

Integrated Community Case Management (iCCM) of Childhood Infection Saves Lives in Hard-to-Reach Communities in Nicaragua*

We evaluated iCCM program's impact among children aged 2-59 months in 120 hard-to-reach remote Nicaraguan communities during 2007 – 2013, by using program monitoring data from *brigadistas'* registers and supervision checklists, while mortality data was derived from annual censuses conducted by the Ministry of Health of Nicaragua.

Results:

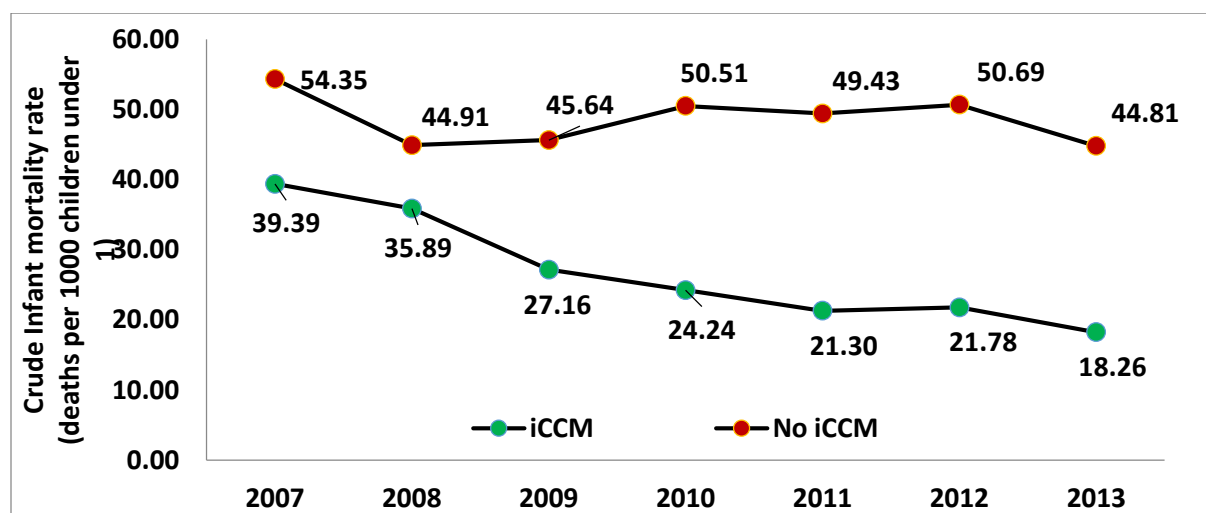
- a) High Quality: Drug availability, completeness of recording and correct classification always exceeded 80%.
- b) High coverage: *Brigadistas* provided 81% of treatment for children with pneumonia or diarrhea in 2013.
- c) Significant Impact:
 - i. The infant mortality ratio decreased more in iCCM areas compared to the non-iCCM areas. Statistically significant reduction ranged from 52% in 2010 (mortality rate ratio 0.48; 95% CI: 8% - 75%) to 59% in 2013 (mortality rate ratio 0.41; 95% CI: 19% - 79%)].
 - ii. Mortality was decreased faster and more steeply in León than in Jinotega and Matagalpa, corresponding to the latter areas' greater remoteness and weaker infrastructure.

Lessons learned:

Results from this study reveal that iCCM is an effective, feasible strategy to save infant lives in hard-to-reach communities in Nicaragua. The impact was likely mediated by increased use of curative interventions, made accessible and available at the community level and delivered at high quality by *brigadistas*.

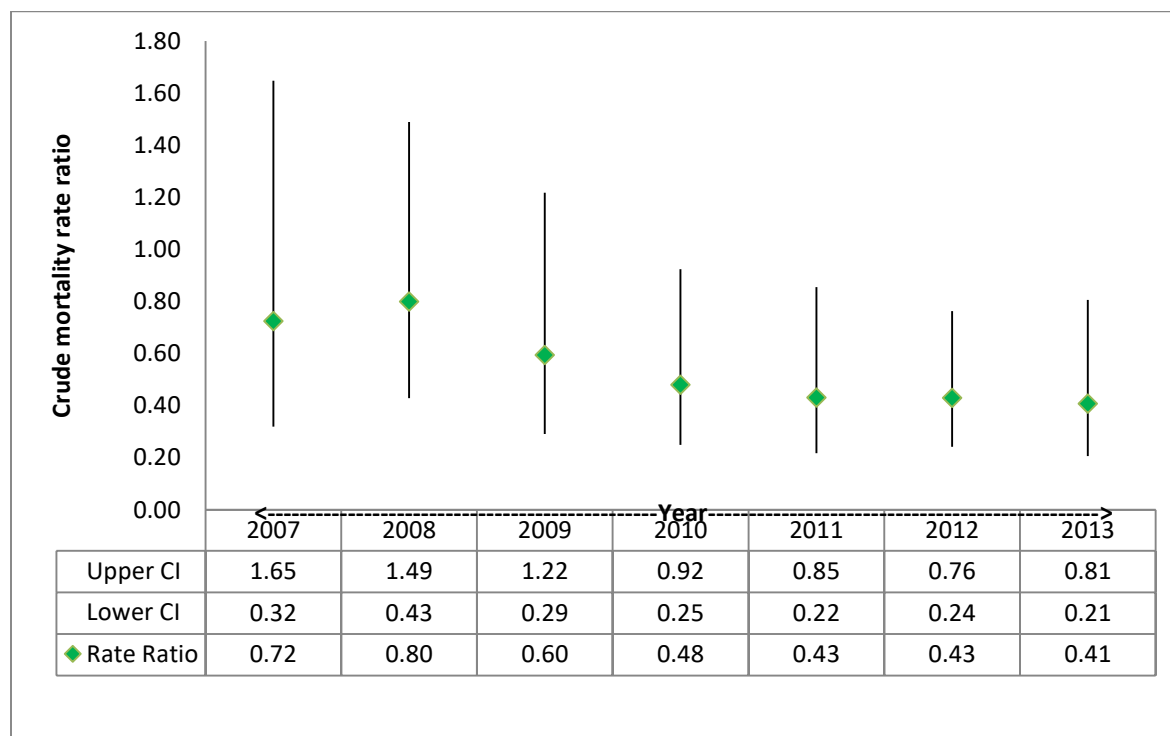
*A complete manuscript has been submitted to *Pan American Journal of Public Health*, a peer-reviewed monthly journal published by Pan American Health Organization (PAHO).

Crude infant mortality in category C Communities by year and community iCCM status*



* Crude infant mortality was estimated by number of deaths per 1000 under-1 child population; numerator and denominator from annual census sweeps of communities with a preventive program (PROCOSAN) in the departments of León, Jinotega and Matagalpa.

Crude infant mortality rate ratio* during 2007 - 2013



*Estimated as: crude infant mortality rate in iCCM areas / crude infant mortality rate in non-iCCM areas