

How Electronic Health Records are Impacting the Health Care Industry

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Abstract

In comparison to many other processes, the enactment of Electronic Health Records as part of the American Recovery and Reinvestment Act of 2009 (*111th Congress, 2009*; Mennemeyer et al., 2016), to some extent, is perhaps incomplete and insufficient to address the complex interrelationships of technical change in a model with environmental constraints among processes related to patient treatment process (Ly et al., 2009). Although the perception of interoperability needs to evolve from traditional architectures (Adenuga et al., 2015), the consideration of interoperating pairs of systems to the capability of machine learning and mathematical modeling necessitates the identification of new requirements that address theoretical complexities, general concepts associated with practical aspects for critical care, health care providers according to (Ser et al., 2014), are finding that current EHRs requiring time-consuming data entry, can interfere with physician-patient interactions, particularly healthcare quality and safety. While core values reduce semantic ambiguities associated with ideology (Codish & Shiffman, 2005), evidence in the decision-making process, according to (Salzman et al., 2012), can inspire and motivate administrators, researchers, and clinicians to increase quality patient care and participate in practice change outcome metrics.

Keywords: *Electronic Health Record (EHR), Patient Care, Clinical Decision Support (CDS), Patient Health Information (PHI), Health Insurance Portability and Accountability Act (HIPAA)*

Introduction

Health care innovations have significantly impacted patient care, helping people live longer and with an increased quality of life. New treatments, therapies, drugs, and diagnostics are saving lives daily. While delivering patient-centered care is at the core of ensuring patient engagement, physician-patient interaction has increasingly focused on optimizing the patient experience (Dranove et al. 1999). Positive patient-provider communication has been shown to increase satisfaction (Rathert et al., 2013), decrease patients' likelihood of adverse outcomes to pursue lawsuit litigation (Hickson & Jenkins, 2007), and bolster placebo effects in medication and “efficacy treatments interventions,” (Miller & Kaptchuk, 2008). Since patient-centered care involves exchanging information, developing interpersonal relationships, and sharing decision-making (Arnold et al., 2015), the capacity to obtain, process, and function within the US Health System becomes a critical objective for many Americans. In recent years, healthcare systems have been incentivized to adopt Electronic Health Records (EHRs) to improve care quality. According to Thompson et al. (2010), the positive benefits of EHRs on healthcare facilitation include patient privacy and security, reducing cost through decreased paperwork, physician-patient communication, accurate coding and billing, consolidation of information, improved diagnostic and patient outcomes, and secure sharing of medical records, are well-documented. However, becoming a phase where technology, patients, and organizations imply a close and continuous interaction (Saba, 2015), limitations of standardization, attitudinal and organizational constraints, and individuals' behavior are barriers to adopting and using EHRs. Associated with poor system design or improper use, EHR systems' impact on information integrity can lead to inaccuracies that endanger patient safety or decrease care quality.

Contingency Factors with EHR

Whether a group practice, a single health care entity coordinating referrals, or self-insured or government-funded health plans obtain a similar effect from their EHR implementations (Majette, 2011) remains an essential question because there are significant differences in hospitals' characteristics adopting these systems according to (Adler-Milstein & Jha, 2017). Evaluating computerized health information systems' hardware and software constitutes a suite of applications with different functionalities. Due to nonlinear relationships between machine learning and statistical methods (Nisbet & Miner, 2009), these systems also often serve as data repositories shared by others to support clinical, financial, and administrative processes. When the availability of EHRs lacks adequate support (Daigrepoint & EFPM, 2020), alternative methods must be used to maintain healthcare continuity.

Patient Care

By providing access to information and resources such as Laboratory Information Management Systems (LIMS), providers can approach various conditions (Mahaffey, 2012), efficiency, enhanced productivity, and security measures to reduce duplication, costs, and disease outcomes. The structured EMR data provide the potential to access point-of-care data that can be used to inform practice and conduct research. With meaningful use, including standard and consistent data entry in specific fields (Wager et al., 2017), the EMR data provide the physician with valuable practice-level information. Used for practice-level interventions such as “efficacy trials comparing a medication to a placebo” (AHRQ, 2011), the data provides feedback to the primary care providers about their care quality, such as screening rates and preventive target achievements. EHR also facilitates requests and task assignments to various team members. Charting summaries, medical notes in an exact structured format that reduces

medical errors in prescribing, and consultation letter templates provide consultants and different team members with legibility, facilitate concise documentation, and improve communication and relationships between family physicians and their multidisciplinary team members.

EHR optimization is integral to leveraging the technology to improve clinical workflow. An adopted and implemented EHR does not mean the hospital will automatically function more effectively but understanding how to improve is critical (Beik & Pepper). As value continues to be emphasized, hospitals must assess how they use technology to support it. In improving clinical workflow through EHR best practices, healthcare organizations can ensure sustainable health care, making them more viable in both the process and outcome of change.

Patient Privacy and Security Risks

According to Justices Warren and Brandeis (2019), “if privacy is once recognized as a right entitled to legal protection, the interposition of the courts cannot depend on the ... publication, is merely an instance of the enforcement of the more general right of the individual to let alone.”

Taking on various forms and can be stored in multiple media, information made available due to a clinical relationship is considered confidential and must be protected (McWay, 2008). Patient information should be released to others only with the patient’s permission or as allowed by law. However, American Psychological Association (APA) (the United States, 2001, p. 102), section 164.506, states, “information can be released for treatment, payment, or health care operations without a patient’s authorization.” Although the patient has federal, state, and legal rights as per Health Insurance Portability Accountability Act (HIPAA) regulations, CFR 164.524(b)(2) – Access of Individuals to Protected Health Information (PHI) to view, obtain a copy of, and amend their Personal Health Information (PHI) with 30 days of the request (Cornell

Law School, n.d.), the key to preserving confidentiality is making sure that only authorized individuals can access information. The process of controlling the amount of information accessed with permitting users. Hence, designating user privileges is a critical aspect of fulfilling security and privacy requirements (Gajanayake et al., 2012); all users have access to the information they need to fulfill their roles and responsibilities (Information Technology Digest (1992), and according to the United States Senate (1997 Sep, 11) “they must know that they are accountable for the use or misuse of the information they view and change.”

A breach of medical information confidentiality can occur with paper medical records, but the risk of a violation is significantly elevated with an EHR system (Hassidm et al., 2017). As a result, one must be vigilant in preventing unauthorized access to patient information, including software discipline, system self-assessment, audits, control of external communications, and disaster recovery procedures. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) (the United States, 1997 Feb, 11) provides data privacy and security provisions for safeguarding medical information. Embedded in the Medicare and Medicaid Electronic Health Record Incentive Programs through the meaningful use requirements (Wager et al., 2017), violation of privacy and compromised confidentiality when using an EHR system could result in HIPAA violations.

Liability and Ethical Problems

Ethics in relation to law, patients have a right to their PHI (Cornell Law School, n.d.). As value continues to be emphasized, EHRs can increase participation and engagement in health care through patient access, empowerment, and improved communication. However, patients may not understand the meaning of consent and the shared distribution of that sensitive information. By presenting an opportunity to meld the “digital culture” with informal

conversations between clients and professionals to national policies, ironically, patients who benefit most from digital access may be least likely to have it. Rather than contributing to avoiding engagement rather than identifying needs, address the thought processes from the initial recognition of a situation with ethical content to implementing a justifiable action. Although EHRs may underline the need for a strategic framework to be maximized for patients who benefit most from digital rights management (the United States, 2002), are we morally responsible for our choices viewed as business decisions? How do our actions affect others?

While facilitating adherence to the most current guidelines, Clinical Decision Support (CDS) might result in a poor outcome. In this situation, according to (Milliken & Grace, 2017), accountability is the ethical nature of the role as an obligation of any nursing profession. Although not all issues will require in-depth consideration, the goal is to reach a prudent choice, not a certainty. However, most have elements that outline a subjective approach to identifying questions, facts, and dialogue related to an ethics of principles versus ethics of character (Coit, 1912; White, 2011). Consistent with their personal and professional values (Gunaldo, 2020), role-associated obligations and emotional and institutional barriers related to utilization may impede your motivation to act (Dahnke, 2009). Moral distress describes an unethical pro-organizational behavior that does not promote patient/family advocacy and nurse moral agency concerns (Kaplow, 2005). At the expense of patient care and role conflicts resulting from the decision to recognize a triad, this activity's importance in the initial and ongoing phases cannot be overemphasized (Mason et al., 2015). It may be challenging to remember that action has consequences when encountering situational fears that require moral courage (Lachman, n.d.); Jameton (2017) states, "knowing what is right and focusing on the relationship between tacit knowledge and institutions constrains acting on that knowledge, and the psychological distress

resulting from that inability to function with the freedom of action“ can be challenging when encountering a situation that requires moral courage. Moral courage can also be “learned, practiced, and mentored” (Hawkins & Morse, 2014, p. 268).

Conclusion

EHR technology should serve as a guide as you evaluate all aspects of acquiring an EHR. Many providers look at the functionality but not beyond the technical platform. Although functionality is critical to the system's day-to-day utilization, the technical underpinnings can mean the difference between a substantial investment and a poor one. In May of 2003, the Department of Health and Human Services (DHHS) asked the Institute of Medicine (IOM) to identify “core care delivery-related functionalities of an Electronic Health Record (EHR) system” (Institute of Medicine, 2003). A functional model of an EHR system (Meehan et al., 2016) will help providers create value by delivering integrated solutions. For most, the migration to making electronic data usable and interoperable will take place for years (Rodrigues et al., 2013). Intended to provide an open and widely used set of requirements for various EHR systems, the object-based architecture of software components for extending remote distributed functions and processing networks would, according to (Hasselbring, 2000), allow providers to compare and contrast management information systems and enable vendors to build a climate for excellence that prevails over operational complexities (Ericison et al., 2003). But to be great, a functional model of an EHR system must also reflect a balance between the capabilities and features of the tools that support them and what can be implemented immediately (Gliklich et al., 2014).

However, the valuable IT governance and risk mitigation approach for healthcare cloud computing (Ermakova et al., 2013) is the pivot to a blockchain-based system for health

information exchange networks (Liu et al., 2018). Maleh et al. (2020) raise important questions about patient autonomy, confidentiality, privacy, physician obligations, the mandate to improve health care, and the need to reduce potential harm. What can be placed in the EHR? What format should they be reported in? What has contextualized the understanding of providers' health IT behavior? To enhance care delivery, a distinction must be drawn between clinical decision support outcomes and preventive health records. For instance, confidentiality obligations are owed only by healthcare providers and healthcare systems. Arguably, should the patient be able to choose what information to disclose (Rothstein, 2010)?

At the same time, practitioners increasingly recognize that Health Information Exchange (HIE) is critical for improving quality, safety, and efficiency by delivering comprehensive information about the patient at the point of care. Enhanced by an extended range of autonomy that includes legislated privileges, “healthcare professionals must demonstrate the efficacy of their contributions to health and wellness” (Forister & Blessing, 2019). Working to protect themselves and their patients, there is an obligation to advocate for their patients and their profession at the systems level of healthcare. By being aware of how policy choices for granularity will affect clinical care and following best practices when sources of data are combined into a single analysis (Kimball et al., 2010), especially with annotations, appendices, and corrections after patient visits, evidence in the decision-making process, according to Salzman et al. (2012), can inspire and motivate administrators, researchers, and clinicians to increase quality patient care and participate in practice change outcome metrics.

Annotated Reference

Adenuga, O. A., Kekwaletswe, R. M., & Coleman, A. (2015). Ehealth integration and interoperability issues: Towards a solution through enterprise architecture. *Health Information Science and Systems*, 3(1). <https://doi.org/10.1186/s13755-015-0009-7>

This study proposes an eHealth architectural model that accommodates requirements based on healthcare needs, system, implementer, and hardware requirements.

Adler-Milstein, J., & Jha, A. K. (2017). HITECH Act drove large gains in hospital electronic health record adoption. *Health Affairs*, 36(8), 1416-1422.

The result of this study supports the argument that recent gains in EHR adoption can be explicitly attributed to HITECH, which suggests that the act could serve as a model for driving the adoption of other valuable technologies.

AHRQ. (2011, September 21). *Effectiveness of practice-based interventions addressing concomitant mental health and chronic medical conditions in the primary care setting*.

(2011, September 21). Retrieved February 1, 2021, from

<https://effectivehealthcare.ahrq.gov/products/depression-chronic-conditions-interventions/research-protocol>

This article reviews the integration of mental health into primary care, the personal burden for affected patients and their families, and the economic and social hardships that affect society.

Arnold, E., Boggs, K. U., & ProQuest (Firm). (2015). *Interpersonal relationships: Professional communication skills for nurses*.

Educators Elizabeth Arnold and Kathleen Underman Boggs offer guidelines on enhancing the nurse-client relationship through proven communication strategies and principles drawn from nursing, psychology, and related theoretical frameworks.

Beik, J. I., & Pepper, J. (2020). *Health Insurance Today-E-Book: A Practical Approach*. Elsevier Health Sciences.

This guide provides a foundation for the types and sources of health insurance, the submission of claims, and the ethical and legal issues surrounding insurance.

Coit, S. (1912). *The Ethical Movement: Its Principles and Aims*. United Kingdom: Union of Ethical Societies.

The ethical societies aimed to ‘disentangle moral ideas from religious doctrines, metaphysical systems, and ethical theories.’ Apart from reflecting on high ideals of “the good and the beautiful,” the Union also campaigned for social reform.

Codish, S., & Shiffman, R. N. (2005). A model of ambiguity and vagueness in clinical practice guideline recommendations. *AMIA ... Annual Symposium proceedings. AMIA Symposium, 2005*, 146–150.

This framework proposes resolving ambiguity and vagueness as an essential step in the computerized implementation of clinical practice guidelines within the medical context.

Cornell Law School. (n.d.). *45 CFR Sect; 164.524 - Access of Individuals to Protected Health Information*. Legal Information Institute. Retrieved February 1, 2021, from <https://www.law.cornell.edu/cfr/text/45/164.524>

Cornell Law School is a group that promotes open access to law worldwide. 45 CFR 164.524 is a law enacted by a legislature that gives individuals the right to access, upon

request, their medical and Protected Health Information (PHI) that health care providers maintain.

Daigrepoint, J. P., & EFPM, C. (2020). *Beyond EHR: Using Technology to Meet Growing Demands and Deliver Better Patient Care*. CRC Press.

This book builds on best practices of successful EHR Adoption that are currently leveraged and adopted by providers and hospitals.

Dahnke, M. D. (2009). The role of the American Nurses Association Code in ethical decision making. *Holistic nursing practice*, 23(2), 112-119.

This article outlines a historical and theoretical analysis of the American Nurses Association Code and how it can explain how it is to be used not as a substitute for moral thinking but also for ethical reflection.

Dranove, D., Reynolds, K. S., Gillies, R. R., Shortell, S. S., Rademaker, A. W., & Huang, C. F. (1999). The cost of efforts to improve quality. *Medical Care*, 37(10), 1084-1087.

This study's principal objective was to provide benchmark data on the costs of efforts to improve quality. The authors also attempted to determine if quality improvement expenditures are correlated with outcomes and condition-specific hospital costs.

Erickson, S. M., Wolcott, J., Corrigan, J. M., & Aspden, P. (Eds.). (2003). Patient safety: achieving a new standard for care.

This article captures patient safety information as a by-product of care. It puts forward a road map for developing and adopting essential health care data standards to support information exchange and the reporting and analysis of patient safety data.

Ermakova, T., Fabian, B., & Zarnekow, R. (2013). Security and privacy system requirements for adopting cloud computing in healthcare data sharing scenarios.

This article examines security and privacy requirements and applies established security requirements elicitation methodology to an information exchange scenario based on cloud computing.

Forister, J. G., & Blessing, J. D. (2019). *Introduction to research and medical literature for health professionals*. Jones & Bartlett Learning.

As a critical requirement of clinical practice in today's world, this covers the research process from start to finish, helping students understand how to interpret and apply research data in our patient's best interests.

Gajanayake, R., Iannella, R., & Sahama, T. (2012). Privacy oriented access control for electronic health records. In *Data Usage Management on the Web: Proceedings of the WWW2012 Workshop* (pp. 9-16). Technische Universitat Munchen-Institut fur Informatik.

This paper address patient privacy requirements, the confidentiality of private information, and the need for flexible access for health professionals for electronic health records.

Gliklich, R. E., Dreyer, N. A., & Leavy, M. B. (Eds.). (2014). *Registries for evaluating patient outcomes: a user's guide*.

This guide focuses on registries created for one or more of the following purposes: to describe the natural history of the disease, to determine clinical effectiveness or cost-effectiveness of health care products and services, to measure or monitor safety and harm, and to measure the quality of care.

Gunaldo, T. (2020). *Interprofessional Education and Collaboration: An Evidence-Based Approach to Optimizing Health Care*. United States: Human Kinetics.

This text guides the reader through the core competencies for building professional knowledge of self and others, creating a culture for teams, building interprofessional relationships, and fostering collaboration that has been set by the Interprofessional Education Collaborative (IPEC) and takes an inclusive approach to the education standards set by professional programs that are members of the Health Professions Accreditors Collaborative (HPAC).

Hasselbring, W. (2000). Information system integration. *Communications of the ACM*, 43(6), 32-38.

The article addresses information system integration and the business architecture that defines the organizational structure and the workflows for business rules and processes at a conceptual level expressed in meaning to existing application systems.

Hassidim, A., Korach, T., Shreberk-Hassidim, R., Thomaidou, E., Uzefovsky, F., Ayal, S., & Ariely, D. (2017). Prevalence of sharing access credentials in electronic medical records. *Healthcare informatics research*, 23(3), 176.

Regarding medical data accessibility, this survey asked participants if they ever obtained the password of another medical staff member and the number of times the episode occurred, and its reason.

Hawkins, S. F., & Morse, J. (2014). The praxis of courage as a foundation for care. *Journal of Nursing Scholarship*, 46(4), 263-270.

This review uses practical utility techniques to analyze the concept of courage and determine its relevance to the present-day context of nursing.

Health Insurance Portability and Accountability Act: Hearing of the Committee on Labor and Human Resources, United States Senate, One Hundred Fifth Congress, First Session ... February 11, 1997. (1997). United States: U.S. Government Printing Office.

This legislation provides national standards relating to health insurance coverage by guaranteeing the availability and portability of private health insurance coverage for specific groups and restricting the use of preexisting conditions.

Hickson, G. B., & Jenkins, A. D. (2007). Identifying and addressing communication failures as a means of reducing unnecessary malpractice claims. *North Carolina medical journal*, 68(5), 362.

This article reviews insurance companies' claims to determine liability and amount of payment for various services.

H.R.1 - 111th congress (2009-2010): American recovery and reinvestment act of 2009. (2009, February 12). Congress.gov. Retrieved January 15, 2021, from <https://www.congress.gov/bill/111th-congress/house-bill/1>

The American Recovery and Reinvestment Act (ARRA) of 2009 is a law enacted by a legislature in response to the Great Recession of 2008.

Information Technology Digest. (1992). United States: The Division.

This survey suggests that conclusions from flawed data are misleading and provide a reference from which managers in service companies can learn to answer unwarranted attacks and improve future performance.

Institute of Medicine. (2003, Jul 31). Key Capabilities of an Electronic Health Record System: Letter Report. United States: National Academies Press.

This article guides the most significant care delivery-related electronic health record (EHR) systems capabilities.

Jameton, A. (2017). What moral distress in nursing history could suggest about the future of health care. *AMA journal of ethics*, 19(6), 617-628.

Defined in 1984, the literature on the subject developed chiefly in nursing ethics. Nursing advocates are developing positive ways to cope with increased clinical settings distress.

Kaplow, R. (2005). *Synergy for Clinical Excellence: The AACN Synergy Model for Patient Care*. United Kingdom: Jones and Bartlett.

This book encompasses the history and development of the nurse and patient characteristics inherent in developing and implementing the competencies necessary in caring for critically ill patients.

Kimball, R., Becker, B., Ross, M. (2010). *The Kimball Group Reader: Relentlessly Practical Tools for Data Warehousing and Business Intelligence*. United Kingdom: Wiley.

This article serves as a reference for Data Warehouse and Business Intelligence's lifecycle.

Lachman, V. D. Strategies Necessary for Moral Courage. *OJIN: The Online Journal of Issues in Nursing*, 15(3).

In this article, the author discusses the key components for actualizing strategies to operationalize moral courage, the willingness to overcome fear, stand up for core values, develop cognitive processes, and overcome risk aversion.

Liu, J., Li, X., Ye, L., Zhang, H., Du, X., & Guizani, M. (2018, December). BPDS: A blockchain based privacy-preserving data sharing for electronic medical records. In *2018 IEEE Global Communications Conference (GLOBECOM)* (pp. 1-6). IEEE.

Fragmented across decentralized hospitals, which hinders data sharing and puts patients' privacy at risk, this article proposes a blockchain-based privacy-preserving data sharing for EMRs, called BPDS

Ly, L. T., Rinderle-Ma, S., Göser, K., & Dadam, P. (2012). On enabling integrated process compliance with semantic constraints in process management systems. *Information Systems Frontiers, 14*(2), 195-219.

This paper discusses fundamental requirements for the comprehensive support of semantic constraints in process management systems (PMS). It provides a survey on existing approaches and can meet the needs and challenges that still have to be fulfilled.

Mahaffey, R. R. (2012). Laboratories, laboratory information, computers. In *Lims* (pp. 14–24). Springer US. https://doi.org/10.1007/978-1-4684-9105-0_2

The purpose of this chapter is to review some concepts and definitions and future considerations of information management in the laboratory.

Majette, G. R. (2011). PPACA and public health: Creating a framework to focus on prevention and wellness and improve the public's health. *The Journal of Law, Medicine & Ethics, 39*(3), 366-379.

This article reflects compliance with some of the Institute of Medicine's recommendations to improve public health in the United States and international health and human rights norms that protect the right to health.

Maleh, Y., Shojafar, M., Alazab, M., & Romdhani, I. (Eds.). (2020). *Blockchain for cybersecurity and privacy: architectures, challenges, and applications*. CRC Press.

This book focuses on the fundamentals, architectures, and challenges of adopting blockchain for cybersecurity in IoT and healthcare. It also includes case studies of the

blockchain for online e-commerce payment, retention payment systems, and digital forensics.

Mason, D. J., Gardner RN PhD FAAN FNAP, Deborah B, Freida, H. O., & O'Grady, E. T.

(2015). *Policy & politics in nursing and health care (policy and politics in nursing and health)* (7th ed.). Saunders.

Featuring analysis of cutting-edge healthcare issues and first-person stories, this book helps students develop skills in influencing policy in today's changing healthcare environment.

McWay, D. C. (2008). *Today's Health Information Management: An Integrated Approach*. United States: Thomson Delmar Learning.

This book guides the health information professional in performing a more central role in delivering health care than ever before, addressing the principles and practices of health information management.

Meehan, R. A., Mon, D. T., Kelly, K. M., Rocca, M., Dickinson, G., Ritter, J., & Johnson, C. M.

(2016). Increasing EHR system usability through standards: conformance criteria in the HL7 EHR-system functional model. *Journal of biomedical informatics*, 63, 169-173.

Mennemeyer, S. T., Menachemi, N., Rahrkar, S., & Ford, E. W. (2016). Impact of the HITECH act on physicians' adoption of electronic health records. *Journal of the American Medical Informatics Association*, 23(2), 375-379.

This paper describes the evidence-based functional requirements for usability in the Health Level Seven (HL7) EHR System Functional Model and the benefits of open and voluntary EHR system usability standards.

Miller, F. G., & Kaptchuk, T. J. (2008). The power of context: reconceptualizing the placebo effect. *Journal of the Royal Society of Medicine*, 101(5), 222-225.

This article diagnoses what is wrong with the placebo concept and suggests ‘contextual healing’ as a fruitful alternative to conceiving the placebo effect.

Milliken, A., & Grace, P. (2017). Nurse ethical awareness: Understanding the nature of everyday practice. *Nursing Ethics*, 24(5), 517-524.

This scholarly and research literature argues that bolstering ethical awareness and ensuring that nurses understand the moral nature of the role is an obligation of the profession.

Nisbet, R., Elder, J., & Miner, G. (2009). *Handbook of statistical analysis and data mining applications*. Academic Press.

This handbook helps one discern the technical and business problem, understand the strengths and weaknesses of modern data mining algorithms, and employ the correct statistical methods for practical application.

Protecting Our Personal Health Information, Privacy in the Electronic Age: Hearings Before the Committee on Labor and Human Resources, United States Senate, One Hundred Fifth Congress, First Session ... September 11 and October 28, 1997. (1998). United States: U.S. Government Printing Office.

This hearing examines the Privacy of Individually Identifiable Health Information (Privacy Rule) standards and the use and disclosure of an individual’s health information called Protected Health Information (PHI).

Rathert, C., Wyrwich, M. D., & Boren, S. A. (2013). Patient-centered care and outcomes: a systematic review of the literature. *Medical Care Research and Review*, 70(4), 351-379.

This systematic review of the Patient-centered care (PCC) literature examines the evidence for PCC and its outcomes.

Rodrigues, J. J., De La Torre, I., Fernández, G., & López-Coronado, M. (2013). Analysis of the security and privacy requirements of cloud-based electronic health records systems. *Journal of medical Internet research*, 15(8), e186.

This article discusses that healthcare providers and cloud service providers must consider security and privacy before moving patient health records to the cloud.

Rothstein, M. A. (2010). Is deidentification sufficient to protect health privacy in research?. *The American Journal of Bioethics*, 10(9), 3-11.

This article considers the effects on privacy and related interests of creating, using, and disclosing de-identified health information in research without the individual's knowledge, consent, or authorization.

Saba, V. K. (2015). *Essentials of Nursing Informatics*, 6th Edition. Spain: McGraw-Hill Education.

Highlighted by an outstanding team of international contributors and content that reflects the latest concepts, technologies, policies, and required skills, this book helps you understand how informatics can enhance every nursing profession.

Salzman, B., Collins, L., & Hajjar, E. R. (2012). *Chronic Disease Management, An Issue of Primary Care Clinics in Office Practice-E-Book* (Vol. 39, No. 2). Elsevier Health Sciences.

This issue covers a topic central to managing a patient with a chronic disease.

Ser, G., Robertson, A., & Sheikh, A. (2014). A qualitative exploration of workarounds related to the implementation of national electronic health records in early adopter mental health hospitals. *PloS one*, 9(1), e77669. <https://doi.org/10.1371/journal.pone.0077669>

This article investigates the perceptions and reported practices of mental health hospital staff using national hospital electronic health records (EHRs) to inform future implementations, particularly in acute mental health settings.

Thompson, D., Velasco, F., Classen, D., & Raddemann, R. J. (2010). Reducing clinical costs with an EHR: investments in performance management are essential to realizing the full benefits of an EHR system--including reduced costs and improved quality of care. *Healthcare Financial Management*, 64(10), 106-112.

This publication explores steps hospitals should take to ensure they gain optimal value from their electronic health record (EHR) systems.

The United States. (2001). *Assessing HIPAA: How federal medical record privacy regulations can be improved : Hearing before the subcommittee on health of the committee on energy ... congress, first session, March 22, 2001*. For Sale By The Supt. Of Docs., U.S. G.P.O. [Congressional Sales Office].

Focusing on whether Federal laws are doing enough to protect its citizens when they are most vulnerable, the hearing examines patient access to care and privacy.

The United States. Congress. House. Committee on the Judiciary. Subcommittee on Courts, the Internet, Intellectual Property, Congress House Committee on the Judiciary Subcommittee on Courts, the Internet, & Intellectual Property Staff. (2002). *Consumer Benefits of Today's Digital Rights Management (DRM Solutions: Hearing Before the Subcommittee on Courts, the Internet, and Intellectual Property of the Committee on the*

Judiciary, House of Representatives, One Hundred Seventh Congress, Second Session, June 5, 2002. US Government Printing Office.

This article focuses on the consumer benefits of DRM. Still, the panel comprises representatives from businesses developing content control systems and omits the most critical stakeholder in this debate, the consumer.

Wager, K. A., Lee, F. W., & Glaser, J. P. (2017). *Health care information systems: A practical approach for health care management* (4th ed.). Jossey-Bass.

This book reviews the major environmental forces that shape the national health information landscape and offers guidance on implementing, evaluating, and managing health care information systems. It also reviews relevant laws, regulations, and standards and explores the most pressing issues for senior-level managers.

Warren, S., & Brandeis, L. (2019). *The right to privacy*. Litres.

This article sets forth the basis for reading into the common law as yet identified rights. First, identifying the harm, a right to privacy is predicated on mental anguish and feelings that were an actionable right to protect.

White, M. (2011). *Kantian Ethics and Economics: Autonomy, Dignity, and Character*. United Kingdom: Stanford University Press.

Introducing the moral philosophy of Immanuel Kant, the standard economic model fails to incorporate the role of principles in decision-making and also denies the possibility of the right choice, which can be independent of preferences and principles altogether.