Scaling down to scale-up: a strategy for accelerating community-based health service coverage in Ghana

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INTRODUCTION

“One must learn by doing the thing, for though you think you know it, you have no certainty until you try.”

- Sophocles, 400 BC

Calls for evidence-based action are as old as writing itself. Exhortations to learn-by-doing recur whenever health system change is proposed. Learning by doing benefits from scaling operations down to tractable levels of management, testing changes that may or may not improve operations, and scaling up innovation based on lessons learned. However, the many small-scale projects and pilot studies that have proliferated in the health sector in recent decades often end without their large-scale utilization, in part because scaling up is a label signaling the end of research rather than a paradigm for generating continuous evidence to guide a sustained process of organizational change. This paper presents Ghana’s experience with sequential “scaling down” of operations as a continuous process of evidence-driven scaling up. While the Sophoclean process of “learning by doing” is more complex than this phrase connotes, the Ghana example represents a practical demonstration of a paradigm for scaling up that retains the advantages of small scale “learning by doing” as a means of catalyzing the pace, operational integrity, and coverage of scaling-up.

Commencing with policy responses to the 1978 Alma Ata Global Health Conference, improving access to primary health care has remained a pillar of health policy in Ghana ever since. Despite a full decade of investment in large scale policy action during the 1980s, evidence emerging in the early 1990s established that implementation of policies had failed. In 1992, the Ministry of Health convened an advisory committee to review problems and seek solutions that would define a new course for community health care programming. But policy debate ensued over the optimum configuration of community worker cadres and feasible means of financing community worker deployment costs. To resolve debate, a process of learning-by-doing was launched that has continued to the present (Fig. 1). The process that has been applied is adapted from a paradigm sponsored by World Health Organization to scaling up pilot project innovations. Specific attention in Ghana was directed to transferring the Bangladesh model for phased in research to its program development needs.
the operational history of the Ghana model contrasts with antecedent Asian programs in important ways. We are therefore providing a synopsis of its history with the goal of extracting lessons that could inform program development elsewhere in Africa. This national program, founded in 1999 and implemented since 2000, is known as the Ghana Community-based Health Planning and Services (CHPS) Initiative.6,7

EVIDENCE-DRIVEN COMMUNITY HEALTH PROGRAM DEVELOPMENT IN GHANA

The Ghana paradigm for evidence-driven program development is portrayed in Fig. 1. Stages in community-based care development have involved scaling down management into episodes of sequential learning, with each followed by a process of scaling up operations based on lessons learned. Scaling down has provided administratively tractable units of observation for systems learning that informed each subsequent episode of scaling up of program improvements. No single study or research activity is implied by this approach; rather, it connotes a process of sequentially integrating episodes of investigation into corresponding phases of large-scale system decision-making and development.

Developing CHPS as a micro-pilot
The scaling down process commenced in 1994 with pilot study by the Navrongo Health Research Centre (NHRC) for exploring means of developing culturally appropriate service delivery strategies for a range of primary health care needs.4 This involved convening stakeholders in three villages to seek their advice in 90 days intervals over an 18 months period and implementing pilot services according to their recommendations. This participatory consultative process generated a concept for culturally compatible service delivery.

Community Health Nurses were an established cadre of paramedics that had been improperly utilized. Nearly 2,000 of these workers had been trained for 18 months in basic primary
health care services, but they were deployed to hospitals and clinics where their services were largely redundant with other paramedics. Their average patient caseload was therefore very low, approximating one case episode per worker per day. The pilot focused on assessing the feasibility of redeploying these nurses to community locations where access to nursing care would foster efficient utilization of their skills.

A contrasting strategy, promoted by United Nations Children’s Fund at the time, advocated the deployment of volunteer workers. The relative efficacy of volunteer deployment versus nurse deployment was unknown. With the goal of producing a sustainable approach to primary health care, the pilot aimed to assess means for volunteers to be rapidly recruited by the experiment, and trained to operate revolving accounts for financing the provision of primary health care pharmaceuticals.9

**Scaling up the Navrongo pilot into a factorial trial**

To assess the potential health, survival, and fertility impact of the piloted staffing strategies each type of staffing was implemented in one of the four sub-districts of Kassena-Nankana District in the Upper East Region (UER). This district was chosen because demographic research capabilities of the NHRC were already well developed in the area,10 facilitating the evaluation of a 1996–2003 district-wide plausibility trial.11 Workers were deployed to treatment arms corresponding to sub-districts where care was provided either by community-based nurses, or volunteers, or both types of workers assigned jointly as a team. For comparison purposes, one sub-district was set aside where fully functioning sub-district care was available, but where no community workers were assigned. Wherever nurses were deployed their presence had dramatic impact on childhood survival while volunteers deployed without nurses had no survival effects.12,13 Fertility impact arose wherever nurses were deployed jointly with volunteers14 but nurse deployment, without community outreach activities of volunteers, had no fertility impact.15,16

**Testing replication: the Nkwanta initiative**

When the Navrongo trial demonstrated that doorstep care could improve reproductive and child health, the Ministry of Health launched a replication study in Nkwanta district of the Volta region to clarify the milestones and processes for replicating the Navrongo program at scale (Fig. 1A). Questions concerning the replicability of the Navrongo success-story required operations to be scaled down to a few communities within Nkwanta District.17,18 This activity involved focusing implementation research on the replication process and demographic research on assessing the impact of replication, thereby producing experience for national policy statements that could guide a national scaling up program. Scaling down to community pilots proved to be a critical learning resource for the Nkwanta team, leading investigators to recommend utilization of a piloting process wherever CHPS start-up activities were to be pursued in the future.

Implementation milestones were identified that clarified the essential steps in process of getting CHPS functioning in a given service zone. Mapping and community service catchment areas started the process, followed by a process of reaching out to leaders and connecting with social networks. Once community engagement was established, volunteer effort could be directed to developing facilities for the resident assignment of nurses. Nurses that had been recruited, trained for 18 months in primary health care services, and deployed to hospital and clinical duties were retrained in community engagement methods. Equipment, supplies, and logistics arrangements for outreach activities were procured at
a pace that was commensurate with the milestone completion process. Once equipment, supplies, and facilities were ready, nurses were deployed with a mandate to recruit, train, and deploy supporting volunteers for health advocacy activities.

Administrative responsibility for implementing CHPS is vested in District Health Management Teams (DHMT) comprised of a 4 to 5 persons district level committee lead by a District Director, and staffed by paramedics responsible for key elements of primary health care services. The seemingly simple CHPS implementation process proved to be complex to convey to DHMT were assigned responsibility for managing CHPS start-up operations. Yet, all DHMT required orientation into the process of managing the implementation process. If conventional workshop and training approaches were applied, the steps and processes of launching CHPS were poorly understood. However, once Nkwanta was functioning as a fully functioning CHPS implementing district, a process of exchange, demonstration and catalytic financing could be launched to disseminate the implementation strategy to trainee DHMT.

Disseminating the scaling down approach
In all, 32 DHMT were oriented to the concept of scaling down operations for systems learning, and embarking on a localized version of the Nkwanta milestone approach. In this approach, each of the 32 districts launched a local version of the phased introduction of the CHPS initiative, zone-by-zone, thereby scaling-down the Nkwanta model as a component strategy of scaling up CHPS (Fig. 1B). In each participating district, implementation proceeded at a pace that was determined by local availability of leadership, manpower, and financial resources that are required for progressing through the Nkwanta milestones. The demonstration and utilization process were scaling down to zones so that each locality had a pace of implementation that is defined by local leadership and resource management capabilities.

Scaling up within the 32 districts was successful (Fig. 1B). During the start-up period from 2000 to 2008, nearly all CHPS implementation was concentrated in the 32 districts where implementers had experienced the CHPS start-up process. Community-sponsored leadership exchanges fostered the diffusion of this community-led scaling down of implementation leadership understanding, commitment, and collective action. Once CHPS was established in a few communities within a given district, the program spread rapidly within district boundaries. However, in the absence of DHMT exposure to demonstration of the Nkwanta milestone approach to scaling-down start-up activities, the spread of CHPS among other DHMT was slow. The process of communication, demonstration, and the transfer of experience from districts that were implementing CHPS to districts where CHPS was not functioning well was unfinanced. Since CHPS was confined to a few districts, practical understanding of the CHPS implementation process was lacking in most rural areas of Ghana. And, where scaling-down was not operative, demonstration zones were lacking, depriving DHMT of the learning resource that community leadership and political engagement could provide.

Diagnosing implementation challenges by scaling down system appraisal
By 2004, most development partner investment in CHPS assistance had shifted from direct support of the scaling down model to a variety of component strategies comprised of technical assistance, workshop-based technical training for managers from donor selected localities, the provision of equipment and other donor prioritized components of the program. By 2008, national monitoring data showed that this counter-systemic approach was not working. As a program, the pace of CHPS scale-up would take nearly 50 years to
complete unless reform was undertaken. In response, the Ministry of Health launched a 2009 qualitative comparative appraisal of factors supporting or constraining the pace of scale-up. This scaled down investigation focused on districts, matched by geography, but with contrasting records for the pace of CHPS implementation (Fig. 1C). The report emerging from this review emphasized the importance of developing DHMT leadership for CHPS implementation and of improving procedural clarity about the implementation process. Primary health care budgets were severely constrained, preventing flexibility to commit revenue to start-up costs. DHMT were often concerned that launching CHPS operations would create local political pressure to scale-up an operation that was patently unaffordable, given national fiscal management policies that overlooked the need for implementation budget lines. Where practical experience with launching CHPS was lacking, implementation paralysis was the norm.25

Scaling up solutions to problems as a plausibility trial

A new project was launched in 2010 to respond to the 2009 report by testing its recommendations in a plausibility trial that was located in different districts of the UER from the earlier Navrongo trial. This new plausibility trial was known by its acronym “GEHIP,” for the Ghana Essential Health Interventions Program. This project shifted the focus of CHPS implementation research from community studies to the investigation of DHMT leadership lapses that constrained the pace of CHPS implementation.

Located in four treatment districts of the UER, GEHIP interventions were designed to rekindle the “scaling down” model, refine its implementation, and test its impact on childhood survival. For example, pilot micro-implementation, demonstration community exchanges, and grassroots political engagement became process tools for fostering essential CHPS DHMT management capability.26 District health, political, and development officials were engaged in participatory exchanges with community stakeholders with the aim of implementing CHPS even where community facilities were not yet developed. By creating a partnership of learning localities with DHMT, the project could demonstrate and initiate practical procedures for mobilizing community and district resources for the program, and spread this capability rapidly. A key theme of these interventions was orienting DHMT to the value of creating “learning CHPS zones” where the implementation process and community participation and popularity of the CHPS program could be demonstrated. The GEHIP sponsored DHMT participatory leadership exchanges were used to catalyze the systematic phase-in of CHPS milestones, zone by zone, in each of the intervention districts (Fig. 1D).27

Launching learning localities is not without financial costs. GEHIP catalytic activities were financed with a flexible fund for each study district that was intended to enable district managers to create CHPS demonstration zones. Based on the Nkwanta replication experience, this investment could be used to foster the political popularity of the program through demonstration activities. To enable managers to engage in community demonstration activity, supplemental funding amounting to $0.85 per capita per year for three years was added to the health budget as “catalytic revenue” that district leaders were expected to use in ways that would motivate popular support for expanding the resource base for CHPS. DHMT were advised to prioritize use of these funds for creating and using pilot CHPS zones of excellence. Once these pilot zones were functioning, public events could be convened that included local politicians who could participate in CHPS rollout activities. This process of decentralization, demonstration, and political engagement was critical to developing commitment to CHPS from District Assembly and local development officials.
Development revenue was allocated to district implementation costs of the program. This acceleration of development investment in CHPS was a direct outcome of the political outcome of providing seed funds of $0.85 per capita per year for three project years.

In addition to these systems strengthening activities, GEHIP focused on improving the quality and range of services that CHPS provides. In particular, the critically important need for emergency public health components of primary health care was the focus of action.\textsuperscript{28,29} The approach was developed by scaling intervention down to a single sub-district where strategies could be tested out on a pilot basis, and then scaling up operations to all GEHIP treatment districts to evaluate the impact of its strategic design. Low-cost motorcycle transport vehicles were purchased and modified into tricycle ambulances. Then, using a systems approach, workers at each level of the GHS primary health care operation were trained in the identification of emergencies, appropriate interventions, and timely referral. Villagers, in turn, were provided with outreach education on the recognition of risk, means of communicating emergencies, and the importance of appropriate vehicle use. Volunteers were recruited, trained, and deployed to operate vehicles and manage communication. A system of care was devised to ensure that workers understood the appropriate care point for each type of emergency, ensuring that substandard facilities would be bypassed if a particular emergency episode could not be effectively managed at that location. Most importantly, community promotional activity focused on the importance of facility-based delivery. At no cost to families, emergency equipment was deployed to provide transportation for all deliveries. Results showed that this package of activities reduced maternal mortality.\textsuperscript{28}

UER CHPS population coverage in a 2010 baseline monitoring appraisal was found to be reaching only 20% of the population residing in communities targeted to be served by the program. GEHIP impact on the pace of CHPS expansion was immediate and pronounced. Within 4 years, coverage was complete in four GEHIP treatment districts, a level of coverage that was double the proportion of the population reached in comparison areas.\textsuperscript{30} A difference-in-difference analysis of the mortality impact of this implementation success has showed that childhood mortality declined in the treatment areas more rapidly than in comparison areas. Two thirds of the difference in difference effect was associated with GEHIP “scaling down” interventions\textsuperscript{31} GEHIP also had an impact on the prevalence of contraceptive use.\textsuperscript{32}

**Putting success to work: the CHPS+ initiative**

Important lessons from GEHIP are now being scaled-up to DHMT in all 13 districts of the Upper East Region, providing Ghana with a region of excellence where CHPS systems management and leadership can be a beacon for all Regional Health Management Teams in Ghana. This initiative, supported by the Korea International Cooperation Agency, will constitute a “System Learning Region” where CHPS functions effectively in every district, coverage is complete, and strategic gaps in service delivery are resolved. Known as “CHPS+” the UER scale-up is a component of a generalized GHS sponsored model for institutionalizing lessons that have emerged from the CHPS development experience. CHPS+ includes a program of implementation research, action, and learning that is positioned to guide future action. Just as the UER CHPS+ scale-up of GEHIP is critical to sustaining CHPS development, scaling down the replication process with a transfer experiment is critical to accelerating eventual GEHIP dissemination (Fig. 1E). With support from the Doris Duke Charitable Foundation, the Ghana Health Service is transferring GEHIP to 2 replicating regions where UER implementation capacity has been lacking. This replication arm of CHPS+ involves scaling down capabilities noted in Tables 1 and 2 in 2 Systems...
Learning Districts (SLD) of the Northern Region and 2 additional SLD of the Volta Region. This arrangement permits participating regions to utilize SLD as GEHIP systems learning localities for disseminating concepts that GEHIP has demonstrated to have worked well for CHPS development. Portrayed in Fig. 2A, the CHPS+ process began with the creation of four SLD, each of which is linked with local university teams who have advanced capabilities in training and communication. Equipped with this capability, each SLD has been financed to sponsor activities that demonstrate and disseminate GEHIP capabilities for visiting DHMT to utilize (Fig. 2B).

The CHPS+ program extends beyond GEHIP replication, however. Its ongoing program of learning aims to diagnose implementation challenges, test solutions, and disseminate lessons learned. CHPS has elements that worked in the past, but it has drifted into becoming a program that is overly focused on construction of facilities for the community component of the system, to the detriment of program activities that highlight community engagement. But, by combining the DHMT leadership development innovations of GEHIP with the core components of CHPS, a new “scaling down to scale up” paradigm has emerged whereby the core capabilities of GEHIP are scaled down to SLD that serve as training platforms for institutionalizing and spreading the GEHIP approach within each participating district (Fig. 2C). Just as GEHIP has catalyzed Upper East Region scale-up of its operational elements, its success also invites scaling down replication to develop effective means of national scale-up of lessons learned.

### Table 1. The contribution of “scaling down” to scaling-up

<table>
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<tr>
<th>Scaling up requires</th>
<th>Scaling down affects</th>
<th>Scaling up affects</th>
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<tr>
<td>Systems leadership: Ensuring that leaders at each level have authority for implementing change.</td>
<td>- Building understanding of the innovation and clarifying ways in which authorities can marshal for introducing and supporting the change process.</td>
<td>- Demonstrating for leaders strategies for participants to spread commitment and action at each organizational level.</td>
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<tr>
<td>Conceptual fidelity: Introducing a credible, conceptually clear and understandable innovation that is maintained as scaling up progresses.</td>
<td>- Clarifying means of ensuring uptake of all components of the innovation.</td>
<td>Optimizing the adaptation strategies to diverse local realities: No single set of operational innovations will cover populations equivalently in all regions or districts.</td>
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<tr>
<td>Fiscal feasibility: Mobilizing the resource system to support the change process.</td>
<td>Demonstrate the dynamics of human and financial resources required to sustain each component of the innovation.</td>
<td>- Clarifying the eventual costs of extending the innovative operation.</td>
</tr>
<tr>
<td>Planned organizational change: Changing the system to accommodate the innovation.</td>
<td>- By identifying the requirements of managing the scope of change.</td>
<td>Optimizing the deployment of scarce manpower by region and district, in response to severe shortages of trained health manpower in the poorest localities.</td>
</tr>
<tr>
<td>Knowledge management: Transmitting knowledge about the innovation within the system to all key stakeholders.</td>
<td>- Facilitating the development of mechanisms for “bottom-up” communication of reactions to change.</td>
<td>Adapting knowledge management to local needs: Ghana has 82 languages and profoundly different regional and district organizational experience with CHPS and awareness of its health benefits.</td>
</tr>
<tr>
<td>Flexibility: Adaptation to the social, economic, political, cultural and institutional context where change is introduced.</td>
<td>Adapting operational strategies to the social, economic, or environmental context for the innovation.</td>
<td>Decentralizing operational planning to address profound regional and organizational variance in contextual determinants of change.</td>
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Table 2. The impact of the scaling down process in Ghana by system level

<table>
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<tr>
<th>System level</th>
<th>Description</th>
<th>Learning platform capability</th>
<th>Audience for the system learning process</th>
<th>Scaled down activity</th>
<th>Scaling up activity</th>
<th>Systems development outcome</th>
</tr>
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<tbody>
<tr>
<td>1) System Learning Districts in each participating district</td>
<td>Locality where primary health care is fully functional, where implementation steps and milestones are complete.</td>
<td>Community leaders and workers can demonstrate systems development activities</td>
<td>Community leaders and stakeholders from neighboring areas</td>
<td>Community leaders and stakeholders are engaged in health systems strengthening governance and implementation</td>
<td>Participating communities or visiting teams participate in community engagement activities for supporting primary health care.</td>
<td>Community “Champions of change” leading to diffusion of primary health care functionality and governance within participating districts.</td>
</tr>
<tr>
<td>2) SLD</td>
<td>District where primary health care development processes are progressing and where stakeholders are trained in demonstrating implementation to counterparts.</td>
<td>Capacity to demonstrate participatory implementation milestones, planning and monitoring</td>
<td>District managers &amp; political leaders &amp; stakeholders from neighboring areas where system functioning &amp; leadership is deficient.</td>
<td>Counterpart managers, supervisors, and frontline workers replicate lessons in at least one lead community or lead communities</td>
<td>Participating managers, supervisors, and frontline workers replicate lessons in at least one lead community or lead communities</td>
<td>District “Champions of Change” leading to the spread of systems development capability from SLD to participating districts within each region.</td>
</tr>
<tr>
<td>3) Regional Learning System</td>
<td>Region where district systems learning processes are sponsored and fully functional.</td>
<td>Capability to disseminate learning and promote grassroots political engagement for health systems strengthening</td>
<td>Regional leaders from regions where the candidate innovation is not yet introduced.</td>
<td>A region where leaders and managers can be oriented to the practical requirements of scaling down to scale-up.</td>
<td>Organized exchanges for implementation teams from participating districts to learn from operations at SLD.</td>
<td>Regional “Champions of Change” who support national leaders by demonstrating the scaling down to scale-up paradigm.</td>
</tr>
<tr>
<td>4) National Learning System</td>
<td>Country with implementation research, knowledge management, and systems development fully functional</td>
<td>National planning and capability to track scaling up, diagnose problems, and institute corrective action.</td>
<td>National leaders and development partners who lack systems perspectives on strategies for improving large-scale program functioning.</td>
<td>Sponsoring implementation research and phased utilization of results.</td>
<td>Planning, financing, implementing, and monitoring scaling up.</td>
<td>Evidence-based organizational change based on the spread of scaling up capacity.</td>
</tr>
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SLD = System Learning District.

With support from the two participating Regional Health Administration, participating DHMT deploy home district teams of implementers to SLD demonstration areas for orientation into the GEHIP process. This exchange process is accompanied with the provision of catalytic financing to support the creation of scaling down locations in each participating district (Fig. 2D). In this manner, the process of scaling down for learning by doing cascades through each district (Fig. 2E).

Evaluation of the scheme utilizes variance in the pace of implementation of the scheme to construct a stepped wedge design. By employing monitoring tools, and mixed method implementation research, the operational and demographic impact of replication activities will be possible. CHPS+ implementation will generate continuous learning that is the focus of knowledge management operations that aim to ensure utilization of the learning process for developing national capacity to scale-up CHPS programming without awaiting project completion. As a program of Sophoclean action and investigation, CHPS+ will comprise a 5-year system of researching the utilization of research that aims to foster GEHIP institutionalization. At present, however, the Fig. 2 model functions as a 2-region trial. In this manner, scaling down is posited to be a tool for the eventual evidence-based scaling up of GEHIP in all districts of the Northern and Volta Regions.
CONCLUSION

Ghana’s history of community-based primary health care development comprises a theory of change that is summarized in Table 1. While it was declared as a national policy in 1999, with implementation that started in 2000, the program has yet to reach every rural household. A process of scaling up has therefore progressed for 2 decades. From the CHPS experience, scaling up requires critical capabilities that set the stage for decision and action as implementation unfolds. Columns of Table 1 specify three attributes of operational change are relevant to determining if scaling up is progressing, as planned: i) Are the contents of the changes that are occurring consistent with operational content expectations? Fidelity to the proposed innovation can be eroded if scaling up dilutes the evidence that generated commitment to scaling up.34,35 ii) Is the geographic or institutional coverage of scaling-up progressing, as planned? iii) Is the pace of change consistent with expectations? Rows of Table 1 summarize 6 attributes of effective scaling-up that have been marshalled by “scaling down” operations to learning localities. Table 1 cell entries summarize the observation that capabilities associated with leadership, operational fidelity, fiscal feasibility, organizational planning, knowledge management, and implementation flexibility have been fostered by scaling down operations to ensure learning that sustains the content, coverage, and pace of CHPS scaling up. The six capabilities comprising the rows of Table 1 are the core SLD capacities that Fig. 2 activities aim to disseminate.

Systems perspectives in leadership development programs is often lacking,36 but as the Table 2 entry shows, the “scaling down” model permitted stakeholders at each level of the system to focus their attention on tractable management units where their leadership could
be directed to effective evidence based planning at each system level\textsuperscript{18,30}. At the community level, scaling down fostered diffusion of consensus and action for CHPS implementation. At the district level, scaling down clarified the milestones and practical requirements of phasing in CHPS implementation.\textsuperscript{25} Lack of coherent CHPS district leadership constrained national scale-up.\textsuperscript{37}

Procedural uncertainty is also problematic, if change is viewed by DHMT as destabilizing. But, by demonstrating operations in learning localities, DHMT leadership malaise and “fear of the unknown” can be readily resolved by systems learning activities that generate conceptual clarity. Demonstration can also address confusion about the implementation process by clarifying DHMT leadership responsibilities and demonstrating the feasibility of moving forward with scaling-up. Financial planning is of critical importance to this process of leadership development, as illustrated by the entries in rows 4 and 5 of Table 2. But since resources for CHPS are severely constrained, effective DHMT planning requires demonstration of ways to draw upon popular community support for sustaining CHPS start-up costs, and ways to generate community commitment to volunteerism.\textsuperscript{26,38}

A challenge to be addressed in any scaling up process is the need to balance structured fidelity to the innovation with flexibility to adapt operations to local needs. Some Regional Directors of Health Services failed to understand the implementation process while others have understood the program and implemented it effectively. Scaling-down provides regional leaders with a means of effective implementation of decentralization (Table 2, row 3). The goal of achieving people entered programming cannot be compromised by a concomitant goal to scale-up an innovation.\textsuperscript{39,40}

Strategic adjustment to local circumstances benefits from national policies for disseminating the scaling-down approach (Table 2, row 4). While the learning process that scaling up requires may be sustained, adapting operations can be grounded in local experience, social contexts, and local organizational needs that are unique to each participating district.\textsuperscript{41-43} Ghana’s scaling down paradigm has thus impacted on CHPS scaling-up capacity at each level of health systems functioning, from communities, to districts; thereby transforming regional capacity to manage scale-up when lead districts are serving as points of innovation, implementation research, and training. And, once champions of the CHPS program emerged from the leadership development process, their promotion of the program had systems development impact that extended to national policy and implantation units. National dissemination programs, such as the “National Health Forum” and the “Health Summit” were utilized to communicate knowledge about the health impact of community-based care and the feasibility of scaling up CHPS operations through the scaling-down paradigm.

\textbf{Fig. 3} (bottom) summarizes the scaling down to scale up paradigm that is represented by the examples displayed in \textbf{Fig. 1}. Scaling down represents an implementation learning process that involves developing demonstration systems that are not only informative to senior managers, but are also relevant to decisions that must be made at each level of the system. At the periphery, successful implementation of community-based health care can be used to catalyze the spread of evidence-based replication, enabling senior managers to effectively disseminate organizational change. Most importantly, effective scaling down fosters people centered planning and management, an essential element of effective community-based care.
As the scaling down process unfolds, the corresponding learning process can accelerate, improve, and support scaling up (Fig. 3, top). By organizing scale-up in a manner that respects and utilizes ethnic diversity, the guided diffusion process can represent a national paradigm for reform and system development. With qualitative and quantitative monitoring providing evidence on the content, coverage, and pace of change, scaling up can be evidence driven, and adapted to local realities, needs, and resources. Indeed, monitoring of CHPS program expansion suggests that coverage of the program is improving and that the pace of CHPS implementation has accelerated as a consequence.44

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