

Reflections on the Navrongo Initiative in Ghana and Beyond

Jim Phillips

Population Council, New York

Ayaga A. Bawah,

INDEPTH-Network, Accra

Outline....

- **Study rationale: The approach**
- **Lessons from each phase in the Ghana process:**
 - Phase I: Participatory planning**
 - Phase II: Experimental trial**
 - Phase III: Replication**
 - Phase IV: Scaling up**
- **Conclusion**

Rationale for research in the 1990s...

- **The need for large scale programmatic change.**
 - The policy debate:
volunteers versus paid health workers.
- **Confusion about the reform process.**

Rationale for renewed attention to Navrongo in 2007:

- **Continuing policy debate.**
- **The MDG debate.**
- **The Navrongo scaling up debate.**

Phases of the Ghana Process

PRODUCT	Candidate system	Successful system	Consensus for change	Reform
PARADIGM	Participatory planning & SA	Factorial trial	Replication trial	Organizational development
QUESTION	What is appropriate?	Does it work?	Can it be replicated & sustained?	Is coverage expanding?

STAGE

Navrongo pilot

Navrongo experiment

Nkwanta replication

Scaling-up

Demographic context prior to the Navrongo Experiment

High fertility, high maternal mortality, high childhood mortality:

-- Fertility

TFR was 5.2 in 1995

Crude birth rate over 30 per 1000

-- Maternal mortality:

Baseline about 800 deaths/100,000 births

-- Childhood mortality:

Infant mortality: 123 per 1000 live births

Probability of dying before age five: 166/1000

Life expectancy: 49.8

Phase I: “Baobab planning”

**Navrongo, Kassena-Nankana District “Baobab Planning”
In Northern Ghana**

The community health service dimension

- **Health Infrastructure**
- **Relocated nurses**
- **Community-constructed health centers**
- **Essential equipment**

The *Zurugelu* dimension

- The *Zurugelu* dimension mobilizes
- leadership
- advocacy
- male social networks

It also mobilizes traditional social resources for organizing...

- women's groups
- volunteers
- health committees

Phase II:

Will the “Baobab Plan” work?

The Navrongo Experiment

Phase II Experimental Design

Mobilizing MOH outreach	Mobilizing traditional community organization	
	No	Yes
No	Comparison 4	<i>Zurugelu only</i> 1
Yes	Nurse outreach 2	Zurugelu & nurse outreach combined 3 = 1 & 2

Service components in all cells...

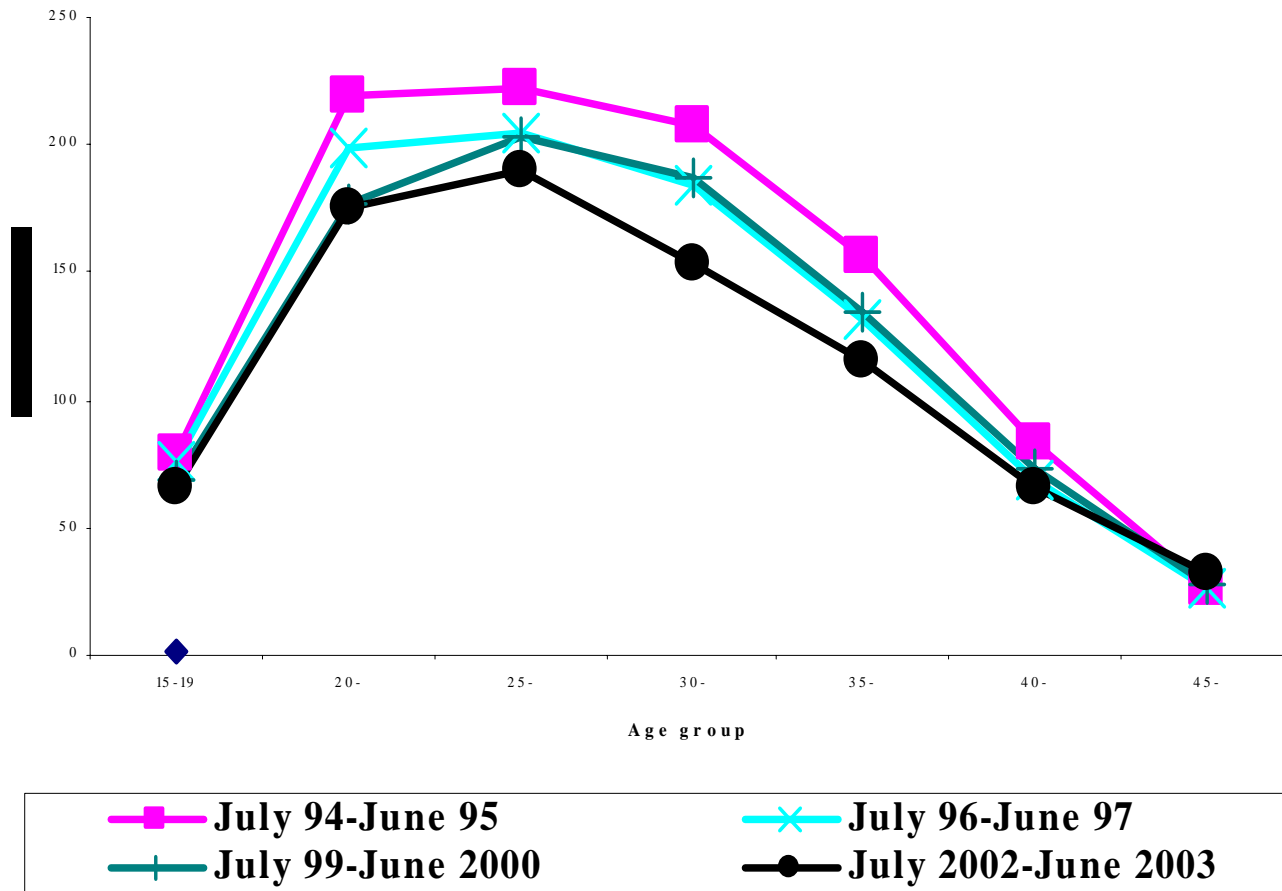
- Navrongo “legacy” services: Insecticide impregnated bednets + vitamin A supplementation
- IMCI:
 - ✓ Treatment of malaria,
 - ✓ Treatment of acute respiratory infection, other childhood ailments
 - ✓ Management of diarrheal disease,
 - ✓ Nutrition education,
 - ✓ Referral
 - ✓ Comprehensive childhood immunization
- **New MDG5 target:** reproductive health services
- Integrated Safe motherhood: ANC, EOC, PNC

What differs across cells? *The organization of access:*

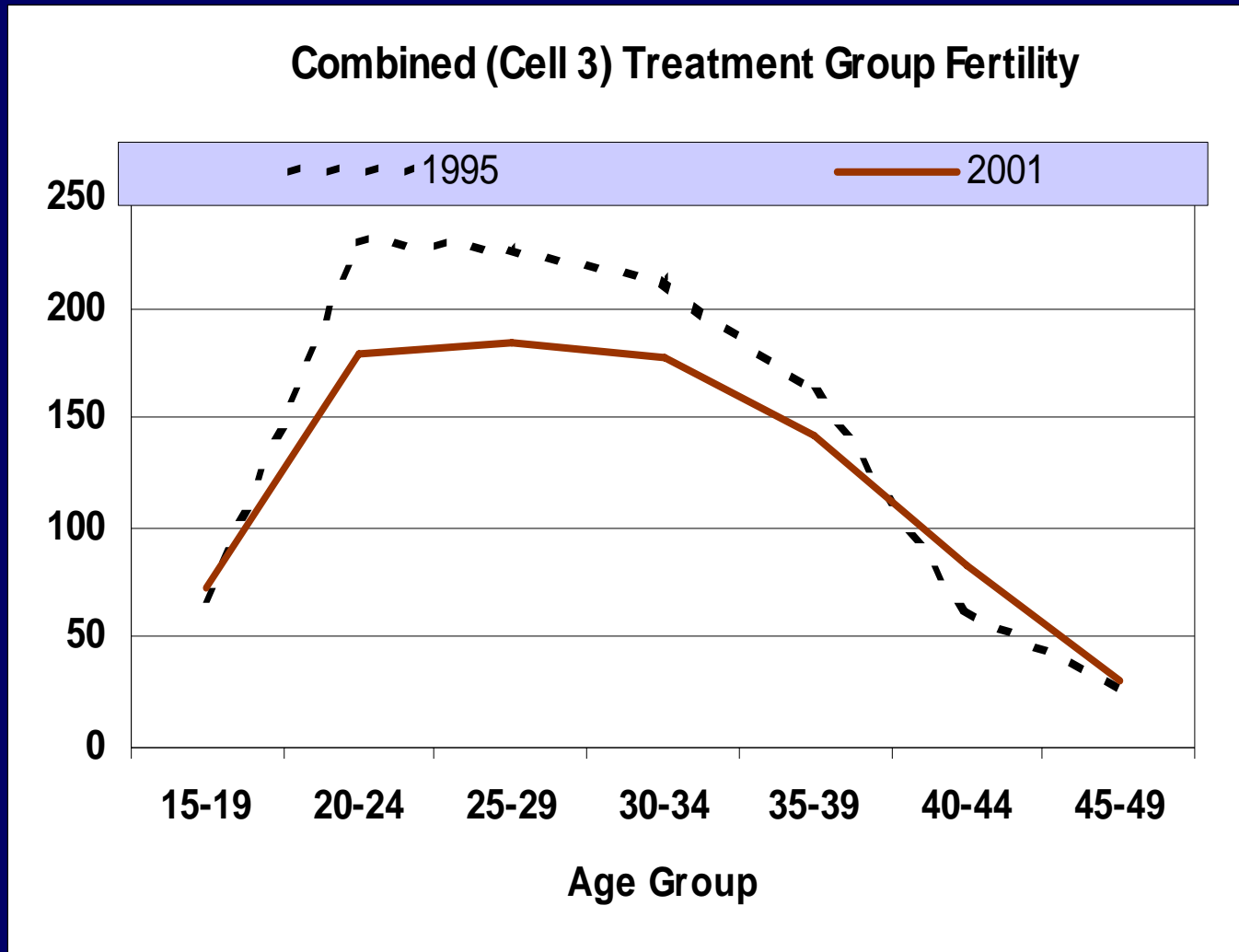
Mobilization of traditional
resident nurses, versus

(“Zurugelu”), versus Mobilization of community
combined, versus comparison (clinics + outreach)

Figure 2: Trends in Age-Specific Fertility Rates for Kassena-Nankana District (July 1994-June 2003)

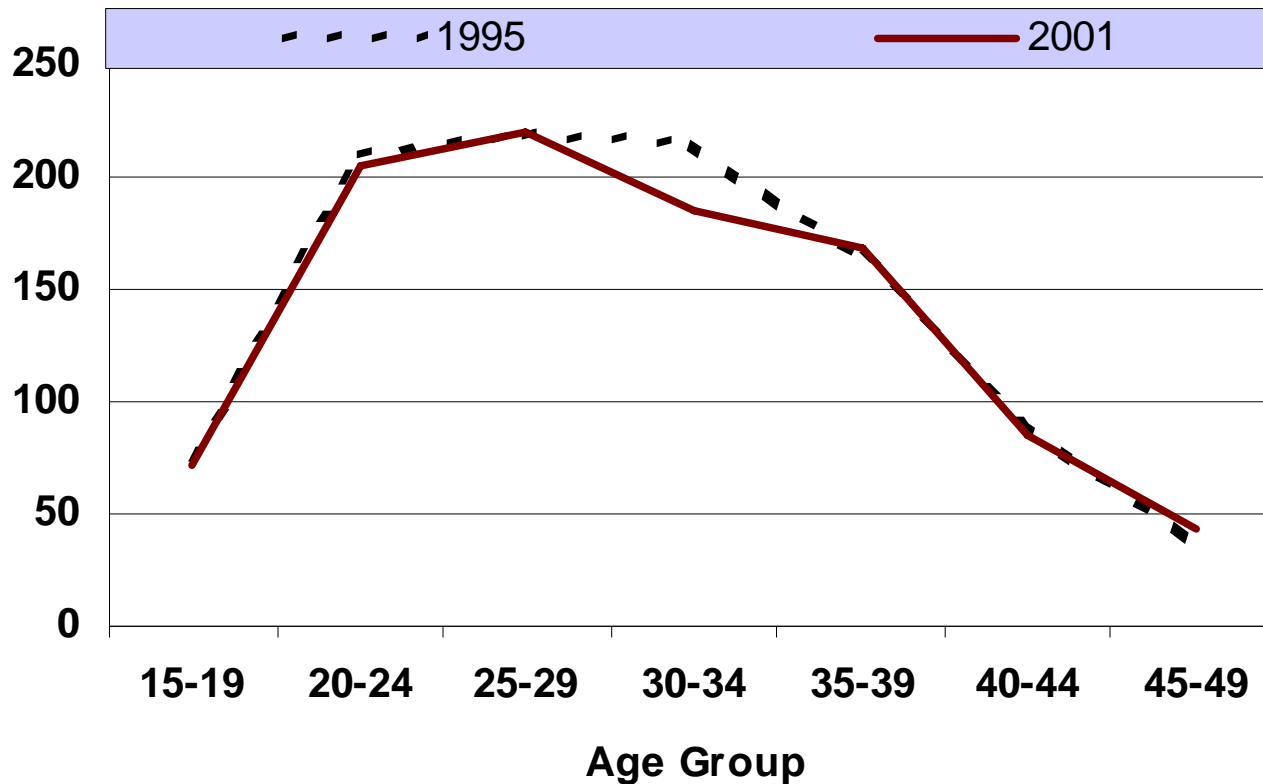


Age-Specific Fertility Rates with CHFEP Intervention



Age-Specific Fertility Rates Control Cell

Comparison Area (Cell 4) Fertility



Navrongo lessons learned: Fertility

Significant fertility impact:

One birth (adjusting for socio-economic status)

- No impact in “nurse only” or “Zurugelu” cells. All impact in combined cell: **Improving access alone is insufficient.**
- All age groups affected (a spacing effect)
- **Tenuous evidence of fertility transition:**
 - Fertility impact does not change with time.
 - Emerging unmet need for limiting in treatment cells.

Outline....

- Study rationale: The approach
- Lessons from each phase in the Ghana process:

Phase I: Participatory planning

Phase II: Lessons from the Experimental trial

--Fertility and family planning

Impact

Conclusion: Access + offsetting “Social costs”

--Child survival

Impact

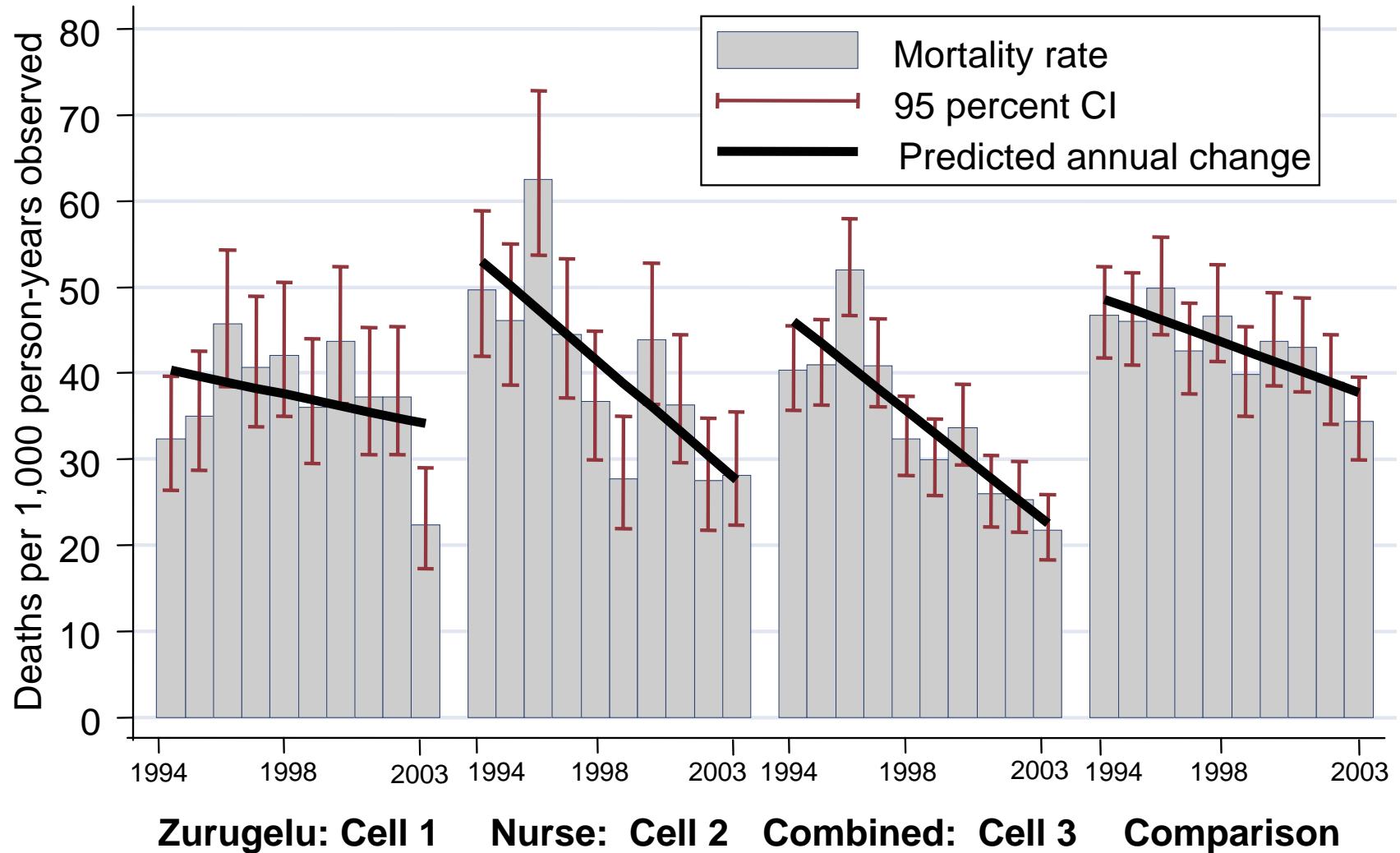
Implications: The MDGs are attainable.

Phase III: Replication

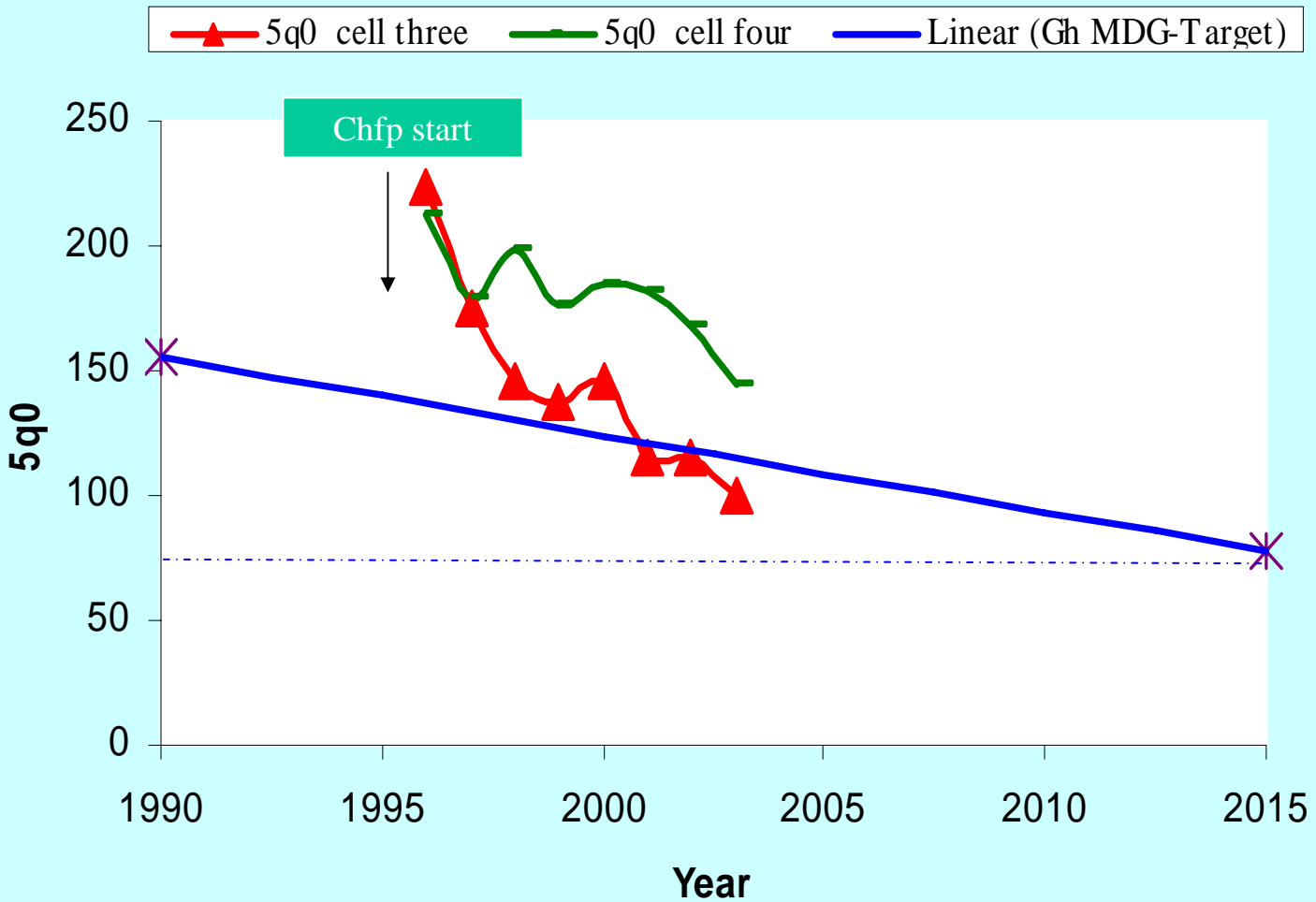
Phase IV: Scaling up

- Conclusion: General lessons learned

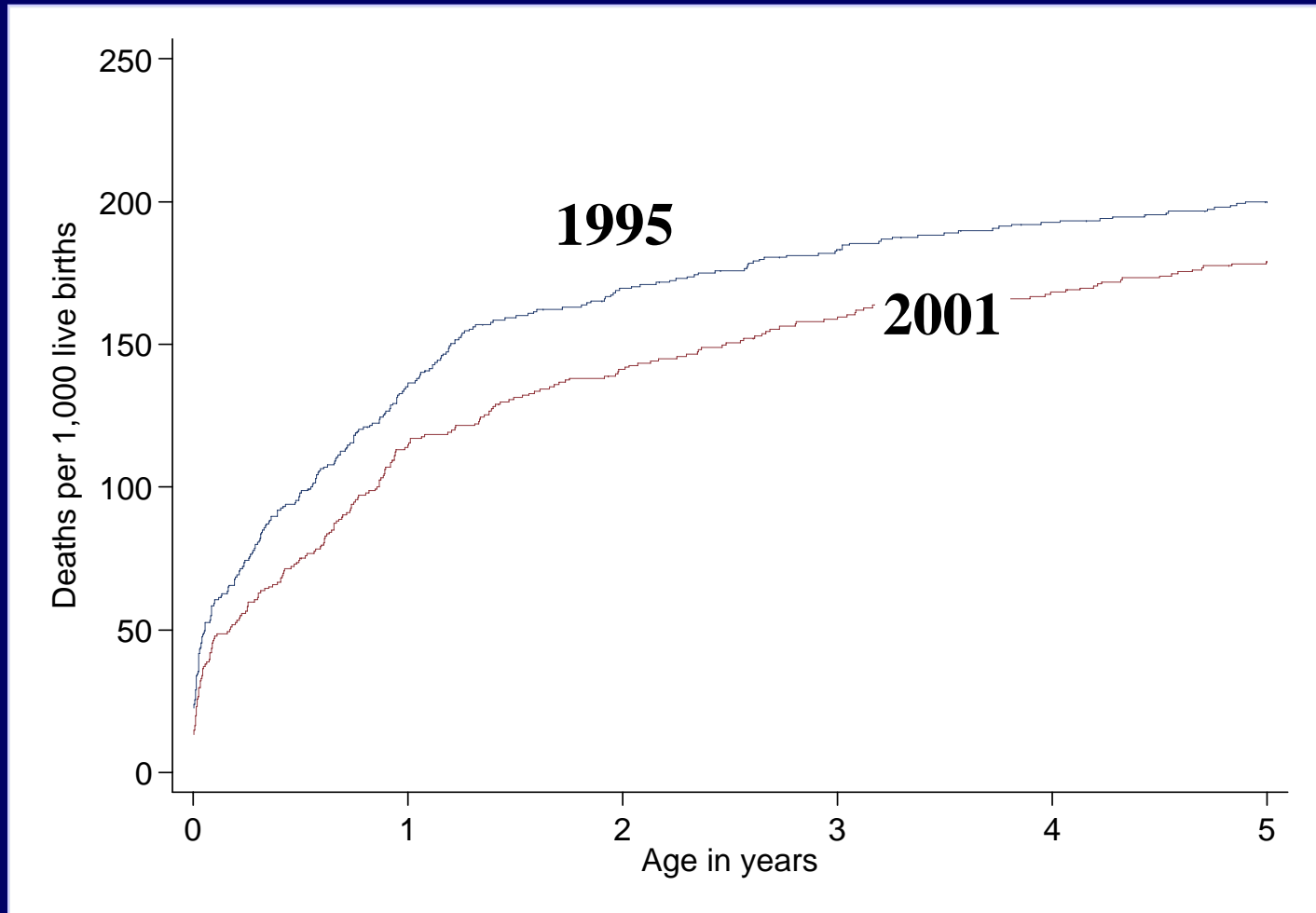
Under-five annual mortality rates by experimental cell, 1994-2003



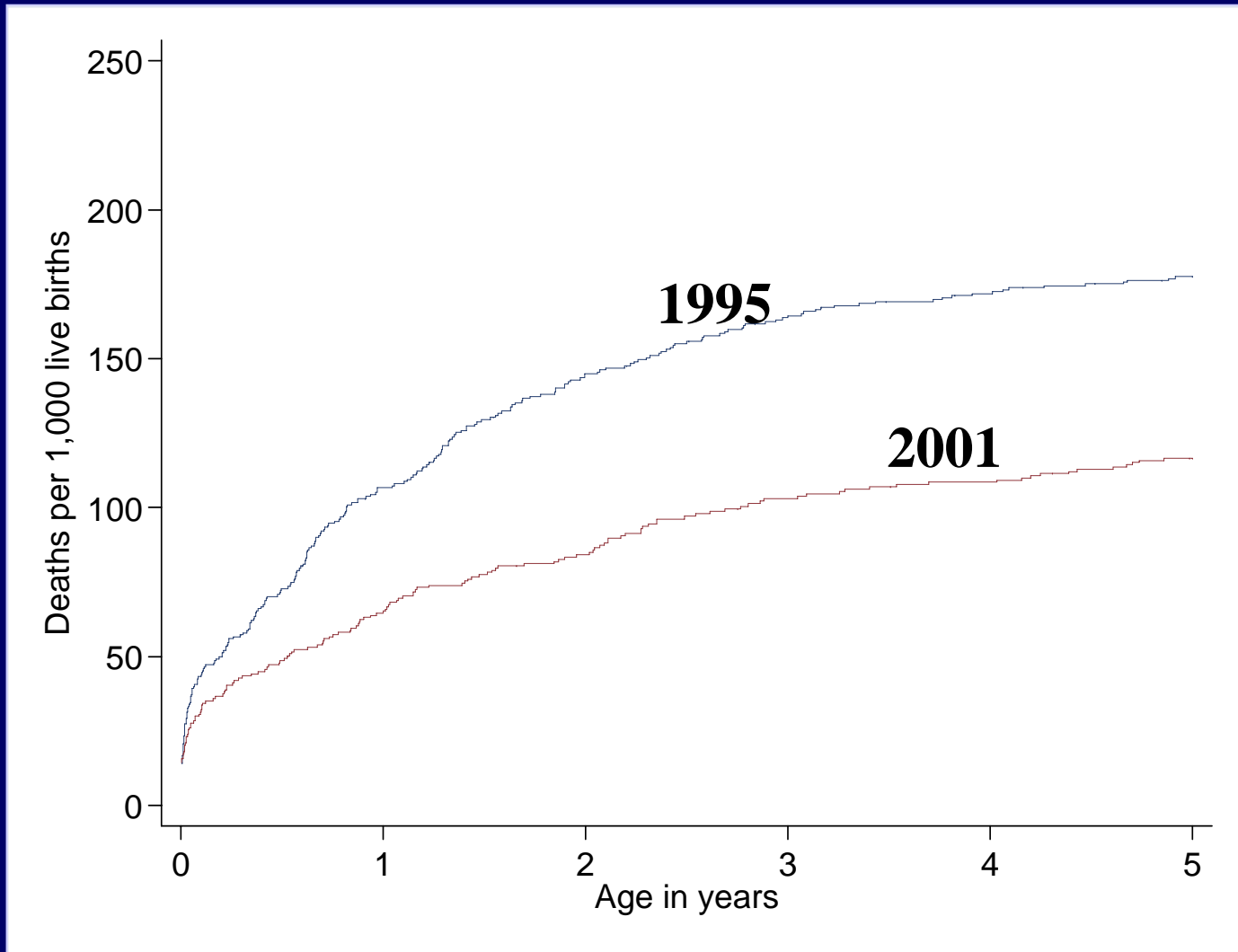
Trends in under five mortality in Combined Area (Cell 3) and the Comparison Area (Cell 4), 1995-2003



Childhood Mortality in the Comparison Area Only



Childhood Mortality Combined Cell Only



Lessons learned: Navrongo

Child survival impact

- **Slight impact on neonatal mortality**
- **Larger impact infant mortality**
- **Largest impact in childhood**
- **Volunteers have no impact, but do no harm. Community mobilization has no impact without resident nurses.**
- **Nurses living and working in community have a major impact**

Where is Navrongo with respect to the child survival MDG?

- **Ghana is not meeting the child survival MDG --upturn in childhood mortality.**
- **Mortality declining in Upper East region, however.**
- **The Navrongo project is likely to be contributing to the regional trend.**

Lessons learned....

Mortality declined district-wide, but....

...Cells with nurses (2&3) experienced the greatest decline, surpassing the child survival MDG in 2005.

...The *Zurugelu* and Comparison cells (1&4) experienced the least decline requiring at least 10 additional years to achieve the MDG.

Lessons learned....

- **Poverty and educational attainment affect child survival.**
- **Immunization improves survival.**

Does immunization offset poverty effects?

Lessons learned....

- **Immunization offsets relative poverty effects**
- **Full coverage of all antigens alone would achieve the child survival MDG**

Phase II Results...

Mobilizing MOH outreach	Mobilizing traditional community organization	
No	No Comparison 4	Zurugelu only No mortality impact, slight fertility effect 1
Yes 30-55% reduction in child mortality (depending on program year)	Nurse outreach 2	Zurugelu & nurse outreach combined TFR reduced by 1 birth 3 = 1 & 2

General conclusion: Accelerating Achievement of Millennium Development Goals is possible if nurses are providing comprehensive community-based care....

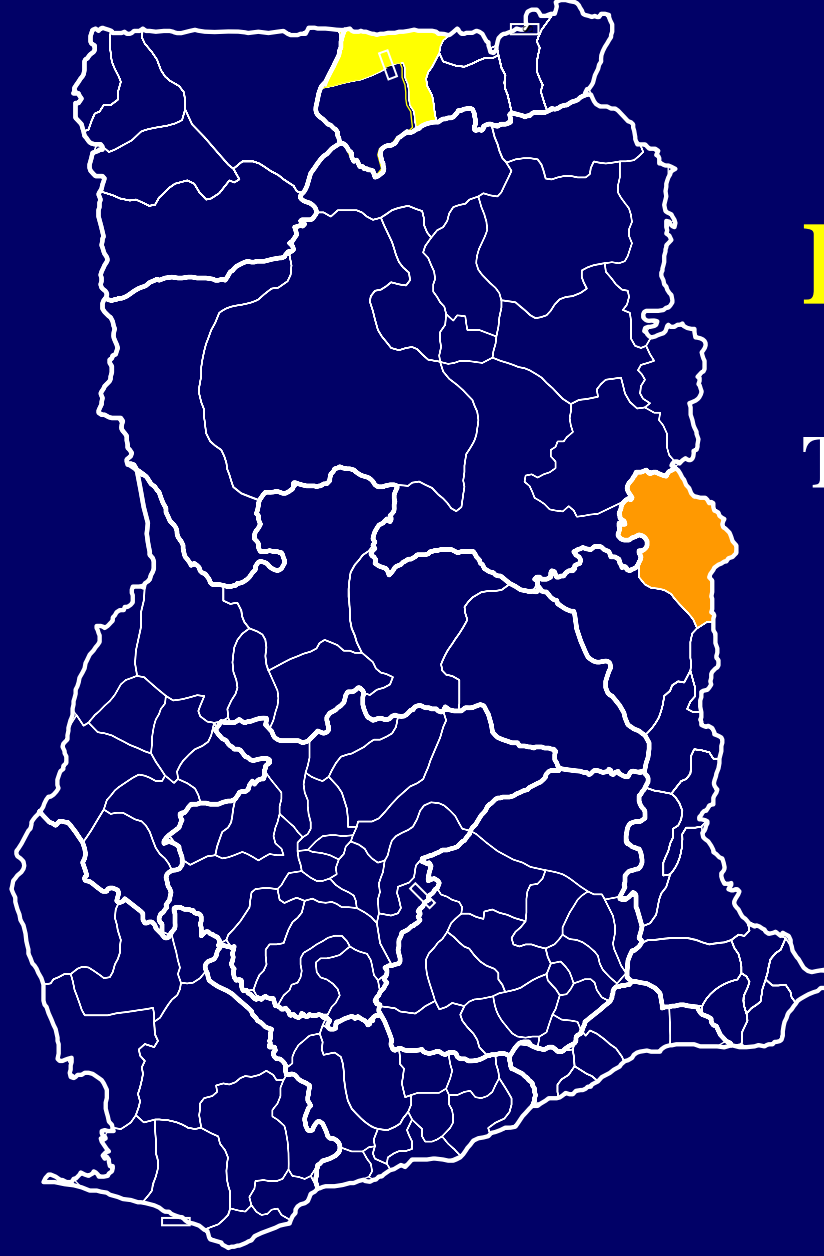
...but can this finding be scaled up?

Phases of the CHPS Process

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QUESTION	What is appropriate?	Does it work?	Can it be replicated & sustained?	Is coverage expanding?

STAGE





Phase III

The Nkwanta
Replication
Initiative

Phase III: Replication research involved...

- **Intense operational collaboration with original experiment, but adaptation to local circumstances**
- **Simplified research design with qualitative research and cluster surveys**
- **“Natural experiments”**

...shifting from demographic to operational indicators

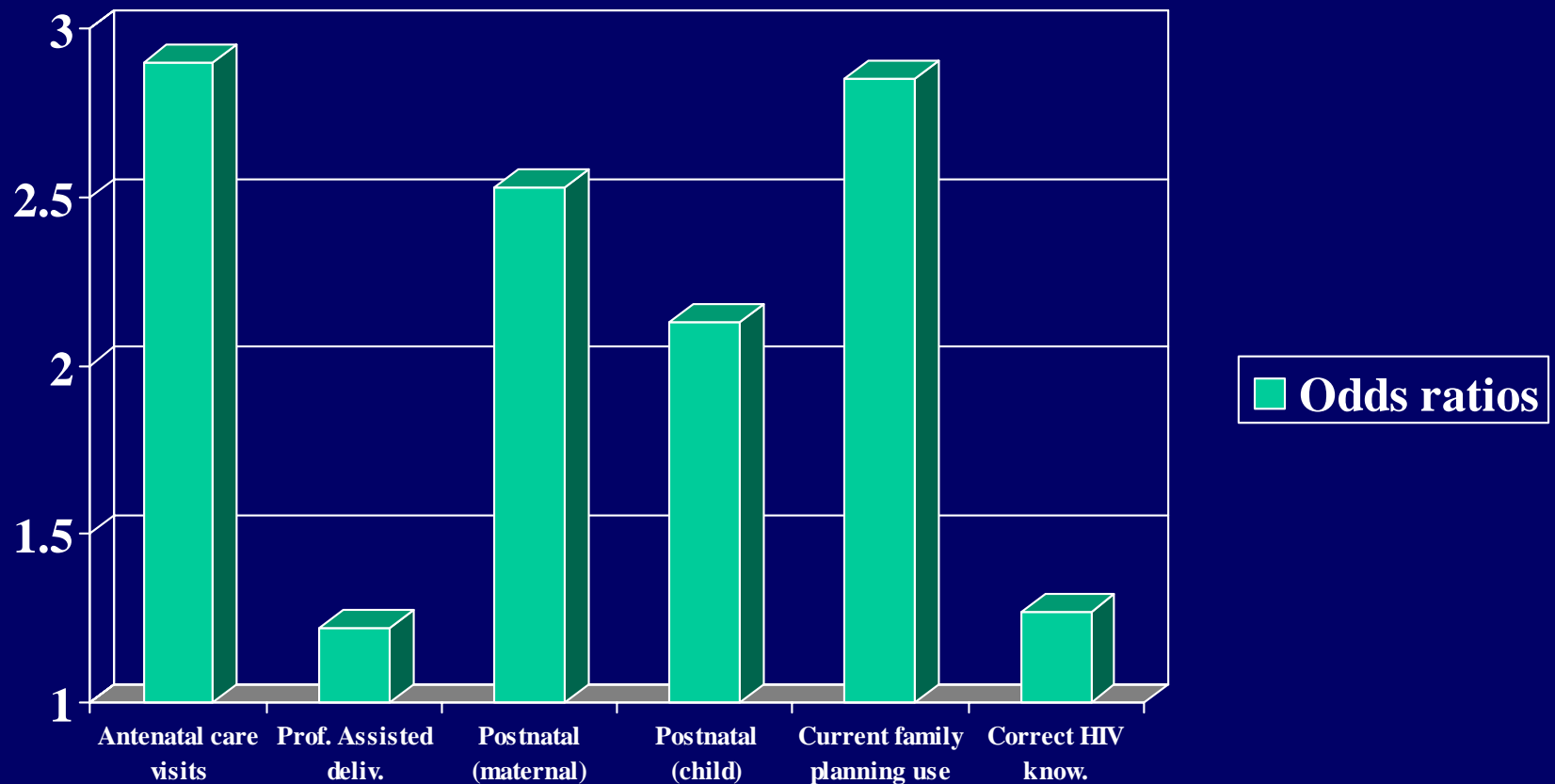
Lessons from Phase III: The Nkwanta replication trial

Adapt the model to the context:

For example, the chieftaincy system is diffuse
(multiple ethnic groups in each community).

Therefore, in contrast to Navrongo rely on secular leaders (teachers, elected officials, etc.) and faith-based organizations for building community participation.

Regression adjusted odds ratios for the net effect of CHPS on reproductive and child health indicators, Abura Asebu Kwamenkese District (2004)



Lessons from Phase III: Extension of Nkwanta replication to six other lead districts

Each district adapted approach to context, often leading to innovation in political engagement, community mobilization, or service organization.

In all replication districts, CHPS had pronounced impact.

Outline....

- Study rationale: The approach
- Lessons from each phase in the Ghana process:

Phase I: Participatory planning

Phase II: Experimental trial

Phase III: Replication

Phase IV: Scaling up

**The Community-based Health Planning
and Services (CHPS) Initiative**

Conclusion: General lessons learned

The Community-based Health Planning and Services (CHPS) Initiative

Phase IV: Scaling up

The CHPS Scaling up Model:

Build national consensus for change:

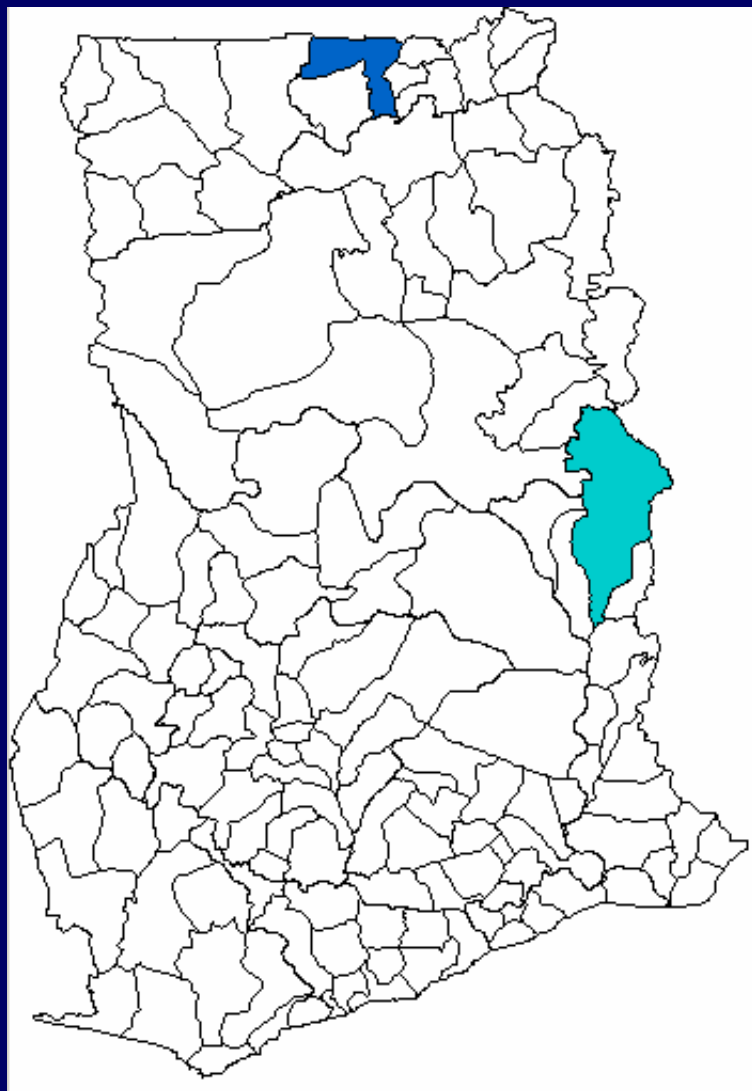
- ... Lateral: catalytic resources for “lead districts”
- ... Top Down: policy leadership, The National Health Forum
- ... Bottom up: monitoring, evidence, communication for change

Decentralize the process through peer leadership:

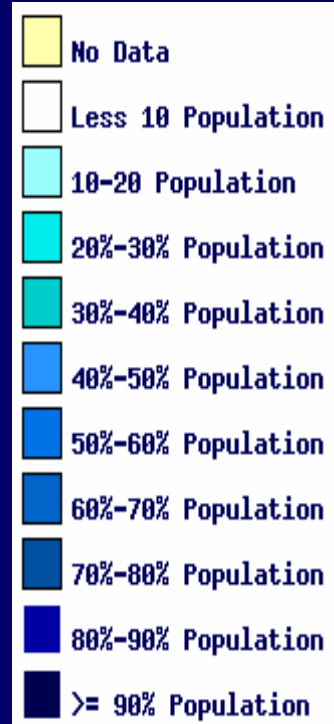
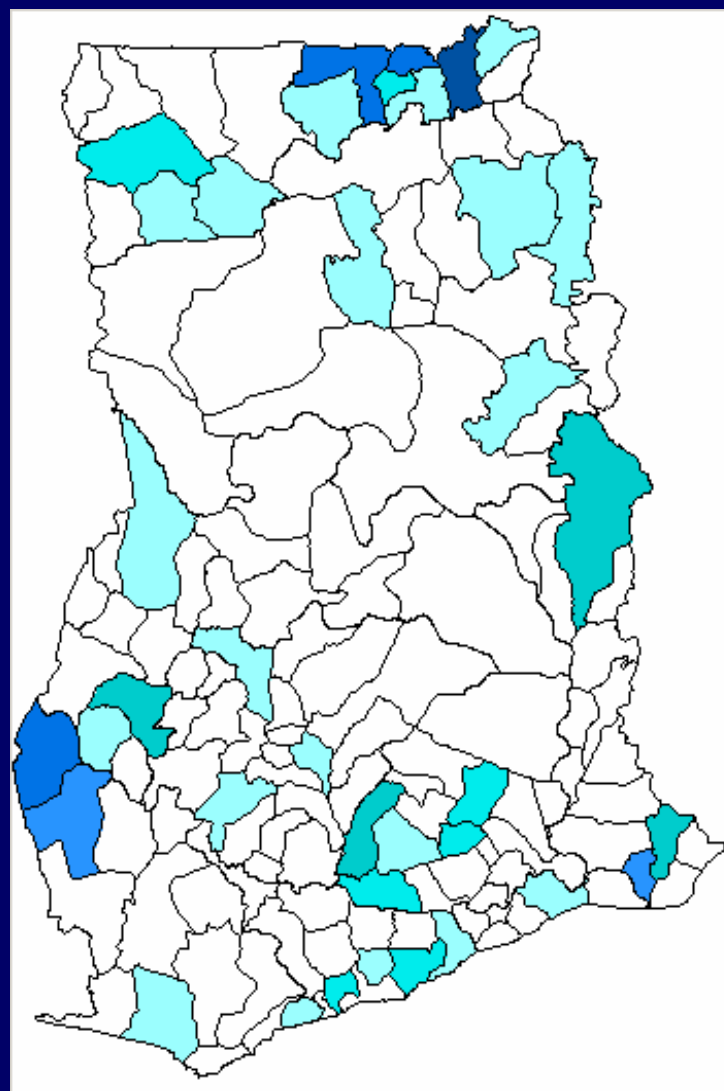
- ... catalytic resources: communities lead communities
- ... demonstration & community exchanges
- ... District Assembly & District Administration engagement

Percent of the Population of 138 Districts Covered by Community Resident Nurses: *Progress is concentrated in 38 districts*

Baseline: January, 2001



October, 2006

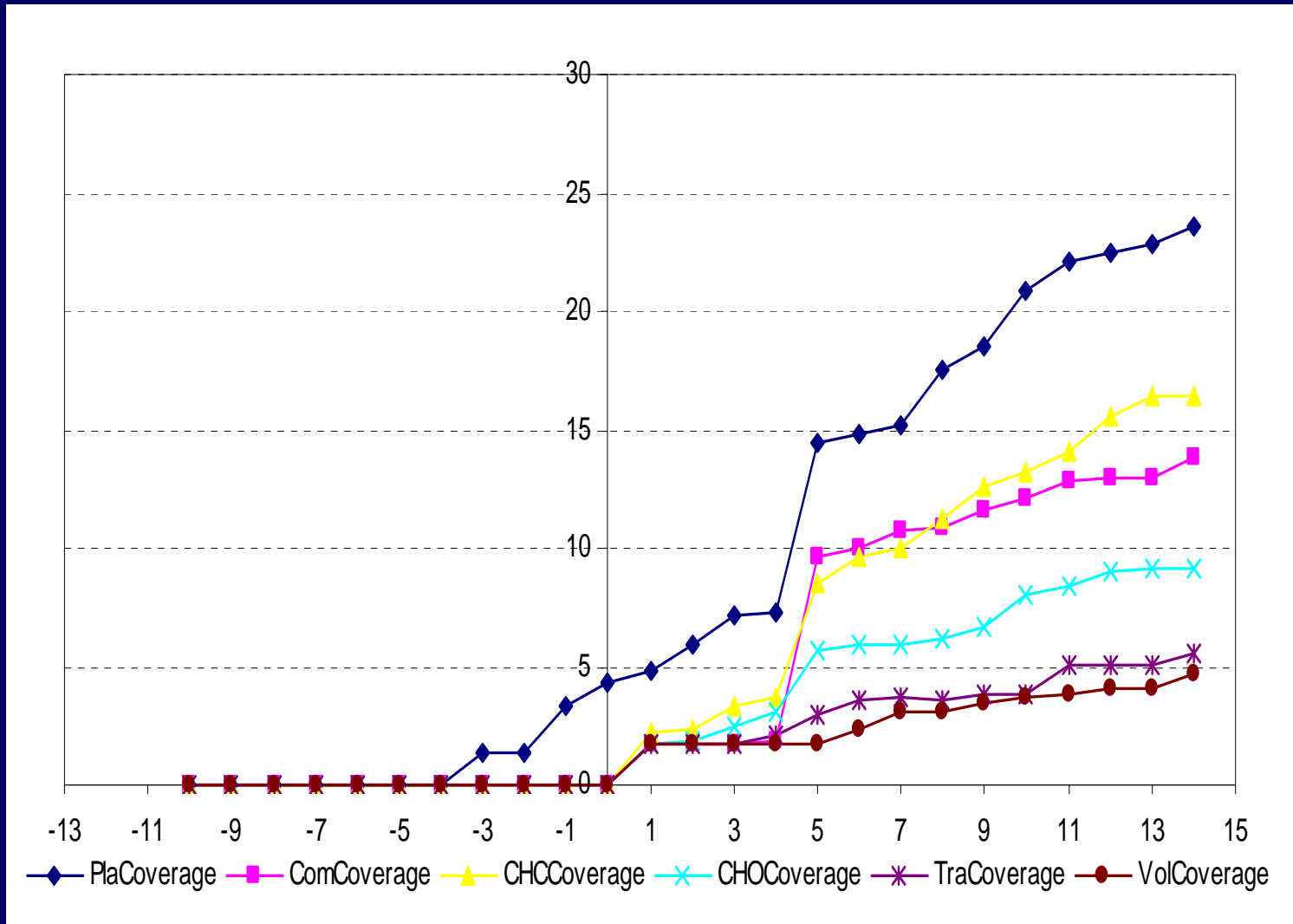


Responding to constraints to CHPS

Scaling up....

Lack of...	CHPS response
Catalytic resources (e.g. Navrongo costs \$1.92 per capita per year <i>extra</i> , and nearly \$3 <i>per capita to roll out</i>)	Targeted awards & essential equipment
Consensus: “Fear of the unknown”	Peer exchanges
Leadership for change	Cultivation of “Champions.” Demonstration at community and district level National Health Forum
Trained manpower (turnover owing to low morale)	Community engaged trainee selection

Trends in the Percent of the Population Covered by CHPS Milestones for 32 Districts Participating in Navrongo or Nkwanta Peer Exchanges for Months Before and After the Exchanges



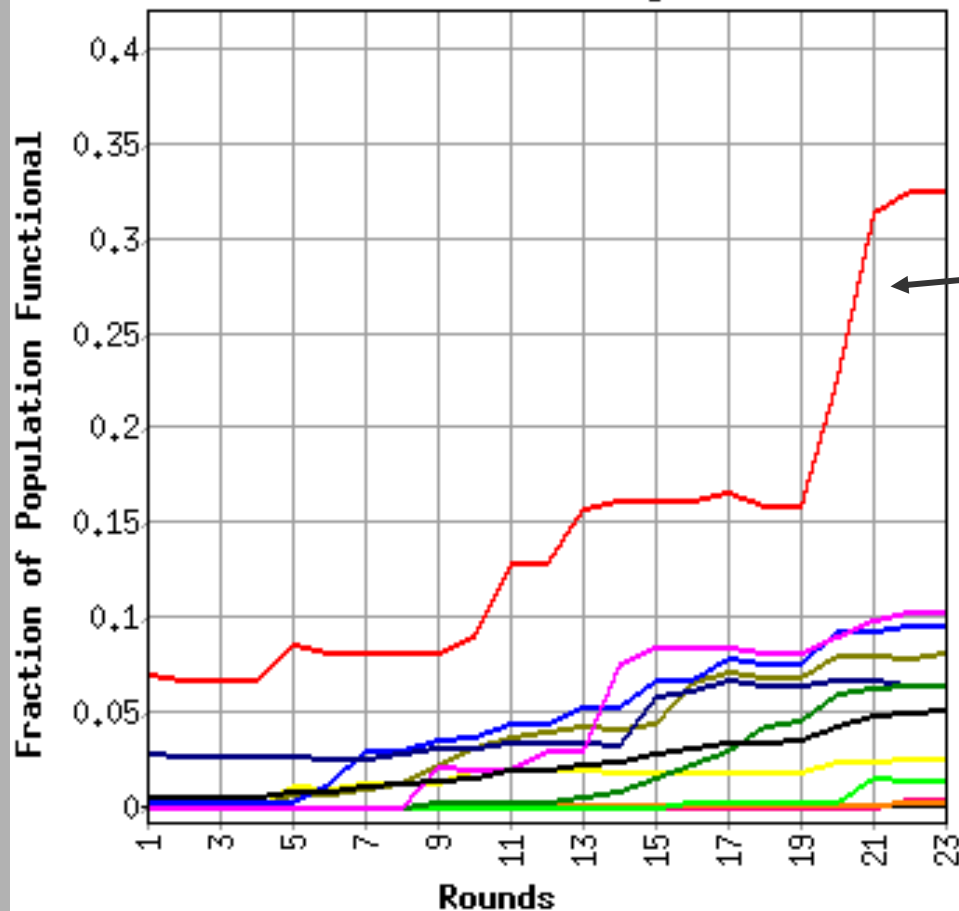
Lessons learned about the value of demonstration....

- District-to-district demonstration catalyzes the spread of CHPS.
- Districts not experiencing demonstration have not progressed with CHPS
- Demonstration reduces the “implementation gap.”

CHPS coverage is increasing but....

- **Overall coverage is light (only 5.2 % nationally)**
- **Upward trends are generally very gradual**
- **However, some of the poorest districts have achieved highest coverage**
- **The Upper East has consistently high coverage.**
- **There was a pronounced increase in CHPS coverage in a single quarter of 2005.**

Functional CHPS Progress



Upper East

Why is the Upper East Region leading the rest of Ghana?

- **Manpower:** The graduation of 60 nurses in Navrongo in 2005
- **UNICEF support for essential equipment & other resources.**
- **Leadership, exchange, and coordination:** Management focus on CHPS + demonstration in Navrongo + coordination of training with the timing of UNICEF resources.

Lessons Learned from the Ghana Process....

Phase I: Changing the system is possible

Phase II: The Navrongo experiment worked....

- Fertility impact requires accessible services *PLUS* offsetting “social costs”
- Child Survival impact requires nurse services (not volunteers alone).
- *Rapid attainment of the child survival MDG-4 is possible, attainment of MDG5 is likely.*

Phase III: Extension replicates success....

- When the Navrongo system is replicated, it works.

Phase IV: Scaling up is progressing

- Scaling up is working despite evidence of constraints through....
 - ...consensus building
 - ...demonstration
 - ...catalytic investment

Conclusions:

- 1) It is possible to accelerate achievement of Millennium Development Goals 4 & 5 by posting nurses to communities and organizing social support for their work.**
- 2) Rapid scaling up of this success is possible if modest investments are committed to covering incremental costs.**