

## Child drowning mortality in the Sundarbans, India: Applying the Community Knowledge Approach

Medhavi Gupta

*M Gupta<sup>1</sup>, S Bhaumik<sup>1</sup>, S Roy<sup>2</sup>, R Panda<sup>2</sup>, M Peden<sup>3</sup>, J Jagnoor<sup>1</sup>*

<sup>1</sup>The George Institute for Global Health, New Delhi, India

<sup>2</sup>The Child in Need Institute, Kolkata, India

<sup>3</sup>The George Institute for Global health, Oxford, UK

Contact: mgupta@georgeinstitute.org.au

### Background:

The Sundarbans in India is a rural, forested region where children are exposed to a high risk of drowning due to its waterlogged geography. Current data collection systems capture few drowning deaths in this region due to its remoteness and poor coverage of health and police systems. Household methodology was found to be resource and time intensive, and so a Community Knowledge Approach was used and applied to calculate injury mortality for the first time.

### Methods:

A community-based survey was conducted in the Sundarbans to determine the drowning mortality rate for 1-4 and 5-9 year old children. A Community Knowledge Approach was applied. Meetings were held with law community residents and key informants to identify drowning deaths in the population. Identified deaths were verified by the child's household through a structured survey, inquiring on the circumstances around the drowning death.

### Results:

The drowning mortality rate for children aged 1-4 years old was 243.8 per 100,000 children and 38.8 per 100,000 children for 5-9-year olds. 58.0% of deaths were of 1-2-year-old children. Most children drowned in ponds within 50 metres of their homes. Children were usually unaccompanied with their primary caretaker engaged in household work. Only one third of deaths were reported to hospitals or civil registration systems. Of deaths listed by community members, 63.0% were identified by both residents and by at least one key informant, 25.6% by key informants only, and 11.4% (n=79) by community residents only.

### Conclusions:

Drowning is a major cause of death among children in the Sundarbans, particularly those aged 1-4 years old. The results illustrate how routine data collection systems grossly underestimate drowning deaths, emphasising the importance of community-based in rural low-and middle-income country contexts.

### Key messages:

- Drowning is likely the largest killer of 1-9 year old children in the Sundarbans region, emphasising the need to better understanding drowning epidemiology in similar rural LMICs contexts.
- The Community Knowledge Approach provides a low-resource, valid method for capturing injury mortality data.

