HIPAA Administrative Simplification

Health Insurance Regulation
Working Paper No. I-12

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Section I. Introduction

Background

Rationale
HIPAA administrative simplification regulations were issued in order to facilitate electronic transactions, with the expectation this would ultimately improve the efficiency of an industry long criticized for high overhead costs.

Statutory Authority
The Final Rule on standards for electronic transactions was issued August 17, 2000 and became effective October 16, 2000 (65 FR 50312). Separate regulations were issued for various components of Title II several years apart, but a consolidated cost estimate was published on May 7, 1998 in the proposed rule concerning national provider identifiers (63 FR 25320). Most covered entities had until October 16, 2003 to meet the electronic transaction standards (rather than the original October 16, 2002 deadline) as a result of an extension granted by Congress in 2001.

Key Elements
Title II of HIPAA requires the DHHS to establish national standards for electronic health care transactions and national identifiers for providers, health plans, and employers.

Scope
HIPAA reforms affect all aspects of the health care system, not just insurers. However, since insurers will be the principal entities making use of electronic transactions, we codify all impacts here rather than attempt to spread them across facilities, professionals and insurance.

Enforcement
The electronic transactions standards largely will be self-enforcing in the sense that unless a carrier or provider is using the agreed-upon standard, that organization will be unable to interface with other parts of the system, i.e., cannot receive or send recognizable claims.

Research Questions
This working paper covers two major topic areas framed within three research questions, all of which are related to the impact of HIPAA Administrative Simplification in the U.S. insurance market. Our primary goal was to identify, review, and evaluate the published literature to answer the research questions with the intent of developing an interim estimate of the costs and benefits of simplification; our secondary goal was to identify areas where no evidence exists or where the evidence has important limitations and then describe the type of data that would be needed to more fully address the question. The questions are listed below by topic area, along with a brief description of our analytical approach, including outcomes of interest.
Costs of HIPAA Administrative Simplification

Question 1a. What is the amount of government regulatory costs related to HIPAA administrative simplification? This includes federal costs to monitor and enforce rules related to simplification and state costs to monitor and enforce regulation of electronic transactions.

Question 1b. What is the amount of health industry compliance costs related to HIPAA administrative simplification? This includes all administrative costs and enforcement penalties borne by parties subject to simplification.

Benefits of HIPAA Administrative Simplification

Question 2a. What is the net impact of HIPAA administrative simplification on health expenditures? HIPAA administrative simplification imposes “process” costs in the form of notification, documentation and education. Likewise, electronic transactions entail administrative costs to run the discharge data system and parallel compliance costs for hospitals to maintain the systems required to report such data.

But in theory, HIPAA administrative simplification could be efficiency-enhancing. The issue is whether the regulations induce sufficient behavioral change in some patients to offset the costs imposed on facilities on behalf of all admitted patients—a question that cannot be answered by pure theory. Here you might want to include some empirical evidence of potentially eliminated costs. Our search allowed for the possibility that administrative simplification could decrease, increase or have no impact on health expenditures.

Question 2b. What is the impact of HIPAA administrative simplification on patient outcomes? While simplification is unlikely to affect health outcomes, it theoretically might have significant positive effects on patient or family satisfaction. By facilitating health services research, electronic transactions in principle could improve patient outcomes.

Limitations of Working Paper

Theoretical Impact

HIPAA was expected to impose upfront compliance costs that eventually would be more than offset by the anticipated efficiency savings resulting from administrative simplification. Indeed, the savings were expected to be large enough to finance the additional costs associated with the privacy regulations that also were part of HIPAA (discussed in F-7 Facility Medical Records and I-13 Health Privacy Regulations).
Section II. Methods

Literature Search and Review

Sources

Peer-Reviewed Literature

We performed electronic subject-based searches of the literature using the following databases:

- MEDLINE® (1975-June 30, 2004) and CINAHL® (1975-June 30, 2004) which together cover all the relevant clinical literature and leading health policy journals
- Health Affairs, the leading health policy journal, whose site permits full text searching of all issues from 1981-present
- ISI Web of Knowledge (1978-June 30, 2004) which includes the Science Citation Expanded®, Social Sciences Citation Index®, and Arts & Humanities Citation Index™ covering all major social sciences journals
- Lexis-Nexis (1975-June 30, 2004) which covers all major law publications
- Public Affairs Information Service (PAIS), including PAIS International and PAIS Periodicals/Publishers (1975-June 30, 2004) which together index information on politics, public policy, social policy, and the social sciences in general. Covers journals, books, government publications, and directories.
- Books in Print (1975-June 30, 2004)

A professional librarian assisted in the development of our search strategy, customizing the searches for each research question. In cases where we already had identified a previous literature synthesis that included items known to be of relevance, we developed a list of search terms based on the subject headings from these articles and from the official indexing terms of MEDLINE and other databases being used. We performed multiple searches with combinations of these terms and evaluated the results of those searches for sensitivity and specificity with respect to each topic. We also performed searches on authors known or found to have published widely on a study topic. In addition to performing electronic database searches, we consulted experts in the field for further references. Finally, we reviewed the references cited by each article that was ultimately included in the synthesis. We did not hand search any journals. This review was limited to the English-language research literature. A complete listing of search terms and results is found in Appendix A.

“Fugitive” Literature

In some cases, relevant “fugitive” literature was cited, in which case we made every effort to track it down. We also performed systematic Web searches at the following sites:

- Health law/regulation Web sites
- Health industry trade organizations
- State agency trade organizations and research centers
- Major health care/health policy consulting firms
Health policy research organizations
Academic health policy centers
Major health policy foundations

These searches varied by site. In cases where a complete publications listing was readily available, it was hand-searched. In other cases, we relied on the search function within the site itself to identify documents of potential relevance. Because of the volume of literature obtained through the peer-reviewed literature, including literature syntheses, we avoided material that simply summarized existing studies. Instead, we focused on retrieval of documents in which a new cost estimate was developed based on collection of primary data (e.g., surveys of state agencies) or secondary analysis of existing data (e.g., compilation of agency enforcement costs available from some other source). We excluded studies that did not report sufficient methodological detail to permit replication of their approach to cost estimation.

**Inclusion Criteria**

We developed the following inclusion criteria:

- **Sample:** wherever results from nationally representative samples were available, these were used in favor of case studies or more limited samples.
- **Multiple Publications:** whenever multiple results were reported from the same database or study, we selected those that were most recent and/or most methodologically sound.
- **Outcomes:** we selected only studies in which a measurable impact on costs was either directly reported or could be estimated from the reported outcomes in a reasonably straightforward fashion.
- **Methods:** we only selected studies in which sufficient methodological detail was reported to assess the quality of the estimate provided.

Where possible, we limited the review to studies using from 1975 through June 30, 2004 reasoning that any earlier estimates could not be credibly extrapolated to the present given the sizable changes in the health care industry during the past two decades. Other exclusions were as follows:

- Unless we had no other information for a particular category of costs or benefits, we excluded qualitative estimates of impact.
- Estimates of impacts derived from unadjusted comparisons were discarded whenever high quality multivariate results were available to control for differences between states or across time.
- Estimates that focused on measuring system-wide impact generally were selected over narrower estimates (e.g., per capita health spending vs. cost per inpatient day) on grounds that savings achieved in one sector may have induced higher spending elsewhere in the system; hence narrower comparisons might inadvertently lead to an inappropriate conclusion.
Section III. Results

Empirical Evidence

Since the regulations had been implemented for less than one full year at the time of our analysis, there was no plausible way to obtain retrospective evidence regarding their impact. Because HIPAA was regarded as a major rule, we report on the official HHS cost estimates of costs and benefits related to standards for electronic transactions.

- **Compliance Costs: Administrative Costs.** The official HHS estimate for these regulations estimates a total cost impact of $7 billion over 10 years, or $700 million on an annualized basis, mostly related to one-time or short-term costs expected to be incurred in the first three years of implementation, which began in 1998. These costs include system conversion/upgrade costs, start-up costs of automation, training costs and costs associated with implementation problems.

- **Compliance Benefits: Efficiency Savings.** However, there are companion efficiency savings of $36.9 billion during the same period, attributable to reductions in manual entry of data, elimination of postal service delays, elimination of paper forms, and the enhanced ability of participants in the market to interact with each other. This reportedly is a conservative estimate of potential savings.

Net Assessment

Rather than estimate just the transitional costs, we thought it would be more useful to use the OMB’s estimate of “steady state” annual costs and savings based on annuitizing the 10 year cost and benefits estimates developed by HHS using a 3 percent real discount rate.

- **Compliance Costs: Administrative Costs.** We use the OMB annual estimate of costs ($700 million) as the most likely value, using +/- 25 percent of this amount as upper and lower bounds.

- **Compliance Benefits: Efficiency Savings.** We use the OMB annual estimate of benefits ($2,720 million) as the most likely value, using +/- 25 percent of this amount as upper and lower bounds.

- **Social Welfare Losses: Efficiency Losses from Tax Collection.** To account for the efficiency losses associated with raising taxes to pay for government regulatory costs, we multiply the latter times the marginal cost of income tax collections (see Table B-1 for how these costs are calculated).

- **Social Welfare Losses: Efficiency Losses from Regulatory Costs.** All industry compliance costs are presumed to be roughly equivalent to an excise tax, i.e., raising prices and reducing demand/output correspondingly. We therefore multiply these costs times the marginal excess burden associated with output taxes, using 21% (15%, 28%) as the expected value of MEB (see Table B-1 for details of how MEB is calculated).
These calculations result in estimated costs of $846 million (692, 1,119). Total benefits are $3,289 billion (2,340, 4,349).

**Acronyms**

HIPAA  Health Insurance Portability and Accountability Act of 1996  
DHHS  Department of Health and Human Services
Listing of Included Studies


Listing of Excluded Studies

Key for Reasons for Exclusion

1. Studies with no original data
2. Studies with no outcomes of interest
3. Studies performed outside U.S.
4. Studies published in abstract form only
5. Case-report only
6. Unable to obtain the article

Appendix A. Evidence Tables
Appendix B. Search Strategies

Database: Ovid MEDLINE(R) <1966 to July Week 4 2004>
Search Strategy #1: ALL

1. "Health Insurance Portability and Accountability Act"/ (1910)
2. limit 1 to (English language and yr=1975 – 2004)/ (1861)
3. administrative simplification.mp. (53)
4. 2 and 3 (29)
5. Medical Records Systems, Computerized/ and Insurance Claim Reporting/ and electronic transactions.mp. (1)
6. "Costs and Cost Analysis"/ (33281)
7. 4 and 6 (2)
8. "Outcome Assessment (Health Care)"/ (21269)
9. 4 and 8 (1)
10. Medical Records Systems, Computerized/ and Insurance Claim Reporting/ and electronic transactions.mp. (1)
11. "Costs and Cost Analysis"/ (33281)
12. 4 and 6 (2)
13. "Outcome Assessment (Health Care)"/ (21269)
14. 4 and 8 (1)
15. from 4 keep 1-29 (29)
16. from 5 keep 1 (1)
17. 11 or 12 (30)
18. from 13 keep 1-30 (30)

Database: CINAHL - Cumulative Index to Nursing & Allied Health Literature <1982 to June Week 1 2005>
Search Strategy: ALL

1. "Health Insurance Portability and Accountability Act"/ (1471)
2. limit 1 to (english and yr=1975 - 2004) (1447)
3. administrative simplification.mp. [mp=title, subject heading word, abstract, instrumentation] (16)
4. Electronic Data Interchange/ and "Health Insurance Portability and Accountability Act"/ and Insurance, Health, Reimbursement/ (7)
5. limit 4 to (english and yr=1975 - 2004) (7)
6. electronic transaction.mp. [mp=title, subject heading word, abstract, instrumentation] (5)
7. limit 6 to (english and yr=1975 - 2004) (5)
8. "COSTS AND COST ANALYSIS"/ (3190)
9. 1 and 3 (13)
10. 8 and 9 (0)
11. Health Care Costs/ or health expenditures.mp. (5202)
12. 9 and 11 (0)
13. "Outcomes (Health Care)"/ (8531)
14. 9 and 13 (0)
15. from 4 keep 4.6-7 (3)
16. from 7 keep 1-3.5 (4)
17. from 9 keep 2-4,6-9,11,13 (9)
18. 15 or 16 or 17 (15)
19. from 18 keep 1-15 (15)

Database: ISI Web of Science <1978 to July 31, 2004>
Search Strategy #1: ALL

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<th>#4 AND #1</th>
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<table>
<thead>
<tr>
<th>#4</th>
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<td>DocType=All document types; Language=All languages; Databases=SCI-EXPANDED, SSCI, A&amp;HCI; Timespan=1978-2004</td>
<td></td>
</tr>
</tbody>
</table>
Database: Lexis-Nexis <1975 to July Week 4 2004>
Search Strategy #1: ALL

1 HIPAA, administrative simplification (36)
2 Of these, 1 selected for detailed review
3 HIPAA, electronic transactions (23)
4 Of these, 0 selected for detailed review

Database: PAIS <1975 to July Week 4 2004>
Search Strategy #1: ALL

1 (HIPAA and administrative simplification) and (LA:PAIS = ENGLISH) and (PY:PAIS = 1975-2004) (0)
2 (HIPAA and electronic transaction) and (LA:PAIS = ENGLISH) and (PY:PAIS = 1975-2004) (1)
3 (HIPAA) and (LA:PAIS = ENGLISH) and (PY:PAIS = 1975-2004) (24)
4 Of these, 8 selected for detailed review

Database: Dissertation Abstracts <1975 to July Week 4 2004>
Search Strategy #1: ALL

1 kw: HIPAA and yr: 1975-2004 and ln= "english" (12)
2 Of these, 3 selected for detailed review

Database: Books in Print <1975 to July Week 4 2004>
Search Strategy #1: ALL

1 Keyword: HIPAA [and] Keyword: administrative simplification; Year: From 1975 To 2004 (0)
2 Keyword: HIPAA [and] Keyword: electronic transaction; Year: From 1975 To 2004 (0)
3 Keyword in Subject: HIPAA; Year: From 1975 To 2004 (190)
4 Of these, 0 selected for detailed review

Database: Health Affairs <1981 to July Week 4 2004>
Search Strategy #1: ALL

1 HIPAA administrative simplification (all words anywhere in article) Through Dec 2004 (47)
2 Of these, 0 selected for detailed review
3 HIPAA (all words in title or abstract) Through Dec 2004 (3)
4 Of these, 0 selected for detailed review
5 HIPAA (all words anywhere in article) Through Dec 2004 (115)
6 Of these, 2 selected for detailed review
Appendix C. Web Sites Used in I-12 Literature Search

Health Law/Regulation Web Sites
We began searching at Web sites known to specialize in health law and regulation generally or specific topics included in this review:

- American Health Lawyers Association
  http://www.healthlawyers.org/template.cfm?Template=/Ecommerce/ProductDisplay.cfm&ProductID=15910
- Findlaw.com—health law
  http://www.findlaw.com/01topics/19health/index.html (no documents found)
- Health Care Compliance Association
  http://www.hcca-info.org/ (no documents found)
- HealthHippo
  http://hippo.findlaw.com/hippohome.html (no documents found)
- National Health Care Anti-fraud Association (NHCAA)
  http://www.nhcaa.org/ (no documents found – member-only site)

Health Industry Trade Organizations

Health Insurance Regulation
For health insurance regulation, we searched the following industry and state agency trade organization Web sites:

- American Association of Health Plans (AAHP)
  http://www.aahp.org/ (no documents found)
- Health Insurance Association of American (HIAA)
  http://www.hiaa.org/index_flash.cfm (no documents found)
- Blue Cross and Blue Shield Association (BCBSA)
  http://www.bluecares.com/ (no documents found)
- National Committee for Quality Assurance (NCQA)
  http://www.ncqa.org/ (no documents found)
- National Association of Insurance Commissioners (NAIC)
  http://www.naic.org/ (no documents found)

State Agency Trade Organizations and Research Centers
For state agency trade organizations and health policy research centers specializing in state health policy issues not accounted for above, we searched the following Web sites:

Executive branch
- National Governors Association (NGA)
  http://www.nga.org/ (no documents found)
- National Association of State Budget Officers (NASBO)
  http://www.nasbo.org/ (no documents found)
- Association of State and Territorial Health Officers (ASTHO)
  http://www.astho.org/ (no documents found)
National Association of Health Data Organizations (NAHDO)
http://www.nahdo.org/default.asp (no documents found)
National Association of State Auditors, Comptrollers and Treasurers (NASACT)
http://www.nasact.org/ (no documents found)

Legislative branch
• National Conference of State Legislatures (NCSL)
  http://www.ncsl.org/ (no documents found)
• Council of State Governments (CSG)
  http://www.csg.org/csg/default (no documents found)
• National Academy of Public Administration (NAPA)
  http://www.napawash.org/ (no documents found)

State Health Policy Research Centers
• National Academy of State Policy
  http://www.nashp.org/ (no documents found)
• Pew Center on the States
  http://www.stateline.org/ (no documents found)
• State Health Policy Web Portal Group
  http://www.hpolicy.duke.edu/cyberexchange/Whatstat.htm#States
  Rather than search 50 individual sites, we queried by e-mail the directors of all centers included in this group for relevant reports/studies their centers had conducted or that had been conducted by agencies in their states

Health Care/Health Policy Consulting Firms
For major health care/health policy consulting firms, we searched the following sites. Some of these specialize in human resource consulting, but were included in the event they had done industry-wide studies of regulatory costs:

• Buck Consultants Inc.
  http://www.buckconsultants.com/ (no documents found)
• Deloitte & Touche
  http://www.deloitte.com/vs/0%2C1616%2Csid%25253D2000%2C00.html (no documents found)
• Ernst & Young LLP
  http://www.ey.com/global/content.nsf/US/Home (no documents found)
• Hewitt Associates LLC
  http://www.hewitt.com/ (no documents found)
• Milliman USA Inc.
  http://www.milliman.com/ (no documents found)
• PricewaterhouseCoopers LLP
  http://www.pwcglobal.com/ (no documents found)
• Towers Perrin
  http://www.towers.com/towers/default.asp (no documents found)
Health Policy Research Organizations

For major health policy research organizations, including “think tanks” and some advocacy groups, we searched the following sites:

- Abt Associates
- Alliance for Health Reform
  [http://www.allhealth.org/](http://www.allhealth.org/) (no documents found)
- AcademyHealth
  [http://www.academyhealth.org/index.html](http://www.academyhealth.org/index.html) (no documents found)
- The Advisory Board Company
  [http://www.advisoryboardcompany.com/](http://www.advisoryboardcompany.com/) (no documents found – member-only site)
- American Enterprise Institute (AEI)
  [http://www.aei.org/](http://www.aei.org/) (no documents found)
- Battelle
  [http://www.battelle.org/](http://www.battelle.org/) (no documents found)
- Brookings Institution
  [http://www.brook.edu/](http://www.brook.edu/) (no documents found)
- Cato Institute
- Center for Budget and Policy Priorities (CBPP)
  [http://www.cbpp.org/](http://www.cbpp.org/) (no documents found)
- Center for Health Affairs (Project HOPE)
  [http://www.projecthope.org/](http://www.projecthope.org/) (no documents found)
- Center for Health Care Strategies (CHCS)
  [http://www.chcs.org/](http://www.chcs.org/) (no documents found)
- Center for Study of Health Systems Change (CSHSC)
  [http://www.hschange.com/](http://www.hschange.com/) (no documents found)
- Employee Benefits Research Institute (EBRI)
  [http://www.ebri.org/](http://www.ebri.org/) (no documents found)
- Heritage Foundation
  [http://www.heritage.org/](http://www.heritage.org/) (no documents found)
- Institute of Medicine (IOM)
  [http://www.iom.edu/](http://www.iom.edu/) (no documents found)
- Lewin Group
- Mathematica Policy Research (MPR)
  [http://www.mathematica-mpr.com/HEALTH.HTM](http://www.mathematica-mpr.com/HEALTH.HTM) (no documents found)
- National Bureau of Economic Research (NBER)
  [http://www.nber.org/](http://www.nber.org/) (no documents found)
• National Health Policy Forum  
  http://www.nhpf.org/ (no documents found)
• RAND Health  
  http://www.rand.org/health_area/ (no documents found)
• Research Triangle Institute (RTI)  
  http://www.rti.org/ (no documents found)
• Urban Institute  
  http://www.urban.org/ (no documents found)

**Major Health Policy Foundations.** For major health policy foundations, we searched the following sites:

• California Healthcare Foundation  
  http://www.chcf.org/ (no documents found)
• Commonwealth Fund  
  http://www.cmwf.org/ (no documents found)
• Robert Wood Johnson Foundation  
  http://www.rwjf.org/index.jsp (no documents found)
• Henry J. Kaiser Family Foundation  
  http://www.kff.org/ (no documents found)
• United Hospital Fund  
  http://www.uhfnyc.org/ (no documents found)