Preventing Diarrhea through a Point-of Use Water Quality Intervention in Rural Kenya:

A Case Study in Behavioral Change

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Background

- Diarrheal disease: a serious problem in rural Kenya
- CARE survey (1998): 47% of children<5yo had diarrhea in preceding 2 weeks
- 66% of families lacked access to safe water

Background

- 1998: CARE Kenya initiated the Water, Sanitation & Education for Health (WASEH) Project
- Organized committees in 72 communities to implement interventions
  - Improved water sources
  - Latrines
  - Hygiene education
- Challenge: 1/3 of villages had no safe water access, because of deep aquifer, salinity
  - Only option: contaminated surface sources

Background

- Communities requested assistance from CARE in improving water quality at the household level
- To address this request, in October 1999 the CARE CDC Health Initiative awarded CARE Kenya a grant to initiate the Nyanza Healthy Water (NHW) Project
- NHW implemented a household-based intervention, the Safe Water System (SWS)

Safe Water System

Water disinfection with 1% sodium hypochlorite

Safe water storage

Behavior change techniques

Why Behavior Change?

- SWS includes 2 novel interventions (hardware):
  - Adding a chemical disinfectant
  - Altering traditional water storage practices
- Adoption of the new interventions requires new behaviors (software)

Challenges to Promoting Behavior Change in Rural Western Kenya

- Rural population: 45,000
- 72 dispersed villages
- Poor infrastructure:
  - Poor roads
  - No electricity
- Poverty
  - Subsistence farmers and fishermen
- High illiteracy rates

Resources Available for Promoting Behavior Change

- WASEH Project
  - CARE field staff
  - Village management committees
  - Village health promoter network
  - Goodwill of the local government

Behavior Change Methods

- Social marketing

- Community mobilization

Social Marketing

- What is it?
  - The use of marketing techniques to promote socially useful products
- The 4 “P’s”
  - Product: high quality, attractive
  - Price: affordable, partial cost recovery
  - Promotion: generate demand
  - Placement: wide distribution for easy access

Social Marketing: Product

- Developed brand name: Klorin
- Designed packaging
- Calculated affordable price

Social Marketing: Product

- Modified traditional clay pots for safe storage
- Agreement with local pottery group to make pots
- Subsidized price

Social Marketing: Placement

- Developed community based distribution networks (products stocked in village)
- Trained community based sales agents (village health promoters)
- Provided commissions as incentives

Social Marketing: Promotion (Community-Based Media)

- Conducted Participatory Educational Theatre (skits and puppet shows)
- Sponsored football tournaments
- Public product demonstrations and quizzes
- Distributed branded posters, brochures, banners and T-shirts


Instantly Kills :-
Cholera
Dysentry
Typhoid
Amoeba germs


Klor

Community Mobilization

- What is it?
  - Grassroots approach
  - Training of community members
  - Active community participation in planning
  - Commitment to project
  - Community ownership

Community Mobilization

- CARE field staff obtained support of 72 village management committees (VMCs) for SWS introduction
- VMCs obtained support from village residents
- Trained VMCs to manage project
- Trained Village Health Promoters (VHPs) on the purpose and appropriate use of SWS
- The VHPs visited village households to motivate residents to use SWS

Obstacles to Product Adoption

- Taste and smell of chlorinated water
  - VMCs and VHPs: taught population that slight chlorine taste=safe water
- Belief that Klorin was a contraceptive and lowered libido
  - CARE field staff: used urban populations' experience with chlorinated water to counter fears
  - VMCs and VHPs reinforced this message

SWS Evaluation: Objectives

- To determine SWS adoption rates in population
- To measure impact of SWS on diarrhea in children < 5yo

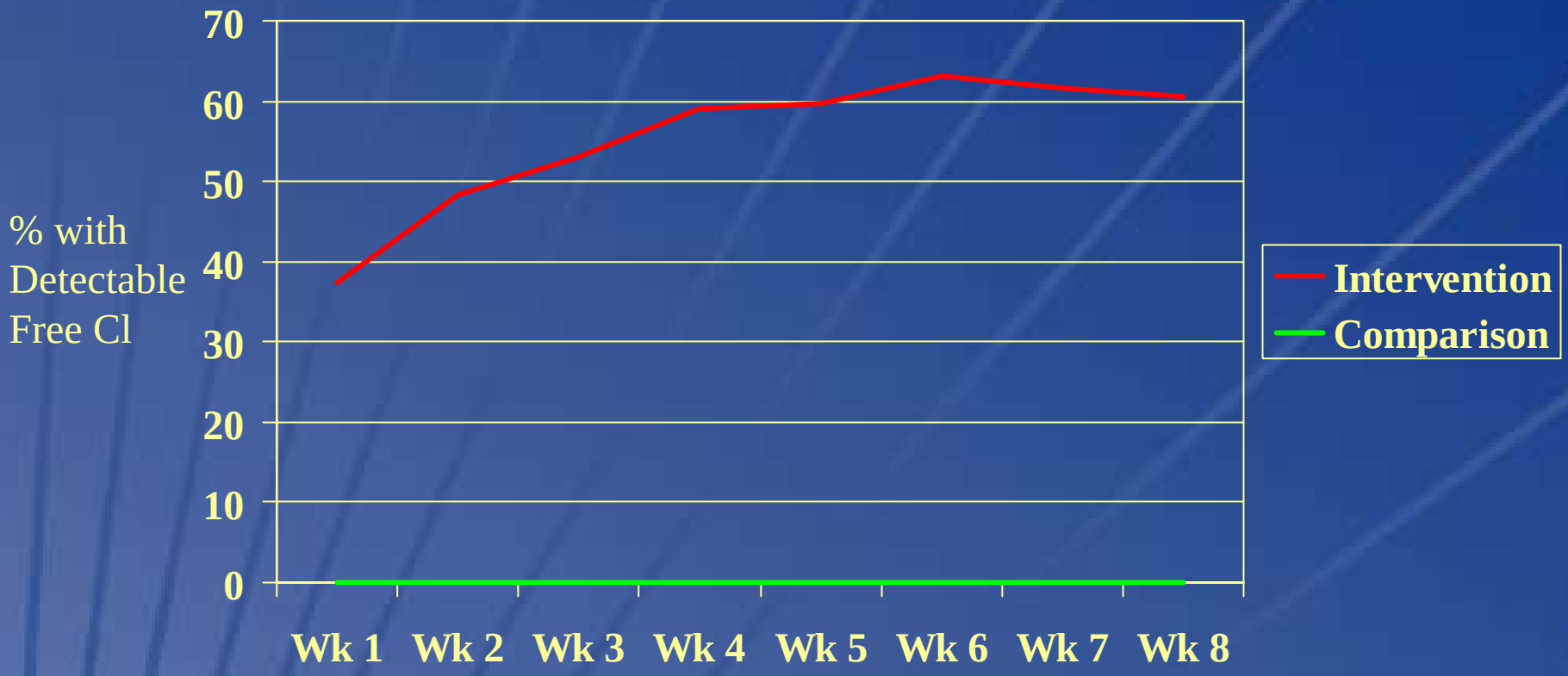
NHW Evaluation: Methods

- Population
  - 12 villages in NHW (intervention)
  - 6 villages outside of NHW (comparison)
- Active diarrhea surveillance
  - Children under 5
  - Weekly visits for 8 weeks
- Weekly monitoring of Klorin use through testing for free chlorine residuals

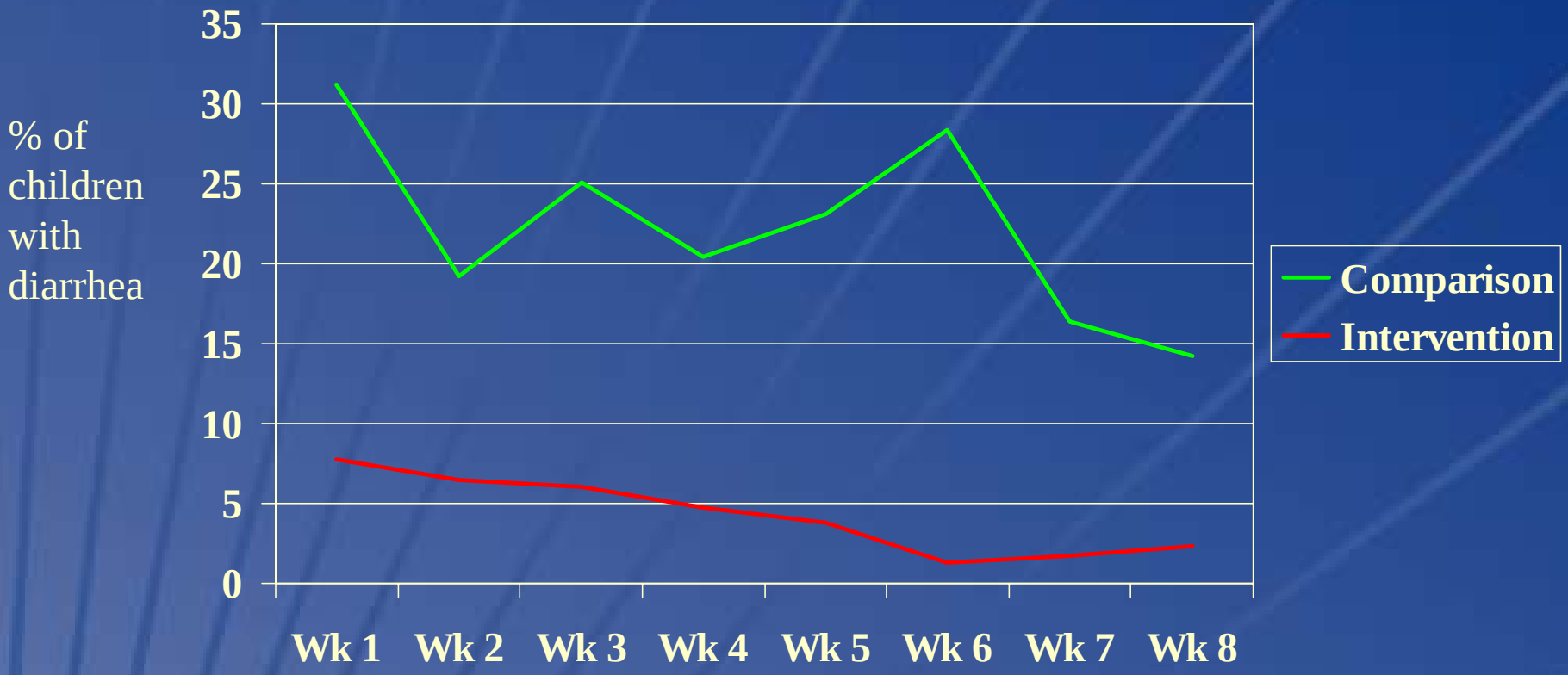
Results

	Intervention	Comparison
Households	451	191
Number of children under 5	775	347
Average number of visits per child	5.9	5.8

Results: Proportion of Households with Detectable Residual Free Chlorine



Results: Diarrhea Incidence by Klorin Use by Week



Conclusion

- High adoption rates of SWS products
- Reduced risk of diarrhea in children <5yo
- Behavior change methods
  - Social marketing: wide access to products
  - Community mobilization: enhanced motivation due to peer influence

Conclusion: How Behavior Change Methods Addressed Challenges

Dispersed population and poor roads

- Through social marketing, products brought to them

Poverty

- Product prices kept low
- Perceived quality high

Illiteracy

- Social marketing focused on community-based, non-written media