A system for monitoring and responding to excess mortality in a health deprived setting of northern Ghana

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Outline

- Background
- The Ghana Essential Intervention Project
- Priorities
- Interventions
- Moving forward

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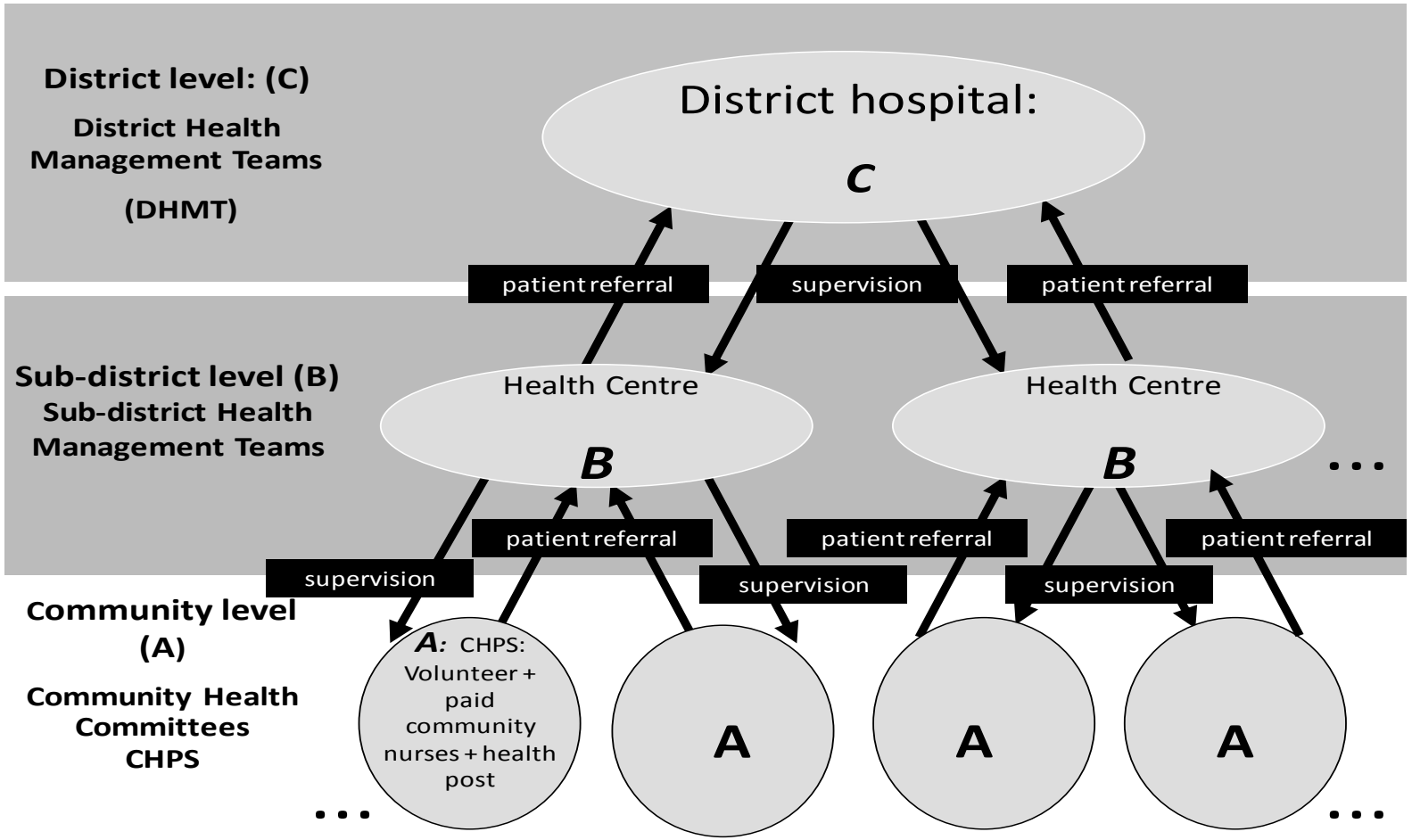
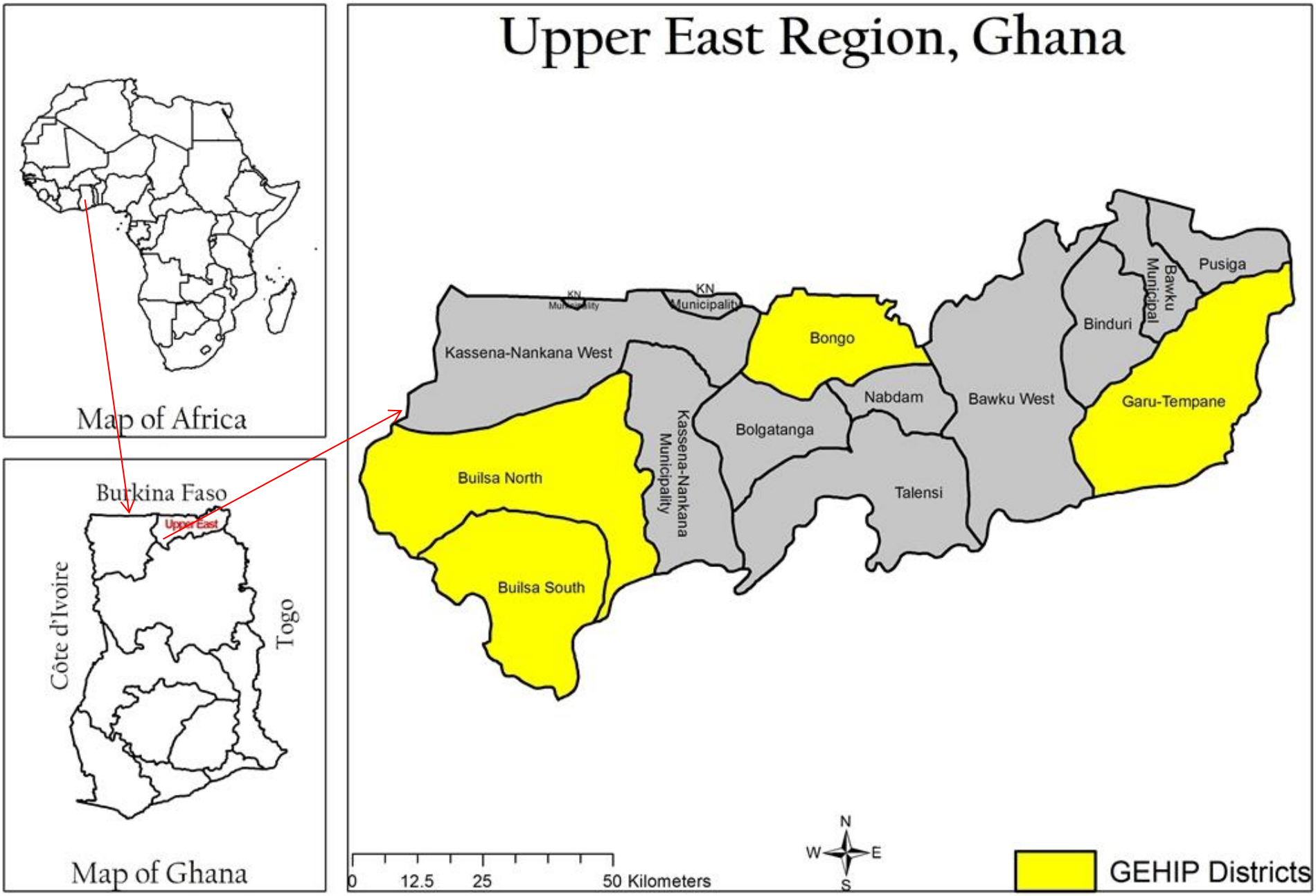
The District Primary Health System in Ghana



Community-based Health Planning & Services

- Community-based Health Planning and Services (CHPS)
- Based on results of the Navrongo Community Health and Family Planning Project (CHFP)
- Provision of 'doorstep' services to communities including preventive care, health education, and treatment of common childhood and other diseases.


Upper East Region, Ghana
Map of Africa
Burkina Faso
Upper East
Côte d'Ivoire
Togo
Map of Ghana
KN Municipality
KN Municipality
Kassena-Nankana West
Bongo
Pusiga
Bawku Municipal
Binduri
Garu-Tempane
Nabdam
Bawku West
Bolgatanga
Kassena-Nankana Municipality
Builsa North
Talensi
Builsa South
0 12.5 25 50 Kilometers
N
W
E
S
GEHIP Districts

The Context: Rural Realities

- Population: mostly rural
- Inadequate infrastructure
- Terrain: Rocky and mud-covered roads
  - Many communities inaccessible by vehicle during rainy season
  - Some communities inaccessible due to streams or paths too narrow for a vehicle to pass.
- Main modes of transport
  - Walking, bicycles, motorcycles

  and donkey carts

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The Context: Rural Realities

- Community-based Health Planning & Services (doorstep services) the model for basic service delivery is not scaled up
- Weak referral system
- Laborious paper-based information capture with little time for information for decision-making
- Minimal or no feedback

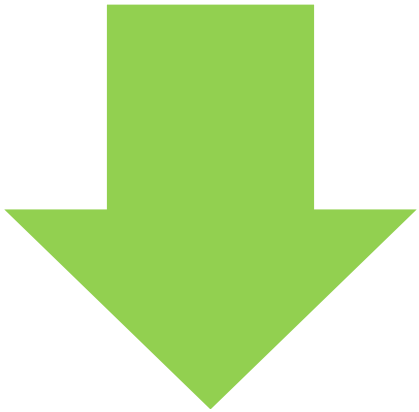
The Ghana Essential Health Intervention Project

- An implementation research project that seeks to strengthen elements of the six WHO pillars of health systems development aimed at accelerating the achievement of the health MDGs

- Funded by Doris Duke Charitable Foundation and Comic Relief (UK)
- Partnership

- The Ghana Health Service
- The University of Ghana School of Public Health
- The Mailman School of Public Health, Columbia University, New York

Perinatal mortality surveillance



Regional & District-level Surveillance (Routine completion of midwifery related forms)

Community-level Surveillance (Community-based Volunteers mortality reports)

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1. District & Regional Level Surveillance

District-level surveillance: Use of a routine monthly midwifery focused form (FORM A) which indicates critical information perinatal health including mortality, the occurrence of complications, premature deliveries, and abortion complications.

Deliveries

Outcome of delivery			**Total births**					**Birth weight**			
	Mothers	Children	Live		Still			Below 2.5 kg			2.5kg and above
Single	613	613	Male	Female	Macerated	Fresh	Total	Primapara	Multipara	Total	
Twin	7	14	323	301	1	5	6	15	18	33	597
Triplet	1	3	**Mortalities**								
Others			**Age group of maternal deaths**						Maternal deaths audited	Neonatal deaths (<1 month)	Post neonata deaths (1-11 months)
Total	621	630	10-14	15-19	20-24	25-29	30-34	≥ 35			
Type of delivery										4	
Normal		584	Deliveries with 2+ IPT doses	**Morbidities**							
C/section		33		Vesisco-vaginal fistula			Malaria in pregnancy	Treated with ACT	Drop foot cases	Pierperal pscychosis	
Vacuum		4		Seen	Repaired	Referred					
Forceps			507				121	121			
Total		621									

Age group of mother at delivery						**Baby friendly hospital initiative**					
10-14	15-19	20-24	25-29	30-34	≥ 35	Receiving Oxytocin for	Mother/infant pairs	Exlusive breastfeeding	Breastfeeding wihtin first 1	Active mother	Health professionals trainedin

2. Community-level surveillance

- Community-based volunteers provide monthly reports indicating all mortalities (including perinatal) within their designated catchment areas
- Upon receiving mortality reports, sub-district staff are deployed to perform verbal autopsies
- Verbal autopsies involve dialogue with the family of the deceased regarding the circumstances surrounding the death

Perinatal Surveillance System

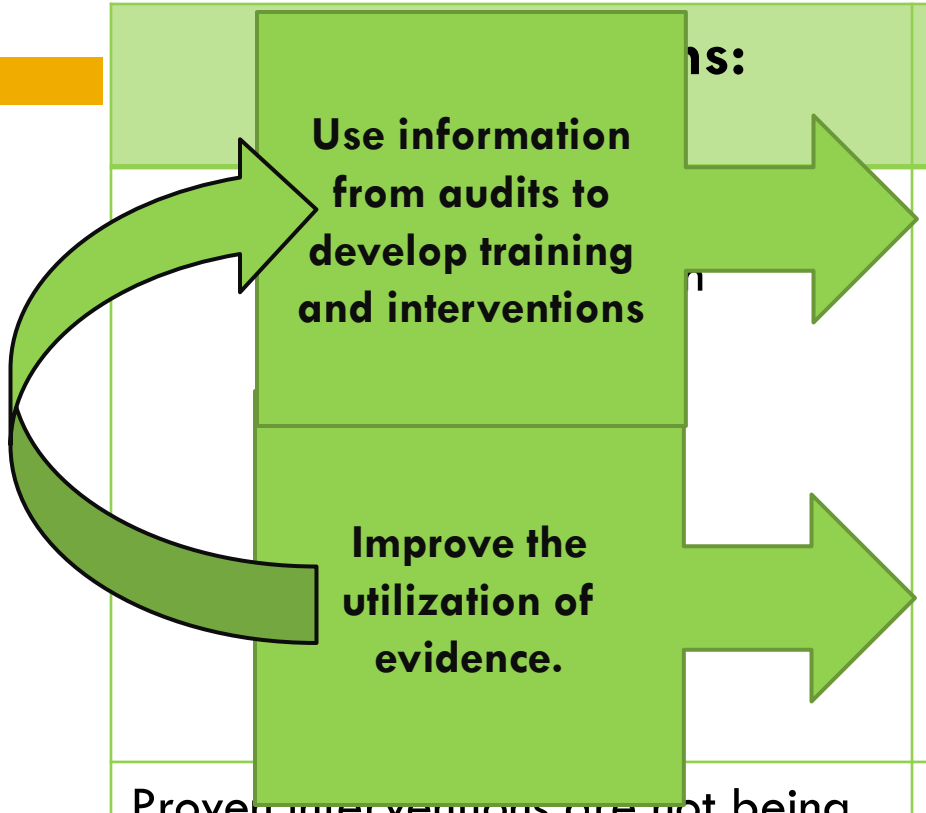
- Both tiers of the system were reporting alarming trends related to neonatal deaths
- Verbal autopsies and further review of midwife's FORM A's indicated that neonatal resuscitation and premature births were a serious problem within the region
- These issues were detected at both the district and regional levels.

Problem: Data *stockpiling* rather than utilization

- Frontline health workers are required to provide vast amounts of data collection
- The compilation of data is performed generally as a bureaucratic exercise, with findings rarely translated into action or policy reform.
- This is especially the case for health workers, who rarely benefit from their tedious data collection practices.

Priority problems and GEHIP solutions:

ns:	GEHIP Strategies
	• Retrain frontline workers to expand the range of services that they offer. • Develop referral services and emergency management capacity • Expand the range of services that volunteers can provide. • **Improve "information for decision-making" with a mortality audit procedure.**
Proven interventions are not being scaled-up • Access is low; Leadership is lacking • Resource allocation is inappropriate • Budget lines for CHPS expansion	Accelerate community health service coverage by… • Developing leadership at all levels of the system Improving information systems • Implementing evidence based budgeting



GEHIP Intervention highlights:

- Capacity building through staff training
  - New training sessions focused on neonatal resuscitation &
  - Kangaroo Mother Care (KMC)
- Rapid Expansion of CHPS coverage
- Introduction of emergency referral pilot project

Clinical perinatal capacity building program

- The Regional and District health administrations coordinated together to deliver a clinical emergency public health training program, with a focus on perinatal mortality
  - Neonatal Resuscitation (HBB)
  - Kangaroo Mother Care

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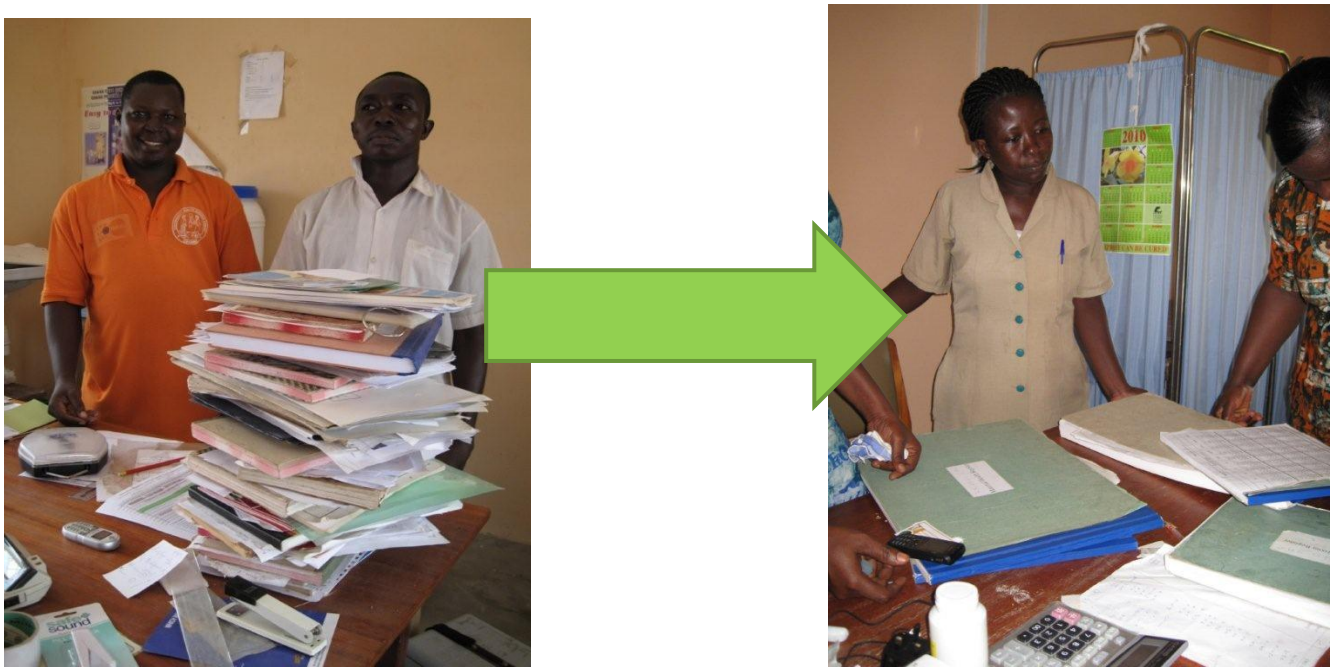
Improved data capture

- Developed simplified registers, training on their use & increased monitoring and supervision



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Developed Referral Strategies

A qualitative appraisal of an emergency referral pilot in one sub-district to inform implementation strategy for scale up in 12 sub-districts

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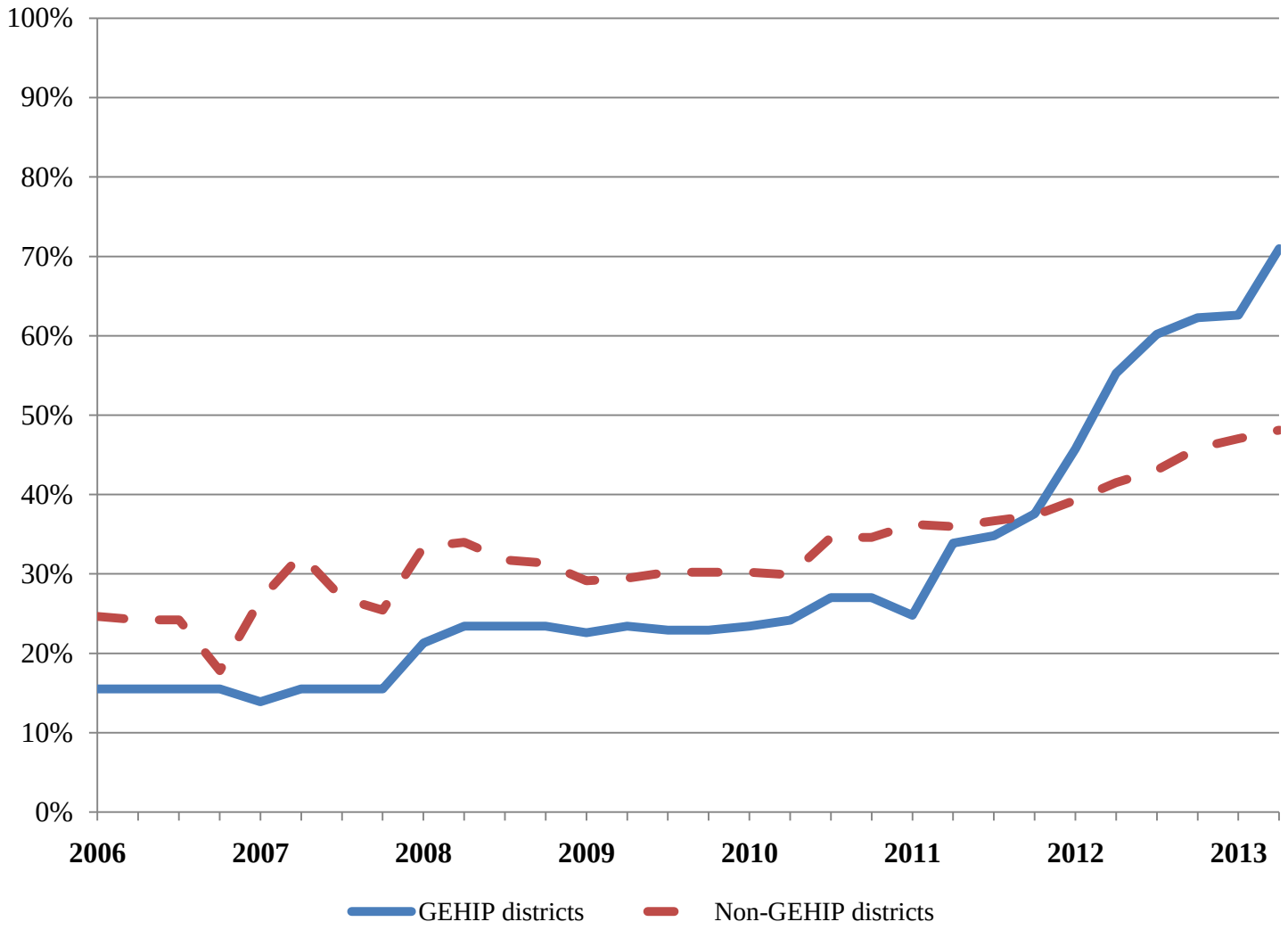
CHPS Scale-up

Percentage of district populations covered by functional CHPS services –



Evaluation of GEHIP

- Program Monitoring
  - Performance/service provision
  - Regular program monitoring: CHPS scale-up
  - Health system strength: resources, staffing, etc.

- Impact Evaluation
  - Baseline & Final surveys
  - Health System Strength: resources, staffing, etc.
  - Qualitative systems appraisal
  - GIS data

- Economic Evaluation
- Pilot studies/operations research

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Results- Program monitoring

- Continuous training and mentoring required to maintain skills
- Context-specific emergency referral care is required in rural communities in Ghana
- Feedback among all referral levels of care-
- Cost sharing mechanisms required to sustain emergency referral
- CHPS scale up requires catalytic funding

Lessons & policy implications

WHO "Pillar #3" states that health system strengthening requires ***information for decision-making***. GEHIP has demonstrated practical means of strengthening the system with improved information for decision-making:

- **Simplification.** It is feasible to greatly simplify the collection of data without loss of information.
- **Utilization It is feasible to improve data utilization for….**
  - **Reforming training.** It is feasible to use data collected by service workers to guide the reform of service worker training and supervisory decision-making.
  - **Worker feedback & support.** Simplification makes it feasible to use data for decentralized feedback and worker support.
  - **Community engagement.** It is possible to involve communities in data utilization, leading to improved engagement and support for community-based primary health care.

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