

Reducing inequities in maternal and child health in rural Guatemala through the CBIO+ Approach of Curamericas

Nutrition-related activities and changes in childhood stunting, wasting, and underweight

Henry B. Perry, Ira Stollak, Ramiro Llanque, Stanley Blanco, Elizabeth Jordan-Bell, Alexis Shindhelm, Carey C. Westgate, Andrew Herrera and Mario Valdez

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Curamericas Global

HOPE THROUGH HEALTH

Presenter Disclosures

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No relationships to disclose



Agenda



Curamericas Global and -Guatemala

- Local partner of international NGO, Curamericas Global
 - Founded by Dr. Henry Perry 40+ years ago under the name “Andean Rural Health Care” in Bolivia
- Curamericas-Guatemala started in 2002
 - Founded and directed by Dr. Mario Valdez
 - Expansion with US government and philanthropic support
 - Now supported by Guatemalan government
- Unique model for primary health care:
Census-Based, Impact Oriented (CBIO)
+ Care Groups + Casas Maternas



Dr. Henry Perry & Dr. Mario Valdez

Project Area

- Located in one of most isolated and impoverished areas of Guatemala
 - 36-year civil war → longstanding distrust of outsiders
- Population served
 - Primarily indigenous Mayan
 - Endemic poverty, insufficient education and health care
 - Maternal mortality of 681/100,000
 - 3rd highest under-5 mortality in western hemisphere
- Impact
 - Percentage of deliveries taking place at a facility doubled
 - 59% reduction in maternal mortality and zero maternal deaths at Casas Maternas
 - Reduced mortality in children 1-5 years old from 9 per 1000 to 2 per 1000 live births



The project area of Huehuetenango in the western highlands of Guatemala

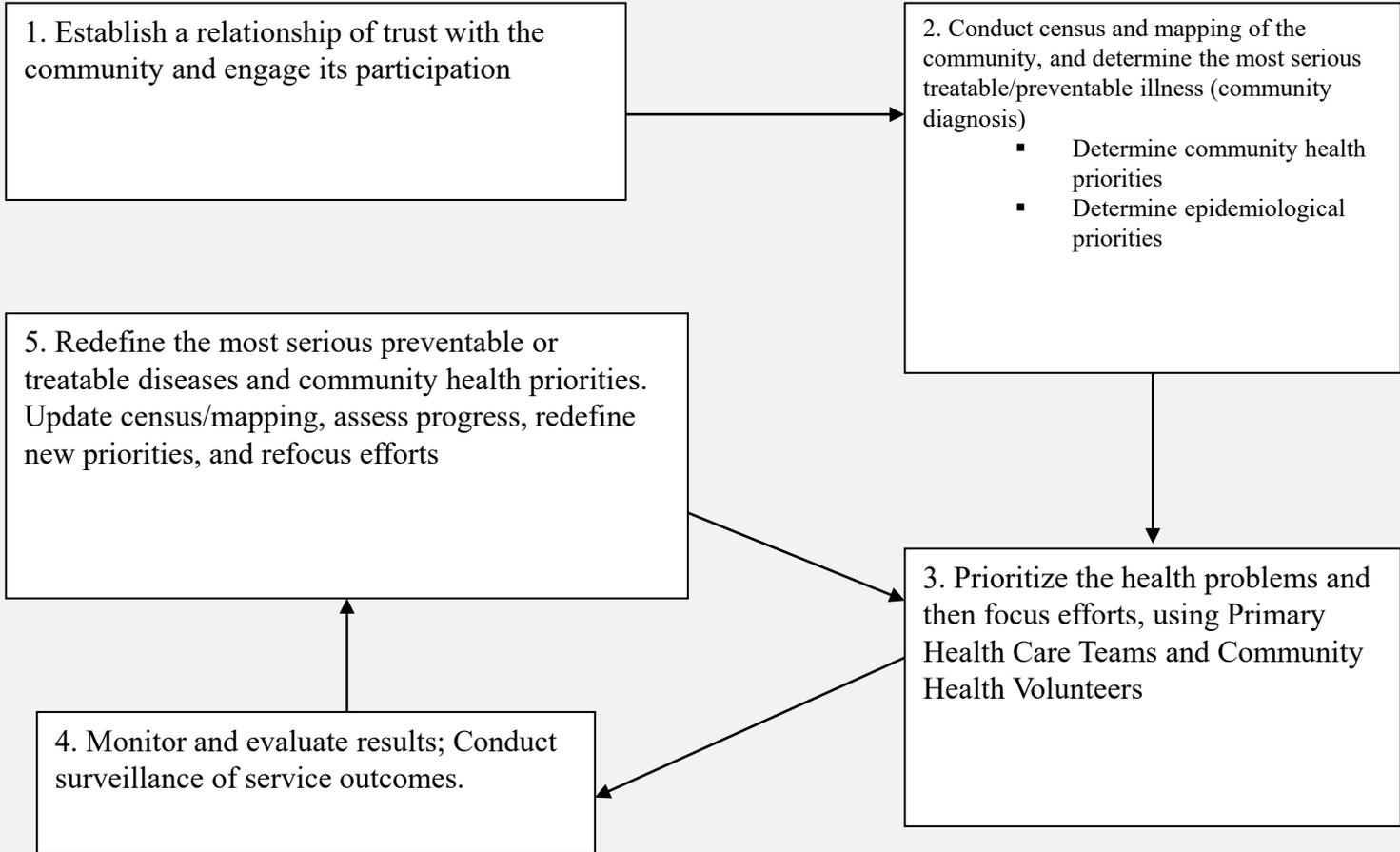


CBIO – census-based impact-oriented

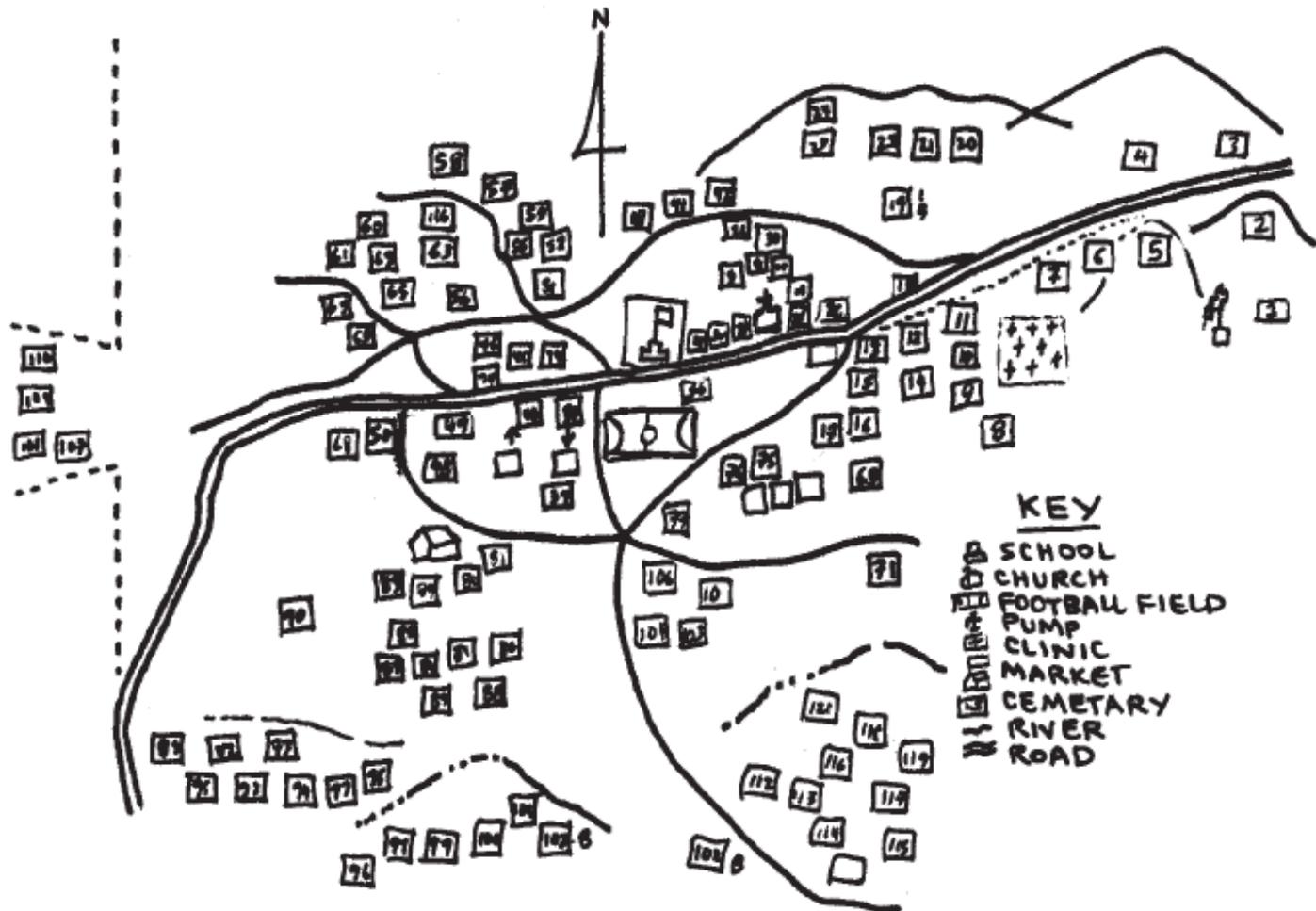
1. Conduct a census
2. Register all households
3. Identify Epidemiological priorities “Frequent, serious readily preventable or treatable conditions.
4. Identify health priorities of the community
5. Develop a plan
6. Assess over time if health has improved.



Key CBIO Steps



OUR COMMUNITY MAP

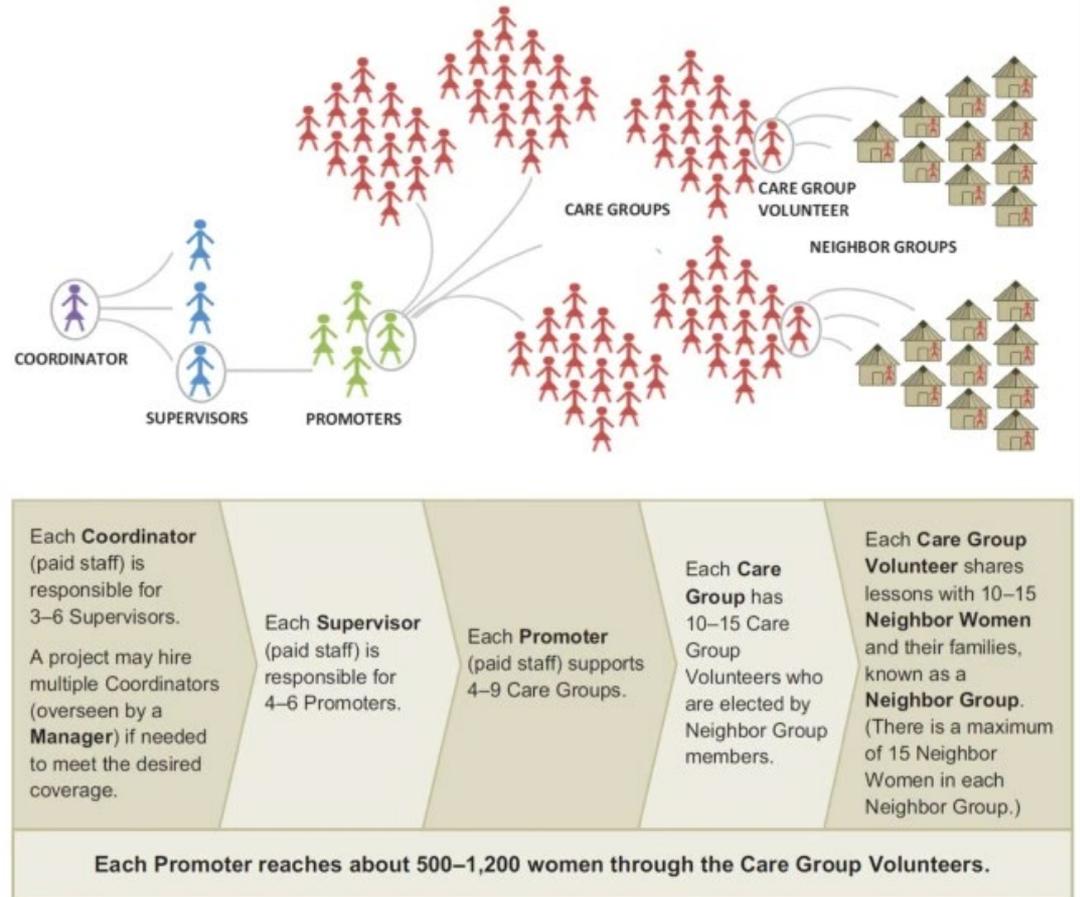


Care Group Approach

A cascading health promotion model based on

- **volunteerism,**
- **peer-to-peer** education,
- and equitable **universal coverage**

to all households with under-5 children





Casa Maternas Rurales





Casa delivery room



Casa exam room



Outside of the *Casa* in Calhuitz

The Casa Materna Rural

- Built by community, staffed by auxiliary nurses with supervision of project staff, managed by community committees
- *Comadronas* accompany women for delivery - trained by the project to advise and monitor pregnant women, recognize danger signs, and bring them to the *Casa Materna*
- Ready local transport system for referral of complications



Methodology – Quasi-experimental timeline series design

- Anthropometric data for under-2 children at baseline, mid-line and endline using a stratified cluster-sampling methodology.
- Epi Info 7 using z-scores to eliminate outliers
- Two separate independent collaborators verified undernutrition
- Using Fisher's midpoint test p -values were calculated for comparisons using WinPepi.
- Anthropomorphic censuses/*barridos*
 - *Weigh and measure every under-2 child during home visits*



Project nutrition-related activities

Growth
monitoring &
counseling

Peer-to-peer
nutrition
education

Special support
for
undernourished

Formation of
social capital

Routine growth monitoring

- Promoters trained in anthropometry
- Using community registers and maps, measuring height/weight of all under-2 children
- Under-2 children were weighed and measured during home visits when the child turned 3, 6, 12, 18 and 24 months of age
- Nutrition counseling
- Vitamin A supplementation
- Deworming medication (albendazole)
- Lipid-based nutrient supplement was taken





Peer-to-peer nutrition education through Care Groups

- Every mother with an under-2 child received lessons building nutritional skills and knowledge.
- Participatory lessons for non-literate adult audiences emphasizing:
 - Exclusive breastfeeding during the first six months of life
 - Complimentary feeding lessons using diverse and locally available and affordable foods
 - Water, sanitation and handwashing practices
 - Vitamin A promotion



Special support for undernourished children

- A focus on mothers who need extra help

Positive Deviance/Hearth

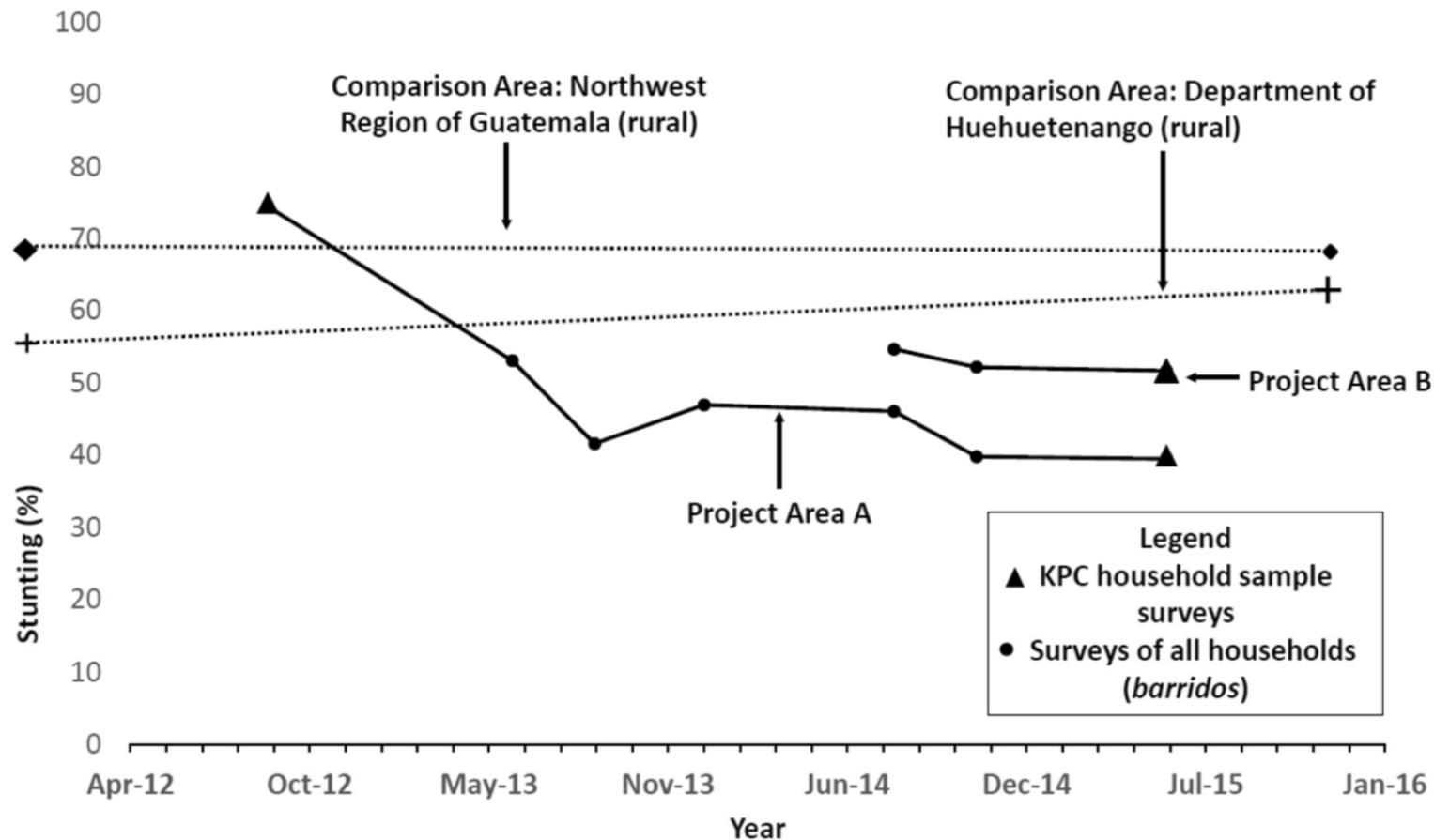
- 'Positive deviance' means straying from the norm, but in a beneficial way.
- Hearth - nutrition education and rehabilitation sessions in the home of a peer educator





Results

Results





Area B

- No improvements in nutritional status
- Less length of project intervention
- End of MOH interventions
- An imperfect comparison that support our hypothesis that nutritional improvements can be attributable to the project.



A Care Group Volunteer leads Self-Help Group Members to separate healthy food from junk food

Limitations

- Lack of True Baseline
- Infrequent and irregular anthropometric censuses
- Comparison data from outside the project area are for a small sub-sample.

POLICY IMPLICATIONS

A broad and comprehensive approach is needed to reduce child stunting.

Investments should include Care Groups, PD/Hearth, frequent growth monitoring and workshops with mothers with children with growth faltering.



A Care Group volunteer leads Self-Help Group Members to separate healthy food from junk food



Conclusions

Interventions that are proven to reduce stunting and malnutrition

- Census-based approach
- Peer-to-peer counseling
- Supplementation
- Workshops



Interventions that
are proven to
reduce stunting
and malnutrition



Census-
based
approach



Peer-to-peer
counseling



Vitamin A
Deworming
Lipid-based



PD/Hearth
Workshops

For more information



Access the full article here

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RESEARCH

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Mentor of this study and photo credit: Ira Stollak