

Conversation with Kanika Bahl, Cammie Lee, and Thayer Rosenberg, January 27, 2016

Participants

- Kanika Bahl – Managing Director, Results for Development (R4D)
- Cammie Lee – Senior Program Officer, R4D
- Thayer Rosenberg – Senior Program Associate, R4D
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Note: These notes were compiled by GiveWell and give an overview of the major points made by Ms. Bahl, Ms. Lee, and Ms. Rosenberg.

Summary

As part of its work aiming to support potential top charities, GiveWell spoke with Kanika Bahl, Cammie Lee, and Thayer Rosenberg of R4D about its Amoxicillin Dispersible Tablets (Amox DT) program. Conversation topics included the benefits of Amox DT, how pneumonia compares to other high mortality burden diseases, and R4D's pneumonia program.

Benefits of Amox DT

Amox DT is an oral tablet treatment for pneumonia. It has many benefits:

1. Effectiveness – Amox DT is an evidence-based treatment: it is about 3 times more effective at treating severe pneumonia than the alternative treatment, Cotrimoxazole.
2. Cost-effectiveness – An Amox DT treatment can be delivered through a public health system for approximately 50 cents plus shipping and handling.
3. Accessibility – Previously, the World Health Organization (WHO) guidelines stated that pneumonia should be treated with cotrimoxazole, and that severe pneumonia, which has a higher mortality burden than non-severe pneumonia, should only be treated with injectable antibiotics. The guidelines now recommend Amox DT as a first line treatment for both severe and non-severe pneumonia, with severe pneumonia also requiring a referral to health centers for injectable antibiotics/supportive therapy. It can be provided through low-level community health facilities. These facilities are sometimes difficult to access due to a variety of reasons, including limited opening hours, though from R4D's perspective, ensuring the facilities are stocked with the right medications is a positive step forward in increasing access. Community health workers also carry Amox DT and are trained to administer it. This is especially important in countries where a large proportion of the population is rural.
4. Adherence – Amox DT is easily transported and can be taken at home. As opposed to Cotrimoxazole, which must be taken 3 times per day, Amox

DT need only be taken 2 times per day: 1 pill in the morning and 1 pill at night. The ingestion format is a child-friendly: it can be dissolved in a spoonful of breast milk or water. As it is a relatively new drug, adherence to the full treatment course for children aged 0-5 has not been the subject of a rigorous evaluation.

A note on other types of pneumonia treatments:

Children who do not have access to Amox DT are often treated with inferior products, such as Cotrimoxazole, which is not WHO-recommended, or Amoxicillin tablets or oral suspension (OS). Tablets are a less child-friendly ingestion format, and are often chopped up for an unscientific child-equivalent dose and OS is more difficult to store (it's susceptible to caking in high temperatures and humidity environment and requires refrigeration after opening) and transport.

If a child with pneumonia is severely sick, antibiotics alone might not be a sufficient treatment, and they may require oxygen treatment in a higher-level facility. Oxygen treatment has not been in the purview of R4D's work, but the organization recognizes the importance of integrating oxygen treatment into pneumonia programs.

Comparison of pneumonia to other high mortality burden diseases

Diagnosis

Though imperfect, the diagnostic procedure for pneumonia is often easier than that for other high mortality burden diseases. In contrast, diagnosing human immunodeficiency virus (HIV) in children under 19 months requires a relatively complex technological test.

Treatment

Compared to pneumonia treatments, an antiretroviral (ARV) drug regimen is much more challenging to follow. It has a much longer duration and often requires multiple medications.

Though R4D is primarily focused on pneumonia treatment, it also places importance on access to Zinc and oral rehydration salts (ORS) for treating diarrhea. Diarrhea has a very high mortality burden (it is the second most significant cause of death in children under 5), but R4D believes diarrhea deaths are decreasing as a result of various interventions. R4D has observed that diarrhea tends to receive more attention than pneumonia from implementing partners. The Clinton Health Access Initiative, Inc. (CHAI) has been quite active in diarrhea treatment programs.

Artemisinin-based combination therapies (ACTs), used to treat malaria, have a similar duration to the Amox DT regimen. However, patients with cerebral malaria, which is common in African countries and can cause death if not treated within 24 hours, are more likely to require private sector treatment than most pneumonia patients.

There are some concerns related to pneumonia treatment in the private sector, including over-diagnosis and mixed incentives for prescribing treatments.

Funding

A primary reason why R4D has chosen to focus on pneumonia is that the disease tends to receive less attention and funding than other high mortality burden diseases. Potential reasons for this include:

1. Access to global, institutional funding for pneumonia treatment has been limited due to the disease's exclusion from major funding alliances such as the Global Fund to Fight AIDS, Tuberculosis and Malaria and UNITAID. R4D has discussed this issue with funders such as the United States Agency for International Development (USAID) and the United Kingdom's Department for International Development (DFID).
2. Some donors believe countries should be responsible for purchasing their own products for pneumonia treatment. This might lead countries to deprioritize pneumonia programs in favor of other programs that receive more donor attention and support. For example, in Ethiopia, 50% of the health budget comes from donors. Given the life-saving potential of a switch to Amox DT, R4D would encourage donors to consider funding Amox DT in the near-term to encourage treatment scale-up and a rapid switch from inferior pneumonia products to Amox DT. In parallel efforts could focus on securing the necessary domestic funding to sustain the program over the medium-term. This approach draws on analogous scale-up efforts R4D leadership have engaged on in the past, including successful efforts to rapidly catalyze a global switch to superior pediatric HIV drugs using time-limited product funding.

R4D's pneumonia program

In 2013, R4D was approached by the office of the UN Special Envoy for Financing the Health Millennium Development Goals and for Malaria (MDG Health Envoy) about working to improve access to pneumonia treatment. The office was concerned by how little had been done in this area, despite the disease's high mortality burden (it accounts for almost 1 million child deaths each year).

R4D subsequently learned that access to pneumonia treatment, and Amox DT in particular, was very low: only 1 in 4 children were receiving any pneumonia treatment, and only a very small portion were receiving Amox DT. R4D was surprised by the lack of clear consensus in the field around the reasons for poor accessibility, especially given Amox DT's benefits and its inclusion as a first line treatment in the WHO guidelines.

3. In January 2014, R4D began discussing potential responses with the Bill & Melinda Gates Foundation (Gates Foundation). In August 2014, the foundation awarded R4D a 3-year grant, which has now been extended to 5 years. The first 6 months were spent on performing a diagnostic across

3 market levels (supply, demand, and global) to understand the reasons for the poor scale-up of Amox DT treatment programs. Initial hypotheses included suboptimal Amox DT supply, Amox DT's relative expense to other treatments, and lack of funding.

Diagnostic phase

The diagnostic phase revealed 2 main types of challenges:

1. Funding gaps – The Amox DT market size will be between 5 and 15 percent of the pediatric ARV market by 2018. Based on the needs projected by countries in their global funding applications, which includes pneumonia treatment, several of them face funding gaps of a few million dollars. This potentially translates into millions of children not receiving treatment. Countries with the highest pneumonia burdens are facing the most significant gaps.
2. Country-level challenges with switching products – A successful product switch can take many years, and requires a variety of interventions, including:
 - a. Adjustment of official guidelines
 - b. Product registration
 - c. Ensuring an ordering switch
 - d. Training of healthcare providers

This process can be especially slow in developing countries, and can be exacerbated by a lack of political will.

Fundraising phase

Following the diagnostic phase, R4D has primarily been focused on securing 2 main types of funding: product (Amox DT) donations and program funding. Ideally, as R4D is not a service delivery organization, other organizations would also be focused on delivering Amox DT treatment programs.

Securing Amox DT donations

R4D has primarily been focused on securing time-limited product donation financing to address countries' immediate funding gaps. R4D leadership's past experiences with pediatric antiretroviral (ARV) drug programs have demonstrated that securing product funding can create a powerful incentive to overcome in-country challenges related to the product switch process. Receiving a product donation tends to motivate governments to update guidelines, register the product, and strengthen the supply chain, all of which contributes to a change in prescribing behavior among healthcare professionals.

In collaboration with the Gates Foundation, R4D has worked on securing Amox DT donations in Ethiopia (via R4D) and Nigeria (via CHAI).

Mobilizing other funding (technical assistance and program funding)

R4D has found that product switches and program scale-ups are most effective when coupled with program funding. R4D is thus working on making country programs sustainable by mobilizing domestic and international funding for technical assistance and program activities. These include working alongside Ministries of Health (MoHs) to address product switch challenges and develop scale-up plans.

Despite R4D's focus on facilitating the product switch process through donations, it also believes that the presence of other factors, such as funding, political will, and an appropriate management strategy, are critical to drive program scale-up efforts.

Status of country programs

Ethiopia

Product funding has been secured for R4D's Ethiopia program. R4D has 2 in-country staff working with various in-country actors, including FMOH, on policy guidelines, registration, forecasting, administering the product funding to procure Amox DT etc. issues. While R4D has made progress in these areas, treatment data is not yet available given the program's early stage. R4D will be assessing program effectiveness in collaboration with CHAI.

Tanzania

R4D has in-country staff working on the Tanzania program to collaborate with the government and other actors on progress for policy guidelines, registration, forecasting, etc. Product funding has not yet been obtained. R4D is also supporting efforts to make Amox DT available in the private sector through high-quality pharmacies.

In mid-2016, the Tanzania program will face a funding cliff for Amox DT. The government has identified a need for \$1 million to cover 1.5 million treatments over a 2-year period (2016-2017). It has made urgent efforts to adjust the guidelines and conduct trainings, so it would be unfortunate if this gap was not filled due to a lack of funding.

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