

Chapter 5

Scaling up experimental project success with the Community-based Health Planning and Services initiative in Ghana

Frank K. Nyonator^a, Agyeman Badu Akosa^b, J. Koku Awoonor-Williams^c, James F. Phillips^d, Tanya C. Jones^e

Summary

The Community-based Health Planning and Services (CHPS) initiative in Ghana is an example of a strategy for scaling up a field trial to become a national programme. Representing a response to the problem that research projects can inadvertently produce nonreplicable service delivery capabilities, CHPS develops mechanisms for expanding national understanding and use of research findings to serve the health service needs of all Ghanaian households. This chapter describes strategies for introducing and developing community health services that were successfully tested in a Navrongo Health Research Centre trial and validated in Nkwanta District for a national programme of reorienting primary health care from clinics to communities. Nurses, once confined to clinical duties, are relocated to community-constructed clinics where they live and work. Volunteers support their services by mobilizing traditional social institutions to foster community support. Strategies for decentralized planning ensure that operational details of the programme are adapted to local circumstances. Strengths and limitations of the programme are reviewed and discussed.

^a Director, Policy Planning, Monitoring and Evaluation Division (PPMED), Ghana Health Service, Accra, Ghana. Dr Nyonator was formerly Regional Director of Medical Services, Volta Region, where he sponsored initial exchanges between Volta district teams and the Navrongo Health Research Centre that set the stage for the Community-based Health Planning and Services (CHPS) initiative.

^b Director General, Ghana Health Service, Accra, Ghana. Dr Akosa directs the national programme of health sector reform, coordinating the process of converting CHPS innovations and policies into national action.

Footnotes continued on next page

Introduction

Clinic-focused services remain the mainstay of primary health care in Africa, despite several convincing demonstrations that community-based operations can enhance the accessibility, efficacy and sustainability of essential health services (1). While reforms are often proposed for changing national programmes from a clinic to a community-based focus, implementing such change requires a complex process for developing new structures, policies, resources and plans at each organizational level where change must be instituted. In the Republic of Ghana, policy commitment to achieving community-based care is not new (2). Deliberations on health sector reform began in the early 1980s but were given impetus in the 1990s by a continuous and growing role for research. The expanding influence of evidence-guided approaches was motivated by research showing that several large-scale national schemes focused on the need for accessible primary health care had been fraught with serious organizational problems and resource constraints (3). By 1990, achieving accessible primary health care had been a central pillar of policy for over a decade, yet the specific means of achieving this goal remained the subject of continuing discussion and debate.

This chapter reviews a national programme for reorienting and relocating primary health care from sub-district health centres to convenient community locations known as the Community-based Health Planning and Services (CHPS) initiative. The programme is grounded in evidence from a field trial of the Navrongo Health Research Centre showing that simple, low-cost services that engage the community can significantly reduce fertility and childhood mortality. The Navrongo Centre is well equipped to engage in health policy research. Located in Ghana's most impoverished and remote region, the Centre is a research unit of the Ministry of Health with a mandate to investigate

^c Director of Medical Services, Nkwanta District, Volta Region, Nkwanta, Ghana. Dr Awoonor-Williams directed the first replication of the Navrongo project in his home district and has led national exchanges among districts that spread programme innovations throughout Ghana, culminating in the creation of the Nkwanta Health Development Centre, where the principles of community health care are demonstrated to visiting health management teams.

^d Senior Associate, Policy Research Division, Population Council, New York, USA. Dr Phillips is Senior Adviser to the Navrongo project, and has extensive collaborative involvement with the CHPS monitoring and evaluation and communication activities.

^e Staff Associate, Policy Research Division of the Population Council, assigned as resident adviser to the PPMED, Ghana Health Service, Accra, Ghana. Ms Jones collaborates on organizational research and the administration of grants and awards to districts participating in the CHPS programme.

the health consequences of poverty and feasible means of addressing them. CHPS is a national initiative of the Ministry of Health that translates lessons from Navrongo research into national implementation of the long-standing Alma-Ata goal of “Health for All”.

Phases in the scaling-up process

From the onset of planning, the Navrongo project was an instrument of the health sector reform process rather than a discrete research study for generating scientific results. The sustained partnership between researchers and policy-makers is portrayed in Figure 5.1 as a four-phased process guided by successive generations of research questions, approaches and products contributing to national health sector reform.

| PHASE | POLICY DEBATE AND PILOT PROJECT 1990–1993 | NAVRONGO TRIAL 1994–2000 | NKWANTA VALIDATION 1998–2002 | NATIONWIDE EXPANSION (CHPS) 2000–Present |
|----------|--|-----------------------------|---------------------------------|---|
| QUESTION | What is appropriate? | Does it work? | Can it be validated? | Is scaling-up progressing? |
| APPROACH | Micro-pilot and social research | Factorial trial | Operations research | Quantitative and qualitative system appraisal |
| PRODUCT | Alternative models | Successful system | Consensus for change | Changed programme |

Figure 5.1 Phases in the scaling-up process

Phase 1: policy debate and pilot

In Ghana, extending the coverage of basic and primary health-care services to all has been the major objective of the Ministry of Health since independence in 1957. Two general goals have guided primary health-care policy: the need to expand public sector health facilities, under the assumption that convenient facilities providing low-cost care will benefit the poor, and the need to shift resources from curative institution-based care to community-based preventive public health

services. Although action in response to these goals produced notable results (4–6), impact of strategic change among the poorest segment of the population was disappointing (7).

Shortcomings in health service delivery were exacerbated by adverse worldwide economic shocks and the domestic economic problems of the 1980s. While external support increased owing to a proliferation of donor-led vertical health initiatives, the health sector was failing to meet the need for improved health-care coverage.

Launched in 1993, health sector reform in Ghana has aimed to increase access to services, improve health service quality and efficiency through decentralization of planning and management, foster partnerships between providers and communities, and expand health-care resources. Despite consensus on these goals, there has been longstanding debate on how to achieve them. Elements of this debate could not be resolved without a rigorous controlled trial of policy options. A 1991 order from the Director General of Medical Services created a task force to govern research and strategic decision-making. Chaired by the Director General, the task force was composed of the Director of Maternal and Child Health, the Director of the Health Research Unit, the Director of Public Health and the Director of the Navrongo Health Research Centre. A study protocol was drafted specifying scientific goals, activities, endpoints and mechanisms to ensure that evidence generated would guide large-scale reform. The approach was guided by international experience of linking innovators with policy-makers and sustaining evidence-based scaling up, even during periods of political and administrative change (8, Chapter 1).

Task force debate focused on the relative efficacy of two possible resources for implementing and governing accessible and affordable community health and family planning care. A view represented by the Bamako Initiative sponsored by the United Nations Children's Fund (UNICEF) emphasized the potential contribution of volunteer health providers and supporting cultural resources, such as chieftaincy, lineage and social network systems (9). In this perspective, vibrant traditional institutions for defining social structure, building consensus and establishing opinion leadership that are often ignored by health programmes could be utilized for developing sustainable volunteer health services. However, practical problems with implementing and managing volunteer programmes had been documented in the past (10, 11). In response to these problems, proponents of primary health care emphasized the potential impact of relocating underutilized community nurses to village locations (3). The task force prepared a protocol calling for a factorial trial to assess the relative childhood survival and fertility impact of marshalling two existing

but underutilized resources for community health care. One arm of the study mobilized the health service capabilities of traditional leaders, social networks and volunteers; the other arm relocated underutilized community nurses from clinic locations to resident community health service delivery roles. Since strategies could be implemented independently, jointly, or not at all, the design implied four cells, with the comparison condition representing the existing clinic-focused system of care.

The trial was to be conducted by the Navrongo Health Research Centre in Kassena-Nankana District of the Upper East Region (see Figure 5.2) where high rates of malaria, respiratory disease, diarrhoeal disease, nutritional adversity and reproductive health morbidity produce high infant and child mortality. Fertility in the locality is high owing to gender stratification, low rates of literacy, extreme poverty and traditional beliefs that constrain the introduction of family planning services (12).

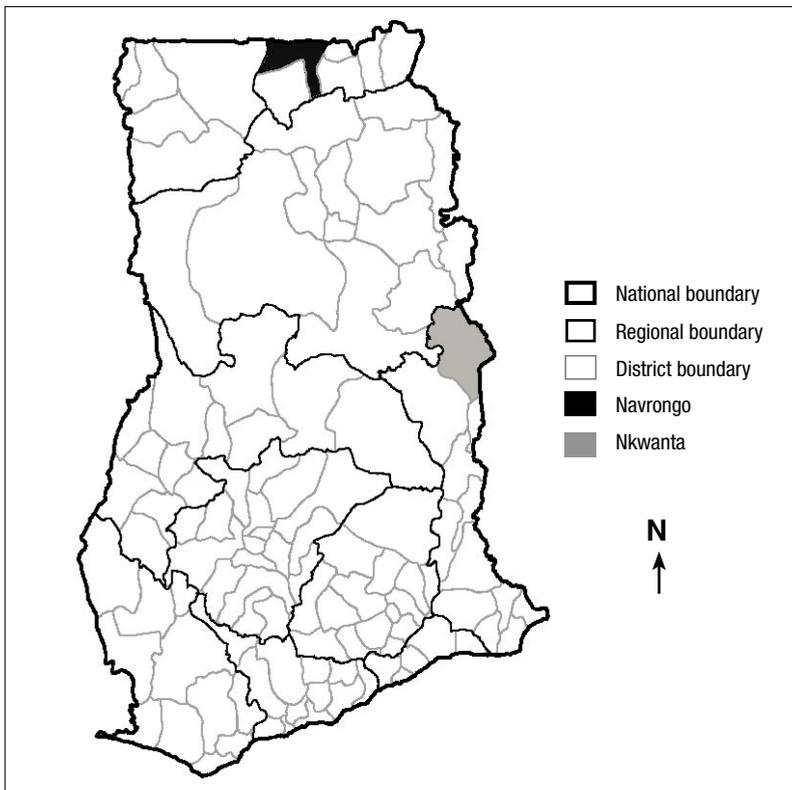


Figure 5.2 Map of the 10 regions and 110 districts of Ghana, highlighting the Kassena-Nankana District (Upper East Region) and Nkwanta District (Volta Region)

Phase 1 involved a pilot trial as well as social and operations research to clarify how the two experimental arms of the four-celled protocol could actually be implemented in such a challenging setting. In keeping with international experience in strategic planning, focus groups in three villages were convened to gauge opinion about the design of health and family planning services (13–16). Particular attention was directed to seeking guidance from women about their needs and advice on family planning service strategies. Activities emerged from these discussions that were implemented in a micro-pilot in three locations, focused on practical strategies for implementing the two experimental dimensions. Pilot activities were directed to developing guidelines for approaching chiefs and elders to engage their support and involvement in programme management, subordinating health leadership to the traditional system of community governance. Traditional leaders were oriented to the tasks of securing volunteer commitment to constructing community clinics, helping to solve the daily living needs of nurses, and supporting programme supervision and logistics operations. Pilot activities developed procedures for defining coverage areas of nurses, field methods for supporting nurse operations and training protocols for instructing nurses in community diplomacy. The pilot trial also focused on problems that applied to all experimental cells. For example, dialogue with community members aimed to identify ways to address gender problems, engage the support and participation of men in the programme, and sustain worker accountability to the communities served. Quarterly focus group sessions gauged worker and community reactions to strategies, permitting project scientists to revise operations in response to advice imparted (17). After 18 months of trial and error, and participatory planning, the task force launched Phase 2.

Phase 2: the Navrongo trial

To implement Phase 2, the four sub-districts of the district were randomized into the cells of a factorial design (18). Comparison of cells provided answers to questions about the relative merits of mobilizing traditional social institutions and volunteerism versus relocating community health nurses from clinics to communities. Results demonstrated that comprehensive community-based care was not only possible to achieve but also improved immunization coverage, service accessibility and the quantity of maternal and family planning care (19, 20). Putting a trained nurse in the community lessened parents' reliance on traditional healers when their children were sick (21) and reduced childhood mortality by more than a third (22). As the project progressed, community trust in nurses grew noticeably. Volunteers

had no impact on parental health-seeking behaviour, however, because parents saw little distinction between the capabilities of traditional healers and volunteers (21). Nonetheless, volunteers played a crucial role in building the participation of men in family planning and developing gender outreach activities. In the final analysis, Navrongo was successful for all parameters examined, but child survival success was related solely to the performance of nurses, and family planning success was conditional on the joint work of community leaders, volunteers and nurses. Thus, the combined community nurse and volunteer cell was suggested and eventually adopted as the model for national policy.

Phase 3: the Nkwanta validation initiative

A National Dissemination Conference was convened in 1998 to disseminate preliminary Navrongo trial results. Participants included all senior health officials from national, regional and district levels. Debate ensued over the relevance of Navrongo to the national programme. Some participants argued that the unique institutional resources of the Navrongo Centre were responsible for project success and that these capabilities could not readily be replicated in rural settings that lacked resources for research. Others asserted that the process of observing workers, measuring results and interacting with communities had subtle and nonreplicable effects arising from the tendency of participants to view research activities as tantamount to supervisory oversight. Evidence of programme impact in Navrongo alone could not mobilize the political will essential for scaling up. Thus, there was a need to validate the Navrongo success story in other cultural and ecological zones of Ghana, using routinely available resources and mechanisms of the Ghana Health Service.

Early in 1998, the Volta Regional Health Administration initiated a field trip for orienting district directors to the Navrongo trial and expressed interest in testing the transfer of innovations to the relatively "normal" resource-constrained service setting of Nkwanta District. To build staff consensus, the Nkwanta District director of medical services, the public health nurse, two sub-district supervisors, and community nurses visited Navrongo to observe the project first hand. The team-building role of the field trip was crucial because Ghanaian social norms place a high value on collective decision-making. Fieldwork permitted open and frank discussion of nurses' concern that community posting would disrupt family life and social relations. In addition, supervisors had been clinic and office workers who seldom faced the rigours of community work. Since volunteers are not permitted to provide antibiotic therapy, some Volta Region medical officers ex-

pressed concern that involving volunteers in health services would divert health-seeking behaviour from comprehensive primary health care to the relatively ineffective clinical syndromic regimen that volunteers are allowed to provide. Anticipated administrative problems were also a source of apprehension. The logistics required to launch community services seemed daunting, particularly because community care would add to supervisory workloads rather than replace or restructure existing functions. The notion of mobilizing communities was perceived by some to be risky, since expectations might be aroused for non-sustainable levels of service intensity.

These matters were raised during direct exchange between individuals in the Navrongo team who had developed ways of solving them, and peer counterparts from Nkwanta seeking practical guidance. Field demonstration of service operations thus assured the Nkwanta team of the feasibility of restructuring health service delivery based on the Navrongo model. Nurses, in particular, welcomed interaction with Navrongo community nurses. The success of this exchange showed that transferring the Navrongo model to other districts is appropriately pursued by demonstration rather than by didactic classroom training. After a week of joint service delivery, Nkwanta staff members began to plan a two-community pilot that would adapt the Navrongo model to local circumstances and set the stage for intra-district peer exchanges where pilot teams would orient counterparts elsewhere in Nkwanta District. Nkwanta established the value of pilot adaptation of the Navrongo model, as opposed to mechanical replication of its operational details. The training programme subsequently developed by CHPS for district teams seeking to implement community-based care therefore focuses on methods for implementing pilot trials rather than procedures for implementing district-wide operations.

Results from the pilot demonstrated that the Navrongo model could be implemented with Nkwanta administrative systems and resources. Nkwanta is typical of the poorest localities in Ghana where contraceptive practice is rare and high childhood mortality results from high prevalence of measles, malaria and other communicable diseases and is compounded by the inaccessibility of health facilities and low rates of childhood immunization (23). A large isolated district spanning over 5500 km², Nkwanta has a subsistence economy based on agriculture and fishing. Ranking among the most impoverished districts in Ghana, Nkwanta lacks paved roads, communication infrastructure, and piped water. Educational attainment is low, particularly among women. Health services are rudimentary: a single physician serves 187000 district residents and, when community health care was launched in 1999, there was no district hospital. Health staff

typically were deployed to sub-district clinics located far from most communities, and outreach services were sporadic and poorly managed. Replicating the Navrongo model in such a setting, with the usual resources of a district management team, would represent a powerful endorsement of the relevance of the model to impoverished districts elsewhere in the country.

Though similar in development constraints and health problems, Navrongo and Nkwanta differ fundamentally in their cultural and ecological settings. Whereas Navrongo has two ethnolinguistic groups, each residing in dispersed settlement areas of geographically contiguous zones, Nkwanta settlement patterns are clustered by hamlet, each with multiple ethnolinguistic groups. As many as five languages may be spoken in a single village, with each group led by its own chieftaincy and lineage system. This linguistic diversity presents unique challenges for communication about behaviour change. Whereas Navrongo could rely upon councils of chiefs and elders for building community participation, the Nkwanta team relied upon respected non-traditional leaders and groups, such as teachers, elected officials and faith-based organizations, to build consensus for the programme among traditional leaders. Finally, while Navrongo has extensive resources for equipment and logistics support embedded in its research protocol, Nkwanta's less sophisticated institutional capacity is more typical of district health systems in other rural districts of Ghana. The Nkwanta team developed management information procedures for tracking births and immunizations that could be implemented without computer technology.

The validation exercise in Nkwanta demonstrated that implementing community-based services would require substantial changes in the health-care system and identified the operational details of phasing in community health services community by community over time. Steps developed in Navrongo for changing operations from clinic-focused to community-based services were clarified, documented and validated by the Nkwanta District Health Management Team, resulting in the following six major sequential milestones (Table 5.1):

1. **Preliminary planning**, which involves grouping communities into service zones, specifying where each nurse is assigned to provide care, identifying community leaders and planning optimal location of the facilities to be used as service points for community-based health care (health compounds);
2. **Community entry**, which includes conducting meetings and diplomacy with village leaders, convening public gatherings, known as durbars, for communicating plans and activities to communities, and constituting health liaison committees for providing daily support to the programme;

3. **Health compound construction**, which utilizes volunteer labour and community resources to develop the dwelling unit where nurses live and work;
4. **Procurement of essential equipment**, such as motorbikes, bicycles and clinical equipment;
5. **Posting nurses**, and providing them with technical refresher training and orientation to communities where they are assigned;
6. **Volunteer recruitment**, which involves engaging health committees in designating health volunteers to assist with community activities in child health, family planning and other reproductive health services.

| Milestone | Type of operation | | Implementation tasks |
|----------------------------------|---|---|--|
| | Existing clinic-based system | Community-based services | |
| Planning | District Health Management Team; office-based planning | Defined community service areas, termed zones; traditional leaders; community nurses | Community mapping and enumeration; outreach to traditional leaders |
| Community entry | None | Community leadership support for health services; community health committees for governing operations | Community awareness building, liaison with leaders; community health committee selection; training of community nurse for community entry; community leadership training |
| Community health compound | None (sub-district health centre and hospital services) | Community constructed or refurbished nurse service and dwelling units; community ownership of primary service point | Community mobilization for facility development; community support for maintenance |
| Essential equipment | Four-wheel vehicle for biweekly outreach clinics (rarely available); sub-district and district hospital equipment | Bicycles or motorbikes for continuous outreach by nurse; basic clinical equipment for community health compounds | Procurement of bicycles, motorbikes, and basic community clinical equipment |

| Milestone | Type of operation | | Implementation tasks |
|-----------------------------|---|---|--|
| | Existing clinic-based system | Community-based services | |
| Nurse posting | Nurses resident at the sub-district or district level; sub-district health centre-based services; passive (facility-focused); biweekly/ monthly outreach clinics at fixed locations | Community resident nurses providing static services based in community health compound augmented by active (client-seeking) outreach to families in their homes | Supervisory provision of fuel for household visitation activities and supplies for clinical work; supervisory community backstopping of nursing operations; community support for operations; in-service training for nurses; motorbike rider training and maintenance capacity building |
| Volunteer deployment | None | Selection by traditional leaders and community health committees; supervision by community health committees; training by district health management team | Train community leaders in volunteer recruitment and management; train community health committees to select and supervise volunteers; train volunteers |

Table 5.1 Milestones in establishing community-based services by type of operational change required in the scaling-up process

At least 20 specific component activities have also been identified, though their sequence of implementation differs from locality to locality.

The process of transfer also demonstrated ways in which the strategy for expansion could improve upon the Navrongo model. Changes in the Navrongo approach to community mobilization were introduced to respond to ethnic diversity, which is common in southern Ghana but rare in the northern regions. Moreover, volunteers were deployed as community health organizers rather than as front-line service providers, in response to Navrongo research showing that child health is not improved by volunteer service delivery (21, 22).

Surveys conducted in 1999 and 2002 suggest that the validation effort had succeeded. In the 1999 baseline survey, family planning usage in Nkwanta District was estimated to be less than 4% (23). By 2002, prevalence was 14% in communities exposed to the programme, representing three times the prevailing rates in the rest of the district. Similarly, the odds of knowing at least one method of family planning were 2.2 times greater than among other district residents. Health indicators were also affected. The odds of having received antenatal care were more than five times greater among women residing in service communities than for others. Postnatal care odds were four times greater, and the odds of receiving both antenatal and postnatal care were greater as well.

Nkwanta not only validated Navrongo effects, but exceeded Navrongo levels of impact on several health indicators (23). Some elements of the Nkwanta service delivery system, however, did not achieve the same degree of success. Service components that benefit from sophisticated technical operations like those found in Navrongo are not easily replicated with routine service statistics. For example, childhood immunization services benefit from accurate and timely data on pregnancy and delivery, since the timing of immunization in infancy is crucial to the efficacy of each modality. Non-computerized procedures in Nkwanta have yet to achieve fully the precision and efficiency of the Navrongo system. While active outreach should result in higher immunization coverage than passive fixed posts or mobile clinic approaches, the Nkwanta experience demonstrated that vaccination coverage was not enhanced for all antigens, suggesting that impact is contingent on improved management information systems that support the prioritization of activities and correct timing of immunization for each infant served. In response to these findings, Nkwanta has developed a new information system for immunization that will be more appropriate for other districts than the Navrongo system.

Nkwanta was crucial for initiating the national scaling-up process by demonstrating that: 1) transfer of the service model from a research project to a district health service operation is possible, even in a challenging setting; 2) adapting and refining the underlying service model in a demonstration district is both necessary and feasible if low-cost research tools are used to generate evidence; and 3) scaling up involves a transfer of the service model to new districts through peer training for pilot teams followed by subsequent pilots and peer exchanges within implementing districts. In response to this success, the Ghana Health Service utilizes Nkwanta as a demonstration district for building CHPS implementation capacity.

Phase 4: nationwide expansion

A 1999 National Health Forum focused on the Nkwanta experience. Practical guidelines for implementing community services were presented and discussed, and consensus emerged that national implementation of the Navrongo service model was feasible. A consensus document, approved by acclamation at the Forum, led to the launching of the Community-based Health Planning and Services initiative in 2000, a programme for scaling up based on lessons from the Navrongo and Nkwanta experience. Three overarching features of CHPS govern its strategic design: policy, evidence and action.

Policy. Meetings, staff conferences, field exchanges, policies, plans and directives from headquarters catalyse and legitimize nationwide expansion at all levels of the Ghana Health Service. CHPS-sponsored field exchanges have been designed to build consensus and commitment for action. Newsletters from Navrongo and Nkwanta communicate to all district teams practical lessons and experience so that district plans benefit from advice from the field. National policies, in turn, legitimize the process of operational change, producing budgets and manpower assessments that respond to the requirements of a highly decentralized programme of action. Manpower shortages represent the key challenge to national health plans, and expansion of the community nurse workforce is now a major Ghana Health Service priority. Strategies are in the offing for new training schools, new approaches to training and in-service training activities. Ghana Health Service commitment to the initiative ensures that resources will be marshalled to support manpower expansion, and that the overall quality of health-care delivery will be improved as community services are scaled up as a national programme.

Evidence. The programme marshals evidence to evaluate whether strategies developed in Navrongo and Nkwanta can be scaled up with replicable levels of success. Regional and national staff meetings and Annual National Health Forum Conferences provide mechanisms for discussion of monitoring and evaluation results among health managers at all levels in the Ghana Health Service. In this manner “bottom-up” and “top-down” communication systems integrate evidence into routine management decision-making. The generation of the following three types of evidence ensures that no one type of data, source of learning or research paradigm dominates.

First, a programme of qualitative research, involving focus-groups with community leaders and members, front-line workers, supervisors, district managers, local politicians and administrators, elicits perceptions of progress and problems at each level of service delivery. Sessions are conducted by Regional Health Administration study

teams, with technical support from the Policy Planning, Monitoring and Evaluation Division (PPMED) of the Ghana Health Service. This approach sacrifices an element of objectivity but sets the stage for dissemination of results at senior Ghana Health Service managers' meetings.

Second, district CHPS implementation checklists record the coverage, content and pace of programme expansion in quarterly reports from each of the 110 districts in Ghana. Data are managed by PPMED, and quarterly reports to all district, regional and national health officials provide maps of progress, data on the status of implementation, newsletters and all existing diagnostic research reports.¹ The monitoring system generates national planning data as well as information for stakeholders about progress on all implementation indicators.

Third, survey data record impact statistics in districts where CHPS implementation is advanced. Geographical variation in community health service coverage permits PPMED to conduct surveys that demonstrate the potential contribution of CHPS to health development in Ghana (for example, 24, 25). These studies, which are dispersed throughout all regions of Ghana, have determined that Nkwanta results are evident in every setting where CHPS has been implemented (26).

Action. Each region has established a demonstration district where the approach is put to a test and adapted as needed. "Guided diffusion" stimulates operational change offsetting some of the resource requirements of scaling up. (27–29). The exchange process of transferring Navrongo learning to Nkwanta pilot teams and subsequent community exchanges within Nkwanta District provided a model of peer training that guides national expansion.

Peer training involves posting district teams to counterparts for two weeks of collaborative fieldwork, problem solving and planning. Nurses working with nurses, and supervisors working with counterparts, are introduced to all practical steps so they are aware of the elements of operational change inherent in implementing the six milestones (see Table 5.1). Typically, trainee teams are composed of the implementation hierarchy required for starting a two-zone pilot: the District Director of Health Services, the Public Health Nurse, the District CHPS Coordinator, one or two sub-district supervisors and the Community Health Officer (nurse) from the pilot sub-district. In this approach, structured interaction between district teams breaks down isolation, confusion and ambivalence about the initiative, while

¹ See <http://www.ghana-chps.org>

interaction among community leaders within implementing districts facilitates learning once the change process has been launched.

Sites for Nkwanta-like orientations are being expanded through competitive grants sponsored by the Population Council to district teams that have demonstrated advanced CHPS implementation capabilities. Small grants fund the evaluation of innovations to the programme and the cost of orienting visiting district teams in implementing innovation elsewhere. Thirteen districts have received awards, each providing funds for training teams from six other districts.

Peer training has been augmented with technical training for developing service quality, referral services and supervisory support. A Ghana Health Service technical training team conducts quality assurance field appraisals and in-service training as needed. New manuals, protocols and procedures have been developed for ensuring technical standards in community health nursing.

Peer training commences once technical training has been completed. Pilot work zones are used for orienting neighbouring community leaders to the programme. Durbars are used to build public awareness about the benefits of the programme. Awareness typically spreads to neighbouring communities, and political commitment to the initiative grows. This sometimes leads to District Assembly commitment of development revenue for community health compound costs (24).

In national policy documents, CHPS is viewed as a mechanism for integrating activities of the formal health sector into traditional institutions that define community leadership, foster consensus building and sustain collective action. Research reports provided highly credible evidence supporting policy commitment to this model. Such evidence has been a determinant of successful scaling up elsewhere (Chapter 1).

Constraints to scaling up

The CHPS initiative has made considerable progress. Only 22 of 110 districts reported implementing activities at the beginning of 2001; 18 months later, 87 districts had taken steps to launch the programme. By mid-2004, 105 of the 110 District Health Management Teams reported having undertaken preliminary planning activities. Although nearly every district in Ghana has joined the scaling-up process, a number of obstacles have emerged. The pace of launching programme planning has progressed more rapidly than the pace of implementing community-based services. Although approximately two thirds of the districts report having completed community-based planning, relatively few

have actually launched services. At the beginning of 2003, only 42% of the districts had completed the process of community entry in at least one service zone, even though community entry is a low-cost and simple-to-implement strategic component of the programme. A greater proportion of zones had completed Community Health Compound construction or renovation, suggesting that facilities are being developed without community involvement, and that community posting of the nurse or volunteer development lags behind all other milestones. This commitment of district resources for construction, without resource leveraging from communities, represents a departure from the CHPS model of community engagement that deprives the programme of community resources for facilities and community ownership of the programme itself. Qualitative systems appraisals show that communities which mobilize resources for the programme develop a sense of ownership of its services. Constructing facilities without community engagement is tantamount to bypassing social support for CHPS in general.

Staff engaged in the programme tend to be supportive of CHPS, but workers who are not familiar with the initiative resist its introduction (30). The following three themes explain this reluctance:

The knowledge gap. CHPS continues to mean different things to different stakeholders, despite the considerable effort that has been directed to training, policy directives, conferences and reports. In its simplest distortion, the programme is viewed as a means of putting nurses into communities, and little else. Because health workers at all levels are accustomed to clinic-based work routines, instructions to relocate nurses to communities get interpreted through the prism of clinic management experience. Front-line workers often amplify managerial concerns about the feasibility of shifting operations from clinics to communities. Nurses who are relocated to communities must leave behind the relative comfort of sub-district assignments, where work is routinely supervised and technical demands are minimal. Nurses express concern about the challenge ahead and managers are anxious about embarking upon changes that may be complicated to manage. Many of the key staff involved in decision-making have responsibility for clinical roles and little extra time for organizing community health care. While the potential difficulties of launching CHPS are anticipated, compensating benefits are not readily understood. By contrast, workers actually participating in the programme express satisfaction about their contribution to health service improvements and their appreciation of the support that communities render (31).

The resource gap. Resources for primary health care in Ghana are severely constrained. Increasing the coverage of community health

services expands demand for health care that translates into higher costs of pharmaceuticals, fuel, equipment and supplies. Health sector reform has conferred authority on district health management teams, but has not provided the necessary resources for implementing the general health service agenda. In the absence of earmarked donor or government funding for CHPS, incremental start-up costs severely constrain efforts to launch the programme. Given the financial and manpower limitations confronting districts, many are understandably reluctant to engage in “community entry” activities that will arouse public interest in services they are ill-equipped to launch and sustain.

The technical gap. District health management teams are often reluctant to launch a programme that they believe will require technical skills not yet in place. Management information systems, logistics systems and community outreach operations lack essential tools for ensuring that quality services will be maintained and that community health-care delivery will adequately respond to community needs. Community nurses often are ill equipped to make independent clinical decisions, having grown accustomed to the continuous technical supervision that sub-district health centres afford. Once they are deployed to communities they immediately confront major technical challenges. For example, communities typically expect arriving nurses to have midwifery skills that few are trained and equipped to provide. CHPS requires new training protocols and procedures that are not yet in place.

Responding to constraints

What is being done to solve these problems? Contrasting the responses of leading districts with those slow to implement operational change suggests the following possible solutions:

Responding to the knowledge gap. As the Nkwanta experience demonstrated, peer exchange resolves conceptual confusion by exposing participants to the practical requirements of changing operations. This type of training, originally provided in Nkwanta and Navrongo, is being extended to other advanced CHPS districts. A more extensive field demonstration programme is under development that will provide each of the regions with at least one Nkwanta-like demonstration district. In the past, technical training has been provided through workshops for individual nurses that were unconnected with field demonstration activities for district implementation teams. The CHPS demonstration programme will be augmented with a new in-service technical training component for upgrading clinical skills that are needed for service provision, referral, quality assurance and commu-

nity-based health management. The integration of nurse training with team demonstration will ensure that scaling up improves rather than dilutes service quality.

Responding to resource constraints. CHPS implementation follows the principles of the diffusion of innovation. Districts are administrative units that foster interaction of workers within district boundaries, but also constrain interaction among workers of different districts. Therefore, scaling up spreads within districts once the initiative gets started in one or two zones, but spreads slowly across district boundaries (32). Catalysing the diffusion process requires investment in trials in pilot zones that demonstrate CHPS within districts and set the stage for community-to-community diffusion of innovation. Experimentation with these mechanisms remains nascent, but they involve constituting all milestones of the CHPS programme in pilot areas and inviting leaders from neighbouring communities to participate in durbars, observe service operations and witness community commitment. The Nkwanta experience showed that such exchanges fostered the spread of health action and volunteerism, offsetting the costs of developing and sustaining the programme.

Moreover, districts progressing with scaling up have developed creative ways of solving resource constraints. Two districts have marshalled district assembly support and development funds for augmenting programme revenue. Others have raised donations through community activities and faith-based organizations. One district has developed creative ways to solve manpower problems with “private practitioners” – paramedics who are financed by the community rather than salaried employees of the Ghana Health Service. Field investigation consistently shows that rapidly advancing districts have developed innovative strategies for solving resource constraints.

There is reason to doubt that community commitment alone can fill the resource gap, however. The “Common Fund” of health sector reform commits only US\$ 6.80 per capita per year to district revenue, and this commitment covers the full range of preventive and ambulatory services. If CHPS is to progress, added revenue will be required, at least for financing pilots that start operations. In Navrongo, US\$ 1.92 per capita per year is required, over and above routine district revenue. Nkwanta has cost less, but even in that district, scaling up would not have started without the catalytic contribution of two Navrongo motorbikes and US\$ 12 000-worth of supplies and equipment from a faith-based charity. At the very least, a commitment of this magnitude will be required to launch and sustain pilot activities that enable district teams to get CHPS started without delay, mobilize community support for the programme by demonstrating its potential, and build staff

understanding of how to make the programme work. Just as CHPS demonstrates that communities will finance a community-based programme, its slow pace of expansion demonstrates that well-placed development investment is essential to accelerating the scaling-up process.

Responding to manpower and technical gaps. Evidence suggesting that nurses often fear community deployment has raised fundamental questions about manpower policy. Community Health Nurses are trained in one of four national training schools, fees are paid by the government, and graduates are deployed to sub-districts by central order. Much of the concern that nurses express about community deployment derives from the obvious fact that they are not from communities where they will live and work, may not speak the local language, and may be compelled to live separately from families and kin. To deal with these problems, Navrongo has launched a “community engaged” approach to decentralized training. Communities select nurse trainees, who are sent to a local training centre where fees are paid by the districts and communities to be served by the trainees. Upon graduation, nurses return home, rather than to a post in a distant location. Evidence from this trial has generated new policies for the national nurse training programme. Ten new decentralized schools are being opened; 10 more are planned with the goal of scaling up the availability of trained manpower and improving the quality and social relevance of CHPS manpower policies. This experience attests to the importance of continuous investigation and revision of scaling-up policy as initiatives mature.

Conclusion

Despite the challenges that have been identified, the CHPS initiative has begun to introduce health-care reform in every region of Ghana. Much remains to be accomplished, but concepts guiding the initiative have been tested in Navrongo and shown to be fundamentally sound. Various principles of scaling up have been demonstrated by this experience. In Ghana, scaling up has been a process of organizational change and development that required working in phases guided by evidence. The role and type of research shifted as the programme progressed, not only guiding the continuous process of expansion and development, but also identifying problems and permitting strategic change and improvement as scaling up progressed.

Scaling up in Ghana has derived particular benefit from replication and validation studies. Nkwanta validated the notion that the Navrongo approach could work elsewhere, and demonstrated that

the Navrongo model is less a prescription for replication than a generic process for adaptive development of appropriate health care that could work in other areas of Ghana. Further replication initiatives have confirmed and legitimized the rationale for programme expansion. Scaling up the programme beyond Nkwanta required specific guidelines on components of the clinical programme that required change, steps required in the process of operational change, and procedures for monitoring whether organizational change was actually taking place. While replication projects have strengthened commitment to CHPS, sustaining Navrongo has provided a continuing resource for demonstrating the model, promoting its worth and documenting the evidence on which the national scaling-up initiative is based. If the Ghana Health Service had abandoned Navrongo when CHPS was launched, scaling up would have lost the wisdom, commitment and capabilities of its founding implementation team. The Ghana example demonstrates not only the value of replication projects, but also the continuing value of the founding project in dissemination, training and advocacy.

Large-scale programme expansion in Ghana has been guided by multiple sources of evidence and sustained by complementary strategies for communicating results to stakeholders. Monitoring activities record both qualitative information on programme problems and quantitative data on the spread of programme activities. Evidence gathered through a range of activities and experience with the initiative has fostered decentralized planning, training and adaptive development of strategies to local circumstances and needs. The accumulation of evidence has been combined with communication activities for ensuring that results are put to use. Newsletters document community and worker experience with the programme. Conferences, demonstration exchanges and staff meetings build consensus and understanding of the initiative and sustain the scaling-up process.

CHPS is thus a complex story. Its core strategy is based on an elaborate experiment, multiple replication efforts and diverse sources of evidence. Its core agenda, however, is quite simple for stakeholders to understand and embrace. If CHPS succeeds, it will have demonstrated mechanisms for bringing health services to every Ghanaian doorstep by aligning health sector policy, evidence and action with vibrant social traditions of community leadership, communication and volunteerism.

Acknowledgements

The authors gratefully acknowledge the many dedicated Ghana Health Service workers who have made, and continue to make, CHPS a success. In particular, we thank the scientists and service workers of the Navrongo Health Research Centre and Nkwanta District Health Administration who set the stage for the CHPS initiative. This work was made possible through grants to the Population Council and sub-awards to the Ghana Health Service funded by the United States Agency for International Development. Rockefeller Foundation grants to the Navrongo Health Research Centre funded demographic research and Ghana Health Service dissemination conferences that led to the CHPS initiative.

References

1. *Better health in Africa: experiences and lessons learned*. Washington, DC, The World Bank, 1994.
2. *The Danfa comprehensive rural health and family planning project: summary, conclusions, and recommendations from the final report*. Accra, University of Ghana Medical School, 1979 (unpublished).
3. Amonoo-Larsen R, Ebrahim G, Lovel H et al. *District health care: challenges for planning, organization and evaluation in developing countries*. London, Macmillan Press, 1984.
4. *Medium-term health strategy* (September 1995). Accra, Ministry of Health of the Republic of Ghana, 1995.
5. *The health of the nation: reflections on the first five-year health sector programme of work, 1997–2001*. Accra, Ministry of Health of the Republic of Ghana, 2001.
6. *Fourth review under the poverty reduction and growth facility, requests for waiver of performance criteria and for extension of the commitment period*. Accra, International Monetary Fund, 2002 (unpublished report by the African Department).
7. *A profile of health inequities in Ghana*. Accra, Ministry of Health of the Republic of Ghana, 1998.
8. Akosa BA, Nyonator FK, Phillips JF et al. *Health sector reform, field experiments, and systems research for evidence-based programme change and development in Ghana*. Paper prepared for: From Pilot Projects to Policies and Programmes, Rockefeller Foundation Conference, Bellagio Study and Conference Center, 31 March–5 April 2003.

9. Knippenberg R, Levy-Bruhl D, Osseni R et al. *The Bamako Initiative: primary health care*. New York, United Nations Children's Fund, 1990.
10. Agyepong IA, Marfo C. Internal evaluation of the Dangme West District Village Health Worker Programme. Accra, Ministry of Health of the Republic of Ghana, 1992 (unpublished, Health Research Unit).
11. Agyepong IA. Reforming health service delivery at district level in Ghana: the perspective of a district medical officer. *Health Policy and Planning*, 1999, 14:59–69.
12. Adongo PB, Phillips JF, Kajihara BZ et al. Cultural factors constraining the introduction of family planning among the Kassena-Nankana of northern Ghana. *Social Science and Medicine*, 1997, 45:1789–1804.
13. Korten D. Community organization and rural development: a learning process approach. *Public Administration Review*, 1980, 40:480–511.
14. Simmons R, Phillips JF, Rahman M. Strengthening government health and family planning programmes: findings from an action research project in Bangladesh. *Studies in Family Planning*, 1984, 15:212–221.
15. Simmons R, Hall P, Díaz J et al. The strategic approach to contraceptive introduction. *Studies in Family Planning*, 1997, 28:79–94.
16. Simmons R, Brown J, Díaz M. Facilitating large-scale transitions to quality of care: an idea whose time has come. *Studies in Family Planning*, 2002, 33:61–75.
17. Nazzar A, Adongo PB, Binka F et al. Involving a traditional community in strategic planning: the Navrongo community health and family planning project pilot study. *Studies in Family Planning*, 1995, 26:307–324.
18. Binka FN, Nazzar A, Phillips JF. The Navrongo community health and family planning project. *Studies in Family Planning*, 1995, 26:121–139.
19. Debpuur C, Phillips JF, Jackson EF et al. The impact of the Navrongo project on contraceptive knowledge and use, reproductive preferences, and fertility. *Studies in Family Planning*, 2002, 33:141–164.
20. Phillips JF, Jackson EF, Bawah AA et al. *The fertility impact of the Navrongo project*. Paper presented at: Population Association of America Annual Meeting, Minneapolis, MN, April 2003.
21. Nyarko P, Pence B, Adongo P. *Child morbidity and health-seeking behaviour of primary caretakers in the Kassena-Nankana District of northern Ghana*. Accra, Ministry of Health of the Republic of Ghana, 2004 (unpublished).

22. Nyarko P, Pence B, Phillips JF et al. *The impact of the Navrongo community health and family planning project on child mortality, 1995–2000*. New York, The Population Council, 2005 (Policy Research Division Working Paper).
23. Awoonor-Williams JK, Feinglass ES, Tobey R et al. The impact of a replication project on safe motherhood and family planning behavior in Nkwanta District of Ghana. *Studies in Family Planning*, 2004, 35:161–177.
24. Antwi P, Nyonator FK, Jones TC et al. *The impact of the community-based health planning and services (CHPS) program on maternal health in the Abura-Asebu Kwamankese District in Ghana*. Paper presented at: Population Association of America Annual Meeting, Boston, MA, 1–3 April 2004.
25. Kuffour E, Antwi P, Nyonator FK. *Programme evaluation when there is purposive placement: an example of a social programme in Ghana*. Accra, Ghana Health Service, 2004 (Policy Planning, Monitoring and Evaluation Division, unpublished).
26. Nyonator FK, Phillips JF, Vaughan-Smith M. *The health and family planning impact of the community-based health planning and services initiative in nine rural districts of Ghana*. Accra, Ghana Health Service, 2005 (Report of the Policy Planning, Monitoring and Evaluation Division).
27. Glaser EM, Abelson HH, Garrison KN. *Putting knowledge to use: facilitating the diffusion of knowledge and the implementation of planned change*. San Francisco, CA, Jossey-Bass Inc., 1983.
28. Rogers EM. *Diffusion of innovations*, 4th ed. New York, Free Press, 1995.
29. Mintrom M. Policy entrepreneurs and the diffusion of innovation. *American Journal of Political Science*, 1997, 41:738–770.
30. Nyonator FK, Jones TC, Miller RA et al. Guiding the Ghana Community-based Health Planning and Services approach to scaling up with qualitative systems appraisal. *International Quarterly of Community Health Education*, 2005, 23:189–213.
31. Sory EK, Jones TC, Nyonator FK et al. *Grassroots mobilization to accelerate the introduction of community-based health service delivery in Ghana: strategic assessment of the CHPS program in the central region of Ghana*. Paper presented at: American Public Health Association Annual Meeting, San Francisco, CA, 15–19 November 2003.

32. Nyongator FK, Awoonor-Williams JK, Phillips JF et al. The Ghana Community-based Health Planning and Services initiative: fostering evidence-based organizational change and development in a resource-constrained setting. *Health Policy and Planning*, 2005, 20:25-34.