

# Investigating an association with household livestock keeping and acute diarrhoea in poor communities in Cambodia

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## Introduction

- Diarrhoea is among the most common symptoms of illness affecting poor communities and it is associated with most deaths among children < 5 years of age in developing countries.
- In Cambodia it is the third most important disease in number of deaths and DALYs.
- Keeping livestock near the dwelling house is thought to contribute to the risk of human diarrhea and some of the most commonly pathogens isolated from diarrhea cases are potentially zoonotic.

## Materials and methods

- A multidisciplinary team with expertise in human health, animal health and agriculture undertook a study to investigate factors associated with increased risk of zoonotic diarrhea in livestock keeping households.
- A survey was conducted in 400 households randomly selected in 8 villages, and repeated one year after in another set of randomly selected 400 households.
- Questionnaires on diarrhea episodes, farming and hygiene practices were compiled on both surveys.
- Faecal samples from human diarrhoea cases and their livestock were collected during the second survey and tested for presence of a variety of pathogens.

## Results & Discussion

### Laboratory analysis

- *Shigella* spp, and *E. coli* O157 (zoonotic) were isolated from human diarrhea cases (15/31) in the second survey.
- The latter was also recovered from animals (*E. coli* O157 in cattle and pig) in addition to *Salmonella* spp. in chicken, *Aeromonas* spp. in pigs.
- Only one household had both animals carrying pathogens and human cases (three).

### Household survey:

- 17% and 8% of households reported diarrhea in the last 4 and 2 weeks prior to the first and second surveys
- Households which use “bush/field” as sanitary facilities had increased chances of having diarrhea
- Types of food consumed in the family (some of meat and vegetables) were found to be associated with having diarrhea cases
- Households which had access to tap water reported fewer diarrhea cases

## Key messages and Recommendation

- Hygiene practices and consumption of raw vegetables were found to be the most prominent risk factors
- It seems that livestock do not pose a significant risk for the common bacterial causes of diarrhea.
- Alert the awareness of risk and cost of sickness from diarrhea by improving sanitary practice and facilities.
- Action is needed on poor households to prevent from food-borne diarrhea.



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