

The Ghanaian-Dutch Collaboration for Health Research and Development

**THE SEARCH FOR IMPROVEMENT IN THE QUALITY OF HEALTH CARE
IN GHANA:**

*The Contribution of Public Health Postgraduate Students' Research Recommendations
to Districts*

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J. N. Fobil**

2006

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EXECUTIVE SUMMARY

Background

Quality of care has perhaps always been an important consideration in human health services but has assumed even greater importance in Ghana's health reforms that started about a decade ago. Improved quality of care is deemed one of the pillars of the reforms the country is currently pursuing and well into the foreseeable future (MOH/GHS: first 5Y POW 1997 – 2001 and second 5Y POW 2002 – 2006). Research into problems and issues of inputs, processes and output/outcomes is considered to be one of the key approaches to the overall development and management of the health services.

As a public contributor to quality health services in Ghana, the University of Ghana School of Public Health has since its foundation in 1994, has as part of its mission sought to contribute to the pursuit of quality of care offered by the health sector through research by its faculty, and students. Graduate students of the school have been required as part of the requirements for the award of degree to research and publish their findings on pertinent issues of importance to the care system. In a majority of the research studies conducted the students have addressed 'need-to-know' problems, issues and concerns jointly identified as such by the student researchers and their host district health management teams. However, the extent to which the districts have utilised the research findings and recommendations has been unknown. The vital step from research to practice has neither been an easy nor automatic one in most settings or adequately studied.

The Purpose of this study was to ascertain the extent to which the findings and recommendations of the studies presented in the Master of Public Health candidates' studies are accepted and implemented by their host DHMTs and if so what differences do these interventions make to the quality of healthcare in the districts.

The Methodology

The intervention- oriented nature of the topic as well as the lack of strong quantitative elements has made the design an exploratory and largely qualitative action research. To this end, we used in this study a four stage descriptive and analytical process consisting of:

- i) dissertations retrieval and review phase
- ii) categorisation of the dissertations and recommendations
- iii) study and instrument design and pilot testing
- iv) main study phase.

to do a descriptive survey of 20 districts that host MPH candidates and their research work.

Findings

The main *findings of the study are as follows:*

- i. DHAs very much appreciate the importance of student research as quality inputs to their work and do contribute handsomely to these efforts.
- ii. Only 31 per cent of DHAs did receive copies of the final dissertations containing the complete findings and recommendations either from the students or from the SPH.
- iii. Hardly did any DHAs actively demanded to have copies
- iv. Practically no DHA has a formal and systematic procedure in place for decision making as to what to do with the reports and their contents.
- v. Only about 30 per cent of DHAs which received reports acted by putting on or more interventions in place on the basis of the evidence to improve the quality of services.
- vi. Hardly were any consistent monitoring and evaluation of such actions carried out to document the effect of these actions on the quality of care. Impacts reported to the investigators were presumed improvements unsupported by facts and figures.

Conclusions

This research provides an initial look at the reception, handling and utilisation of research in the decentralised Ghanaian reform-driven health care arena in which research is fast becoming an important feature. Encouragement of the academic-researcher as well as of practitioner-researcher to grow is a critical element in the evolving system. The findings indicate that an interesting paradox exists: on one hand student research is viewed as important and supported by DHAs but on the other hand there is a surprisingly little demonstrable interest in accessing and using the research outcomes. There is therefore a need to forge linkages between doing research and what is done with the findings. Some suggestions have been advanced as to how this could be accomplished. This has implications for research policy and funding and these have been discussed.

Recommendations

A number of recommendations have been made

regarding the structuring of research recommendations directed toward busy healthcare practitioners; better distribution of research reports to increase DHAs/DHMTs' awareness of their existence, without which taking action is clearly impossible; it is also recommended that planned and implemented actions should themselves also always be mini action research with built in monitoring and evaluations and feedback action paths. It is further recommended that follow up plans to encourage implementation of research findings, which can positively contribute toward improvement of the quality of health care in Ghana be formulated.

Key Word and Phrases: *Quality, Quality Improvement, Quality of Care, Research, Recommendations, Dissertation, Dissemination of Innovations.*

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AMREF	African Medical Research Foundation
BCC	Behaviour Change Communication
DDHS	District Director of Health Services
DHA	District Health Administration
DHMT	District Health Management Team
EPI	Expanded Programme of Immunisation
HIV	Human Immuno-Deficiency Virus
IEC	Information, Education and Communication
MOH	Ministry of Health
GHS	Ghana Health Service
GAC	Ghana AIDS Commission
MM	Maternal Mortality
MPH	Master of Public Health
NGOs	Non-Governmental Organisations
STDs	Sexually Transmitted Diseases
STIs	Sexually Transmitted Infections
WHO	World Health Organisation

Chapter One

INTRODUCTION

BACKGROUND

Improvement of the quality of health care in Ghana has been one of the priority areas to both the Ghana Health Service as care provider and to the clients since the launching of the nation's first Five Year Health Sector Programme of Work (1997–2001) at all levels of care and service settings. Health systems and services have been undergoing several changes and are still in the midst of great changes to make them more responsive to the needs and wants of the beneficiary population. These changes are driven mainly by deliberate official policy to remove as far as possible the causes of distortions and dissatisfactions in the care system and processes. But it seems the greater the effort, the higher the demands and expectations generated by a heightened popular awareness of, and expectation from innovative medical technologies advertised as being able to deliver even better quality care to the Ghanaian population. This has often evoked criticisms and resulted in frequent expressions of doubt about the adequacy of the care systems currently in operation as an appropriate response to the health needs and demands of the user population.

This, by and large, has led to some degree of mistrust of the human elements (doctors, nurses, etc) in the health services. The mass media now frequently carry stories about poor state of facilities, mistreatment of patients in health centres and the unsatisfactory quality of services (*The Daily Graphic*, Jan. 14, 22, Nov. 11, 15, 28; *The Ghanaian Times*, Nov. 28; *The Ghanaian Chronicle*, Nov.4; *Insight*, Nov.12, all of the year 2002). Even though health sector officials naturally refute the accuracy of these misgivings expressed, the technical and biomedical journals are not silent on the quality of care and the degree to which healthcare should be available to the population (*MOH first 5YPOW, 1996; Ghana Med Journal Editorial Oct.2000; Ghana Med Assoc Communiqué, Nov 28, 2002*).

It is in this contentious work environment that the health sector is challenged to deliver effective, efficient, the highest standards of quality of care and value to consumers, funding agencies be they governmental or external and to society at large. The debate that surrounds this vital aspect of life is well deserved and needs to be informed through by facts and figures, which are generated by research.

The School of Public Health considers the arguments and debates healthy in a developing society and feels duty bound to contribute to the knowledge base of the contentions. The School has therefore since its foundation in 1994 sought to discharge this obligation by requiring every graduate degree candidate in its MPH programme to, jointly with a district's health service leadership, select a researchable topic of some importance to that particular district, investigate it as collaboratively as prudent and make well-supported recommendations to the host district. In the School's ten-year existence, its students have studied over 160 operational concerns, issues and problems chosen jointly with key staff of host districts, and led the research process. They have done dissertation write-ups and made recommendations to the district to be used in improving the health service delivery. Given the collaborative nature of these research undertakings, and that hardly any topic is studied that is only of academic or theoretical interest to the researcher and is for that reason irrelevant to the 'need-to-know' requirement of the host district, it is only logical to presume that the study findings and recommendations would be eagerly awaited and utilized. However, what in reality is done with or about these recommendations has to date not been ascertained, and so remains unknown.

PURPOSE OF THE STUDY

The purpose of the research was to keep faith with the long-held academic tradition of commitment to healthy scepticism and enquiry. The School of Pub-

lic Health has, as a matter of institutional policy, required all candidates of master's degree to undertake research and write dissertations on their work. The scope of the studies the students have carried out to-date range from basic science, clinical, health promotion, to preventive and rehabilitative health as well as health sector management and administrative topics. Whatever the topic, the universal goal of all this effort is generation of facts, figures, information and evidence which are buried under piles of intuition, anecdotes, hunches, commonsense, prejudices and conjecture so that the research evidence may contribute to the improvement of the quality of health care in this country. In pursuit of this goal, students over the years have put in considerable intellectual, time and financial resources from a wide variety of sources and all kinds of sponsors to systematically investigate, document their findings and make recommendations to their host districts. The host districts have also in nearly all cases given generously of their hospitality and scarce resources to support and facilitate the work of the students. Not to be discounted out of the equation are the contributions of academic and field supervisors, external and internal examiners, who guide and appraise all these efforts. The extent to which the districts have taken on board the recommendations produced by the SPH residents and directly acted on them to improve their services is unknown and needs to be ascertained. It is also intended, if found necessary, to suggest approaches and techniques to help districts to better utilise better, the recommendations made to them.

LITERATURE REVIEW

There is extensive literature on the importance of quality of care and quality improvement (Donabedian 1962; Blumenthal 1996; Kritchevsky 1991). There is an equally abundant literature pointing out the obvious importance of research in any science-based endeavour (Evans 1989; Cutler 1996). But very little has been written in our setting on the application of research to improve quality of care at service points in developing countries.

Evans suggests the following reasons for this situation in developing countries:

1. Research is academic and service providers do well to stick to their mandate.
2. Research is a luxury, which only countries with surplus resources can afford.
3. Research results and recommendations are rarely practical and hardly ever consider "our peculiar situation in our ministry"; and
4. Many donors still or until recently have not included research funding in service programmes they support.

Attempts are often made to juxtapose the three crucial concepts (i.e. quality, quality improvement and dissemination of innovations) in practice as mutually enriching and are worth the effort in the normal delivery of health services. The concepts, Quality, Quality Improvement, and Research Innovation Dissemination as they are expounded in the field of health care are helpful to review further in this discourse.

Quality

Kolarik (1999) reminds us that the quality concept is complicated and proceeds to offer several definitions for our consideration. Many of these definitions relate to quality of industrial products and services (Juran 1989; Feigenbaum 1983; ISO 9000 (1986). For the purpose of this study the most apt definition of quality is: *The extent to which true desired characteristics (client needs and wants and expectations, expressed in client language) match substitute/offered characteristics (service specifications, expressed by provider in technical language* (adapted from Ishikawa 1985).

The usefulness of this definition lies in the fact that it forces us to view quality in the eyes of both the service provider and the recipient. In health care that mutuality of viewpoint is extremely important for success.

From the perspective of providers interested in offering quality services, Garvin (1987) proposes eight dimensions of quality that need to be translated and made to characterise products and services, namely; performance, features, time, reliability, durability, uniformity, consistency and serviceability. To these Moen *et al.* (1991) add aesthetics, personal interface, harmlessness and perceived value

or reputation. Pursuit of quality is therefore quite a complex undertaking,

Quality Improvement

Quality product or service may be achieved in one of four ways. These are design of new service, re-design of existing service, design of new process of offering service or redesign of an existing process (Moen *et al.* 1991). The redesign of either service or process, ideally but, certainly in industry, is first and foremost a research undertaking followed by development of the research output/outcome. It is by this means that improvement of quality may be achieved by applying the eleven dimensions of quality alluded to above as tests where applicable.

Research-based Innovations and Dissemination

Intense enthusiasm for the generation and use of research evidence as the basis of all healthcare improvement has been heightened in the past decade or so even though, the concept had been advocated in the pace-setting writing of Donabedian (1962) and several other writers (Mosteller 1981; Juran 1981; Collins *et al.* 2000) on quality appraisal as a vital feature of health services. Well-informed sources seem to believe that adequate research findings exist in the world pool of medical science knowledge certainly in terms of provider based research but a lot more needs to be done on recipient based side. (US Senate 1999). Others see as even higher priority, greater access to and systematic application of even a small fraction of what is now known to the health situation in the developing world to be all that is required for great strides toward a much healthier world (Relman 1988; Evans 1989). Besides and perhaps much more relevant to the present discussion, there is huge quality gap between healthcare quality that is feasible and what appraisal of current practices show is being achieved (Bastian 1998; Berlowitz *et al.* 2003; Clancy 2003; Owens *et al.* 2003).

A few other vital aspects of concern are:

- (i) the problem of awareness of potential users of research findings;
- (ii) access to them to permit evaluation and
- (iii) making of informed decision to use them.

Waters (2004) warns that, popularised reports of scientific research that are readily available in newspapers or magazines are often abbreviated, inaccurate or sensationalised. It is, therefore, important to access each original research publication from its source. But accessing research findings is one thing; deciding that it is worth ones while to, or being able to, or taking the necessary steps to, utilise the findings are different and perhaps more difficult things. Haines and Donald (1998) give several reasons for failure to get research findings into practice. These include lack of appropriate information, and resources as well as, social, organisational and institutional barriers. However, pressure for more effective and efficient implementation of research findings is likely to grow. There is, therefore, increasing need for familiarity with and skills for translating recommendations into actionable steps for purpose of implementation (Askew, Matthews and Partridge, 2002).

Rogers (1983) in his landmark text, *Diffusion of Innovation*, has created a science of diffusion of innovation in which he outlines and advocates five essential steps to effective knowledge diffusion. Other authors (Schroeder, *et al.*, 1986; Berwick, 2003) have further enriched and expanded this new science by providing clear guidance for dissemination of innovations arising out of research. All these students of the dynamics of transfer of research-generated knowledge into practice caution against taking things for granted, taking shortcuts and call for cautious and deliberate process as well as respect of diversity in the speed of change.

To conclude this brief review, it is fair to assert that there is enough information, evidence, powerful arguments and justifications to support the concern about quality of care, the need for its improvement and the use of research to achieve this goal. This is particularly true in the third world, where such studies are in short supply or nascent. Healthcare quality improvement efforts, such as are deemed an important component of Ghana's health reforms now under way, will do well to draw on the best wealth of social science insights for guidance.

PROBLEM ANALYSIS

Recognising the importance of operations research

in the identification of differences between performance expectations and actual achievements, the health sector ministry, service agencies, commercial firms and development partners have consistently funded research by postgraduate students doing district attachments as part of their studies for the Master of Public Health (MPH) degree at the University of Ghana School of Public Health. As at the end of 2003, more than 160 student dissertations had been completed by MPH candidates. Majority of them were based in districts and did make several recommendations meant to be used to improve quality, effectiveness, and efficiency of various aspects of healthcare services in about 25 districts of Ghana where the researches were carried out and presumed to have been passed on to the districts for implementation.

It is, however, not known whether the recommendations are received, carefully considered and the necessary action taken on them to achieve the improvements deemed desirable. There is therefore a clear and very important 'need-to-know' situation that can rationally warrant follow-up studies on district-specific actions taken on the various recommendations so passed on to the host districts.

OBJECTIVES

The pertinent questions posed and addressed in this study include:

- i. How adequately distributed are the MPH dissertations?
- ii. Are the recommendations contained in them perceived to be relevant and useful enough to be worth acting upon?
- iii. On what proportion of the recommendations are decisions made by DHMT to take action?
- iv. When acted on, do they produce the desired improvements?
- v. Are the implemented recommendations cost effective and so made part of the institutional routines?

Answers to these questions, it is hoped, will enable the contribution that students' research findings and recommendations towards improving healthcare quality in selected districts and perhaps even in other districts to be objectively appraised.

Chapter Two

THE STUDY DESIGN AND METHODOLOGY

The intervention-oriented nature of the topic and the lack of a strong quantitative element to the study suggest a largely qualitative **action survey research** design which best addresses the study purpose.

Creswel (1994) and Hart and Bond (1996) both suggest that the emphasis required by Action Research approach demands that it raises awareness to unclear problems, and thus empower the care providers to act from sound knowledge basis and conviction about the problem, issue or concern that is focused on and be context specific. All these conditions are met in this study. In addition to this, Hart and Bond 1996 draw attention to the cyclical nature of the process involved in Action Research, namely, diagnosis of the problems at stake, formulation of actionable plans, action taking, and evaluation to determine the extent to which findings have been utilised and to what benefit. To achieve these ends, a four-stage design process was employed. These were: Dissertations Review Phase, Meta-Analysis Phase, Preliminary Study Design and Piloting Phase, and Main Study Phase. These techniques are briefly described below.

The Dissertations Review Phase:

This entailed retrieval, listing and a rapid reading of all the 160 research write-ups by all the past MPH graduates of the School that have been submitted in fulfilment of their degree requirements since 1995. A determination was then made as to whether all of these dissertations could be included in the proposed study or only a representative subset was to be investigated.

The Meta-Analysis Phase:

This involved five basic operations performed on the dissertations, which constituted the secondary source material studied in this investigation i.e. specifying inclusion criteria, grouping studies by features, characterising and quantifying study outcomes and analysing the data and classifying the findings for sampling purposes, as required, for the design of the

main study. The use of this technique was only partial and quantitative, being limited to organising of the material and not including merging and statistical analysis of studies that investigated the same attributes.

The Design and Piloting Phase

This meant using the findings of the two previous stages in choosing the most appropriate study design and methods of data collection, producing the necessary data collecting instruments and pre-testing or piloting them for validity, reliability and time requirement. Lessons learned were used in revising and fine-tuning the instruments used in the organization of the main study.

The Main Study Phase

This included fieldwork to collect data, data processing, interpretation and write up of several draft and final reports.

Figure 1 below summarises the tasks involved in this research.

CONCEPTUAL FRAMEWORK

There is a definite connection between research and health care quality improvement that when sought for can inform and enhance decision-making, planning, implementation and management. The conceptual framework we came up with to guide our thinking behind this research involves a cycle of nine (9) interrelated steps. The first step is initiated by identifying an operational problem, a client dissatisfaction, a need-to-know or a curiosity-arousing situation. In the particular case of this investigation, a desire to know what contributions the research we supervise our residents to conduct is making to quality of care in the host districts. Steps 2 and 3 are concerned with finding out from healthcare providers or other researchers and research literature if ready answers can be found that satisfy our curios-

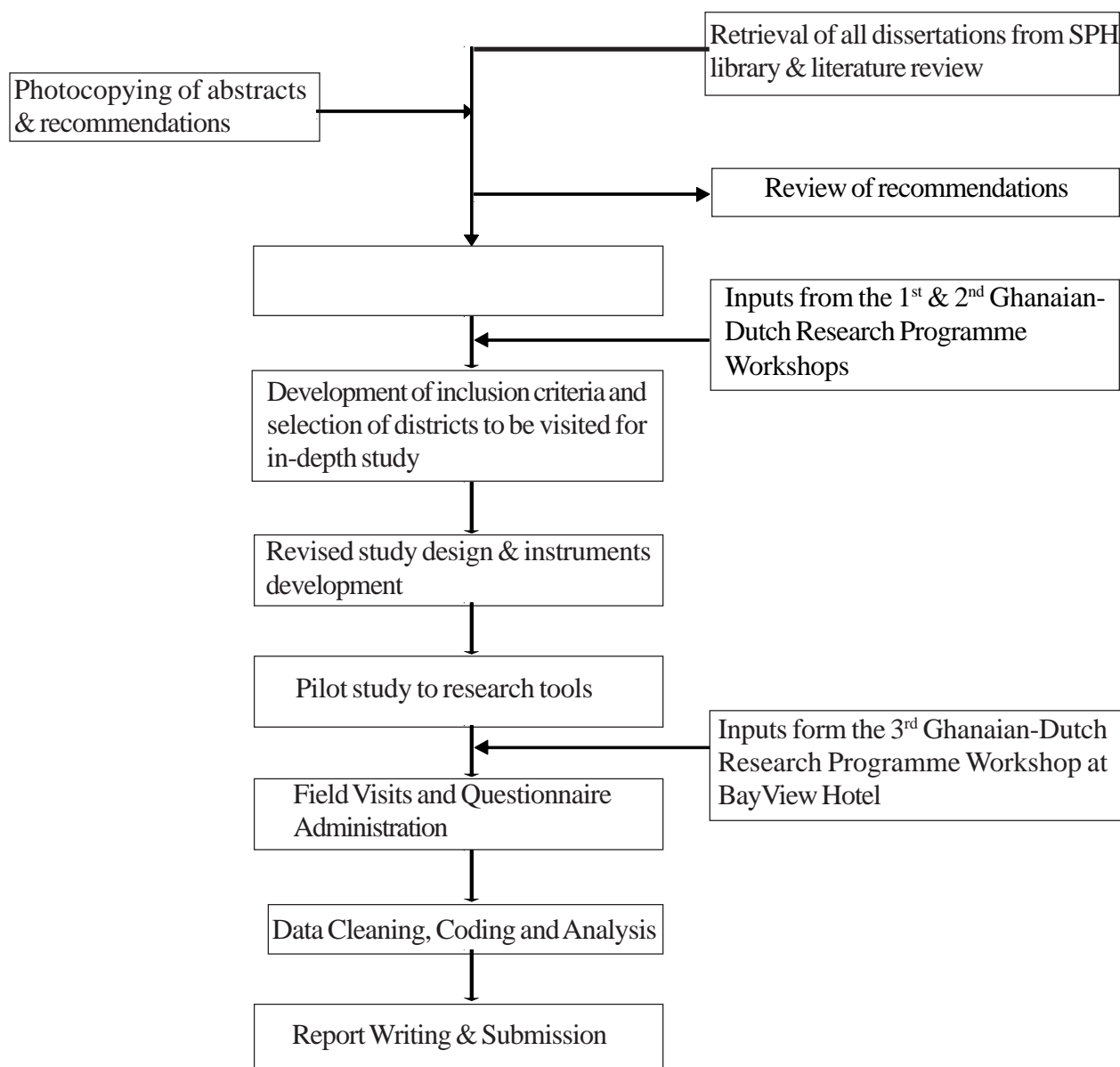


Figure 1: The Research Process

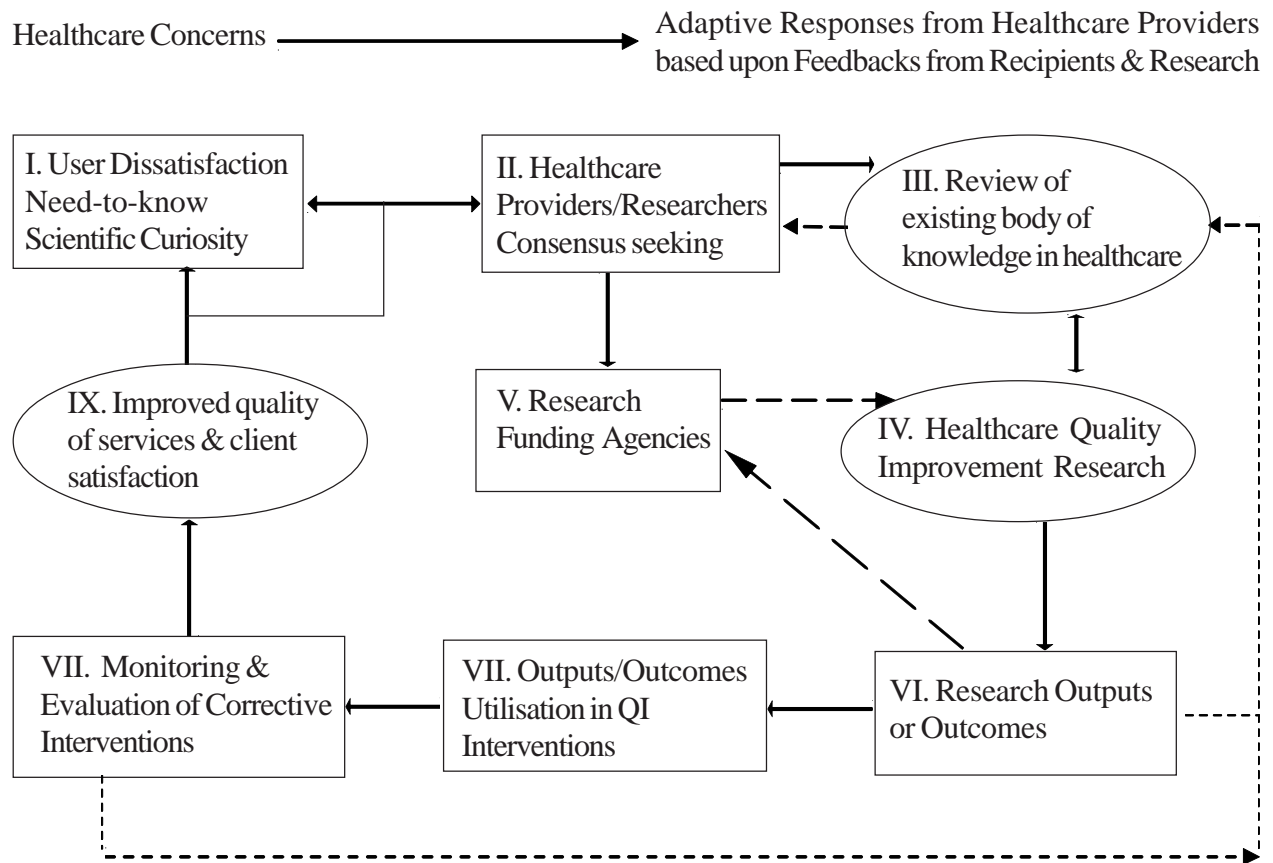
ity. If none are found, mobilising resources to undertake research whose outcomes can be fed into interventions, objective appraisals to permit evidence-based judgements to be made about changes in the quality of care at least in the host sub-districts and districts in steps 4 to 9.

Research and Healthcare Improvement Connection

Figure 2 below shows the connections and how they interlink.

This model guided our thinking as we designed the

study. In operationalising this framework, we proceeded in two phases. First, the relevant concepts to be examined in the study were identified and used to develop a model of relationships outlined above. The concepts that were to be examined included health care delivery conditions, i.e. structure, facilities, functional disciplines, resources and functioning, level of performance; actual and potential and, therefore, performance gaps; gaps awareness, level of utilisation of research-based recommendations by the decision makers of the care system and the constraining and helping factors to action.



Figuru 2: Research and Healthcare Quality Improvement Connection

The second task was to consider a conceptual framework that linked these concepts in relationships, as shown in the figure above.

A theoretical model we have had to bear in mind for possible application at appraisal stage is the Rogers' 5-step conceptual model of Diffusion of Innovations alluded to earlier. We believe that this model would be a most promising tool to use in assessing the path ideas/practices follow to attain mainstreaming or routinisation as standard practices in the healthcare field. The five steps, according to Rogers, are:

- i. Knowledge of the existence of the innovation
- ii. Persuasion
- iii. Decision
- iv. Implementation
- v. Confirmation/Routinisation/Mainstreaming.

Rogers' theory is obviously attractive and seems to be an appropriate frame of reference for thinking

about adoption of new ideas arising from research. It has, therefore, greatly influenced the overall study design, study hypotheses and/or questions and instruments constructions.

METHODOLOGY

The study design was an action research survey design, employing meta-analytic and time dimensional techniques, which sought to examine secondary sources for specific issues and aspects of 20 Districts Health Administrative areas previously studied by MPH students. It was envisaged that at Time 1 (T1) certain interventions selected on the basis of selected measurable or observable variables would be instituted and measured again at a new Time 2 (T2). Between T1 and T2, it was assumed that based on the research recommendations, a phenomenon of interest i.e. Action on the basis of research recommendations, would have intervened to alter the state of the variables and measurements ie

quality features targeted by researchers.

Data collection methods

A Multidimensional Data Collection approach was used. This included:

- i. Desk Research to locate, retrieve and review about 160 MPH dissertations to identify recommendations that addressed quality of care issues in terms of Structure, Process and Outcomes directed to districts. These were systematically classified based upon subject-specific discipline they addressed
- ii. Field work to administer quantitative and qualitative survey questionnaires, interviews and observational checklists at pre-testing and main study phases
- iii. In-depth Interviews of key actors and stakeholders e.g. Directors of Regional and District Health Services, disease control officers and district public health nurses
- iv. Case Studies of particularly instructive scenarios and situations were also studied and presented.

LIMITATIONS OF THE STUDY

Owing to resource limitations, we were compelled to conduct the study from the provider sub-system perspective of quality improvement and not look at the equally important consumer community viewpoint. Documentation of the concept, the activities and outcomes we were trying to appraise were not everyday routines, which could be easily observed

in most instances. We, therefore, had to largely rely on self-report of activities and success stories. Objective verification of claims was possible in some cases and we took advantage of them. Judgements in matters of quality of care issues that are not amenable to quantitative measurements are largely subjective, difficult and often contentious and had to be made with reasonable degree of care and scepticism in some instances.

DATA ANALYSIS

The primary units of analysis were DHA/DHMTs with the research recommendations and Quality Improvement Interventions as embedded units. Data were collected in 20 districts, which are used as settings for student research and were analysed under two main categories:

- i. Quantitative variables were analysed using manual calculators and Microsoft Excel-packaged computer analysis tools to summarise information as frequencies, percentage distributions, measures of location and variability etc.
- ii. Qualitative variables were reduced, clustered, and displayed in the form of reflective remarks, anecdotal quotes and case studies. The study, having been conducted in all the host districts which are consistently used for studies, does permit generalisation of the results to all collaborating districts, to theories cited and to SPH's approach to future collaborations with districts.

Chapter Three

FINDINGS

DATA RETRIEVAL

All the dissertations written from the MPH candidates' research works that were conducted between the year 1995 and 2001 and which were available at the library of the School of Public Health were retrieved and reviewed. In all, 104 dissertations were found. This represents 97.5 per cent of the expected number. Twelve reports could not be traced, presumably permanently 'borrowed' by other students and so to the library. The 104 reports found were carefully studied and classified under one of eight disciplinary areas covered, by name of author, by district and year of research. Table 1 and Appendix A summarise these classifications.

The result was as follows: 92 dissertations were written on research conducted in district settings; 10 others, though carried out in districts, were on industrial establishments especially mines, prisons and so on, whose operations fell outside the

scope of DHAs. So in all 82 (79 per cent) of the retrieved dissertations were further studied. As shown in Table 1 the five most frequently chosen topics for research were maternal and child health (MCH) issues (20.2 per cent), administration, management and finance (AMF) (17.3 per cent), reproductive health (RH) (15.4 per cent), disease control (DC) (14.4 per cent) and cross-disciplinary topics (CDT) (13.5 per cent).

The top three topical areas ie maternal and child health, administration/management/finance and reproductive health, which were considered problematic and priority areas in need of research evidence to support efforts at quality improvement accounted for approximately 53 per cent of research reports studied. If the topical areas deemed critical priority for research is extended to top 5, they account for 81 per cent of where DHAs and students seem to agree research efforts should be concentrated. This classification procedure

Table 1
Number of Research Reports found by Broad Subject Area: 1995–2001

Subject\Year	1995	1996	1997	1998	1999	2000	2001	Total
Technical/Clinical Research								
Topics	1	0	0	0	1	1	0	4
Applied Research	0	1	1	1	3	1	1	8
Admin Health Care Financing & Management	0	1	2	6	2	4	3	18
Technical Disease Control/ Evaluation	1	0	1	4	3	2	4	15
Cross Discipline Research								
Topics	0	1	1	1	4	4	3	14
Environmental/Occupational Health Research topics	1	0	3	3	2	0	0	9
Maternal/Child Health Topics	0	1	5	6	5	2	2	21
Reproductive Health Topics	0	0	3	4	4	2	3	16
Total	3	4	16	25	24	16	16	104

permitted the pictorial representations shown in Fig. 3 and detailed in Appendix A.

This helped to draw attention to the distribution of dissertations by district, disciplinary area and for easy follow-up of the recommendations contained in them during field visits to the districts, where such researches were conducted. This classification procedure also provided for a systematic identification of the district-specific problems that were investigated and which resulted in corresponding district-specific recommendations. This also allowed for the selection of quality of issues that were investigated and for which specific recommendations for improvement of healthcare quality in each district were made.

collection for ascertaining the real work place impact of the student research recommendations therefore took place in these twenty (20) districts. Fig. 4 shows these districts and gives some idea of topical areas investigated there.

As stated earlier Table 1 reflects the relative importance and DHAs concerns about the persistence of certain health problems in the districts. These were, therefore, the subject areas that they directed the residents to investigate in their districts. It was reasonable to subsume that these health issues were problematic and answers were urgently needed as inputs into the DHAS' efforts to improve quality, access, efficiency or effectiveness of services the districts offer. In all, 82 dissertations making an

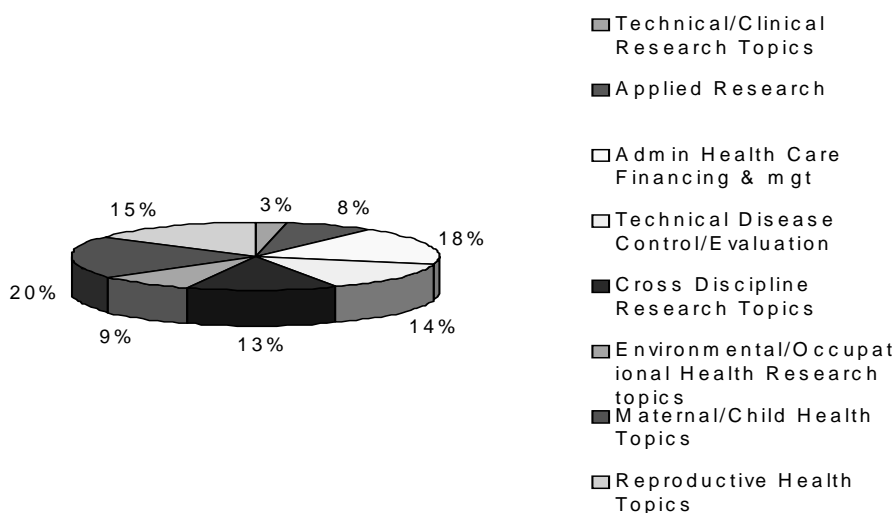


Figure 3: Subject Area Distribution of all Public Health Problems Investigated in the Districts 1995—2000

DISTRICT SETTINGS

In accordance with the school's philosophy of using districts and operational sites as field laboratories and active senior public health practitioners as faculty and mentors, the school at one time or another had sent MPH-residents on attachment to approximately 30 districts as shown in Table 2 below. Several of these had to be dropped for several logistic and operational constraints.

For the purpose of this research, the focus and study setting was twenty (20) districts which had consistently received and still receiving MPH residents for field work and research studies. Data

average of 5 recommendations (ranging 4 to 15) meant to improve services were identified. The researchers believed that if appropriate interventions based on their recommendations were instituted improvements in quality of service, among other parameters, would occur. Indeed all the twenty districts (100 per cent) visited by the present investigators readily acknowledged the importance of research evidence to their work but also conceded that most of them had neither the time nor the skills to conduct the studies for the answers they need and so welcomed the help the residents' research provided and either contributed resources (personnel, transport, materials and hospitality) to

Table 2
Dissertations Classified by District, Subject and Year of Research

RESEARCH SUBJECT AREAS COVERED AND YEAR OR DISSERTATION

DISTRICT	<i>Technical/ Clinical</i>	<i>Applied Research</i>	<i>Admin Health Care Financing & mgt</i>	<i>Technical Disease Control/ Evaluation</i>	<i>Cross Discipline</i>	<i>Environmental/ Occupational Health</i>	<i>Maternal/ Child Health</i>	<i>Reproductive Health</i>
Adansi East			1998	1998/2001			1997/1997	1998
Akatsi			1999		2000	1997	1998	2001
Akwapim South		1999					1998	
Asante Akim North			1998/2000/2002		1996		1999	1997/2001
Assin		2001	1998/2000		1999	1998	2001	1997/99/2000
Asuogyaman				1999/2001	1997/2002			1998/2002
Birim South							1996	1999/2000
Bolgatanga						1997		
Builsa						1999	2000	
Cape Coast Municipality				1998/99	1999			1997
Dangme-West	2002		1999/2000/01/ 01/02	1998			1998	
Ga	1999	2002	2000	2001	2000/2002	1998	1998	
Ho	2000	1999	1997		1998			
Hohoe		2000						2002
Jasikan				1995				
Kasena-Nankana					2001		1997	2000
Kintampo			1996/1998	1997/2002	2001		1998/99/99	1998
Koforidua/New Djuabeng		1996						
Kumasi Municipality					2002			2001
Nkwanta			1997/1998				2002	1998/99
Nzema East					1999		1997	
Sekyer West			1998		2000		1999/2001	
South tongu	1995							
Tamale Municipality		1999		1998/99/ 2000/01				
Tema						1995		
Wa			2001		1999/2000	2002	1997/98	
Wassa West				2000	2001	1997/98/1999	2000	
Yendi		1997/ 1998				1999	1999	

assist the residents. Yet surprisingly few made any active efforts to request for copies of the final dissertations, which contained the findings and recommendations they claimed they needed. Fourteen (14) DHAs (ie 70 per cent) visited and interviewed, claimed to have at one time or another implemented one or more of the recommendations. Hardly any voluntarily recalled which ones. When they were prompted by asking them about specific recommendations in reports on their districts however, only a small minority (20 per cent) would

categorically attribute the intervention actions, to a large extent, to the student recommendations. In three districts out of the twenty (15 per cent), the staff challenged the justification of some recommendations. They claimed that the modifications suggested by the students were their routine practices long before the students came to do their research in their districts. As stated earlier, after applying certain inclusion criteria, recommendations from 82 studies were selected to form the basis for the questionnaire design. Only 32

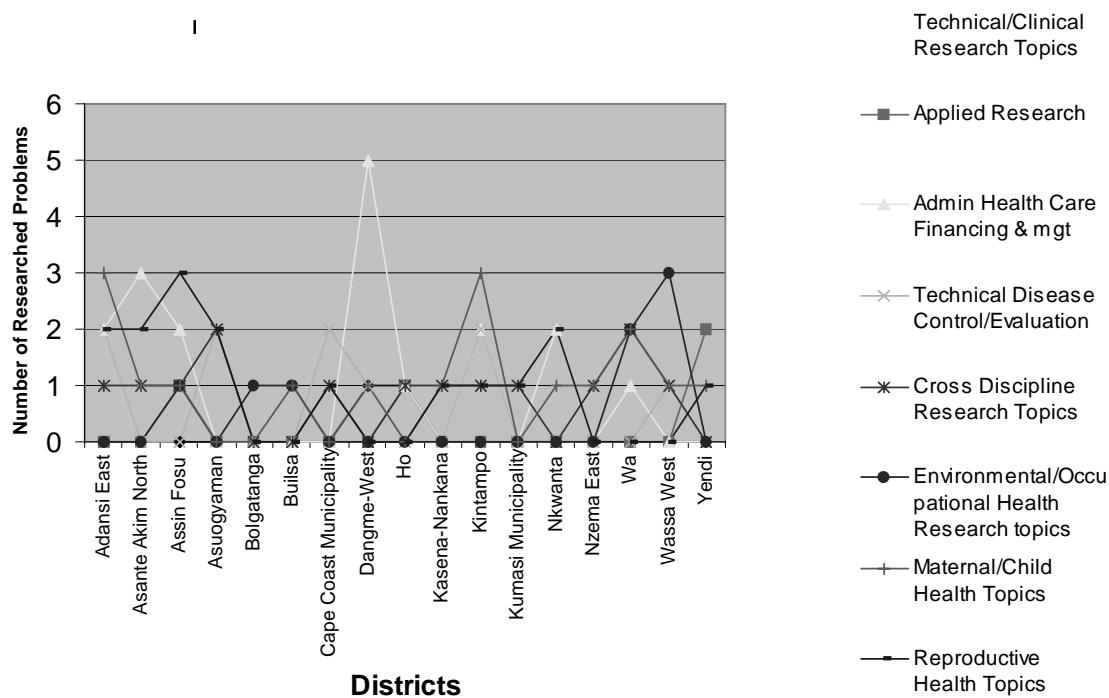


Figure 4: Frequency of Public Health Problems in the Districts: 1995—2001

(39 per cent) bound copies ie final versions, of these 82 study reports could be found in the offices of the DHAs. A majority (56.25 per cent) of these were sent to the host districts by the student researchers themselves. The remainder were sent by the SPH officially by post or by hand through their directors, who visited the School. Most members of the DHMT said all they could remember of any recommendations by the researchers were what they were told by the students during their pre-departure debriefings to the teams. The few core DHMT members who claimed to have had opportunities to skim the reports said they were generally fair but that there were many very profound differences between the tentative and the final recommendations. It was, therefore, always important that the districts be given copies of the finished products.

With respect to the researchers' recommendations, our review showed a general tendency to make too many (between 4 and 10, 15 one case) recommendations directed to all hierarchical levels of the health care system. A couple of District Directors who volunteered a critique of some of the studies said that studies were often made on the basis of studies on convenient samples of subjects in sub-districts, which as such are

unrepresentative of even the entire district population or healthcare system. But their recommendations were too wide, not targeted enough. This they opined fell short of scientific rigor and should be corrected by academic supervisors.

We also heard comments in the field about the few reports that arrived at the districts ending up on the Director's desk or even home and rarely being seen by other staff.

The original study design had anticipated adequate number of situations in which interventions were being made consistently, year after year to enable quality of innovations adoption and the impacts to be compared on time trends (ie T_0 , T_1 & T_2) basis. Unfortunately no such consistency of response to recommendations was found. For that reason the analysis of time trend comparison proved to be not feasible and had to be abandoned. In view of the relatively small number of instances in which intervention actions were taken on specific recommendations put forward by the researchers, it was thought that case studies of the few instructive instances would be much more useful. For this reason we identified four (4) cases in which the host districts showed interest and actually made efforts to utilise the research recommendations in accordance with

our view of a helpful research-practice link we outlined earlier in our conceptual framework, restructured them to enhance their relevance to our line of thought on proper utilisation of research result and presented them below. The valuable and instructive principles these cases highlight are:

- identifying and attacking head-on age old culturally accepted dangerous child care practice
- aggressive routine information gathering about pre-institutional folk medicine treatment which could account for poor pregnancy outcomes
- questioning the adequacy of response resulting from application of a theoretically very effective health intervention
- infrastructural inadequacy that constrains access to health care.

These illustrative cases do not represent best practices of research–practice linkage but are good efforts and presented here as the nearest approximation of what we found in the districts we studied to be a desirable routine utilization of research findings.

CASE STUDIES

The four district-cases presented below describe perhaps the closest fit to formal reception of the study reports, the DHMT studying them and making deliberate decisions and choosing interventions on the basis of suggestions of researchers to improve on the quality of their services.

Case Study 1

RESEARCH ISSUE: KAP OF CHILDHOOD DIARRHOEAL DISEASES MANAGEMENT. AMONG MOTHERS IN THE WA DISTRICT, UER (OWUSU, E., 1997)

Problem: High morbidity or case fatality in Wa due to childhood diarrhoea.

Design & Method: Health Survey of 210 mothers with children under 2 year old.

Findings: Wrong and even dangerous beliefs (heat of the sun; evil spirits; dirty stomach) about causes of diarrhoeas and practices such as purgation, giving enemas, herbal medicines

orally, food withholding, etc to children with diarrhoeal diseases. Poor or no hand-washing practices after toilet visits and before eating; shrine consultations.

Recommendations: IEC that focus on germ theory to replace dirty stomach belief, teaching simple rehydration using, appropriate analogies and models. ORS access and ORT corners at Hospitals and Health Centres

QI Expectations: mothers and other child minders mastery and habitual application of safe, appropriate home management and appropriate use of/referral to health care facilities.

Action Taking: ORT Corners have been formed at most health facilities: Appropriate Teaching Aides made and used by care providers; Mothers' clubs formed and actively functioning in Holomuni and Lasio-Tuolu villages.

Monitoring & Evaluation: Not formal

Impact of Action: surmised but not measured and documented.

Conclusion: IEC & ORS intensely used in health facilities and Mothers' Clubs now part of regular Community management of diarrhoeas in children.

This Researcher's Comments: *good work has been done that most probably has improved care and saved lives but cannot be justly claimed to be the result of compliance with research recommendations because structured monitoring and evaluations have not been done.*

Case Study 2

RESEARCH ISSUE: USE OF "KALUGUTEEM" (A HERBAL PLANT WITH OXYTOXIC EFFECTS) DURING PREGNANCY IN YENDI DISTRICT (KANDA, GK, 1999)

Problems: Kaluguteem is a medicinal herb that enjoyed widespread use for a variety of purposes especially for safe pregnancy, labour or puerperium in Yendi and neighbouring districts of NR.

Design & Methods of Data Collection: Focus group discussions (FGDs) and Questionnaire and interview survey of 300 female subjects (15-49 years old.)

Findings: Knowledge of Kaluguteem as a useful folk medicinal plant was pretty widespread. Up to 53.1 per cent of interviewees had used Kaluguteem in previous 12 months; 43.7 per cent in pregnancy. Socio-economic and demographic attributes did not affect belief and use. Distance from a health facility (HF) did make its use more likely. No clear 'cause and effect' toxic, moribogenic effects nor death could be obviously attributed.

Recommendations: Joint campaign by HFs, community health committees (CHC) and landlords to discourage abuse of Kaluguteem especially during labour. Better data collection in hospitals to see if connection exists between use and pregnancy complications. Further research urgently required.

QI Expectations: Unwillingness of pregnant women and those who look after them to use or ignore the use of drugs and herbs whose safety to mother and foetus have not been established will become community norm.

Action Taken: Better data collection on maternal deaths in hospitals; by mid 2003, 18 maternal deaths in health facilities plus one at home reported by a community had been recorded; 11 of these were due to rupture uteri. Rest due to delays and overwhelming septicaemias. All had used Kaluguteem at some stage during their pregnancy. Six community durbars were held in communities where maternal deaths had occurred: Topics of ICC at these durbars included; Danger Signs of Pregnancy and labour; doubts about Kaluguteem use; TBA training on herbs use. Midwives retraining on Life Saving Skills of Safe Motherhood Protocols; CHPS implementation in three communities; Kaluguteem research proposal being prepared to seek funding from UNICEF.

Monitoring and Evaluation: Nil Structured

Impact of post Research Intervention: Obviously delivery-related deaths as at May 2004 had decreased drastically, since only one death has been recorded in HFs. The cause of that death was determined at post mortem examination to be due to rupture of uterus.

This Researcher's Comment: *Quite impressive*

compliance with research recommendations; vast improvement in the MM situation but cannot be unequivocally attributed to the intervention. This is because no pre- & post- intervention measurements and documentation on KAP of Kaluguteem use behaviours therefore only presumed effect of Anti-Kaluguteem IEC. For the community however, the lack of scientific pre- and post-intervention measurements cannot detract from the happy news of precious lives currently saved, which were previously being lost.

Case Study 3

RESEARCH ISSUE: FACTORS ACCOUNTING FOR LOW IMMUNIZATION COVERAGE IN THE CAPE COAST MUNICIPALITY (LIVERPOOL, M, 2000)

Problem: Even though immunization of a high proportion of children against certain childhood diseases is the most powerful public health intervention known to improve child survival and reduce morbidity, routine data on the intervention showed worrying decreasing utilisation.

Design and Method of Data Collection: A 30-cluster sample survey study of 480 mothers with children aged from 12 to 23 months.

Findings: Up to 68 per cent of eligible children were fully immunised to expected levels by 12 months to DPT₃/OPV₃ level, 78 per cent by 23 months of age. Survey data showed 13 per cent higher coverage than routine records. These figures in any case, fell short of the 80 per cent coverage known from empirical evidence to provide herd immunity for all a community's children. Reasons: inconvenient times of service, competing maternal priorities, missed opportunities due to rigid adherence of staff to outmoded schedules, poor staff attitudes, and poor community involvement.

Recommendations:

1. Better staff training; pre-service, re-orientation and in-service.
2. Better regular supervision of immunisation work.

3. Improving service accessibility to mothers and their children.

QI expectations: A situation where immunisation coverage of 80 per cent or higher exists and, therefore, confers herd immunity on the child population in the municipality.

Action-Taking: Two EPI training sessions per year of both refresher and in-service delivery points; greater and more frequent supervisor presence and involvement at worksite; Supervisor reviews of 'Road-to-Health' charts during and immediately after work sessions; Supervisor checks on timeliness and counselling of mothers; Access increase through defaulter tracing and more home visits with vaccines to immunise at homes; immunisation sessions in schools and nursery schools; increased number of outreach points.

Monitoring and Evaluation: Not formal.

Impact on Recommendation-based Intervention: Immunisation coverage between 2002/2003 well over 85 per cent and morbidity from immunization decreases significantly down.

Researchers' Comments: *Qualitative reports and staff station diaries show a fairly high level of compliance. But better records linking the changes and the interventions are needed to support more convincing claims for the interventions.*

Case Study 4

RESEARCH ISSUE: LATE CARE SEEKING BY WOMEN IN/OF ASSIN DISTRICT HEALTHCARE FACILITIES FOR PREGNANCY-RELATED COMPLICATION (TINKORANG, E, 1997).

Problem: Women with pregnancy-related complication were perceived to be experiencing higher than expected maternal mortality and peri-natal child morbidity and mortality because they arrive too late to benefit from management of their problems. What community factors contribute to this undesirable behaviour?

Design and Method of Data Collection: Cross-sectional descriptive survey using FGDs and questionnaire administration to 200 respondents in Assin Communities.

Findings: In spite of widespread awareness of complication that accompany pregnancy as well as the value of appropriate use of healthcare facilities to address these problems, lack of money for fees and fares; travel for long distance on bad roads in uncomfortable vehicles for long travel times to get to facilities hinder prompt use of these services.

Recommendation: More intensive campaign of community education to share concern of high maternal mortality and peri-natal mortality; setting up of maternity waiting homes near the hospitals or in the towns in which they are situated and training of TBAs on indications for prompt referrals to nurses/midwives in the catchment areas of healthcare facilities; setting up of community loan schemes in the villages; dialogue with members of road transport operators unions on concessionary fares for pregnant women; Implementation of the fee-exemption policy to cover all stages of pregnancy.

Q-I expectation: Prompt identification of pregnancy-related health problems and prompt utilization of services available, run by personnel skilled in safe motherhood and obstetric emergency techniques.

Action-Taking: Monthly maternal care and mortality audits in healthcare facilities; frequent community education through holding community durbars IEC, including fund-raising to assist poor pregnant women. Community loans schemes and community based health insurance are under active consideration. Dialogue with transporters for reduced fares for pregnant women held, but no significant action resulted; instead transporters gave many reasons why they could not help. Dialogue with District Assembly to pay more attention to the district's feeder road re-surfacing programme.

Monitoring and Evaluation: No structured formal action taken.

Impact of Action: Some improvement has been noticed regarding delayed arrival at health facilities; reduction of maternal mortality from 23 deaths in 1996 to 13 deaths in 2003. This 43.5 per cent reduction is quite significant and

probably attributable to the interventions.

Researchers' Comment: *Sadly, no record keeping of the activities, care management and specific actions taken and action and effects linkage analysis were done. There-*

fore, any attributions can be challenged and the validity of any claims questioned. It is, however, obvious that positive changes are happening and deserve commendation.

Chapter Four

DISCUSSION

This study set out to follow up research work done at selected districts over a seven year period by graduate students/residents of Public Health as part of their training at the University of Ghana School of Public Health. The purpose of these studies is to help the host districts find answers to specific questions, issues and concerns, which if addressed would improve the quality of health services delivered to the people of Ghana by the health sector. Research of this kind is premised by the UGSPH and the student researchers on the assumption that they would yield sound bases for instituting strategies to improve quality of service among other things. As stated earlier in the discourse, research was seen by all DHMTs interviewed during the field work in the 20 districts to have a valuable contribution to make to answer the questions, provide facts and explanations, confirm or debunk perceptions and provide solid bases for taking actions to improve technical practices and procedures, systems and organisational issues and many more. Relevance of research to the real world and workplace realities was improved by getting student researchers and leadership of health care systems to determine what topics are priorities in terms of urgency of the solutions they could yield to be used to improve the workings and quality of the systems. Our respondents, who were for most parts eye witnesses or even limited participants of the research processes that produced the research findings and were quite satisfied with the integrity of the researchers. They generally had no misgiving about the quality of the findings and the bases of the recommendations and expressed satisfaction with the reliability of the outcomes. All DHAs, except one, wanted to collaborate with the SPH by continuing to host MPH residents in future.

When a research undertaking enjoys the full support of the prospective user such as the DHA/DHMT, it is generally assumed that the research evidence based diagnosis of the public health problems in a district, a community and/or a region generated would ultimately lead to better

appreciation and a profound understanding of the kind of intervention package to deliver for health quality improvement. The findings of this study, however, indicate that not much took place in most DHAs by way of follow up after the research ended. Only a small minority of districts (15 per cent) utilised the empirical evidence backed recommendations generated to inform interventions to improve the quality of health care. This finding is no surprise and is consistent with the findings of several observers of the research scene (Askew *et al.* 2002; Haines and Donald, 1998; Tarimo, 1991). WHO (1990) laments that in developing countries, “the few results produced by research on HRH (and other aspects of health) development have remained largely unused by decision makers...” and the WHO Expert Committee on Health Manpower Requirements goes on to make concrete suggestions for more effective use of research results that include:

1. joint selection of research topics by health services and researchers (research mapping);
2. involvement of operational health personnel in some aspects of research, eg data gathering;
3. dissemination of research results in an easily understandable form;

To these WHO suggestions the present investigators would add Rogers’ five steps to assist results diffusion ie

1. ensuring *awareness* of the existence of the new idea/ innovation,
2. *persuasion* of users,
3. foster *decision* to act on the innovation,
4. *implementation* ie actually using it,
5. confirmation or mainstreaming ie making it part of the routine mode of operation.

It must be noted though that in these MPH residents’ research processes, joint selection of topics

and operational personnel involvement suggested by the WHO are indeed the norm. But this has not improved the research uptake by much. What have been missing in the interaction are perhaps two other important additional elements, ie

1. continuous contact between the research and health-care systems;
2. follow up by research agencies and health managers monitoring and documenting of the way in which the results are being used and periodically evaluating the intervention.

It is worthy of note that the discussion of improvement of quality of care so far has been limited to improvements from the health care providers' perspective. This is only a partial view. While we agree that arguably the most reliable gauge for health quality improvement rests to a large extent also on clientele (patient) satisfaction, we are also mindful that such measures are hard to define with any degree of precision. This is because, satisfaction is largely impressionistic, subjective and context dependent, difficult to measure and varies from one client to the other in one single situation. More generally, healthcare quality concerns both technical and inter-personal/attitudinal aspects of care and key features that combine to define healthcare quality relate to competencies and skills of providers, referral mechanisms, and diagnostic procedures, as well as those relating to the attitudes of staff versus patients, and the content of information provided to patients. Lack of quality care from outcome perspective, can lead to serious problems, such as the inappropriate prescription and use of medications by staff and patients, resulting in drug resistances. Perception about the quality of care is a key determinant of under-utilisation of health care and attendance at healthcare centres, often is used as a measure of healthcare quality. Frequently, while low attendance at a healthcare centre in many cases gives an impression about poor healthcare quality, high attendance at a health post generally commands an impression about superior healthcare quality. Much as we agree entirely with Ishikawa (1985) cited earlier that measures of healthcare quality must ide-

ally therefore be viewed from two perspectives, namely,

- a) the care providers' perspective and
- b) the care receivers' perspective, limitations of time and resources could only permit an investigation of one and not both.

Throughout this study, however, we have focused on healthcare quality improvement from the providers' perspective because it is this sub-system that has the responsibility to shepherd the student researches under consideration and ultimately utilise it. The estimation of the extent of compliance of DHAs/DHMTs with researchers' recommendations, and the health quality change arising there from and hence the ability of the study to report the level of health quality improvement accurately on the ground is limited by time constraints of both the researchers and the respondents as well as by the degree of honesty and sincerity of the providers and their reports to us.

Figure 3 shows the prevalence of common public health problems selected for investigation in the districts over a ten-year period. Among all the public health problems encountered in the districts, the possible determinants of morbidity and mortality as well as deterioration in health care quality in the communities and districts are maternal/child health issues and administrative healthcare, financing and health management issues tying at 19 per cent at piece of the overall problems observed in the districts. Reproductive health, Technical/Disease Control and cross-disciplinary areas are next highest priority determinants of deterioration in health quality yielding 15 per cent, 14 per cent and 13 per cent, respectively, of the recorded health issues in the districts as shown in Fig 3. While environmental health problems constituted 9 per cent of all the issues presented, problems of applied research nature made up 8 per cent leaving Technical/Clinical issues to 3 per cent of the problem burden.

Figure 4 and Table 1 combine to show the annual preponderance of health problems per disciplinary area ever investigated over the last decade beginning in 1995. The predominant public health problems in the districts have been shown to

cluster around maternal/child health issues and administrative/management, healthcare financing issues that were heavily expressed in 1998. The graph represented in Figure 4 and Table 2 show that Technical/Clinical health concerns might have been the least important as public health issues in the district within period of operation by the MPH residents from the GSPH. For example, the cumulative total of the Technical/Clinical concerns that was encountered in the districts during the time, probably due to the implementation of various interventions as dictated by the state of population health in time rather than the absence of biological and environmental phenomena. The ultimate usefulness of research findings to appropriately help to address and achieve the goals and purpose for which a given research project was undertaken does not only depend on the quality and rigour with which the research was conducted, but it also depends on how the research findings and recommendations are disseminated and utilised to inform intervention plans, strategies and implementation. A cursory scrutiny of Table 1 shows, that there has been a progressive and worrying loss of archived documents information from 1995 to 2001, except in 1998 and 1999 (25 and 24 reports respectively were found in archive), where almost all of the research reports were found and retrieved. The class size of the annual MPH Residents varied from 12 to about 25, but in many cases, less than 50 per cent of the reports could be found at the offices of the host districts. DHMTs were in many cases unaware of the existence of recommendations demanding action from them. This made it impossible for action to be taken on the recommendations contained in those reports, which the DHMTs were unaware of.

Fig 5 shows the prevalence and importance of the different types of public health problems within the communities in Ghana as presented by the leadership of DHAs as important and requiring resolution with the help of research evidence. Different districts accorded varied degree of relative importance to various health issues in different districts. It can be seen that, while administrative healthcare/health financing and management issues seem to be priority concerns in Builsa, Cape Coast

and Dangme West, Technical/Disease control issues appear to be dominating all other health issues in South Tongu, Tamale Municipality and Tema areas. Care must be exercised in interpreting Fig 5 as a quick visual impression of the distribution of health problems and their relative importance in the population in Ghana because it is not. It only shows the DHAs' perceptions of unanswered or unclear issues, problems and concerns in need of evidence-based answers.

At this point of the report, it is imperative on us to re-examine and provide answers to the specific research questions we posed at the beginning of this study. From the foregoing exposition it is feasible to address the research questions one after another. First, there is the question of adequate distribution of the MPH dissertation reports to ensure that target districts become aware of the researchers recommendations. We found the answer to this question to be negative. Less than one in three districts had had access to the recommendations they were expected to implement. Secondly, when they happened to receive the reports, did the DHAs/DHMTs find the recommendations relevant, useful and important enough to spend resources and energies acting on them? Most districts answered this in the affirmative and indeed found the intellectual process of being involved and participating in the research processes stimulating and educative. Recommendations not entailing extra resource expenditure but only organisational changes were particularly welcome. The surprise is that this interest ended with the departure of the residents. Hardly any staff or team picked up any of the aspects of the topics for study by themselves nor did they approach interventions they put in place in research mode. Third question of forming a habit of deliberately and formally meeting to discuss the research findings and recommendations, taking a deliberate decision one way or another has not evolved. When action was taken on any suggestions it was either by the DDHS or with a particular schedule officer concerned. Other members of the team knew little or nothing about what was going on. The fourth question that dealt with any positive and observable improvements that resulted from the

few cases where interventions were put in place was responded to positively. The examples illustrated by the four case studies presented above and a few more others amply supported this view. The fifth question of whether the interventions made in response to the recommendation were cost effective

and therefore sustainable enough to be permanent routine practice in the districts produced ambivalent answers. This aspect of research suggestions therefore needs further considerations, which future researchers have to seriously help address.

Chapter Five

CONCLUSIONS AND RECOMENDATIONS

Based on the findings of this study a number of conclusions were arrived at. An obvious and happy one is the general goodwill, interest in and expression of approval of research as desirable but not just a peripheral luxury or student nuisance that ought to be tolerated somehow. This is a healthy nascent evolution in our context of the widely accepted world view that progress in every human endeavour thrives upon the richness of its science base (Berwick 2003). This should encourage the proponents of research as a third dimension, albeit a minor one, at this stage of health care practitioners' normal work in the Ghanaian health sector.

Now relating our findings to what this investigation set out to achieve, it is important to directly address the five research questions posed in our design:

First and foremost this investigation showed that the dissertation that the residents produce are poorly distributed to the host districts. Final copies of the reports on 82 studies could be physically found in only 32 per cent of cases in the DHA offices. Informal inquiries at regional and national level offices yielded much less. The operational staff at the district level, hard pressed for time to just cope with their daily routine of delivering services, may not need or read the hardbound full report written in a style that meets academic requirements of a university. But they could benefit from an enhanced spiral-bound executive summary which is thin on preliminaries such as overviews, literature reviews and design but somewhat detailed on findings, conclusions and clearly articulated and targeted recommendations.

Second, we tried to ascertain the relevance to the districts of the recommendations addressed to them and whether they regarded these recommendations worth spending scarce resources to act upon. The predominant answer to this question was in the af-

firmative even though a majority of the respondents made it clear that they were speaking on the basis of the debriefing suggestions they could recall, not having seen the final reports. This is encouraging. A bit of work on the dynamics of research results diffusion of Rogers could improve utilisation for there appears to be positive potential.

Third, disappointingly we did not find even a single instance of formal meeting of a DHMT meeting to discuss the research report and objectively on the force of their arguments arriving at a minuted decision to either accept or reject or act or not to act on any recommendations. Decisions if made were informal or implied. This way the group missed opportunities for useful and stimulating scientific discussions. There were instances where discussions took place between programme heads and DDHSs. These discussions led to the situations where some interventional actions were taken.

Fourth, from the case studies reported in some detail under section 10 of this paper as well as from several anecdotes, when research recommendations pointed ways out of some operational difficulties and interventions were put in place in affected districts the results were gratifying and led to quality improvements. It is a pity though that these efforts were not scientifically designed in a research fashion and better documented to put claims of improvements attributable to these interventions beyond doubt.

Fifth and finally, a number of districts have utilised the research findings and recommendations to inform their efforts to improve the quality of services they do offer in their catchment areas and have achieved hard-to-assess

measure of success. But it is also true to say that generally the research findings made so far were not being adequately utilized on a large enough scale to inform service administration, technical practice of care and the financial decisions of DHAs and to enable cost-effectiveness and justification to incorporate them in their routines of care delivery. A definitive pronouncement on this is in our view premature and unsafe.

A fundamental issue in all these revolves around the question of the research reports not being widely available, for operational staff to be aware, and persuaded of the value of the suggestions contained in the recommendations to themselves as individuals and to the services as a whole. Granted that the research reports have not been made as readily available to the districts as they should be but the districts have not shown active quest for them either. The responsibility for ensuring the better distribution of the final reports should be primarily that of the SPH but not exclusively so. In this era of cell phones and e-mails, it should be easily feasible for district directors and other senior staff to ask for reports of investigations carried out in their own districts if they do not receive them after a reasonable length of time. Our finding is that where research recommendations excited DHAs enough to elicit action, these were not structured sufficiently and implementation arrangements failed to build in monitoring and evaluation components to permit evidence-based appraisal to be made. This is a terrible waste of opportunities. The result is that any claims for the interventions become anecdotal and unable to withstand the rigours of scientific scrutiny. It is only by changing this mode of operation that districts can generate reliable local factual information and gain mastery over their health care work in general.

RECOMMENDATIONS

Scientific research component of health care has fairly wide acceptance as a needed input and as such has necessary conditions to thrive in Ghana. If nurtured with enthusiasm and adequate resources it will grow well for the benefit of the Ghanaian society. We therefore recommend the following measures:

Wider encouragement and involvement of health care providers in the identification, raising and discussion of unanswered problems, issues, questions and concerns which must be investigated with a view to finding facts, figures and information; this ought to be on the agenda of DHMTs and other meetings several times a year as a way of keeping research consciousness alive.

Encouragement should be given to practitioners to investigate simple puzzling issues to start with and gradually progress to more complex issues including taking on co-researcher roles with visiting MPH residents.

Researchers and their sponsoring organizations should be committed in writing to share their outputs in the form of final reports with their host districts when the studies are completed. Pre-departure debriefings alone are neither well-thought out nor detailed enough.

Dissertations as academic documentations intended to encompass the application of students' overall learning tend to be unwieldy, giving a lot of space to required elements of little interest to practical health care providers. To district target groups made of busy practitioners, enhanced executive summaries that go beyond standard abstracts to include clear guides to action prepared and sent to the districts by the researcher would be much more likely to evoke interventions.

Such Action Guides should include the following:

- Unhelpful Current Situations
- Recommended Changes with Action Steps
- Perceived Benefit to the system and its personnel
- Resource considerations.

Funding agencies could help the development of this feedback and follow up culture by making modest fiscal provisions to the School of Public Health and the researchers for these post-investigation activities.

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APPENDICES

APPENDIX A

Dissertations Titles classified by Subject, Author and Year of Research

SUBJECT AREA

A REPRODUCTIVE HEALTH TOPICS

Title	Name	Year
The magnitude and determinants of teenage pregnancy in the Cape Coast Municipality	Dagadu, F. N. K	1997
The Youth, Safer Sex Behaviour and HIV/AIDS Prevention: Case Study of Agogo.	Silas Quaye	2001
Assessment of the level of unmet needs for family planning in Kintampo District.	Jonathan Adda	1998
A study into some factors associated of the low acceptance of modern contraceptives in women in the reproductive age in the Adansi-East district.	Felicia Owusu-Antwi	1998
Assessing Essential Obstetric Care in the Asuogyaman District.	Andrews, Edith	2002
Male contraceptive use in the Asuogyaman district of the Eastern region, Ghana.	Nii Akwei Addo	1998
Socio-cultural and economic factors that influence the acceptance and use of contraception among men in the district	Awudzi, Yeboah	1999
Why The Gap Between Awareness (Knowledge) and Practice Among the Youth in Hohoe District: HIV/AIDS and Condom Use	Ali, Francis Soah	2002
The reasons for low family planning coverage in Birim South district: Analysis of service delivery points in the district	Osei, Ivy	1999
The Availability of Essential Obstetric Care Services in the Birim South District	Sottie Cynthia	2000
Why low family planning acceptor rate at Nkwanta district?	Amankwa, David K.	1999
Problems of teenage pregnancy in Nkwanta district of Volta region	Yaw Osei Asibey	1998
A community-based study of factors contributing to the delayed arrival of women with pregnancy-related complications to health care facilities in the Assin district of Ghana	Emmanuel Kojo Tinkorang	1997
Perceptions of teenage pregnancies in Ghana: A study of married and unmarried teenage mothers in the Assin Foso district	Seth Abu-Bonsrah	1999
Abortion: Practices and Determinants of Abortion in Assin District	Amankrah-Nkansah Stephen	2000
Male Involvement in Family Planning in the Kasena-Nankana District, Upper East Region	Kitcher Jeff	2000

A Study on factors affecting the utilization of family planning services in the Ashanti-Akim North district	Immunya, S. G.	1997
Role of Men in Family Planning in the Akatsi District.	Julius Dadebo	2001
B MATERNAL AND CHILD HEALTH TOPICS		
A comparative study of the practice of exclusive breast feeding as related to the type of health care provider assisting delivery	Morkor Newman	1998
Weaning practices and the prevalence of under nutrition in Akatsi district	Margaret Kwaku	1998
The causes of Anaemia in the under five in the Kintampo district	Agboada, James	1999
A study to identify potential community agents for improving health seeking behaviour for child health services in the Kintampo district	Eunice Adjei	1998
The use of the road to health card and its effectiveness in detecting “at risk” to malnutrition	Dodoo, Cornelius D.	1999
Utilisation of Antenatal Care Services for Safe Delivery in Nkwanta District	Atchulo, Yakubu	2002
A study of the characteristics of women opting for home or institutional delivery after antenatal care in the Wassa-West District	Yao Ofori-Yeboah	2000
Is Home Visiting an Effective Strategy for Improving Family Health: A Case Study in the Sekyere West District.	Doreen Osae Ayensu	2001
The study of women’s K.A.P. of safe motherhood in Sekyere West district	Opape, David	1999
The reasons for the difference between ANC coverage and supervised deliveries coverage in the Yendi district	Ofori, Anthony	1999
The Prevalence of Exclusive Breastfeeding in Assin Fosu.	Owusu Boahen	2001
The major risk factors associated with high low birth weight (LBW) rate in the Builsa District	Asedem James	2000
Perception of the “significant others” on the practice of exclusive breast feeding in the Dangme West	Abigail Gyamfi	1998
A study on the knowledge and practices of childhood diarrhoeal diseases management among mothers in the Wa district, Upper West region, Ghana	Owusu, E.A.	1997
Community participation in maternal and child health/family planning at the sub-district level in Wa.	Richard Henneh	1998
A retrospective study on the relationship between antenatal care and supervised delivery in Ga district, Greater Accra, Ghana.	Winnie Kurtzhals	1998
High risk pregnancy and infant outcome in the Kassena-Nankana district. An analysis of the panel survey of the Navrongo health research centre.	Kwarteng, A.	1997
Factors contributing to low delivery coverage in the Birim-south district of the eastern region of Ghana.	Sekyi-Appiah, K.	1996
Factors leading to unmet needs for family planning amongst women seeking termination of pregnancies at Nzema east district hospital	Hodgson, A. V. O.	1997
Essential obstetric care: A comprehensive coverage evaluation in Adansi East district, Ghana.	Kyei-Faried, S	1997
Childhood anaemia. The case of Dormaa district	Oduro, J.	1997

C ENVIRONMENTAL AND OCCUPATIONAL HEALTH RESEARCH TOPICS

Prevalence of trachoma in the Builsa district	Clegg, Ellen A.	1999
Risk Factors for Trachoma in Wa District of Upper West Region	Amoabeng, J. Kwame	2002
The health and environmental implications of small scale gold mining operations in Bolgatanga district	Obeng, E. A.	1997
An assessment of street food safety in the Ga district	Liberty King	1998
A study of the knowledge, attitudes and practices of small scale miners in the Tarkwa district	Evans-Quayson, Susan	1999
Home visiting in the Assin district	Patricia Antwi	1998
Assessment of noise induced hearing impairment in a cement factory.	Yabani, J.	1995
Sanitation and the Prevalence of Intestinal Heminths among School Age Children	Osei, V. K.	1997
A study on Factors Affecting the Utilization of Family Planning Services in the Ashanti-Akim North District	Karikari, K. A. B. A.	1997
Patterns of “sickness absence” among occupational groups (a Tarkwa based study)	Richard Orko	1998

D CROSS DISCIPLINE RESEARCH TOPICS

A K.A.P. study of secondary F2 and F3: Adolescents sexuality STDs/AIDS in Nzema East district	Ahedor, Michael	1999
To determine factors leading to resurgence of yaws in the Assin Foso District	Otchere, Yaw	1999
Why is there low utilization of curative services in Wa District despite the perceived improvement in quality of care	Ofosu Winfred	2000
Acute Respiratory infections in under fives – A study of the determinants of care seeking and home management practice in Akatsi District	Addico Gifty	2000
Epidemiology of Malaria among pregnant women in the Sekyere West District	Glover-Amengor Mary	2000
Factors Contributing to High Default Rate of the Dois System in the Yendi District.	Benjamin Marfo	2001
Community-based study of KABP on epidemic prone diseases with special reference to CSM in Wa district	Charway, Juliana	1999
Health information systems in the Ho district: a study of how health service information is utilied at the subdistrict level	Samuel Kwashie	1998
Why were the targets not achieved? – A study of the factors affecting immunisation coverage in the Cape Coast Municipality	Liverpool Mary	2000
Assessment of the knowledge of the risk of tuberculosis infection in humans from the consumption of meat (beef) on fresh milk:	Koray, Hakeem I.	1999
The Prevalence of Exclusive Breastfeeding in Assin- Fosu	Osei Somuah	2001
Childhood Immunisation in Kintampo: Quality and Demand.	E. Ewusi Emmim	2001
An appraisal of intersectoral collaboration on PHC in the Ashanti- Akim north district	Afenyadu, G	1996
Knowledge Attitude Belief Practices on HIV/AIDS Among Secondary School Children in the Asuogyaman District, Eastern Region.	Hoffman, Justice Adotey	2002

Are they being treated? A study of STD treatment seeking behaviour among adolescent students in Asuogyaman District, Eastern Region	Yeboah, K. G.	1997
Socio Socio-Cultural Perceptions of Buruli Ulcer in the Ga District, Greater Accra Region.	Ackumey, Mawufenya Mercy	2002
Sexually Transmitted Diseases (STDs) Clinic and Commercial Sex Workers in Kumasi - The Way Forward.	Gyann, Esther	2002

E TECHNICAL – DISEASE CONTROL AND EVALUATION RESEARCH TOPICS

Control of Yaws in the Asuogyaman District. Can Community Involvement Make the Difference?	Abdulai Forgor	2001
Evaluation of the impact of the control programme in the prevalence of schistosomiasis along the Volta Lake in the Asuogyaman District	Antobre-Boateng, A	1999
Perceptions, Attitudes and Practice Related to Insecticide Treated Bednets (ITBS) at Amasaman.	Vincent Arove	2001
Assessment of the use of Bednets in the Yendi District, N/R, Ghana	Tamakloe Emmanuel Kofi	2000
Examining the awareness of Anthrax and its control among livestock owners of the Tamale Municipality in the Northern Region of Ghana	Opare, Charles	1999
Factors accounting for failure of the Guinea Worm Eradication Programme (GWEP) in the Tamale Municipality	Aryee Reginald	2000
Factors Influencing in Incidence of Measles in Under-Five in the Tamale Municipality.	Emmanuel Senyo Kasu	2001
Knowledge, attitudes, beliefs and practices of dog owners: relevant for control of rabies in the Tamale municipality in the Northern Region of Ghana	Mark Tettey	1998
Evaluation of EPI Coverage in the Adansi East District	Rex Asante	2001
The knowledge, acceptability and practices concerning impregnated bed nets use in the Cape Coast Municipality	Chinbuah, Margaret A.	1999
Pre-packaged anti-malaria tablets versus syrup for the treatment of malaria in children 0-5 years: a look at ease of administration, costs and compliance.	Evelyn Ansah	1998
The evaluation of drug supply management in the MOH facilities in the Dormaa district	John Dadzie, F.	1998
Prevalence of tuberculosis in cattle in the Dangme-West district: public health implications	Osei-Agyeman Bonsu	1998
The Social Impact of Kintampo Vitamin A EPI Plus Project	Bonney, A. A.	1997
Factors Affecting the Eradication of Guinea Worm Disease in Dawadawa, Kintampo District.	Owusu-Yeboah, Eunice	2002
Evaluation of childhood immunisation coverage in Jasikan district.	Ntummy, R.	1995

F ADMINISTRATIVE TOPICS: HEALTH CARE FINANCING AND MANAGEMENT

An exploratory study into the usefulness of the health annual report to the DHMT in the management of the district health system	Ardey-Acquah, A. A.	1995
The evaluation of drug supply management in the MOH facilities in the Dormaa district	John Dadzie, F.	1998
Quality assurance: an assessment of quality of medical health care in southern part of Sekyere West district	Julia Duodu	1998
The Dangme West Community Health Insurance Scheme: How Affordable is the Premium?.	Gwesa, Clarisa Lawuo Mulbah	2002
Why are the Women in Dangme West District not Delivering in Health institutions.	Stella Gyamfi	2001
Utilisation of Health Care in Dangme West District: Is Community Financing the Answer?	Harriet Somuah	2001
The national drug policy – A study of the implementation of rational drug use, drug storage and distribution components in the Dangme West District	Essah Mensima Nana Akua	2000
Causes of low EPI coverage in the Osudoku sub-district of the Dangme West district:	Opoku-Amankwah, Cletus	1999
Syndromic management of STDs in Ghana, fact or fiction? The Rationality of Drug use among different categories of health workers in the syndromic management of STD's in the Ga District	Ofori-Asumadu Akua Kese	2000
Low utilisation of curative health services in the district.	Amekudzi, Y. P. A.	1999
Community Perception of Exemption Policy and Implementation of the policy in Assign District	Eliza John	2000
Low utilisation of health services: The case of Assign district	Patience Anxiety	1998
A Feasibility Study of a Community Health Financing Scheme in the Way District.	Came Amok	2001
Community Health Financing: The way Forward in Agog Sub-District.	Tokyo, Francis Bookie	2002
“Is The Sub-District Concept Working”? A Study of the Sub-District Health System in the Ho District.	Senoia, L.	1997
Why High Drop-out on Immunisation in Ashanti Akim North	Twene Robert	2000
Factors contributing to low immunisation coverage in the Ashanti-Akim North district	George Mensah	1998
Utilisation of modern health care in Nkwanta district	Tettekpo, J.H.	1997
What are the health service factors contributing to persistent low immunisation coverage in the Volta region? The case of Nkwanta District	Lutangu Alisheke	1998
The reasons for low utilisation of health facilities - A community based study in Kintampo District	Osafo, Enoch	1999
Service utilisation at the Kintampo Health Centre. Implication for policy formulation.	Blay, D	1996

G APPLIED RESEARCH TOPICS

An analysis of the risk factors influencing the prevalence and trends of measles in the Ho district	Yankey, Francis	1999
A study of the use of “kaluguteem” during pregnancy by women in the Yendi district.	Kanda, G. K.	1997
Community bases surveillance: a descriptive analysis and effectiveness assessment of a community based surveillance system in the Yendi district of the northern region of Ghana	Gilbert Buckle	1998
The prevalence of Brucellosis among cattle in Akwapim South district	Kubuafor, Daniel	1999
Determination of household use of iodated salt in the Hohoe District in the Volta Region, Ghana	Ammoussou Gohoungho	2000
Factors Accounting for the High Level of Malnutrition in the Assin District.	Edward Antwi	2001
Oral Health Treatment Needs of Youth in the Ga District.	Onuoha, Emily	2002
A study of community participation in the supplementary feeding programme in Tamale municipality	Opata, H.	1997
The Health Status of a local Prison: A Case Study of Koforidua Prison	Asiamah G	1996

H TECHNICAL – CLINICAL BASED RESEARCH TOPICS

Patient Referrals in Dangme-West District: Patient and Service Providers Perspective.	Asare, Peter Kojo	2002
Cutaneous ulcers in Primary School children in South Tongu District of Region. A study into the prevalence and characteristics of ulcers in Primary School children.	Adjetey, N. A	1995
Prevalence of bovine Tuberculosis in Ho district – A potential for Human infection	Ankugah , Dickson	2000
Determination of the types of anti-malaria drugs stocked by licensed chemical sellers and how they treat malaria in the urban parts of the Ga district	Stephens, Judith	1999

APPENDIX B: RESEARCH QUESTIONNAIRE

POSTGRAD PH STUDENT RESEARCH RECOMMENDATIONS AND HEALTH CARE QUALITY IMPROVEMENT - A SURVEY QUESTIONNAIRE.

District Region

Ever hosted PH residents from UGSPH? Yes [] No []

How many times 1st year this district did so

Last year did so? Will this continue?

Topics researched Year

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Who selected the topics?

How were topics selected for study?

What were the main bases for selection?

What part was played by district staff in conducting the research?

Who helped?

What kind of help was given?.....

Have copies of final reports with recommendations always been sent to this district? Yes [] No []

By who?

Of what use are these reports to the District?

Which is the implementing body of the recommendations in the final reports?

Are these recommendations helpful? Yes [] No []

If no, why are these not helpful?

In what ways can these reports/recommendations be improved in order to be helpful in future?

Were the problems resolved after implementing these recommendations? Yes [] No []

Topic & Year	Recommendations			
	Technical ops	System amend	Mgt/Admin	Resource allocation

If recommendations were implemented please state:

The Recommendation	Implemented As Is	Modified	What specifics done	Impact

MPH RESEARCH SUCCESS STORY CASE STUDIES

Topic:

How selected:

Quality of Research Design:

Quality of Process (rigour):

Quality of Data Reliability Validity

Recommendations

What ? Sound? Feasible? Important? What done? Impact

If had to do it now, what should be done differently for better results?

Overall Assessment of these students’ research in districts:

How should they be modified to serve the Health Sector better?

UTILIZATION OF RESULTS OF RANDOM SELECTION OF STUDIES

District Subject Area

Specified Study & Year

Recommendations:

1.
2.
3.
4.
5.

DHMT Action on them:

- i. Not Aware such recommendations made
- ii. Recommendations received and shelved
- iii. Recommendations discussed but no action decision taken
- iv. Recommendations discussed and rejected for reasons of.....

.....
.....
.....

- iv. Number of recommendations discussed accepted but not acted on

B e -
case.....

- v. Recommendations accepted (give number) and following actions taken

.....
.....

Thanks!