

The Ghana Experience

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Abstract This article featuring Ghana constitutes one of five articles in a collection of essays on local capacity-building in research ethics by graduates from the University of Toronto's Joint Centre for Bioethics MHS in Bioethics, International Stream programme funded by the Fogarty International Center for Advanced Study in the Health Sciences (FIC). Although there are no national ethical guidelines in Ghana, eight research ethics committees have been established in the country, with a number of them obtaining Federal Wide Assurances (FWA) from the United States Office for Human Research Protections (OHRP). However, the existing ethics committees cannot match the volume of work to be done, especially in light of the increase of research activities in the country. This calls for the need to train more people in research ethics to fill that gap and provide continuing education to members of research ethics committees in the country.

Keywords Research ethics · Capacity-building · Health research · Ghana

Introduction

Ghana (formerly called the Gold Coast) is an English-speaking West African country sharing borders with Burkina Faso to the north, Côte d'Ivoire to the west, Togo to the east, and the Gulf of Guinea and the Atlantic Ocean to the south. Ghana attained independence from Britain in 1957. The country has a tropical climate, and the major economic activities are agriculture (60%), industry (15%), and services (25%). Ghana is a member of the Commonwealth of Nations. Its major trading partners include the United States, the United Kingdom, France, The Netherlands, Belgium, Spain, South Africa, Nigeria, and China.

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Table 1 highlights Ghana's main economic and health indicators, comparing these to the Sub-Saharan Africa (SSA) average.

The major ethnic groups within the country are Akan (49%), Mole Dagbani (16.5%), Ewe (13%), and Ga-Adangbe (8%). While each group has its own language, English is the official language. The country abounds in national resources like gold, timber, diamond, manganese, bauxite, and recently the discovery of oil in commercial quantities off shore.

Historical Background of Research in Ghana

The history of research in Ghana can be traced as far back as 1928 with Dr. Hideyo Noguchi's research work on yellow fever. He died of the disease six months after his arrival in Accra (Republic of Ghana Ministry of Health 2005).

The Council for Scientific and Industrial Research (CSIR), whose predecessor was the National Research Council, was established in 1958 to organize and coordinate scientific research in Ghana. Among its mandate is to co-operate and liaise with international and local bodies as well as organizations on matters of research, in particular, universities and the private sector.

In 1979, the Noguchi Memorial Institute for Medical Research (NMIMR) at the University of Ghana, Legon was established with a three-fold mandate (Noguchi Memorial Institute for Medical Research 2009).

- To conduct research into problems of public health importance in Ghana;
- To provide specialized laboratory diagnostic and monitoring services in support of public health programs.
- To provide training opportunities for postgraduate students in biomedical research.

Today, the institute has developed and is well endowed in fields such as bacteriology, virology, parasitology, epidemiology, electron microscopy, animal experimentation, immunology, nutrition, and clinical pathology.

Table 1 Economic and health indicators^a

Indicator	Value	Average SSA
Population (millions)	23.0	782.5
Population growth (%)	2.1	2.5
Economic density (current \$/sq km)	55,881	31,518
GDP per capita (2,000 US\$)	294	580
GDP per capita growth (annual %)	4.2	3.2
Life expectancy at birth (years)	60	50
Infant mortality rate (per 1,000 live births)	76	94
Under-five mortality rate (per 1,000)	120	157
Maternal mortality ratio (per 100,000 live births)	560	902
HIV prevalence rate (% ages 15–49)	1.40	5.00

^a International Bank for Reconstruction and Development/The World Bank. (2008). The Little Data Book on Africa 2008/09.

<http://siteresources.worldbank.org/INTSTATINAFR/Resources/LDB-Africa-12-2-08.pdf>. Accessed 28 March 2009.

In 1990, the Health Research Unit (HRU) of the Ministry of Health was established through a Ministry of Health policy to coordinate and conduct research into health-related issues to facilitate policy formulation and program implementation (Republic of Ghana Ministry of Health 2005). The field stations for the HRU are the Navrongo Health Research Centre (NHRC), Dodowa Health Research Centre (DHRC), and the Kintampo Health Research Centre (KHRC).

The NHRC was established in 1992, with the mandate to conduct research into health problems endemic to Northern Ghana (Navrongo Health Research Centre 2008). In keeping with its mandate, the majority of work done in Navrongo has been in the area of diseases such as malaria, HIV/AIDS, diarrhea, meningitis, and lymphatic filariasis. A number of study findings have been translated into national policy and adopted by the international health community. These include the administration of vitamin A to infants, the use of impregnated bednets in malaria control, and the development of community-based approaches to health delivery and provision of family planning services.

The Kumasi Centre for Collaborative Research (KCCR) at the Kwame Nkrumah University of Science and Technology (KNUST) is a joint venture between the Ministry of Health, KNUST, and the Bernhard Nocht Institute for Tropical Medicine in Germany. They are also involved with research capacity-building and training of postgraduate students.

The Centre for Scientific Research into Plant Medicine (CSRPM) located at Mampong was established in 1975 to conduct research into herbal products to meet the exacting needs of both patients and industry.

Current Health Challenges

Despite the number of research activities that have been carried out in Ghana over the years, the country continues to face many health challenges. Maternal mortality is still a major health problem in Ghana. Although statistics of maternal mortality vary widely by source and are highly controversial, the best estimates for Ghana suggest that some 3,500 women and girls die each year due to pregnancy-related complications (United States Agency for International Development 2006).

In 2007, the government implemented a national health insurance policy called the National Health Insurance Scheme (NHIS) to ensure equitable access to healthcare services for all Ghanaians. However, the scheme has been saddled with challenges with overpoliticisation and abuse of the scheme by subscribers as well as interference in the work of providers.

The brain drain of health personnel is also a major problem affecting the delivery of healthcare services in Ghana. This trend has been blamed on the poor conditions under which personnel usually work, inadequate health facilities, and poor remuneration for their services.

Research Responses to Health Challenges

The Ministry of Health (MOH) has defined a core set of top ten diseases to address with health providers at all levels. These are HIV/AIDS, malaria, tuberculosis, Guinea worm disease, poliomyelitis, maternal and child health, accidents and emergencies, non-communicable diseases, oral health, and eye care, as well as specialized services like psychiatric care. The proposed change in the dominant health care paradigm focuses on

preventive and promotive health. The new motto of the MOH is “creating wealth through health”.

A number of research institutions have been established to address the health problems facing the country. These include the three field sites of the Health Research Unit at Navrongo, Kintampo and Dodowa, the Noguchi Memorial Institute for Medical Research (NMIMR), and the Kumasi Centre for Collaborative Research (KCCR).

Research within the Ghana Health Service focuses on providing information to aid policy formulation, program implementation, and providing empirical data to answer questions with which program managers and policy makers are concerned. The functional areas include conduct of research, research management and coordination, and dissemination and documentation of health research findings.

The Ghana Health Service has also collaborated with a number of research institutions to carry out intervention projects to solve the health problems in the country. Some of these are:

- Introduction of programs like the TB Program, National Buruli Ulcer Control Program, and the Guinea Worm Eradication Program to fight the prevalence of tuberculosis, Buruli ulcer, and Guinea worm respectively.
- Safeguarding the integrity of research subjects as well as protecting their human rights through scientific and ethics committee within the various health institutions.
- The provision of training for health professionals through workshops.
- Public education through the media on health issues such as diet and proper sanitation

The NMIMR has also been playing a very important role in responding to some of these health challenges by providing disease surveillance and quality control for diseases such as TB, HIV/ AIDS, and malaria. Drug sensitivity studies conducted in the institution have provided evidence which has led to the change in the malaria treatment policy for the country. The institute’s diagnostic facilities also serve as the laboratory centre for the National Avian Influenza Preparedness Program.

Current Research Ethics Capacity Needs

Although there are no national ethical guidelines in Ghana, eight research ethics committees have been established in the country, with a number of them obtaining Federal Wide Assurances (FWA) from the United States Office for Human Research Protections (OHRP). There are three committees at the Ghana Health Service and its affiliations, four that are university-based, and one at a scientific research centre. There are indications that other institutions like teaching hospitals and other health-related research centres will be establishing either Institutional Review Boards (IRBs) or Research Ethics Boards (REBs) soon. There is thus an urgent need to establish a national Research Ethics Council or Committee to coordinate activities and have oversight responsibility of IRBs or REBs as well as develop national ethical guidelines for the conduct of research involving human subjects.

The existing ethics committees cannot match the volume of work to be done, especially in light of the increase of research activities in the country. This calls for the need to train more people in research ethics to fill that gap and provide continuing education to members of research ethics committees in the country.

Masters of Health Sciences in Bioethics (MHSc) Program (International Stream) at the Joint Centre for Bioethics, University of Toronto: Insights About its Role and Scope

The MHSc program at the Joint Centre for Bioethics (JCB) has produced three trainees from Ghana over the past six years: Eric Amuah (2003), Paulina Tindana (2004), and Okyere Boateng (2008). All of these trainees are contributing in various ways to the development and promotion of research ethics in Ghana. Since 2003, they have organized a number of training workshops for IRBs or REBs as well as for researchers in the country.

The major challenge in Ghana is the lack of national ethics guidelines governing the conduct of research with human subjects. The strategies that need to be adopted to help address these shortcomings include:

- Capacity-building of members of existing and upcoming IRBs or REBs
- Training sensitization of members of ethics committees
- Setting up a secretariat with a national focus
- Introducing research ethics courses in health training institutions such as schools of public health, medical schools, and nursing schools
- Establishing national ethical guidelines to provide some legitimacy to ethics committees and to serve as a guide for researchers conducting research with human subjects

The training program at the JCB is very intensive and demanding, yet very interesting, particularly as a result of its participatory approach. A very important aspect of the program is the re-entry grant offered to international students by the JCB to continue work in bioethics in their respective countries as well as the networking among graduates of the program.

Conclusion

The training in bioethics and research ethics offered by the University of Toronto's JCB is an excellent program tailored towards the needs of its graduates and partners. The program has broadened our scope of ethics in the African cultural setting and that of the Western World. Most importantly, it has boosted our confidence and improved our knowledge in bioethics. This has helped us serve as facilitators in the establishment of ethics committees in the country.

References

- Navrongo Health Research Centre (2008). A field station of Health Research Unit (HRU) of the Ghana Health Service (GHS). <http://www.navrongo.org>. Accessed 28 March 2009.
- Noguchi Memorial Institute for Medical Research (NMIMR) at the University of Ghana, Legon (2009). <http://www.noguchimedres.org>. Accessed 30 March 2009.
- Republic of Ghana Ministry of Health (2005). Health Research Unit (HRU). <http://www.moh-ghana.org/moh/research/default.asp>. Accessed 28 March 2009.
- United States Agency for International Development. The Policy Project (2006). Maternal and neonatal program effort. MNPI 2005. <http://www.policyproject.com/pubs/MNPI/MNPI2005/2005Ghana.pdf>. Accessed 28 March 2009.