

Public Health Training in Ghana

A Case Study

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EXECUTIVE SUMMARY

This report summarizes the findings of a case study conducted between June 2005 and June 2006, to analyze public health needs in Ghana, and the ability of the School of Public Health in Accra, Ghana to train the needed public health professionals to respond more effectively to the health challenges in the country and the West African sub-region. This study is the second in a set of country studies that include Uganda and the Democratic Republic of Congo, sponsored by the U.S. Agency for International Development (USAID), that aim to strengthen schools of public health in Africa.

Rationale

The School of Public Health is presently the primary institution for training of public health practitioners for the country. The nature and quality of public health practice is important for improving the health of communities through the prevention and control of diseases as well as the promotion of healthy habits and lifestyles. In order to achieve this, public health professionals and practitioners should be competent planners, executors and evaluators of the health programs and services, relevant to the populations they serve.

This report assesses public health needs, the current skill requirements, future needs, and the ability of the school to provide public health practitioners with these skills. The expectation is that this assessment will enable the School and other stakeholders to establish processes to strengthen public health training in Ghana.

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LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Ante Natal care
ARI	Acute Respiratory Tract Infections
ART	Anti-Retroviral Therapy
ARV	Anti-Retroviral
BMC	Budget Management Center
CERGIS	Center for Remote Sensing and Geographic Information
CHAG	Christian Health Association of Ghana
CHIM	Center for Health Information Management
CHPS	Community Health based Planning and Services
CPR	Contraceptive Prevalence Rates
DHMT	District health Management Team
DOTS	Directly Observed Treatments
EPI	Expanded Program on Immunization
GHS	Ghana Health Service
GLLS	Ghana Living Standards Survey
GOG	Government of Ghana
GPRS	Ghana Poverty Reduction Strategy
HIPC	Highly Indebted Poor Country
HIV	Human Immunodeficiency Virus
IGF	Internally Generated Funds
IEC	Information, Education and Communication
IMCI	Integrated Management of Childhood Illness
IPT	Intermittent Treatment of Malaria
ITNs	Insecticide Treated bed Nets
MCH	Maternal and Child Health
MDG	Millennium Development Goals

MMR	Maternal Mortality Rate
MOH	Ministry of Health
MTCT	Mother to Child Transmission
NCD	Non Communicable Diseases
NGO	Non Governmental Organization
NHIS	National Health Insurance Scheme
OPD	Out Patients Department
PFRH	Population Family and Reproductive Health
PHSWOW	Public Health School Without Walls
PLWHA	People Living with HIV/AIDS
PNC	Post Natal Care
POW	Program of Work
RCH	Reproductive and Child Health
RBM	Roll Back Malaria
RIPS	Regional Institute for Population Studies
RTAs	Road Traffic Accidents
SoN	School of Nursing
SPH	School of Public Health
STI	Sexually Transmitted Infections
SWAp	Sector-wide Approach
SWOT	Strengths, Weaknesses, Opportunities and Threats
TB	Tuberculosis
U5MR.	Under Five Mortality Rate
UG	University of Ghana
UGMS	University of Ghana Medical School
VCT	Voluntary Counseling and Testing
WIFA	Women in Fertile Age

INTRODUCTION

There is a growing recognition that the current health workforce in Ghana, and in Africa as a whole, is grossly inadequate for meeting the existing health challenges, especially in the area of public health leadership, which is at the “upper echelons of the health personnel ladder”. The most recent World Health Report has noted that Africa has only 2.3 health workers per 100,000 persons compared with 4.3 in SE Asia and 24.8 in North America. A lack of policy attention, inadequate funding and in some cases, outdated strategies has led to a crisis in human resources. Since the mid-1990s, many of the public health gains made over the previous decade in sub-Saharan Africa have eroded, and in some cases even reversed. The emergence of HIV/AIDS as the leading cause of mortality, the spread of drug resistant microbes, the rising incidence of undernourishment, and, in many parts of the continent the decline in the quality and availability of public health services are graphic indicators of the public health challenges facing the region and a measure of the limitations of current health systems capacities to effectively respond to Africa’s health challenges.

According to the Ghana Health Sector reports, even though overall trends in health service and health status indicators in the past ten years have been generally positive, health indicators in the country have stagnated in the last three years. The lack of progress came in spite of an overall increase of nearly thirty percent in health sector expenditure over those three years. One of the major resources that has contributed to improvement in health service has been the University of Ghana School of Public Health (UGSPH), an institution that trained virtually all the public health practitioners in the country. To date, the school has produced health directors for almost all the districts in Ghana, and one of these district health directors has recently been elevated to the position of regional health director. Additionally, many of the donor agencies and non-governmental institutions, as well as other stakeholder institutions, are staffed by alumni of the UGSPH. Unfortunately, growth in the School of Public Health (SPH) has not kept pace with the nature of the demands that are increasingly placed on it. While government subvention has consistently declined in real terms, the number of applicants has increased steadily - meaning fewer resources per student with each passing year. In the face of unrelenting demand for seats, the School and its faculty are struggling to find resources to expand their infrastructure – residential, teaching/research, administrative – to ensure that the quality of education is not compromised.

The impact this institute has had on the health of the nation, and how this impact can be amplified is yet to be evaluated, despite the substantial infusion of funds and other resources to public health capacity building. There is a need to look at how the wider health sector is using academic resources, both for technical assistance and for improving the human resource base. What needed skills are currently not being produced, and those skills that will be required for the future.

Within this context, this case study serves as one of a series of studies of public health training in African countries. The purpose is to determine how public health training is

presently contributing to health, in terms of producing graduates with adequate skills to meet both current and emerging public health challenges in the country. The intention is to be forward-looking, to examine how public health training can respond to the public health challenges in Africa more effectively either within the existing structures, or as part of a larger network of training schools. This assessment should enable the Ghana School of Public Health and other stakeholders set out options to strengthen public health training in Ghana and the sub-region.

OBJECTIVES

General Objective

The overall objective of this assessment is to determine how public health training is presently contributing to the health of the country, to determine needs which are currently not being met by the school, and how these could be met more effectively, either within the existing structure, or as part of a larger network of training schools. Also, we assess how the school needs to change, for instance to provide skills to meet emerging public health in Ghana and the sub-region.

Specific Objectives

The specific objectives of the study are to:

1. Assess the current public health environment in Ghana and determine how well the present resources meet existing needs
2. To determine what needs exist for additional public health leadership and management training for the delivery of health services, and the existing mechanisms within current training programs to address these needs
3. To determine emerging public health needs and how the school can assist address them.

STUDY METHOD

This study was carried out in Accra, Ghana. The information gathered for the study was primarily qualitative, collected via the following methods:

- A comprehensive literature review prior to in-country activities.
- Interviews with key informants among host-country and donor staff.
- Review of relevant documents, including policies, work plans, studies and consultancy reports.

The study team adapted a set of semi-structured interview guides that had been used for the Uganda case study for this study. An additional set of generic questions was also compiled for specific situations. Due to the qualitative nature of the study, a small but purposively selected sample of key informants was interviewed. The sample comprised faculty of the School of

Public Health (SPH), academics within university administration and in departments outside SPH but who have or who continue to have dealings with the School, and past students of the School. It also included personnel from the MoH, GHS, multilateral and other donor agencies and NGOs chosen because of previous and continued support to building public health capacity in the region or because they are major customers of SPH products.

In addition to the in-depth interviews, the team completed a review of documents to paint a comprehensive picture of the public health environment in Ghana and expected public health challenges for the near future (5 to 10 years). Further, these methods yielded clarity about the capability of the SPH to train adequate numbers of human resource personnel (of appropriate quality) for Ghana, as well as of the country's potential to expand and to provide better academic and professional development to meet emerging health challenges in the country and the entire sub-region.

THE PUBLIC HEALTH ENVIRONMENT

Public Health conditions

The extent of disease and ill health in Ghana follows the distribution of poverty in the country. Many of the common health problems in Ghana disproportionately affect the poor, both in terms of frequency of occurrence and severity. These include malaria, acute respiratory tract infections (ARI), diarrheal diseases, skin diseases, worm infestations, anemia, and maternal and perinatal ailments. In addition, many diseases almost exclusively affect poor persons in Ghana. These are malnutrition, tuberculosis, trachoma, filariasis, guinea worm disease, leprosy, Buruli ulcer, schistosomiasis and mental illnesses. Among mental illnesses, unipolar depressive disorders are more common.

The last round of the Ghana Living Standards Survey 1998/99, indicated that two out of every five residents in Ghana are poor (these are defined as the population that cannot meet nutrition requirements and basic consumption needs) and approximately 27% of Ghanaians live in extreme poverty (defined as the proportion of people who live in perpetual hunger because they cannot meet their basic nutritional requirement even if they devoted their entire consumption budget to food). According to the GLSS, the poor include 60% of food crop farmers and most of the residents of northern Ghana (88% in Upper East, 69% in Northern region, 84% in Upper West). In addition, several districts in the other regions have more than 50% of their population living below the poverty line. (Refer Box 1).

During the late 1990s, the issue of major inequities in health care and health status across the country came to the fore in the Ghana health sector. The second five-year Programme of Work (PoW for 2002-2006) focuses attention on these poverty-related issues by aiming to bridge the inequalities gap, which has been associated with a number of factors. Rural-urban residence has been cited as one of the axis of poverty.

The four most deprived regions in the country are the three northern regions; Northern, Upper East, Upper West and the Central Region. These regions suffer chronic deprivation with respect to the health status of individuals, and the distribution of health resources. Poor households are particularly vulnerable to malnutrition. In 1997, the proportion of children under 5 years in the

poorest quintile in urban areas of Ghana (26%) with stunted growth was similar to that of children in the richest quintile (23%) in rural areas. The national maternal mortality ratio (MMR) is estimated at 214 per 100,000 live births. MMR estimates are lowest in the coastal belt (193) and are highest in the northern zone (245). Other estimates of MMR are up to three times as high as these.

There are, indeed, many problems with access to health care in the urban areas, and a need for greater understanding of the links between poverty and health in urban areas. Although the urban poor are closer to providers, they tend to have a much narrower range of coping strategies and mutual assistance networks. As such, the cost and opportunity burden of an illness can more easily push an urban 'near-poor' person from their marginal status into 'deeply poor'.

Box 1: Districts with more than 50% of the population below the poverty line

- 1) All districts in Upper East, Upper West and Northern Regions
- 2) Central Region (10 out of 12 districts): Agona, Abura, Asikuma, Ajumako, Gomoa, Komenda Edina Eguafo Abirem, Twifu Heman Lower Denkyira, Upper Denkyira, Assin. The 11th district, Awutu Senya has 49% of its population below the poverty line. The 12th district, Cape Coast has 36% of its citizens below the poverty line.
- 3) Brong Ahafo Region (eight out of 18 districts): Sene, Kintampo, Wenchi, Nkoranza, Jaman, Atebubu, Asutifi, Asunafo, Dormaa,
- 4) Volta Region (six out of 12 districts): North Tongu, Akatsi, South Tongu, Krachi, Ketu, Jasikan
- 5) Ashanti Region (six of the 18 districts): Ahafo Ano South, Adansi East, Ahafo Ano North, Sekyere East, Ejura/Sekyedu, Amansie West
- 6) Eastern Region (three out of 15 districts): Afram Plains, Asougyaman, Manya Krobo
- 7) Greater Accra (two out of five): Dangbe East, Dangbe West

Source: Ghana Statistical Service (2003). Unpublished Poverty Maps

The disparities in health outcomes are thought to be influenced by differentials in access to health information, preventive and promotive health practices, susceptibility to common illnesses, uptake of preventive and curative health services, and health input variations. The effects of illness include prolonged morbidity and higher incidence of disability and premature death.

The 2003 Annual Plan of Work stated that the policy focus for 2003 would be to “ensure that resources and efforts are directed towards activities that will further enhance the ability of the

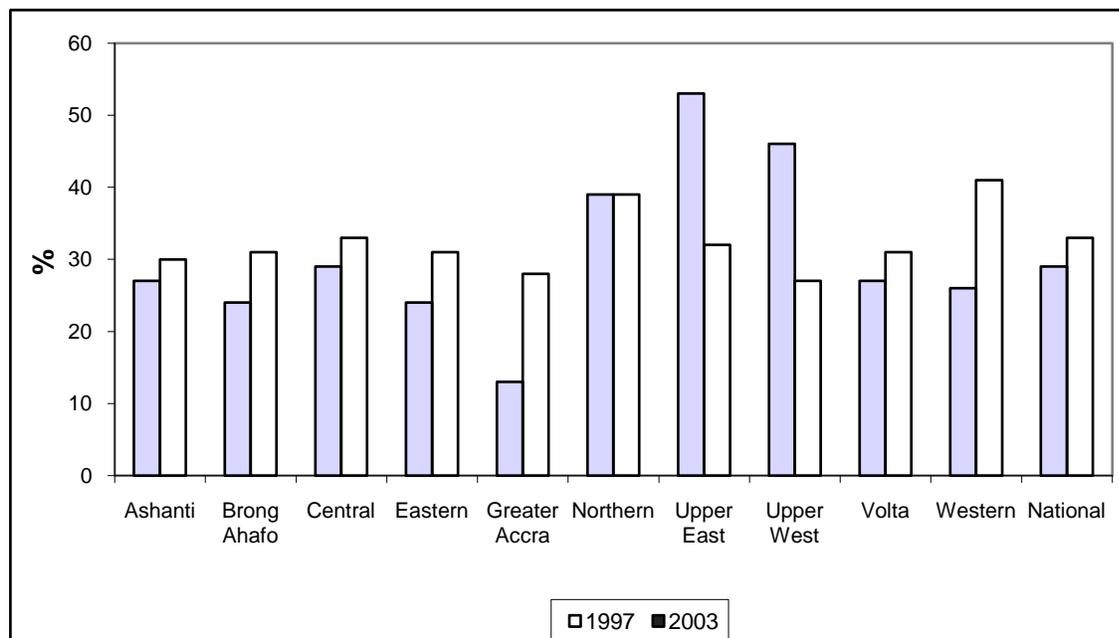
poor [in these regions] to gain access to basic health services”, and provided details of plans for expanding both geographical and financial access.

Based on institutional data sources in Ghana, Refer Table 1: Health Sector Indicators (Appendix 2,) leading causes of death among young children include premature births, birth asphyxia, sepsis, meningitis, malaria, anemia, malnutrition, diarrhea and pneumonia. According to the Ghana DHS 2003, 64 per 1,000 children die before their first birthday, usually from preventable or manageable illnesses such as malaria, diarrhea and anemia. One out of nine children die before their fifth birthday. One out of four children is malnourished. Already interventions directed at improving nutritional status in the three northern regions have been successful (Refer Figure 1 below). Interventions to reduce neonatal deaths in Ghana have traditionally been accorded lower priority than those related to causes of death of children 1 – 4 years. Yet, even globally, neonatal deaths account for one-third of deaths in children less than five years of age. Between 200 and 700 women die during delivery per 100,000 live births.

The leading causes of deaths for adults include stroke, hypertension, liver disease, tuberculosis, pneumonia and injuries.

The pattern of outpatient morbidity has been consistent over the past decade. The leading causes of outpatient morbidity are malaria, acute respiratory infections (ARI), diarrhea, skin diseases, anemia, eye infection, joint pains, hypertension, injuries, pregnancy-related complications, and intestinal worms.

Figure 1: Proportion of children under five years of age with stunted growth by region.



Source: Pro-poor report – Annual Health Sector Review 2003

Malaria is a major cause of low productivity and contributory factor to poverty in Ghana, where it accounts for 44% of all outpatient attendances and 22% of under-five mortality.

Another major factor that has recently altered the face of public health in Ghana is the HIV/AIDS epidemic, which is presently among the leading causes of death among adults. A total of 352,000 adults (aged 15-49 years) and 26,000 children (aged 0-14 years) are infected with HIV. These statistics are staggering and continue to paint a picture of a disease that is out of control. In Ghana, poor attitudes towards the disease based on superstition and ignorance frustrate efforts to control HIV/AIDS.

According to the 2004 POW set out by the MOH, expected outputs include VCT centers in 60 % of the districts, six facilities providing ARV therapy, 2000 patients on ART and 6000 mothers on PMTCT. Presently, alumni of the UGSPH are managing programs within the Ghana AIDS Commission and the National AIDS Control Program, as well as within numerous NGOs in the country. However, many more public health specialists with the skills to run IEC programs are needed, and the same holds true for health management skills to run ARV programs nationwide. In line with this need, the MOH also plans to train health workers from public and private institutions in the management of STI and opportunistic infections.

In general, one can say that while Contraceptive Prevalence Rates (CPR), Hospital Admission, Bed Occupancy Rates and other clinical care performance indicators, show modest improvements probably of increases in internally generated funds, (Refer Table 2 below) most of the other outcomes (OPD, RCH, EPI and TB) have remained the same or worsened. OPD attendance is an indicator of service utilization and thus provides an indication of accessibility (geographical, financial, cultural etc), quality of services and drug availability.

Table 2: Clinical Care performance indicators during POW II (2001-2003)

Clinical Care Indicators*	2001	2002	2003
OPD Visits per capita	0.49	0.49	0.50
Hosp Admission Rate	34.9	34.1	35.9
Bed Occupancy Rate (BOR)	64.7	60	66
Bed Turnover Rate	40.6	39.6	39.7
Average Length of Stay (days)	5.8	6.0	5.9
Specialist Outreach Visits (days)	135	160	175
Under Five Malaria CFR	NA	3.74	3.67
% Tracer Drug availability	70	85	93

Source: CHIM Report 2003.

Public Health Services

Maternal and Child Health

In Ghana, maternal health has remained a national priority. The maternal mortality ratio is as one of the core indicators of poverty reduction in the Ghana Poverty Reduction Strategy (GPRS). Under the GPRS, the target was to reduce Maternal Mortality Rate (MMR) from approximately 200/100 000 live births to 160/100 000 live births by 2005. Unfortunately MMR

has stagnated at the high level of 220/100 000 nationwide. A maternal mortality survey in 1997 gave an estimated maternal mortality ratio of 637 /100,000 life births and a lifetime risk of 1 in 25 for the period 1994-97 in the Kasena-Nankana district in the Upper East region. Maternal mortality is unacceptably high among the poor, and poor women are particularly disadvantaged in access to adequate delivery services.

Improving maternal health and thereby reducing maternal mortality is a priority in the health sector's Program of Work (POW). In addition the second Five-Year POW (2002 – 2006) has a strong pro-poor agenda with specific focus on the most vulnerable in society, as well as on provision of financial risk protection in times of emergencies. In this context, the Central, Northern, Upper East and Upper West regions have been targeted for special attention. Some important features of this program include general user-fee exemptions for the poor as well as subsidized insurance contributions; exemptions for institutional birth deliveries in the four most deprived regions and for other vulnerable groups such as children under five, antenatal care users and the elderly nationwide. There have been increased allocations of financial and human resources to these geographic areas, including rural allowances and increased training of community health nurses (CHNs) in these regions (NB. HIPC funds are very clearly being allocated in favor of the most deprived areas), and close-to-client Community-based Health Planning and Services (CHPS) to promote improved physical access to health services; prioritizing cost-effective services that address the major burden of disease for the poor (e.g. malaria, TB, HIV/AIDS).

Antenatal care (ANC) utilization is in general very high in Ghana; approximately 92 percent coverage, and an 11 percent improvement over the last 15 years. The average number of ANC visits per client, a measure of confidence in the system, also rose from 2.8 to 3.1 percent. However, this is less than the desired minimum of four visits for each pregnancy. Supervised deliveries remain stagnant at around 52 percent and have even declined during the last year. Moreover, the definition of 'supervised delivery' includes attendance by staff who lack formal midwifery training, which limits the benefits to mother and child survival. In fact, medically-assisted continue to be low in Ghana, with less than 50 percent benefiting from professional delivery assistance over the past 15 years. Postnatal care is an often neglected aspect of safe motherhood. Even though the coverage of postnatal care (PNC) is increasing satisfactorily; (the Ministry of Health (MOH) target for 2004 (55 percent) was met in 2003), about half of the non-institutional deliveries do not seek PNC, and in the 2003 GDHS, it was for only 34 percent of births that took place outside the health facilities that care was sought in the first week after delivery. Yet, this is the period that the majority of women succumb to pregnancy-related complications.

CPR is slowly but steadily increasing, from 13 percent to 18.7 percent between 1998 and 2003 respectively, but still far short of WIFA needs. It is not a surprise then that Komfo Anokye Teaching Hospital pegged mortality due to unsafe abortion at 22 percent of all maternal deaths. A study from Korle-Bu Teaching hospital put the figure at 30 percent. Since 1996 post abortion care (PAC) has been integrated into the safe motherhood program. Doctors and midwives have been trained to provide PAC services including the use of manual vacuum aspiration (MVA) and MVA kits have been introduced into the MOH procurement list.

Integrated Management of Childhood Illness (IMCI)

Ghana adopted the IMCI strategy in 1998, as one of the key strategies for reducing the under-fives mortality rate (U5MR). The strategy requires active collaboration with RBM, EPI and IDSR for effective implementation. Full implementation has been shown to be cost-effective in preventing and treating diarrhea, malaria, ARI and HIV in children under five. The strategy is efficient in taking advantage of health encounters to check on the overall health status of the child, rather than for a single disease. However, since the implementation is facility-based, clients face the usual problems of physical and financial access.

As part of the IMCI activities in Ghana, 376 health professionals in 33 districts had been trained by 2003, and 145 sub-districts in 38 districts are implementing the community component of the IMCI. This includes pre-service and in-service training for medical assistants. Unfortunately, private providers are not included in case management training. Overall, implementation of IMCI has been very slow. It is now apparent that the program is little-known by health managers and care providers trained outside the IMCI system.

Prevention and Control of Malaria

The malaria prevention program focuses particularly on the provision of insecticide-treated nets for children and pregnant women. This has been done through advocacy and collaboration with the private sector, other sectors and departments and agencies working in the Roll Back Malaria initiative. In addition, the program has prepared a new anti-malaria drug policy, trained 500 providers on new case management, produced a manual for school teachers and community agents, and started intermittent preventive treatment (IPT) for pregnant women in 20 selected districts. The program continues to collaborate with the private sector, NGOs, the donor community and academic institutions in drug efficacy, insecticide resistance and program intervention studies.

Even so, malaria is still by far the largest single health problem in Ghana. It is the number one cause of mortality in children less than five years and the most common cause (over 40 percent) of outpatient visits. Given that malaria is the major cause of ill health and premature death in Ghana, particularly for the poor, it warrants much higher priority than it currently gets vis-à-vis service provision, planning and implementation. Additionally, in the context of the political commitment to the Millennium Development Goals (MDG) and to the Abuja Declaration of 2000, the health sector is duty bound to accelerate current malaria control efforts. The Abuja Declaration on Roll Back Malaria in Africa, in recognition of the human right to health, requires all member states of the OAU to implement a set plan of action targeted at malaria prevention and control, and to develop mechanisms to facilitate reliable IEC, resources, and research (among others) within the context of economic recovery and development.

Tuberculosis and Buruli Ulcer

The incidence of tuberculosis has been rising steadily with the emergence of HIV/AIDS, and as a result of inadequate diagnoses of TB cases, case holding and cure rates of TB cases

presenting at health institutions. Some 81,480 people have been diagnosed with TB in Ghana. An annual incidence of 40,000 new cases was projected for 2003 in a population of 20 million people corresponding to a TB incidence rate of 211 per 100,000 inhabitants. It is the most common cause of premature death in Ghana; every year an estimated 10,000 deaths occur due to tuberculosis.

Ten years after the implementation of the National TB Program, which includes DOTS as the main strategy for the management of tuberculosis, the drugs used have largely remained the same in spite of evidence of growing treatment failure rates, reaction to thiacetazone in HIV infected persons and low cure rates. There are reported periodic shortages of anti-tuberculosis drugs. Another constraint is that the DOTS is facility-based, and poor TB patients are unable to overcome the barriers of physical and financial access. By 2003, the treatment success rate was 61 percent, while the failure rate had increased over an eight year period, from 1.6 to 2.0 percent, and 13.5 percent of patients had defaulted treatment. Only 5.9 percent of patients registered in 2003 completed treatment.

In order to reduce financial barriers, TB treatment has been free for many years. However, laboratory investigation and treatment of incidental illnesses is not free and many TB patients are unable to afford these other costs. The stigmatization by health staff and the community, as well as the prolonged treatment required, contribute to high defaulter rates.

Buruli Ulcer also continues to be a major cause of disability especially among the poor, who also cannot afford the high cost of treatment. Buruli Ulcer surveillance, diagnosis and management are being included in the TB control program.

HIV/AIDS and STI Prevention and Control

HIV prevalence has increased by 50 percent over a period of four years to reach a level of 3.4 percent, by 2003. Results from the 2003 GDHS indicate that 2 percent of Ghanaian adults are infected. Prevalence is consistently higher among females than among males, for all age groups except the age group 40-44 (ratio of 1.8 to 1). There are wide differentials in the HIV prevalence by region and ecological zone, and by age. Currently, prevalence is highest in the Eastern region (4 percent) and lowest in the Northern, Central and Volta regions (1 percent). Fully 2.9 percent of urban residents aged 15-49 are HIV positive as compared to 2.5 percent of rural residents.

Current awareness of HIV even among rural areas is very high; 98 percent of all women and 99 percent of men have heard of AIDS. Among those with no formal education, 95 percent of women and 98 percent of men have heard of AIDS. The least knowledge about AIDS is among women in the Northern region, only 72% of whom know about a way to avoid HIV/AIDS.

The national HIV/AIDS intervention priorities include the following:

- Introduce ARV treatment for children and immediate family at point of birth.
- Promote safer sex, prevent MTCT, ensure safe blood and blood products for transfusion, and improve STI management to prevent new infections.

- Develop and implement workplace HIV programs.
- Provide a continuum of care for PLWHA including counseling and palliative care in households and community, and management of opportunistic infections.
- Develop and expand national surveillance to strengthen the evidence base for action.
- Improve access to ARV for HIV/AIDS in health facilities.

Currently, HIV testing to confirm a clinical suspicion is free of charge. Male and female condoms are subsidized. ART and routine laboratory investigations, though highly subsidized, are offered at only three health institutions nationwide. Priorities must include increasing access to VCT services and ARV therapy.

Guineaworm Eradication

After a period of sustained improvement, the Guineaworm eradication program has suffered major set backs in the last two years mainly from variables beyond the control of the health sector. Currently the second most endemic country in the world, Ghana accounts for approximately 37 percent of cases worldwide. Intensified intersectoral efforts implemented so far, have resulted in a reduction of the cases since in 2002; by the end of 2003, 8,283 cases were reported, an estimated 40 percent of these being school children, of which 3,977 cases remained in 2005. Of the 110 districts in Ghana, 20 districts in the Northern, Volta and Brong Ahafo regions contain nearly 96 percent of the cases of Guinea worm disease.

Some set backs, to the downward trend, include ethnic fighting in the highest endemic area, that is the eastern part of the Northern region, which disrupted health efforts and created program instability. Marginalized and migratory populations in the north often have diverse community infrastructures and continue to propagate the disease. Outbreaks in neighboring Togo have been known to result in re-infestations in the Volta region. Ultimately, the downward trend in Guineaworm cases must be sustained through aggressive detection and containment of new cases, as well as the provision of potable drinking water to the affected communities.

EPI including Polio Eradication and Measles Elimination

The EPI has progressed substantially. At present the coverage of pentavalent vaccine is above 80 percent in most districts and experiences from the polio eradication program have created opportunities for implementing a measles elimination program. Progress towards polio eradication has stalled, with the identification of wild polio cases in 2004 after two years of polio-free status in the country. This calls for strengthening case-based surveillance in the country and the reinforcement of static and outreach services as well as evidence-based targeted supplementary immunization activities.

Prevention of Blindness

The prevalence of blindness in Ghana stands at about 1 percent, too high by any standards. About 80 percent of these cases are preventable and include cataracts and trachoma. Blindness also contributes to poverty, therefore the GHS has through the Ghana Trachoma Control Program, mobilized all stakeholders in an intensive IEC program. The GHS offers free antibiotic therapy and eye-lid surgery in endemic areas. Cataract surgery is also offered.

Non-Communicable Diseases

Non-

communicable diseases (NCD) including mental health disorders and substance abuse are becoming major public health problems in Ghana. Ageing and changes in lifestyle associated with tobacco and alcohol consumption, lack of exercise and poor eating habits are contributing to a silent NCD epidemic in the country. Yet, NCD surveillance and primary prevention have not been sufficiently emphasized in national and district programs. Treatment for NCD is not universally available or affordable.

Health service structure, coverage, quality, costs

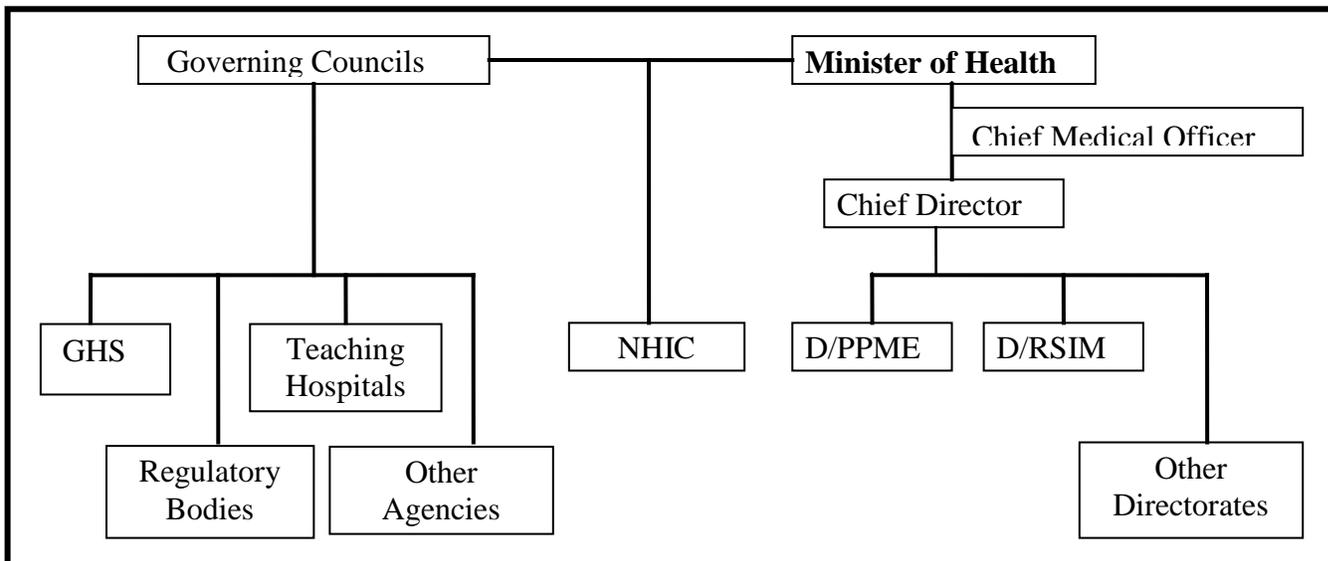
Public sector

The health sector has become increasingly complex, and comprises public, private for-profit and not-for-profit sectors. Many determinants of health are outside the traditional boundaries of the health sector. Global priorities influence and sometimes drive national priorities, as a result of which there is ineffective stewardship of the health sector. Over the last ten years, the public health sector of the MOH has been pursuing institutional reforms aimed at improving the effectiveness and efficiency in the sector. These include adopting a sector-wide approach (SWAp), creating and implementing a decentralized Budget Management Center (BMC), the establishment of the Ghana Health Service and Teaching Hospitals, and the establishment of a National Health Insurance Scheme (NHIS).

Through these institutions, the capacity of various public health interventions, programs and services have been stepped up. Access to health services - geographical, financial, and social - has also improved considerably, especially among the vulnerable. Unfortunately the overall coordination of the sector has become very challenging. Intersectoral collaboration is very complex and constrained by institutional barriers and interests and the necessary pillars have not been established to ensure sustainability of the reforms and systems which have been set in place. The implementation of the NHI scheme remains a challenge, as the legislative instrument relies on subsidized premiums based on the ability to pay. Even though it allows for the registration of indigents, the current criteria for identifying them remains rather restrictive and will have to be reviewed in order to cover all the poor in society.

Performance management within the public sector evidently requires more attention. While the MOH has established a process for performance reviews - performance hearings and performance ranking of regions has also been introduced into the review process - follow up action on performance is not consistently applied. Target setting is usually top down, and in particular at the district and sub-district levels there are inadequate negotiations what targets can be achieved with available resources. As a result, the lower levels do not always feel ownership of targets set at the central level. To ensure improved performance in the health sector, it is necessary to strengthen the leadership roles of managers at all levels in the health system.

Figure 1: Public Health Sector Directorates and Agencies



Ghana's public health system is based on a multilevel referral system, ranging from health centers, district and rural hospitals, to regional and national referral hospitals. Unfortunately, most hospitals have to provide two or three different levels of hospital care as many patients bypass lower level facilities and go directly to the hospitals. This practice causes extremely long waiting times and congested services, and is most evident in urban areas. Part of the reason for going directly to higher level hospitals is that the Teaching Hospitals have 80 percent of the country's specialists. Similarly, the fact that there is very little team work between nursing and medical staff contributes to the pace and quality of service.

Generally, supervision is weak, as mid-level managers do not have sufficient authority to run their wards. There is a dire need to give public health practitioners hospital management skills in their training as many of them eventually find themselves in such positions. In the short term, mid-level managers need to be trained in the necessary skills for managing health services organizations. Unfortunately, there has been no profit or benefit for mid-level managers and health personnel getting degrees in health services management. In the past, the few professionals in this specialty were marginalized. Now that the health sector seeks to incorporate organization and finance management skills into its training goals, the SPH will need to incorporate health management more strongly in its curriculum.

Continuous monitoring of systems and practices in hospitals is rare, there is little sharing of experiences and clinical effectiveness is hardly reported. Each health center and hospital should necessarily have a public health unit for the purposes of data collection and disease monitoring and reporting.

Health facilities

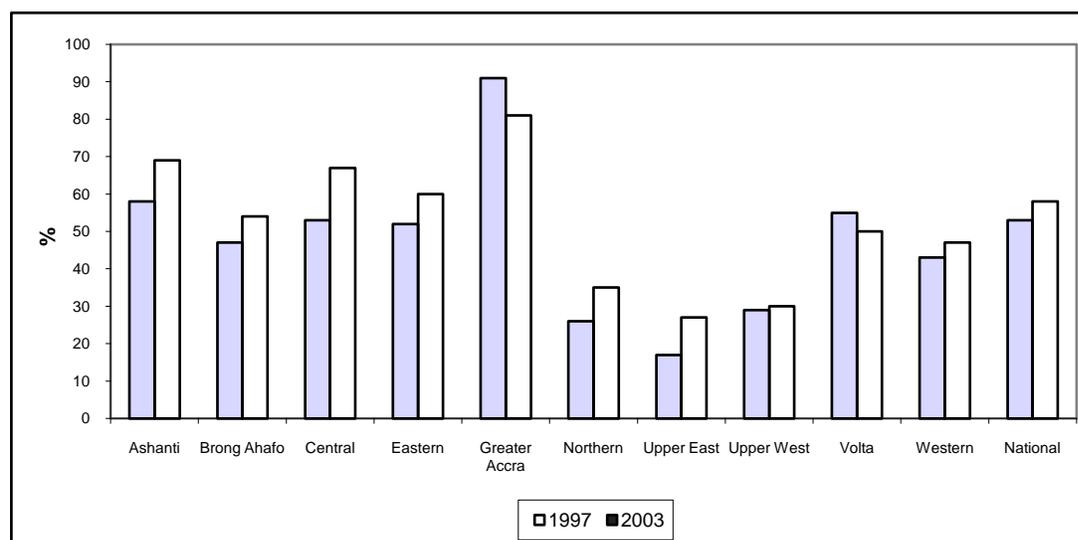
The following table gives information about the distribution and inequities in types of public sector health facilities. Figure 2 also depicts disparities in geographical access to health facilities by region of residence.

Table 2: Table of Facilities and their distribution in Ghana

Region	Total Number				Facilities by Category						
	MOH	GHS	CHAG	OTHER	Regional Hospital	District Hospital	Poly-clinic	Health Centre	Clinic	CHPS	Other
	18	1486	140	116	11	137	22	569	734	110	195
Upper West	2	69	7	4	1	5	0	48	17	15	11
Upper East	7	86	12	8	1	4	1	27	66	1	13
Northern	0	158	8	17	1	9	1	79	60	12	23
Brong Ahafo	0	151	14	11	1	18	0	38	97	5	17
Volta	4	272	18	9	1	18	2	145	77	44	22
Ashanti	2	202	38	44	1	27	8	96	124	3	26
Western	0	135	16	5	1	17	1	47	70	0	18
Central	1	111	8	6	1	10	0	40	52	6	17
Gt. Accra	2	77	4	3	2	6	8	18	26	1	24
Eastern	0	225	15	9	1	23	1	31	145	23	24

Source: Review POW 2004, Report of the External Review Team

Figure 2: Proportion of households living within 30 minutes or less travel time of a health facility by region, 1997 and 2003



Source: Pro-poor report – Annual Health Sector Review 2003

A key challenge facing the health service is the considerable lack of geographic access to facilities (Figure 2). Similarly, there are quality of care problems reported by the population (Figure 3). There needs to be a more equitable distribution of qualified health workers across geographic areas.

Considerable efforts have been made to attract and retain a larger number of skilled staff in the most deprived regions. These include rural allowances for personnel working in underprivileged areas, and increased training of community and public health nurses in these regions. It has also been recommended that the various districts take responsibility for nominating health personnel for public health training and bear some of the financial responsibility for training that individual, (as compared to individuals sending in their own applications for funding by the MOH and GHS), so that after training the PH specialist returns to serve that district. Rural allowances have been instituted for personnel working in underprivileged areas. A revolving fund to help health workers purchase vehicles has also been set up. Personnel who receive MPH degrees are promoted within the health service hierarchy to the position of district health director, ensuring that PH specialists head the various districts. Improving access to the poor and vulnerable in particular to health services is one of the key strategic objectives of the Five Year program of work (5YPOW).

Since its inception in 1998, The Community-based Health Planning and Services (CHPS) program has been seen as a key strategy for addressing physical access constraints, particularly, by providing 'close-to-client' health services. The CHPS program is designed to bring health workers with sufficient training deeply into the community where they can provide focused health education, a limited range of at-home clinical services, and facilitate linkages to a referral system. The CHPS concept includes provision of care for a limited range of diseases that are met in the home during outreach activities, including illnesses of both adults and children. A strong argument could be made for ensuring that all community health officers have basic midwifery skills in the face of persistent maternal mortality. It also involves social mobilization, participatory approaches to health planning and behavior change at the community level.

CHPS is a way of addressing demand constraints, by involving the community in the planning and delivery of services. Scaling up CHPS rapidly is a central health sector GPRS goal and considerable resources are being devoted to establishing and equipping CHPS compounds. There is a growing sense that both the costs and the effectiveness of CHPS services should be evaluated relative to other primary care service delivery modes, and consideration given to the role of a range of community-based volunteers. In addition, greater priority should be given to ensuring that CHPS is rolled out in hard-to-reach areas that are currently under-served and where it will preferentially benefit the poor.

A large number of clients are dissatisfied with the services they receive in public facilities for various reasons (Refer Figure 3). The cost of care is the single most important barrier to access (public) services; over 40 percent of the rural poor and 50 percent of the urban poor report that services are too expensive.

The establishment of a National Health Insurance Scheme (NHIS) and gradual extension of coverage to the entire population, which will ultimately replace out-of-pocket fee payments, is seen as the longer-term mechanism for addressing financial access constraints. The NHIS was launched in March 2004, and by the end of 2004, 16 districts (13 percent) had operational schemes, with another 34 (28 percent) ready to become operational. The NHIS comprises district-wide mutual schemes that will be subsidized by government of coverage to the entire population, which will ultimately replace out-of-pocket fee payments, is seen as the longer-

term mechanism for addressing financial access constraints. The NHIS was launched in March 2004, and by the end of 2004, 16 districts (13 percent) had operational schemes, with another 34 (28 percent) ready to become operational. The NHIS comprises district-wide mutual schemes that will be subsidized by government, private mutual schemes and private commercial schemes. Though presently voluntary, memberships will eventually become mandatory. Clearly, Ghana is adopting a pro-poor approach to the implementation of the NHIS. Government will subsidize the premiums for poor and vulnerable groups using a sliding scale bases on income classification. Indigents will be exempt from paying contributions. This is presently being tried through pilot schemes. However, the major challenge remains a policy guiding the clear definition and identification of an indigent.

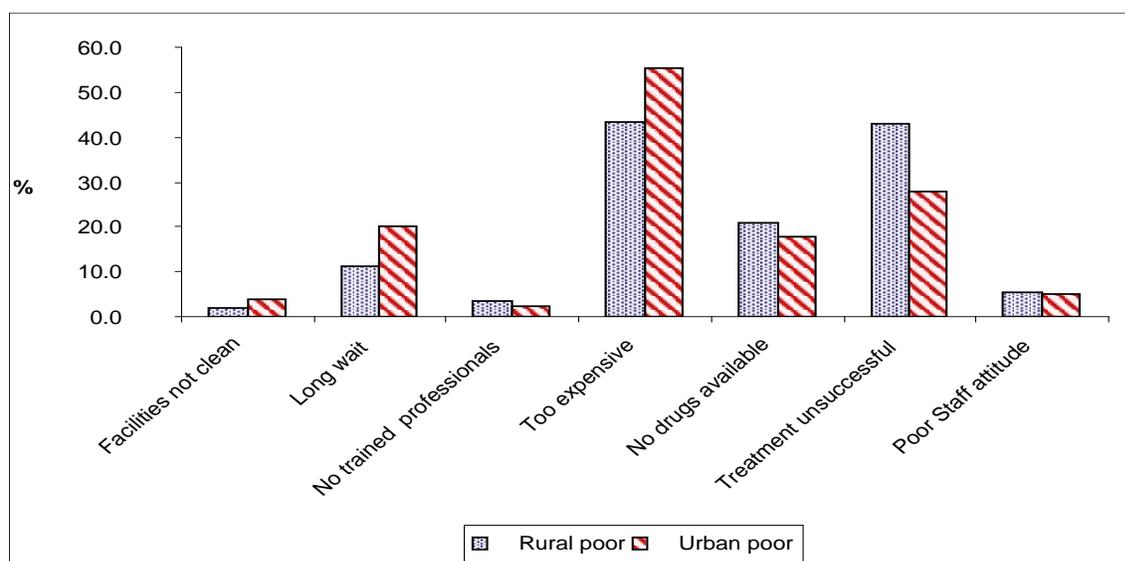


Figure 3: Quality of Health Services – Reasons for dissatisfaction with service 2003

Source: Pro-poor report – Annual Health Sector Review 2003

Non-Government Service Providers

The non-government sector includes traditional practitioners, religious organizations – notably the Christian Health Association of Ghana (CHAG) and other NGOs, and the private-for-profit providers. The non-government organizations provide about half of all health services in Ghana, and this fraction is expected to increase. CHAG institutions are often located in under-served areas, and in some districts are the main providers at the district level.

The role of the private sector in health delivery is increasing and is likely to increase faster with the establishment of the National Health Insurance Scheme. The health sector recognizes the important role of the private sector in health care delivery in the country.

Table 3: OPD and Hospital Admissions by Agency, 2003

	GHS	CHAG	Teaching Hosp	Quasi- Govt	Private
OPD %	68	14	9	6	3
Admissions %	53.7	27.1	13.5	4.1	1.8

Note: Military and Trust Hospitals in Accra are not included. Private not complete.

Source: Review POW 2004, Report of the External Review Team

In view of this, the Private Health Sector Policy has been developed in collaboration with WHO. This policy provides the framework for engaging the private sector, but it is not yet fully in operation. As part of that policy, a Strategic Initiative Fund has been recommended to provide funding for private providers with innovative approaches. To date, that too has not been set up. When implemented that fund could finance the training of private providers with public health skills. The SPH would have to incorporate the teaching of management skills, for individually run health institutions and for promoting partnerships in health delivery. Private providers will also require skills for health planning, finance and budgeting, disease monitoring, data collection and case reporting. In view of these recommendations, it is surprising that the five year POW fails to incorporate non-government service providers as part of health sector goals and planning.

Over 70 percent of the population relies on traditional medicine. Yet, traditional medicine is not adequately integrated into the formal health sector. Further, the practice is not adequately regulated and the quality of services cannot be assured. A Traditional and Alternative Medicines Council (T & AM) was established in 2003. Training has been provided to some T & AM practitioners and some training materials have been produced. The GHS was not consulted or involved in any of this training. It is recommended that there should be greater collaboration at district level in many aspects of T & AM. Where there is, it is a local initiative. For example, one GHS psychiatrist is doing good work with traditional practitioners on mental health in the Central Region. Unfortunately, this all seems to be ad-hoc at the present time.

2004 Budget

The total resource envelope for 2004 POW was 2,435 billion cedis (270.6 million US dollars). The actual share of GoG recurrent spending has remained stable at 11-12% over the past three years, and total health sector spending has increased from USD 6.3 in 2001 to USD 13.5 in 2004. This comes to about 121,000 cedis per capita (USD13.5).

The main sources of finance are the Government of Ghana (GOG) via the Consolidated Fund, Internally Generated Funds (IGF), inflows from the HIPC fund and donor contributions. The resource envelope includes funding for implementing the Ghana Ambulance Service and partial funding for the National Health Insurance Scheme. The rest of the budget for the NHIS is expected to be financed outside the Ministry of Health through the extra-budgetary allocation.

Table 4: 2004 Resource Envelope by Source of Funding

Source of Fund	Amount (Million Cedis)	Percentage Contribution
GoG	1,027,473	42.2%
HIPC	122,840	5.0%
IGF	250,000	10.3%
Development Partners Contributions	1,034,530	42.5%
TOTAL	2,434,843	100%

Source: Review POW 2004, Report of the External Review Team

Presently the private sector receives no financial support from the MOH. The 2004 Five Year POW proposed the development of a framework to assist the sector access financial support, including from donor agencies, in order to provide better services. The need to lobby the Ministry for Private Sector Development to ensure that private health sector is supported is indicated. Presently, the not-for-profit hospitals are supported primarily by religious bodies and denominations.

Perceived need for public health skills

The provision of health services is constrained by inadequate numbers and inequitable distribution of human resources as well as by an inappropriate mix of skills. With the introduction of new health development programs, the demand for services and the workload of the existing workforce will increase. These new health development programs include the IMCI, Guinea Worm Eradication Program, National AIDS control program, ART programs, SHARP, AWARE which have a predominant HIV/AIDS focus, and tend to draw personnel away from other important public health issues. Clearly, donor priorities seem to be influential in determining local programs. The danger is that, without a careful balance, and equitable distribution of personnel, other communicable and non-communicable diseases will be neglected and uncontrolled.

There is an urgent need to address the human resource constraints, especially of personnel with public health skills. Government policy states that the core management of each district must be trained in public health; however this has only been realized at the regional level, not all district heads have public health training. Public health training in Ghana is no longer restricted to physicians and senior nurses. Presently, existing community health training institutions are being expanded and new ones are being constructed to increase production. These include a SPH at the School of Medical Sciences, Kumasi, where degree courses and diplomas are offered to wide range of medical and non-medical professionals. The University of Cape Coast has been training mid-level managers (for example principals of the various Nursing Training Colleges and graduates of Teacher Training Colleges) in Population and Family life at the Degree and Diploma level. The College of Health Sciences is offering a post graduate residency that has just recently started, and has only turned out one physician with a community health specialty. The MOH through the community health training schools

in many districts is turning out increased numbers of certificate holding community health nurses, which is vital if the CHPS program is to be established nationwide.

As one of the major strategies for improving the quality of health care, the government is taking steps to improve provider skills and competencies. A human resource development plan has been developed including in-service training opportunities as well as for the sponsoring of training in areas of perceived need. The plan, does not only include general training in public health, but also concentrates on sub-specialties that are needed. These include hospital management, health quality, health economics, and topical pediatrics. Meanwhile the brain drain continues to be a major threat to the sector, seriously affecting the capacity of the country to improve its human resource base.

Table 5: Health Sector brain drain in Ghana 1993 -2004

Cadres	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	half'04	Total
Doctors	68	44	58	71	62	61	72	52	62	105	117	40	812
Nurses	207	236	195	182	174	161	215	207	235	246	252	82	2,392
Pharmacists	28	30	29	27	35	53	49	24	55	84	95	30	542
Allied Staff	12	9	8	9	4	6	9	16	14	0	NA	NA	NA

Source: Review POW 2004, Report of the External Review Team

Even though the majority of trained public health persons are said to remain in Ghana, (over 90 percent), some have been lost to other countries. A few of these went overseas for clinical specialties, predominantly in the UK, USA and South Africa. Others who are initially employed by the non-public sector in Ghana, and who eventually gain enough experience, are lost to other African countries, Europe and the USA , through donor organizations and NGOs. These include the World Bank, WHO, USAID, UNFPA, UNICEF, and NGOs including FHI, CRS and Save the Children.

As the prime source of human capital for public health in Ghana, the SPH has a pivotal role to play in the development of the professionals needed to help design, implement, manage, monitor, and evaluate programs, to help stem the tide of disease in the country and the sub-region. In this regard, strategic thinking must be directed to finding solutions to the perennial challenges in funding research, and in recruiting and retaining expert faculty. The other challenge is to implement innovative strategies for improving the retention, redistribution and productivity of public health professionals, as well as increase the output from training institutions.

In the past, public health training at the SPH has been targeted towards developing effective leadership skills for potential district and regional health managers. The focus has been on the need to undertake diagnoses of public health problems and design appropriate interventions; the ability to lead a team in the identification of communicable diseases and disease control strategies.

In recent years, however, there has been the need to develop monitoring and evaluation skills, in order to identify the limitations, weaknesses and gaps of the various programs, and

to outline essential and innovative changes to ensure effectiveness and sustainability of the various interventions. Even more challenging has been the need for effective IEC campaigns to ensure much needed behavior change practices, as well as advocacy to effect various policy changes especially at the government level, as the incidence of non-communicable diseases reach epidemic proportions. There is an urgent need for an effective public health response to non-communicable diseases; one that emphasizes the promotion of good health practices, and evidence based methods and strategies for promoting health in families, in communities, in the workplace, and in schools.

With emerging health challenges, like the HIV/AIDS pandemic and the attendant increase in TB cases, the School of Public Health has to make efforts to heighten disease surveillance skills, as well as skills needed for STI, and HIV/AIDS, treatment and prevention. A concerted effort is needed by all stakeholders to ensure that an integrated disease surveillance and response system is established nationwide with personnel who have the relevant skills. Another vital requirement is the improvement of information, monitoring and evaluation and the need to refine indicators for the purposes of quality monitoring and evaluation, which are needed to help bring these conditions under control.

Communication specialists are needed to manage and disseminate health information. All PH personnel need to be equipped with some social mobilization and communication skills. A course needs to be structured by the school to train communication experts in public health, or to design a communication track for the MPH course.

INSTITUTIONAL CAPACITY

University of Ghana School of public Health (UG SPH)

Background History

The School of Public Health was established in 1994; primarily to train public health workers to enable them perform effectively at District, Regional and National levels within governmental organizations. The training of these public health workers was to prepare them to cope with emergency outbreaks; to pick up any new diseases and infections, find the necessary man power to deal with events, have the confidence to isolate, contain, control and eradicate diseases. This was done through the team effort of the Ministry of Health (MOH) Ghana, and the University of Ghana (UG), in response to a growing demand for a cadre of public health practitioners to provide leadership in health services development.

Presently, the school trains public health practitioners, only at the graduate level, not exclusively for governmental organizations, but also for quasi-governmental and private organizations. The program, which basically trains PH personnel with the skills outlined above, are also available to non-health personnel whose activities have an impact on the environment and public health.

The school has the philosophy to operate as a Public Health School Without Walls (PHSWOW), with semi-autonomous status, but with a close working relationship with the existing Schools and Faculties of the University. The PHSWOWs are a collaboration

between a sponsoring university, and the MOH or another sponsoring organization, aimed to produce postgraduate-level public health personnel who are competent as technologists, managers, and leaders, making them capable of directing increasingly decentralized health systems. The PHSWOW program provides tools in epidemiology, management, behavioral science, communications, and economics to prepare students to assess priorities and craft implementations for public health.

In 1999, with the establishment of the College of Health Sciences at the University of Ghana, the School became one of the six constituent members of the College. In accordance with the strategic plan of the college, the SPH has consolidated six departments and one center of Excellence, and has been able to expand its curriculum to include more core subjects and some optional tracks, and in so doing equip the students to deal with emerging public health problems. These are the departments of:

- Biological, Occupational and Environmental Health Sciences
- Biostatistics
- Epidemiology
- Health Policy Planning and Management
- Population, Family and Reproductive Health
- Social and Behavioral Science;
- and the Ghana Malaria Center.

Mission of the School

The School's mission is to train public health practitioners who will be leaders and change agents for health development in Ghana in particular and in the wider African context.

Objectives

The objectives of the school are to:

- Produce public health practitioners who will be able to provide effective leadership, diagnose community health problems, plan and organize effective measures against these problems;
- Undertake policy research, especially at the policy level into public health issues of national as well as local importance;
- Provide public health extension services.

Number and type of faculty

By the 2004 to 2005 academic year, the school had 10 full time academic staff comprising:

• Full Professor	-	1
• Associate Professor	-	1
• Senior Lecturers	-	3
• Lecturers	-	3
• Research Fellows	-	2
 Total	 -	 10

Forty-one (41) part time lecturers had been drawn from other relevant Schools, Institutes and Departments of the University of Ghana, GIMPA, Ghana Health Services, Ministry of Local Government and Rural Development, the National Population Council, Unilever Ghana Limited, Accra Metropolitan Assembly, Department of Community Water and Sanitation etc.

These experts from institutions outside the School teach in various fields including Biostatistics, Disease Control, Epidemiology, Maternal and Child Health, Nutrition, Occupational Health, and Social Sciences among others. The inputs of part-time teachers drawn from such a wide spectrum of industries whose activities are relevant to public health bring a blend of skills to bear on the training offered by the School. Students' field work or practicum is done under the supervision of District and Regional Directors of Health services, or other professionals in related fields who are also eligible as part-time lecturers of the School.

Number and type of students

The Master of Public Health (MPH) Program has since its conception produced 192 graduates. An average of 30-35 students from various backgrounds is admitted each year to the program. The majority (50 percent) are physicians. Others are Social Scientists, Social Workers, Pharmacists, Nursing Tutors, Graduate nurses, Occupational Health Scientists, Health researchers, and Health Administrators.

Details of MPH Admission for 2003/2004 Academic Year are as follows:

Number of Students by Gender

• Female	-	12
• Male	-	23
Total	-	35

Background of Students

• Doctors	-	18
• Social Scientists	-	8
• Pharmacists	-	3
• Nursing Tutors	-	2
• Occupational Health Scientist	-	1
• Health Researchers	-	1
• Nurses	-	1
• Health Administrator	-	1
Total	-	35

Master of Philosophy in Public Health (MPhil): Presently enrolled are 4 students, comprising 2 Physicians, 1 Biologist and 1 Graduate Nurse.

Doctor of Philosophy in Public Health (PhD): Presently enrolled are 3 students, comprising 1 Physician and 2 Biologists.

Programs offered

Degree Programs: The School now offers the Master of Public Health (MPH), MPhil in Public Health and PhD in Public Health programs.

The MPH course is for:

- Health professionals such as doctors, nurses, environmental health personnel, health services administrators within government, non-governmental organizations and the private sector.
- Non-health professionals such as social scientists, demographers, engineers, veterinarians, etc, whose activities have an impact on the environment and the health of populations.

Admission Requirements: A good first degree and at least three (3) years of relevant working experience in a health related field.

Duration: Twelve (12) months; September to August.

Course Structure: There are three main parts to the MPH program: A taught course including tutorials and seminars, practical demonstration and field visits, and a long essay.

MPH students are expected to take a set of compulsory (core) courses and a number of elective courses to make up a minimum of 39 credits. Students spend up to four (4) months in the field working as public health residents under the mentorship of field supervisors. The first month is spent making a community diagnosis and identifying a public health problem of interest. The student returns to continue coursework and present a research proposal to faculty, field supervisors and other observers for critique. Following successful completion of their coursework, each student spends three (3) months acquiring field experience and collecting data for their thesis. The Field Program offers them an opportunity to apply the knowledge they have learnt in the classroom and to acquire a critical set of competencies needed for effective public health practice. They also undertake research into health and managerial problems of relevance to the district where they are posted.

The Master of Philosophy (MPhil) in Public Health

Duration: Four semesters for candidates with a master's degree as indicated above.

Course Structure: Literature reviews, Research and a Thesis, and credits for any academic deficiencies made up from seminars, and other courses.

The Doctor of Philosophy (PhD) in Public Health is available to professionals and graduates from health-related fields.

Admission Requirements

- An MPhil in a relevant Public Health area
- A good MPH. Depending on background, such a candidate may be required to take additional courses to make up any deficiencies.

Duration: A minimum of six (6) semesters

Course Structure: The program will be by research and a thesis.

Two new programs have been designed outside the MPH program and will be starting in the new academic year. These are a one year Masters in Epidemiology (and MPhil for two years), as well as a one year Masters in Health Informatics (and MPhil for two years).

Non-degree teaching: The School mounts short courses in response to special needs of the Ministry of Health and other agencies. These include the Management of District Health Service Systems, Maternal and Family planning and Child Health Services, Occupational Health, offered for the first time in 2005, and a short certificate course in Social Mobilization in Health and Development which has been offered since 1988.

A Higher National Diploma (HND) program is being developed for further training of health professionals who possess post secondary qualifications and a number of years working experience in professional areas related to health.

Research Programs: The School undertakes some research of immediate relevance to the development of effective health policies. Completed and planned research projects include Teaching Hospitals Autonomy Study with the Harvard School of Public Health; Health of the School-Age Child project with the Edna McConnell Clark Foundation; Enhancing Academic and Research Activities in Population and Family and Reproductive Health with the Johns Hopkins Bloomberg School of Public Health. Unfortunately, students have not been directly involved in these research and practice programs. This is because their courses are intensive and time consuming, and the period allocated for field work is spent living in the district and conducting their personal research for a thesis, rather than working in the school.

Public Health Practice

The School of Public Health, the Ministry of Health/Ghana Health Service and Noguchi Memorial Institute for Medical Research, jointly established the Ghana Malaria Center (GMC) in 2002 in collaboration with the London School of Hygiene and Tropical Medicine under the Gates Malaria Partnership (GMP), which is based in London.

The Center has developed a community-based training program for “Community Advocates” for malaria control, with the objective to build capacity of community members in the

management and control of malaria, using integrated strategies of advocacy and empowerment. This is a contribution to the national efforts at reducing the incidence of malaria and its socio-economic and health implications under the Roll Back Malaria initiative.

Current networks and linkages with other institutions

In an effort to implement the University strategic plan, the SPH embarked upon a sustained search for funding to finance the key elements contained in the plan. This effort resulted in collaborative partnerships between the SPH and universities in the developed countries. In addition, the SPH has attracted several funded projects in the last two years. The following are funded research collaborations at the SPH:

- a. “Community Mobilization for Malaria Control in Communities Selected Districts in Ghana”. 2002 - 2007

The Gates Malaria Training Program in Ghana based at the School of Public Health is collaboration between the University of Ghana and The London School of Hygiene and Tropical Medicine. The focus of this program has been the strengthening of capacity for malaria control at the community level through the mother-caregiver-advocates program and integrating it into the District Health Systems.

- b. A multidisciplinary Case-Control Study of Malaria Pathogenesis and Immunity in Ghana, West Africa. PI. Prof I. Quakyi. 2004 – 2007.
Funded by MIM/TDR/WHO. With International collaboration between research faculty of the Constituent Schools of the College of Health Sciences, National Institutes of Health, Johns Hopkins Bloomberg School of Public Health, Food and Drug administration and Queensland Institute of Medical Research, Australia.
- c. Quality of service improvement: Contribution of MPH Students’ Research Recommendation. PI: Dr. R. K. O. Asante and J. N. Fobil. 2003 - 2004
Funded by the Ghanaian-Dutch Research Collaboration Programme.
- d. Creation of the Department of Population, Family and Reproductive Health (PFRH). PI: Prof I. A. Quakyi. 2003-2008
Partnership between Johns Hopkins University and University of Ghana. Funding from the Bill and Melinda Gates Institute for Population and Reproductive Health, JHSPH.
- e. Use of Internet for Health Information by Adolescents. 2004 – 2005
Collaboration between Dr. Dina Bozerkowski, Department of PFHS, JHSPH and Dr. R. K. O. Asante, Gloria Quansah-Asare and J. N. Fobil.

Outcomes of Research Collaborations:

- Attracted additional faculty mostly at the part-time level with many double-stream faculty training and exchange programs.
- Strengthened the existing faculty capacity at the school.
- Partnership with Hopkins has been developed for sandwich programs involving faculty and postgraduate students and which includes development of research proposals for seed grants.
- Key thrust and activities are being pursued in accordance with the provisions in the university's strategic plan. These provisions include the preparation of a specific strategic plan for the school of public health.

Physical infrastructure

Presently the SPH does not have a permanent departmental building, rather uses various university buildings for different purposes.

- The offices of the Director of the SPH, who is also head of the Department of Biological, Environmental and Occupational Health, are housed within the Malaria Project building.
- Other faculty and administrative offices are situated in the Mathematics department, ISSER building and the Balm Library annex.
- Lectures are held in any unoccupied classroom and students are shuttled from one faculty building to the next in search of such classrooms. (NB. By completion of the study, the Malaria Project building had been completed. Two classrooms, a conference room and a temporary computer laboratory have been made available to the SPH students)
- The School is in the process of constructing a block of offices, lecture halls and classrooms to house the Department of Population, Reproductive and Family Health next to the Malaria Project building. This is a Gate's funded project, and is the first of three wings which will eventually house the entire SPH.

A lot more infrastructure is needed in terms of offices, classrooms, lecture halls, libraries, computer labs, biomedical labs, a standby generator and equipment.

Physical assets, Support systems and Processes

Information & Communication Technology

- The SPH has a local platform and hub that hooks all computers to the World Wide Web.
- All faculty members and some key administrative staff each have a computer with Internet connectivity.
- The teaching classroom is equipped with computers and other audio-visuals to aid teaching and learning.
- There is a small library with some public health resources available for the students within the Malaria Project building. However, this is highly understocked, inadequate and unsuitable for the quality of work expected by the

students. The library also has some computers which are hooked to the Internet to facilitate online literature and journal search. These are not enough to serve the growing population of SPH students.

- All computers in the school are connected by a local network and able to communicate with each other for effective information sharing among faculty and students.
- A VSAT facility was acquired through collaboration with the London School of Health and Tropical Medicine, and has recently been installed.

The need for fast Internet connectivity and round the clock Internet access is necessary, if both staff and students are going to find quality information and stay abreast with issues. Ideally the school requires a wireless network in order to communicate in real time as well as ICT facilities at all field sites, which will be linked by the VSAT in order to facilitate research and distance education. In addition to a functional computer lab with technical support, there is also need of a bigger and well-stocked modern library as well as an electronic journal library.

Professional Human Resource Practices

The SPH has defined two clear streams of professional and human resource practices. These are Senior & Junior faculty development exchange programs. Through these programs, the training needs of senior and junior faculty are clearly outlined, and through the establishment of research partnerships, some of these needs are met. For example, the SPH has established faculty training exchange programs in collaboration with some partner universities internationally.

Consumer Development & 3rd Party Linkages

- The SPH turns out MPH graduates who take up policy-making roles as well as leadership, management and supportive roles within in the Ghana Health Service.
- The SPH Field Residency Program actually diagnoses and provides solutions to public health problems in all Districts in Ghana.
- There is dissemination of research findings for use by policy makers, international organizations & NGOs.
- The SPH has hosted many international conferences with UN agencies, including the World Health Organization.
- The School is also involved in the development of academic curricula.

Academic Programs, Research & Extension Services

- The School has established research sub-committee groups that run periodic reviews of existing research programs.
- The SPH encourages internal peer review of manuscripts of journal articles before they are sent to academic and scientific journals.
- Some Information and Communication Technology facilities are available for teaching and learning. These include an overhead projector and screen. Recording equipment is needed for lecture halls and taping of students as they acquire

competencies in the field. These will be filed as modules in a library of experiences for teaching other students, since certain field experiences are rare.

- When established, the VSAT will promote the establishment of distance learning programs between the SPH and other institutions within and outside the country.
- Currently, existing academic curricula are being reviewed and new ones developed. Whereas the social sciences were previously played down, the curriculum has now been expanded to include a social mobilization course with heavy emphasis on communicating effective behavior change, IEC competencies, and advocacy skills. A comprehensive curriculum has been developed for the department of Population, Family and Reproductive Health. Presently one is being developed for the department of Health Policy Planning and Management
- Ideally all SPH field sites should be developed into centres of excellence. Within each station, specific disease conditions are highly prevalent. Eventually field sites should serve as scientific research bases for these disease conditions. With good laboratory support and technologists, as well as well-trained MOH personnel at these stations, excellent research can be undertaken by students under good mentoring.

The outlined programs and services need to be maintained and expanded to serve other consumers. In order to do so, the SPH requires more funding for fieldwork and research.

Dissemination & Output Marketing

- The School undertakes various public education activities through discussions in media.
- Information is disseminated through publishing in trade journals, policy briefs and technical reports.
- The school encourages its faculty to be very committed through various evaluation and assessment mechanisms

Individual Capacity of Faculty

Faculty at the SPH, include experts in many fields and specialties of public health. Some of the areas of expertise are family planning, family health, reproductive health, adolescent health and occupational health. Others are country-specialists in HIV/AIDS, epidemiologists and biostatisticians who were trained in premiere institutions worldwide. The school also boasts of pure scientists and social scientists with great experience, among others. (Refer UGSPH Faculty List/ Areas of Expertise – Appendix 3)

Faculty in the various departments of the school collaborate with each other, also with other specialists, consultants and faculty within Ghanaian universities and internationally, in some research endeavors. Some areas of interest currently being investigated by SPH faculty are HIV and malaria in pregnancy, stigmatization in HIV, anemia in children, advocacy at the community level, Health Insurance and its implications for mothers and children, and the use of the internet by adolescents for health information. The strength of such partnerships, however, depends on a potential and ready source of skilled human resource. Obviously, main barriers to research work, extensive partnerships, community service and even

expansion of the curricula at the SPH include a shortage of staff at the SPH, and also at collaborating institutions.

The SPH's limited financial resources does not allow for offering competitive and attractive remuneration to more qualified staff, and adequate remuneration and motivation of already existing staff. Even though the school has not yet exhausted the quota given by the University for recruiting lecturers, university salaries are not attractive and remuneration of part time lecturers is inadequate, making it difficult to attract enough staff from the MoH, GHS, NGOs, the UN system, and from various management institutes and colleges.

The SPH Budget

(Also refer SPH data, Appendix 3)

The Ministry of Education's, higher education division, gives an annual subvention to the university. The SPH's packet covers about 55 percent of its day-to-day overheads and administrative costs. However, this subvention is received piecemeal and usually late in the year, making it difficult to undertake comprehensive planning of the school's budget.

A portion of the fees paid per student goes to the UoG for tuition. The remainder of the fees barely cover the upkeep of the student, i.e. accommodation, transportation, fieldwork etc. The question of raising these fees has been discussed at academic and financial meetings, and this year, the College received permission to charge extra fees; this increase must first be justified, in line with facilities provided by the School, and then approved by the University.

Current fees paid by students are as follows:

MPH 94,000,000.00 cedis (of which tuition, 37,000,000.00 cedis) N.B.
This reflects more than 50 percent increase over the previous year's fees of 60,000,000.00 cedis and is the equivalent of approximately \$10,000.00.

MPhil PH \$4000.00

PhD \$2000.00

The majority of students are sponsored by their employers, and by other funding agencies. For example, Out of a total of the 35 students admitted to the MPH for the 2003/ 2004 year, 21 were funded by the MOH and the GHS. The others are sponsored by the military, police, WHO, The Red Cross, Commonwealth Secretariat and the World Council of Churches. Only 4 of the 35 students were self-sponsored.

Funds for research and development projects come from grants won by the School and also by junior and senior faculty. Current grants are being funded by WHO, CDC and Gates Foundation, and the Rockefeller Foundation. The School has recently won two TALIF grants (Teaching and Learning Innovation Fund) - World Bank grants to tertiary institutions for improving curricular, teaching and learning - and has recently submitted a proposal to the GETFUND.

The school plans to start an endowment fund for MPhil and doctoral training in order to expanding and improving the capacity of faculty. This is still at the conceptual stage.

FINDINGS

Perceptions of the Leadership across Organizations

Analysis of leaders' and stakeholders' perceptions of the School of Public Health's contributions, innovations, needs, and weaknesses. These include the perceptions of:

- SPH faculty, staff, students
- University of Ghana (Administration and other faculty)
- Ministry of Health
- Ghana Health Service
- Donors, donor agencies and NGOs

School of Public Health Faculty

According to faculty at the SPH, the principal public health challenges that Ghana faces now and for the near future (5 years) are many. Preventable/communicable diseases, both old and emerging, are not being well controlled. The burden of these diseases is being compounded by non communicable chronic illnesses. Most of these diseases can be prevented if the population knows about them - their causes and effects.

So far, there has been a lot of transfer of information/education to the general populace, so that even illiterates know about important public health issues. Yet much more needs to be done. There is a need for community based capacity building, for the purpose of teaching the behavioral skills needed to transfer this information into practice at the community level and not simply through national media. Unfortunately the practice of good health habits is impeded by the wide-reaching poverty in most Ghanaian communities; poor access to balanced nutrition, good drinking water and waste disposal.

Poverty reduction programs will make people more aware of their personal and community health needs, and help reduce factors that impede access to health services e.g. social, behavioral, financial and physical. As part of the poverty reduction strategy, the health sector will have to form partnerships with other stakeholders to ensure that the health goals (e.g. CHPS, NHIS) within the poverty reduction programs are met. In the short to medium term, these will result in an increased demand on health personnel, services and the health budget, as the health of individuals and some vulnerable/targeted communities improve. This will occur without necessarily resulting in an improvement in health status as reflected by the relevant indicators. The effects of community based poverty reduction programs will be felt over the long term as they become widespread and are effectively implemented at the national level. This will require massive change in behaviors and attitudes.

The PH needs outlined above, are neither being addressed adequately nor holistically. This is the result of a lack of political commitment to PH problems and the absence of a common

vision for PH in Ghana. Public health people would like to see an overall plan or health vision, outlined as a result of comprehensive intersectoral consultation and discussion, to include a human resource and training component, for the long and medium term. In the short term, community and national health programs should be designed and implemented, always with the bigger picture in mind and with the goal to eventually improve health status. They would like to see a chunk of the health budget set aside for pursuing the components of this bigger picture.

One of the interviewees had this to say about the Public Health Environment in Ghana:

“The Public Health agenda in this country cannot really go anywhere unless we define what it is in Ghana. Without articulating what public health is, we will not have clear guidelines to know where the country is going, to set policy directives and to set targets for training and manpower development. If we do not know where we are going we will be running round in circles. We may get somewhere but it will take longer and cost us more.”

Another said;

“Without a comprehensive diagnosis it becomes extremely difficult to outline all the public health challenges in this country. There is a need for government to get PH intellectuals together and commission them to determine and prioritize what the needs are, and to come up with solutions for an overall PH plan which will be followed diligently.”

It is the general opinion of faculty that government fails to vote the necessary funding to deal with these issues, rather there is a piecemeal approach and many important interventions stay on the drawing table as a result of personal decisions of policy makers and donors.

“I will not say there is lack of funding because funds can and should be sourced for a specific plan or vision. As a nation, we need to get our priorities right.”

“We need to set policy in order to achieve targets faster and outline our needs for funding and not what the donor wants. Rather we ran isolated programs that are vertically funded by donors who are not united. For example, malaria vaccine development is not necessary now. We need to improve sanitation, housing and living conditions, and dissemination of ITNs – these will solve both malaria and other problems.”

Another need is capacity building. Capacity building is of utmost importance on the whole continent. Yet, government is not committed to adequate capacity building. It is estimated that in the next 5 years about 7000 public health practitioners will be needed in all sectors, 3 for each district, and the rest placed in key areas for organized research. If health status is going to improve, greater manpower will have to be developed in the areas of academia and research.

First there is a need to develop the capacity of faculty /trainers for all PH training institutions, and build relationships which will encourage exchange of faculty. The health system could formally institute the concept of joint appointments or time sharing with remuneration, so those part time faculty are as committed to all their teaching appointments as well as to other appointments. The culture of research will have to be restored to its former place of importance, and given the necessary funding and support, so that faculty interested in research do not have

to commit to other projects in order to make ends meet. Without a cadre of trainers, the required quality and quantity of PH professionals will not be realized.

A few more SPH faculty said:

“We have in no way reached our desired quota. Many more are needed in addition to those who have already been trained.”

“We need to build a quantum of skilled PH personnel and to retain that capacity.”

“We need to train more public health practitioners who will not just get the degrees but who will practice public health. For that reason PH practice should be made more attractive in terms of adequate remuneration, and research opportunities.”

Even though the country lacks the adequate human resource, there is the need to manage the human resources we have much better. The transfer of knowledge into behavior can and must be done intersectorally.

“For example, health sector partners or key professionals already working and linking with the people on the ground, teachers, agriculture extension officers, projects, community development, should be given some public health exposure so that they can help.”

“We can do some intersectoral transfers as and where the need arises in a particular sector, and use other workers.”

“Where, or rather, the positions in which these trained people find themselves after training is the problem. There should be enough incentives so that more people would work at the places and the fields where they are needed most. We should have people devoted only to looking at HIV, RTA’s, non-communicable diseases and reproductive health issues for example.”

Public health personnel in Ghana tend to have more of a social background rather than a technological or research background. There is great need for skills in biotechnology and technical capacity building; in data management – diagnoses, collection of data, collation of data and analysis of that data; in strategic planning, PH management, monitoring and evaluation, and in information dissemination for the purpose of behavior change.

Additional skills presently needed in the field include ICT (information and computer technology) and exposure to computers and the internet; Monitoring and Evaluation; disease surveillance capacity; research methods; research grant writing; manipulation of data; health information dissemination.. Presently the SPH is developing a degree in Health Informatics. The Cape Coast University offers an MSc in Health Education and Information.

It is important for public health specialists to acquire skills in managing health services organizations. The School of Medical Sciences in Kumasi, has already begun post graduate training in Community health and offers an MSc in Health Planning and Management. The

curriculum for such training is being developed at the SPH curriculum, and should be done in consultation with the newly emerging public health department at the Korle Bu Teaching Hospital, the residency program in community health by the College, and the UG Business School which is already teaching these courses for the MSc health management degree at the UG. The result being that similar courses will be taught at these institutions by sharing the limited faculty. The Department of Health Policy, Planning and Management at the SPH needs to develop to its full strength within the shortest possible time. The Faculty of Family Medicine at the College will also need to teach management courses, either for solo practitioners, or for leader of group practices.

In order to train more PH people, and specialists, the SPH should be helped to expand. The school runs a very popular MPH program, and could easily take in 100 students in any one year, meanwhile for a long time intake was limited to 20-25 MPH students. Now SPH can only take in 35 out of the desired 100 students each year. Even if the SPH had the necessary infrastructure, there are inadequate numbers of trainers in all specialties of PH. The SPH is severely understaffed and the faculty overworked. The full time staff, as well as part time staff from the GHS, MOH and other institutions are overburdened. In some of the departments, like epidemiology, biostatistics, health policy and management, part-time staff take on majority of the work. Even though the university remits them, this is inadequate, and their major commitment is to their primary employer. The extra demands placed on them by their employers sometimes compromise SPH schedules, lectures, and their role as students' advisors/supervisors. This is inspite of the rich experience and guidance they bring to the School and share with their protégés. The need to develop trainers and faculty is of utmost importance and urgency. Otherwise the school will not be well positioned to address much needed specialized training in the various disciplines of public health.

“At any one point we don't have the critical mass of faculty to plan our programs, and field programs are not as many as we would have liked. We are at the mercy of part time lecturers and rely on the larger group of part-timers to keep our programs going. Therefore, the principal limitation is the trainers.”

“These barriers [to training more PH personnel, to expanding the curriculum, to part time and distance education] exist because the faculty is overburdened. Most lecturers are retired and on contract. Only the retired people on contract offer their first loyalty to the School. We can't imagine what will happen when they decide to retire completely.

Contrary to other perceptions, one person thought the problem was with the leadership of the SPH.

*“And why do these barriers exist?
Because of the general malaise of the people running the system [SPH] and their way of making decision; some of whose intellectual development is terribly deficient. If the trainers have low standards, their expectations will be low. It becomes difficult for them to rise above it, and they can only encourage their students to rise to that limit or that extent. Again, some have created little kingdoms of their own which they are not prepared to expand and refuse to build partnerships with others (e.g. Dept of community Health, UGMS) to the detriment of their students. Beats my mind.*

- *There is the need to look for young professionals*
- *Offer adequate enticement into the school as research fellows, PhD students, ,and junior faculty*
- *Develop them into full time faculty with adequate remuneration.”*

Meanwhile the general consensus is that, community health training in the medical schools is inadequate, and must permeate the entire period of health training. Trainers in the medical schools do not add a public health perspective in teaching. Ideally, standard PH training of medical students is important in addition to the clinical skills taught, so that the physicians graduating from the medical schools will be equipped to meet some of the PH needs in the field. Skills like health services management, some research methods, data collection and management as well as health education and communication can be taught, and students with a passion for the specialty identified and encouraged to pursue graduate courses in PH.

For the longer term future (5-10 years), Ghana will require PH personnel with skills which are crucial to all aspects of public health. These are the skills to think through issues from scientific, biological and molecular bases; skills in biostatistics, epidemiology and surveillance capacity; the ability to manage data in order to make it meaningful and to use it to predict problems and to manage those problems; as well as specialists to deal with the imminent problem of non-communicable diseases including childhood obesity. Most importantly, these PH specialists will need to build partnerships with social scientists in research, program design, and for successful implementation of these programs. This will hopefully ensure research validity and facilitate research-based teaching. Consequently, this research will be used to develop and then evaluate community interventions, and provide opportunities for capacity building within communities, thus ensuring the sustainability of the various health programs. The expertise of social and technical demographers, population specialists, family planning specialists, program analysts and forecasters is vital for the future, as Ghana deals with the inevitable issues associated with its epidemiological transition.

Graduates are not distributed/ placed by the SPH. Many of them go back to their sponsoring institutions. Others are employed by the UN system as well as international and local NGOs.

The major customers for public health graduates are:

- The Ministry of Health
- The Ghana Health Service
- The UN system e.g., UNFPA, UNICEF
- Donors e.g. USAID, DFID, DANIDA, WHO, JICA, international NGOs eg FHI,
- Missions
- Research Institutions e.g. CSIR,
- Public Institutions e.g. Police, army, Water and Sanitation department
- Other countries e.g. Kenya, Zambia, Nigeria, South Africa
- Recently the SPH itself is trying to encourage graduates to take up part time and junior faculty positions (through the MPhil program), and attract them into research (PhD) with the hope that some of them will stay on as full time faculty.
- Other educational institutions e.g. Tutors in Nursing Schools, Community and Public Health Nursing Training Schools.

The potential market for short courses - either for academic credit or continuing education - is great. A Social Mobilization (6 week) course which is running for the 7th year is very well patronized. The classes are always overbooked. A one week module in Occupational health for people in industry and mines has just begun. Beyond the expected 20 people, the course ended up registering 38. The School presently has the capacity to run other programs but needs to establish a market for these first. For example, there is also need for short (3 week) courses in proposal writing, research methodology and public health management.

There is a market for training middle and senior level health managers in PH. Field experience is not equivalent to knowledge. Some of these personnel have been doing things without adequate skills or training. While certain faculty thinks they should come in as full time students in the regular MPH program, others think a separate part time training track should be created by the SPH. Many nursing tutors, as well as other local and international staff, (sponsored by NGOs and international organizations like UNICEF, UNFPA) come into residence each summer for short courses which is all the School has the capacity to offer right now, but it is thought if given the opportunity most of them would take advantage a of part time MPH track.

The potential market for distance education in public health training and associated programs is large. A significant number of MPH students at the school are from other African countries including Nigeria, Sierra Leone and Liberia, and are sponsored by the WHO and the Red Cross among others. The entire sub-region has similar public health needs as Ghana, and a large contingent of potential PH cadre who cannot afford to take a whole year off work for study. It is up to faculty at the SPH to develop innovative programs.

Unfortunately, the distance education program can not be implemented right now because of the lack of adequate communication infrastructure (IT and internet access) and an already overburdened faculty. There have not yet been considerations of a paper-based course or a CD ROM based course as used elsewhere in Africa. Faculty at the school believe that Ghana is not ready for such courses for the health sciences, but rather that a considerable amount of interaction and practical experience is necessary. Establishing such courses will entail intensive staff work to design the modules, and an efficient technical base of 'paper trail staff'. As a result of interactions with on-line courses staff at Hopkins, senior faculty of the SPH discovered that internet-based distance education will be even more expensive, labor intensive and time consuming than regular 'on-site' teaching.

As the SPH now functions, its weaknesses are as follows:

- Training Curriculum – Even though the content and quality of training is comparable to that offered in international universities where more senior faculty had their training. It is the general consensus that the curriculum is a little over packed. This is both in regard to the number of courses as well as the contents for the individual courses. It is time that faculty at the school debated the courses that are absolutely necessary as core. Core courses may have to be trimmed down, and curricular and programs modified to allow students to specialize in their tracks of interest. Perhaps the SPH will have to adopt a term system rather than the semester system in order to restrict the hours of coursework allocated to each subject.

One lecturer had this to say:

“The MPH courses are overloaded. Everyone teaches their course as if the student was specializing in that field. Because they are overburdened and rushed I do not think they have enough time to imbibe the material adequately – the quality of which is good though”

The MPhil is required for anyone interested in reading a doctoral program yet both the MPhil and first year of PhD do not add on much to an MPH holder in terms of knowledge or intellectually based development.

- **Research** - The major problem is with funding to undertake school wide research. Much of research proposals are tailored to the whims of donors because no funds are provided by university for research. The SPH would prefer to team up with the MOH and GHS for research. It is the opinion of faculty that the Health Research Unit of the MOH, which is manned by alumni of SPH, is not interested in collaborating with the SPH. The leadership had hoped that students' field supervisors, most of whom hold GHS and MOH appointments, would be interested in joint research with the students assigned to them. Once the student is done presenting his thesis, the complete work would be reviewed and published in peer review journals.

Due to their limited number, lecturers also do not have much time left beyond teaching to undertake research and to supervise the students' dissertations as they should, thus the MPH students have little or no practical training in research prior to engaging in field work. Even under these conditions some MPH students do excel and produce good work comparable to that expected at the PhD level. Research methodology and statistical analysis are taught as courses, yet some of the students seem to have problems applying these in writing their dissertations. The faculty responsible are seriously considering this and trying to find better ways of transferring the information and skills. Structured courses in research and quantitative methods are to be introduced during the first year of the MPhil or PhD programs, which will expand on some of the courses taken during the MPH to strengthen research work. Students will also be attached to faculty in their area of interest, then they will go on to do better work in terms of research work during their subsequent year/s. Students should be assisted transfer the research methods taught into satisfactory practice during the preparation of their thesis. A core of full-time faculty, committed to research-based teaching, mentoring students and ultimately partnering with them to publish in peer reviewed journals, is a prerequisite for building the faculty at the SPH.

Individual faculty as well as the SPH needs to seriously consider building partnerships with other institutions within the University, which share similar interests and a similar mission, in order to prevent ineffective duplication of efforts, and for the mutual benefit of both institutions.

- **Public Health Practice** - This is a very weak area. Only seconded staff from GHS or MOH still do some service. The problem is that the few faculty are already overburdened and have little time left over for community mobilization and advocacy. There is no funding and inadequate remuneration for offering services. Students undergo three months of field work, but for learning purposes and not as a service per say. The School has not been directly involved in

health policy in the country, but graduates and faculty from the school find themselves in influential positions where they can contribute to the development of policy. Many faculty serve on various committees for program planning, evaluation and review, study commissions and councils which are involved in development of health policy,

- The School lacks a vision for the next 10 years. Currently the school has no strategic plan but is working at developing one in accordance with the strategic plan of the College of Health Sciences. The problem is not about lack of resources alone, it is also about setting goals. If the correct goals are set, high enough, then the school can work towards reaching them and ultimately towards improving health in Ghana

University of Ghana Faculty in Departments outside the SPH

(These faculty members have had, or currently have some interaction with SPH, particularly in training.)

Within the UG, the SPH has partnered with a couple of other department in the past, but continue to do so only with the Department of Community Health at the University of Ghana Medical School (UGMS). Current collaborations exist with the Department of Community Health; some members of staff of this department help with field placement of students as well as with supervision of their field work and with students' projects and dissertations. There is some collaboration in terms of co-ordination and teaching of courses on part time basis, and participating in curriculum development workshops which are taking place with the country health department. UGMS faculty attend and contribute to management meetings at the SPH.

Even though faculty at the School of Nursing (SON) helped to draw curricular for the SPH when it was initially being set up, there is currently no collaboration with the SPH except in the form of services; making lecture rooms and buses available for their lectures and to take SPH students on field work trips. Students and faculty of both departments will benefit from joint proposal writing, research and publications, and through exchanging lecturers to teach part time courses and summer courses.

CERGIS (within the Department of Country Health) is a new unit on the university campus which has great potential of collaboration with the SPH in terms of capacity building in the areas of Geographic Information and Positioning Systems, application of research both ways, public relations and information management. Postgraduate students from the Department of Country Health will benefit greatly from the exchange of lecturers and from part time courses offered by the SPH. Unfortunately the leadership of SPH does not seem very responsive, and is slow to respond to proposals.

Another potential partner is the Regional Institute of Population Studies (RIPS) at the university, whose mandate and vision seems to overlap that of the population unit of the PFRH department of the School. Currently, only one of the RIPS lecturers also teaches at the SPH. If the SPH and RIPS were to become a single faculty, the SPH would gain a ready-made population track curriculum as well as 8 new faculty with expertise in population

studies, demography and sociology (among others), and mutually benefit from interdisciplinary research and grants that each party brings to the partnership.

There is currently no collaboration with the Schools of Business, Management and Administration. However, if the SPH were to develop a curriculum in leadership and management for health, the faculty would be willing to offer SPH students the necessary training. CERGIS could contribute to training in leadership, management and program evaluation. The SoN could help draw up curricular, and with part time lecturing, and the Community Health Department of UGMS could support them could contribute to program evaluations and in staff assessment.

It is a well known fact, by faculty outside SPH, that the SPH staff are overburdened and do not have much time at their disposal. The school has limited information technology. There is no local area network between the SPH and the other departments for effective exchange of information. There is lack of initiative to form local partnerships by the leadership of the school, who are also slow to respond to proposals for collaborations.

It is the opinion of this faculty that:

- The SPH needs to introduce new programs aimed at training physicians as public health specialists/pillars.
- Apart from the SPH there are no other flexible programs in the country for the training public health professionals, which allow the enrollment of non-medical personnel at the postgraduate level. The university can promote the establishment of other institutes such as a school of tropical medicine to train more PH professionals.
- There's a need to develop capacity to introduce a strong quantitative element into evaluation programs in the country.
- There is the need for the SPH to embark on and strengthen health education programs
- The SPH must to take on responsibility solving the problems associated with Public Sanitation and help turn it into an industry.

University of Ghana Administration and Government

The SPH is too young to be compared to other much older and more established institutes and schools within the University of Ghana. It is the general opinion however, that SPH has great potential and is bound to grow. It is the only institution, apart from the Community Health Dept of UGMS, for developing public health professionals at the postgraduate level, and offers the only program in the country which trains non-medics in public health at the postgraduate level. The school has its vision and missions lined up with that of the college and the university and the added advantage of a relationship with other health sectors. The University has been fascinated by the networks that the school has been able to establish both internally and externally. These are demonstrated by the diversity of its student body (from the African continent as a whole), and collaborations with international faculty from USA and other countries.

The School which was built in response to a felt need by MOH to train public health physicians to fill a particular niche, has the potential to develop into a center of excellence and could even rise to be a leading Public Health school in the sub-region. In order to realize this achievement however, the School will have to develop more departments to meet the

growing public health needs of the country, and Africa as a whole and will need to build up its staff capacity.

Very good and cordial relations have been established with university government at the highest level, and will continue for as long as the SPH follow the set regulations keep in step with the broad vision of the university. The university is being restructured into a collegiate system, so that the SPH is directly governed by the Council of the College of Health Sciences which has its own academic board. However the council's regulations must conform to the main university regulations.

As a result of the decentralization, all schools and faculties will have the opportunity to grow and become stronger than before, and the heads will become more powerful. Eventually, the schools should each have a bigger quota for hiring faculty into the UG system on both full time and part time basis. This will result in more training, a bigger intake of students, more income to the schools, and the university. As the faculty grows, the schools should begin to source will increase considerably, and the schools should be able to source for funds more effectively. Each School or Faculty of the College of Health Sciences is supposed to develop different departments, each of which should have a minimum of 4 units.

“The SPH has the added advantage of an internationally acclaimed, pro-active and effective director, who is skilled at sourcing funding outside the university's subvention for the purpose of recruiting, motivating and retaining faculty; the school only has the impetus to grow.”

The school must conform to the college's regulations in order to develop any new curricula for public health education. There is no foreseen difficulty concerning curricular development for either part-time or distance education of health personnel in West Africa, since such a policy already exists. Similar curricular have already been approved for other programs running modular courses and distance education programs for career advancement. Such courses and programs, already started in the Institute of Adult Education have become a source of income for the university. The main barriers foreseen for the SPH will be the lack of funding, inadequate human and information technology (IT) resources.

In accordance with the quota system at the university, students are already accepted from neighboring countries into full-time programs at the SPH and other departments within the university. Such applicants must first conform to the university's admission regulations. That is, they must possess the necessary qualifications required by the university council, or equivalent grades; they must attend an interview, and demonstrate ability to pay fees. Payments of fees are flexible and can be done in installments.

The university already has a system in place which allows foreign students to take elective courses and to transfer credits back to their home countries. The University accepts credits from foreign institutions which meet laid-down criteria.

This group of interviewees reiterates the following:

- The need for expansion into new programs by the SPH

- That the SPH and the university can promote the establishment of other institutes such as a school of tropical medicine to take care of training more PH professionals
 - The great need to train PH professionals in quantitative methods for proper evaluation of programs.
 - The SPH needs to build up staff and faculty capacity so they can train public health professionals in different specialties
- Additionally, they mention the need for proper evaluation of the public health training given by the school.

The SPH is a growing institution with a bright future. It is the general opinion that the university could develop into a center of excellence for training public health professionals in the entire sub-region as well as from all over the continent. This will be realized only if the twin problems of inadequate infrastructure and manpower are solved.

Ministry of Health (MOH)

(The Ministry of Health provides stewardship, coordination and mobilization of resources. It also has the responsibility of harnessing support from sectors outside the health sector.)

According to the MOH leadership, Ghana faces numerous public health challenges. The high burden of preventable, communicable disease (i.e. malaria, guinea worm, TB and HIV among others) is being worsened by the steadily increasing prevalence of non-communicable diseases. The health perceptions of the general public are wrong; Ghanaians have a more clinical/ curative rather than a preventive and promotive approach to health. Society is not informed enough to be able to make the right health choices. Unfortunately, a myriad of weaknesses and complications characterize the public sector health services and keep the deteriorating public health environment on a downward spiral.

- The health system is weak and cannot meet the clinical health needs of the citizenry. Specifically, the service neither adequately nor equitably covers the districts in the country. The list of perennial problems: inadequate numbers of staff and staff trained in best practices, shortage of medicines and equipment, as well as facilities that need improvement, is by no means exhaustive
- Though there are a lot of public health intervention programs in progress at the moment, their impact is not being felt because of a lack of political will and inadequate funding to scale-up these interventions.
- *“There is a lot of wastage in the health system”*
- The human resource is highly limited, in terms of inadequate numbers, inequitable distribution of existing public health personnel, and more unskilled than skilled cadre; all these in the face of a persistent brain drain.

The need to equip MOH staff with PH skills is reiterated; to enable them cope with the management and control of communicable diseases, with the ability to anticipate society’s health needs, perform precise situational analyses, to design, plan and implement the

necessary programs. There is a dire need for training specialists in monitoring and evaluation of programs, as well as to develop effective management, organization, and health education skills. Ghana does not have adequate levels of cadre in any of the specialties needed in the health sector. For the longer term (5-10) years, the MoH requires additional public health specialists, and also needs to build up the capacities of public health personnel, in the areas of research and proposal/report writing, biostatistics, epidemiology, disease surveillance, policy analysis and strategy development, information and communication technology, health care financing and leadership.

Since the introduction of CHPS, the IMCI program and satellite FP services at the community level, it is claimed that under-five mortality rates and fertility have reduced in these communities. At least one skilled person with an MPH is needed in every district, to advocate and plan programs needed at the district level, to manage and concert the various PH efforts, ensure their success and collate relevant data, and to ensure that health resources are not being wasted, but are being applied to their maximum use. The SPH has managed to turning out public health professionals who are competent enough to man the various districts as directors of health services. Presently every regional head and most district heads of health management teams have an MPH from the SPH. Ideally a minimum of 3 such professionals are needed in every district. These professionals would occupy the positions of district director and deputy district director of health services, and head of the district health management team (DHMT).

In order to optimize training, there is need to build up the faculty and infrastructure so that the school will be able to increase its student intake, and for the school to develop new programs to train public health specialists in the needed areas, as well as a need to develop more short courses to keep past students and senior level staff updated and abreast with the latest developments. The SPH must also develop a diploma course for training health personnel other than doctors, nurses and other degree holders. The School needs to expand and create departments for specialized training in reproductive and child health, environmental health/ sanitation, disease control / surveillance.

In terms of research activity, the school has not been doing well and has not impacted the MOH or GHS There are no known publications by the school. However, as part of their Dissertation, students do some research in the districts they are assigned to during training, and are supposed to disseminate their findings. The question is whether or not students' findings eventually inform the programs and policies for these districts.

Currently, the MOH runs some public health training independent of SPH and other organizations. These include in-service training for staff at various levels of the health systems, in the form of workshops on TB & Malaria control, Integrated Management of Childhood Illness and quality assurance at the district and some sub district levels. The ministry has training schools in Tamale, Ho, Accra and Kintampo for public health training programs for community health nurses, public health nurses, community health officers, environmental and disease control officers; and for middle and senior management staff.

There are no formal relations between Ministry of Health and the School of Public Health, but a good informal relationship exists. MoH is single largest employer of personnel trained at the SPH, and Ministry of Health staff lecture on a part-time basis at the school. Yet, there is no collaboration with the ministry for any other services they can provide. For instance, the MOH could use the school's expertise to train their less skilled field technicians and staff in areas such as epidemiology and disease control. The Ministry of Health spends money-training PhDs in international universities even though the school is equipped to undertake such training.

The SPH teaches writing and research methodology skills which the ministry needs. The MOH could utilize SPH expertise in research skills and disease control; SPH faculty could serve as consultants for the MOH. The students could use problem areas identified by the Ministry as the basis for their (district) projects and dissertations. The school in turn could make use of some of the ministry's collected data to inform their district projects. Her faculty could submit proposals to the research unit of the ministry to source funding for some of their research projects. SPH should overcome the constraints placed on them by the College of Health Sciences in order to engage more staff from Ministry of Health as lecturers and technical personnel as field supervisors of students' research.

The MoH relates with other professional schools in the following ways:

- Absorbs most doctors produced by the University of Ghana Medical School (UGMS), the Kwame Nkrumah University School of Medical Sciences (SMS), and the University of Development Studies (UDS).
- The University of Cape Coast trains tutors for the various training schools of the Ministry e.g. Community Health Nursing and Public Health Nursing Training Schools.
- School of Administration – MOH recruits some of its graduates to work as administrators in the ministry.
- GIMPA – provide courses in management for senior level management staff of MOH

Ghana Health Service (GHS)

(The GHS is responsible for providing public health and clinical services at regional, district and sub-district levels, including management of all public facilities at these levels.)

According to the GHS leadership, the principal public health challenges that Ghana faces presently and for the near future are:

- An upsurge of non-communicable diseases such as diabetes and hypertension; even though the country has made no head way with communicable disease such as malaria, guinea worm, TB and HIV.
- Inadequate human resource especially of our more qualified health professionals such as doctors and nurses at the sub-district and community level - this is constantly compounded by the brain drain
- A lack of intersectoral collaboration
- Inadequate funding, logistics and infrastructure
 - o The focus of health interventions on clinical care rather than preventive and promotive health

- The absence of user-friendly health services
- Geographical, financial and informational barriers to health services
- Ineffective systems of administration - decentralization has still not filtered down to the grass roots.

Situation analyses of the PH problems have been done and various programs planned, however, the logistics and funding for implementing these are limited. Key intervention programs are presently in place for HIV, malaria control and immunization. Through CHPS and satellite clinics, services have been moved to the community level, thus improving geographic accessibility, health education and sensitization of the masses. Still, many other programs which have been drawn are not being implemented. Government is creating additional schools in every region in order to training more community and public health nurses. There is some organized in-service training for GHS personnel for dissemination of information at the country level. The GHS has been running training courses that have been attended by in-service coordinators from all teaching and regional hospitals and most districts. There is still an urgent need for training more professionals and retaining those trained.

50 percent of the interviewees think new PH skills are needed, instead, they prefer to effectively utilize available skills, and/or revolutionize Public Health practice in Ghana. One said:

“We are not well positioned to address the attrition of higher caliber of health care professionals such as doctors and nurses since it’s an open market and the Ministry does not have the necessary funds to retain them all.”

Another of the directors thought:

“Our problems stretch beyond basic acquisition of new public health skills. There’s the need for capacity building and for total technological revolution both in the health field and other health related sectors.”

The other 50 percent think that Ghana does not have adequate skills in any of the public health specialties, and felt the need for new skills in all areas. The need was felt to train more Health Officers at the community level, and specialists in disease control, entomology, epidemiology, biostatistics, monitoring, evaluation and policy analysis, strategic leadership, health information and communication. The GHS specifically needs more epidemiologists and clinical specialists at each sub district and community level, as well as policy analysts and economists.

When asked about the role of the SPH, GHS leadership agreed that the SPH is fulfilling the purpose of its establishment i.e. training PH professionals for the district, that the quality of training at the School is impressive, and that there is the shortage of faculty at the school. They are rather disappointed at the paucity of research activity.

The GHS currently runs in-service training courses independently of the SPH, at all levels of the health care system for various categories of cadre (in-service coordinators from all teaching and regional hospitals and most districts) in adolescent health, reproductive and child health,

and in TB and Malaria control. There is training in health systems operations at the district and regional levels for senior management personnel.

The Ghana Health Service assisted with the initial establishment of the School. Otherwise, no formal relations exist between the two bodies. There are good informal relations though. Ghana Health Services personnel act as part-time faculty at the School of Public Health and the GHS provides a large number of clients for the MPH course at the school. Similar to findings from the MOH, the relationship between the school and the GHS is characterized by:

- A lack of adequate remuneration for part-time lecturers from Ghana Health Services
- A lack of communication and exchange of information between the two bodies
- Failure of the School to provide consultancy services to GHS.
- The absence of research links between the School and GHS. The School could source funds from GHS for research activities and in turn subsidize training of GHS staff who will like to join the school. Technical staff of GHS could facilitate student's field work and program managers of Ghana Health Services used as trainers in the school.

If the SPH were to expand public training programs at the graduate level, the priority should be to produce cadre with skills ranging from microbiology, epidemiology, applied epidemiology, disease control and demography, to health systems management, investigative surveillance approaches and research competence. Public health service personnel with MPH would need to return to the school for continuous training in human resource development, health financing and policy analysis. On the other hand the SPH could run short courses for the GHS.

They admit that SPH should also introduce short courses aimed at middle and senior management personnel to augment existing skills in the following areas:

- Management information systems
- Program implementation and evaluation
- Disease control
- Strategic leadership
- Policy analysis
- Financial management
- Health systems management
- Service delivery

The GHS has relations with other professional schools including GIMPA, Nouguchi Institute and JHSPH.

- GIMPA offers planning and management courses for senior management staff of Ghana Health Services
- Nouguchi is collaborating with Ghana Health Service in some areas of research.
- Programs with JHSPH information group in knowledge management.

Public Health Specialists (including former students of the SPH)

The major public health challenges in Ghana include the absence of public health awareness among the population, and the great disconnect between clinical care and public health. These challenges are compounded by inadequate government policy for public health.

Government needs to institute the creation of public health sub-units within all health institutions, which will be manned by personnel with formal PH training. PH physicians and nurses would be assigned specifically to these units for the purposes of disease surveillance and data collection, disease control, occupational health etc. These units will also be responsible for liaison between PH intellectuals and the population, for the purposes of health education, information dissemination and development and implementation of behavioral change interventions within each institution's client catchments area.

The current public health capacity in Ghana is inadequate to meet the PH challenges. Presently, the SPH is the only one for training PH professionals at the Master's level. This has resulted in a limited production of public health professionals. The inadequate human resource is further depleted by the brain drain of Ghana's more qualified personnel. Lack of motivation and equipment for health workers at the grass root level consistently leads a rural - urban drift.

In order to deal with the PH challenges in the country, there is also a dire need to build more PH capacity both in terms of caliber and numbers and to equitably manage these personnel. There is a need to build capacity in the different specialties and sub specialties of Public Health, for example environmental and occupational health, information management and dissemination. PH personnel in Ghana need to sharpen their writing and research skills. Apart from PH specialists, this environment needs clinicians and other medical staff who have a public health perspective of health issues.

PH specialists are somewhat restricted to working within the health system, which is very much restricted by the economy and the lack of funding. A few work as consultants to the various NGOs, donors and UN organizations. In order to attract this caliber of PH professionals, the School can promote consulting to these organizational, and allow faculty to keep some of the proceeds – as is done in other institutions and other African countries.

Fortunately, the quality of graduates from the SPH is very high – if anything, for a general MPH, the requirements are too strict and program too intensive. Quality work is demanded from students which is a good thing. Even though some recent graduates are not as confident and assertive as the former products of the school (as PH pioneers in the districts, the initial crops of students were thrust into various PH and leadership positions and had to learn to 'swim or sink'), all graduates of the SPH are qualified and suitable for meeting the PH needs within the country.

The number of graduates turned out by the school to fill this human resource gap is inadequate, though an added advantage of having a small class size is that teaching and supervision of students is done effectively. In order not to compromise quality, multiple streams or tracks should be developed rather than having one large class of students, and more institutions should be mandated to run schools of PH. The SPH is currently incapable of training more PH personnel due to inadequate staff numbers, and overuse of part time lecturers. More full time

lecturers are needed for quality improvement and information diversity. There are no lecture rooms / infrastructure, inadequate logistics and equipment, very few computers, and internet access among other things needed to do quality work, and to effectively teach data analysis software. As students we were scattered all over the campus in the attempt to get our work done and to find unoccupied classrooms rooms in which to hold our lectures.

Former students of the School agreed on the following:

New skills which must be introduced or reinforced in training of SPH graduates are in the areas of

- Monitoring and evaluation
- Research methodology
- Writing skills – proposals, reports and scientific papers;

And that, even though the MPhil program offers research opportunities for those who seek to pursue it, emphasis should be placed on application of research methodology at the student-mentor level. Students with no management background/skills must have access to this teaching facility with emphasis on management planning and organizing, and human resource management. A PH training program should be developed for middle to senior level management in the health sector.

“If middle to senior level management have PH training we would certainly see increased production and improved/better use of resources.”

Donors, donor agencies and NGOs

According to the representatives of multilateral donors, bilateral donors, agencies and NGOs who were interviewed, the major public health challenges in Ghana include the prevention and control of communicable diseases like malaria TB and HIV/AIDS, public health problems like child malnutrition and associated morbidity, maternal mortality and family planning. Other big challenges for the country are road traffic accidents (RTAs), environmental sanitation and therefore environmental health, and occupational health.

Inaccessibility to health services due to socio-cultural barriers and ignorance leads to a lot of preventable deaths and complications from otherwise controllable or even curable diseases. Health education is desperately needed to effect behavioral change, including converting the mind set of health workers from a curative basis to a preventive basis; changing the total mindset of the population into having the right attitudes and practices which promote environmental sanitation and prevent illness; enhancing political will to promote health.

There is no united effort by PH agencies to tackle problems together. Various interest groups look at problems from different perspectives. What is needed is intersectoral collaboration

“Sexual and reproductive health is still an issue; especially men’s reproductive health. At the moment government and PH people are concentrating a lot on HIV/AIDS and its treatment. Within a few years, we will have problems with STI’s again unless STI prevention is run along with HIV and dealt with now”

An NGO Representative

The human resource problems are very challenging. Even though Ghana has a number of well qualified public health personnel, they are not adequate to meet existing and emerging PH challenges, in terms of both numbers and ability. Inadequate human resource is also attributable to the brain drain.

A disconnect exists between MOH and MOE, therefore the training curriculum in public health schools is not adapted to policy reform. Changes in the curriculum can be very difficult because of University governance requirements. Additionally, all doctors and other health professionals must be trained to some extent in PH at the undergraduate level during their community health rotations, so that they are prepared to meet some of these challenges when they are posted to the districts. Unfortunately they act purely as clinicians rather than health managers. On the other hand the CHPS program has expanded and is succeeding because trained public health practitioners are managing them appropriately. Other professionals outside the sector should also receive some PH training in order to operate effectively at the grassroots in collaboration with health sector personnel.

Trained PH personnel find it difficult to translate strategies on paper into implemented projects. There is a need for key PH persons with training in leadership and management, monitoring, evaluation and supervision, who are capable of translating various strategies into implementation. Specialists are needed in emergency organization, alert systems and response to prevent and control serious PH situations. More environmental health specialists are needed at the community and sub district levels since most of our health problems stem from environmental sanitation, as well as hygienists, nutritionists and technical officers.

There is a lot of information and baseline data available in the country. Unfortunately this data is not well collated and managed; therefore it cannot be used effectively to inform policy and programs. Programs must be evidence based and data well analyzed so that one can keep track of progress made over a period of time. The SPH should train students to collect and analyze data and to use these appropriately. The School could offer consultancy services to the MOH and GHS, to clean up and present all available data in useable form.

The need for more money to support public health cannot be overemphasized. One representative said:

“Since we don’t have the right attitude towards PH less money is put into its development. We need public health people who are specialized in financial management.”

The SPH needs to broaden its scope and increase the number of students admitted into the school. Essentially human and financial resources are needed by the school in order to train larger numbers with the same quality or even with added skills. Emphasis should be on developing the human resource (trainers) because if funding is given by various donors and there are no skilled people to do the training, end results will not be achieved. The SPH needs self-evaluation - an assessment of what has already been achieved, and to determine the areas in which additional public health capacity is needed. Without the advantage of this evidence, there is still an obvious need for capacity reinforcement in reproductive health, to address issues of high infant and maternal mortality and the high incidence of HIV/AIDS in mothers and

children, as well as with data and computer skills (biostatistics, data documentation and analysis), planning, monitoring and evaluation.

Considering complaints about cost of tuition and living expenses, if the tuition could be made cheaper more people would join the program - tuition is far in excess of the salaries made by potential students of the SPH - but attempts to reduce costs may compromise the quality of the program. If modular/part-time programs were introduced more people would enroll because the costs would be spread out, and enrolled students could continue to work in order to pay their fees. An important addition would be to introduce evening or week-end classes for those with current full-time employment, once the SPH faculty has grown adequately.

Programs should be developed for creating avenues for people without university degrees to receive PH training at the school. Presently UG regulations do not admit non-degree holders into graduate courses, even though KNUST and Cape Coast University do. More short courses should be developed to meet the human resource needs. These could be focused at personnel who simply need to acquire the skills and do not necessarily have to be degree or certificate awarding. But then again these options depend on having a much larger faculty corps.

A couple of donor representatives who have been through the SPH (former students) had this to say:

“When I was in school which was only last year, we had to be moving around with our chairs on our heads from one point of the school to another. Sometimes, while we are seated waiting for the lecturer we will get a message directing us to take our chairs, sit in a bus waiting outside to take us to another lecture theatre because the previous one had to be used by students in that department. This idea of public health schools without walls is totally unacceptable. It is not fair on the student and wears the student out.”

“PhD – they expect you to be full time. I am personally interested but to stop working in order to join the program will be difficult. The MPhil is no guarantee that you will get into the PhD program and since that is full time only there is no point, unless you want to be a full time lecturer at the SPH.”

All said and done, the pioneers/ first sets of graduates from the SPH are actively making a difference. They are all in influential PH positions and holding their own in these positions. If the newer crops of students come into public health not because of financial expectations, but with the mindset to make a difference then they will also be effective at their posts.

When asked if their organizations would support the SPH if it were to expand its curriculum to include advanced training in policy, leadership and management, donor representatives gave a wide range of responses:

“Yes, by way of sending volunteers to lecture on periodic or part time basis.”

“We could support in-service training at the community level and try to strengthen the health systems.”

“...some funding. Funding can only be given if proposals fall in line with our programs and government policy, e.g. helping to strengthen the reproductive health unit with some emphasis on family planning.”

“It all depends on the kind of proposal we receive from the school. We mainly do not support training but if this proposal were to fit into the government’s plan then we would consider it and be able to provide some funding.”

“We could support student fellowships in other countries. Faculty location and identification from among our consultants etc, continuing education of SPH faculty. We could also provide literature and research materials.”

... AS A REGIONAL TRAINING CENTER

All said and done, the SPH is well positioned to play a leadership role in developing regional public health training programs in West Africa. The School has great potential for growth and the necessary basics which can easily be added on to make it a regional center. Already, the SPH attracts a diverse population of students from all over Africa for training each year. Given that Ghana currently has a stable government, this is also a good place to position such an investment.

Major barriers to SPH assuming a leadership role in a regional public health training network are inadequate number of staff and research activities to support the program; and the lack of funding for infrastructure, equipment, vehicles and field trips. If the school should be involved in different research activities, this would also attract more people to join the school. However, it is important that the training programs be designed to meet the peculiar needs of the individual countries within the sub region, and the curriculum should be dynamic in order to meet upcoming public health needs as time progresses.

Care must be taken in drawing up a strategy for such a center. The example of RIPS is cited, where after what initially looked like a big success story, the U.N. withdrew financial support, other regional partners started similar or larger centers in their countries, and finally students from these countries stopped coming in to RIPS. On that basis, some think that there was no need for another regional centre. If, on the other hand, SPH faculty were to establish local partnerships, launch out into consultancy, apply for research grants on a large scale, and pursue publishing in peer review journals; potential students would be perennially attracted to the institution, the corps of faculty would be expanded, and funding for expansion and development of the School as a regional center would be ensured, in the inevitable event of international donor fatigue.

A SWOT ANALYSIS
Strengths and Weaknesses

	STRENGTHS	WEAKNESSES
Faculty and Staff	<ol style="list-style-type: none"> 1. A core of well trained, experienced and dedicated staff 2. Several years of teaching experience 3. Rigorous selection process of staff that ensures and sets high standards 4. Cordial relationship between all staff and faculty 	<ol style="list-style-type: none"> 1. Inadequate numbers of faculty 2. Overburdened and overworked faculty 3. Poor conditions of service leading to failure to retain faculty and staff and to attract new ones 3. Few faculty actively engaged in research and service 4. Larger number of faculty are part-time or retired and on contract
Students	<ol style="list-style-type: none"> 1. Good programs and quality of staff attracts the best students 2. Highly competitive and transparent admission process ensures high caliber of students admitted 3. Good MPH and MPhil products 	<ol style="list-style-type: none"> 1. Ineffective relationship between most MPH students and faculty/staff (ineffective tutorial system) for research purposes and for supervision of dissertations and thesis 2. Inadequate mentorship 3. Lack of information technology 4. Lack of incentives to curb brain drain 5. PhD product not yet tested
Facilities and Infrastructure	<ol style="list-style-type: none"> 1. Malaria Project building completed 2. Gate's building for Department of PRFH under construction 3. VSAT system currently being installed 4. Few computers available for staff use 	<ol style="list-style-type: none"> 1. No building for the SPH 2. Weak ICT capacity, absence of local area network 3. Few computers available to staff and students, lack of strong /continuous internet access for effective research, communication and distance education; lack of equipment for tele-conferencing. 4. Inadequate supply of modern teaching aids like audio-visual aids 5. Poor research facilities 6. Only institution currently running masters and doctoral program for PH training

		<p>7. No well stocked or modern library in the school</p> <p>8. Inadequate transportation facilities</p>
Training Curriculum and Program	<p>1. Intensive and comprehensive program represents totality of PH and produces excellent PH practitioners</p> <p>2. Includes intensive field work and opportunity to gain hands on experience in district</p> <p>3. Meets national and international standards</p> <p>4. Meets MOH need for Directors of DHMT with formal MPH training</p> <p>4. Covers masters, masters in philosophy and doctoral programs</p> <p>5. Cost effective training</p> <p>6. Successfully run short summer courses in Social Mobilization and Occupational Health</p> <p>7. Strategic plan for SPH currently being developed in line with that of the College of Health Sciences</p> <p>8. School organized into six departments each with a head to ensure that curricula are developed and effectively taught in each of the different disciplines</p>	<p>1. Inadequate numbers of PH personnel turned out</p> <p>2. General MPH training – no specialists turned out</p> <p>3. Each course overloaded with information (as though for specialists) and students overburdened</p> <p>4. Very little time reserved for dissertation</p> <p>5. Products deficient in certain important skills – proposal writing, research, data management and analysis, leadership and advocacy etc.</p> <p>6. Does not run programs for non-degree holders, part-time students and long-distance education</p> <p>7. No long term (5-10 year) vision and strategic plan not yet complete</p>
Research and Knowledge Dissemination	<p>1. Excellent example of combining research with teaching and administrative duties by SPH leadership</p> <p>2. Human resource capacity for cutting-edge research</p> <p>3. Some publications in reputable journals</p> <p>4. Good database of ongoing research available</p>	<p>1. No time beyond teaching and supervising students to undertake effective research</p> <p>2. Inadequate capacity for research</p> <p>3. Inadequate research support staff</p> <p>4. No university funding for research therefore funders dictate research interests and topics</p> <p>5. Very few publications in peer-reviewed journals</p>

	5. Growing international linkages in proposal writing and joint research projects	6. Poor links with government and industry for research contracts and research application, therefore research not influencing policy
Services	<ol style="list-style-type: none"> 1. Quality teaching 2. Quality products 3. Highly recognized institution 4. Alumni are key players in national and international organizations 	<ol style="list-style-type: none"> 1. Little service currently rendered by the school to the public 2. Inadequate human and financial capacity to mobilize, develop and perform services 3. Not yet a PH center of excellence for the sub-region
Collaboration/ Partnership	<ol style="list-style-type: none"> 1. Good relationships and healthy collaboration with a few international leading PH institutions,(JHSPH, LSTM etc.) 2. Location in the capital gives proximity to the seat of government 3. Reasonable informal relations with staff of MOH, GHS and past graduates who are part-time lecturers of the school 4. Aggressive fundraising 	<ol style="list-style-type: none"> 1. Absence of aggressive marketing to local sister departments and institutions 2. No formal involvement in development of national health policy 3.No formal relationship with MOH and GHS for training, research and service purposes 4. Unattractive remuneration of part-timers

Key Opportunities and Threats

	OPPORTUNITIES	THREATS
Economic	<ol style="list-style-type: none"> 1. An increase in commodity prices will bring in more funds 2. Within the new collegiate system, there is opportunity to generate independent income from fee-paying students, and external partners 3. Improved salaries and conditions if service which will attract and retain more faculty 	<ol style="list-style-type: none"> 1. Inflation 2. Rise in oil prices 3. Currency depreciation 4. Poor investment climate 5. Global and national economic instability 6. Heavy dependence on government subvention 7. Low salaries which affect recruitment, productivity, motivation

		<p>and staff retention</p> <p>8. Inadequate facilities</p> <p>9. Brain drain</p>
Technical	<p>1. Ownership of intellectual property</p> <p>2. Advances in research and development for growth and recognition of the school</p> <p>3. ICT to improve opportunity for teaching, research, service and administration</p>	<p>1. Limited accommodation and teaching facilities</p> <p>2. The complexity in acquisition, installation operation and maintenance of technology</p> <p>3. Inability to develop, acquire and apply new technology</p> <p>4. Inadequate use of ICT</p>
Social	<p>1. A ready market for training, research and services driven by an urgent need for these</p> <p>2. Good informal relationships with the public and other institutions</p> <p>3. Various stakeholders have a positive view of the school in terms of quality of training, ability and potential to grow</p> <p>4. Relatively low HIV/AIDS prevalence</p>	<p>1. University student and staff unrest</p> <p>2. Poor work ethics</p> <p>3. Demographic issues among students and staff – gender, regional balance, professions etc</p>
Political	<p>1. Stability and good governance allows for long term planning</p> <p>2. Goodwill from national and university government, industries, international institutions and agencies</p> <p>3. Lobbying for improved funding and favorable legislation</p>	<p>1. Political instability</p> <p>2. Pressure from the opinions of people (as contained in this document) may affect implementation of decision and services</p>
Legal	<p>1. Copyrights for innovation to improve training, research and service</p>	
Education and Health Sectors	<p>1. Links with other institutions</p> <p>2. Opportunity to become a regional center and/or center of excellence</p>	<p>1. Competition with other and upcoming institutions</p> <p>2. Falling standards in pre-university education is likely to affect quality of products and the reputation of the school</p> <p>3. Brain drain</p>

CONCLUSIONS AND RECOMMENDATIONS

In this section recommendations will be made to strengthen the UG School of Public Health. These are based on the findings of the study which have been summarized in the SWOT analysis in the section above.

A. School of Public Health

The SPH is highly recognized for its role in producing quality products, all of whom are have key management and leadership positions in national and international organizations. The School is a growing institution with a bright future, and great potential to develop into a center of excellence for training public health professionals for the entire sub-region and from all over the continent. There is a ready market for such an institution, based on an urgent demand for training, research, and services that are needed to meet the similar and growing public health needs in this region. However this will be realized only when a number of pertinent issues based on the twin problems of inadequate manpower and infrastructure are resolved.

Improving faculty and staff capacity

The SPH is severely understaffed and the faculty overworked. There is an urgent need to develop faculty and trainers in all fields of public health, so that specialized training in the different fields can be done; as well as research and programs.

For the short term

1. The SPH needs to develop programs to strengthen its existing faculty capacity. The School should:
 - Require faculty to build individual capacity; by writing grant proposals, undertake research and start publishing in peer review journals in order to develop capacity for research-based teaching
 - Facilitate interdisciplinary research between the departments in the School
 - Encourage present faculty to take full advantage of the sandwich programs and seed grants available through the partnership with Hopkins
 - The SPH/ Hopkins link has been an outstanding achievement, and could serve as a model for other potential programs. The SPH should establish faculty training exchange programs with other regional and international institutions
 - Seek donor funding to support research in areas of faculty interest e.g. malaria and HIV in pregnancy, implications of the NHIS for mothers ad children, adolescent reproductive health; as well as research into emerging public health needs, e.g. reproductive health issues which lie at the confluence of demography and population, the epidemiological and fertility transitions in Ghana
 - Remunerate faculty who bring in grant money by paying them a certain percentage of the funds
 - Pay competitive incentives to full-time faculty from grant money, who will then be committed to teaching and mentoring students

- The school should institute various evaluations and assessment mechanisms for faculty and staff in order to maintain a high standard of work.
2. The School needs to collaborate with other UG faculty, as well as other Ghanaian and international training institutions in order to build partnerships for training, research and service, with mutual benefit for both partners.
 - Increase the potential part-time faculty base and student mentoring through faculty exchanges and shared time with partnering institutions
 - Attract social scientists as faculty at the School, integrate social science with the biomedical sciences, to improve teaching, research validity and inform planning and the successful implementation of community based programs /services.
 - Propose the integration of RIPS into the SPH to increase full-time faculty, student mentoring, research grants, funds and equipment, and provide ready-made curriculum for the population track of the Department of Population, Family and Reproductive Health
 - Urgently collaborate with UG Business School and other schools of management and administration, to help draw up a strategic leadership and health management curriculum for the Department of Health Policy, Planning and Management; for more part-time faculty and mentors; to help manage programs; and assist the School to apply research information to inform policy
 - Collaborate with CERGIS to augment training in leadership, management, monitoring and evaluation
 - Partner with the School of Nursing to develop new curricular e.g. for Public Health Nursing; to provide part-time lecturing, to coordinate clinical and community-based studies, and to supervise students project work and research
 - Continue partnering with Nogouchi and faculty of UGMS on a larger scale.

For the longer term,

1. Depending on availability of funding, the school must aggressively seek to appoint additional full-time faculty who will be fully funded from grants but appointed and operate as full members of the university faculty
2. Formally negotiate with the MOH and GHS for joint appointments of field supervisors, field technicians and part-time lectures
3. The SPH should build up funds, again through research, in order to offer competitive and attractive remuneration to qualified staff from the MoH, GHS, NGOs, the UN system, and from other institutes and colleges who are Paid pittance by the UG as part-time faculty
4. The SPH should aggressively build up a new cadre of junior faculty
 - Identify and pursue promising young students/professionals with an interest in research
 - Attach them to faculty, in their area of research, who will mentor them fully through the completion of their dissertations
 - Promptly establish a scholarship/endowment fund in order to offer adequate them adequate enticement into the school as research fellows, M Phil students, PhD students, and junior faculty with the goal to develop them into full time faculty

- Train them through structured courses in research and quantitative methods during the first year of the M Phil and PhD programs
 - Offer them adequate remuneration for any research assistance which they provide for faculty during their training
 - Offer this corps of potential faculty attractive and competitive salaries, as well as a healthy research environment, beyond what the UG and other employers offer
5. SPH should undertake greater lobby for increased government funding for student scholarships.

Improving/ expanding programs and curricular

Presently, the school trains public health practitioners, only at the graduate level, for governmental organizations, quasi-governmental and private organizations. In order to train more PH people, and specialists, the SPH should be helped to expand. The School runs a very popular MPH program, and has the potential to seat 100 students if the necessary infrastructure and human resource were in place.

There is great potential for growth and a demand for the SPH to expand into new programs. Programs and services need to be maintained and expanded to serve other consumers. In order to train more PH people, and specialists, the SPH should be helped to expand and should provide:

1. More seats for the current MPH program
2. More in-depth and specialty training in several areas of public health. For e.g. TB, HIV/AIDS, and IEC programs; Managing health systems, health budgets, and health service organization; population and demography, adolescent and child health; monitoring and evaluation.
3. Training to PH professionals in strategic leadership, quantitative and research methods, policy analysis, quality assurance, advocacy and lobbying.
4. Part-time and modular MPH tracks for mid-management level personnel who require MPH training, as well as for those who cannot take time off work.
5. There is little or no continuing education for public health personnel. The demand on the School for short 'Summer' courses is great. The SPH needs to develop short courses beyond its Social Mobilization and Occupational Health courses to meet the demand of its clientele
6. The SPH needs to establish paper-based, CD ROM –based and eventually internet-based courses in order to expand its clientele through distance education, and to succeed as a regional institute.
7. The SPH should consider offering research and post-doctoral fellowships to professionals who have received graduate training in other institutions.

Training Curriculum – Even though the content and quality of training is comparable to that offered in international universities where more senior faculty had their training. It is the general consensus that the curriculum is a little over packed. Currently, existing curricular are being reviewed and new ones developed.

1. The number and content of core courses must be reviewed by all stakeholders, in order to maintain the broad-based training currently offered, without the detail currently offered by some of the courses.
2. New curricular should be developed in consultation with other schools and institutions for specialized tracks in PH. including the Health Policy Planning and Management

Department, Epidemiology, Biostatistics and Research Methods Departments, in order to generate skills in biotechnology, data management, strategic planning, monitoring and evaluation, research methods etc.

3. Where there is the need for further specialization, a specialized module could be developed for an additional year which could give the graduates depth in specific areas for an MSc in PH.
4. For the longer term, curricular are needed for training specialists in emerging PH problems like non-communicable diseases (prevention and control) as well as in population related PH problems
5. Diploma and undergraduate courses should be designed for non-degree holders and for the UGMS to increase the PH human resource base.
6. Courses must be developed the retraining health personnel with no previous public health training
7. Faculty must develop innovative ways of transferring the information and skills to students, in order to facilitate the learning process and expand on some of the courses taken during the MPH to strengthen research work.

Converting field sites into centers of excellence

The SPH Field Residency Program actually diagnoses and provides solutions to public health problems in almost all districts in Ghana. The SPH should relentlessly pursue the concept of developing some of the current field sites into Centers of Excellence for the disease conditions and PH problems peculiar to each site, and to undertake longitudinal studies. This will require:

1. Dedicated full time researchers who will be based at these centers to mentor students through the research experience
2. Functional biomedical laboratories at these sites
3. On-site MOH technicians and technologists and other supportive staff
4. Internet connectivity of field sites to link up with other research facilities and for sourcing information
5. Teleconferencing facilities with other field sites and with the SPH
6. Improved accommodation and residential infrastructure
7. Active and wider dissemination of research findings for use by policy makers, international organizations, NGOs and other researchers.

Physical Infrastructure

Growth in the SPH has not kept pace with the nature of the demands that are increasingly placed on it. While government subvention has consistently declined in real terms, the number of applicants has increased steadily - meaning fewer resources per student with each passing year. In the face of unrelenting demand for places, the School and its faculty are struggling to find resources to expand their infrastructure – residential, teaching research, administrative – to ensure that the quality of education is not compromised.

Presently the SPH does not have a permanent departmental building, rather uses various university buildings for different purposes.

For the short term:

1. The School needs to promptly complete the first wing of the school complex which is currently under construction, before the next school year begins, in order to accommodate the larger number of students admitted to the Department of Population, Reproductive and Family Health this year. This will involve:
 - Roofing, airconditioning, furnishing and equipping the various offices, classrooms and labs
 - Equipment (computers, printers, stabilizers etc) to install functional ICT laboratory with technical support
 - A fully equipped and functional Biomedical laboratory
 - Projectors, screens, loudspeakers and other audio-visual equipment to facilitate teaching in classrooms and lecture halls

2. The need for fast Internet connectivity and round the clock Internet access is necessary, if both staff and students are going to find quality information and stay abreast with PH issues. Ideally the school requires a wireless network in order to communicate in real time as well as ICT facilities at all field sites, which should be linked by the VSAT in order to facilitate research and distance education.

3. Library facilities at the School are woefully inadequate.
 - The school must build a bigger and fully stocked library with reading and reference material relevant to all the departments to ensure quality work by both faculty and students
 - The SPH must have an up-to-date electronic library with access to relevant academic and research journals to ensure excellence in research

4. Due to overpopulated campus and an overload on electricity supply, load-shedding and power-cuts at the UG are a common occurrence. It is vital for the School to acquire a stand-by generator to maintain electricity supply.

Infrastructure is crucial for long term planning and progress. For the longer term,

1. The School must source for funding in order to complete the last two wings of the SPH complex. This is necessary to provide office space for the Director of the SPH, SPH administration, SPH libraries, the five other departments, common rooms, and more classrooms, lecture halls and laboratories – i.e. to house the entire school within a single complex.

National Service

The SPH needs to play a pioneering role in advocating political commitment to a public common public health agenda in Ghana. This will be accomplished by:

1. Collaborating with GHS, SPH, as well as other government and non-government stakeholders to define what the role of public health is in Ghana
2. Assisting government to undertaking a comprehensive public health diagnosis at the national level to outline all the public health challenges in Ghana
3. Conducting a burden-of-disease analysis
4. Outlining a public health vision for the near, medium and long term

5. Articulating clear guidelines as to how to attain this vision
6. Setting policy directives to facilitate the achievement of set goals and targets
7. Determining numbers and types of human resource needed to deliver the above
8. Most importantly setting nationwide targets for public health training, manpower development and community based capacity building, which should be followed diligently.

Community programs

This is a very weak area for the SPH. Only SPH staff seconded from the GHS or MOH still do some community service. The problem is that the few faculty are already overburdened and have little time left over for community mobilization and advocacy. There is no funding and inadequate remuneration for offering services.

- The SPH has to determine which health programs are needed by the population
- Identify programs of interest
- Partner with other groups that are interested in the programs of interest to the SPH
- Embark on and strengthen health education programs
- Design and implement these programs
- Offer students various opportunities for voluntary community service.

Self-Study

In order to maintain (even improve) on a high quality of teaching given by the School; the SPH needs to undertake proper evaluation. The SPH needs to initiate regular self-study by a committee comprising faculty, staff, students, alumni and community representatives. This will entail evaluation of the academic, research, service, governance and other components of the school. The committee will have to produce a comprehensive report which will serve as a basis for the schools strategic planning.

B. The MOH and GHS

Human resource management

The current health workforce in Ghana is grossly inadequate for meeting the existing public health challenges, not to mention the emerging PH problems. This crisis in human resources can only be resolved if the two biggest employers in the country intensify efforts to train a much larger cadre of PH practitioners and specialists, and develop their human resource management capacity.

1. The human resource units of MOH and GHS need to intensify efforts to train a much larger cadre of PH practitioners and specialists. This should involve:
 - Determining which PH and program skills are needed by GHS and MOH personnel
 - Determining what the health sector and other sectors need to consolidate these PH skills and programs
 - Funding the training of larger numbers of PH personnel
 - Assisting SPH and other training institutions to expand infrastructure, productivity of public health professionals

- Increasing program and research exchanges with the SPH which has a pivotal role to play in the development of these professionals.
2. The MOH and GHS need to develop their human resource management capacity, in order to efficiently and effectively manage the limited public health personnel available in a collaborative manner. This should include:
- Equitable and timely placement of PH personnel in all districts across geographic areas
 - Expediting intersectoral transfer of personnel where relevant
 - Making PH practice more attractive in terms of adequate remuneration, in-service training and research opportunities
 - Sponsoring/ funding further training of PH personnel in relevant specialties, in order to gain skills necessary for attaining the national PH agenda
 - Determining new ways to retain PH capacity besides rural allowances and increased training of community and public health nurses within these regions
 - Collaborating to avoid replication of efforts by the two employers

APPENDICES

Appendix 1: LIST OF PERSONS INTERVIEWED

University of Ghana School of Public Health

Prof. Isabella A. Quakyi	-	Director of the School
Dr. Omar Ahmad	-	Course Coordinator / Head of Department of Biostatistics and Research methods
Dr. Matilda Pappoe	-	Head of Department of Social and Behavioral Science
Dr. Phyllis Antwi	-	Head of Adolescent Health Unit
Mr. E. Poku-Sarkodie	-	Assistant Registrar

Ministry of Health

Dr. Edward Addai	-	Director, Policy, Planning, Monitoring, and Evaluation
Mr. James Antwi	-	Assistant Director, Human Resource Unit
Mr. Sam Quarshie	-	
Dr. Irene Agyepong	-	Regional Director of Health Services, Greater Accra
Nana Enyimayew	-	Director, Ghana Ambulance Service

Ghana Health Service

Dr. Sam Adjei	-	Deputy Director General
Dr. Ken Sagoe	-	Director, Human Resource Division
Dr. George Amofa	-	Director, Public Health Division (Part-time faculty, SPH)
Dr. Frank Nyonator	-	Director Policy, Planning, Monitoring, and Evaluation
Dr. Gloria Quansah-Asare	-	Program Manager, Reproductive and Sexual Health Unit (Part-time faculty, SPH)

University of Ghana (UG) Administration

Prof. C. N. B. Tagoe	-	Acting Vice Chancellor, UG and Provost, College of Health Sciences
Mr. Yeboah	-	Acting Registrar, UG and Registrar, College of Health Sciences
Prof. Songsore	-	Dean of Graduate Studies
Dr. Antwi-Danso	-	Dean of International Students
Mr. Akpefedonu	-	Director, Human Resource and Organizational Development Directorate

University of Ghana Faculty outside the SPH

Prof. Britwum	-	Vice Dean, UGMS and former Head, Department of Community Health, UGMS
Prof. Ashitey	-	Consultant and Lecturer, Department of Community Health, UGMS
Dr. Amamoo-Otchere	-	Executive Director, Center for Remote Sensing and Geographical Information Services
Ms. Mary Opare	-	Acting Dean, School of Nursing

Public Health Specialists

Prof. Ofosu-Amaah	-	First Director, SPH
Dr. Amanuah Chinebuah	-	Adabraka Polyclinic (Past Student, SPH)
Dr. Nana Ama Brentuo	-	WHO Country Office, Child Health Desk (Past Student, SPH)
Dr. Charity Brako	-	Medical Superintendent, Tema General Hospital (Past Student, SPH)

Multilateral Stakeholders

- WHO
- UNICEF
- Gifty Addico and Emmanuel Tofotsi - UNFPA, Reproductive Health (**Past Student, SPH**)
- UNFPA, Assistant Representative (**Past Student SPH**)

Bilateral Stakeholders

- Juliana Puamang - Health Program Coordinator, USAID
- Emmanuel Essando - Program Management Specialist, USAID
- George Graves Wood - Program Officer, JICA

Non-Governmental Organizations

- Madam Fatimata Sy - Director, FHI Regional Office
- Dr. Agnes Djokoto - FHI, Country Office
- (**Part-time Faculty and Past Student, SPH**)
- Mr. James Boateng - Administrative Manager, CHAG
- Mr. Alex Banful - Managing Director, GSMF

Appendix 2: DATA TABLES AND FIGURES

Table 1: Sector-wide Indicators and Targets

Indicator	2001 (baseline)	2002 (achievement)	2003 (targets)	2004 (targets)	2006 (targets)
<i>Improved Health Status</i>					
Infant Mortality Rate per 1000 live births	57				50
Under 5 Mortality Rate per 1000 live births	108				95
Maternal Mortality Ratio / 100,000 live births	214				150
Under five who are malnourished	25		23	22	20%
HIV sero prevalence	3	3.4 (1.6-8.5)	3.8	3	2.6%
Tuberculosis Cure Rates	44.9	48.9	50	65	85%
Guinea Worm cases	4733	5545	1000	800	0
Under 5 malaria case fatality rate	1.7	NA	1.5	1.2	1%
<i>Improved Service Outputs and Health Sector Performance</i>					
Outpatient per capita	0.49	0.48	0.55	0.6	0.6
Hospital admission rates / 1000 population	34.9	33.3	36	38	40
Bed occupancy rates	64.6	60	70	65	80%
% Family Planning acceptors	24.9	21.6	25	28	40%
% ANC coverage	98.4	133.4	99	99	99%
% PNC coverage	54.2	76.1		55	60%
% Supervised deliveries	50.4	74.7	55	80	60%
EPI coverage (DPT3)	76.3	111.6	80	100	85%
EPI coverage (measles)	82.4	119.3	85	100	90%
No. of specialized outreach services carried out	141	158	NA	158	NA
<i>Improved Quality of Care</i>					
% Tracer drug availability	70	NA	85	90	95%
% Maternal deaths audited	10	50-84	20	35	50%
AFP non polio rate	2.8	NA	3	3.5	4%
<i>Improved Level and Distribution Health Resources</i>					
Doctor to Population ratios by region	1:22,811	1:21,086	1:20,500	1:20,500	1:16,500
Nurse to Population ratios by region	1:2,043	1:2,079	1:1,800	1:1,800	1:1,500
No. CHPS compounds established				400	
% GoG budget spent on health	9.1	11.1	8	12.9	10%
% GoG recurrent budget spent on health	10.2	11	12	14	155
Proportion of non-wage recurrent budget spent at district level	48.6	40.9	43	43	43
% Donor funds earmarked	62.3	NA	50	45	40%
% IGF from pre-payment and	3	NA	5	10	20%

community insurance schemes					
% recurrent budget from GoG and health fund allocated to private sector, CSOs, NGOs and other MDAs	1.2	NA	1.6	1.8	2%
Recurrent budget spent on exemptions	3.6	3.2	5	6	8%

Source: MOH Annual Programme of Work 2004

Appendix 3: SCHOOL OF PUBLIC HEALTH DATA

ACADEMIC STAFF (Part-timers to be updated)

Prof. I. A. Quakye	-	Director / Head of Department of Biological Issues in Public, Environmental and Occupational Health
Dr. E. Amuah	-	Field Coordinator
Dr. O. Ahmad	-	Course Coordinator / Head of Department of Biostatistics and Research methods
Dr. F. Wurapa	-	Head of Department of Health Policy, Management and Planning
Dr. R. O. Asante	-	Head of Department of population, Family and Reproductive Health
Dr. M. Pappoe	-	Head of Department of Social and Behavioral Science
Prof. F. N. Binka	-	Head of Department of Epidemiology
Dr. Phyllis Antwi		
Dr. P. Kuranchie		
Dr. J. Gyapong		
Dr. M. Gyapong		
Dr. G. Amofa		
Dr. G. Quansah-Asare		
Dr. J. Tuakli Ghartey		
Mr. J. N. Fobil		
Mrs. J. Stephens		
Mr. U. McKakpo Selome		
Mr. I. N. Soyiri		
Mr. H. Noye-Nortey		
Dr. A. B. Quainoo		
Dr. W. Bosu		
Dr. E. Amuah		

ADMINISTRATIVE STAFF

Mr. E. Poku-Sarkodee	-	Assistant Registrar
Mr. J. O. Tetteh	-	Chief Accountant
Mr. E. Boateng	-	Course Secretary
Mr. A. Quansah	-	Administrative Assistant
Mr. E. A. Hormeku	-	Administrative Assistant
Mr. S. Soroku	-	Accounts Clerk
Mrs. C. A. Afetsi	-	Senior Clerk
Ms. N.Y. Agbanu	-	Clerk Grade II
Ms. E. Takyiwaa	-	Typist Grade II
Mr. S. Zong-Bil	-	Messenger
Mr. R. Awartey	-	Messenger
Mr. B. Akafo	-	Messenger

SPH BUDGET

2004 SUBVENTION	-	294,805,714.39 cedis
PROJECTS GRANTS		
(1) WHO	-	WHO/ Malaria Project
		\$50,000
(2) PFRH Project	-	Johns Hopkins Population, Family and Reproductive Health Project
		\$30,027
		\$36,121
		<u>\$84,352</u>
		\$150,500
(3) Rockefeller Foundation	-	MSc Informatics
		\$41,000
(4) CDC	-	\$39,990

STRUCTURE OF THE SPH DEPARTMENTS

(i) Units of the Department of Health Policy, Planning and Management

- Health Financing and Economic Aspects of Health
- Management
- Health Systems Research
- International Health

(ii) Units of the Department of Population, Family and Reproductive Health

- Population Unit
- Family Health Unit
- Reproductive Health Unit
- Adolescent Health Unit

(iii) Units of the Department of Biostatistics and Research Methods

- Biostatistics and Research Methods
- Health Informatics

(iv) Units of the Department of Epidemiology

- Epidemiology Unit
- Disease Control Unit

(v) Units of the Department of Biological, Environmental and Occupational Health

- Biological Basis of Public Health
- Occupational Health
- Environmental Health
- Ecology Unit

(vi) Units of the Department of Social and Behavioral Science

- Health communication
- Health Promotion
- Theory and Research
- Social and Behavioral Science

UGSPH FACULTY LIST / AREAS OF EXPERTISE

	NAME	FORMAL TRAINING	EXPERTISE	PART TIME (P) / FULL TIME (F)
DEPARTMENT OF EPIDERMIOLOGY				
1	PROF F. BINKA	MB ChB, MPH, PhD	PUBLIC HEALTHSPECIALIST EPIDEMIOLOGY	F
2	DR J. GYAPONG	MB ChB, MPH, PHD	PUBLIC HEALTH RESEARCH EPIDEMIOLOGY	P
3	DR W. BOSU	MD, MPH, MSc		
4	DR E. AMUAH	MB ChB, MPH	PUBLIC HEALTH SPECIALIST	F
5	DR K. KORAM	MB ChB, MPH, PhD	PUBLIC HEALTH EXPERT,	P

6	PROF B. AWUMBILA	MSc VET, DR MED VET, CERT. Tropical Vet Med	EPIDEMIOLOGY PUBLIC HEALTH EXPERT,	P
7	DR S.Y. YEBOA		EPIDEMIOLOGY PUBLIC HEALTH EXPERT	P
8	DR F. BONSU	MD, MPH	EPIDEMIOLOGY, PUBLIC HEALTH EXPERT,	P
9	DR L. AHIADZI	MD, MPH	EPIDEMIOLOGY	P
10	DR A. DZOKOTO	MB ChB, MPH	PUBLIC HEALTH / HIV SPECIALIST	P
11	DR K.O. ANTWI ADJEI	BSc, MC BH, MPH	EPIDEMIOLOGY	P
12	PROF G.B. AMOAH	MB ChB, PhD, MRCP, FWACS, FGA	CARDIOLOGY, EPIDEMIOLOGY	P
13	DR. JACK GALLEY	MD, MPH	PUBLIC HEALTH EXPERT	P

DEPARTMENT OF HEALTH POLICY PLANNING AND MANAGEMENT

1	DR F.K. WURAPA	MD, MPH, FWACP	PUBLIC HEALTH SPECIALIST, HEALTH POLICY & MANAGEMENT	F
2	MR A.A.D. OBUOBI	BSc, MPH	HEALTH POLICY, PLANNING AND MANAGEMENT	P
3	DR K. NIMO	MB ChB, MPH, MSPH	PUBLIC HEALTH EXPERT	P
4	DR K. SAGOE	MD, MPH	HUMAN RESOURCE, HEALTH PLANNING	P
5	DR I. AGYEPONG	MD, MPH	PUBLIC HEALTH SPECIALIST, HEALTH PLANNING	P
6	DR N.A. COLEMAN	MD, MPH	HEALTH INSURANCE AND POLICY	P
7	DR M.E.K. ADIBO	MD	PUBLIC HEALTH SPECIALIST, EPIDEMIOLOGY, POLICY & MANAGEMENT	P
8	PROF S. OFOSU-AMAAH	MD, PhD	PAEDIATRICIAN, PUBLIC HEALTH SPECIALIST, POLICY & MANAGEMENT	P
9	MR P. NOMO	MBA	PUBLIC HEALTH FINANCE, POLICY AND MANAGEMENT	P
10	DR M. AITKINS	PhD	EPIDEMIOLOGY SOCIAL SCIENCE, REPRODUCTIVE HEALTH, MATERNAL/ CHILD HEALTH	P
11	DR N. EYIMAYAW	MD, MPH	PUBLIC HEALTH SPECIALIST	P
12	DR D. DOVLO	MD, MPH		P
13	DR S. ACQUAH	PhD, MSC		P
14	MR P. BONI	MD, MPH	PUBLIC HEALTH SPECIALIST, POLICY AND MANAGEMENT	P
15	DR F. NYONATOR	MD, MPH	PUBLIC HEALTH SPECIALIST,	P

DEPARTMENT SOCIAL AND BEHAVIOURAL SCIENCES

1	DR E. TETTEH	MD, MPH	SOCIAL SCIENCE, HEALTH EDUCATION	P
2	MRS ARDAY-KOTEI	PhD		
3	PROF K. SENA	PhD	MEDICAL SOCIOLOGY, SOCIAL SCIENCE	P
4	DR M. PAPPOE	PhD	SOCIAL SCIENCE, HEALTH COMMUNICATION	F
5	PROF S.A. DANKWA	PhD	PSYCHOLOGY	P
6	DR B. COOMPSON	PhD	COMMUNICATION	

7	MRS E. OFFEI BOAKYE			P
8	MR A. BANFUL			P
9	MR J.K. OFORI			P
10	MR S. NTOW			
11	MS A. KOTOH	BA, MA		F
12	DR M. GYAKOBO	MD, MPhil	PUBLIC HEALTH	P (PhD Candidate)

DEPARTMENT OF BIOSTATISTICS AND RESEARCH

1	DR O. AHMED	MD, MPH	EPIDEMIOLOGY, BIostatistics, RESEARCH METHODS	F
2	PROF F. BINKA	MB ChB, MPH, PhD	PUBLIC HEALTH SPECIALIST EPIDEMIOLOGY, RESEARCH METHODS	F
3	DR J. GYAPONG	MD, MPH, PhD	PUBLIC HEALTH SPECIALIST	P
4	DR M. GYAPONG	PhD	SOCIOLOGY, ANTHROPOLOGY	P
5	DR E. AMUAH	MD, MPH		
6	DR P. KURANCHIE	PhD	EPIDEMIOLOGY, BIostatistics	F

DEPARTMENT OF BIOLOGICAL, ENVIRONMENTAL AND OCCUPATIONAL SCIENCES

1	PROF I. A QUAKYI	MSc, PhD	IMMUNOLOGY, PARASITOLOGY, PUBLIC HEALTH SPECIALIST	F
2	DR A.B. QUAINOO	MD, MPH	OCCUPATIONAL HEALTH SPECIALIST	P
3	MR H. NOYE-NORTEY	MSc, MPH		P
4	PROF E. LAING	PhD	GENETICS, ECOLOGY, ENVIRONMENTAL HEALTH	P
5	MRS A. BAFFOE-WILMOT		ENTOMOLOGY	P
6	MS C. ENGMAN			P
7	DR A. DZOKOTO	MB ChB, MPH	PUBLIC HEALTH / HIV SPECIALIST	P
8	PROF A. ADJEI	MPhil, PhD	IMMUNOLOGY	P
9	DR S.Y. OPPONG		MEDICAL BIOCHEMISTRY	P
10	DR D.A. ANTWI	MD, MPH	PUBLIC HEALTH SPECIALIST, MCH RH	P
11	DR I. ASANTE	PhD	BOTANIST, GENETICIST	P
12	DR W.B. OWUSU	MPhil, MSc, PhD	PUBLIC HEALTH NUTRITION	P
13	PROF M. WILSON	MSc, PhD	MOLECULAR BIOLOGY	P
14	MR U.S. MCKAKPO	MPhil	PARASITOLOGY IMMUNOLOGY	P (PhD Candidate)
15	MRS J. STEPHENS	MPH, MPhil	PARASITOLOGY	F
16	DR M. DZODZOMENYO	MPhil, PhD		F

DEPARTMENT OF POPULATION, FAMILY AND REPRODUCTIVE HEALTH

1	DR R K O ASANTE	MD, MPH, FWACP	PUBLIC HEALTH SPECIALIST, FAMILY HEALTH	F
2	DR G. QUANSAH-ASARE	MD, MPH, Dr PH;	REPRODUCTIVE HEALTH, MATERNAL / CHILD HEALTH	P
3	DR E. OFORI- ADJEI	MD,	PAEDIATRICS	P
4	DR P. ANTWI	MD MPH	REPRODUCTIVE HEALTH, ADOLESCENT HEALTH	F
5	DR H. ODOI-AGYARKO	MD, MPH	REPRODUCTIVE, MATERNAL/ CHILD HEALTH	P
6	DR S. DEGANUS	MD, MPH	OBSTETRICS & GYNAECOLOGY, REPRODUCTIVE HEALTH	P
7	MRS K. ADJEI- SEKYI			P
8	DR C. AHIADKEKE	MPH PhD	POPULATION, WOMEN'S HEALTH	P
9	DR J.B. WILSON	MD, MPH	OBSTETRICS & GYNAECOLOGY	P
10	DR J. WELBECK	MB ChB	PAEDIATRICS / PUBLIC HEALTH SPECIALIST	P
11	DR I. SAGOE -MOSES	MD/MPH	PAEDIATRICIAN / PUBLIC HEALTH SPECIALIST	P
12	DR A. DARKWA	PhD	FAMILY SOCIOLOGY	P
13	MRS M. ACKUMEY	MPH, MPhil	SOCIAL SCIENCE, REPRODUCTIVE HEALTH, HIV	P
14	MRS F. POBEE- HAYFORD			
15	DR G. ADDICO	MD, MPH	ADOLESCENT/ REPRODUCTIVE HEALTH	P
16	MRS R. NUTAKOR	MPH	MATERNAL / CHILD HEALTH	P
17	DR C. MBA	PhD	POPULATION DYNAMICS, DEMOGRAPHY	P
18	MR I.N. SOYIRI	BSC, MPhil	PUBLIC HEALTH NUTRITION	F
19	MR J. FOBIL	BSc, MPhil	ENVIRONMENTAL SCIENCE, SOCIAL SCIENCE	F
20	MR P. ASANTE	MPH, MPhil	REPRODUCTIVE HEALTH	P(PhD Candidate)

Source: Messrs Abubakar and Soyiri, Research Assistants, PFRH, SPH

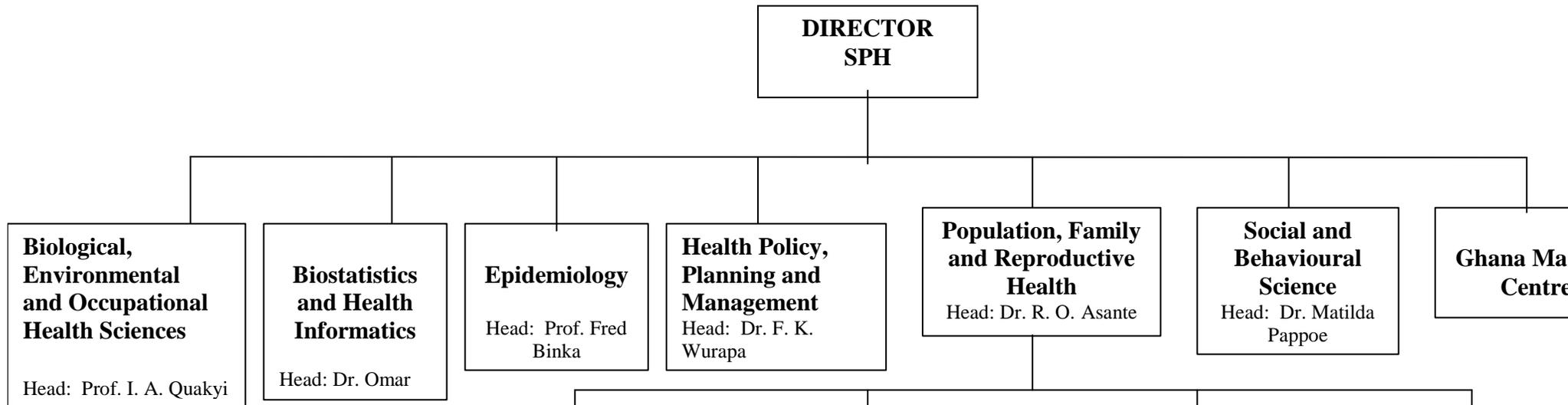
ADDITIONAL REQUIREMENTS

At the least, each department will need the following **full time** faculty with the appropriate/ relevant backgrounds in order to operate at its full potential, and to be actively involved in training, research and service.

- 1 Full Professor
- 2 Associate Professors
- 3 – 5 Senior Lecturers
- 5 Lecturers

SPH ORGANOGRAM SHOWING ONE OF THE FULLY DEVELOPED DEPARTMENTS.

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES**



	Population	Reproductive Health	Family Health	Adolescent Health
<u>Head of Unit:-</u>	Dr. C. Ahiadeke	Dr. G. Quansah-Asare	Dr. R.O. Asante	Dr. Phyllis Antwi
<u>Other Faculty:-</u>	Dr. O. Ahmad Prof. S. Gaisie Dr. M. Danso-Manu Mr. Julius Fobil Dr. Chucks Mba Ms. Mercy Ackumey	Dr. H. Odoi-Agyarko Dr. S. Deganus Mrs. K. Adjei-Sekyi Dr. J. B. Wilson Dr. Kwesi Poku-Nimo Dr. Juliet Tuakli-Ghartey	Prof. S. Ofosu-Amaah Dr. Akosua Darkwa Dr. E. Ofori-Adjei Dr. I. Sagoe-Moses Dr. J. Tuakli-Ghartey Ms. Mercy Ackumey	Dr. Matilda Pappoe Dr. G. Addico Dr. H. Odoi-Agyarko Dr. Eric Amuah Ms. Rejoice Nutakor
<u>Doctoral Studies:</u>	Mr. Julius Fobil	Mr. Uri S. McKakpo	Dr. Mawuli Gyakobo	Mr. Philip Asante

Areas of Study

- Population
- Reproductive Health
- Family Health
- Adolescent Health

Academic Degrees

- MPH (General.)
- MPH (PFRH option)
- M.Sc. (PH)
- M.Phil
- Ph.D

Appendix 4: DOCUMENTS CONSULTED

A Review of the Ghana Health Sector's Pro-poor Agenda, March 2004. A Key Area Review Report for the Annual Health Sector Review, 2003.

Prepared by William K Bosu, George Laryea-Adjei and Diane McIntyre.

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Corporate Strategic Plan, College of Health Sciences, University of Ghana Legon. Published in 2003.

Ghana Clinical Care Services Review, Volume I: Main Report of the Annual Review of the Health Sector 2003 Program of Work. March 2004.

Ghana Clinical Care Services Review, Volume II: Reports on Visits to Individual Facilities. March 2004.

Ghana Demographic and Health Survey (2003). Ghana Statistical Service. Macro Int. Inc., Calverton Maryland.

Joint Ministry of Health - Development Partners Summit
Accra, 25th to 29th April 2005. Aide Memoire.

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School of Public Health –SPH (PowerPoint)
Implementation of the University Strategic Plan.

The Ghana Health Sector. 2004 Half Year Report of the Programme of Work. MOH, September 2004.

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