

# The World in WAIMH

By Joshua Sparrow, Brazelton Touchpoints Center,  
Boston, United States,

E-mail [joshua.sparrow@childrens.harvard.edu](mailto:joshua.sparrow@childrens.harvard.edu)



Photo: Adobe Stock.

In this issue of *Perspectives in Infant Mental Health*, the *The World in WAIMH* column features a field report from Guatemala on a home visiting program for the families of infants and young children with developmental delays due to chronic malnutrition. In a significant departure from traditional Euro-American projects in developing countries, the authors describe a collaborative approach to program design, implementation and evaluation. With their local professional, community and family partners, they take on the challenges of geographic distance, differences in language and culture, and limited applicability of Euro-American assessment tools common to so many such projects. Using a co-constructive, reflexive approach, the authors and the families they work with are learning together about how to help children thrive in settings where health and survival are threatened.

## Field Report: Early Child Development in Rural Guatemala



Photo: Adobe Stock.

By Boris Martinez, Wuqu' Kawoq/Maya Health Alliance, Santiago Sacatepéquez, Guatemala

Meghan Webb, Wuqu' Kawoq/Maya Health Alliance, Santiago Sacatepéquez, Guatemala

Patricia Rodas, Universidad del Valle de Guatemala, Department of Psychology, Guatemala City, Guatemala

Ana Gonzalez, Universidad del Valle de Guatemala, Department of Psychology, Guatemala City, Guatemala

María del Pilar Grazioso, Universidad del Valle de Guatemala, Department of Psychology, Guatemala City, Guatemala

Peter Rohloff, Wuqu' Kawoq/Maya Health Alliance, Santiago Sacatepéquez, Guatemala and Division of Global Health Equities, Brigham and Women's Hospital, Boston, MA.

Direct correspondence to Peter Rohloff ([peter@wuqukawoq.org](mailto:peter@wuqukawoq.org)). This work is supported by a grant from Grand Challenges Canada (SB-1726251050).

Guatemala is a Central American country with a population of around 15 million people. Importantly, it has one of the largest indigenous populations in all of Latin America, with about half of the population self-identifying as indigenous Maya (Ministerio de Salud Pública y Asistencia Social, Instituto Nacional de Estadísticas, & ICF International, 2015). Guatemala is also one of the most impoverished nations in Latin America, with the indigenous Maya population being the most affected by this poverty.

In Guatemala chronic malnutrition, also known as "stunting," affects 46.5 percent of children under five years-old (Ministerio de Salud Pública y Asistencia Social (MSPAS), Instituto Nacional de Estadísticas (INE), ICF International, 2015) – the highest rate in Latin America and the fourth highest in the world (World Food Program, 2015). Stunting, a proxy for chronic malnutrition is defined as height or length for age more than two standard deviations below average based on the 2006 World Health Organization Multicentre Growth Reference Study. Chronic malnutrition results from a wide range of social, environmental, and biological factors including poverty, lack of education, food insecurity, limited access to health care services, and recurrent infectious diseases (Caulfield, Richard, Rivera, Musgrave, & Black, 2006; Reinhardt & Fanzo, 2014). Inequities in the burden of malnutrition are evident. For example, 58 percent of indigenous children are stunted versus 34 percent of non-indigenous children. When income is also factored in, the disparities are even more apparent. Among the poorest quintile of the population, stunting affects 66 percent of children, compared to 17 percent among the richest quintile (Ministerio de Salud Pública y Asistencia Social, Instituto Nacional de Estadísticas, & ICF International, 2015). These rates are so astonishingly high that, according to one study, children from rural, impoverished communities in Guatemala are the most malnourished population in the world (Black et al., 2013).

Stunting is a critical public health issue, especially for those working on Early Child Development (ECD) in Guatemala. Studies conducted in various populations and countries have established that stunted children experience developmental delays during early childhood and cognitive deficits that persist into adulthood (Prado & Dewey, 2014; Stein, Melgar, Hoddinott, & Martorell, 2008). Stunted children are also less likely to be economically productive adults, primarily because of lower levels of achievement during schooling (Grantham-McGregor et al., 2007). The life-long effects of stunting, therefore, contribute to the

intergenerational cycle of poverty.

Over the last eighteen months, we have been part of a novel program to study and understand the dynamics underlying early child development in a highly stunted indigenous Maya population. This program includes a partnership in which leaders from the indigenous communities where the work is being conducted, researchers from the Department of Psychology at the Universidad del Valle de Guatemala (UVG), and health care providers from the Guatemalan healthcare non-profit Wuqu' Kawoq | Maya Health Alliance (WK|MHA) equally contribute ideas, expertise, and energy. This coalition combines the expertise and methods of psychology, anthropology, and medicine to investigate the effects of stunting on ECD in these communities.

The work has posed several specific challenges. First, the Mayan communities with whom we are collaborating are largely non-literate, primarily speak Mayan languages (not Spanish), and live in large, extended families with alternative ideas about and approaches to infant and toddler-rearing. In other words, they are very different from the Western, educated, industrialized, rich, and democratic (WEIRD) populations for whom approaches to ECD are well established and documented (Henrich, Heine, & Norenzayan, 2010). Second, the partnering indigenous communities are remote Kaqchikel Maya agricultural settlements, often two to three hours away from the nearest town on challenging, unpaved roads. Additionally, the population of children with whom we are working has a high prevalence of stunting. Indeed, in many of the small villages where we are working, there are no children who are not stunted. This means that, even given the caveat that no culturally appropriate developmental norms have been established for our population, there are often no children at all in a given community who are developing normally. Under these conditions, where illness and developmental delay becomes the "norm" (Chary et al., 2013), the major task confronting our community-researcher collaboration is fostering a dialog whereby, together, we can imagine a future where improved conditions prevail and children thrive.

To address these challenges, we've implemented a community-based program designed to bring ECD-focused programming to these rural Maya communities. The basic structure of the program is simple, designed to function as an "add-on" to existing nutrition-focused activities that were already

being conducted by our service provider collaborator, WK | MHA. Community health workers from WK | MHA travel door to door, in collaboration with community leaders and groups of caregivers, to identify children who are either likely to be developmentally delayed or at high risk of developmental delay due to their nutritional status. Most children identified in this way are under 2 years of age and belong to families where the male heads-of-households work full-time in subsistence agriculture while female heads-of-households are the primary caregivers (often assisted by their older children or other females in the extended family) and also help out financially by weaving textiles or by helping in the fields themselves.

In our qualitative needs assessments prior to launching the program, a major theme that emerged from conversations with primary caregivers was how they tended to feel overwhelmed by domestic responsibilities and financial liabilities and "didn't have time" to think about child development. Therefore, our community health workers make home visits to visit these families once every one to two weeks. They do not provide prescriptive advice about child development, nor do they conduct structured assessments of developmental outcomes. Rather, their goal is to function as a conversational catalyst for the primary caregiver and any other members of the family who are present. They position themselves as learners, allowing the child's caregivers to teach them about how their child is developing, and serving as a sounding-board for articulating goals. In this way, our hope is to achieve moments of shared insight, whereby caregivers and health providers alike become excited about a given child's development and future potential.

From a research perspective, a major goal for this initiative is shared bilateral learning about child development. Here, Maya caregivers and community leaders teach our research team about their children's health and development and about local child rearing practices, and they share their hopes and plans for their children's future. In return, our team of psychologists and anthropologists (from UVG and WK | MHA) shares expertise on child development and developmental assessments gleaned from other populations and other contexts. Together, and through a process involving multiple iterative cycles of team-building, simulations, and reflexive debriefings, we are working to analyze the data emerging from the project in order to build a culturally appropriate toolkit for developmental assessments.

This includes elements of “what works” from standard Western tools such as the Ages and Stages Questionnaire or the Bayley Infant Scales of Development (after multiple iterations of rigorous translation and interpretive work between English, Spanish, and the Kaqchikel Maya languages), as well as other elements derived directly from caregiver feedback or from analyses by our anthropologists, such as direct unstructured observation or cultural consensus modeling of infant and child behaviors (Romney, Weller, & Batchelder, 1986; Wehr, Chary, Webb, & Rohloff, 2014). The ultimate goal of this shared learning is to help reorient the field of ECD in Guatemala in favor of culturally- and linguistically-appropriate accompaniment, along a trajectory that favors the generation of shared insights and goal setting.

The program is still in its early stages. Over the last six months, we've enrolled over 300 severely stunted children in the intervention. We just graduated our first “cohort” of 50 children last month and are in the process of analyzing nutritional and developmental outcomes. However, since the very first days of the initiative, the qualitative results have been remarkable. In particular, we've noticed incredible changes in how caregivers talk about child development. After just a few months of receiving home visits, caregivers seem hardly able to contain their excitement as they begin to talk to health promoters about all the things their child has learned how to do since the last visit: “now my child is able to walk on his own;” “now she is able to say two more words!” Caregivers have also, somewhat to our surprise, greatly enjoyed participating in formal developmental assessments. When our psychologists have just finished administering a lengthy assessment, typical feedback has been, “I never knew my child could do that!” or “I've learned new ways to play with my child!”

With these small steps, which include both research and intervention components, we are excited to see the beginning of a new type of dialog about ECD with caregivers from a marginalized, vulnerable population. Over the long term, we hope that this and similar projects will stimulate the field of ECD in Guatemala, and will help us to move towards robust ways of assessing ECD in indigenous populations. Furthermore, the work will also begin to help quantify the developmental impact of widespread stunting data, which we can use to improve the efficacy of our advocacy and policy initiatives as well.

## References

- Black, R. E., Victora C. G., Walker, S. P., Bhutta, Z. A., Christian, P., de Onis, M., Uauy, R. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. *Lancet*, 382, 427-451.4
- Caulfield, L., Richard, S., Rivera, J., Musgrave, P., & Black, R. (2006). Stunting, Wasting, and Micronutrient Deficiency Disorders. In: *Disease Control Priorities in Developing Countries*. 2nd edition. Washington (DC): World Bank; Chapter 28.
- Chary, A., Messmer, S., Sorenson, E., Henretty, N., Dasgupta, S., & Rohloff, P. (2013). The normalization of childhood disease: An ethnographic study of child malnutrition in rural Guatemala. *Human Organization*, 72 (2), 87-89.
- Grantham-McGregor, S., Cheung, Y. B., Cueto, S., Glewwe, P., Richter, L., & Strupp, B. (2007). Developmental potential in the first five years for children in developing countries. *Lancet*, 369, 60-70.
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences*, 33, 61-83.
- Ministerio de Salud Pública y Asistencia Social, Instituto Nacional de Estadísticas, & ICF International. (2015). Encuesta nacional de salud materno infantil 2014-2015. Guatemala City: Ministerio de Salud Pública y Asistencia Social.
- Prado, E. L., & Dewey, K. G. (2014). Nutrition and brain development in early life. *Nutrition Reviews*, 72, 267-85.
- Reinhardt, K., & Fanzo, J. (2014). Addressing Chronic Malnutrition through Multi-Sectoral, Sustainable Approaches: A Review of the Causes and Consequences. *Frontiers in Nutrition*, 1:13
- Romney, A. K., Weller, S. C., & Batchelder, W. H. (1986). Culture as consensus: A theory of culture and informant accuracy. *American Anthropologist*, 88, 313-338.
- Stein, A. D., Melgar, P., Hoddinott, J., & Martorell, R. (2008). Cohort profile: The Institute of Nutrition of Central America and Panama (INCAP) nutrition trial cohort study. *International Journal of Epidemiology*, 37, 716-720.
- Wehr, H., Chary, A., Webb, M. F., & Rohloff, P. (2014). Implications of gender and household roles in indigenous Maya communities in Guatemala for child nutrition interventions. *International Journal of Indigenous Health*, 10, 99-112.
- World Food Program. (2015). Guatemala: Current issues and what the World Food Programme is doing. Retrieved from: <http://www.wfp.org/countries/guatemala>