Regional Health Information Organizations: Lower Health Care Costs, Fewer Iatrogenic Illnesses, and Improved Care - What Are We Waiting For

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REGIONAL HEALTH INFORMATION ORGANIZATIONS:
LOWER HEALTH CARE COSTS, FEWER IATROGENIC ILLNESSES, AND IMPROVED CARE – WHAT ARE WE WAITING FOR?

ANGELA FERNEDING

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I. INTRODUCTION

Dorothy Kramer is seventy-eight years old and lives alone. One afternoon, neighbors found Dorothy slumped and unconscious in her porch rocker. Rescue workers arrived within minutes and rushed the elderly woman to the nearest hospital. Luckily, when Dorothy arrived at the emergency room, a nurse was able to immediately access her complete medical record from the state’s recently implemented Regional Health Information Organization (RHIO). With access to her medical history, the treating physician was able to see that, with the exception of diabetes, Dorothy was extremely healthy for her age. The physician quickly tested Dorothy’s blood glucose levels and determined she was hypoglycemic, the likely cause of her unconsciousness. Within minutes, Dorothy had a glucagon injection and was conscious and alert. Just a few months prior, without access to her medical history via the RHIO, Dorothy would have endured numerous and costly tests to determine the cause of her condition. She may have waited hours for the correct diagnosis, and the delay in treatment may have caused complications and permanent, irreversible brain damage.

Americans spend more on health care than any other industrialized nation, and our costs are rising at astonishing rates. Yet the United States is antiquated in its use of information technology, and consumers are often put at risk when receiving care. In an effort to address these issues, President George W. Bush (“President Bush”) envisions a National Health Information Network (NHIN). RHIOs form the foundation of the NHIN. By facilitating the electronic exchange of health records among providers, this technology will help to lower health care costs and to improve care.

Developing a RHIO takes significant effort, and its success is dependent on the cooperation and dedication of numerous stakeholders. In the process, communities

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1 Dorothy Kramer is a fictitious character created by the author. The character and the scenario that follows were created to emphasize the benefits of a Regional Health Information Organization.

2 The fictional characters and events presented in this hypothetical are based loosely on an interview with John H. Allen, Jr., C.I.O., Mem’l Hosp., Fremont, Ohio (Oct. 18, 2006) [hereinafter Allen Interview].


4 See Gerard F. Anderson et al., Health Care Spending and Use of Information Technology in OECD Countries, 25 HEALTH AFF. 819 (2006).

5 See Richard Hillestad et al., Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, and Costs, 24 HEALTH AFF. 1103 (2005); see also John Pulley, Untangling the Privacy Knot, GOV’T HEALTH IT, Aug. 2006, at 31, 34.


7 See Allen Interview, supra note 2.

8 See Exec. Order No. 13,335, supra note 6.

9 See Brian Robinson, RHIOs for Beginners, GOV’T HEALTH IT, June 2006, at 16.
must identify and address regulatory, privacy, and jurisdictional issues associated with the formation and administration of RHIOs.\textsuperscript{10} Although these issues are significant, they are resolved through current or proposed legislation and existing case law.

The more significant challenge for communities is financing. RHIOs are dependent on the use of information technology. Unfortunately, many communities do not have adequate financial resources to establish a regional network.\textsuperscript{11} And health care providers are slow to implement electronic medical record systems because the cost is high\textsuperscript{12} and their personal return on investment is uncertain.\textsuperscript{13} To address these issues, the national government must become more involved. It must provide grants, subsidies, and other incentives that encourage health care providers to implement electronic medical records and to facilitate the development of RHIOs.

Part II of this article will provide a brief overview of the challenges our health care system is facing, the status of RHIO development, and current governmental action. Part III will discuss the numerous benefits that RHIOs can provide to individuals, health care providers, and the community as a whole. Part IV will then review the challenges associated with the formation and administration of RHIOs and discuss how these challenges can be eliminated or minimized. Part V will advocate for additional governmental action—action that will encourage the adoption of electronic medical record systems and further development of RHIOs. And Part VI will conclude that Congress must encourage the adoption of information technology and the formation of RHIOs by committing significant financial resources, mandating participation in Medicare’s and Medicaid’s pay-for-performance programs, and encouraging similar private programs.

II. OVERVIEW

Although annual increases for the privately insured peaked in 2001, studies show that health care spending continues to rise at a significant pace.\textsuperscript{14} In fact, health insurance costs have increased fifty-four percent over the past five years.\textsuperscript{15} In addition to Americans paying higher insurance premiums, many are paying more more


\textsuperscript{11} See Nancy Ferris, States Approach Health IT Differently, Survey Finds, GOV’T HEALTH IT, Nov. 2006, at 10 [hereinafter Ferris, States Approach Health IT Differently]; Robinson, supra note 9, at 16 (reporting that First Consulting found only two RHIOs self-sustaining: HealthBridge, the RHIO servicing the Greater Cincinnati area, and the Indiana Health Information Exchange).

\textsuperscript{12} See Ken Terry, EHRs: Where Are We Now?, MED. ECON., May 20, 2005, at 34 [hereinafter Terry, EHRs: Where Are We Now?].


\textsuperscript{14} See Health Sys. Change Press Release, supra note 3 (reporting changes in health care spending for the privately insured person to be 7.4% in 2005, 7.5% in 2004, 7.8% in 2003, 10.1% in 2002, 10.4% in 2001, and 7.7% in the first quarter of 2006).

\textsuperscript{15} Kenneth E. Thorpe, The Rise in Health Care Spending and What to Do About It, 24 HEALTH AFF. 1436 (2005).
out-of-pocket through higher deductibles, co-payments, and coinsurance.16 To make matters worse, increases in health care costs have outpaced the economy17 and personal incomes.18 As a result, in 2005, 15.9 percent or 46.6 million Americans were uninsured.19

Although the United States spends about two-and-a-half times more than the average industrialized nation on health care, it is ranked low in overall performance20 and is at least a dozen years behind other industrialized nations in its use of information technology that can help to contain these costs.21 Most health care records in the United States are paper;22 whereas, other countries have implemented electronic medical records and use information technology to reduce overall health care spending and improve care.23

In recent years, President Bush presented his vision for the use of information technology in health care and set the goal of implementing electronic medical records for most Americans by the year 2014.24 President Bush has estimated that the use of this technology will reduce overall health care costs by twenty percent.25 Some research suggests that the United States will achieve savings of between $81


17 Id. (reporting changes in the Gross Domestic Product (GDP) to be 2.1% in 2001, 2.3% in 2002, 3.7% in 2003, 5.8% in 2004, 5.4% in 2005, and 5.9% in the first quarter of 2006).

18 See Taylor et al., supra note 13, at 1234; see also Bill Saporito, The E-Health Revolution, TIME, June 27, 2005, at 55 (“The U.S. is [number one] in the world in terms of health-care expenditures – a total of $1.8 trillion last year and rising at a rate more than twice as fast as our incomes.....”).

19 U.S. Census Bureau, Press Release: Income Climbs, Poverty Stabilizes, Uninsured Rate Increases (Aug. 29, 2006) [hereinafter U.S. Census Bureau Press Release] (on file with author); see also Allen Interview, supra note 2 (citing a presentation given by Irene Fraser at the law offices of Schottenstein, Zox & Dunn, Columbus, Ohio on Oct. 18, 2006, indicating that “uninsured Americans are sick more often, die younger and pay only [thirty percent] of their health care costs.”).

20 See IBM, Healthcare 2015: Win-Win or Lose-Lose?, at i, http://www-03.ibm.com/industries/healthcare/doc/content/landingdtw/1752939105.html?P_Campaign=6N3EWS77 (last visited Nov. 5, 2006) (“The United States spends 22 percent more than second-ranked Luxembourg, 49 percent more than third-ranked Switzerland on health care per capita, and 2.4 times the average of the other OECD countries. Yet, the World Health Organization ranks it [thirty-seventh] in overall health system performance.”).

21 See Anderson et al., supra note 4, at 819.

22 See Hillestad et al., supra note 5, at 1103.

23 See Anderson et al., supra note 4, at 819.

24 Exec. Order No. 13,335, supra note 6; see also Nancy Ferris, The Road Ahead, Gov’t HEALTH IT, June 2006, at 25 [hereinafter Ferris, Road Ahead]; Nancy Ferris, Doctor’s Use of EHRs May Have Been Overestimated, Gov’t HEALTH IT, Nov. 2006, at 6 [hereinafter Ferris, Doctor’s Use]; Terry, EHRs: Where Are We Now?, supra note 12, at 34.

25 Terry, EHRs: Where Are We Now?, supra note 12, at 34.
and $162 billion annually. For Americans to experience the greatest advantages, electronic medical records must be shared among health care providers. Connectivity is necessary to decrease health care spending and to improve safety and quality of care.

In April 2004, President Bush issued an executive order establishing the position of the National Health Information Technology Coordinator and providing incentives for the use of health care technology. President Bush envisions a NHIN that facilitates the electronic exchange of health care records and, in doing so, reduces costs and improves safety. The national network will rely on electronic medical records being shared via RHIOs.

Although the Health Technology Center estimates that there are more than four hundred RHIOs currently in existence, there are differing opinions as to how many are functional and self-sustaining. A recent survey by the eHealth Initiative, an independent advocate that works to improve the quality, safety, and efficiency of health care through the use of information technology, found that twenty-six RHIOs are fully functional, while Forrester Research, an independent market research firm, reports that only seven RHIOs are fully operational. Another analysis is even less optimistic, listing only two RHIOs as self-sustaining. Some RHIOs are able to succeed without grants; however, many struggle financially and some continue to depend on public funding.

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26 Taylor et al., supra note 13, at 1234; see also Rand Corporation, Press Release: Rand Study Says Computerizing Medical Records Could Save $81 Billion Annually and Improve the Quality of Medical Care (Sept. 14, 2005) [hereinafter Rand Press Release] (indicating that efficiency over time may allow savings of $346 billion annually) (on file with author); Hillestad et al., supra note 5 (estimating that if health care experiences similar productivity gains due to the use of technology as other industries have, savings may reach $813 million annually).

27 See Taylor et al., supra note 13, at 1234.

28 Id.

29 Exec. Order No. 13,335, supra note 6.

30 Id.

31 See Allen Interview, supra note 2.

32 Terry, EHRs: Where Are We Now?, supra note 12, at 34.

33 See Ferris, States Approach Health IT Differently, supra note 11, at 10; Robinson, supra note 9, at 16 (citing a study by First Consulting Group, an organization that provides consulting, integration and outsourcing services to the health care industry).

34 Ferris, States Approach Health IT Differently, supra note 11, at 10.

35 Robinson, supra note 9, at 16.

36 Id. (citing a study by First Consulting Group).

37 See Ferris, States Approach Health IT Differently, supra note 11, at 10.

38 But see Robinson, supra note 9, at 16 (reporting that HealthBridge, the RHIO servicing the Greater Cincinnati area, is not dependent on public grants).
In February 2006, the U.S. Office of the National Coordinator for Health Information Technology initiated a project that is charged with the task of identifying best practices for state-level RHIOs. The project is intended to identify “best practices in the areas of governance, structure, financing, operations, and health information exchange policies.” This project is still underway.

For almost a decade, health care costs have risen at alarming rates, leaving many Americans uninsured. To address these issues, President Bush envisions a NHIN utilizing information technology to reduce spending and improve safety and quality of care. The NHIN relies on electronic medical records being shared via RHIOs, many of which are in existence but few are fully operational and self-sustaining. To assist communities in their RHIO efforts, the United States Office of the National Coordinator for Health Information Technology is working to identify best practices for utilizing this technology.

III. BENEFITS OF RHIOs

RHIOs provide numerous benefits to individuals, health care providers, and the community as a whole. The most significant benefits are decreased health care spending, improved safety, and improved quality of care.

A. Decreased Health Care Spending

Health care costs have risen significantly over the past five years, outpacing the economy and personal incomes. Some research suggests that, through the use of

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39 See Information Technology; Indiana Health Information Exchange to Participate in Development of RHIO Best Practices, PHYSICIAN LAW WKLY., June 7, 2006, at 404 (indicating that the study will be performed by the Foundation of Research and Education of the American Health Information Management Association).

40 Id. (reporting that Utah, Indiana, California, Colorado, Florida, Maine, Massachusetts, Rhode Island, and Tennessee will participate in a study to identify best practices for state-level RHIOs).

41 Id.


43 See Health Sys. Change Press Release, supra note 3 (reporting changes in health care spending for the privately insured person to be 7.4% in 2005, 7.5% in 2004, 7.8% in 2003, 10.1% in 2002, 10.4% in 2001, and 7.7% in the first quarter of 2006); U.S. Census Bureau Press Release, supra note 19.

44 See Exec. Order No. 13,335, supra note 6.

45 See Terry, EHRs: Where Are We Now?, supra note 12; Ferris, States Approach Health IT Differently, supra note 11, at 10; Robinson, supra note 9.

46 See Information Technology; Indiana Health Information Exchange to Participate in Development of RHIO Best Practices, supra note 39, at 404.

47 Thorpe, supra note 15, at 1436.
information technology, the United States will achieve savings of between $81 and
$162 billion annually.40 In Utah, where the state-wide RHIO encompasses one
hundred percent of hospitals and more than ninety percent of other health care
providers,51 health care costs are twenty-four percent less than the U.S. average.52

First, information technology greatly reduces administrative expenses, which
account for twenty-five to thirty percent of all health care costs.53 When a provider
relies on a paper record system, administrative staff must transcribe physician notes,
pull charts, file paper records, and process laboratory orders and results. These
administrative tasks are greatly reduced or eliminated by the use of electronic
medical records and interconnectivity between providers.54 A chart is only a few
keystrokes away, physician notes are entered as they are written, and laboratory
orders and results are automatically routed and stored.

Information technology also reduces administrative costs by dramatically
improving fee collection by providers.55 A physician practice associated with
George Washington University Hospital implemented an electronic medical record
system and decreased accounts receivable by twenty-five percent.56 And, on
average, claims are now paid within sixty-three days, down from 102 days.57 Yet the
greatest impact can be seen in the state of Utah. There, eighty-five percent of claims
are paid within just seven days.58 As a result, the administrative costs of
resubmitting claims and justifying charges and other expenses associated with
collection are reduced substantially.59

48 See Health Sys. Change Press Release, supra note 3 (reporting changes in the Gross
Domestic Product (GDP) to be 2.1% in 2001, 2.3% in 2002, 3.7% in 2003, 5.8% in 2004,
5.4% in 2005, and 5.9% in the first quarter of 2006).

49 See Taylor et al., supra note 13, at 1234; see also Saporito, supra note 18, at 56.

50 Taylor et al., supra note 13, at 1234; see also Rand Press Release, supra note 26
(indicating that efficiency over time may allow savings of $346 billion annually) (on file with
author).

51 Telephone Interview with Julie Nelson, Dir. of Mktg., Utah Health Info. Network,
South Murray, Utah (Nov. 20, 2006) [hereinafter Nelson Telephone Interview].

52 Telephone Interview with Lois Haggard, Special Assistant, Utah Dept. of Health, Salt
Lake City, Utah (Dec. 1, 2006).

53 Allen Interview, supra note 2 (citing a presentation given by Irene Fraser at the law
offices of Schottenstein, Zox & Dunn, Columbus, Ohio on Oct. 18, 2006).

54 See Scott Barlow et al., The Economic Effect of Implementing an EMR in an Outpatient
Clinical Setting, 18 J. HEALTHCARE INFO. MGMT. 46 (2004) (referencing a case study of the
Central Utah Multi-Specialty Clinic).

55 Id. (noting that technology “could eliminate more than [ten dollars] in rejected claims
per outpatient visit”).

56 Saporito, supra note 18, at 55.

57 Id.

58 Nelson Telephone Interview, supra note 51.

59 See generally Hillestad et al., supra note 5, at 1103.
In addition to decreased administrative costs, sharing data among providers via a RHIO can reduce spending on unnecessary care. A study by Dartmouth College found that one-third of health care, such as duplicative laboratory testing, provides no benefit to the patient. With the implementation of a RHIO, physicians have access to other providers’ data and can review results of previously administered tests and prior courses of therapy. A recent assessment by the Center for Information Technology Leadership indicates that, by implementing electronic medical record systems, payors realize significant savings due to decreased drug spending and the elimination of duplicative tests and redundant data.

B. Improved Safety

Information technology also decreases costs while improving safety. Iatrogenic illness, otherwise known as medical error, poses a significant and costly health risk. The Institute of Medicine estimates that medical error is the eighth leading cause of death in the United States, causing approximately eight million outpatient events and 100,000 deaths each year. Studies indicate that one-third to one-half of outpatient events is preventable, and the sharing of electronic medical records “should reduce medical errors and costs, saving lives and saving dollars . . . .” In fact, the federal Office of the National Coordinator for Health IT asserts that eighty

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60 Saporito, supra note 18, at 56.
61 See Allen Interview, supra note 2.
62 See Barlow et al., supra note 54, at 50 (citing a study conducted by Wang).
63 Id. at 46.
64 “Iatrogenic” is defined as “induced inadvertently by a physician or surgeon or by medical treatment or diagnostic procedures.” MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 573 (10th ed. 1998).
65 See Hillestad et al., supra note 5, at 1103.
66 Id.
67 Food and Drug Admin., 2004 ANNUAL PERFORMANCE PLAN, available at http://www.fda.gov/opa/ly04plan/2004pp-mainpage.html; see also Pulley, supra note 5, at 32 (indicating that 200,000 patients die each year due to medical errors, “larger than the yearly death toll from breast cancer, AIDS or accidents involving motor vehicles combined.”); Saporito, supra note 18, at 56 (noting that costs are high “in part because of the inefficiency of a system in which tens of thousands of patients die each year as a result of medical errors.”).
68 Hillestad et al., supra note 5, at 1109; see also IBM, supra note 20, at iv (“Preventable medical errors kill the equivalent of more than a jumbo jet full of people every day in the U.S.….”).
69 Steve Lohr, Smart Care Via a Mouse, But What Will It Cost?, N.Y. TIMES, Aug. 2, 2006, § 3, at 1; see also Healthcare Information and Management Systems Society, EMR Sophistication Correlates to Hospital Quality Data, at 5, available at http://www.himssanalytics.org/PDFFiles/UHC25.pdf (last visited Nov. 5, 2006) (indicating that there were no transcription errors when an electronic medical record system was in use; whereas, when a system was not in use, “errors reached as high as [twenty-six] percent” and that evidence shows that advanced use of EMR improves quality of care.”); Rand Press Release, supra note 26.
percent of these errors are caused by paperwork or manual errors\textsuperscript{70} that could be addressed through the use of electronic medical record software. But to achieve the greatest improvement in patient safety, electronic medical records and prescription software must be a part of a comprehensive and integrated information network.\textsuperscript{71}

Each year, Americans spend approximately $75 billion on drug-related adverse events.\textsuperscript{72} Electronic systems allow prescriptions to be filled with greater accuracy by eliminating the need to decipher a physician’s handwriting.\textsuperscript{73} In addition, electronic medical record systems verify proper dosage, alert the physician to patient allergies, and scan for possible interactions with other drugs the patient has been prescribed.\textsuperscript{74} The use of information technology would eliminate two-thirds of adverse drug events, a savings of $50 billion each year.\textsuperscript{75} And, since fewer adverse drug events mean less liability, providers may achieve additional savings by insurance companies offering reduced malpractice insurance premiums for the use of electronic prescription ordering systems.\textsuperscript{76}

C. Improved Quality of Care

A RHIO has a major impact on the quality of care that consumers receive. Studies indicate that the use of information technology in the health care setting can lower age-adjusted mortality by eighteen percent.\textsuperscript{77} When a health care provider relies on an electronic medical record system, the chart is updated at the time the patient is treated.\textsuperscript{78} Since the chart does not need to be transcribed from handwritten or dictated notations, physicians have immediate access to the latest developments in a patient’s history.\textsuperscript{79} With the most current data, electronic medical record systems can chart trends in a patient’s history and, based on diagnoses or risk factors, recommend preventive services or necessary laboratory testing.\textsuperscript{80} However, the greatest advances will come from electronic medical records being networked through RHIOs.\textsuperscript{81} The physician has access to other providers’ data, receives lab

\textsuperscript{70} See Pulley, supra note 5, at 32 (These errors include “inadequate communications between physicians, inaccurate medical records, mishandled patient requests, inaccessible records, mislabeled specimens, misfiled or missing charts, and poor reminder systems.”).

\textsuperscript{71} See Hillestad et al., supra note 5, at 1103.

\textsuperscript{72} Food and Drug Admin., supra note 67.

\textsuperscript{73} See Saporito, supra note 18, at 56.

\textsuperscript{74} Id.

\textsuperscript{75} Hillestad et al., supra note 5, at 1109; see also Barlow et al., supra note 54, at 50 (“An additional assessment by the Center for Information Technology Leadership concluded that ambulatory computerized physician order entry…reduced medication, radiology, laboratory, and ADE-related expenses…..”).

\textsuperscript{76} Interview with Roger Peckham, M.D., in Westlake, Ohio (Oct. 3, 2006).

\textsuperscript{77} Taylor et al., supra note 13, at 1236.

\textsuperscript{78} See Barlow et al., supra note 54, at 49.

\textsuperscript{79} Id.

\textsuperscript{80} See Hillestad et al., supra note 5, at 1103.

\textsuperscript{81} See Taylor et al., supra note 13, at 1234.
results more quickly, and is able to provide appropriate treatment in a more timely and effective manner.\textsuperscript{82} A RHIO is extremely valuable when a patient is hospitalized or taken to an emergency room. The hospital personnel have immediate access to the patient’s complete medical history, including recent office visits.\textsuperscript{83} The emergency room physician is able to view previous test results, past and present health concerns, recent symptoms, and medications.\textsuperscript{84} Additionally, networked data will improve drug development and approval efforts.\textsuperscript{85} Pharmaceutical companies will have access to anonymous data, which “could improve and speed up drug development.”\textsuperscript{86} And drug effectiveness studies will be done using independent data, eliminating any current bias of studies being funded by the pharmaceutical companies themselves.\textsuperscript{87}

In general, RHIOs can positively impact the quality of care that patients receive in the United States. The use of electronic medical records and networked data not only expedites access to a patient’s complete health care record but is also valuable in research and development efforts.\textsuperscript{88}

IV. CHALLENGES

A. Data Accuracy

There are two models for the infrastructure of RHIOs: centralized and federated.\textsuperscript{89} Under a centralized model, patient data is duplicated and stored on the servers of the RHIO administrator.\textsuperscript{90} Under a federated model, each participating health care provider stores patient data on its own server and the RHIO serves as a portal.\textsuperscript{91} Each community must decide which model best meets its needs.\textsuperscript{92}

Under either model, data must be transmitted from one health care provider’s system to another, and there can be issues regarding the accuracy of data.\textsuperscript{93} Some
liken the centralized model to a game of “telephone,” and the currency of data depends on each individual health care provider sending updates in a timely fashion. However, a federated system presents its own challenges. Under a federated model, each physician-patient encounter relies on numerous decentralized stores of information being available, each one different in its architecture and transmission procedures.

With either model, accurately linking a patient’s health care data is a difficult task, and “[a] glitch in a single system could produce an incomplete or erroneous medical record at a critical moment.” Establishing a unique patient identification number that would be disclosed and used only for health care purposes would help to ensure accuracy in a patient’s medical record. Although implementing a new identification system is costly, other methods, such as probabilistic matching, are not as dependable.

B. Legal Challenges

1. Stark and Anti-Kickback Statutes

a. Stark Laws

The Omnibus Reconciliation Act of 1989 and the Omnibus Reconciliation Act of 1993, otherwise known as the Stark Laws, were enacted to prevent Medicare

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94 Id.
95 Id.
96 Id.
97 See Nancy Ferris, State-Level Health Info Exchanges Increasing, GOV’T HEALTH IT, Aug. 2006, at 6 [hereinafter Ferris, State-Level Health Info Exchanges Increasing] (citing a survey by the eHealth Initiative, an independent advocate that works to improve the quality, safety, and efficiency of health care through the use of information technology). Ferris explains, “Eighty percent of respondents said accurately linking patient data is very or moderately difficult, and 76 percent said the same of ensuring privacy and confidentiality.” Id.
98 Scalise, supra note 89, at 22.
99 Joseph Conn, Identity Crisis? Renewed Debate Over the Need for a National Patient ID Focuses on Issues of Privacy, Cost and Effectiveness, MODERN HEALTHCARE, May 22, 2006, at 26 (HIPAA originally mandated the creation of a unique patient identification number; however, Congress and President Clinton reversed this mandate in 1998.).
100 See Conn, supra note 99, at 26. Probabilistic matching can also be used to link health care records from various health care providers. Id. This method was recommended on April 6, 2006, in Connecting for Health’s blueprint for a NHIN. Id.
101 Id. (“Implementation…is expected to be expensive…[with] cost estimates ranging from $10,000 for one hypothetical organization to change the length of its existing identifier to $5.7 million for one state Medicaid program to $370 million for one large insurer to change its system in one state.”).
102 42 U.S.C.S. § 1395nn.
103 Id.
fraud by prohibiting physician self-referrals. Physicians are forbidden from referring Medicare patients "to entities with which the physician [or the physician’s immediate family] has a financial relationship, unless an exception applies." Violators are subject to civil penalties, including money penalties, exclusion from Medicare, and the potential loss of the violator’s medical license. The Centers for Medicare and Medicaid Services are responsible for the interpretation of the Stark laws.

Until recently, the Stark Laws prohibited hospitals and other health care organizations from assisting physicians in acquiring and implementing health care technology. In an effort to support President Bush’s vision of a NHIN, the Centers for Medicare and Medicaid Services created exceptions for the donation of electronic prescribing and electronic medical record systems. These exceptions allow for “nonmonetary remuneration” that includes “donations of hardware, software, information technology and training services . . . for purposes of electronic prescribing and adoption of electronic health information technology.” Although the items or services donated for electronic prescribing purposes must be “used solely to receive and transmit electronic prescription information,” donations of electronic medical records or related services must only be “used predominantly to


106 See Allen Interview, supra note 2 (citing Gerard M. Nussbaum, Director, Technology Services, Kurt Salmon Associates, Kicking Back and Enjoying the Stark Realities of Providing Electronic Health Record Systems to Physicians, Presentation at the College of Healthcare Information Management Executives meeting on Oct. 10, 2006).

107 Id.


110 Id. (indicating that the e-prescribing exception was required by section 101 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, and that the agency’s authority to issue the electronic medical record exception is justified under the agency’s “legal authority under section 1877(b)(4) of the [Social Security Act].”); see also New Stark Law Exceptions and Anti-Kickback Statute Safe Harbors Encourage the Adoption and Implementation of Health Information Technology Systems, supra note 105, at 1; Schottenstein Zox & Dunn Co., L.P.A., E-Prescribing and Electronic Health Record Technology Donation Rules Finalized, HEALTH LAW STRATEGIST 6 (Fall 2006).

111 Ohio State Med. Ass’n, supra note 105, at 5.
create, maintain, transmit, or receive electronic health records." These exceptions are effective October 10, 2006, and continue for a period of seven years.

b. Anti-Kickback Statute

The Anti-Kickback Statute was also enacted to prevent fraud. The statute prohibits the “direct or indirect solicitation, receipt, offer or payment of any remuneration in return for Medicare or Medicaid patient referrals.” This statute was expanded under the Health Insurance Portability and Accountability Act (HIPAA) and now affects all federal health care programs. Violators are subject to criminal penalties, including substantial fines, incarceration, and exclusion from federal health care programs. The Office of the Inspector General is responsible for the interpretation of the Anti-Kickback Statute.

Like the Stark Laws, the Anti-Kickback Statute until recently prohibited hospitals and other health care organizations from assisting physicians in acquiring and implementing information technology. Just as the Centers for Medicare and

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112 71 Fed. Reg. at 45,140; E-Prescribing and Electronic Health Record Technology Donation Rules Finalized, supra note 110, at 6 (emphasis added).

113 71 Fed. Reg. at 45,140; see also E-Prescribing and Electronic Health Record Technology Donation Rules Finalized, supra note 110, at 6 (indicating that the e-prescribing exception was required by section 101 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, and that the agency’s authority to issue the electronic medical record exception is justified under the agency’s “legal authority under section 1877(b)(4) of the [Social Security Act].”); New Stark Law Exceptions and Anti-Kickback Statute Safe Harbors Encourage the Adoption and Implementation of Health Information Technology Systems, supra note 105, at 1.

114 42 U.S.C.S. § 1320a-7b.


116 Allen Interview, supra note 2 (citing a presentation given by Catherine T. Dunlay and Anthony D. Shaffer at the law offices of Schottenstein, Zox & Dunn, Columbus, Ohio on Oct. 18, 2006); see also New Stark Law Exceptions and Anti-Kickback Statute Safe Harbors Encourage the Adoption and Implementation of Health Information Technology Systems, supra note 105, at 1; Lori-Ann Rickard et al., Recent Developments in Regulation of Pharmaceutical Marketing Practices, 19 HEALTH LAWYER, at 16, 17 (explaining that “remuneration can be ‘in cash or kind,’ ‘indirect or direct’ and ‘covert or overt.’”).


119 See Allen Interview, supra note 2 (citing Gerard M. Nussbaum, Director, Technology Services, Kurt Salmon Associates, Kicking Back and Enjoying the Stark Realities of Providing Electronic Health Record Systems to Physicians, Presentation at the College of Healthcare Information Management Executives meeting on Oct. 10, 2006); see also Rickard et al., supra note 116, at 17.

120 See Allen Interview, supra note 2.

Medicaid Services created exceptions to the Stark Laws, the Office of the Inspector General developed exceptions to the Anti-Kickback Statute and now allows similar donations. However, the exceptions or “safe harbors,” require the physician to pay fifteen percent of the donor’s cost of software and services; further, the donor cannot make a loan to the donee for this purpose, and the donation of hardware is prohibited. Similarly, the items or services donated for electronic prescribing purposes must be “used solely to receive and transmit electronic prescription information,” and donations of electronic medical records or related services must only be used “predominantly to create, maintain, transmit, or receive electronic health records.” The safe harbors were effective October 10, 2006 and do not expire.

**c. Summary of Stark and Anti-Kickback Statutes**

The recently implemented exceptions to the Stark Laws and the Anti-Kickback Statute will aid the development of RHIOs. The two sets of exceptions are very similar; each allows hospitals and other health care organizations to assist physicians in acquiring electronic prescribing and electronic medical record systems. Although there are still some constraints on the items and services that can be donated to the physician, relaxing these statutory barriers will help to encourage the adoption of health care technology and support President Bush’s vision of a NHIN.

2. Privacy

*a. Privacy Concerns*

Electronic medical record systems amass large amounts of patient data. A patient’s record contains medical and lifestyle information that is “perhaps the

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123 See Ohio State Med. Ass’n, supra note 105, at 5.
125 See Allen Interview, supra note 2 (citing Gerard M. Nussbaum, Director, Technology Services, Kurt Salmon Associates, Kicking Back and Enjoying the Stark Realities of Providing Electronic Health Record Systems to Physicians, Presentation at the College of Healthcare Information Management Executives meeting on Oct. 10, 2006); see also New Stark Law Exceptions and Anti-Kickback Statute Safe Harbors Encourage the Adoption and Implementation of Health Information Technology Systems, supra note 105, at 1.
126 71 Fed. Reg. at 45,140 (emphasis added); see also E-Prescribing and Electronic Health Record Technology Donation Rules Finalized, supra note 110, at 6.
most intimate, personal, and sensitive of any information maintained about an individual.”

Privacy breaches can cause economic, social, and psychological harms to the patient. Concerns regarding privacy are real and affect patient behavior every day. In a recent survey regarding health care reform, eighty-five percent of respondents believed security was more important than universal coverage and medical research, and sixty-seven percent of respondents were concerned about the confidentiality of their personal information. In fact, a majority of respondents feared that employment opportunities would be negatively impacted if their employers had knowledge of information contained in their medical records, and more than twelve percent of respondents admitted to taking steps to protect their privacy by “asking their doctors not to record a health problem in their records, avoiding medical tests, withholding information from their doctor [sic] or seeking treatment from another doctor.” As a result of these concerns and behaviors, patients may not receive treatment, may receive substandard treatment, or may impact the health of others by not reporting communicable diseases.

Unfortunately, data shows that patients’ concerns regarding privacy are valid. First, an entire industry is based on the legal compilation and sale of health care

Terry, Regulating for Patient Safety] (“Even a modest hospital or physician office EMR system dramatically increases the amount of patient safety information collected, with all the attendant confidentiality and security risks.”).

See IBM, supra note 20, at 28.


Id. Gostin explains:

[A] breach of privacy can result in economic harms such as loss of employment, insurance, or housing….Disclosure of some conditions can be stigmatizing, and can cause embarrassment, social isolation, and a loss of self-esteem. These risks are especially great when the perceived causes of the health condition include the use of illegal drugs, socially disfavored forms of sexual expression, or other behavior that triggers social disapproval.

Id.

Pullen, supra note 5, at 33 (“A survey released last fall showed that [sixty-seven] percent of Americans are concerned about the privacy of their personal health information and are largely unaware of their rights.”) (citing to the 2005 National Consumer Health Privacy Survey by the California HealthCare Foundation). Id.

Id.

Id. at 31, 33 (“[T]here is ‘strong data to show that significant portions of the population will put their own health at risk if they are worried about their privacy.”).

See Nancy Ferris, Group Warns of the Misuse of Patients’ Medical Data, Gov’T HEALTH IT, Oct. 2006, at 7 [hereinafter Ferris, Group Warns of the Misuse of Patients’ Medical Data]; see also Gostin, supra note 133, at 489 (indicating that the Medical Information Bureau collects patient health care data in order to provide insurance companies with actuarial risk assessments and that there are “numerous examples of prosecutions for breaches of privacy against current and former employees of the federal government…. local
Without patient consent or knowledge, these organizations develop databases of highly sensitive information and then sell the data to other organizations, such as insurance companies. In addition to the legal but unauthorized sale of health care data, there is unequivocal evidence of unlawful sales. Illegal sales are often made by an insider who can access the data without causing suspicion. These insiders are often workers who are enticed financially to disclose information to unauthorized individuals or organizations. In fact, the Office of Technology Assessment believes “that the unlawful sale of personal information from data banks held by government or the private sector, particularly medical information, is widespread.” Although some security breaches are intended to “disrupt operations and service delivery,” investigations indicate that these crimes are usually financially motivated. Health care facilities, such as hospitals and group practices, are at high risk of being attacked because these organizations “contain large amounts of valuable data—not just confidential patient information but also financial and personal information about employees, insurance companies, suppliers and partners.”

One use of the illegally obtained information is medical identity theft. Medical identity theft is a growing problem and can be especially devastating to a consumer. A recent report by the World Privacy Forum estimates that between police officers accessing the FBI’s National Crime Information center, and private information brokers.”.

See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7; see also Gostin, supra note 133, at 488-89 (indicating that the Medical Information Bureau collects patient health care data in order to provide insurance companies with actuarial risk assessments).

See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7.

See Gostin, supra note 133, at 488 (“The OTA provides numerous examples of prosecutions for breaches of privacy against current and former employees of the federal government…, local police officers accessing the FBI’s National Crime Information center, and private information brokers.”).

See Blake Sutherland, Enemy at the Gates, RADIOLOGY TODAY, Dec. 4, 2006, at 10, 13.

See Gostin, supra note 133, at 487.

Id. at 489.

Id. supra note 142, at 13.

Id. (indicating that criminals are “much more motivated by financial gain than personal or political fulfillment.”).

Id.

Id. (“In 2005 alone, Privacy Rights Clearinghouse identified more than [ten] healthcare organizations…that had significant security breaches.”).

Id.

Id.
250,000 and 500,000 Americans have been victimized by medical identity theft.\textsuperscript{151} Thieves use a patient’s information to obtain payment from Medicare, Medicaid, or private insurance.\textsuperscript{152} As a result, some victims find that their “health insurance has been exhausted, or they may fail an employment exam based on erroneous information in their records.”\textsuperscript{153}

Sadly, patients’ concerns regarding the confidentiality of their health care information\textsuperscript{154} is justified. Whether the sale of highly sensitive health care information\textsuperscript{155} is lawful\textsuperscript{156} or unlawful,\textsuperscript{157} the transaction is unauthorized by the patient and the patient can sustain economic, social, and psychological harms.\textsuperscript{158} In an effort to protect themselves, patients routinely withhold information, avoid treatment, or take other steps that can negatively impact their own health or the health of others.\textsuperscript{159}

\textit{b. Improved Security and Control}

The use of information technology can help to protect privacy.\textsuperscript{160} Although some privacy advocates are concerned that the use of electronic medical records will decrease patient privacy,\textsuperscript{161} the complexity of computer security can actually decrease privacy violations.\textsuperscript{162} The use of information technology “could also give consumers a level of control not possible before.”\textsuperscript{163} For example, in many cases,

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\textsuperscript{152} Id.

\textsuperscript{153} Id.

\textsuperscript{154} See Pulley, supra note 5, at 33 (citing the 2005 National Consumer Health Privacy Survey by the California HealthCare Foundation); see also supra note 135.

\textsuperscript{155} See IBM, supra note 20, at 28.

\textsuperscript{156} See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7; see also Gostin, supra note 133, at 488.

\textsuperscript{157} See Gostin, supra note 133, at 488.

\textsuperscript{158} Id. at 490; see also supra note 134.

\textsuperscript{159} Id. at 490-91; see also Pulley, supra note 5, at 31 (“[T]here is ‘strong data to show that significant portions of the population will put their own health at risk if they are worried about their privacy.”).

\textsuperscript{160} See Gostin, supra note 133, at 493 (“Computer security can deter most unauthorized persons from gaining access to the system and can limit the degree of access for authorized users.”).

\textsuperscript{161} See Heather B. Hayes, HIPAA: Best If Used By..., GOV’T HEALTH IT, June 2006, at 28, 30 [hereinafter Hayes, HIPAA: Best If Used By].

\textsuperscript{162} See Gostin, supra note 133, at 493.

\textsuperscript{163} Pulley, supra note 5, at 34.
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access to a patient’s entire medical record is not necessary. In these situations, the patient could grant consent for a health care provider to view only a portion of her record. Limiting the number of individuals who view a patient’s entire electronic medical record can help to improve confidentiality, protect privacy, and reduce security violations.

In addition, to ensure violators will be punished, electronic medical record systems create audit trails automatically. These audit trails are available to the patient on demand and are monitored by the health care provider to detect security breaches and unauthorized access. Security breaches can be identified and addressed before the patient experiences economic, social, or psychological harms.

c. Current Federal Legislation

The Health Insurance Portability and Accountability Act (HIPAA) was never intended to be a substitute for state privacy laws and is often misunderstood. HIPAA does not provide general privacy protection for medical records. Rather, HIPAA has only legislated baseline security for “protected health information” that is electronically transmitted for administrative transactions. And HIPAA does not apply to all organizations that may come into contact with this private information.

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164 Id. at 33 (“There is no reason that the guy who stitches your ankle needs to know the results of your Pap smear….”).

165 Id. (“[P]atients could verbally provide their consent for a doctor to access their information and stipulate which records will be accessible.”); see also Gostin, supra note 133, at 492 (“[I]nformation can be organized in levels of increasing security so that users can receive only those data for which they are authorized; health care providers can disclose only the information needed for specific purposes, rather than disclosing a patient’s entire medical record.”).

166 See Terry, Regulating for Patient Safety, supra note 131, at 165 (“Making patient safety information available to all healthcare providers, that are even tangentially involved in a patient’s care, renders the level of privacy and security accorded that data a function of the weakest link in the system.”).

167 See Allen Interview, supra note 2.

168 See Gostin, supra note 133, at 492.

169 Id. at 490.


171 See Pulley, supra note 5, at 32.

172 See Hayes, HIPAA: Best If Used By, supra note 161, at 30.

173 Id.

174 See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7.
HIPAA only applies to “health plans, health care clearinghouses and health providers.”

Although HIPAA is often construed to ensure privacy to a patient’s medical record, there are significant gaps under this legislation. For example, “under HIPAA, covered entities can use personal health information without a patient’s permission for a host of reasons, including treatment, payment and various business operations.”

Even though some organizations sell the data to generate revenue, patients often have no right to restrict distribution, even when their identities are not entirely protected. Rather, consumers are only entitled to a statement of all unauthorized disclosures. Proponents argue that this policy is justified because data must remain accessible to support medical research.

In addition, HIPAA’s “criminal statute does not apply to individuals—even those responsible for reprehensible acts.” In one three year period, 18,000 HIPAA violations were reported. However, of these complaints, only two indictments were issued.

d. Proposed Federal Legislation

To prepare for the widespread exchange of electronic medical records, Congress must ensure patient privacy with regard to health care records. A significant amount of related legislation is pending in Congress. Many of these bills focus on the issues associated with the creation of RHIOs and address privacy concerns. Privacy advocates emphasize the need for patient control and consent, audit mechanisms, and strict penalties for “anyone downstream in the treatment, payment or administrative process who mishandles the information.”

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175 Hayes, HIPAA: Best If Used By, supra note 161, at 30.
176 See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7.
177 See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7.
178 See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7.
179 See Hayes, HIPAA: Best If Used By, supra note 161, at 30-32.
180 See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7.
181 See Hayes, HIPAA: Best If Used By, supra note 161, at 30-32.
182 See Ferris, Group Warns of the Misuse of Patients’ Medical Data, supra note 138, at 7.
183 Hayes, HIPAA: Best If Used By, supra note 161, at 30 (citing a Justice Department opinion that HIPAA’s criminal statute only applies to entities, not individuals, and therefore does not reach “employees of covered entities who choose to sell personal medical information or even hackers who break into databases and steal health records…”).
184 Id.
185 Id.
186 See Hayes, HIPAA: Best If Used By, supra note 161, at 32.
187 Id. at 33.
One pending bill, S. 1418, is insufficient in that it relies on HIPAA’s privacy standards. In contrast, H.R. 4157 seeks to develop a national privacy standard and contains many of the provisions that privacy advocates implore. H.R. 4157 emphasizes a patient’s right to control access to her information. This bill allows a patient not to participate in sharing her health care information via a RHIO, requires a patient’s consent before information is disseminated, ensures an audit trail, and provides harsh penalties for privacy violations.

The national privacy standard must address opponents’ concerns. Opponents of H.R. 4157 believe that since state privacy laws vary widely but tend to be conservative, “[c]reating a single federal law would ‘effectively lower privacy standards nationwide…. ’” State privacy laws often require that some information be treated with more sensitivity than other information and require a patient’s consent before a provider may disseminate certain information to third parties. In an attempt to foster national legislation that addresses the privacy of electronic medical records, the Health Information Security and Privacy Collaboration (HISPC) is working to document public policy and business practices regarding the privacy of electronic medical records.

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189 See Heather B. Hayes, Legislative Jam-Up, GOV’T HEALTH IT, Aug. 2006, at 44 [hereinafter Hayes, Legislative Jam-Up] (indicating that this bill would rely on HIPAA’s privacy standards and would defer to state privacy laws).
190 Id.
192 Id.
193 Id.; see also Hayes, HIPAA: Best If Used By, supra note 161, at 33 (noting that other bills pending in the House of Representatives include the 21st Century Health Information Act and the Electronic Health Information Privacy Act).
194 See, e.g., Pulley, supra note 5, at 32 (“States, by contrast, demand more rigorous protection of certain types of medical data, including information about genetics, mental health, substance abuse and developmental disabilities.”).
195 Hayes, HIPAA: Best If Used By, supra note 161, at 33.
196 Id. Pulley explains, “HIPAA is also blind to the type and sensitivity of health information, with the exception of psychotherapy notes. Information about whether a person is enrolled in a health plan is afforded the same level of protection as information about a patient’s HIV status.” Pulley, supra note 5, at 32.
197 See Pulley, supra note 5, at 32. (“Although HIPAA allows latitude for health-care providers and payers to exchange many types of information freely, states’ laws are often more restrictive, and they vary widely…. [For example,] the California Medical Information Act, for instance, requires patients’ consent before disclosure of health care information.”).
198 Id. at 31.
Federal legislators must respond to consumer concerns and priorities and enact privacy legislation that ensures consumer control, audit mechanisms, and strict penalties for misuse. Medical records contain extremely sensitive and personal data. Consumers rank the security of this data as more important than any other aspect of health care reform. Unfortunately, consumer concerns are valid. The unauthorized use of health care data can cause the patient to suffer economic, social, and psychological harms. Existing legislation is inconsistent among the states, and federal legislation is inadequate.

3. Personal Jurisdiction

RHIOs share electronic medical records that contain medical and lifestyle information that is extremely personal in nature. Privacy breaches of this sensitive information can cause economic, social, and psychological harms to the patient. Whether a patient is harmed as a result of medical identity theft, the unauthorized disclosure of health care data, or the negligent transmission of inaccurate data, health care providers will be subject to liability.

The Due Process Clause of the Fourteenth Amendment of the United States Constitution prohibits any state from “depriv[ing] any person of life, liberty, or property, without due process of law….” This clause has been interpreted to prohibit “unwarranted assertions of personal jurisdiction.”

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199 See Hayes, HIPAA: Best If Used By, supra note 161, at 33.
200 See IBM, supra note 20, at 28; see also Gostin, supra note 133, at 490.
201 See Pulley, supra note 5, at 33; see also supra note 135.
202 See generally Ferris, Group Warns of the Misuse of Patients' Medical Data, supra note 138, at 7; see also Gostin, supra note 133, at 488.
203 See Gostin, supra note 133, at 490.
204 Id. at 494-95 (“[E]xisting legal safeguards are inadequate: Current privacy protection is fragmented and inconsistent, with major gaps in coverage….”).
205 See Hayes, HIPAA: Best If Used By, supra note 161, at 28 (suggesting that HIPAA is not effective).
206 See IBM, supra note 20, at 28.
207 See Gostin, supra note 133, at 490.
208 Id.
209 See Dreiling, supra note 151, at 36 (“Medical identity theft victims may find their health insurance has been exhausted, or they may fail an employment exam based on erroneous information in their records, according to the report.”).
210 Id.
211 U.S. CONST. amend. XIV, § 1.
Supreme Court has found that to subject a defendant to personal jurisdiction, the defendant must "have certain minimum contacts with [the forum state] such that the maintenance of the suit does not offend 'traditional notions of fair play and substantial justice.'"\textsuperscript{213} The Court has held that it is fair to assert personal jurisdiction only when the defendant has purposefully directed activities toward the forum state.\textsuperscript{214} However, the Court has determined that personal jurisdiction may be proper even if the defendant never physically entered the forum state.\textsuperscript{215}

The use of technology in communications has added uncertainty to the issue of personal jurisdiction. In 1997, the court in \textit{Zippo Manufacturing Company v. Zippo Dot Com, Inc.} addressed the issue of personal jurisdiction in cases involving Internet activity by developing a sliding scale approach.\textsuperscript{216} Using this approach, the court considers the "nature and quality of commercial activity that an entity conducts over the Internet."\textsuperscript{217} If the entity repeatedly and knowingly shares information via the Internet with an out-of-state plaintiff, the activity is "active" and the defendant has purposefully directed activities toward the forum state; thus, personal jurisdiction is proper.\textsuperscript{218} When the defendant has only passively posted information via a website, the court will not assert personal jurisdiction.\textsuperscript{219}

However, cases are rarely this simple with activities being at one end of the spectrum or the other. Rather, the activity typically falls somewhere in the middle or the parties debate what constitutes "active" or "passive" activities. The court then looks at "the level of interactivity and commercial nature of the exchange of information...[a]nd implicit in this analysis is the sender's purpose...and its effect on the recipient."\textsuperscript{220}

For example, the \textit{Zippo} Court referenced \textit{Maritz, Inc. v. Cybergold, Inc.}\textsuperscript{221} where the defendant was in the process of developing a website. When the website was fully operational, visitors would be able to enter information regarding personal interests and, in exchange, receive related advertisements.\textsuperscript{222} There, the defendant planned to charge advertisers for disseminating their information.\textsuperscript{223} While the site


\textsuperscript{214} Burger King Corp. v. Rudzewicz, 471 U.S. 462 (1985) (finding that an out-of-state defendant purposely directed activities in the forum state via a long-term franchise agreement even though the defendant had never physically entered the state).

\textsuperscript{215} \textit{Id.}


\textsuperscript{217} \textit{Id.} at 1124 ("[T]he likelihood that personal jurisdiction can be constitutionally exercised is directly proportionate to the nature and quality of commercial activity that an entity conducts over the Internet.").

\textsuperscript{218} \textit{Id.}

\textsuperscript{219} \textit{Id.}

\textsuperscript{220} Fenn v. Mleads Enters., Inc., 137 P.3d 706, 713 (Utah 2006).

\textsuperscript{221} \textit{Maritz, Inc. v. Cybergold, Inc.}, 947 F. Supp. 1328 (E.D. Mo. 1996).

\textsuperscript{222} \textit{Zippo Mfg. Co.}, 952 F. Supp. at 1124.

\textsuperscript{223} \textit{Maritz, Inc.}, 947 F. Supp. at 1330.
was under construction, visitors who elected to do so received email regarding the website’s progress.\textsuperscript{224} The court concluded that although the website was not yet operational, the defendant was gathering information that would later be used as a mailing list for commercial purposes.\textsuperscript{225} Therefore, the activity was not passive, and the defendant was subject to personal jurisdiction.\textsuperscript{226} The \textit{Zippo} court also found that \textit{Inset Systems, Inc. v. Instruction Set}\textsuperscript{227} “represents the outer limits of the exercise of personal jurisdiction based on the Internet.”\textsuperscript{228} where the court asserted jurisdiction when 10,000 forum state residents had access to the website, and website advertisements were “available continuously to any Internet user.”\textsuperscript{229}

Further, the \textit{Zippo} Court reviewed several cases where personal jurisdiction was not proper, including \textit{Bensusan Restaurant Corporation v. King}\textsuperscript{230} (“\textit{Bensusan}”) and \textit{Pres-Kap, Inc. v. System One Direct}\textsuperscript{231} (“\textit{Pres-Kap}”). In \textit{Bensusan}, the court refused to assert personal jurisdiction when the website contained date and ticket price information on club performers, but the website was not interactive.\textsuperscript{232} Rather, tickets had to be purchased via the telephone or at a ticket outlet.\textsuperscript{233} The court also refused to assert personal jurisdiction in \textit{Pres-Kap}.\textsuperscript{234} There, the defendant leased an on-line ticketing service, logged onto a server located in the forum state, and mailed lease payments to the forum state.\textsuperscript{235} The court differentiated between the defendant being a consumer, as opposed to a service provider, and determined personal jurisdiction was improper.\textsuperscript{236}

The issue of personal jurisdiction will arise when the plaintiff attempts to assert personal jurisdiction over a defendant health care provider or RHIO that is located outside the forum state. Based on the \textit{Zippo} sliding scale, it is unlikely that a court would assert personal jurisdiction over an out-of-state health care provider when the health care provider’s only contact with the forum state was to provide electronic medical records via the Internet to a RHIO. Although the exchange of data is arguably for commercial purposes downstream, the health care provider who is disseminating the data is not engaged in commercial activity\textsuperscript{237} and would not profit

\textsuperscript{224} Id.

\textsuperscript{225} Id.

\textsuperscript{226} Id. at 1333.


\textsuperscript{228} \textit{Zippo Mfg. Co.}, 952 F. Supp. at 1125.

\textsuperscript{229} \textit{Inset Sys., Inc.}, 937 F. Supp. at 165.


\textsuperscript{232} \textit{Bensusan Rest. Corp.}, 937 F. Supp. at 297.

\textsuperscript{233} Id.

\textsuperscript{234} \textit{Pres-Kap, Inc.}, 636 S.2d at 1351.

\textsuperscript{235} Id. at 1352-53.

\textsuperscript{236} Id. at 1353.

\textsuperscript{237} See \textit{Zippo Mfg. Co.}, 952 F. Supp. at 1124; \textit{see also supra} note 217.
from this transaction. In addition, the health care provider would not be advertising, soliciting, or generating business. Therefore, without property, offices, or employees in the forum state, the health care provider would probably not be subject to personal jurisdiction in the forum state. This determination is consistent with the nation’s interest in encouraging health care providers to implement medical technology and share patient data via a RHIO. In addition, this outcome would not prevent justice but only limit the forum in which litigation can proceed.

4. Summary of Legal Challenges

Although the Stark and Anti-Kickback Statutes once prevented hospitals and other health care organizations from assisting physicians in acquiring and implementing health care technology, recent exceptions allow for the donation of electronic prescribing and electronic medical record systems. However, federal legislators must respond to consumer concerns and priorities and enact privacy legislation that ensures a national standard of consumer control, audit mechanisms, and strict penalties for misuse. With regard to personal jurisdiction, the courts can utilize the Zippo court’s sliding scale approach.

V. NECESSARY GOVERNMENTAL ACTION

A. The Disconnect

To achieve the greatest benefits of a RHIO, widespread use of electronic medical records is necessary. Most medical records are generated by physician practices; however, the cost of implementing electronic medical records can be more than $30,000 per physician. In a recent survey sponsored by the National Coordinator of Health Information Technology, only nine percent of physicians have fully

238 Cf. Maritz, Inc., 947 F. Supp. at 1328 (asserting personal jurisdiction where the defendant was engaged in transactions intended to be profitable).

239 Cf. Inset Sys., Inc., 937 F. Supp. at 165 (asserting personal jurisdiction where the website advertisements were “available continuously to any Internet user”).

240 Cf. Maritz, Inc., 947 F. Supp. at 1333 (asserting personal jurisdiction where the defendant emailed website visitors and gathered information that would later be used as a commercial mailing list).

241 Cf. Bensusan Rest. Corp., 937 F. Supp. at 297 (refusing to assert personal jurisdiction because the website did not facilitate purchase transactions).

242 See Exec. Order No. 13,335, supra note 6.


245 See Hayes, HIPAA: Best If Used By, supra note 161, at 33.


247 See Hillestad et al., supra note 5, at 1103.

248 Terry, EHRs: Where Are We Now?, supra note 12, at 34.
implemented an electronic medical record system. The most commonly cited reason for providers not implementing this information technology is lack of funding. Approximately fifteen percent of physicians do not have the financial resources; the other eighty-five percent of physicians who can afford to implement the necessary technology noted the disconnect between who pays for the technology versus who reaps the financial rewards. Physicians realize only eleven percent of the savings. They have concerns regarding an initial loss in productivity and the slow and minimal financial return on their investment. Since eighty-nine percent of the savings is accrued by payors, some health plans, encouraged by the projected cost savings, have supported President Bush’s vision of a NHIN by paying bonuses to physicians who utilize health care technology in their practices. Other health plans have elected to furnish the necessary hardware and software. In addition, after recent statutory amendments, some hospitals are working to assist physicians. Existing RHIOs are also working to aid in the widespread adoption of electronic medical systems by providing physicians baseline and low cost software.

249 Ferris, Doctors’ Use, supra note 24, at 6 (indicating that the study will be used to establish a baseline in measuring President Bush’s initiative and that the study ‘strictly defined [electronic medical record systems] as including patients’ demographic data; computerized orders for drugs, lab tests and other procedures; clinical decision support, such as reminders of recurring tests; and information about findings, including doctors’ notes and lab results.”).

250 See Barlow et al., supra note 54, at 46 (“[A] majority of healthcare organizations cite lack of funding as the most common constraint in implementing clinical information technology solutions . . . .”)

251 Ferris, Road Ahead, supra note 24, at 25 (“[A]pproximately fifteen percent of doctors cannot afford to implement the necessary technology, particularly those in rural areas and poorer neighborhoods, [will not] be able to acquire systems on their own.”).

252 See Allen Interview, supra note 2 (citing a presentation given by William Bernstein at the Healthcare Information and Management Systems Society’s Health Information Technology Summit West, on Mar. 7, 2005).

253 Id.

254 See Taylor et al., supra note 13, at 1234.

255 Id; see also Allen Interview, supra note 2.

256 Allen Interview, supra note 2.

257 See Terry, EHRs: Where Are We Now?, supra note 12, at 34.

258 Id.

259 See 42 U.S.C.S. §§ 1320a-7b (prohibiting “giving anything of value to a person in exchange for that person referring a patient for goods or services that will be paid for by a federal healthcare program . . . .”); 42 U.S.C.S. § 1395nn (prohibiting self-referral).

260 See Terry, EHRs: Where Are We Now?, supra note 12, at 34; see also Nelson Telephone Interview, supra note 51.
B. Financing Network Infrastructure

Financing the network infrastructure is often an obstacle for communities working to create or sustain a RHIO.\(^\text{261}\) The eHealth Initiative recently surveyed more than two hundred health care organizations.\(^\text{262}\) Although some RHIOs are able to fund their efforts without government subsidies, but rather through dues and access fees,\(^\text{263}\) eighty-four percent of those responding to the survey indicated that financing was a significant challenge for their organization.\(^\text{264}\) This helps to explain why, although there are more than four hundred RHIOs currently in existence,\(^\text{265}\) the eHealth Initiative study found that only twenty-six RHIOs are fully functional.\(^\text{266}\) Other analysis is even less optimistic, finding only two RHIOs as self-sustaining.\(^\text{267}\) Without the infrastructure to facilitate the electronic exchange of health records, health care providers have even less incentive to invest in electronic medical record systems.

C. Legislative Funding

Private efforts are commendable; however, as the largest health care payor\(^\text{268}\) and the largest employer in the country,\(^\text{269}\) the national government must also subsidize

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\(^{261}\) See Ferris, *State-Level Health Info Exchanges Increasing*, supra note 97, at 6 (citing a study performed by the eHealth Initiative, an independent advocate that works to improve the quality, safety, and efficiency of health care through the use of information technology) (the eHealth Initiative interviewed more than 200 leaders nationwide).

\(^{262}\) Id.

\(^{263}\) See Baldwin, *Sharing the Data Bridge*, supra note 82, at 29. Baldwin explains:

HealthBridge has done it all without government backing. The group’s seed capital came from loans from its hospital members. Their monthly dues cover [eighty] percent of HealthBridge’s annual $2.6 million operating budget, with the remainder coming from access fees paid by transcription and billing companies. The only grant money it has received was a $29,000 local contribution for its public health alert program.


\(^{265}\) Terry, *EHRs: Where Are We Now?*, supra note 12, at 34.

\(^{266}\) Ferris, *States Approach Health IT Differently*, supra note 11, at 10.

\(^{267}\) Robinson, supra note 9, at 16 (citing a study by First Consulting Group).


\(^{269}\) See Taylor et al., supra note 13, at 1234.
change. President Bush set the goal of implementing electronic medical records for most Americans by the year 2014. At the current rate of adoption for electronic medical records, “only about half of Americans will have [electronic medical records] by then.” There is a clear correlation between the financial well-being of a health care facility and its use of electronic medical records. A study by Health Affairs, a leading health care policy journal, found that “any combination of financial or nonfinancial incentives that gradually reduces the costs…by 50 percent over the next five years could increase the adoption rate, on average, by 14.7 percent per year.”

The United States government must take action through direct subsidies and grants to finance the adoption of electronic medical record systems and to create the network infrastructure required for sharing data among providers. Although there are some initiatives already underway, efforts are moving slowly. The United States Senate passed the Wired for Health Care Quality Act in 2005 and the House of Representatives passed a similar bill, the Health Information Technology Promotion Act, in July 2006. These bills would set standards for software compatibility and data storage and codify the U.S. Office of the National Coordinator for Health Information Technology. However, Congress has yet to compromise, and these two bills remain in conference committee.

One of the key differences between these two pieces of legislation is that the Senate has a much more realistic view of the amount of money needed to assist providers in acquiring information technology. The Senate bill allocates more

270 Id. (indicating that Medicare alone could save more than $23 billion each year by implementing an electronic medical record system).

271 See Exec. Order No. 13,335, supra note 6; see also Ferris, Doctors’ Use, supra note 24; Terry, EHRs: Where Are We Now?, supra note 12, at 34.

272 Ferris, Doctors’ Use, supra note 24, at 6.

273 Kateryna Fonkych & Roger Taylor, The State and Pattern of Health Information Technology Adoption, RAND HEALTH, 2005, at 2 (“Most studies have discovered a relationship between the financial well-being, size, and productivity of a healthcare facility and its level of [health information technology] adoption.”).

274 Taylor et al., supra note 13, at 1234 (quoting the Health Affairs finding).

275 See Taylor et al., supra note 13, at 1234 (“The policy options that could speed the adoption of [health information technology] and the realization of these benefits include incentives to promote standard-based electronic medical record (EMR) system adoption; subsidies to develop information-exchange networks; and programs to measure, report, and reward performance.”).


278 See S. 1418; H.R. 4157; see also Hayes, Legislative Jam-Up, supra note 189, at 44.


280 Compare S. 1418 with H.R. 4157.
than $652 million over five years in grants and loans. 281 The House bill contains a mere $38 million over five years. 282 The House bill requires all health care providers to upgrade their billing systems no later than 2010, adding yet another “burden to an already overwhelmed provider system.” 283 The national government must do its part to address the economic impact of health care costs and show its commitment to improving our health care system by committing significant financial resources for the adoption of this much needed health care technology. For those providers who will not qualify for direct subsidies, the national government must provide tax incentives for implementing electronic medical record systems.

To be clear, private efforts are helpful. However, to expedite change, the national government must leverage its position as the largest health care payor 284 and employer 285 in the United States and launch national initiatives. Both financial and non-financial incentives will increase the rate of adoption of health care technology, 286 thereby reducing overall health care costs. 287 The national government must act quickly to provide subsidies, grants and tax incentives for the adoption of electronic medical records systems and to provide financial support to communities for the creation of network infrastructure.

D. Pay-For-Performance

Pay-for-performance initiatives were designed to improve the quality of health care in the United States. 288 Under these programs, payors reward “doctors for keeping their patients healthy, as opposed to the current fee-for-service basis that simply rewards patient throughput.” 289 There are now more than one hundred pay-for-performance initiatives nationwide. 290 Programs are sponsored by health plans, employers, and government health care agencies. 291 These programs are most effective when the sponsor is “a powerful stakeholder in the market.” 292 Participants see improved clinical outcomes and fewer hospital admissions due to much needed

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281 S. 1418.
282 H.R. 4157.
283 Hayes, Better Building Blocks, supra note 89, at 26.
284 See supra note 268.
285 See Taylor et al., supra note 13, at 1234.
286 Id.
287 See Anderson et al., supra note 4, at 819.
288 See Healthcare Information and Management Systems Society, EMR Sophistication Correlates to Hospital Quality Data, at 16.
289 Saporito, supra note 18, at 55.
291 Id.
292 Id.
patient interventions. Since these programs require physicians to collect specific data and report patient outcomes, electronic medical records are “a virtual prerequisite.”

The national government must leverage its position as the largest health care payor. Medicare and Medicaid are already having an impact by requiring electronic medical records for providers who wish to participate in pay-for-performance programs. However, these agencies must move toward mandatory participation with exceptions only for practices in underserved geographical areas. The national government must further accelerate market forces by encouraging the development of private pay-for-performance programs through thorough research on this type of incentive.

VI. CONCLUSION

Rising health care costs have a significant impact on our economy, and medical errors pose a meaningful and costly risk to health care consumers. The adoption of information technology, including the implementation of RHIOs and electronic medical record systems, is critical to addressing these issues. Although President Bush’s vision of a NHIN is a positive first step in governmental involvement, Congress must address the biggest challenge health care providers cite in implementing information technology: the lack of funding. The national government must demonstrate its commitment to reducing costs and improving care by committing significant financial resources, mandating participation in pay-for-performance programs by Medicare and Medicaid, and encouraging similar private programs.


294 See Taylor et al., supra note 13, at 1234.

295 Baldwin, The Quality Equation, supra note 294, at 37.

296 See Barlow et al., supra note 54, at 46; see also supra note 268.

297 See Saporito, supra note 18, at 55.

298 See Barlow et al., supra note 54, at 46 (“[A] majority of healthcare organizations cite lack of funding as the most common constraint in implementing clinical information technology solutions . . .”).