



# INTRODUCTION

## GLOBAL CONTEXT

Worldwide concern for the rather slow progress in improving people's health in developing countries resulted in the establishment of the Commission on Health Research for Development in 1987. Starting from the premise that scientific methods are essential to support informed and intelligent decision-making for health, the Commission conducted a worldwide analysis of health conditions and health research and published its now well-known report in 1990<sup>1</sup>.

The report concluded that good health is a driving force for development based upon equity and social justice. However, research which is a link between human aspiration and action is too often neglected. Research should be applied with a view to improving human health.

To ensure that this happens, the Commission advocated the adoption of the concept of 'Essential National Health Research' (ENHR), in which a strategy or process is initiated to carry out the scientific studies that are required to lead a country towards better and more equitable health.

At the core of this process is the active involvement, not only of researchers, but of those who make health policies and take decisions relating to health, and the beneficiaries of health services, namely community members. Often this implies a determined effort to move research out of the 'campuses' and 'cabinets' of academic and research institutions, and into the policy-making process which involves Ministries of Health and other agencies who are at the heart of decisions about research policy.

Policy-makers at this level make decisions on the best approaches to adopt in order to effect necessary changes in the health system. When they are puzzled why, in spite of available knowledge and technology, health care still does not achieve the best results, policy-makers desperately look for other information to guide their decisions. Dissatisfied with routinely collected data generated by the activities of the health system, many are turning increasingly to research. The basic philosophy here is that health research, provided it is derived from the specific needs of the country, will help to address issues that are not only relevant but are essential solutions to that country's health problems.

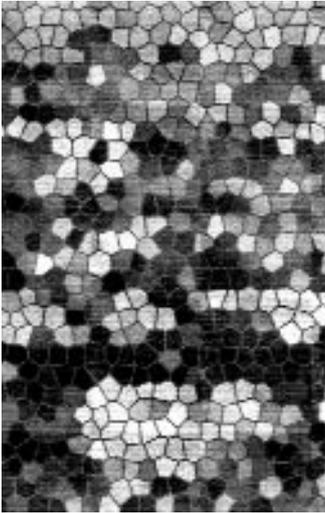
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EVOLUTION OF  
HEALTH  
RESEARCH  
ESSENTIAL FOR  
DEVELOPMENT  
IN GHANA

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COUNCIL ON HEALTH RESEARCH FOR  
DEVELOPMENT  
( COHRED )





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# TABLE OF CONTENTS



## CHAPTER ONE

INTRODUCTION	1
GLOBAL CONTEXT	1
HEALTH CARE DEVELOPMENT IN GHANA	2
RESEARCH DEVELOPMENT	3

## CHAPTER TWO

GETTING STARTED	5
THE DANFA COMPREHENSIVE HEALTH AND FAMILY PROJECT	5
THE TBA OPERATIONAL RESEARCH PROJECT	6
THE VITAMIN A SUPPLEMENTATION TRIALS (VAST)	6
THE ODA-SUPPORTED PROJECT	7
OTHER INITIATIVES	8
SITUATIONAL ANALYSIS	9

## CHAPTER THREE

GETTING ESTABLISHED	12
THE 5-YEAR POLICY FRAMEWORK OF 1992	12
SETTING THE RESEARCH AGENDA	12
BUILDING CAPACITY	13
INSTITUTIONALISATION	14
RESEARCH CENTRES	14
ORGANISATIONAL STRUCTURE	15
MONITORING AND EVALUATION	16

## CHAPTER FOUR

FORGING AHEAD	18
AGENDA FOR HEALTH SECTOR REFORMS	18
MECHANISMS FOR PROMOTING RESEARCH ON THE AGENDA	18
ORGANISATIONAL AND MANAGEMENT ARRANGEMENTS	20

## CHAPTER FIVE

LESSONS LEARNT	23
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## APPENDIX 1

RESEARCH PRIORITIES OF THE MINISTRY OF HEALTH (1992-1996)	27
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## APPENDIX 2

RESEARCH AGENDA FOR HEALTH REFORMERS (1997-2001)	29
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## LIST OF ACRONYMS



AFRO	WHO REGIONAL OFFICE FOR AFRICA
AIDS	ACQUIRED IMMUNODEFICIENCY SYNDROME
ARI	ACUTE RESPIRATORY INFECTION
COHRED	COUNCIL ON HEALTH RESEARCH FOR DEVELOPMENT
CPFH	COLUMBIA UNIVERSITY POPULATION AND FAMILY PLANNING, AND HEALTH PROJECT
CSIR	COUNCIL FOR SCIENTIFIC AND INDUSTRIAL RESEARCH
DFID	DEPARTMENT FOR INTERNATIONAL DEVELOPMENT (BRITAIN)
ENHR	ESSENTIAL NATIONAL HEALTH RESEARCH
EPI	EXPANDED PROGRAM ON IMMUNISATION
GHS	GHANA HEALTH SERVICE
HMIS	HEALTH MANAGEMENT INFORMATION SYSTEM
HSR	HEALTH SYSTEMS RESEARCH
IHPP	INTERNATIONAL HEALTH POLICY PROGRAM
JPC	JOINT LANNING COMMITTEE
JTF	JOINT TASK FORCE
MOH	MINISTRY OF HEALTH
NDSS	NAVRONGO DEMOGRAPHIC SURVEILLANCE SYSTEM
NGO	NONGOVERNMENTAL ORGANISATION
NHRC	NAVRONGO HEALTH RESEARCH CENTRE
NHRU	NATIONAL HEALTH RESEARCH UNIT
NMIMR	NOGUCHI MEMORIAL INSTITUTE OF MEDICAL RESEARCH
ODA	BRITISH OVERSEAS DEVELOPMENT ADMINISTRATION
PHC	PRIMARY HEALTH CARE
RAWOO	DUTCH ADVISORY COUNCIL FOR SCIENTIFIC RESEARCH IN DEVELOPMENT PROBLEMS
SDHS	STRENGTHENING OF DISTRICT HEALTH SYSTEMS
TBA	TRADITIONAL BIRTH ATTENDANT
UCLA	UNIVERSITY OF CALIFORNIA, LOS ANGELES
UNDP	UNITED NATIONS DEVELOPMENT PROGRAMME
VAST	VITAMIN A SUPPLEMENTATION TRIALS
WHO	WORLD HEALTH ORGANIZATION

## HEALTH CARE DEVELOPMENT IN GHANA

Like most African countries, improvement in health status of Ghanaians has been rather slow. Even though infant mortality has dropped from 133 per 1000 live births in 1960 to 66 in 1993, and average life expectancy has increased from 45 to 55 years, the health indices are still much worse than in developed countries and in some of the other developing countries that had similar indices some 40 years ago.

The major causes of mortality and morbidity are still communicable diseases and easily treatable conditions. Malaria continues to be the major cause of ill health. Respiratory diseases, malnutrition and diarrhoeal diseases still abound.

The underlying factors contributing to this situation are varied and include the low literacy level, poor income, poor environmental sanitation, inadequate nutrition and food security, and inadequacies in the health care delivery system itself. Over the years, that system has attempted to play its role of improving health status by developing specific interventions directed at the main diseases responsible for the greatest ill health.

As far back as the 1890s<sup>2</sup>, the modern health care system set up by the colonial government laid emphasis on the diseases that plagued the inhabitants of West Africa, especially fevers that killed the white man.

The **Basic Health Services**<sup>3</sup>, which became the bedrock of health service delivery in the late 1950s, emphasised clinical care through the development of a network of health facilities to treat cases or conditions that were predominant at that time.

The **Primary Health Care Programme**<sup>4</sup> in the late 1970s recognised that health facilities alone were inadequate to improve health services. It placed emphasis on tackling such underlying factors as education and the environment. It promoted intersectoral collaboration as well as a team approach to health care delivery. Despite the introduction of delivery of health care based on the PHC strategy, health status had not improved as much as was desired.

The **Strengthening of District Health Systems Initiative of 1983**<sup>5</sup> (SDHS) was an attempt to deal with some of the underlying issues such as faulty management, which was adversely affecting the health care delivery system. The initiative expressly addressed that weakness.

The **Restructuring and Re-organisation of the health care system in 1990**<sup>6</sup> was a logical follow-up aimed at addressing inefficiencies in the organisational structure which had led to the persistence of vertical structures at all levels.

The **Medium Term Health Strategy of 1997**, which is being pursued<sup>7</sup> to this day, is the sum total of accumulated knowledge and experiences in the health sector over the past 20 years, and reflects the growing need to tackle the fundamental issues affecting health care in the face of diminishing resources.

## RESEARCH DEVELOPMENT

Ghana has a long research tradition dating as far back as the close of the 19th century. In September 1899, Dr Chalmers collected and classified mosquitoes in Ghana, (then known as the Gold Coast). His research focus was on the causes of fever that attacked people in West Africa, then often referred to as the 'white man's grave'. Dr Leiper, who came to the colony in 1905, established how guinea worm was transmitted as well as the causes of conditions such as trypanosomiasis.

Throughout that time, much of the effort was indeed put into understanding the causes of disease as well as the means of its transmission. For example in 1908, following the outbreak of plague in Accra, Professor Simpson was sent down from England with equipment to investigate it, the sole object being to understand its transmission. His work formed an essential part of laboratory-based research in Ghana. Two years later, research was undertaken to develop a vaccine against smallpox derived from lymph nodes.

In 1920, a Medical Research Institute was formally created. Its work focused on laboratory research but with a strong clinical component. It was staffed by a director and six pathologists, and had 12 beds. In 1927, an outbreak of yellow fever occasioned a visit from the Rockefeller Yellow Fever Commission. In their efforts to discover the cause of this disease, Dr Young and Dr Hildeyo Noguchi were infected in the laboratory and tragically both men died. By 1944, a network of laboratories focusing on both clinical and basic research work had been established in the country.

In 1952, the Government set up a commission which recommended setting up the West African Council for Medical Research to coordinate research throughout the region. However, this council was abolished in 1961 and Ghana set up its own National Institute of Health in its place. The Institute was given responsibility for directing health research in the country, and there followed a few years of serious medical research under Professor Gilman from South Africa. Between 1960 and 1970, extensive WHO assistance enabled both foreign and local staff to work extensively together. Consequently the 1970s saw a plethora of scientific publications. However, with the departure of Ghana's first president, Kwame Nkrumah, in a military coup d'état in 1966, the institute was abolished.

Earlier, in 1963, President Nkrumah directed that the Korle-Bu Hospital should become the nucleus of the teaching hospital for the medical school. The school was then directly under the Ministry of Health (MoH), which had as its representative the Administrative Dean. Later the medical school came under the Council for Higher Education and, later still, under the Ministry of Education.

In 1977, the Japan Government erected a building for research and donated it to Ghana. This became the Noguchi Memorial Institute of Medical Research (NMIMR), located about ten kilometres from the teaching hospital. The sheer distance from the teaching hospital meant that the staff of the Medical School were unable to participate actively in its work,

and the Noguchi Institute had to recruit its own staff and operate by itself. So it happened that the country's three links to health – service delivery, research, teaching – moved with the different institutions, and were separated.

The intervening period until 1990 saw a number of isolated efforts at conducting research by the universities, research institutions and donors with very little reference to the MoH. In addition, research information was not finding its way into policy and programmes.

It is against this background that the then Director of Medical Services directed in 1990 that a mechanism be again put in place for linking research directly to the efforts of the MoH. Asked what motivated his interest in research, the Director of Medical Services replied:

*'Where I trained as a health planner, research was part of the planning process. I consider research at the operational level to be a management tool and I expect all district health managers to acquire the skill in research.'*

This monograph describes the experiences of the MoH in making maximum use of research to guide the policy-making process and to inform programme development.



## GETTING STARTED

### THE DANFA COMPREHENSIVE HEALTH AND FAMILY PROJECT

This project was started early in 1970 after a feasibility study had been completed in late 1969, and it ran for some ten years until 1979. The project, which was initiated by the Ghana Medical School, was funded by USAID through a subcontract with the University of California, Los Angeles School of Public Health (UCLA). It focused on service delivery, with the teaching of research in a rural area. It was based on a need to 'systematically improve methods of providing rural primary health care, which included family planning'. Its clearly outlined purpose was to serve as a demonstration of rural health provision, especially by undertaking research into the most efficient means of utilising available resources in the operation of comprehensive rural health services centred on health posts.

Co-directors from both UCLA and the Medical School managed the project. At the end of the project period, there had been substantial output in terms of publications. At least 43 articles had been published in peer review journals, and nearly 30 others had been submitted. Some 12 monographs had also been produced, as well as a number of recommendations in health care delivery (5), family planning (5), evaluation of programmes (2), institutional development (4), information transfer (4) and programme management (1). The project was seen as making a useful contribution to current primary health care as well as offering a foundation for research at the operational level. However, the absence of an institutional arrangement within the MoH did not permit maximum use of the output from Danfa. Again, because the administration of research was outside the MoH, its direct influence on selection of topics to be investigated was minimal. Despite the assertion that work in Danfa was being done on behalf of the MoH, and the fact that a number of MoH staff took part in the implementation, the Danfa project did not lead to the institutionalisation of research in the MoH.

## THE TBA OPERATIONAL RESEARCH PROJECT

The period after the Danfa experience saw a reduction in research output, although some ad hoc work was done, mostly sponsored by donors, MoH involvement was minimal. In 1987, the use of Traditional Birth Attendants (TBAs) for family planning and midwifery services became the theme of an operational research project of the MoH, funded by USAID through the Columbia University Population Family Planning and Health Project (CPFH). The project examined what it would take to actually implement a TBA programme at the district level. It not only studied the work of TBAs but also put their work into the context of the health care delivery system at sub-district level. And it undertook a management audit and examined management practices at sub-district level (the health centre and its catchment population).

For the first time, management weaknesses and needs were identified as crucial at this operational level. Until then, it was assumed that there were no management problems and that, since the staff were technical persons, they only needed to be told what to do and their role was to follow instructions. As part of the research, a system was set up whereby regular meetings were held by the research team with top policy-makers at MoH Headquarters to report on progress and to solicit their input.

This process proved so successful that the then Director of Medical Services directed that the research team become the nucleus of a research unit for the MoH under his direct supervision.

Since the MoH directly selected the topic for the investigation and was in the position to request further investigations, it took direct interest in the findings of the project. Not surprisingly, a national TBA programme emerged. A national guideline and a structural training programme with dedicated staff also emerged. Other topics investigated in the project included community participation (a national guideline on community assessment was later developed), supervision methods and supply mechanisms. Close collaboration with the University of Ghana - Sociology Department - was fostered in this exercise.

Subsequently, in 1990, when the then British Overseas Development Administration (ODA) held a meeting with the MoH on areas of support, the establishment of a National Health Research Unit for the MoH became one of the main focuses of requests for support.

## THE VITAMIN A SUPPLEMENTATION TRIALS (VAST)

In 1988, a joint project between the London School of Hygiene and Tropical Medicine, the Ministry of Health and the University of Science and Technology was started at Navrongo to evaluate the impact of Vitamin A supplementation on morbidity (particularly ARI and diarrhoea) and all-cause mortality in children. These studies found an approximate 20% reduction in all-cause mortality in the supplemented group and a signifi-

cant reduction in hospital admissions. The trial setting, infrastructure and Ghanaian staff involved became the nucleus of the Navrongo Health Research Centre (NHRC). This Centre has since been developed as one of the three main field stations of the MoH for carrying out several other field-based epidemiological research projects.

## THE ODA-SUPPORTED PROJECT

The establishment of the National Health Research Unit (NHRU) by the Ministry of Health marked the re-start of a more direct involvement of the Ministry in research in recent times. The first author of this paper was appointed as its first head. The staff at that time were being paid by the CPFH, and the TBA Operational Research Project became its first set of employees. They comprised five young female graduates from the University of Ghana and the Institute of Journalism. Initial funding was provided by the British ODA through a bilateral agreement with the Ministry of Health.

The project, called 'Establishment of a National Operational Research Unit, Accra' had the following objectives:

1. To establish a National Health Research Unit which will:
  - (a) undertake and commission research aimed at improving the operation of primary health care programmes, i.e., to make primary health care programmes more effective, efficient and sustainable;
  - (b) improve access to health services and information;
  - (c) improve the quality of primary health care and family planning services.
2. To institutionalise operational research through creating local capacity to:
  - (a) define research needs;
  - (b) undertake research;
  - (c) disseminate research findings effectively.

## ACTIVITIES

A number of activities were carried out under this project. The key ones were:

### 1. Setting a Research Agenda

A list of topics reflecting largely the interest of ODA at that time for health programmes was drawn up as a basis for research work. This list cannot be described as a research agenda but served as a starting-point for research that was directed from the HRU.

### 2. Establishment of Satellite Research Stations

A regional-level Operational Research Unit was established in the Volta Region. The original concept that it should serve as a satellite of the NHRU was abandoned under the decentralisation process, and it became autonomous under the regional health system. Similarly, a district research

station was set up at the district level in Dodowa. Each of these sites was intended to generate lessons on how research should be organised within this decentralising process.

Specifically, lessons were learnt on:

- (a) how a district/region should arrive at a local-level research agenda within the context of the national agenda;
- (b) how a district/region should organise itself to carry out the research;
- (c) what type of support would be needed to carry out the research;
- (d) how the district/region would disseminate and utilise the information so obtained.

### 3. Establishment of a National Health Research Advisory Committee

The selection of members for the advisory committee had to be done carefully, balancing two issues - each individual's own skill as a researcher, and the need to ensure adequate institutional representation of the main stakeholders in research. This was done by the Director of Medical Services after extensive consultation. The main stakeholders on the committee were:

- The Ministry of Health at National, Regional and District level;
- The two universities nominated by their vice-chancellors;
- The two medical schools nominated by their Deans;
- Representatives of the two main research institutions - the Noguchi Memorial Institute of Medical Research and the Council of Scientific and Industrial Research (CSIR);
- An NGO representative;
- A representative of Local Government;
- A representative of the National Council for Women and Development.

## OTHER INITIATIVES

An 18-member advisory committee was set up, chaired by the Director of Medical Services with a vice-chairman elected by the members. The committee met regularly - at least once every three months.

While the activities described here were going on, other initiatives were running concurrently. These are mainly donor-initiated projects, and a number of them are detailed below because of their impact on activities going on at the time:

### THE WHO HEALTH SYSTEMS RESEARCH PROJECT

A joint Dutch/WHO Health Systems Research project had been under way in the Eastern and Southern African Regions of AFRO. The Ministry of Health was invited to send two persons to their proposal development workshops. The WHO/HSR project provided valuable funds and support for a number of activities including:

- (a) The first consultative meeting on health research in Ghana was held in 1990 and brought together nearly 100 persons with an interest in research. It also paid for an Inter-country Workshop on Health Systems Research in Africa, which was opened in Accra by the then Regional Director for WHO, Dr G. L. Monekosso.
- (b) Two teams from Ghana also participated in proposal development workshops organised by this group from the Southern Region. It provided technical input and some funds for the initial capacity building programme, especially the Training of Trainers Workshop held in Accra.
- (c) It also invited the head of the NHRU to a workshop for research managers in Zimbabwe in 1990.

#### THE INTERNATIONAL HEALTH POLICY PROGRAM (IHPP)

This initiative provided awards to a member of the Ministry of Health staff for strengthening its capacity for policy analysis. It also provided support to the CSIR to build its capacity as a research institution with a focus on health. A number of policy reports on maternal health in Ghana were produced.

#### THE ENHR MOVEMENT

The worldwide review of health conditions which resulted in 1987 in the publication '*Health Research: Essential Link to Equity in Development*' was a major landmark in the development of research at the international level. The Task Force on Health Research for Development that was set up as a result of this work put into operation the concept of Essential National Health Research in 1991.

The Task Force was inspirational in charting out the subsequent direction of the development of health research in Ghana. This was particularly true for the Council on Health Research for Development (COHRED), which was established in 1993 as a non-governmental council under UNDP. The council has spearheaded the implementation of the concept of research, essential for health and development. Its principle of linking policy-makers, researchers, health-care providers and the community was well recognised and in line with the effort of the MoH to promote research that would strengthen its policy development and programme implementation.

#### SITUATIONAL ANALYSIS

In this connection, representatives from Ghana attended various meetings of the African Essential National Health Research Network. In Ghana, the existing arrangement where the MoH coordinated and fostered research activities through the Health Research Unit served as the mechanism for implementing the ENHR concept, hence avoiding the creation of another, separate structure.

In early 1990, the MoH undertook a situational analysis of the status of health research as the basis for the design of a research programme that would involve all stakeholders, including donors. The conduct of this situational analysis was supported by the WHO/HSR in Geneva with technical as well as financial assistance. The assessment was carried out within the Ministry of Health at all levels and in the relevant department of the three Universities and research institutions. The terms of reference for the assessment were:

- Identification of authorities, agencies and research institutions involved in health research;
- Assessment of the present policies, organisational set-up and capability to carry out health research; and
- Assessment of priorities and needs for further development of health research, in particular with regard to:
  - \* Strengthening the research process;
  - \* Strengthening research institutions;
  - \* Training of manpower.

Details of the finding are published elsewhere<sup>8</sup>, but the key findings are summarised below:

## INCREASING DEMAND FOR RESEARCH

Within the Ministry of Health, there was a rapidly growing demand for research. The key factors contributing to these (apart from those already described) are:

- (a) As a follow-up to the SDHS Initiative of 1983, which had research as one of its programmes, it was envisaged that research would be used as a means to more systematically examine problems at the problem identification and analysis phase. Therefore most districts and regions were expecting this follow-up.
- (b) The MoH has identified and trained a number of health professionals to the postgraduate level who had recently returned from abroad and were keen to put to use their research and other skills acquired during training. The highly motivated staff had taken up positions in the district and in the region.
- (c) There was a growing political commitment from the MoH and from the government to develop research capacity. So strong was the government pressure that the Director of Medical Service was requested to arrange for the MoH to take over the Noguchi Memorial Institute of Medical Research. However this did not happen; instead the Ministry of Health seconded some of its personnel to work within the research institute.

## CAPACITY BUILDING

Even though research work by various institutions had been productive since the 1960s, the volume of research had gone down considerably. Regular budget in the institutions was absent or low. The Universities have small numbers of staff, being affected by the sizeable brain drain from the country. For example, the Community Health Department of the University of Ghana Medical School had only four staff. The teaching load of the departments was high and allowed very little room for research. The most dramatic problem was the absence of a new generation of young scientists and researchers. Very little was being done to fill the gap, and the number of trained research personnel in the MoH was limited.

## RESEARCH ENVIRONMENT

**Coordination:** There was a general awareness of the need to improve coordination of research activities. Participation of the MoH in research was greeted with suspicion because of fear of control, which might impede the academic freedom needed for carrying out research in an unbiased way. The MoH at that time was undergoing restructuring and re-organisation, and it was unclear under what division would be located the organisational home of the Unit. The Ministry of Science and Technology has a traditional function of coordinating research but its activities had excluded health. It was found that, in general, the MoH wants research to be decentralised as much as possible without compromising on quality.

**Financing:** Availability of funds is essential for carrying out research. A budget line<sup>9</sup> existed for Research, Health Education and Campaigns. The total allocation under that line for all regions and districts came to US\$112,000. Three biomedical institutions of the Ministry of Health - the Centre for Research into Plant Medicine, the Ghana Institute for Clinical Genetics and the Onchocerciasis Therapeutic Research Unit - had received between them a total of \$185,000 for the year 1989. The total allocation to health research in the regular MoH budget amounted to 0.6% of the overall health budget for 1989.

**Dissemination:** Considerable dissatisfaction existed with regard to the dissemination of research findings. Many of the personnel at the regional and district levels who have been involved in data collection were not informed of research findings. Often more attention is paid to reaching out to international journals than to policy-makers.





## GETTING ESTABLISHED

### THE 5-YEAR POLICY FRAMEWORK OF 1992

Based on these findings and in the context of the ODA-sponsored project, a 'Policy Framework on Health Research Development (1992–1996)'<sup>10</sup> and a work programme were developed. There was considerable controversy as to whether the document should comprehensively cover all research activities in the country. It was agreed that, though the policy framework could guide research as a whole, it could focus on work to be supported by the Ministry of Health.

This document outlined the agenda to be followed, the mechanisms needed for building the necessary research capacity and the kind of coordinating mechanism to be set up. In order to implement this policy framework, a number of steps were taken covering the setting of agenda, capacity building and the institutionalisation of research.

### SETTING THE RESEARCH AGENDA

In order to guide research and to articulate the research needs of the MoH, an agenda was needed. The main guiding principle used was that the agenda must be derived from the health policy of the MoH and should not be driven by researchers or donors alone. It was to cover both basic and applied research. No attempt should be made to impose the agenda on any institution, but those seeking support from the MoH for their research were to abide by the agenda.

After the first consultative meeting at the end of 1990, a subcommittee was put in place to draw up this new agenda for the consideration of the MoH. The subcommittee used existing policy documents, especially the Primary Health Care Policy document of 1978 and other related documents to produce the research agenda (shown in Appendix 1). With an accompanying letter from the Director of Medical Services, the agenda was distributed to the universities, to the regions and districts, and to the NGO community.

Institutions were requested to submit letters of intent, based on any of the listed areas of the research agenda, to access funds to conduct their research. The response was encouraging, especially among MoH staff, but less from the traditional research institutions. The explanation was that

they were not aware of the call for the letters of intent. Others argued that the capacity to produce such a document was not as expected.

## BUILDING CAPACITY

The main driving force was intended to build capacity ultimately at the district level and to involve as many managers as possible. The starting point for such decentralisation was the regional or provincial level, where research teams were assembled by the Regional Directors (often including themselves). The teams, made up of five persons from various backgrounds but including university personnel where available, were invited to proposal development workshops. A national facilitator team composed of 18 people with experience in research underwent a two-week training course using the Health Systems Research document, Training of Trainers Vol. 5.<sup>11</sup> (The Training of the Regional teams was based on Volume 2, Parts I and II). Selected individuals acted as facilitators at the regional proposal development workshop and later at the analysis workshop.

## REGIONAL RESEARCH PROJECT

REGION	TOPIC
Greater Accra Region	< Health Information System
Upper East Region	< Acceptability of Impregnated Bednets for Malaria Control
Volta Region	< Factors affecting Community Participation in Health Care
Ashanti Region	< Food Hygiene in Kumasi Metropolis
Northern Region	< Guinea Worm Control Programme Volunteers: Past and Future Actions
Brong Ahafo Region	< Supervision in Crisis. Factors affecting supervision in health care
Eastern Region	< User Satisfaction with Services in Government Health Facilities
Upper West	< Utilisation of Health Facilities
Central Region	< Factors affecting Sanitation in the Central Region
Western Region	< Anaemia in Pre-School Children
Women's Council	< Women's Perspective of Income-Generating Projects
Nurses Council Group	< Quality of Care from the Nurses' Perspective

Schematic 1

Each regional team completed their proposals and implemented them successfully. The topics covered by them are shown in Schematic 1.

The exercise proved very useful. The topics were of considerable relevance to the regions in which they were carried out. Later some of the results, for instance on quality of care, were to find their way into national policy.

Follow-up research took place in a number of regions. The Eastern and Volta Region, for example, organised workshops for other teams at the regional level. In the Central Region, there was considerable extension into the district level. There was a great deal of input from the university located in the region in this capacity building and training programme.

As part of the ODA support, training scholarships were granted to all the new staff at the Health Research Unit. All obtained postgraduate degrees to the Masters level within four years of the programme. Disciplines covered in addition to research methods were social anthropology, economics, communication research, population and epidemiology. All the graduates returned to the country to work with the Unit.

## INSTITUTIONALISATION

A number of mechanisms were put in place to ensure that the research was correctly institutionalised. Apart from the proposal development workshops, specific working groups were put together to develop individual or group proposals. For example, working groups formulated proposals on ARI, Diarrhoea Diseases, AIDS and so on, and these were directly funded.<sup>12</sup>

To aid literature searches, a documentation centre with a focus on research was established at the Health Research Unit in Accra. This provides not only access to literature such as journals, articles and books but also helped with Medline/Popline and Internet searches.

The HRU also acquired a number of computers, and assisted researchers with analysis and training in the use of computers. An experienced computer analyst employed by the unit proved helpful. A large sum of money was also made available for carrying out research, and the criteria for disbursement were spelled out.

By far the most important structure was the Research Advisory Committee made up of representative of various stakeholders; the committee directed the work of the HRU in its formative period.

## RESEARCH CENTRES

The HRU is the central unit charged with responsibility for coordinating research at the central level for the Ministry of Health. Even though as a unit it conducted a number of research projects of its own, its role essentially was linkage to policy. Research was to take place in the Universities, Research Institutions, at the Regional and Districts levels, and in the Research Centres of field stations. Three Centres - Navrongo, Kintampo and Dangbe-West - were set up to represent the three ecological zones

of the country, and were charged with undertaking complex policy-related research. The infrastructure so developed allowed for rapid sampling and data collection. Navrongo has a Demographic Surveillance System (NDSS) and a key informant system was set up in Kintampo. Office computers and transport are made available to ease the problems of field logistics and organisation.

#### ORGANISATIONAL STRUCTURE

The Health Research Unit was located in the Policy, Planning and Monitoring and Evaluation Division of the MoH. This location is strategic since issues of policy development cut across all divisions and thus the unit has access to all of them. In addition it has access to routinely generated data of the health management information system (HMIS) to guide its work. The function of the unit is shown in Schematic 2.

## FUNCTIONS OF THE HEALTH RESEARCH UNIT

The HRU		FUNCTIONS
is constituted	1 < to assist the Ministry in setting priorities	
is constituted	2 < to delegate research to suitable institutions	
will assist	3 < in developing research proposals	
will organise	4 < health research training courses	
will serve	5 < as a documentation centre for health research	
will conduct	6 < health (systems) research	

Schematic 2

## MONITORING AND EVALUATION

Each year details of a workplan are prepared. Quarterly plans are also prepared and each research officer has his or her monthly activities to follow. These serve as a basis for monitoring through monthly staff meetings as well as through seminars where presentations on research work are made. In addition, a mid-term review was carried out and an end-of-project evaluation for the ODA (DFID) component was also made in 1993.

Regular consultative meetings provide a platform for feedback to all stakeholders.

At the end of 1996, the Ministry of Health commissioned a review to evaluate the overall development of research, with a view to further strengthening research in support of the health sector reforms that were being developed. The key findings were:

The volume of studies covering a wide range of subjects has increased in the MoH over the past five years. This is due in part to increased manpower for research both in terms of quantity and skills in research as well as an increase in time allocated for research. These skills include designing research, writing research proposals, training research assistants, organising field work, moderating focus group discussions, conducting in-depth interviews, carrying out clinical research, managing data, analysing qualitative and quantitative data, writing research reports, presenting research results and improving computer proficiency. In addition, access to equipment such as computers and literature, vehicles for fieldwork and photocopiers has improved greatly.

Even though some funds have come from the government, donors still extensively provide the finance for research.

Management of research is integrated into the management structure of the MoH, an arrangement that has enhanced the use made of research. Research topics are now generated more locally, even though some donor-driven projects continue. Problems are usually identified at meetings, from routine data and in the course of normal work.

Utilisation has improved too. Most of the research work at the district/regional level has guided the planning of programmes such as EPI. Findings have also been used for staff development and training. But by far the most active use has been in designing programmes at the district level on such issues as Vitamin A, use of impregnated bednets and improvements in the use of contraceptives. There are still weaknesses in the review of research, i.e. the granting of ethical and administration clearance. Districts have no formal systems for this, though at the regional level peer review is known to occur.

The universities, NGOs and research institutions, although showing better collaboration, have not extensively benefited from the improvements at the MoH.<sup>13</sup>

Specific recommendations made for the MoH included:

1. That an agenda geared towards the reforms be developed and made widely available;
2. That the system for review of research should be strengthened and should include a decentralised mechanism for the districts;
3. That training at the district level should be expanded to cover the whole country;
4. That academic institutions and NGOs should be made more aware of the research needed for policy and programmes, and should receive more support. Training and orientation of these institutions towards health systems research will be required.

The next chapter describes actions that are planned to take forward these recommendations in the context of the health sector reforms planned for the medium term, from 1997 to 2001.



## FORGING AHEAD

### AGENDA FOR HEALTH SECTOR REFORMS

The conceptual framework on which the agenda for research in support of health sector reforms in Ghana is based is shown in Figure 1, page 16.

The framework, which forms the basis of health sector reform in Ghana, is based on the premise that the availability and the use of health interventions provided by the health sector are constrained by five issues - access to health services; quality of health services; efficiency in the use of resources; linkages in the health sector; health financing and health technology assessment - that now must be addressed systematically. These five issues constitute the 'pillars' or objectives of reforms as outlined by the MoH<sup>14</sup>. Addressing these will result in better uptake of health services or interventions, which should ultimately impact on morbidity and mortality in Ghana. Research therefore must not only inform the process being adopted but should also monitor and evaluate it. The starting point of the research agenda therefore ceases to be from the interventions or disease angle alone but from these five crosscutting issues.

Details of the agenda are indicated in Appendix 2. A sixth dimension has been added as a means of assessing the outcome of the reforms - morbidity, mortality and utilisation of services.

### MECHANISMS FOR PROMOTING RESEARCH ON THE AGENDA

To ensure that the agenda is implemented, four mechanisms are proposed:

#### Working Groups

At the national level, multidisciplinary and inter-institutional working groups of qualified professionals will be formed and supported financially to undertake coordinated studies over time on particularly complex issues.

In the working group design, researchers from a wide range of institutions (universities, NGOs, private consultancy organisations, etc.) are assembled to design and carry out research projects. Each working group will exist for a fixed duration, and will report on its results and provide recommendations based on those results to the MoH.

# CONCEPTUAL FRAMEWORK FOR SETTING RESEARCH AGENDA

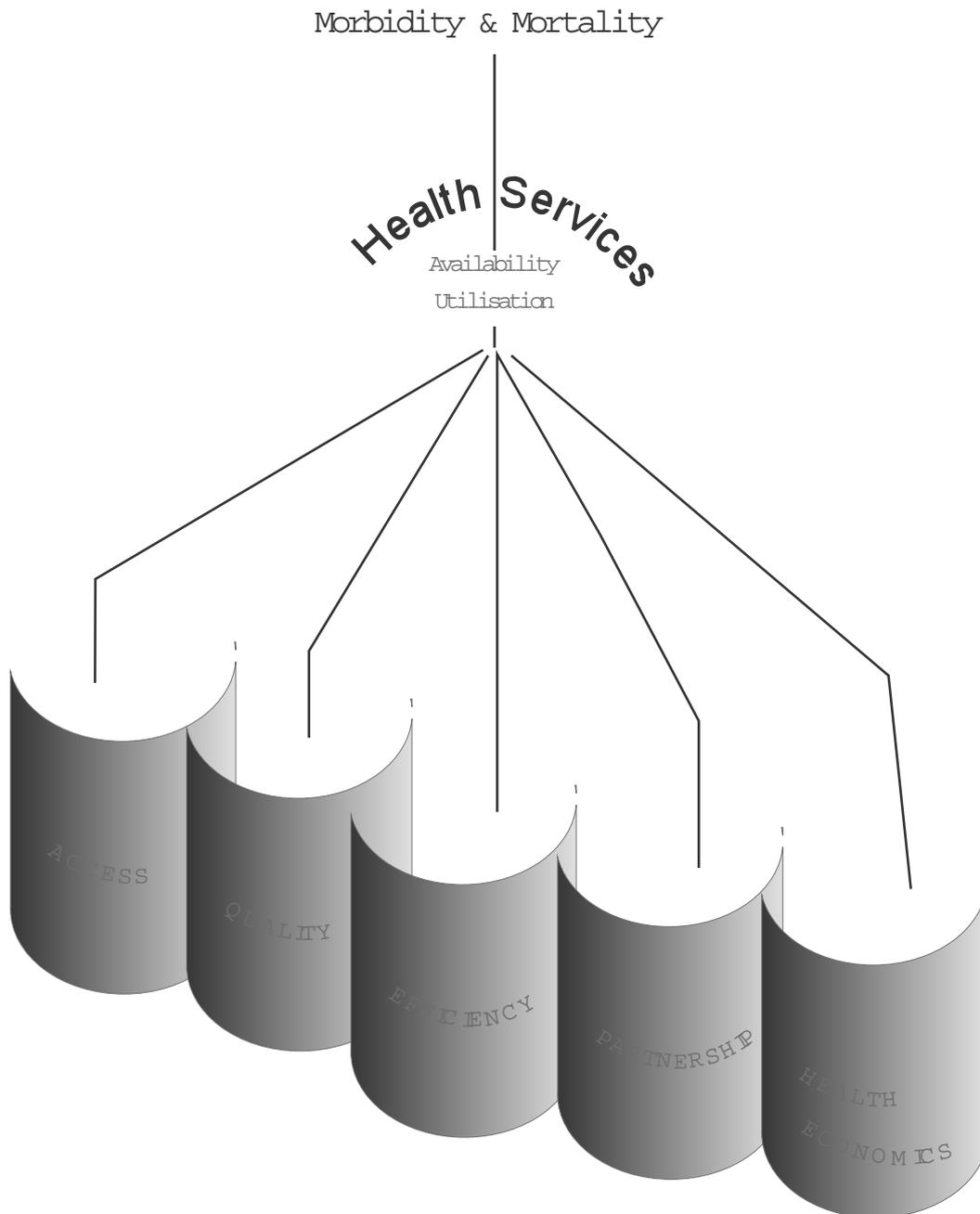


Figure 1

### Research Networks

Research networks of independent researchers will represent a second mechanism. This will be the main approach used when dealing with institutions like universities and NGOs, in order to ensure non-interference with academic and scientific freedom.

Once priority topics have been determined, information about them will be widely disseminated. Interested researchers will be invited to submit proposals for investigating the topics. The researchers constitute a network of investigators, and individual investigators with interest in the topic will be invited to join to avoid scientific isolation.

### Research Stations Centres

Research at the research centres of Navrongo, Kintampo and Dangbe-West will receive further support to carry out studies that require large population bases. Their focus will be on applied field research for both specific interventions and management issues. As far as possible, work will be contracted to these centres by the MoH directly or indirectly according to the topics agreed with donors.

### Research by District and Regional Staff

Research activities by district and regional MoH staff will receive higher priority than the higher-level activities described thus far. A special effort will thus be made to promote and fund such research.

District- and regional-level research will concentrate on topics in the priority areas indicated that address their particular operational needs. The research will be undertaken not by full-time research staff organised into discrete units but rather by health service and administrative personnel, selected on the basis of their ability and interest, who will conduct practical data collection and analysis activities alongside their managerial and clinical duties. As far as possible, multi-district approaches on themes will be pursued. An example is the current project on malaria and health sector reforms, where various aspects of the reforms are being examined in terms of their impact on malaria control in six districts.<sup>15</sup>

## ORGANISATIONAL AND MANAGEMENT ARRANGEMENTS

Currently as part of the reform process, the MoH will be separated from a more operational Ghana Health Service (GHS). A Division of Research and Information has been proposed at headquarters level in the Ministry to guide overall research in the health sector. Work at the district/regional level will be directly under the GHS but will be overseen at the Ministerial level. This arrangement gives research a much greater visibility and prominence than at the Unit level of the HRU. A new advisory committee to guide work is being formed. Funding, ethical and administrative clearance will be at this level, and so will policy dissemination, monitoring and evaluation of research. The Division will on an annual basis articulate research topics of interest to the MoH as well as setting up a mechanism for review of more complex research at the national level. It will also set

guidelines and standards, and will coordinate capacity building and conduct of research.

#### New Collaboration: The Ghanaian–Dutch Health Research Partnership

In 1995, the Dutch Ministry of International Cooperation asked the RAWOO (the Dutch Advisory Council for Scientific Research in Development Problems) to develop an innovative, demand-driven health research process to support policy and development of programmes. In cooperation with several Dutch research councils, this challenge was accepted and a link was established with Ghana to foster this partnership. Since 1996, this idea has been formulated into a framework to guide implementation. It is intended that the programme will bridge the differences between Southern and Northern researchers, between bio-medical, social and health systems research, between the needs of people at grassroots level and research institutions, and between the different stakeholders in the health research process. In this programme there is focus not only on the research itself but also on:

- research training (and better use of existing, often under-utilised capacity);
- methodologies for assessing needs and setting priorities (through workshops, participatory approaches and networking);
- strengthening health research institutions and other research infrastructure (libraries and information and communication facilities);
- a mechanism for linking research to policy and practice;
- creation of the right environment that will enable Ghana to manage its research programme.

As Ghana had already developed a strong health policy and a health reforms process, and was keen to have supportive research, it made an ideal partner in this pilot research cooperation programme. A policy guideline on research and how to steer the research process has been developed.<sup>16</sup> During a workshop in Amsterdam in May 1997, a team from Ghana met with Dutch researchers and had extensive and fruitful discussions. A framework for the Ghanaian–Dutch partnership was produced and disseminated. By means of a questionnaire, Dutch researchers were asked to express their readiness to be partners in this programme, and the results of this too have been disseminated. Some of the principles that have guided the development of this partnership are:

- a focus on research essential at the national level;
- provision of equal and genuine South–North research partnerships;
- the importance of research capacity building and institutional development in the South;
- local ownership and long-term sustainability;
- involvement of end-users, making it more demand-driven.

The programme itself has been divided into two: firstly, a pre-implementation phase where the mechanism for continuous agenda-setting is

established, a mechanism for carrying out research is articulated, and facilities and skills in appropriate dissemination of results are developed. Secondly, this will be followed by a full 3-5 years programme of actual intensive research work involving all stakeholders.

An organisational framework for managing the process has been developed as shown on the facing page:

## ORGANISATIONAL STRUCTURE OF THE GHANAIAN—DUTCH RESEARCH PROGRAMME

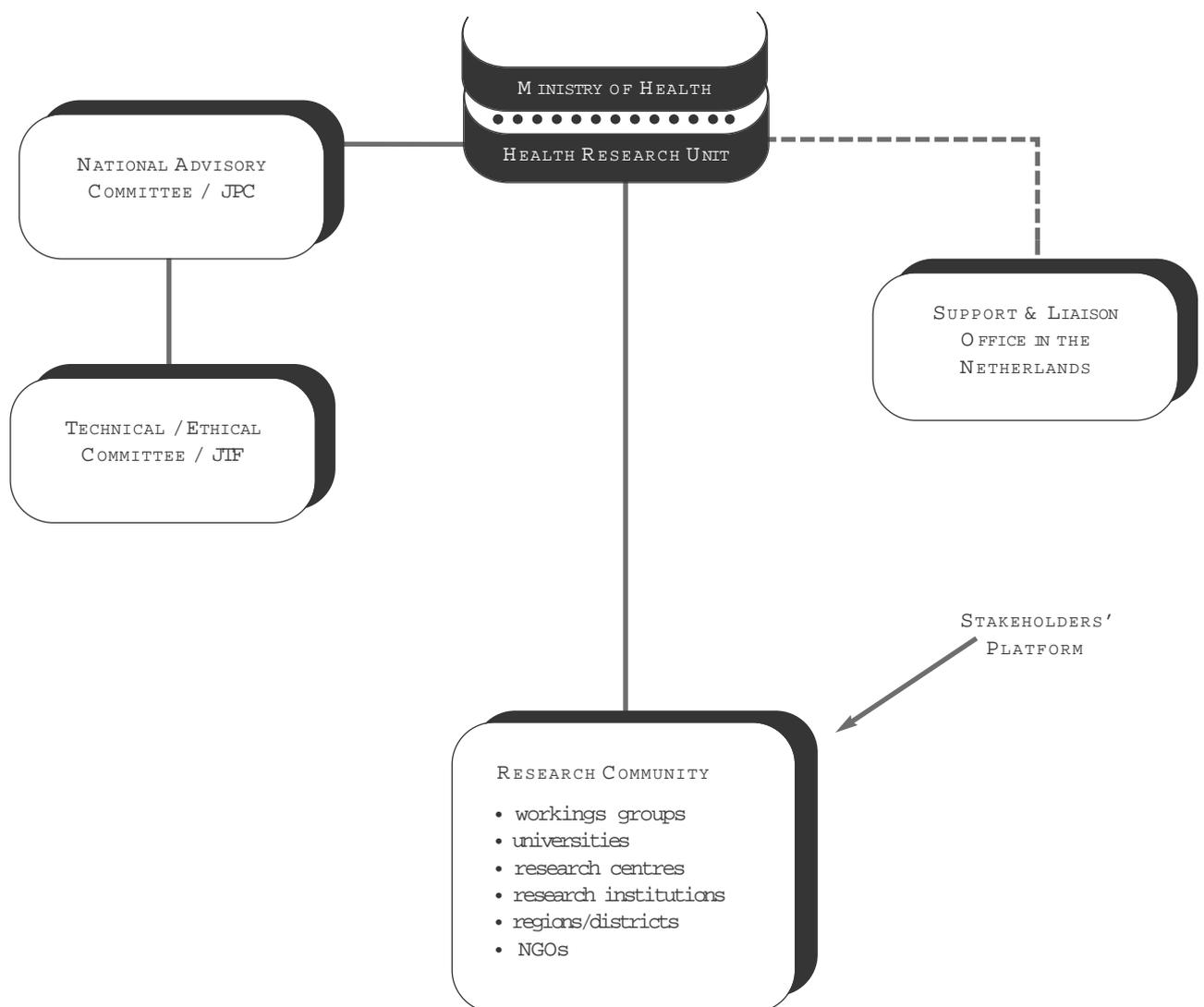


Figure 2





## LESSONS LEARNT

Historically, Ghana has had a long tradition of health research which was closely linked to service delivery. This was particularly necessary to unravel the causes of ill-health which were responsible for many deaths during the pre-Independence time. Research activities in the post-Independence era continued to be dictated by the nature of health problems predominant in the country. However, with the establishment of research institutions and the medical schools, the strong link between these appeared to weaken. Health policies and programmes then seemed to have been developed without a direct reference to existing research information, and research did not extensively inform policy.

It was therefore important that an effort be made to amend this situation. As the main policy-making arm of the Government, the MoH had to take a lead role in fostering research for health development. A political and technical commitment at the top level that did not see research as exclusive to the academic domain was therefore essential. This commitment translated into the administrative and institutional arrangements necessary to create the enabling environment to link research with policy.

One such critical activity was the creation of a Health Research Unit (HRU) at the national level charged with the responsibility of fostering research that feeds into policy. The MoH thus took a central role in co-ordinating health and health-related research activities. Initially the Unit operated directly under the Director of Medical Services, but subsequently it took its place as a Unit under the Policy, Planning Monitoring and Evaluation Division of the MoH. At the governmental level, a Division for Research, Statistics and Information was being planned as part of the Civil Service reforms programme, an action that puts research high on the agenda of the government.

The Health Research Unit served as the focal point of the MoH for research. Its well-qualified staff soon generated credibility amongst the professional researchers. Acceptability in the research community was important if the Unit was to play its role in linking up the professional research community with the service-oriented MoH.

Apart from credibility in the research community, the Unit has had to demonstrate its relevance to the policy-makers and the programme personnel. Hence, it took on the challenge of conducting research that

answered the questions of programme personnel, but also of publishing findings in peer review journals and making presentations at academic conferences. One such study on malaria was published extensively and also led to the production of a Malaria Manual (by WHO/TDR).

Another important aspect of its work lies in the development of policy frameworks to guide researchers. Two such frameworks have been developed covering different time-frames, the most recent being 1997–2001. The starting point was to carry out a situation analysis, based on which a policy framework or guideline was produced.

In developing this framework, it was essential to create a platform for consensus building. A yearly consultative meeting provided such a platform where researchers, policy-makers and end-users of research could meet regularly and set the direction for research. The framework also served as a means to coordinate donors. A number of initiatives came in with their various labels, but they could be fitted into the agenda of research without making them unduly donor driven.

An advisory committee was also instrumental in tackling the broad issues and concerns outlined during the consultative meeting. The advisory committee met at least once every quarter and provided valuable guidance to the HRU, which acted as its secretariat.

Also important was the well-structured and well-funded capacity building programme. This programme not only sensitised top policy-makers to the need for research, but also rallied the support of the research community. It also trained regional and district MoH staff in proposal development, fieldwork and data analysis, which in turn led to results that were incorporated in MoH programmes of quality of care, community participation and village health workers.

Appropriate dissemination of research was seen as critical. Four of the research officers were trained in communication, and three of them hold diplomas in journalism. This type of background has brought into focus the need for more innovative approaches to disseminating research results at the local level, including the popular press and the use of local drama, in addition to scientific publications.

It must be borne in mind, however, that dissemination – though important – does not constitute utilisation, and mechanisms must be set up to ensure that greater use is made of research. These include involving potential users from the beginning of the research process, and making special efforts to incorporate results into decisions.

In conclusion, it must be said that mainstreaming research in the MoH has been essential, but the process is far from being complete. It has been almost ten years since this started but more work is still needed. Some important outstanding challenges are:

#### DEVELOPING A REGIONAL AND DISTRICT RESEARCH AGENDA

Mechanisms are required to develop an agenda for the periphery that takes the national framework into account. The process must be continuous, generating questions on an annual basis as staff go about their routine duties. Topics should include not only issues identified at the service delivery points, but the community perspectives as well.

#### CAPACITY BUILDING

Capacity building is not only required for service providers, but also for researchers who may need to change their focus to respond to the needs of policy makers.

#### CONDUCTION OF RESEARCH

It is not expected that service providers will be converted into professional researchers. However, it is important that districts organise themselves in such a way that the research unit, with a research team identifies research and contracts this out to an appropriate body.

#### FINANCING RESEARCH

Under the current reform process, projects are being discouraged in preference for overall sector-wide approaches. This will mean re-examining the way research grants are provided. The key challenge is for district teams to incorporate a research budget as part of the routine budgeting arrangement.

#### NORTH-SOUTH COLLABORATION

This issue has been the subject of much debate recently<sup>17,18</sup>. North-South collaboration calls for certain mutual principles to be adhered to, including mutual trust and respect and agreement on agenda setting. Other principles relate to recommended actions such as ensuring knowledge transfer, transparency of actions, provision of support for capacity building, allowing 'South' countries to take the lead role in research, and agreement from both parties that research findings should be utilised practically.

## ENDNOTES

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- 16 *Policy guidelines for strengthening research to support the Medium Term Health Strategy in Ghana: MoH/HRU*, Accra 1998
- 17 Wolfers I., Adjei S., van der Drift R., *Research in the Tropics*, *Lancet* 1998, 351: 1652-1654
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# RESEARCH PRIORITIES OF THE MINISTRY OF HEALTH (1992-1996)

## NUTRITION

Nutritional inadequacy is known to be a major health problem. Research is needed on diet, food consumption patterns and food technology to address this issue. Feasible interventions for improving household food security and nutritional balance are needed. Other issues include trends in breastfeeding behaviour and lactational amenorrhoea.

## POPULATION

Research is needed into adolescent fertility, morbidity and maternal mortality risks to young mothers. There is much debate too about how family planning services are designed and delivered in Ghana. Research is needed on closing the gap between apparent demand for services and low levels of use; this trend is poorly understood and represents a critical issue for research.

## DISEASES

The MoH has designated as priority areas for research: malaria, respiratory tract infections, diarrhoea, preventable immunisable diseases, schistosomiasis, sexually transmitted diseases and AIDS, and various noncommunicable diseases. Within this priority list, however, there is little systematic scientific basis for assigning priorities to interventions, and little guidance as to how risks can be mitigated with practical field interventions.

## QUALITY OF CARE AND HEALTH SYSTEMS RESEARCH

The provision of health services in Ghana follows models and mechanisms that are similar to clinical service programmes elsewhere. There is a risk, however, that orthodox service approaches miss large segments of society, particularly when information, education and behavioural change serve as the focus of intervention. For this reason, scientific knowledge of health behaviour and traditional social structure has been recognised as a priority area for research. Service utilisation, socio-cultural aspects of illness, the dynamics of community participation and traditional practices all define the interface between health programmes and the communities served. Health systems research on seemingly organisational issues, such as cost-recovery policies and sustainability, prescription policy, pharmaceu-

tical policies, intersectoral coordination and so forth, all depend upon practical knowledge of how the organised health services relate to community organisation in general and to community-based health care.

# RESEARCH AGENDA FOR HEALTH REFORMERS (1997–2001)

### ISSUE 1: ACCESS TO HEALTH SERVICES

The barriers to uptake of services are numerous and varied, and include such issues as geographical or physical barriers, socio-cultural barriers and economic barriers.

### ISSUE 2: QUALITY OF HEALTH SERVICES

Often the use of services is constrained by the quality of services being provided. A number of complaints have been made by the public against services that they receive at public institutions. Factors affecting the quality of services being provided at all service delivery points – be they government, NGO or private – will be examined.

### ISSUE 3: EFFICIENCY IN THE USE OF RESOURCES

The efficient use of resources is important to the delivery of services. These are often affected by the lack of integration and proper packaging of services, poor institutional arrangement, poor distribution and use of staff, inefficiencies in the drug, supplies and logistics systems, and ineffective monitoring and use of information for planning, managing and administering the services.

### ISSUE 4: LINKAGES IN THE HEALTH SECTOR

To ensure synergy in the efforts to deliver health care, horizontal linkages amongst different stakeholders in health and vertical linkages between various levels of the health hierarchy are advocated. Often the forms of such linkages are not determined, and information on the operation of the various stakeholders is limited. These linkages would constitute the area of further research. The role of the community in service provision will also be examined.

Decentralisation as a general government phenomenon as well as decentralisation within the management of the health sector will be studied. Governance and leadership, and their role in service management, will also receive attention.

## ISSUE 5: HEALTH FINANCING AND HEALTH TECHNOLOGY ASSESSMENT

The sustainability of health care delivery is increasingly becoming important. Advances in medical technology are facing issues of cost and cost-effectiveness which determine their use. Areas to be focused on will include sources of financing and such financing options as increased health insurance payments and user fees. The cost-effectiveness of strategies and options for the control of health problems and alternative ways of delivery of care will be examined. In addition, medical technology that requires field trials will be carried out, especially as regards the cost aspects, in addition to their effectiveness, e.g. vaccine trials, trials of new drugs and so on.

## ISSUE 6: EFFECTIVENESS OF THE REFORMS (MORBIDITY, MORTALITY, UTILISATION OF SERVICES)

Whilst the research agenda does not focus on specific interventions against disease as main entry points, these nevertheless constitute outcomes of the efforts to change the health sector. Therefore they must be examined more in the context of outcomes, rather than as specific topics in themselves. Mortality studies will be supported, especially in terms of levels, trends and determinants of mortality.