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Measuring Community Capacity in Zambia: a means to improve MNCH and a valuable end in itself

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Global Maternal Newborn Health Conference, 2015

Peer-reviewed research

Carol Underwood, Marc Boulay, Gail Snetro-Plewman, Mubiana MacWan'gi, Janani Vijayaraghavan, Mebelo Namfukwe, and David Marsh. "*Community capacity as means to improved health practices and an end in itself: Evidence from a multi-stage study.*"

International Quarterly of Community Health Education 33, no. 2 (2013): 105-127.

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Background: *Community Capacity- why should we care?*

Emerging global trends……

- Major crises (natural disasters, economic and political crises)

- Climate change

- Demographic shifts (migration, refugees, youth population, urbanization)

- Inequity (economic, gender, social, political)

- Failure of governments / corruption

- Fragile states /conflicts

- Rapid development of and increasing access to Information, Communication Technology

- Globalization

- Decentralization

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Current Challenges

- How to engage communities in civic participation for service accountability, transparency and improved governance?

- How to rebuild communities that have broken down or been displaced?

- How to establish a sense of community in urban settings or other settings where the population is highly transient?

- How to rebuild trust and relationships in displaced communities, communities in conflict or that have a poor history of participation?

- How to reach marginalized communities, promote equitable development and foster inclusion in diverse communities?

- What is the role of communities in their own process of capacity building? Governments/NGO/PVOs/private sector?

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Global Platforms – Donor Trends

- Sustainable Development Goals (SDGs) – 2030 – "improved partnerships between governments, the private sector and civil society; participation of all stakeholders…"; Sustainable cities and communities (#11)

- USAID Forward & E.U. - country ownership and local capacity building

- Rio+20 – Emphasis on sustainable development and many references to civil society engagement, participation, inclusion, local participation in decision-making and programs, equity

- Bill and Melinda Gates Foundation– seeking effective implementation of innovative technologies that reach community level to produce measurable results

- *Community-Led Development* Campaign – Hunger Project

- Increased interest in building local capacity, reducing costs of development interventions and increased sustainability of improved results

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Community Capacity Background:

Wide range of definitions and perspectives on

❑ what community capacity building is?

❑ whose capacity is being built?

❑ what capacities are being built?

❑ for what aims?

Definitions of Community Capacity

- the characteristics of communities that affect their ability to identify, mobilize, and address social and public health problems (Goodman, et.al, 1998; Poole, 1997)

- "the set of assets or strengths that residents individually and collectively bring to the cause of improving the quality of life: (Easterling, Gallagher, Drisko, & Johnson, 1998.)

- "the ability of people and communities to do the work needed in order to address the determinants of health for those people in that place" (Bopp, GermAnn, et.al, 2000)

Whose capacity do we aim to strengthen when we say "community"?

❑ Individuals

❑ Households

❑ Informal groups organized around a particular interest

❑ Formal groups organized around a particular interest (CBOs)

❑ Coalitions of groups and individuals

❑ Networks

❑ Institutions (local government agencies, etc.)

Research Question: We predict that strengthened community capacity will help sustain positive health and social change outcomes, and build more resilient communities

What does the literature tell us?

- Extensive CC literature; identifies a range of domains, including participation, leadership, social and inter-organizational networks, sense of community, resource mobilization, among others

- Yet, research has rarely explored how communities define and understand the concept

- Few indicators from literature have ever been tested for validity and reliability or linked to improved health outcomes

- Who measures? External vs. communities? Both?

Community capacity contributes to improve health outcomes and resilience via social change

COMMUNITY CONTEXT

- Material resources
- Social resources
- Disease burden
- Urban migration
- Natural disasters, etc.

COMMUNITY CAPACITY

SOCIAL CHANGE
Participation
Social capital
Social cohesion
Empowerment
Collective Efficacy

HEALTH COMPETENCE
Consistent & appropriate health behavior

Health Outcomes & Resilience

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Domains from a Systematic Review of Community Capacity Building Measurement (17 studies)

- Learning opportunities & skills development
- Resource mobilization
- Partnership/linkages/ Networking
- Leadership
- Participatory decision-making
- Sense of community
  – Commitment to action

- Communication
  – Dissemination
- "Development pathway" (organizational procedures, structures, program management)
  – Shared vision & clear goals
  – Community needs assessment
  – Process & outcome monitoring
  – Sustainability of programs

Liberato et al. BMC Public Health 2011, 11:850

The Program Intervention

➢ Strengthening Community Capacity and Engendering Behaviour Change - Health Communication Partnership (HCP) Project –Zambia

➢ 5 Year – 2004-2009, $31 million Cooperative Agreement – Save the Children Lead in Zambia; Johns Hopkins University & In'tl HIV/AIDS Alliance partners

➢ Key aspect: to enable individuals & communities to take positive health actions & strengthen community-based systems and networks

➢ HCP focused on hard to reach districts; low health progress; inactive Neighbourhood Health Committees, weak community capacity

➢ Community systems strengthened to focus on health priorities identified through community-level dialogue, and application of *Community Action Cycle* as a mobilizing tool for collective action

➢ Interventions integrated across health areas: Malaria, RH, Child Health, HIV&AIDS

Program Intervention: Capacity Strengthening *at Scale*

Total Population Covered: 2,848,520

- **22** Districts out of **71** country-wide (presence in all 9 provinces)
- **22** District Level Health Center Partners
- 1800 Community Core Groups' -Neighborhood Health Committees (NHCs)
- Application of the *Community Action Cycle*
- 1341 with Community Action Plans
- 1063 communities completed at least one activity from their action plan
- **65** Safe Motherhood Action Groups formed as part of NHC's.

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Community Action Cycle*

Ciclo de Accao Comunitario (WARMI, Health Communication Partnership, 2003)
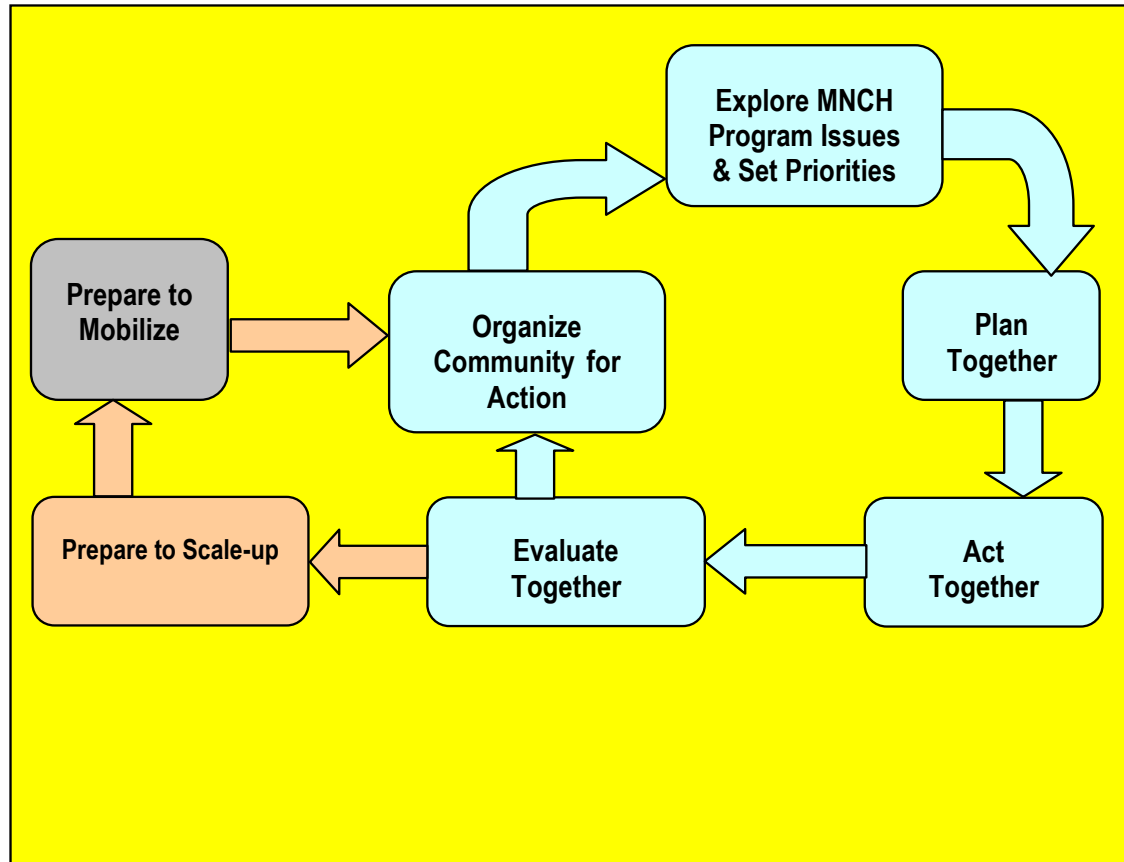
Study Approach

- Goals:
  - Characterize & develop CC domains and indicators
  - Validate domains & indicators
  - Test validated community capacity indicators

- Three phases:
  - Phase I:
    - Literature review to inform qualitative study
    - Qualitative study: 16 FGDs with minors, adult women, adult men, urban & rural
    - Community-generated domains; Most Significant Change technique*
  - Phase II: Field test & validation of identified indicators
  - Phase III: Quantitative Household Endline Evaluation

*Dart and Davies, 2003

Hypotheses

- We hypothesized a multi-step pathway leading from the intervention activities to health behaviors through their effect on Community Capacity:
  - H1: the interventions will be associated with/ influence Community Capacity [Step A];
  - H2: Capacity will then prompt Community Action [Step B], and
  - H3: Community Action will affect health behaviors [Step C].

Phase I Results

- Community members identified 11 unique domains:
    - sense of community belonging;
    - effective community organisation and institutions;
    - enhanced community participation;
    - community cooperation;
    - strengthened community support;
    - improved use of individual skills, knowledge and abilities;
    - community power;
    - social cohesion;
    - resource mobilisation;
    - leadership; and
    - ability to raise awareness
- International team met to vet the domains, augmented domains with key areas from the literature, reduced 11 domains to 6 for field testing

Phase II Results

- Quasi-probability sample of 720 individuals
- Study found:
  - Social cohesion (7 indicators); alpha=0.621
  - Collective efficacy (4 indicators); alpha=0.792
  - Conflict management (4 indicators); alpha=0.621
  - Type of leadership (5 indicators); alpha=0.785
  - Effective leadership (6 indicators); alpha=0.853
  - Participation (4 indicators); alpha=0.739

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Description of *Community-Generated* Capacity Domains and Indicators

(1) Social Cohesion - Description of Domain:

Seeks to measure the extent to which target communities were able to work together towards a perceived common good.

Community-Generated Indicators:

➢ Repay debts to others

➢ Did not help each other in times of need (reversed)

➢ Did not trust one another (reversed)

➢ Strong relationships

➢ Able to discuss problems

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Domains and Indicators…

(2) Collective Efficacy- Description of Domain

Seeks to measure the extent to which target groups shared belief in its conjoint capabilities to attain their goals and accomplish desired task. It involves the "belief or perception that an effective collective action is possible to address a social or public health problem.

Community-Generated Indicators:

➢Work hard to accomplish a project

➢Confidence in community problem solving

➢Committed to the same collective goals

➢Solutions to problems

Domains and Indicators…

(3) Conflict Management – Description of Domain

Seeks to measure the extent to which target communities were able to handle conflicts in a way that was fair and allowed for continued participation of its members towards positive health action

Community-Generated Indicators:

➢Quick resolution to conflict

➢Trouble dealing with conflict (reversed)

➢Feuding for a long time (reversed)

➢Getting involved to resolve issue

Domains and Indicators…

(4) Leadership – Description of Domain

Seeks to measure the extent to which target communities had leaders with the capacity to engage the diversity of sectors and levels within community life in processes of learning and action for health.

Community-generated Indicators:

➢ Women leaders

➢ Leaders treat people equally

➢ Leaders listen

➢ Leaders lead by example

➢ Leaders are good at resolving disagreements

Domains and Indicators….

(5) Effective Leadership – Description of Domain

Seeks to measure the extent to which the community has the capacity to engage the diversity of sectors and levels within community life in processes of learning and action for health.

Community-Generated Indicators:

➢Participation in meetings

➢Setting goals & objectives

➢Developing a plan

➢Assigning tasks fairly

➢Obtain money from outside

Domains and Indicators…

(6) Participation – Definition of Domain

Seeks to measure the extent to which target communities can engage its own diverse membership in constructive processes of consultation, collective analysis and decision making.

Community-Generated Indicators:

➢Skills and knowledge

➢Confidence to solve it

➢I can participate

Phase III- Endline Evaluation

- Probability sample of 2,462 women (15-49) & 2,354 men (15-59) from 24 intervention & 12 comparison districts

- Principal components analysis with varimax rotation identified a single factor that explained 60% of the variance across the CC indicators

- Therefore, a single scale to measure CC was retained

Phase III Results

➢Community Capacity was measured through six domains:

- Participation
- Collective Efficacy
- Conflict Management
- Leadership
- Effective Leadership
- Social Cohesion

➢ Individuals living in intervention communities, regardless of the level of intensity of these activities, reported significantly higher scores on the Community Capacity scale compared to individuals living in the control communities. (H1 supported)

➢Significant change in 6 domains of community capacity found in all intervention districts compared to comparison districts

Table 4-2. Measures of community capacity by intensity of HCP activities, 2009

	Intervention Districts			Comparison Districts
	Intensive	Non-Intensive		
% aware of the Neighbourhood Health Committee	58.6[b]	62.1[b]		48.4
% of respondents with high scores on following scales				
Social Cohesion*	40.8[b]	41.2[b]		36.5
Collective Efficacy	60.0[b]	59.4[b]		50.5
Conflict Management*	32.7[b]	31.3[b]		26.9
Leadership*	39.5[b]	41.0[b]		33.7
Effective Leadership*	43.9[b]	42.9[b]		35.8
Participation	63.2[ab]	59.2[b]		53.9
Average number of domains with a high score	2.8[b]	2.7[b]		2.4

Source: 2009 HCP Endline Survey

[a]Different from Non-Intensive Communities (p<0.05)

[b]Different from Comparison Communities (p<0.05)

Adjusted for Age, Education, and Urban/rural residence

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Results: Odds Ratios and Confidence Intervals from a multivariate logistic regression model predicting reported community action to address a health problem in the past year

	Odds Ratio	95% CI
Capacity Score (Ref = First quintile (lowest))	2.74***	2.06, 3.64
Second quintile	2.23***	1.67, 2.97
Third quintile	4.13***	3.15, 5.42
Fourth quintile	5.36***	4.07, 7.06
Fifth quintile (highest)		
Community Type (Ref = Comparison)		
Non-intensive	1.15	0.98, 1.35
Intensive activity	0.95	0.77, 1.16
Gender (Ref = male)		
Female	1.27***	1.10, 1.47
Age (Ref = 15-24)		
25-34	1.08	0.91, 1.30
35 and over	1.49***	1.24, 1.80
Education (Ref = Primary or less)		
Secondary or more	1.04	0.89, 1.21
Use media weekly (Ref = No)		
Yes	1.40***	1.18, 1.65
Type of residence (Ref = Rural)		
Urban	0.87	0.74, 1.02

Phase III Results

Individuals reporting higher levels of community capacity were also more likely to report that their community worked together in the past year to address a health problem in their community. (H2 supported)

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Results Con't:

- Compared to individuals who did not report that their community worked together in the past year, individuals who lived in communities that worked together to address health problems were:

  - twice as likely to be currently using a modern contraceptive method

  - 1.8 times more likely to have received an HIV test and to know the results of that test, and

  - 1.5 times more likely to have had their youngest child sleep under a bed net to prevent malaria. (H3 Supported)

Total, direct and indirect sizes estimated from mediation analysis*

		Step A – B		Step B – C		
				FP Use	Bednet Use	HIV Test
Total effect size	Coefficient	0.045*		0.077*	0.145*	0.096*
	95% CI	0.007, 0.082		0.041, 0.114	0.071, 0.217	0.061, 0.133
Direct effect size	Coefficient	0.020		0.022	0.122*	0.051*
	95% CI	-0.018, 0.054		-0.017, 0.060	0.046, 0.195	0.014, 0.087
Indirect effect size	Coefficient	0.025*		0.055*	0.022*	0.046*
	95% CI	0.017, 0.034		0.041, 0.068	0.006, 0.043	0.036, 0.057
Proportion of total effect mediated		56.2		71.5	15.3	47.6

Step A – B: Intervention → Community Capacity → Community Action
Step B – C: Community Capacity → Community Action → Health Behavior
*Effect size different from 0, based on bootstrap using 500 iterations

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Results Con't

➢ Overall 30% of community action was mediated by increases in community capacity (controlling for age; ed; media use. Baron and Kenny, 1986).

➢ Increases in community capacity mediated the effect on health behaviors:

- 63% of contraceptive use was mediated by community action

- 11% of bed net use among young children was mediated by community action

% of individuals reporting that community worked together in past year to solve a health problem - by number of capacities
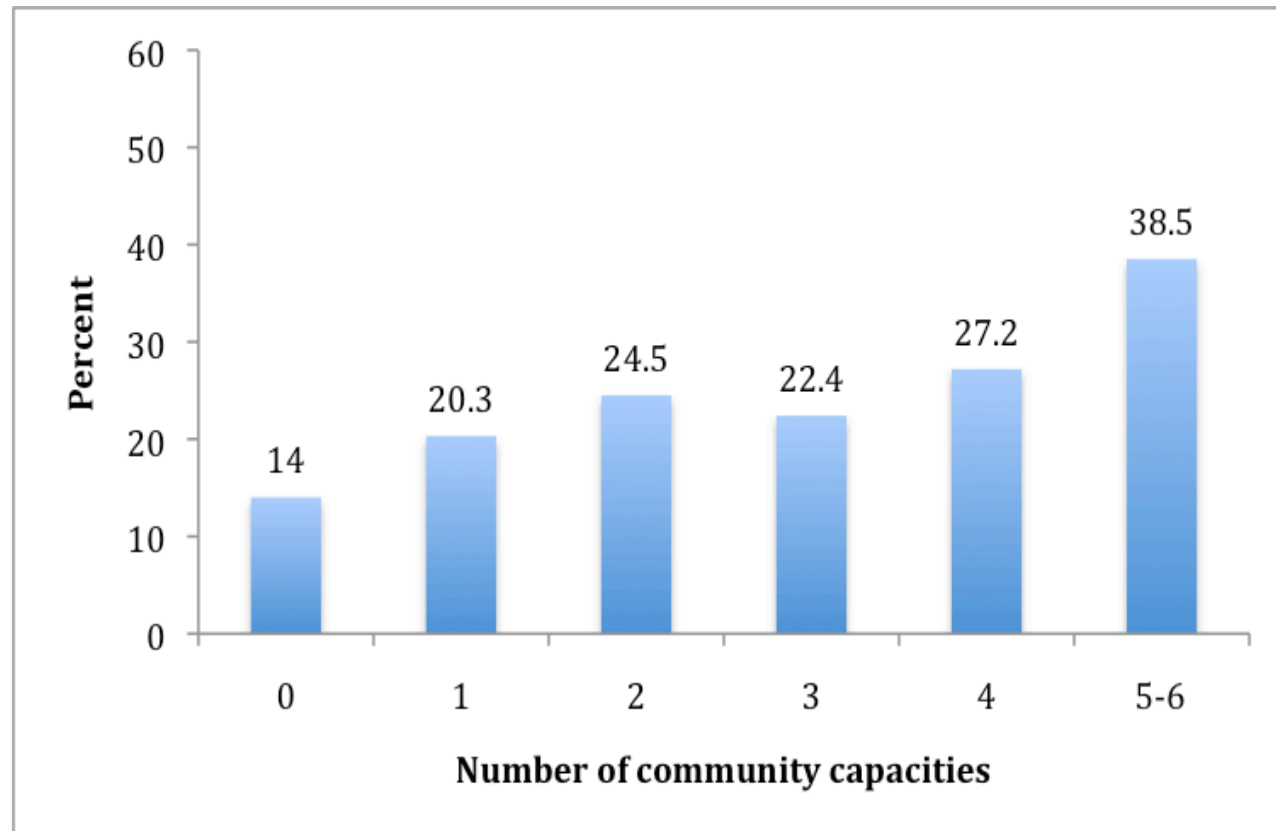
Percentage of NHCs reporting having 50% or more female members by intevention and comparison districts (N=89)
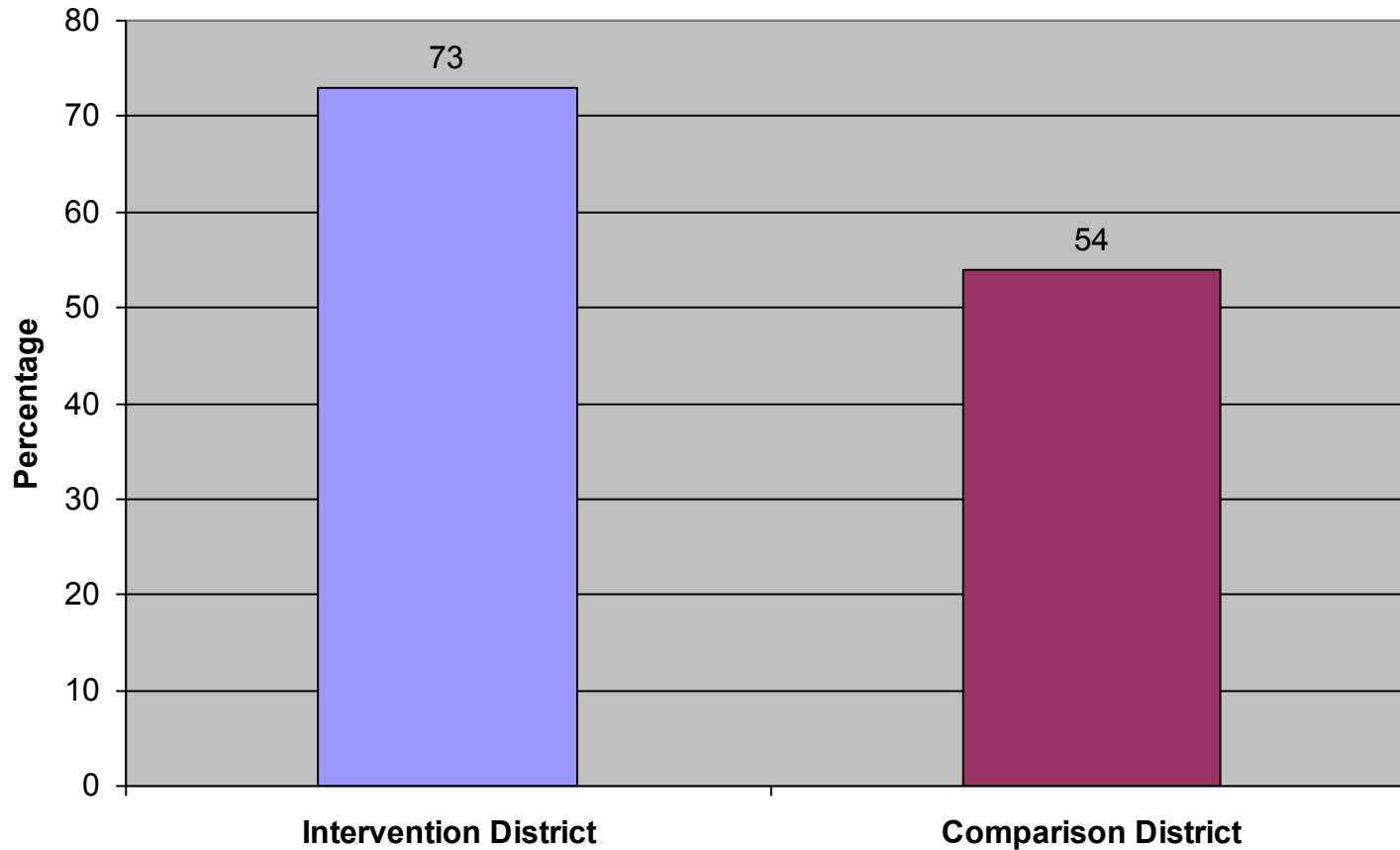
Percentage of females in NHC leadership positions by intervention and comparison districts
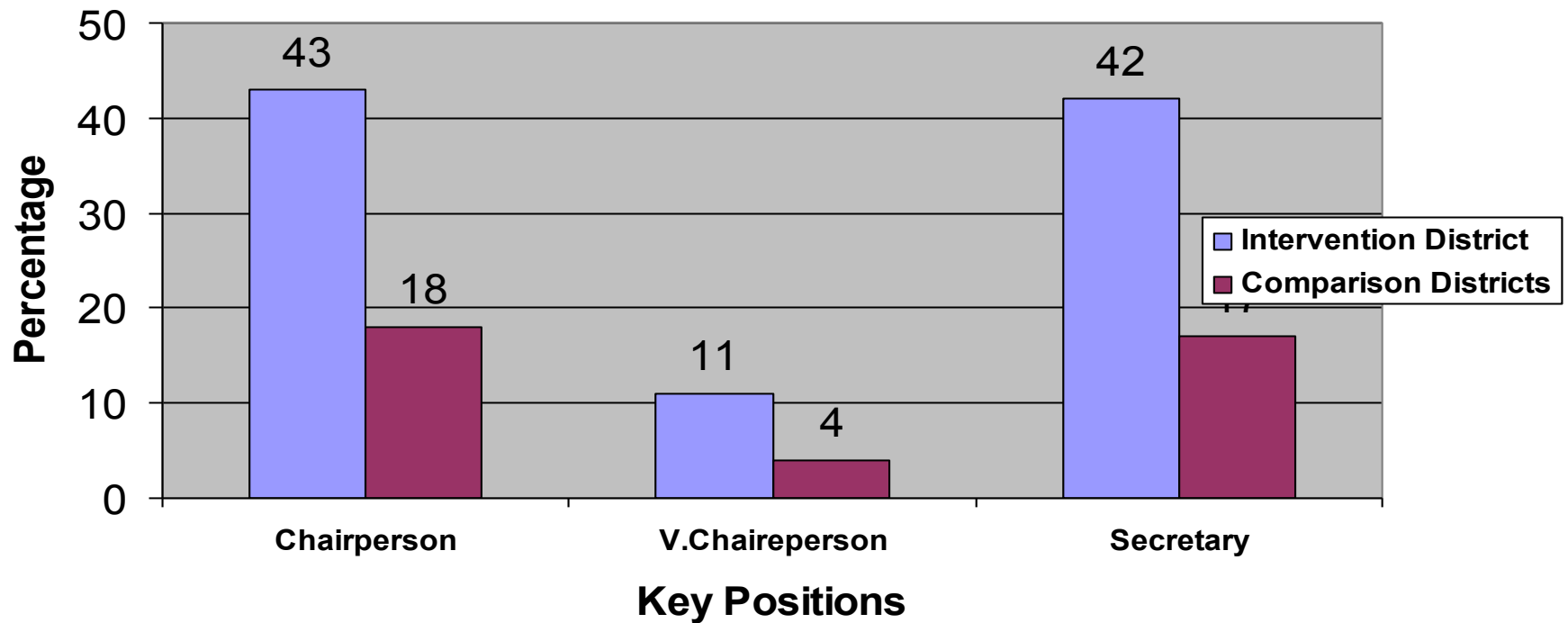
Study Limitations

- Qualitative phase: not generalizable, based on purposively selected sample.

- Post-test only (baseline data at both control and intervention communities would have strengthened the evidence)

- Challenges associated with measuring macro-level concepts, such as community capacity, with individual-level reports.

- We suggest this approach is a useful step in the development of a tool for evaluating the effectiveness of community-based projects for health and social development.

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Conclusions

- *Community-generated* capacity indicators were identified, validated and used to measure improved capacity

- First time community capacity index validated and applied to a population based endline survey

- Significant changes in community capacity measured in intervention areas over comparison area.

- Changes in community capacity directly attributed to increased community collective action for health

- By fostering community capacity and stimulating community action, the intervention appears to have had indirect effects on such health behaviors as contraceptive use, receipt of HIV tests, and bed net use among young children.

Conclusions (con'd)

- Strengthened community capacity lead to greater ownership and abilities *potentially* leading to improved resiliency over time.

- This demonstrates that building community capacity, in this instance, was both a means to an end – improved health behaviors and reported collective action for health – and an end-in-itself, both of which are vital to social development.

Additional Resources Continued

- *Measuring Community Capacity for Better Health and Social Outcomes* - paper by Save the Children. Detailed overview of initiative to measure community capacity in Uganda, Nicaragua, Vietnam and Zambia, D. Marsh, et.al 2009.

- *Zambia Phase 1 PR Discussion Outline* - <u>qualitative</u> tool to elicit community generated capacity indicators, Save the Children/HCP

- *HCP/Zambia EndlineSurvey - WomenQuestionnaire* - <u>quantitative</u> endline household instrument. <u>Section 1 A: Perception of Community</u> includes the community generated indicators that had been validated, Save the Children/HCP

- Community Observation Checklist – to validate CC findings, Save the Children/HCP

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Additional Resources

- How to Mobilize Communities for Health and Social Change, Grabman and Snetro, Health Communication Partnership, Save the Children. 2003
  - http://www.hcpartnership.org/Publications/Field_Guides/Mobilize/htmlDocs/cac.htm

- "Rock Hop"
  - http://www.comminit.com/strategicthinking/stcfscindicators/sld-1500.html

- Effects of a participatory interventions with women's groups on birth outcomes (India), Lancet, April 3, 2010, T. Tripathy, et. al.

- Community Participation: Lessons Learned for Maternal and Child Health, M. Rosato, G. Laverack, L Howard-Grabman, et.al, Lancet, 2008: 372: 962-71

- An Evaluation of the Community Action Cycle, T.Kabore, HIV/AIDS Care and Support Program, Ethiopia, May, 2009.

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Thank you!