

Targeted azithromycin distribution for children being discharged from the hospital

This note last updated: May 2022

Current status: No further work planned

Targeting a course of azithromycin at discharge from the hospital to children with recent severe illness has been proposed as a way to reduce child mortality and morbidity.¹

We tentatively estimate an upper bound of approximately \$23 million/year of global cost-effective [room for more funding](#) based on the extent of child hospitalizations and preliminary cost estimates.² We view this as an upper bound because it assumes there are funding opportunities across all countries in these regions. Moreover, we expect opportunities to be at the country level, with each country requiring a separate investigation, which would reduce room for more funding for any specific opportunity.

Because of our impression that there is limited global room for more funding, we do not plan to prioritize further work on this program. We could be willing to consider promising opportunities to support post-discharge administration of azithromycin if they came to our attention, including opportunities to expand its use alongside other facility-based interventions, or to update our assessment if we reviewed additional information suggesting there are large and cost-effective funding opportunities available.

¹ - "The period after hospital discharge is a time of elevated risk unaddressed by current interventions and might provide an opportunity for targeting empirical azithromycin administration. We aimed to assess the efficacy of azithromycin administered at hospital discharge on risk of death and rehospitalisation in Kenyan children younger than 5 years." [Pavlinac et al. 2021](#), Abstract.

- "Targeting the delivery of azithromycin to children at high risk of death might optimise benefit while minimising antibiotic exposure." [Pavlinac et al. 2021](#), Introduction.

² - [Nair et al. 2013](#), a systematic review of acute lower respiratory infections (ALRIs), estimates 11.4 million ALRI-related hospitalizations in the developing world in 2010 among children under five years old (pg. 1383, Table 1).

- [Pavlinac et al. 2021](#), the post-discharge azithromycin randomized controlled trial discussed above, finds that approximately one-third of children under five years old in the study, all of whom had been hospitalized, were diagnosed with a lower respiratory infection (pg. e1572, Table 1).

- Therefore, we estimate a total number of hospitalizations among children under five years old in developing countries of approximately 34 million per year in 2010 (11.4 million x 3 = 34.2). We assume half of these occur in locations with sufficiently high post-discharge mortality that the intervention would be cost-effective, leading to an estimate of approximately 17 million hospitalizations per year of children under five in cost-effective locations. We base this assumption on the fact that mass distribution of azithromycin appears to have smaller effect sizes in areas with lower baseline mortality (see Figure 2, pg. 694, of [Oldenburg et al. 2019](#), a meta-analysis of mass drug administration trials with azithromycin).

- We estimate that mass distribution of azithromycin costs approximately [\\$1.35](#) per child. 17 million hospitalizations x \$1.35 = \$23 million in room for more funding per year.

- These estimates are highly uncertain.