

SPECIAL ARTICLE

**ETHICS AND ELECTRONIC HEALTH INFORMATION TECHNOLOGY:
CHALLENGES FOR EVIDENCE-BASED MEDICINE AND THE
PHYSICIAN–PATIENT RELATIONSHIP**I. D. NORMAN¹, M. K. AIKINS² AND F. N. BINKA³¹Department of Biological, Environmental & Occupational Health Science, ²Department of Health Policy, Planning and Management, ³Department of Epidemiology and Disease Control, School of Public Health, College of Health Sciences, University of Ghana, P. O. Box LG 13, Legon, Accra, Ghana*Corresponding Author: Dr. Ishmael D. Norman**Email:ishmael_norman@yahoo.com**Conflict of Interest:None declared***SUMMARY**

Objectives: The National Health Insurance Scheme (NHIS), and the National Identification Authority (NIA), pose ethical challenges to the physician-patient relationship due to interoperability. This paper explores (1) the national legislation on Electronic Health Information Technology (EHIT), (2) the ethics of information technology and public health and (3) the effect on the Physician-patient relationship.

Method: This study consisted of systematic literature and internet review of the legislation, information technology, the national health insurance program, and the physician-patient relationship.

Result: The result shows that (1) EHIT have eroded a big part of the confidentiality between the physician and patient; (2) The encroachment on privacy is an inevitable outcome of EHIT; (3) Legislation on privacy, the collection, storage and uses of electronic health information is needed and; (4) the nexus between EHIT, NHIS, NHA, Ethics, the physician-patient relationship and privacy.

Conclusion: The study highlights the lack of protection for physician-patient relationship as medical practice transitions from the conventional to the modern, information technology driven domain.

Keywords: Physician-patient Relationship, Legislation, Public Health, National Health Insurance Scheme, National Identification Authority, Electronic Health Information

INTRODUCTION

The use of Electronic Information Technology in the healthcare delivery system of Ghana is at its infancy. Despite, there are already ethical complications on the physician-patient relationship that have emerged particularly on the issues of autonomy, best interest of the patient and informed Consent.¹⁻⁴ The introduction of the National Health Insurance program as well as the

National Identification Authority program has necessitated the capture, storage, analyzes and interoperability of demographic and health information. Such pieces of personal information are not used only for health research and policy, but also for security and criminal surveillance, investigation and control. The various uses of such information implicate many pertinent constitutional concerns.⁵

Electronic Health Information Technology, (EHIT) has become an integral part of the national health care delivery system. Reliance on EHIT seems poised to grow in the years to come due to the myriad of advantages derived from the capture, storage, retrieval and analysis of large volumes of protected health data, and from multiple sources, which is spread over a long period of time. In the “*Model State Public Health Privacy Act*”, the definition of protected health information to include ‘any information whether oral, written, electronic, visual, pictorial, physical or any other form, that relates to an individual’s past, present, or future physical or mental health status, condition, treatment, service, products purchased or provision of care and which (a) *reveals* the identity of the individual whose health care is the subject of the information, or (b) where there *is a reasonable basis* to believe such information could be utilized (either alone or with other information that is, or should reasonably be known to be, available to predictable recipients of such information) to reveal the identity of that individual’.⁵ This broad definition helps to put in perspective the extent of the threat that EHIT poses to the sanctity of the physician-patient relationship. It also exposes the actions of both to the unwarranted oversight of others through the Internet and the worldwide web both nationally and internationally.

Interoperability presumes the automatic entry of patients' data from multiple sources within the health care system, capturing records such as patients' disease history, X-rays, blood test records, imaging scans, prescription drugs, type of treatment, patient response to treatment, and in other special circumstances that could affect effective treatment.

All such information is available for re-interpretation and analyses by a variety of agents other than the primary physician or even insurer.³

While the benefits of Electronic Health Records, (EHRs) are many, there are also disadvantages. This includes abuse of privacy and confidentiality in the physician-patient relationship as well as autonomy and due process because of access to private EHRs by anonymous researchers, insurance companies, various supervisory agencies and departments. It is feared that uncontrolled access to EHRs may encourage some insurers to deny coverage to certain classes of people. Some employers may deny employment due to the health antecedents of the potential staff.⁶ The U.S. Department of Health and Human Services' Public Law 104-191 was designed to arrest such abuses of the American worker and his family as they moved from one employment to the other or from one insurer to the other.

In Ghana, however, it appears that apart from a few clauses contained in the Electronic Communication Act, 2008 (Act 775) Section 4(2), limiting access to electronic personal information of the customers of the communications industry, there does not seem to be a dedicated and broad based national legislation on the primary and secondary uses of electronic personal information of the individual. In fact the Electronic Communications Act, (Act 772), Section 4 (2): (a-q) encourages service providers 'to provide customer database information for universal directory and access', all in the interests of promoting competition. Though the reference to the ECA is analogous to the issue at hand, it provides a good example of the gap in the legal framework for the protection of privacy in general, particularly when it comes to EHRs.

In the future, it will be easy for agencies, departments, managers and researchers to access many forms of personal data by the 'click-of-a-button' when complete interoperability is achieved between the NHIS, NIA, other national mass data collection systems such as the Social Security Services, and the various employee pension schemes and cooperative loan schemes. This possibility suggests the need for this kind of research to be carried out, in order to provide some direction on the ways to manage Electronic Health Information Technology for the benefit of all stakeholders.

The study aimed to assess the effect of information technology on the physician-patient relationship, and how to accommodate the goal of evidenced-based medicine and clinical epidemiology in Ghana. It also looked at how the national legislation could be improved to ensure better ethical standards for the physician-patient relationship.

METHOD

Three main methodological approaches were used for data collection on the effect of information technology on the national health insurance program and the physician-patient relationship. These were Internet search/review, systematic literature review and interviews.

Internet search/review: The internet search was on key words and phrases such as "publications physician-patient relationship Ghanaians only", which yielded 304 results but none were specific to Ghana. The search was narrowed to "ethics physician-patient relationship Ghana", which gave the result of 52,101. But none addressed the ethical concerns in Ghana. Articles on ethics, physician-patient relationship by Ghanaians" yielded 111 search results but none directly addressed the purpose of the search. However, there were many Ghanaian authored articles on the narrow issue of informed consent and clinical trials though in collaboration with other foreign nationals. Further search in the Ghana Medical Journal abstracts on physician-patient relationship gave 19,400 pieces but none of them discussed the ethical challenges presented by the electronic health information technology. We admit that the issue of ethics and electronic health information is a recent development in the healthcare delivery system in many nations and therefore not surprising if research in the nation has not focused on it as yet. Modification of the search key words to "abstract physician-patient relationship" yielded over 6 million positive results. From these the study focused on the Journal of Law, Medicine and Ethics publications for the first half of 2010 and then the search was broadened to publications in prior years by other authors and journals.

Systematic literature review: This desktop review covered pertinent national laws that have primary effects on the physician-patient relationship obtained from the government printers, the Law School and libraries in Accra. Other published articles, grey literature and abstract on ethics and medical information were also reviewed.

Interviews: Interviews and discussions were also held with randomly selected experts, national departments and agencies representatives, namely fourteen medical

doctors, all of whom were with the Ghana Health Services, Ministry of Health and four of whom were directly responsible for district hospitals. We also interviewed personalities from the private insurance industry who manage mutual health insurance schemes under the NHIS as well as key staff of NHIA.

On site visit with interview was also conducted at the Winneba District Hospital, in the Central Region of Ghana in the second quarter of 2010. Winneba was selected randomly out of the hospitals under the supervision of the Ghana Health Service as a case study to find the extent of the uses of electronic health technology and record keeping at the District level.

Focus Group Survey: This was also conducted at the School of Public Health, University of Ghana to re-confirm or refute the result of the interviews as synthesized, where queries were raised.

Analysis was based on systematic review and synthesis of the literature according to the objective of the study and a comparative analysis was also carried out on the Ghanaian situation and that of other countries.

RESULT

The effect of modern medicine on the physician-patient relationship

The study found that modern medical practice offers many opportunities for encroachment on the physician-patient relationship. Current practice of medicine has many players with various specialties and personnel, but integrated in a healthcare delivery program such as the National Health Insurance Scheme (NHIS). Such specialties include but not limited to doctors, nurses, dentists, pharmacists, psychologists, medical engineers, social workers and counsellors, as well as allied health professionals.² With these many players all looking out for the care of the patient, it is difficult to sustain privacy and confidentiality without leaks on patient data and secondary uses.^{5,7}

Secondly, the use of Tele-medicine incorporates real life physicians together with virtual physicians, laptops and cameras. These devices automatically capture and store patient data as a matter of routine to be made available for future use and to be reviewed by peer. Thirdly, for efficiencies in billing, and to prevent fraud, the Ghana National Health Insurance Regulations of 2004 require patient records are made available to health insurance providers, managers and administrators for settlement and accounting audit, among other imperatives. In the past, patient records were kept in the offices of the treating physicians' hospitals and were accessible to a few people. Such changes may inevitably affect patient trust and may

change the dynamics in the physician-patient relationship in terms of full disclosure of health conditions to the physician.^{8,9}

The alternative would be over reliance on expensive and sometimes needless laboratory tests and treatment.^{7,10} The conclusion that can be drawn from such an outcome is that Electronic Health Information Technology has already encroached on confidentiality in the physician-patient relationship.^{1,3,7,11}

Encroachment on private health information by EHIT is evitable. On the ethical issues of Social Good *versus* Utility, the compromises on patient information has occurred and is already occurring with regularity in terms of longitudinal population based research. Longitudinal population based research also encroaches on patient health information often without informed consent. Where consent is initially sought, subsequent consent for subsequent use of the data is often ignored.^{5,7,12}

Such disclosures cannot be protected even by federal law in the case of the U. S. A. due to the sheer size of the encroachment on protected health information in both clinical medicine and clinical epidemiology.^{1,7,10,13}

To curtail the encroachment on the health information of workers by EHIT, the U. S. government passed the Health Insurance Portability and Accountability Act, (HIPAA, 1996). The Health Insurance Portability and Accountability Act was designed to provide the mechanisms for investigating and punishing improper disclosure of health information held by covered entities such as insurance companies. The volume of complaints and the lack of resources, however, have overwhelmed the Health Insurance Portability and Accountability Act. The U.S. Department of Health and Human Services has a backlog of complaints of privacy violations, where between April and November, 2003, 23,896 new cases were reported but no action was taken against the hospitals, doctors and insurance companies alleged to be the culprits.³

Privacy protections under national legislation in Ghana and in U.S.A. The research also found that the National Health Insurance Scheme and its Regulations are silent on the issue of privacy. The National Health Insurance Regulations (L.I. 1809), contains 10 schedules covering areas as health facility attendance, prescription, diagnostic, and household information. These allow the collection of a great deal of demographic and health data. It is not clear whether there are safeguards against the untimely and unwarranted disclosure of such information either electronically or otherwise.

The position of the Ghana Health Service on the issue of patients' right to privacy, autonomy and informed consent is not stated in the Health Service and Teaching Hospitals Act 525 (1996). The National Identification Authority Act 707 (2006) states in its objectives the need to create, maintain, provide and promote the use of national identity cards for policy formulation and national strategy. The National Identification Authority (NIA) database contains a great deal of personal and family data. However, it is unclear how the data would be exploited to achieve the desired objectives and without compromising the right to privacy particularly in the health information sector.

The right to privacy is neither guaranteed in the Constitution of Ghana nor in a nation like the U.S.A where there seems to be a higher expectation of privacy.¹¹ In the case of the U.S.A, federal law provides a basis for its protection, for example the Health Insurance Portability and Accountability Act, (HIPAA, 1996), Public Law 104-191. The right to

privacy, like the right to informed consent, equity and social justice, is part of the fundamental human rights and freedoms as captured in the Constitution of Ghana (1992), Article 12-15. The dignity of all persons is inviolable, which is further protected by other areas of statutory law such as criminal and tort law. The research also found that both national and international human right laws provide for the protection of privacy irrespective of the legislative framework in place.

The legislative framework, however, could contract or expand inalienable rights. Despite the typology of the legislative framework, ethical considerations are present and underscore the physician-patient relationship as well as all other laws and regulations. Table 1 provides the schematic illustration of the relationship between the various electronic databases containing both demographic and electronic health records of the population of Ghana and the gaps in the legislative framework when it comes to the protection of physician and patient confidentiality.

Table 1 Electronic Data bases and the physician-patient confidentiality matrix

Program	Purpose	Impact on physician-patient relationship	Gap in the law and application
Electronic Health Information Technology	Aids evidence-based medicine and clinical epidemiology	Encroachment on electronic health records, physician-patient confidentiality	No national legislation to regulate the capture, storage, primary and secondary uses of electronic health records
National Health Insurance Scheme	Provides universal health care delivery, to improve public health	Loss of confidentiality in the physician-patient relationship due to availability of health records to anonymous entities	No regulation on access, uses and auditing of health records and physician work product
National Identification Authority	Provide a national data base for the population for policy, planning and security considerations	Contains personal and demographic records. Loss of privacy and identity due to open access to a large group of anonymous users	No regulation for accessing such data, capture, storage and uses, which could lead to identity theft, create more security challenges and circumvent the purpose of the law
Ethics	Regulates professional and personal conduct	Ensures trust building, informed consent, beneficence, non-maleficence, and confidentiality	No regulation of EHIT, NHIS, NIA, encroachment on privacy and set parameters to punish abusers
Physician-Patient Confidentiality	Necessary for trust building, open and honest communication between patient and physician for better health care delivery	Critical to evidence-based medicine and clinical epidemiology	No legislation, regulations and standards for the protection of the physician-patient relationship
Privacy	Right not to be bothered and to be left alone	Ensures autonomy, informed consent, and truth-telling	No national legislation on the protection of privacy

Finally, interoperability, which is the goal of Electronic Health Records (EHRs), raises serious trust issues in the physician-patient relationship, which could lead to malpractice lawsuits and even criminal prosecutions as illustrated in the Figure 1.

Electronic Health Information Technology and physician-patient confidentiality

Table 2 summarizes the selected studies on the issue of EHTs and the physician-patient relationship. The matrix traces the ethical implications of information technology on the physician-patient confidentiality from 1943 to date.

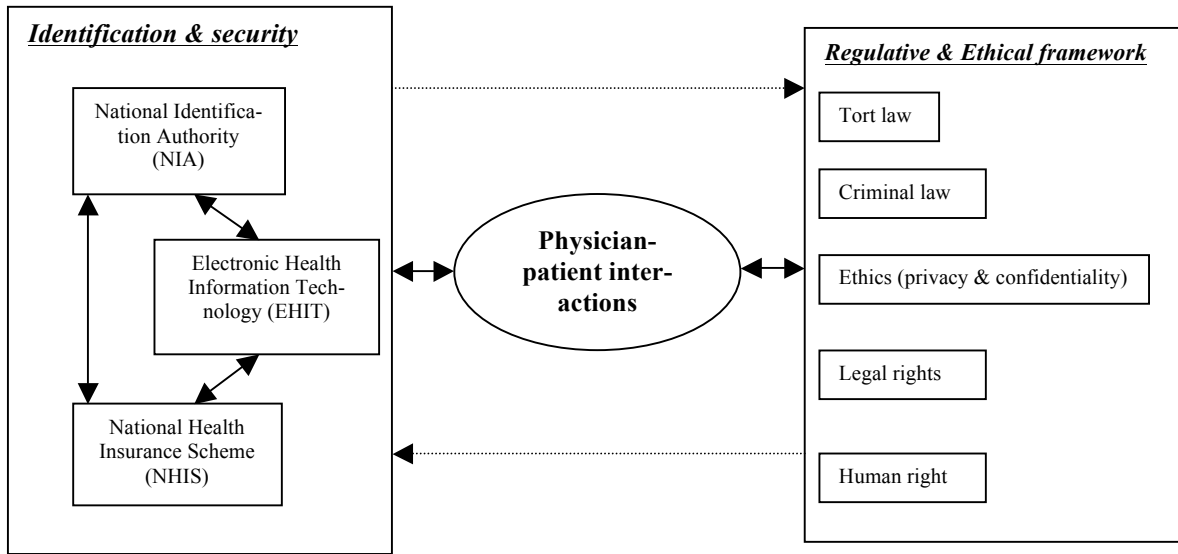


Figure 1 Nexus between NIA, EHIT, NHIS, Law and Ethics

DISCUSSION

Data on ethics and the physician-patient relationship does not exist in the developing countries especially Ghana, although there are many publications by Ghanaian authors in conjunction with foreign collaborators on the narrower issue of informed consent in clinical trials. Just as modern medical practice appears to undermine the physician-patient relationship everywhere, in Ghana the situation is the same. The practice of medicine today has many players. With these many players all looking out for the care of the patient, it is difficult to sustain privacy and confidentiality. In the light of these developments, Rothstein advocated for a new organizational model of health care practice when it comes to EHIT,² while Moulton and King opted for more reliance on informed consent.⁷

Although the emerging use of tele-medicine is still in its infancy in Ghana and the developing nations in general, standards for monitoring and evaluating how data that is captured in this medium would be exploited for both evidence-based medicine and clinical epidemiology are yet to be developed. Due to the lack of standards for tele-medicine, there has been no monitoring and evaluation of the use of tele-medicine, which incorporates real life physicians together with virtual physicians, laptops and cameras, on the physician-patient relationship. Additionally, for efficiencies in the management of health facilities and national insurance scheme, patient records are made available to health insurance providers, managers and administrators for settlement and auditing. Although in the past patient records were kept in the offices of the treating physicians-hospitals and was accessible to a

few people, today, that has changed. Such changes may inevitably affect patient trust and may change the dynamics in the physician-patient relationship in terms of full disclosure of health conditions to the physician.^{8,9}

The alternative would be over reliance on expensive and sometimes needless laboratory tests and treatment.^{7,10} For many of the developing countries and for Ghana in particular where access to basic health services are complicated by geographical and financial access and other challenges such as illiteracy, cultural biases and ignorance, additional demands placed on household resources would negatively affect the public health of the communities.

However, EHRs also has many beneficial aspects, which should be considered including a 'consistent oversight of patient records that is not readily available with paper records'. It also helps to streamline patient records from one facility to the other over a long period of time that goes to improve physician performance and continuity essential for patient treatment, physician education and training. Ultimately, improvement in the physician performance helps the development of trust in the patient and fulfils ethical standards as well, for example, beneficence. Therefore, for the validation of trust by structures external to the physician-patient relationship, interoperability of EHIT should be incorporated in a transparent manner with patient consent of how data is used if trust is to be maintained.^{2,4}

As many authorities have also suggested, autonomy should be made subservient to beneficence when it comes to the provision of medical services by the state, such as the NHIS in Ghana. The state needs to have

access to patient EHRs for monitoring, evaluation, cost assessment and policy formulation. It is for this justification that perhaps, the NHIS and its Regulations are silent on the issue of privacy.

Table 2 Issues of Electronic Health Information Technology and physician-patient confidentiality

Source	Country	Main Finding
Westfall, (2010)	U. S. A.	Encroachment on EHIT inevitable, despite patient have expectation of privacy although onerous is on patient to beware of Internet
Goodman, (2010)	U. S. A.	EHIT has already eroded a big part of confidentiality
Moulton and King, (2010)	U. S. A.	Informed consent is cardinal to achieving a healthy balance between protections for physician-patient confidentiality and evidence-based medicine and research
Francis, (2010)	U. S. A.	Interoperability inherently allows oversight of patient records not available with paper records and streamlines patient records
Rothstein, (2010)	U. S. A.	Hippocratic Oath is 2,500 years old and perhaps irrelevant. Times have changed. Medicine has changed. The validation of trust by external structures calls for the transparent incorporation of EHIT in a modern health care delivery system
Bradt, (2010), Sinclair et al., (1999), Braddock, Fihn, et al., (1997), Szasz and Hollender, (1956), Emmanuel and Emmanuel, (1992)	Europe/U.S.A	Evidence-based medicine and research are not justifications for encroachment on EHRs, although critical for the training of doctors and other health professionals. Informed consent is imperative to good medical practice
Peterson-Iyer, (2009)	U. S. A	Ethical precepts of beneficence, non-maleficence, autonomy, etc should be viewed in the context of modern medicine
O'Neil, (2002)	UK	EHIT affects trust which potentially could lead to needless laboratory tests and treatment
Tassano, (1995), Brody, (1989)	Europe	Trust or no trust, it is perverse not to exploit EHIT for the public good (evidence-based medicine and research)
Edelstein/Hippocratic Oath, (1943)	Europe	Patients, irrespective of development in technology, have a right to privacy
Freedman and Weed, (2003), Gostin and Hodge, (1999)	U. S. A	Data mining and uses should be improved to limit abuses since autonomy and privacy are still valid despite EHIT
Emmanuel and Emmanuel, (1992)	U. S. A.	Patient Electronic Health Records is not the property of the attending physician or the hospital. It is the property of the patient held in fiduciary status by the hospital/physician, hence autonomy with participation of physician
Oduro, Aborigo, Amugsi et al., 2008	Ghana	Parental informed consent process in a rural setting of northern Ghana. The main justification of this study was how to generate information that will help improve upon the way informed consent is obtained from potential research participants in clinical trials
Hill, Tawiah-Agyemang, Odei-Danso et al., 2006	Ghana	The goal of this paper was to explore how subjects in a placebo-controlled vitamin A supplementation trial among Ghanaian women aged 15-45 years perceived the trial and whether they knew that not all trial capsules were the same and to identify factors associated with this knowledge.

The ultimate question is: should a patient's ability to pay determine the extent of his autonomy? In other words, "beggars cannot be choosers". Trust or no trust, it would be perverse to imagine that large amounts of

health data is collected, stored, analyzed and stored again just to be ignored.^{1,2,13} To do so would threaten the foundations of evidence-based medicine and evidence-based public health research and policy

formulation. Contrary, inherent in the expectation of privacy and confidentiality is the issue of trust.^{7,11} When trust is broken, for example by the unauthorized disclosure of patient records about which the patient gets to later discover, the relationship between the physician and the patient suffers irreparable damage.

On the ethical issues of Social Good *versus* Utility, Goodman admits that the compromises on patient information has and is already occurring in terms of longitudinal population based research.¹

Such disclosures cannot be protected even by federal law due to the sheer size of the encroachment on protected health information in both clinical medicine and clinical epidemiology and as earlier reported in this paper. The interest of professional education, the obligation on the health delivery system to share information and the overarching duty to the promotion of a good public health practices, appear to provide the ethical justification to encroach upon the physician-patient relationship in a responsible but paternal manner. Such arguments are weak excuses against the protection of the individual's reasonable expectation of privacy of his health information.⁷

Just because a nation needs to control tax evasion, for example, does not mean that nation should provide easy access to private financial records to all in the financial services industry of that nation. If banking and the financial industry can provide its clients a high level of privacy in their financial affairs, medicine ought to do the same. Banking has not used the education of economists, bankers, and accountants as a justification to allow easy access to private financial information and data. The individual has, when it involves his liberties, a reasonable expectation (1) to be left alone and (2) to be protected from unreasonable disclosure of his personal or confidential communications or data captured in the office of a physician or a health professional.^{11,15}

Assessing the relevancy of the Hippocratic Oath in view of recent developments in EHIT, Rothstein presented historical and pragmatic arguments that the Hippocratic Oath is 2,500 years old², meaning it was given at a time when there was no Internet or worldwide web. It was given in a period where privacy and confidentiality in Greek society were different than what the standards are today. In those days, majority of the inhabitants of Greek society lived in shared quarters (like the living arrangements of many Ghanaians today), where medical consultation were done in the homes and was opened to the residence of the house. Therefore, expectation of privacy was low and points of leakage of confidential health information

were many. Although he admits the Oath still has potency due to its 'symbolic and inspirational' value, he nonetheless writes that the Hippocratic Oath needs modification because times have changed, the practice of medicine has changed, and electronic health information technology is here to stay.

In the case of Ghana, the situation is made more complicated by the fact that Ghana does not as yet have a Public Health Act or a Privacy Act where modalities for the use of electronic health records may have been regulated. In such a vacuum, the expectation of confidentiality contained in the Hippocratic Oath may be the only safeguard that governs the physician-patient matrix in a nation with under-developed legal framework for public health, confidentiality and privacy.^{12,14,15}

Evidence-based medicine is also often used as a justification for encroaching on the physician-patient relationship. Evidence-based Medicine was first defined by Canadian researchers at McMaster University, Ontario (1992).¹⁶ Evidence-based medicine however has existed and has been applied in public health practice from Hippocrates and Avicenna through Paracelsus and John Snow, who in 1854 plotted clusters of cholera deaths in Soho and identified a well at Broad Street as the source of contaminated water.¹ Evidence-based medicine is critical for the training of doctors and other health professionals.^{1,4,7,16,17,18,19,20}

Evidence-based medicine is the 'conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of EBM requires the integration of individual clinical expertise with the best available external clinical evidence from systematic research and the patient's unique values and circumstances.'^{16,17} In this standard definition of EBM, the physician becomes the guardian of the patient. This development ultimately allows intrusion into patient autonomy and restricts informed consent. When it comes to the expectation of autonomy and privacy in the physician-patient relationship, the best the physicians and patients could hope for is informed consent to the use of their EHRs other than improving the processes for data mining and uses to limit abuses.^{5,11,21}

Public health is also used as the justification why private clinical practice and consultations should be made available to society, doctors, nurses and other public health professionals.⁷ Brandt argued that using public health imperatives as justification for access to private health data may not be that effective since much of the evidence for successful public health intervention relies upon data-gathering tools for

population-based research that are different to those used in individual clinical care.^{15,16} Brandt listed three methodological problems limiting the utility of population-based research gathering tools as rapid health assessment, field survey and methodology, disease surveillance sites.¹⁶ Each one of such tools presents its own unique challenges. For example, rapid health assessments are complicated by many templates and indicators. Secondly, field surveys are complicated by non-compliance with survey methodology and interpretational challenges. Finally, there is disease surveillance. The utility of disease surveillance is complicated by sites conditions, data capture, environment, and processing instructions to the field. Therefore, public health, if at all, should not be the clutch to the release of private health data into the flow of electronic health information.

Who owns the EHRs of the patient? Is it the attending physician, the facility or the patient? Emmanuel and Emmanuel rejected the paternalism of conventional clinical practice but advocated for patient autonomy with the active participation of the physician.¹² If both the physician and the patient create the EHRs, its ownership ought to be shared.^{22, 23} Although the Ghana medical profession does not encourage it, some physicians do sometimes take the view that patient records are the property of the receiving medical facility.²³ Some healthcare providers also takes the pragmatic but limiting position that patients are often illiterate and un-informed and that the physician alone can make informed decisions about patient care in complete opposition to the positions taken by other authors.^{1,12} Though there is validity to the position held by some in the Ghana medical profession, it appears the physician is reticent about information sharing even when the patient is uniquely trained and placed to understand and appreciate the complexities of his medical condition.

To this extent, informed consent and autonomy^{12,20} seem to be rather revolutionary concepts in the practice of clinical medicine and in public health administration in Ghana and in many African nations. The control of patients' access to their own medical records set against the provision of relatively easy access to anonymous entities such as health insurance administrators to these same records makes the public apprehensive about their health information being stored in an electronic retrieval system.⁴ In the case of Ghana, too little is known about patient preferences regarding consent for public health and secondary use of anonymous data, which behoves the public health community to conduct additional study to determine patient preferences.^{1,7}

Moulton and King provide that in spite of advances in information technology, or the need to share information and to educate the medical community, and in spite of the multiplicity of care professionals, too little information is being given to patients already to enable them make informed choices.⁷ Health care providers should, therefore, implement a system of medical decision-making that balances the importance of ethical principles of autonomy and beneficence. The individual, not the physician or society is the centre of the physician-patient relationship.^{22,24,25} To import other ethical imperatives to circumvent the interest of the patient can lead to the decline of beneficence. For this reason, shared decision-making should be promoted between the physician and patient by legislation on the basis of medical necessity.⁷

Rothstein agreed in part that privacy should be improved across board and once that is achieved, then informed consent should be discarded to reward physician paternalism.³ His position is that the physician knows best. The physician is a hired gun like a lawyer. A lawyer does not routinely discuss his trial strategy with the client, because trial strategy is a work in progress. Yet, millions of clients of attorneys are happy with the manner their attorneys handle their cases particularly if the outcome is favorable to the clients. Furthermore, in the modern healthcare delivery system the physician's decision on the type of care for a given patient is not made solely by a single physician but by several others with sub-specialties. Rothstein's justification for discarding informed concept supports Goodman's notion that the issue of privacy is dead in the modern age, when it comes to access to Electronic Health Records.¹ Francis takes the view that it is not a matter of the death of privacy that matters to EHIT.²²

Rather, EHIT provides a good opportunity for trust building in the Physician-patient relationship, since the information about a patient and the treatment given are opened to scrutiny and peer audit. Yet Kaplan advocated that trust develops when the patient feels the physician has his best interest through informed consent.²⁰ Although the authorities in other jurisdictions are discussing the ethical issues implicated in EHIT and the physician-patient relationship, in Ghana, the discussion is yet to start.

CONCLUSION

The general view in Ghana is that in theory medical practice is participatory, but in practice it is paternalistic. It tends to assume all patients as illiterate and un-informed. The physician is reticent about information sharing even when the patient is uniquely trained and placed to understand and appreciate the complexities of his medical condition. Autonomy and

informed consent are absent from the interface between the physician and his patient. The prevailing arguments and positions on the potential compromises EHIT has on the physician-patient relationship elsewhere are present in the Ghana health care delivery system. The Ghana health insurance program with the medical community needs to identify the pitfalls and challenges presented by the EHIT, the ease of access and use by anonymous agencies, departments, researchers and managers, in order to encourage trust within the physician-patient relationship.

The current law is limiting in its scope in terms of protection of personal information because it does not follow the flow of information from a service provider to primary and secondary users who may access data from other sources using the routing connectivity of the host service provider. Due to the fear of disclosure of personal medical records, patients who could take advantage of medical interventions may simply decide not to see the physician for treatment. This real challenge ought to be addressed now.

RECOMMENDATION

There is the need for Ghana to develop specific legislation for privacy in relation to the capture, storage, and exploitations of Electronic Health Information.

Study Limitation

We caution the citation of this study due to the following caveats. The first limitation of this study is that it was confronted with reticence from many in the healthcare delivery system that we approached to participate in our survey and so were able to speak with a limited group of people. However, we believe a much large sample size would not significantly change the result of this study since most of the analysis is retrospective. Gruber (1990) cautioned that a low response rate in a study is often accompanied by an increased percentage of respondents.²⁶ For this reason, we abstained from providing statistical outcomes of our survey but synthesized the findings.

Despite, it is important to bear in mind that due to the low response rate in this historical study, we may have either over-looked some other considerations or under reported them. Physician-patient confidentiality is a big problem in many nations, Ghana included, which cost nations millions of dollars yearly in litigation, job losses, recruitment and retention, and in compromises in the medical and mental healthcare delivery system. Our study did not estimate the national cost, if any, in US dollar or Ghana cedi terms. Further study is required to establish the real cost of ethical abuses of the physician-patient relationship in Ghana. This study

does not adequately reflect the magnitude of the problem. Further research is needed to better understand the complexities of the problem in order to design intervention strategies to address it. We believe also that considering the fact that most of the literature on ethics in Ghana dwells on informed consent on drug trials, our paper has tackled a new and emerging ethical challenge that requires support and investigations to fully understand it. Public health and medical professionals need to know how evidence-based medicine and public health research can co-exist with the Physician-patient relationship in a growing field of electronic health technology and applications. This research is important to all stakeholders in the healthcare delivery system of Ghana.

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