Assessment of a Zinc Promotion Program in Nepal: Implications for Introducing Zinc Treatment for Childhood Diarrhea in Developing Countries

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Background

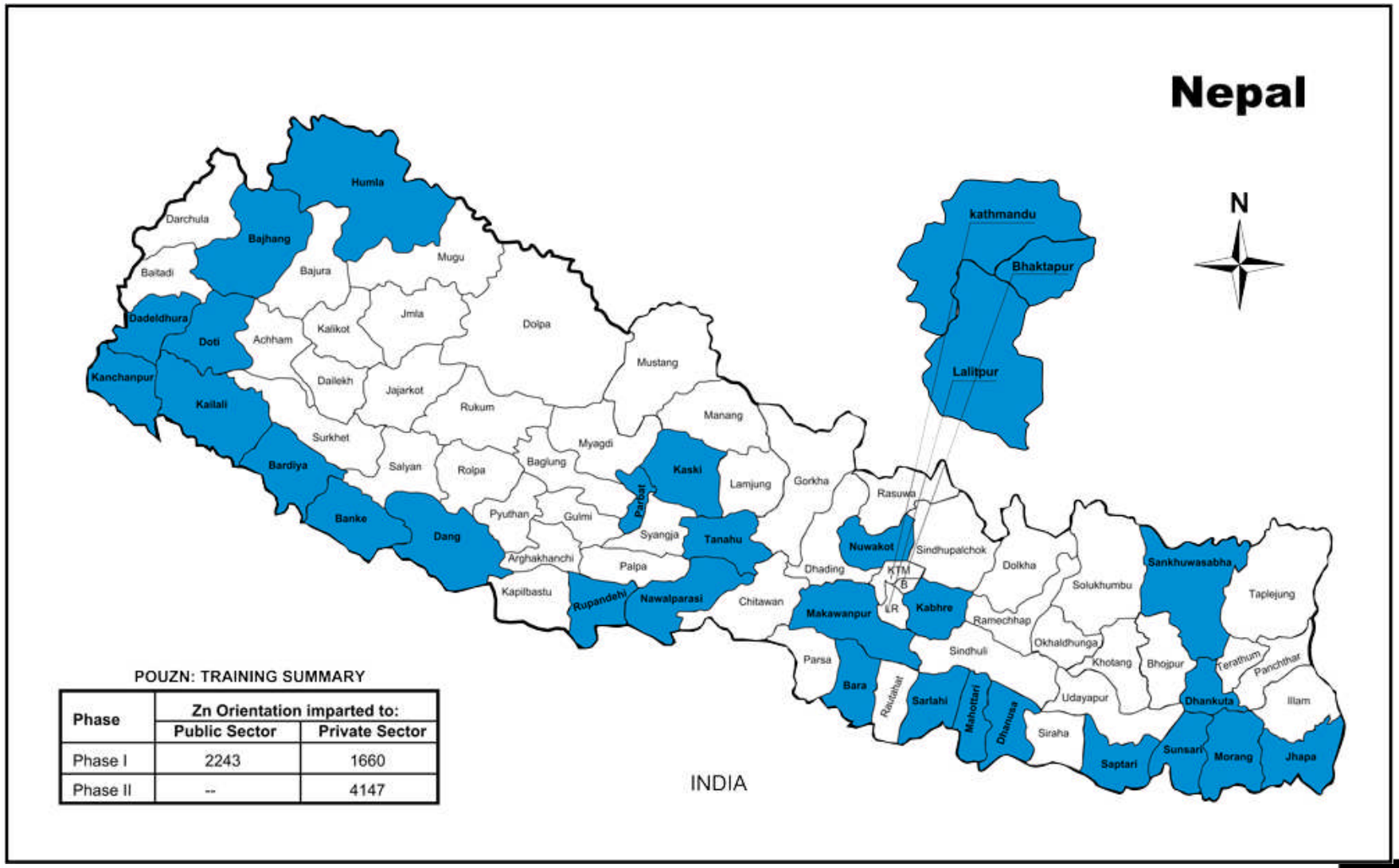
- Global burden of childhood diarrhea
  - Diarrhea remains the second leading cause of death in children under five (2.5 billion cases of diarrhea and1.5 million deaths per year)
  - More than half of cases are in Africa and South Asia
- Diarrhea prevention and treatment
  - Clinical trials showed using zinc along with ORS reduced duration and severity of childhood diarrhea
  - In 2004, WHO/UNICEF recommend using zinc and ORS together as an effective treatment for diarrhea in developing countries
- Childhood diarrhea and treatment in Nepal
  - Major cause of childhood morbidity and mortality (prevalence= 12% of children under five years and more than 20% of children under 1 year)
  - 66% cases treated: 61% ORS/ORT; 68% pills/Syrups; 0.4% zinc (DHS, 2006)

Project Objective and Activities

- USAID/Nepal funded the Point-of-Use Water Disinfection and Zinc Treatment (POUZN) project

- Sustained provision and use of pediatric Zinc in addition to ORS/ORT as the first line treatment for uncomplicated diarrhea for children under 5
  - Supported local manufacturers to produce and market zinc products to establish a sustainable commercial supply of zinc tablets
  - Launched a behavior change communication campaign to create awareness of and demand for zinc products to ensure caregivers have appropriate knowledge and practice with zinc treatment
  - Educated and trained providers to improve their knowledge and skills of appropriate diarrhea care management

Project districts



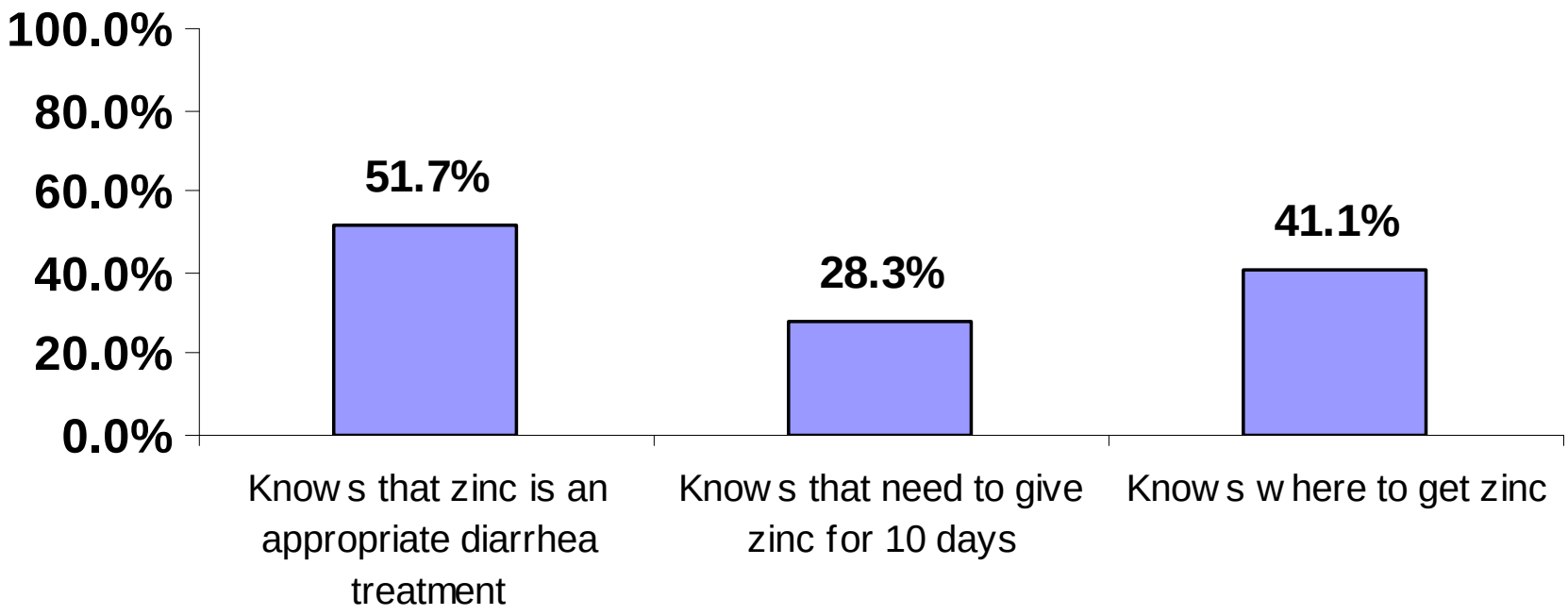
POUZN: TRAINING SUMMARY

Phase	Zn Orientation imparted to:	
	Public Sector	Private Sector
Phase I	2243	1660
Phase II	--	4147

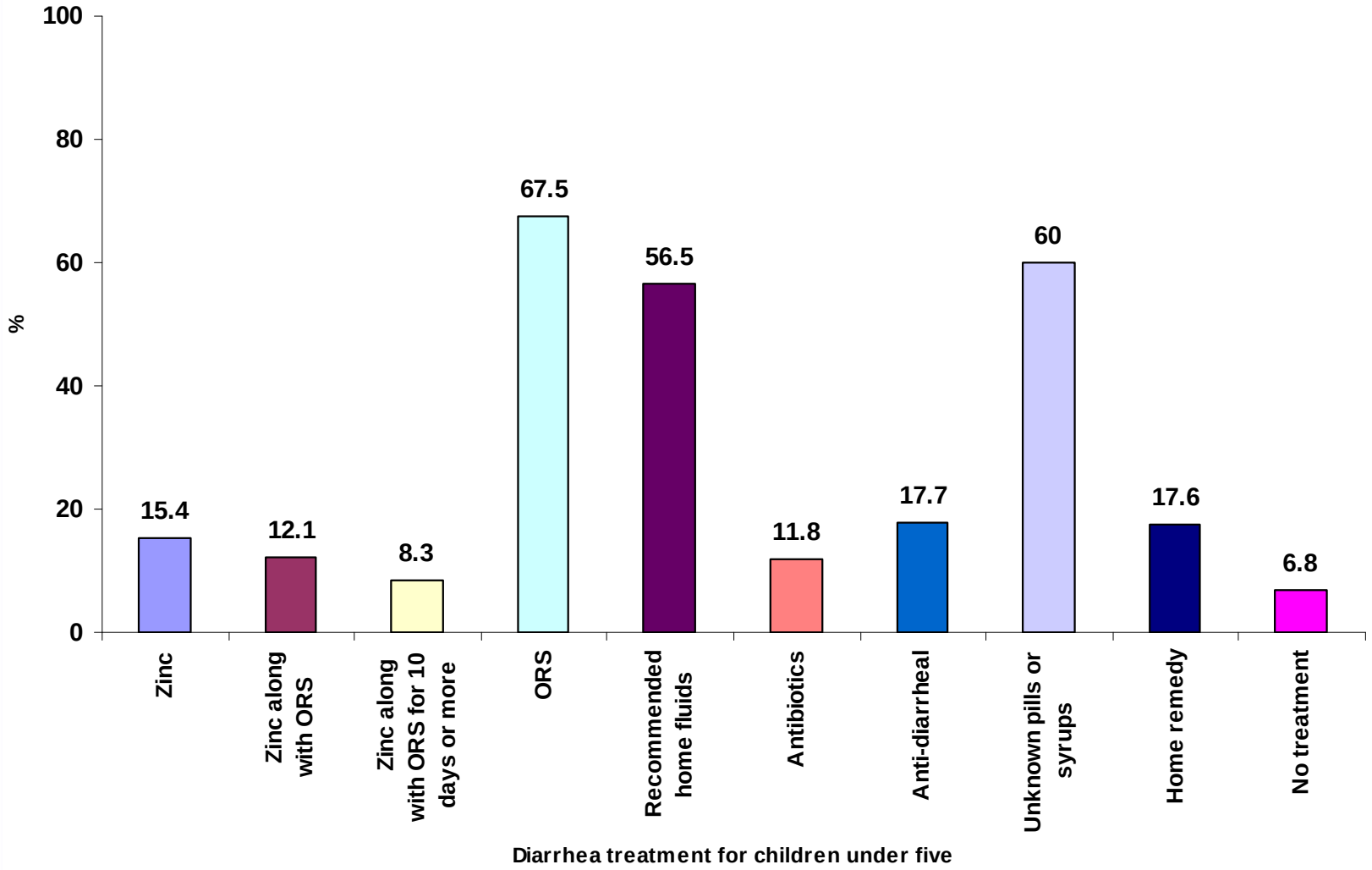
Program Evaluation

- A population-based household survey was conducted in August 2008, covering 26 program districts
- 3550 households were selected through a multi-stage probability sampling approach. The caregiver of the children under five in each household was interviewed.
- Structured interviews collected information on household, children's diarrhea history, diarrhea treatment with zinc and other therapies, knowledge and attitudes about diarrhea and various treatments as well as the communication message exposure.

Knowledge on zinc treatment and source

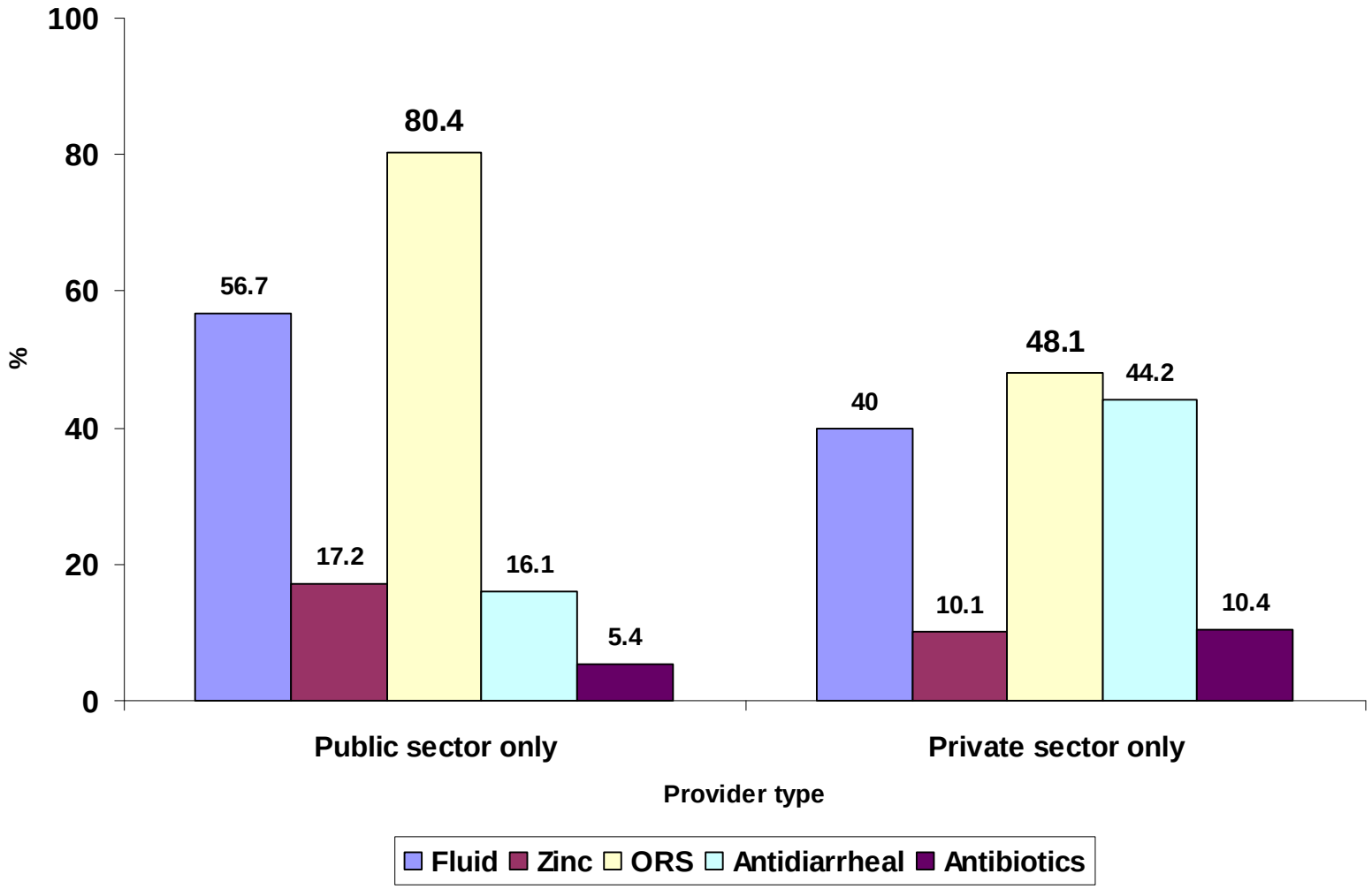


Diarrhea Treatment Practice

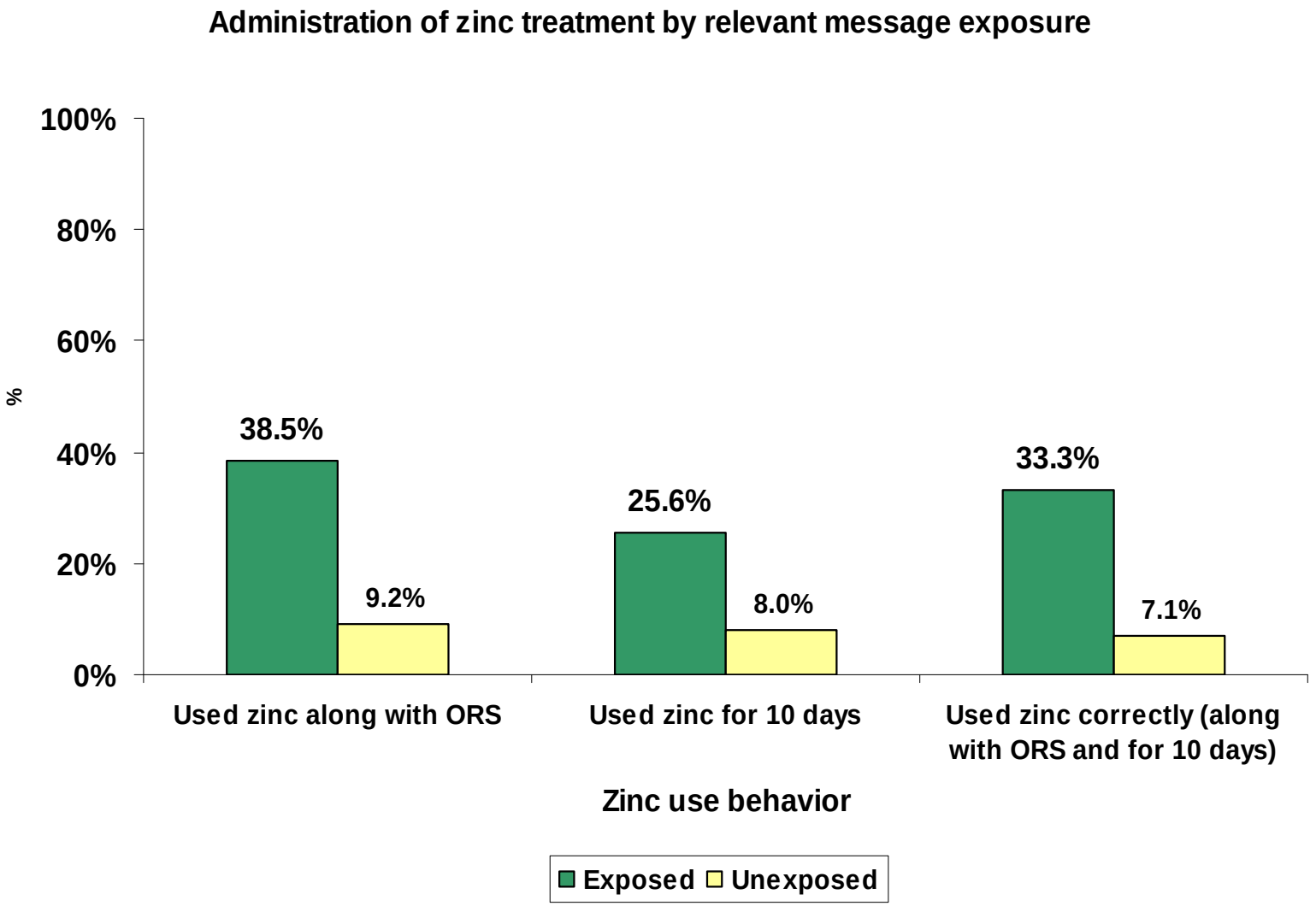


Note: total may exceed 100% because respondents were allowed to state multiple treatments

Treatment/advice received by source of care



Impact of behavior change communication



Predictors of zinc use

Predictors	Use zinc (Odds Ratios)
Caregiver obtained education higher than secondary level (reference: no education)[1]	1.76**
Live in richest household (reference: poorest quintile)[1]	5.76**
Caregiver exposed to relevant mass media message about zinc (reference: unexposed)[2]	2.13**
Caregiver agreed that zinc is an effective treatment for diarrhea (reference: disagree)	1.92*
Caregiver perceived zinc is easy to obtain	2.10**
Total number of children with diarrhea	289

[1]Other educational and wealth groups were not shown as not statistically significant

[2]Zinc use message refers to any zinc-related message recalled

Statistical significance: **p<0.01 *p<0.05

Conclusions and implications

- Promoting zinc use through private sector channels was successful in Nepal and could be implemented in similar settings with high diarrhea prevalence
- The behavior change communication campaign was essential in improving the knowledge and practice of zinc use
- Knowledge and use of zinc can be improved in a short period of time.
- Inappropriate treatments are still practiced or recommended by health providers. Continued efforts need to invested in discouraging these practices
- The introduction of zinc did not result in replacing use of ORS/ORT,

Acknowledgements

- Dr. Y.V. Pradhan, MOHP, Director of Child Health
- USAID/Nepal
- PSI/Nepal: Steven Honeyman and K.P Upadhyay