccines and the **renewed interest in creating synergies** between programmes provides new opportunities for pneumonia and diarrhoea control

- **Improvements in case management: outreach to communities**
  - System support for Community Health Worker programs
  - Short course antibiotics (oral amoxicillin) for non-severe pneumonia and severe pneumonia
  - Low osmolarity ORS and zinc for diarrhoea

- **Building global momentum**
  - A Call to Action and A Promise Renewed
  - UN Commission on Life Saving Commodities
  - Support for scale-up plans in high burden countries
World Pneumonia Day

http://worldpneumoniad.org/