

Effect of Habitat for Humanity Housing in the Health of Children and their
Mothers in Three Communities in Greater Phnom Penh, Cambodia

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A Thesis Submitted in Partial Fulfillment of the Requirements
For the Degree of Master of Public Health Program in Health Systems Development

College of Public Health

Chulalongkorn University

Academic Year 2006

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PH062449 : HEALTH SYSTEM DEVELOPMENT PROGRAM

KEYWORDS : HABITAT FOR HUMANITY, HOUSING AND HEALTH,
RESPIRATORY, GASTROINTESTINAL, SKIN DISEASE, CAMBODIA
CARMEN AURORA GARCIA: EFFECTS OF HABITAT FOR HUMANITY
HOUSING IN THE HEALTH OF CHILDREN AND THEIR MOTHERS IN
THREE COMMUNITIES IN GREATER PHNOM PENH, CAMBODIA.
THESIS ADVISOR: ROBERT S. CHAPMAN, M.D., M.P.H., 84 pp.

In developing countries, children's diarrhea and acute respiratory illness constitute a significant portion of the global disease burden, and are linked to many factors including housing. I conducted a cross-sectional analytical study, the main purpose of which was to assess the effect of Habitat for Humanity housing on the health of children and their mothers in the communities of Khmer Kampuchea Khrom (KK), Samaki and Sen Sok in Phnom Penh, Cambodia. Two hundred ninety-four (294) households were surveyed (147 non-Habitat and 147 Habitat households). Each Habitat household was paired with a nearby non-Habitat household, whose socioeconomic situation was similar to that of households that qualify for the Habitat program. A standardized, pre-tested questionnaire was administered to the mother or other female caregiver. Respondents were asked to describe physical housing characteristics, and to report on their respiratory, gastrointestinal, and skin symptoms, as well as those of their children aged ≤ 10 years, during the last 4 weeks. Also, interviewers completed a checklist regarding physical housing characteristics. Concentrations of *coliform* bacteria and *E. Coli* were measured in drinking water samples from all households.

Habitat housing was clearly better than non-Habitat housing; differences in most surveyed physical housing characteristics, including toilet facilities, were highly statistically significant. This applied to both questionnaire-reported and interviewer-observed characteristics. Moreover, higher proportions of Habitat than non-Habitat residents perceived their house size and general housing condition to be adequate. Rates of boiling water, and concentrations of bacteria in drinking water, were similar in non-Habitat and Habitat households.

Reported symptom rates generally did not differ significantly between non-Habitat and Habitat households. Overall, symptom rates were very high, suggesting that risk factors other than physical housing play a very important role in the study communities. Certain specific housing characteristics were associated with symptom rates. For example, in households with adequate toilets, the mothers' rate of combined diarrhea and vomiting (8%) was significantly lower than that in households without adequate toilets (24%, $p=.011$). The relationship of housing to health is complex. Housing is only part of a larger environmental and socioeconomic context, which may be especially important in Cambodia, which has one of the lowest socioeconomic indices in the region. Further analysis and research are needed to characterize the complex relationship of housing with health in Cambodia.

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ACKNOWLEDGEMENT

This academic work would not have been accomplished with the support and guidance from a number of people, which I would like to express my acknowledgement and sincere thanks. I would like to make special mention to the following people:

My profound gratitude to Dr. Robert S. Chapman, my advisor, for his very valuable guidance, encouragement and advice; I particularly appreciate his patience that have allowed me to manage the difficulties that I was confronted during the course of the research work. I will always remember to do things "one step at a the time"

I would like to thank the members of my thesis committee for their valuable advice and encouragement: Dr. Sauwakon Ratanawijitrasin, the chairperson, Dr. Kieo Sheng Yap and Mr. Charlie Ayco. Despite their very busy schedule they readily agreed to be part of my thesis committee and have taken time to review my drafts and given me valuable feedback.

I wish to thank all the faculty members of the College of Public Health, Chulalongkorn University, for imparting their knowledge and experience, for their encouragement and support; especially to Dr. Vipat for encouraging and advising me when I needed it. I am also thankful to the staff for their support in many different ways during the course of my study at the college. My deep gratitude also goes to all my friends and colleagues at the college for their friendship, encouragement, moral support and advice whenever I needed them.

I would like to make special mention and acknowledgement for the support given to me by Habitat for Humanity International in undertaking this research work: to the Asia Pacific office for its funding support and for the Cambodia country office for facilitating the data collection work. To the community researchers and data collectors from the Royal University of Agriculture, in Phnom Penh for undertaking the data collection: They inspired me with their hard work, intelligence and idealism. Cambodia has a bright future because of these brilliant young people.

Finally, I would like to express my gratitude to my close friends and family. To my family, for always being supportive and to my siblings for being my inspiration. To Pedro and Esther Gape, for their love and support. To my dear friend Veera, for being around and making the hard work fun. To Peter for always being there for me.

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