# The Ghana Community-based Health Planning and Services Initiative for scaling up service delivery innovation

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Research projects demonstrating ways to improve health services often fail to have an impact on what national health programmes actually do. An approach to evidence-based policy development has been launched in Ghana which bridges the gap between research and programme implementation. After nearly two decades of national debate and investigation into appropriate strategies for service delivery at the periphery, the Community-based Health Planning and Services (CHPS) Initiative has employed strategies tested in the successful Navrongo experiment to guide national health reforms that mobilize volunteerism, resources and cultural institutions for supporting community-based primary health care. Over a 2-year period, 104 out of the 110 districts in Ghana started CHPS. This paper reviews the development of the CHPS initiative, describes the processes of implementation and relates the initiative to the principles of scaling up organizational change which it embraces. Evidence from the national monitoring and evaluation programme provides insights into CHPS' success and identifies constraints on future progress.

**Key words:** community-based, health service, health officer, innovation, scaling up

# Introduction

Exhortations to improve management, utilize research and decentralize authority are commonplace. However, demonstrations of how to achieve these aims are rare. This paper reports on a programme of evidence-based organizational change that has overcome the gap between research and action. The Ghana Community-based Health Planning and Services (CHPS) Initiative scales up innovations from an experimental study of the Navrongo Health Research Centre (NHRC) into a programme of national community health care reform that seeks to improve the accessibility, efficiency and quality of health and family planning care (Binka et al. 1995). Both the Navrongo experiment and the CHPS programme respond to longstanding policy originating with the 1978 Alma Ata Conference. Despite a decade of trials of various strategies for achieving 'Health for All' in the 1980s, research demonstrated that in 1990 more than 70% of all Ghanaians still lived over 8 km from the nearest health care provider (Ministry of Health 1998) and rural infant mortality rates were double the corresponding urban rates. Improving access to health care delivery therefore remained a central goal of health sector reform.

Various campaigns have been launched to promote immunization, disease eradication or to mobilize community volunteers. However, none have been integrated into more general policies of reform, and the provision of sustainable community health services has not progressed in Ghana. The apparent failure to achieve community health coverage followed policy commitments first contained in the Primary Health Care Strategy Paper of 1977/78 (Ministry of Health 1979) and then explored in Ghana for three subsequent decades in various

attempts to mobilize community action for primary health care (PHC). Village Health Workers (VHWs) were proposed as a solution to developing affordable health services ever since the Danfa Comprehensive Rural Health and Family Planning project demonstrated success (Neumann et al. 1974; Lamptey et al. 1976, 1980, 1984). Similar success was demonstrated by the WHO-sponsored Brong Ahafo Regional Development Project (Amonoo-Lartsen and DeVries, 1981). Using evidence emerging from these research projects, the Ministry of Health (MoH) adopted VHWs as part of the PHC strategy. However, when the scheme was scaled up, it suffered from serious organizational, resource, training, monitoring and supervision problems, and the VHW system was abandoned in the 1980s (Cole-King et al. 1979). Ever since the VHW failure, the notion of volunteers has been controversial. Nonetheless, UNICEF proposed an approach to volunteer services, known as the Bamako Initiative, which was promoted as a means of addressing weaknesses in previous schemes, while maintaining reliance on volunteer health providers (Walt 1988; Knippenberg et al. 1990).

In response to criticism of the volunteer approach, a new type of paid worker was created in the 1980s, termed Community Health Nurses, to provide more professional, and potentially more acceptable and effective, services than village health workers (NHRC 1999). However, debate focused on the efficacy of services provided by these nurses and feasible means of financing their community work. Over 2000 were trained and deployed by 1990, but most of them worked from sub-district health centres rather than being 'placed' in communities. Although outreach clinics are part of the community nurse service regimen, community outreach

remained at static service points. Moreover, the timing of outreach clinics was mostly erratic due to logistic constraints. As a consequence, potential clients could not predict when community health services would be available.

# The Navrongo experiment

The Navrongo CHFP was designed with dimensions corresponding to the health policy debate in the early 1990s. One dimension posited that under-utilized social resources of community organization, chieftaincy, lineage and social networks could be marshalled to make volunteer services work. The second dimension concerned Community Health Nurses (CHNs). Although these nurses had been hired to improve service accessibility, programme coverage was constrained by logistics problems, supervisory lapses and resource shortages, confining most CHNs to the government's sub-district health centres. The Navrongo experiment tested means of re-engineering the CHN programme by retraining, renaming and recertifying CHNs as Community Health Officers (CHOs) to serve as community resident health care providers, thereby testing the hypothesis that relocating nurses to communities, and reorienting management systems to support accessible community, would reduce mortality and fertility. But, specific operational elements and milestones associated with this were unknown.

Therefore, a pilot phase was launched in 1994 by an MoH task force to guide a three-village investigation of the appropriate elements of a community health care programme. The pilot approach was adapted from various initiatives that apply techniques of social learning to operational planning (Katz and Kahn 1966; Korten 1980; Simmons et al. 2002). Focus groups were convened to assess service needs, and pilot services were implemented in response to advice rendered. Focus groups were reconvened over time to recalibrate strategies according to community and worker reactions and recommendations (Nazzar et al. 1995). Pilot investigation established procedures for translating widespread interest in resident nurse services to elicit community donations of land, materials, labour and resources for developing a facility for health service operations. These facilities, known as 'Community Health Compounds', were constructed with locally available materials, methods and resources. The pilot clarified project outreach methods for translating participation in ad hoc committees for coordinating the construction process into sustained Community Health Committees for governing the community health service system. Once committees were functioning, nurses were introduced to the community, assigned to Community Health Compounds, equipped with a motorcycle, and provided with backstopping for logistics and liaison needs.

In 1996, results of the pilot suggested that relocating a nurse to communities could outperform an entire sub-district health centre, increasing the volume of health service encounters in pilot communities eight-fold and simultaneously improving immunization coverage.

Focus groups of pilot community members were used to guide the operational design of a district-wide factorial experiment, which was designed to test the relative impact of two general sets of existing under-utilized resources for primary health care that defined dimensions of the Ghanaian community health service policy debate. Accessible nursing care reduced childhood mortality by a third (Pence et al. 2001); the total fertility rate declined by one birth (Debpuur et al. 2002). The impact of the combined service strategy was particularly compelling. This successful cell of the experiment is known as the 'Navrongo service model'. Various findings generated official interest in replicating the most successful cell of the experiment in all districts of Ghana (Adjei et al. 2002).

# Community-based Health Planning and Services (CHPS)

Adopted in 1999, CHPS is a national health policy initiative that aims to reduce barriers to geographical access to health care. With an initial focus on deprived and remote areas of rural districts, CHPS endeavours to transform the primary health care system by shifting to a programme of mobile community-based care provided by a resident nurse, as opposed to conventional facility-based and 'outreach' services. The CHPS initiative represents the scaling-up of the Navrongo model into a national movement for health care reform. Regarded as the primary strategy for reaching the unreached, CHPS has, thus, become an integral part of the current Ghana Health Service Five Year Programme of Work and represents one of the health sector components of the national poverty reduction strategy.

The introduction of CHPS into districts occurs through extensive planning and community dialogue on the part of the Health Service and the community. A key principle of CHPS introduction is that traditional leaders of the community must accept the CHPS concept and commit themselves to supporting it. CHPS relies on participation and mobilization of the traditional community structure for service delivery. District Health Management Teams must augment the skills of CHNs (or other cadre of staff) to prepare them for the delivery of preventive and curative care while residing in the community. These health staff, known as CHOs, provide mobile doorstep services to community residents. By travelling from compound to compound on motorcycle, CHOs cover a catchment area of approximately 3000 individuals. CHO services include immunizations, family planning, supervising delivery, antenatal/postnatal care, treatment of minor ailments and health education. CHOs are supported by community volunteers who assist with community mobilization, the maintenance of community registers and other essential activities.

# Implementation milestones

#### The evolution of CHPS

In response to preliminary evidence from Navrongo, the MoH convened a national managers' conference in 1998 to deliberate on the implications of the experiment's model for national action, and to review a draft policy statement declaring the Navrongo community health care system as the national model for community-based care.

#### The Nkwanta District replication

The first practical experience with Navrongo utilization was launched in Nkwanta District with the establishment of a CHPS pilot programme (Figure 1). In Nkwanta District, a new generation of questions could be addressed concerning the transferability and sustainability of the Navrongo model in a non-research setting. The success of the Nkwanta District Health Administration's implementation of CHPS was encouraging. Results of this effort were disseminated at a 1999 MoH National Health Forum convened to disseminate results from Navrongo and Nkwanta, and to discuss a draft policy statement designed to legitimize the change process and sustain CHPS activity over time.

# Researching the utilization of research

With the spread of CHPS to neighbouring districts, a new generation of research questions arose regarding the pace and content of CHPS-sponsored change and whether undiagnosed operational problems were impeding progress (lower research panel, Figure 1). A qualitative arm of the National Monitoring and Evaluation programme on CHPS implementation involves focus group research with panels of community members, frontline service workers, supervisors and district leaders. This approach involves accumulating narrative diagnostic evidence about problems hampering progress with the CHPS programme. Reports are reviewed by senior officials and presented at regional and national health meetings and conferences.

#### **CHPS** milestones

Therefore, launching CHPS requires new operational mechanisms for establishing the Navrongo model for community health service accountability, service quality and adminis-

trative control that are integrated into traditional institutions of village governance. Establishing these mechanisms involves six milestones that were originally demonstrated in Navrongo and used as a model for the national scaling-up effort (Table 1).

# (1) Preliminary planning

The fundamental operational unit of CHPS is the 'zone', a geographic area where all CHPS services are phased in over time. Starting the CHPS process involves conducting a district assessment of manpower needs and capacities, grouping communities into zones with delineated boundaries, assessing district equipment and training requirements, and scheduling the onset of nurse assignment to zones where the programme is launched.

#### (2) Community entry

'Community entry' moves the planning process from the district to the zone level. This involves developing community health leadership and initial participation in the programme through dialogue with community leaders and residents. Community 'durbars' are traditional gatherings comprised of drumming, dancing, speechmaking and public debate. In the community entry process, this tradition is marshalled to foster open discussion of CHPS activities.

## (3) Creating Community Health Compounds

Community health services require a simple facility, known as a Community Health Compound, comprising a room for the CHO living area and a room for a community clinic. Building these facilities involves both community leaders in planning and resource mobilization, and volunteers in construction

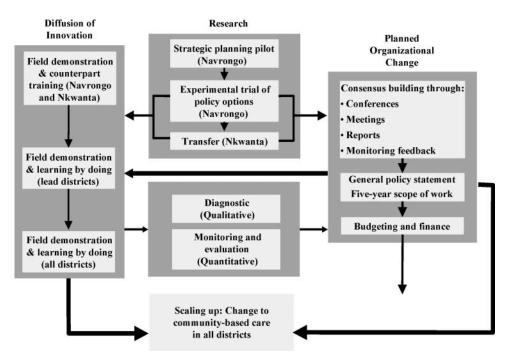


Figure 1. Components of the CHPS process

Table 1. Operational contrasts between the existing clinic-based system and the CHPS community-based system

	Type of operation in the		
	existing clinic-based system	CHPS system	Tasks required to implement the new CHPS system operation
Planning	DHMT office-based planning	DHMT + traditional leaders + Community Health Committees	Community awareness building, outreach to traditional leaders
Community entry	No community liaison; bi-weekly/monthly outreach clinics	Initial liaison; continuous outreach	Community Health Committee selection; CHO community entry training; community leader training
Community Health Compound	None (Sub-district health centre and hospital servies)	Community-donated and constructed CHC Community homes	Community mobilization for facility development; community ownership of primary service point
CHO posting	Sub-district Health Centre Passive (facility-focused)	CHC based Active (client-seeking)	Mobilize providers to visit households; community backstopping of CHO operations
Essential equipment	Four-wheel vehicle for bi-weekly outreach clinics	Bicycles or motorbikes for CHO continuous outreach	Procurement; motorbike rider training and maintenance capacity building
Volunteer deployment	None or based on disease-specific resource availability	Selected by traditional leaders, supervised by Community Health Committees	Train community leaders and Community Health Committees to select and supervise volunteers; train volunteers

work. This collaborative activity contributes to community ownership of CHPS.

#### (4) Posting CHOs to Community Health Compounds

The CHO component of the programme represents the most critical milestone in the CHPS process. CHO training workshops have been convened to upgrade clinical services, introduce techniques of community diplomacy, establish counselling methods and develop midwifery skills. Launched by a durbar celebrating the onset of care, the CHO is handed over to the community to assume her resident post. CHO services involve clinical sessions at Community Health Compounds, household visits for family planning services, health education, ambulatory care and outreach clinics for childhood immunization.

# (5) Procuring essential equipment

Launching Community Health Compound services requires clinical equipment for basic primary health care service delivery and new logistics equipment such as bicycles or motorcycles.

#### (6) Deploying volunteers

Depending upon the decisions of the District Health Management Team (DHMT) and local needs, volunteer Community Health Aides may be recruited by Community Health Committees, and provided with a 6-week course in community health mobilization, with particular emphasis on promoting family planning and reproductive health among men. In some districts, the volunteers deliver health and family planning services, which requires volunteer training, and Community Health Committee training in pharmaceutical procurement and volunteer programme management, in keeping with the UNICEF-sponsored 'Bamako Initiative' (Knippenberg et al. 1990). Implementing the programme involves a durbar for celebrating the creation of volunteer services, educating

communities about referral services, and linking volunteerbased services with CHO activities and clinical services at subdistrict health centres and district hospitals.

# Applying principles of organizational development

The process of transforming the national primary health care system involves large-scale organizational change. CHPS is an ambitious effort for delivery of quality health services to the most disadvantaged individuals. Embracing theories of organizational change and development has been instrumental in advancing the CHPS agenda. Two strategies of organizational change have been utilized in the implementation process: the diffusion of innovation and planned organizational change. Below, these strategies are introduced and related to the activities of CHPS implementers.

#### The diffusion of innovation

Ideas and innovations can spread through social networks via mechanisms collectively termed 'diffusion'. Social diffusion refers to the process of ideational or behavioural change fostered by social interaction. Organizational diffusion is an analogous process in which change can occur through the communication of ideas or the demonstration of new methods (Mintrom 1997). Guided diffusion, illustrated by the left-hand panel of Figure 1, represents activities designed to maximize prospects that the diffusion of innovation process will be launched, be sustained and be amplified by programme action and resources. Thus, component activities of the CHPS programme have been designed to foster the diffusion of operational innovation.

The concept of marshalling diffusion is grounded in the social science of institutional change. For four decades, social theorists have argued that diffusion theory is relevant to health and population policy because official action can be taken to accelerate the onset and pace of social change or expand

the scope of informal diffusion processes (Rogers 1995). Diffusion theorists have also noted that exchange and interaction can lead to organizational change (Glaser et al. 1983). As Figure 1 shows, diffusion of innovation resulted from exposure to information about CHPS activities or exposure to Navrongo, Nkwanta and other advanced CHPS district activities. In recognition of the important role of diffusion, programme activities comprising the planned organizational change activities of the Ghana Health Service are designed to catalyze diffusion.

#### Consensus building

Early activities designed to disseminate Navrongo results were conducted at national health policy conferences, attended by all District Directors of Medical Services. They were designed to foster discussion and debate about the practical implications of Navrongo findings, and to present evidence from Nkwanta District that replication of the Navrongo model was possible. Senior political leaders and health officials were involved in these conferences to legitimize CHPS-sponsored changes and lead the consensus-building process.

# Ownership

Studies of the diffusion of organizational change experience consistently show that changes perceived as being brought from the outside are more problematic to introduce than changes perceived to be owned by the host institution (Melgaard et al. 1998; Simmons et al. 2002). As external actors with ideas about ways to improve operations, structure, technology or quality that emerge from controlled study, small-scale pilot trials or focused investigation, researchers work in isolation. Research utilization schemes are often developed to cajole the policy audience to take note of what has been learned and use the results. With CHPS, however, joint research-policymaker ownership of research results was developed at the onset of the Navrongo programme so that results and change procedures would be a natural outcome of the investigation. Research results are then shared with programme implementers through work conferences, staff meetings and dissemination mechanisms to ensure routine review of results and integration of results into management decision-making at all levels of the operation. The Nkwanta demonstration was crucial to the concept of establishing ownership, since Navrongo in isolation was regarded by many observers as a research project that was outside the usual administrative operation of the MoH, and its lessons were perceived by some to be alien to the system where its lessons were to be absorbed.

#### Change agentry

Effective change requires committed individuals who demonstrate the feasibility of change and represent the interests of change in the system at large. In some instances, change agents are external experts who are brought to the organization to facilitate change. However, a change-agent strategy requires balancing external assistance with strategies for internal ownership. For example, CHPS change agents are

most effective when they are GHS colleagues working as an external team rather than as individuals or unconnected outsiders. In the case of CHPS, the change agents have been the leaders of the Navrongo Project, the former Deputy Minister for Health, the Nkwanta DHMT, and various Regional Health Administration teams that have fostered CHPS action. This internal change-agent role has been an important and effective element of the CHPS organizational change programme. External agencies and individuals have nonetheless played a role as change agents, particularly when their technical assistance has been combined with the provision of resources for financing the proposed changes.

#### Fostering contagion of change

CHPS is designed to foster the replication of many pilot demonstration projects in multiple sites around the country rather than to structure large-scale mechanistic replication of Navrongo. In a new phase of work, launched in late 2003, district innovators in the CHPS programme will be funded to disseminate their innovations, advance the CHPS implementation process, and measure programme impact. This approach makes CHPS a mechanism for decentralization and adaptation of service strategies to local realities and needs.

#### Putting success to work

The CHPS programme has been informed by international experience demonstrating that change requires a success story to back it up (Glaser et al. 1983). Navrongo serves this function, not only as a source of research, but also as a site where teams can see the operation, interact with its participants, and plan their own activities on the basis of practical interchange with people who make the programme work. Nkwanta has also assumed a major role in providing practical demonstration of the CHPS initiative in action (Awoonor-Williams et al. 2002). Navrongo and Nkwanta continuously demonstrate the organizational model that CHPS represents, and communicate lessons about the elements of success to all stakeholders.

# Credibility

CHPS is premised on the notion that the diffusion of organizational change is more likely to occur if the new organizational activity represents a promising improvement over existing operations, and if costs and operational changes are perceived to be feasible for DHMTs to achieve (Phillips et al. 1984; Phillips 1988; Solo et al. 1998; Bertrand and Marin 2001). This, indeed, has been the subject of investigation and dissemination (Nyonator et al. 2002).

# Feasibility

Small-scale operations enable scientists to focus on a manageable operational change agenda, and clarify exactly what is required to undertake change (Glaser et al. 1983; Havelock 1978). For the results of the Navrongo project to be credible, the changes suggested by research had to be within reason to the MoH. If the project had required a total structural change in operations, recommendations would be dismissed as

unworkable. Costs of the project were transparent, and incremental investment in services was deliberately constrained, since an expensive research project with unaffordable activities and equipment would be irrelevant to the MoH.

#### System demonstration

Training is often proposed as a means of introducing organizational change. Counterpart training has been a critical activity that has catalyzed CHPS implementation throughout the country. In this approach, the staff in Navrongo, Nkwanta or other advanced CHPS districts serve as trainers for visiting district counterpart teams. These visiting teams are comprised of the smallest operational unit for implementing the CHPS service system: the District Director of Health Services, the District Public Health Nurse, one sub-district supervisor and one or two CHOs. They engage in this counterpart training experience to observe the new work system. Each visitor is teamed with a counterpart for 2 weeks of practical on-the-job demonstration of CHPS. These demonstrations transfer the system to members of a team who can actually implement the new programme as a pilot in their home district. When counterpart training works well, visiting teams establish pilot demonstration zones for fostering diffusion and scaling up of the initiative among the remainder of the workforce in their home district. System demonstration fosters the contagion of grassroots action, where political and community support, and other resources, can be aligned with the change process.

#### Systemic intervention

In the CHPS programme all levels of the bureaucracy are involved in the change process, in keeping with international experience showing that bypassing elements of an organizational authority structure breaks the chain of command for change (Glaser and Taylor 1973; Davis and Howden-Chapman 1996). In the CHPS example, initial attention was focused on building high-level support for CHPS and district action, but no clear role was developed for the Regional Health Management Teams. This oversight hampered progress until it was corrected by involving regional leadership in key decisions, and building consensus among Regional Directors of Health Services that CHPS was a key component of their regional plans of action.

#### Planned organizational change

The right-hand panel of Figure 1 portrays plans and policies that initiate, legitimize and sustain the diffusion process with guiding policies, technical standards and training. Inadequate access to health care represents a critical aspect of poverty alleviation, especially in severely development-deprived regions and districts of the country. CHPS represents the contribution of the health sector to national poverty-alleviation policies. In trying to implement CHPS, a 5-year workplan has been developed which has been integrated into the overall workplan of the Ministry. Since the objectives of the workplan are linked to the budget and resource-allocation processes, CHPS has the advantage of being assured of a minimum of policy support for the 5 years of the workplan.

A CHPS Monitoring and Evaluation Task Force has been convened by the Ghana Health Service (GHS) Director General to provide direction for the programme. Members of the Task Force are GHS Directors responsible for training and human resource development, monitoring and evaluation, public health, clinical care; Regional Health Administration Directors; and a District Health Administration Director. Chaired by the Director General, the CHPS Monitoring and Evaluation Task Force is comprised of individuals who have demonstrated a commitment to the CHPS initiative and who have valuable experience in systems development and health service delivery.

#### Mobilizing Ghana Health Service management systems

CHPS dissemination activities are incorporated into routine management operations. Staff meetings of the GHS Directors, Regional Health Director Meetings with DHMT staff, and national conferences of health managers all provide mechanisms for the review of CHPS activities, progress and problems. Taken together, the GHS divisions and the GHS communication process constitute a structure for legitimizing, implementing, monitoring and evaluating CHPS organizational change activities.

In summary, research activities are adapted to the needs of each stage in the organizational change process. Moreover, CHPS is not constrained to comply with any particular approach to organizational change or centralized schedule of activity. Driven by diffusion, catalyzed by policy and guided by research, CHPS aims to optimize prospects that evidence will be put to use.

# The pace of scaling up

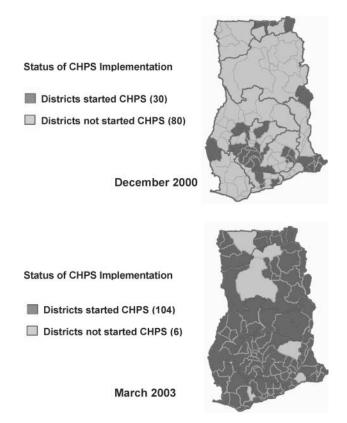
A monitoring system has been developed by the Policy, Planning, Monitoring and Evaluation Division of the Ghana Health Service, which collects data from all the 110 DHMTs on CHPS implementation in order to assess district-level progress. These data are collected and analyzed quarterly and distributed to every district in an electronic format that displays maps of CHPS coverage for every district in Ghana. Monitoring and evaluation results indicate both progress and problems with the CHPS initiative.

# Progress with the spread of commitment to plan activities

Figure 2 portrays the geographic distribution of districts as of 31 December 2000 and 31 March 2003. As the maps indicate, only 30 districts out of 110 reported that they had started CHPS implementation activities by the end of 2000. Twenty-seven months later, 104 districts reported the start of CHPS implementation. In 2000, CHPS progress was limited to a handful of districts that were dispersed throughout the country. By March 2003, the initiative had become a national effort to starting the district planning process and introducing community-based care.

# The 'implementation gap'

While the CHPS concept has spread rapidly, further analysis of the national monitoring data illustrates critical problems constraining the CHPS initiative.



**Figure 2.** Districts starting the CHPS implementation process as of 31 December 2000 and 31 March 2003

#### Perpetual planning

As indicated in Table 2, 85% of districts that have begun CHPS implementation have completed the CHPS planning process. Yet relatively few districts have moved beyond planning and actually launched community-based services. Progress with CHPS implementation markedly declines following the planning stage for all subsequent milestones. The implication of this finding is that the community-based service delivery aspect of the CHPS programme has not been widely transferred. Only 27.6% of districts have succeeded in bringing health services to communities by launching the CHO component of the programme. Moreover, the implementation gap between planning and service delivery is widening as the programme progresses. The pace in the expansion of

districts launching services has not kept pace with the rapid expansion of districts launching the planning process.

#### *Incomplete implementation of milestones*

As Table 2 shows, by March 2003 only 30% of the districts had completed the community-entry activities that are critical to the CHPS process. Somewhat surprisingly, completing Community Health Compound construction/renovation is more widespread than community entry, despite the fact that financial resources required for construction are far greater than resources required for community diplomacy. Where CHPS works well, community diplomacy generates local resources for the programme. Community participation innovations of the Navrongo experiment are being neglected in many districts. This finding suggests that activities that are characteristic of the health sector bureaucracy are more readily scaled up than activities such as community mobilization. Moreover, the omission of community-entry activities by DHMT suggests that the concept of CHPS is not well understood, since community participation, mobilization and ownership is central to the system reform process. The practice of the DHMT completing construction of the Community Health Compound before completing the community entry and dialogue process may hinder the CHPS initiative. This is illustrated by the pattern of the maps in Figure 3, showing that successive milestones are associated with progressively lighter shading owing to the progressively diffuse implementation of CHPS components within districts where planning has begun. For example, both Table 2 and Figure 3 illustrate that few districts have launched a volunteer programme. In fact, less than 15% of districts that have started CHPS have completed this activity in one or more zones. This may be due to the fact that volunteers are not deployed by the community and DHMT unless other elements of the CHPS programme are firmly in place. Only 7% of the districts have three or more zones with deployed volunteers.

#### Underlying causes of the implementation gap

Focus group studies have been instigated to diagnose problems that explain the CHPS implementation gap. In two regions, interviews have been conducted with panels of community members, frontline workers, supervisors and district managers to gauge their understanding of

**Table 2.** Number of CHPS implementation zones among 95 DHMTs reporting start of CHPS activities (with zones and steps specified) to the CHPS Monitoring and Evaluation Secretariat as of 31 March 2003

No. of CHPS zones completing milestone	Percentage of all districts completing specified CHPS implementation milestone							
	Community-based planning	Community entry	CHC construction or renovation	CHO posting	Essential equipment procurement	Volunteer services		
0	14.7	70.3	52.3	72.4	70.3	85.2		
1	11.6	5.3	20.2	8.5	10.6	4.2		
2	17.9	10.6	8.5	5.3	7.5	3.2		
3-5	33.7	8.5	10.5	7.5	5.3	3.2		
6+	22.1	5.3	8.5	6.3	6.3	4.2		
All	100.0	100.0	100.0	100.0	100.0	100.0		
No. of districts	95	95	95	95	95	95		

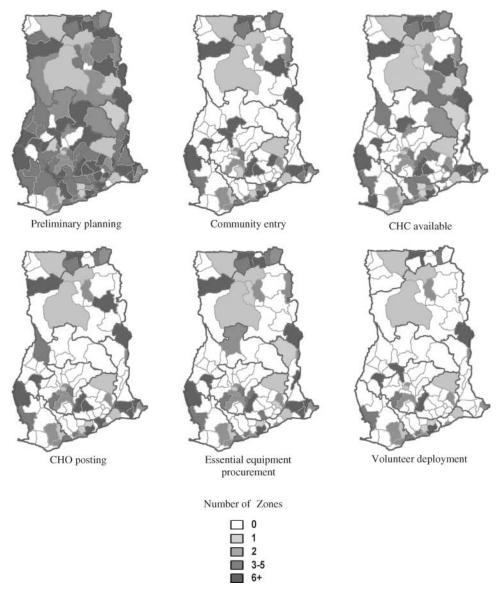


Figure 3. Geographic distribution of districts completing six CHPS implementation milestones as of 31 March 2003

the programme, their reactions to its implementation and their advice to the policy community. Relevant insights were gained by contrasting focus group interviews of health workers currently implementing CHPS and those workers not yet participating in the CHPS programme (Nyonator et al. 2002; Sory et al. 2002, 2003). Community members express demand for the programme where it is absent and appreciation of its services where it is operating. However, programme managers express concern about sustainable funding. Launching a programme with incremental costs poses risks that are not addressed by the budgeting, finance and donor-support systems. Financial uncertainty is compounded by the perceived operational complexity of getting started and the concerns about possible negative effects of community posting on staff morale. Launching CHPS is thus perceived by many managers as an administrative risk. This perception contrasts with the views of managers and staff who have been exposed to the programme and have learned that community resources are more available than anticipated, because community health care is in such great demand. Where CHPS operates, demand for services translates into resources for construction and other inputs. Community enthusiasm, moreover, offsets concerns about worker morale. But, these benefits of the programme are not well understood in the abstract. Commitment to CHPS arises from experience with the programme. Health workers participating in CHPS tend to be strong proponents of the programme, alluding to greater autonomy as well as community support for their work and the professional gratification that this generates.

#### Observed diffusion

Once CHPS is successfully launched in a few communities within a given district, enthusiasm for it quickly spreads among district health workers, community members and local politicians elsewhere in the district. The pace of spread of information about CHPS is particularly rapid if external resources are found to provide seed funding for CHC

construction and CHO posting in a few pilot communities. Qualitative research suggests that district experience with CHPS catalyzes progress with CHPS implementation, since demand for community-based care arises once services are demonstrated and worker concerns are dissipated by positive experience with the programme. This observation is illustrated in Figure 3 where the CHO posting panel shows districts that are either shaded dark (indicating that six or more zones have implemented) or light (indicating no implementation). Scaling up progresses quickly once started in a district. The implementation gap arises, in part, because few programme resources are directed to starting district pilots. Instead, donor assistance has been targeted on technical training, which upgrades skills, but fails to produce change in work systems.

Monitoring results attest to the need to build policies that tap CHPS' greatest resource. The most enthusiastic promoters of CHPS are communities that have benefited from CHPS services and workers who have developed a sense of pride in their capacity to serve the rural poor. CHPS, once it is implemented, is sustained by social and political support. But, it is often resisted when it is contemplated in the abstract. Districts that start the programme soon expand it more rapidly than health sector resources can seemingly sustain. To build on the value of demonstration, small pilots should be scaled up in as many districts as possible by sponsoring leading districts to conduct peer-to-peer exchanges on the Navrongo and Nkwanta models — expanding the number of sites throughout the country where participants in the programme can demonstrate success to peers.

# Conclusion

CHPS represents one of a few attempts in Africa to translate findings from a research initiative into a national health reform programme. Large-scale organizational change is complex to undertake, particularly in settings where incremental internal resources for financing the process of change are lacking. Overcoming the complexity of organizational change requires strategies for phasing in change by discrete components in small, manageable areal units. Pilot trials are useful, not only at the experimental phase, but also in the course of scaling up. Pilots build experience with the change process, permitting adaptation of the new organizational system to local realities. In this instance, the original Navrongo experimental trial and the Nkwanta replication site have been useful, not only for producing scientific evidence that fostered the creation of CHPS, but also for providing sites where CHPS visiting implementation teams could see the model in action, interact with its staff, and learn by on-the-job demonstration of new roles and work routines.

This paper has described the context for this initiative, not only as a series of practical steps and tasks, but also as a programme that is grounded in organizational science and social learning. If CHPS succeeds, it will do so because it is fundamentally a Ghanaian initiative that pursues the goals of health care reform by mobilizing social traditions for consensus building, leadership and decision-making.

#### References

- Adjei S, Phillips J, Jones TC. 2002. Utilization of evidence from experimental research to guide sector-wide health care reform in Ghana. Paper presented at the 130th Annual Meeting of the American Public Health Association, Philadelphia, PA, 9-13 November.
- Amonoo-Lartsen R, De Vries JA. 1981. Patient care evaluation in a primary health care programme: the use of tracer conditions as a simple and appropriate technology in health care delivery. *Social Science and Medicine* **15A**: 735–41.
- Awoonor-Williams J, Jones TC, Nyonator F, Phillips JF. 2002. Utilizing successful research in community-based services with constrained resources: the Nkwanta experience catalysing organizational change in rural Ghana. Nkwanta District Health Administration (unpublished manuscript).
- Bertrand J, Marin C. 2001. Operations research: measuring its impact on service delivery and policy. (unpublished manuscript).
- Binka F, Nazzar A, Phillips J. 1995. The Navrongo Community Health and Family Planning Project. *Studies in Family Planning* **26**: 121–39.
- Cole-King S, Gordon G, Lovel H. 1979. Evaluation of primary health care A case study of Ghana's rural health care system. *Journal of Tropical Medicine and Hygiene* 82: 214–28.
- Davis P, Howden-Chapman P. 1996. Translating research findings into health policy. *Social Science and Medicine* **43**: 865–72.
- Debpuur C, Phillips JF, Jackson EF et al. 2002. The impact of the Navrongo Project on contraceptive knowledge and use, reproductive preferences, and fertility. *Studies in Family Planning* **33**: 141–63.
- Glaser EM, Taylor S. 1973. Factors influencing the success of applied research. *American Psychologist* **28**: 140–6.
- Glaser EM, Abelson HH, Garrison KN. 1983. Putting knowledge to use: facilitating the diffusion of knowledge and the implementation of planned change. San Francisco: Jossey-Bass Publishers.
- Havelock R. 1978. What do we know from research about the process of research utilization? Paper presented at the International Conference on Making Population/Family Planning Research Useful: The Communicators Contribution. East-West Communication Institute, 3-7 December. Honolulu, Hawaii.
- Katz D, Kahn R. 1966. *The social psychology of organizations*. New York: John Wiley and Sons.
- Knippenberg R, Levy-Bruhl D, Osseni R et al. 1990. *The Bamako Initiative: primary health care*. New York: UNICEF.
- Korten D. 1980. Community organization and rural development: a learning process approach. *Public Administration Review* September/October: 480-511.
- Lamptey P, Nicholas DD, Ofosu-Armah S et al. 1976. The Danfa Family Planning Programme in rural Ghana. *Studies in Family Planning* **10**: 266–74.
- Lamptey PR, Nicholas DD, Quartey-Papafio. 1980. Training Village Health Workers in rural Ghana. World Health Forum 1: 52-6.
- Lamptey P, Wurapa F, Nicholas D. 1984. The evolution of a primary health care programme: the Danfa experience 1970-1977. *Journal of Tropical Pediatrics* 30: 252-6.
- Melgaard B, Creese A, Aylward B et al. 1998. Disease eradication and health systems development. *Bulletin of the World Health Organization* **76** (Suppl. 2): 26–31.
- Ministry of Health of the Republic of Ghana. 1979. *Primary Health Care Strategy*. Accra: Minstry of Health.
- Ministry of Health of the Republic of Ghana. 1998. A profile of health inequities in Ghana. Accra: Ministry of Health.
- Mintrom M. 1997. Policy entrepreneurs and the diffusion of innovation. *American Journal of Political Science* **41**: 738–70.
- Nazzar A, Adongo PB, Binka F, Phillips JF, Debpuur C. 1995. Involving a traditional community in strategic planning: The Navrongo Community Health and Family Planning Project pilot study. Studies in Family Planning 26: 307–24.
- Neumann AK, Prince J, Gilbert FF, Lourie IM. 1974. The Danfa/Ghana Comprehensive Rural Health and Family Planning Project—Final

- Report. Korle Bu: University of Ghana School of Medicine, (unpublished).
- NHRC. 1999. Final report to the Population Council Africa Operations Research and Technical Assistance Project. Navrongo, Ghana: Navrongo Health Research Center (NHRC), Community Health and Family Planning Project.
- Nyonator F, Agbadza C, Gbeddy D et al. 2002. Community-Based Health Planning and Services (CHPS) Initiative in Ghana: a multi-level, qualitative assessment in the Volta Region. Policy, Planning, Monitoring and Evaluation Division, Ghana Health Service, (unpublished report, February).
- Pence B, Nyarko P, Binka FN, Phillips JF, Debpuur C. 2001. The impact of the Navrongo Community Health and Family Planning Project on child mortality, 1993–2000. Paper presented at the Global Conference of the International Union for the Scientific Study of Population, Salvador, Brazil (August).
- Phillips JF. 1988. Translating pilot project success into national policy development: two projects in Bangladesh. *Asia-Pacific Population Journal* 2: 3–28.
- Phillips JF, Simmons R, Simmons GB, Yunus M. 1984. Transferring health and family planning service innovations to the public sector: an experiment in organization development in Bangladesh. *Studies in Family Planning* **15**: 62–73.
- Rogers EM. 1995. *Diffusion of Innovations*. 4th edition. New York: Free Press.
- Simmons R, Brown J, Diaz M. 2002. Facilitating large-scale transitions to quality of care: an idea whose time has come. *Studies in Family Planning* **33**: 61–75.
- Solo J, Cerulli AM, Miller R, Askew I, Pearlman E. 1998. Strengthening the utilization of family planning OR: findings from case studies in Africa. New York: Population Council, (unpublished report of the FRONTIERS Project).
- Sory EK, Nyonator FK, Tornui J et al. 2002. Community-based Health Planning and Services (CHPS) District Cost Analysis: Technical Report. Accra, Ghana: Ghana Health Service and the PRIME II Project.
- Sory EK, Jones TC, Phillips JF, Nyonator FK. 2003. Grassroots mobilization to accelerate the introduction of community-based health service delivery in Ghana: Strategic assessment of the CHPS programme in the central region of Ghana. Paper prepared at the Annual Meeting of the American Public Health Association, San Francisco, 15-18 November.
- Walt G. 1988. Community health workers: policy and practice in national programmes. A review with selected annotations. Evaluation and Planning Centre for Health Care. London: London School of Hygiene and Tropical Medicine.

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