

# **Big Data Proxies and Health Privacy Exceptionalism\***

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[B]ig data... is taking advantage of us without our permission. Often without consent or warning, and sometimes in completely surprising ways, big data analysts are tracking our every click and purchase, examining them to determine exactly who we are – establishing our name, good or otherwise – and retaining the information in dossiers that we know nothing about, much less consent to.<sup>1</sup>

## **I. Introduction**

As discussed in a previous article<sup>2</sup>, “big data” poses a considerable challenge to our health privacy model. This article digs deeper into that hypothesis, arguing that this new industrial model of data collection, aggregation, and analytics poses an existential threat to U.S. health privacy as we know it. Health data protection in this country has two key characteristics: a dependence on downstream data protection models and a history of health privacy exceptionalism. Regarding the former, while upstream data protection models limit data collection, downstream models primarily limit data distribution *after* collection. Regarding the latter, health care privacy exhibits classic exceptionalism properties. Traditionally and for good reason health care is subject to an enhanced sector-based approach to privacy regulation.

This article argues that, while “small data” rules protect conventional health care data (doing so exceptionally, if not exceptionally well), big data facilitates the creation of health data proxies that are relatively unprotected. As a result, the carefully constructed, appropriate, and necessary model of health data privacy will be eroded. Proxy data created outside the traditional space protected by extant health privacy models will end exceptionalism, reducing data protection to the very low levels applied to most other types of data.

The article proceeds as follows: In Part II the traditional health privacy regimes that protect “small” data such as HIPAA are explained,

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<sup>1</sup> Commissioner Julie Brill, Reclaim Your Name, 23rd Computers Freedom and Privacy Conference, Jun. 26, 2013, at 11-12, <http://www.ftc.gov/speeches/brill/130626computersfreedom.pdf>

<sup>2</sup> Nicolas Terry, Protecting Patient Privacy in the Age of Big Data, 81 UMKC L.Rev. 385 (2012) (hereinafter, *Protecting Patient Privacy*).

as is the growing robustness of downstream data protection models in traditional health care space, including federal breach notification. Part III examines big data and its relationship with health care, including the data pools in play, and pays particular attention to three types of big data that lead to health proxies: “laundered” HIPAA data, patient-curated data, and medically-inflected data. Part IV reexamines health privacy exceptionalism across legislative and regulatory domains seeking to understand its level of “stickiness” when faced with big data. Part V looks at some of the claims for big data in the health care space, taking the position that while increased data liquidity and big data processing may be good for health care they are less likely to benefit health privacy. This section also examines how health privacy exceptionalism maps to the currently accepted rationales for health privacy and discusses the relative strengths of upstream and downstream data models in curbing what is viewed as big data’s assault of health privacy.

## **II. Health Privacy and “Small” Data**

The HIPAA-HITECH data protection model dominates U.S. health privacy regulation.<sup>3</sup> Since its unveiling in 1999, HIPAA’s idiosyncratic regulatory model has established itself as one of the most disliked (by health care providers) and critiqued (even by privacy advocates) pieces of regulation in the history of health care.

Over the years HIPAA has faced criticism for the narrowness of its reach (e.g., health insurers but not life insurers, health care providers but not employers, awkwardly captured business associates, etc.), the expansive nature of its exceptions and authorizations, and

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<sup>3</sup> “HIPAA” as used herein refers to the HIPAA Privacy and Security rules promulgated under the Health Insurance Portability and Accountability Act of 1996, Public Law 104-191 (Administrative Simplification). The Privacy Rule was published in December 2000 but modified in August 2002. The final Security Rule was published in February 2003. Under the Health Information Technology for Economic and Clinical Health Act of 2009, Public Law 111-5 (HITECH) Subtitle D (Privacy) the Secretary was given additional rule-making powers. Many of the modifications to HIPAA privacy and security rules were contained in the so-called Omnibus Rule—Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under the Health Information Technology for Economic and Clinical Health Act and the Genetic Information Nondiscrimination Act, <http://www.gpo.gov/fdsys/pkg/FR-2013-01-25/pdf/2013-01073.pdf>, January 25, 2013.

poor enforcement.<sup>4</sup> In light of its flaws, as HIPAA enters its teenage years it is appropriate to reflect on its considerable maturation.

### A. Understanding the HIPAA Model

Unlike the regulations that operationalize it, the HIPAA model of health care privacy protection is relatively uncomplicated if conceptually flawed. Federal interest in protected health information<sup>5</sup> originated as part of HIPAA's "Administrative Simplification" model that was designed to maximize the electronic exchange flow of health care information involved in financial and administrative transactions. Almost two decades later the Affordable Care Act (ACA) has further addressed this aspiration.<sup>6</sup> Additionally, the HIPAA data protection model is based on the highly instrumental view that patient health (and frequently other, more *public* health goals) are maximized by collecting and storing *all* patient information and allowing it to flow freely within a health care entity.

So understood the HIPAA model displays some logically consistent tenets. First, the HIPAA Privacy Rule employs a downstream data protection model ("confidentiality") that seeks to contain the collected data within the health care system by prohibiting its migration to non-health care parties. Second, because the data protection model is a downstream one, it does not in any way impede the collection of patient data (as would a true upstream, collection-focused "privacy" model)

Third, the HIPAA Security Rule, another downstream model, imposes physical and technological constraints on patient data storage designed to make it difficult for those outside of the health care system to acquire such data without consent. Indeed, recently, and further discussed below,<sup>7</sup> HITECH has introduced a further downstream model, breach notification, which requires those inside the health care system to disclose data breaches that expose patient information to outsiders. The HIPAA architects took the view that health care entities were not alone in requiring relatively unfettered access to patient data. First,

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<sup>4</sup> See generally Nicolas P. Terry & Leslie P. Francis, *Ensuring the Privacy and Confidentiality of Electronic Health Records*, 2007 U. Ill. L. Rev. 681 (2007); Nicolas P. Terry, What's Wrong with Health Privacy? 5 J. Health & Biomedical L. 1 (2009).

<sup>5</sup> 45 C.F.R. § 160.103

<sup>6</sup> Section 1104

<sup>7</sup> See text accompanying 23 et seq.

health care entities that outsource tasks (such as legal or IT services) would need to give their contractors (known as “Business Associates”) access, and some public entities (such as the legal system and public health authorities) frequently required some level of access.

These HIPAA fundamentals help explain, if not justify, some of the flaws of its data protection model. First, comprehensive information about a patient seems to flow too easily within a health care entity. That flow is only minimally constrained by the “minimum necessary” standard applicable to “payment” and “healthcare operations”<sup>8</sup> but not at all when used for treatment purposes when, say, restricting access to the treatment team might have been a better option.<sup>9</sup>

Second, although we can assume (perhaps generously) that the health care entity originally collected the patient data for treatment purposes (sometimes called the *primary* purpose), HIPAA contains few meaningful constraints on subsequent (or *secondary*) uses of this data. The litany of such potential uses includes health quality measurement, reporting, improvement, patient safety research, clinical research, commercial uses including marketing, or even the sale of patient data. Stakeholders tend to disagree on where to draw the line as to the appropriate use of patient data, and HIPAA, at least prior to HITECH, included little guidance.<sup>10</sup>

Third, and of considerable importance to the arguments advanced in this article, HIPAA does not literally protect data. Rather, like the tort cause of action that preceded it,<sup>11</sup> HIPAA imposes a duty of confidentiality on the covered entity-patient relationship. This font *is* broader than the now obsolete bilateral physician-patient relationship, yet still attaches (and limits) data protection to traditional health care relationships and environments. In a statement predating the HIPAA statute the Institute of Medicine argued for the contrary, “legislation should clearly establish that the confidentiality of person-identifiable data is an attribute afforded to the data elements themselves,

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<sup>8</sup> 45 CFR 164.502(b), 164.514(d).

<sup>9</sup> See e.g., Nicolas P. Terry & Leslie P. Francis, *Ensuring the Privacy and Confidentiality of Electronic Health Records*, 2007 U. Ill. L. Rev. 681, 731-33 (2007).

<sup>10</sup> See generally National Committee on Vital and Health Statistics, *Enhanced Protections for Uses of Health Data, A Stewardship Framework for “Secondary Uses” of Electronically Collected and Transmitted Health Data* (2007) <http://www.ncvhs.hhs.gov/071221lt.pdf>.

<sup>11</sup> See generally Alan B. Vickery, *Breach of Confidence: An Emerging Tort*, 82 Colum. L. Rev. 1426 (1982)

regardless of who holds the data.”<sup>12</sup> The fact that federal legislators and regulators ignored this exhortation inextricably has led to a situation whereby data-brokers can collect, process, and distribute health data outside of regulated space.

## **B. The Maturation of HIPAA**

As should already be obvious it is relatively easy to pick holes in the HIPAA privacy model. The litany of its flaws has always been sizeable. And although passing years have never seen any serious attempt to address its fundamental flaws (e.g., its narrow applicability to traditional health care “covered entities”), persistent regulatory tinkering has brought about a far more robust confidentiality and security model.

In 2009 the still youthful HIPAA clearly benefited mightily from the HITECH Act,<sup>13</sup> although it must be acknowledged that the change in administrations with which the Act coincided likely was as important as the substantive tweaking to the regulatory model. While HITECH failed to address one cluster of HIPAA criticisms (the uncontrolled flow of patient information within health care entities), it did tackle some of the secondary uses by tightening up the consent processes for the use of patient data for marketing and the sale of patient data.<sup>14</sup> And although HITECH also failed to address the leakage of HIPAA-protected data through entities such as public health departments (a subject returned to later<sup>15</sup>), it reconfigured the legal relationship of Business Associates (BA); although BA agreements are still required, BAs themselves are now directly subject to the Privacy Rule and, more importantly, to its enforcement and penalties.<sup>16</sup>

Most noticeable, however, has been the fundamental shift in enforcement. HIPAA privacy and security introduced a potentially robust process model of compliance, enforcement, and penalties.

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<sup>12</sup> Institute of Medicine, *Health Data in the Information Age: Use, Disclosure, and Privacy* (Molla S. Donaldson and Kathleen N. Lohr, Editors; Committee on Regional Health Data Networks, Institute of Medicine, 1994) at 191.

<sup>13</sup> The Health Information Technology for Economic and Clinical Health (HITECH) Act, enacted as part of the American Recovery and Reinvestment Act of 2009, was signed into law on February 17, 2009

<sup>14</sup> § 13405

<sup>15</sup> See text accompanying note 79

<sup>16</sup> §§ 13401, 13408

HITECH modified the penalty framework<sup>17</sup>, and the Obama Administration responded by coordinating all enforcement under the Office of Civil Rights (OCR)<sup>18</sup> and appointing a career prosecutor to head its efforts.<sup>19</sup> Soon thereafter OCR was investigating major privacy and security breach cases and levying “statement” penalties.<sup>20</sup> HITECH’s breach notification model, discussed below,<sup>21</sup> seems to have had an impact here as data custodians and their BAs have to report when patient data has been compromised.

While increasingly incremental in nature, further tweaks to HIPAA’s “small data” regulatory model are likely. The “minimum necessary” standard may be revisited and data segmentation models may slow the movement of entire patient files within institutions.<sup>22</sup> But overall, while still overly cumbersome and lacking clear, generalized principles, today’s HIPAA has emerged as a relatively strong downstream protection model with active and effective enforcement.

### **C. The Omnibus Rule and Breach Notification**

Since HIPAA health privacy exceptionalism has been tied to downstream protection models, it is not surprising that the increased privacy protection (and exceptionalism) introduced by HITECH saw a doubling down on downstream protection with breach notification, a rule now fleshed out by the 2013 Omnibus privacy rule.

With a legislative requirement to notify a data subject of a data breach, the data custodian’s duty is triggered upon loss of control of the data, making a breach notification rule the definitive downstream protective model. Breach notification laws proliferated because of the dramatic increase in identity theft.<sup>23</sup> Although all federal agencies are

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<sup>17</sup> § 13410

<sup>18</sup> <http://www.hhs.gov/ocr/office/index.html>

<sup>19</sup> <http://www.hhs.gov/ocr/office/biographydirectorrodriguez.html>

<sup>20</sup> <http://www.hhs.gov/ocr/privacy/hipaa/enforcement/highlights/index.html>

<sup>21</sup> x-ref

<sup>22</sup> See generally Mark A. Rothstein, Access To Sensitive Information In Segmented Electronic Health Records, 40 J.L. Med. & Ethics 394 (2012).

<sup>23</sup> See GAO, Identity Theft, Prevalence and Cost Appear to be Growing, 2002, <http://www.gao.gov/assets/240/233900.pdf>; U.S. Department of Justice, Bureau of Justice Statistics, Identity Theft Reported by Households, 2005-2010, November 2011, <http://www.bjs.gov/content/pub/pdf/itrh0510.pdf>. See generally Lynn M. LoPucki, Human Identification Theory and the Identity Theft Problem, 80 Tex. L. Rev. 89 (2001); Daniel J. Solove, Identity Theft, Privacy, and the Architecture of Vulnerability, 54 Hastings L.J. 1227 (2003). See also, Neil Versel, Cyber Crooks Target Healthcare

subject to a robust breach notification policy,<sup>24</sup> federal legislation to cover private parties has been proposed but not yet passed.<sup>25</sup> In contrast, and in the decade following California's 2002 example,<sup>26</sup> forty-six states and the District of Columbia have enacted breach notification laws.<sup>27</sup>

Relatively few states include health data within their definition of the personal information subject to breach notification.<sup>28</sup> Others, true to the US sector-based approach to privacy regulation, *exclude* data covered by, say, HIPAA or GLBA.<sup>29</sup>

More recently attention has turned to medical identity theft.<sup>30</sup> It has been argued that medical identities are highly valued by criminals because of the comprehensive data that are contained in, for example, a stolen electronic medical record (EMR).<sup>31</sup> A 2006 report from The World Privacy Forum focused attention on the issue<sup>32</sup> and in 2009 ONC commissioned a study on the subject from Booz Allen Hamilton.<sup>33</sup> Today both HHS's OIG<sup>34</sup> and the FTC<sup>35</sup> web sites have information

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For Financial Data, Information Week, Oct. 24, 2012, <http://www.informationweek.com/healthcare/security-privacy/cyber-crooks-target-healthcare-for-finan/240009668>

<sup>24</sup> OMB Memorandum M-07-16, <http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2007/m07-16.pdf>

<sup>25</sup> Details of failed federal bills at CRS, Data Security Breach Notification Laws, at Summary, April 10, 2012, <http://www.fas.org/sgp/crs/misc/R42475.pdf>

<sup>26</sup> SB1386, amending Cal. Civ. Code §§ 1798.29, 1798.82 and 1798.84, itself amended by SB 24 (2010).

<sup>27</sup> CRS, Data Security Breach Notification Laws, April 10, 2012, at 4, <http://www.fas.org/sgp/crs/misc/R42475.pdf>

<sup>28</sup> CRS, Data Security Breach Notification Laws, April 10, 2012, at 6, <http://www.fas.org/sgp/crs/misc/R42475.pdf>

<sup>29</sup> CRS, Data Security Breach Notification Laws, April 10, 2012, at 6, <http://www.fas.org/sgp/crs/misc/R42475.pdf>

<sup>30</sup> See generally Katherine M. Sullivan, But Doctor, I Still Have Both Feet! Remedial Problems Faced by Victims of Medical Identity Theft, 35 Am. J.L. & Med. 647 (2009)

<sup>31</sup> PricewaterhouseCoopers, Health Research Institute "Old data learns new tricks: Managing patient security and privacy on a new data-sharing" Sept. 2011 <http://www.pwc.com/us/en/health-industries/publications/old-data-learns-new-tricks.jhtml>

<sup>32</sup> The World Privacy Forum, Medical Identity Theft: The Information Crime that Can Kill You (Spring 2006)

[http://www.worldprivacyforum.org/pdf/wpf\\_medicalidtheft2006.pdf](http://www.worldprivacyforum.org/pdf/wpf_medicalidtheft2006.pdf)

<sup>33</sup> [http://www.healthit.gov/sites/default/files/medidtheftreport011509\\_0.pdf](http://www.healthit.gov/sites/default/files/medidtheftreport011509_0.pdf)

<sup>34</sup> <http://oig.hhs.gov/fraud/medical-id-theft/index.asp>

<sup>35</sup> <http://www.consumer.ftc.gov/articles/0171-medical-identity-theft>



pages concerning medical identity theft. According to a 2012 *Ponemon Institute* study 52% of health care organizations experienced one or more incidents of medical identity theft.<sup>36</sup>

HITECH introduced two closely related breach notification regimes. The first, introduced by section 13402, requires HIPAA covered entities<sup>37</sup> and HIPAA BAs<sup>38</sup> to provide notification following a breach of “unsecured protected health information.”<sup>39</sup> The second, courtesy of section 13407, imposes a similar duty on vendors of personal health records (PHR)<sup>40</sup> and their third party service providers<sup>41</sup> with regard to “Unsecured PHR Identifiable Health Information.”<sup>42</sup> Regarding the former rule-making authority and enforcement is vested in HHS as to the latter the FTC.<sup>43</sup>

The regulation of PHRs is a limited (but ultimately unsuccessful) attempt to expand health data protection from a narrow sector-provider based model (e.g., information held by a covered entity) to a data-type based model. Unfortunately it stopped short of a broad data-type model (e.g., by protecting the data itself held by *any* data custodian) limiting the custodian cohort to PHR providers.<sup>44</sup>

It is an interesting question why HITECH added a breach notification data protection model. Certainly medical identity theft was being raised as an issue.<sup>45</sup> As likely this rethinking of the approach to data protection may have been triggered by the expansion of personal health records services offered by non-health companies such as Google Inc.<sup>46</sup> Maybe the HITECH architects could not agree on a way to open up the broader and established HIPAA model to apply to non-traditional custodians of health data (BAs aside) and so had to settle on

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<sup>36</sup> Ponemon Institute LLC, Third Annual Benchmark Study on Patient Privacy & Data Security (December 2012) at 13.

<sup>37</sup> § 13402(a)

<sup>38</sup> § 13402(b)

<sup>39</sup> “[P]rotected health information that is not secured through the use of a technology or methodology specified by the Secretary” § 13402(h)(1)(A)

<sup>40</sup> § 13407(a)

<sup>41</sup> § 13407(b)

<sup>42</sup> § 13407(f)(3)

<sup>43</sup> § 13407(g)(1). See generally <http://business.ftc.gov/privacy-and-security/health-privacy>

<sup>44</sup> See further discussion below, text accompanying note 91

<sup>45</sup> See text accompanying notes 32, 33

<sup>46</sup> See generally Steve Lohr, Dr. Google and Dr. Microsoft, *NY Times*, Aug. 13, 2007, <http://www.nytimes.com/2007/08/14/technology/14iht-14healthnet.7107507.html?pagewanted=all>

a new but limited data protection model as the legislative alternative. Notwithstanding, the result was that HITECH authorized regulatory activity by the FTC that would mirror the work of HHS in the more narrowly defined, traditional health space. Ironically, however, by the time HITECH was passed the PHR business was slowing and *Google Health*, the PHR poster-child, soon would be closed.<sup>47</sup>

Following their HITECH mandate both HHS and FTC issued broadly similar interim breach notification regulations.<sup>48</sup> For example, the rules provided for safe harbors identifying technological standards (such as encryption levels) that negated the notification duty even if the data was acquired by a third party. The HHS rule provided that a notifiable “breach” occurred when the security or privacy of the protected health information was compromised because it posed “a significant risk of financial, reputational, or other harm to the individual.”<sup>49</sup> Such triggered a responsibility to notify affected individuals,<sup>50</sup> the media,<sup>51</sup> and the Secretary.<sup>52</sup> In cases of breaches involving 500 or more individuals, immediate notification to the secretary is required<sup>53</sup> in order to enable posting on the Wall of Shame as provided for by HITECH.<sup>54</sup>

In 2013 HHS published the so-called Omnibus Rule, a final rule in large part rolling up several previously published interim rules that had been authorized by HITECH.<sup>55</sup> The Omnibus Rule’s definition of breach is substantially different from that in the Interim Rule. First, “an [unpermitted] acquisition, access, use, or disclosure of protected health

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<sup>47</sup> For further reflections on the demise of Google Health see Nicolas Terry, *Information Technology’s Failure to Disrupt Healthcare*, 13 Nevada L.J. 722, 745-49 (2013)

<sup>48</sup> HHS/OCR, *Breach Notification for Unsecured Protected Health Information* Federal Register, Vol. 74, No. 162, August 24, 2009; *Health Breach Notification Rule*, Federal Register Vol. 74, No. 163, August 25, 2009, <http://www2.ftc.gov/opa/2009/08/hbn.shtm>.

<sup>49</sup> § 164.402 (2009 Interim rule)

<sup>50</sup> § 164.404

<sup>51</sup> § 164.406

<sup>52</sup> § 164.408(a)

<sup>53</sup> § 164.408(b)

<sup>54</sup> § 13402(e)(4).

<sup>55</sup> *Modifications to the HIPAA Privacy, Security, Enforcement, and Breach Notification Rules Under the Health Information Technology for Economic and Clinical Health Act and the Genetic Information Nondiscrimination Act*, <http://www.gpo.gov/fdsys/pkg/FR-2013-01-25/pdf/2013-01073.pdf>, January 25, 2013. See discussion at text accompanying notes 14 through 21.

information now is presumed to be a breach.”<sup>56</sup> Second, the covered entity carries the burden of refuting that presumption with a risk assessment that considers,

- (i) The nature and extent of the protected health information involved, including the types of identifiers and the likelihood of re-identification;
- (ii) The unauthorized person who used the protected health information or to whom the disclosure was made;
- (iii) Whether the protected health information was actually acquired or viewed; and
- (iv) The extent to which the risk to the protected health information has been mitigated.<sup>57</sup>

In contrast, the FTC rule applicable to non-HIPAA PHR vendors relies on the somewhat “older” approach to “breach,” whereby “Unauthorized acquisition will be presumed to include unauthorized access to unsecured PHR identifiable health information” absent “reliable evidence showing that there has not been, or could not reasonably have been, unauthorized acquisition of such information.”<sup>58</sup> Not only do somewhat different rules apply to breach notification regarding essentially similar EMR or PHR data, but security breaches regarding health data in the hands of custodians who are neither HIPAA entities nor PHR vendors generally do not require breach notification. Specifically, this regulatory gap works in favor of big data custodians of non-HIPAA (medically inflected) health data or “laundered” HIPAA data. A sufficiently serious breach in the face of poor security practices or technology might trigger an FTC inquiry.<sup>59</sup> Such eventuality aside the only possible regulatory model would be state law breach notification. As already noted few state laws include health information within their definitions of protected data,<sup>60</sup> though there are exceptions such as the Californian law.<sup>61</sup>

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<sup>56</sup> § 164.402 (2013 Omnibus)

<sup>57</sup> § 164.402 (2013 Omnibus)

<sup>58</sup> Health Breach Notification Rule, Federal Register, Vol. 74, No. 163, August 25, 2009, § 138.2

<http://www2.ftc.gov/opa/2009/08/hbn.shtml>

<sup>59</sup> See text accompanying note 171.

<sup>60</sup> See note 28.

<sup>61</sup> West’s Ann.Cal.Civ.Code § 1798.29(g)(4)(5). See also Cal Health & Safety Code 1280.15(b)

Breach notification as a data protection model is deserving of some criticism. It is only triggered when, necessarily, data protection has failed,<sup>62</sup> and it is a somewhat immature data protection model that likely will need additional calibration as we analyze its under-regulation or over-regulation tendencies. For example, to the extent that more experience tells us that we may be over-regulating some types of minor breaches it might be sensible to allow for an apology-plus-purchase of insurance defense or safe harbor.

Notwithstanding, the new breach notification model seems to have some value. First, and as clearly intended by HITECH<sup>63</sup>, the “Wall of Shame” website acts as a strong deterrence system.<sup>64</sup> As more data is collected about the porousness of our health care providers’ systems, a simple web listing may evolve into a more robust and useful ranking model across privacy and security dimensions, as with the quality/safety-based *Hospital Compare*.<sup>65</sup> Second, the notification system has become an important part of OCR enforcement as the agency relies on breach notifications to initiate privacy and security rule enforcement.<sup>66</sup>

On balance breach notification has strengthened its fellow downstream protection models – HIPAA confidentiality and security. First, the HITECH Act’s breach notification model includes a public “shaming” deterrent designed to improve compliance with the HIPAA rules.<sup>67</sup> Second, and obviously, notifying HHS of a substantial breach invites investigation by OCR.

Overall (and likely this was an unintended consequence) breach notification is an endorsement of health privacy exceptionalism (and indeterminacy) with its very narrow slices of health data custodians

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<sup>62</sup> See e.g., Nicolas Terry, Personal Health Records: Directing More Costs and Risks to Consumers? 1 Drexel L. Rev. 216, 245 (2009) (“only indirect value... in telling the patient that the barn door has been open and the horse has bolted”).

<sup>63</sup> § 13402(e)(4).

<sup>64</sup> See

<http://www.hhs.gov/ocr/privacy/hipaa/administrative/breachnotificationrule/breachtool.html>

<sup>65</sup> <http://www.medicare.gov/hospitalcompare/>

<sup>66</sup> For example a May 2013 settlement with Idaho State University for Security Rule violations followed receipt of a notification of breach to HHS,

<http://www.hhs.gov/ocr/privacy/hipaa/enforcement/examples/isu-agreement.pdf>

<sup>67</sup> HITECH Act § 13402(e)(4) “The Secretary shall make available to the public on the Internet website of the Department of Health and Human Services a list that identifies each covered entity involved in a breach... in which the unsecured protected health information of more than 500 individuals is acquired or disclosed.”

(HIPAA, PHR, and “others”). However, the narrowness of its definitions leads to its irrelevance in the search for a federal privacy response to big data’s growing hold on medically inflected data.

### **III. The Data Proxies’ Challenge to Health Privacy**

Big data is so named because of its unprecedented volume and for its “complexity, diversity, and timeliness.”<sup>68</sup> Big data refers not only to the collection and storage of extremely large data sets but also the data mining and predictive analytic routines that process the data<sup>69</sup>, the latter being understood as “Technology that learns from experience (data) to predict the future behavior of individuals in order to drive better decisions.”<sup>70</sup>

Essentially big data is the latest type of business intelligence (BI) or, to frame it slightly differently, the latest BI analytics are what extract value from big data.<sup>71</sup> Not surprisingly, MBA-speak business jargon dominates the space. Thus, according to Gartner Inc., “‘Big data’ is high-volume, -velocity and -variety information assets (sic) that demand (sic) cost-effective, innovative forms of information processing for enhanced insight and decision making.”<sup>72</sup> It is important not to underestimate one of the three properties used therein to qualify information—high-variety. Big data does not use structured databases (or at least is not as reliant on them as previous generation systems

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<sup>68</sup> McKinsey & Company, Center for US Health System Reform Business Technology Office, The ‘big data’ revolution in healthcare, Jan. 2013, [http://www.mckinsey.com/insights/health\\_systems\\_and\\_services/~media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the\\_big\\_data\\_revolution\\_in\\_healthcare.ashx](http://www.mckinsey.com/insights/health_systems_and_services/~media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the_big_data_revolution_in_healthcare.ashx)

<sup>69</sup> *Protecting Patient Privacy*, note 2 at xx.

<sup>70</sup> Eric Siegel, Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die, 11 (2013)

<sup>71</sup> See generally Doron Aspit, It’s Time to Instill More BI Into Business Intelligence, *Wired*, 05.06.13, <http://www.wired.com/insights/2013/05/its-time-to-instill-more-bi-into-business-intelligence/>. See also <http://www.information-age.com/technology/information-management/123457179/putting-the-business-back-into-business-intelligence>

<sup>72</sup> Svetlana Sicular, Gartner’s Big Data Definition Consists of Three Parts, Not to Be Confused with Three “V”s, *Forbes*, 3/27/2013, <http://www.forbes.com/sites/gartnergroup/2013/03/27/gartners-big-data-definition-consists-of-three-parts-not-to-be-confused-with-three-vs/> See also Andrew McAfee and Erik Brynjolfsson, Big Data: The Management Revolution, *Harv. Bus. Rev.* Oct 2012, at 4-5

such as credit reporting) but is capable of absorbing high-variety data. Data sources (or data pools) continually change and expand, yet big data is capable of digesting them.

The analytics of big data seek to predict the behavior not only of populations or cohorts but also of individuals. In *Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die*, computer scientist Eric Siegel explained the distinction as follows:

Forecasting makes aggregate predictions on a macroscopic level. How will the economy fare? Which presidential candidate will win more votes in Ohio? Whereas forecasting estimates the total number of ice cream cones to be purchased next month in Nebraska, predictive technology tells you which *individual* Nebraskans are most likely to be seen with cone in hand.<sup>73</sup>

In the context of health information the business intelligence goal is to identify and exploit a patient's differential health status. According to Neil Biehn:

Customer segmentation guided by Big Data analytics is critical when it comes to driving sales. ... With science-based segmentation, organizations can more easily identify anomalous buying behavior and make intelligent product and offer recommendations that are statistically more likely to be purchased. If two customers are alike but not buying the same products, the data analysis can advise which opportunities the sales team might be missing. This is the type of Big Data viability that moves the needle in the real world.<sup>74</sup>

Beyond the expropriation or "using" objections to such data collection and processing, such as Commissioner Brill's critique quoted

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<sup>73</sup> Eric Siegel, *Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die*, 12 (2013)

<sup>74</sup> Neil Biehn, *Realizing Big Data Benefits: The Intersection of Science and Customer Segmentation*, WIRED, June 7, 2013, <http://insights.wired.com/profiles/blogs/realizing-big-data-benefits-the-intersection-of-science-and>

at the beginning of this article,<sup>75</sup> the computer modeling of predictive analytics suggests a world of dehumanizing “data determinism,” described by FTC Chairwoman Edith Ramirez as the judgment of persons “not because of what they’ve done, or what they will do in the future, but because inferences or correlations drawn by algorithms suggest they may behave in ways that make them poor credit or insurance risks, unsuitable candidates for employment or admission to schools or other institutions, or unlikely to carry out certain functions.”<sup>76</sup>

### A. “Laundered” HIPAA Data

One key to appreciating this threat to health privacy is to understand the health care data pools that big data seeks to leverage. In *The ‘big data’ revolution in healthcare* the McKinsey Global Institute identifies four primary data pools “at the heart of the big-data revolution in healthcare:” Activity (claims) and cost data, Clinical data, Pharmaceutical R&D data, and patient behavior and sentiment data.<sup>77</sup> Previously I have argued that proprietary concerns will likely slow the sharing of drug and device data by manufacturers or claims and related financial data by health care providers while hurdles to interoperability will hinder the migration of clinical data from EMRs.<sup>78</sup> More immediately big data is using three types of health-specific data to construct proxies for HIPAA-protected data. These are “laundered” HIPAA data, patient-curated information, and medically inflected data.

There has always been something lopsided about the HIPAA regulatory model. Rather than concentrating on securing health data, most of the Privacy Rule provisions detail wide-ranging exceptions (public health, judicial, and regulatory) to data protection or outline the

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<sup>75</sup> Text at note 1.

<sup>76</sup> Keynote Address By FTC Chairwoman Edith Ramirez, *The Privacy Challenges Of Big Data: A View From The Lifeguard’s Chair*, Technology Policy Institute Aspen Forum, Aug. 19, 2013, <http://ftc.gov/speeches/ramirez/130819bigdataaspen.pdf>

<sup>77</sup> McKinsey & Company, Center for US Health System Reform Business Technology Office, *The ‘big data’ revolution in healthcare*, at 4, Jan. 2013, [http://www.mckinsey.com/insights/health\\_systems\\_and\\_services/~/media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the\\_big\\_data\\_revolution\\_in\\_healthcare.ashx](http://www.mckinsey.com/insights/health_systems_and_services/~/media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the_big_data_revolution_in_healthcare.ashx)

<sup>78</sup> *Protecting Patient Privacy*, note 2 at 8-9.

process by which patients can consent to disclosure.<sup>79</sup> Just recently, for example, a pharmacy chain made the headlines by conditioning its loyalty rewards program on a broad HIPAA authorization.<sup>80</sup> It is no surprise, therefore, to learn that there has been leakage of health data through the very system set up to protect it. Such leakage has been exacerbated by the mission creep exhibited by the recipients of data under HIPAA, particularly public health agencies. As Wendy Mariner notes:

Today, almost everyone, regardless of station, could be subject to public health surveillance. The scope of public health surveillance has grown significantly beyond its contagious disease origins. ... [A] new generation of reporting laws reflects a goal of many people in public health: to collect data about chronic diseases outside the context of a research study and without the need to obtain any individual patient's informed consent.... Do they offer the promise of medical advances, or the threat of "general searches, which the authors of the Bill of Rights were so concerned to protect against"?<sup>81</sup>

For example, a 2013 report from the *Citizens' Council for Health Freedom* alleges broad state health surveillance based on individual and often identifiable records.<sup>82</sup> However, public health authorities are not only voraciously consuming patient data but also abetting the acquisition of the same by big data companies.

Researchers at Harvard's Data Privacy Lab have found that thirty-three states *re-release* patient hospital discharge data that they have acquired as HIPAA-permitted recipients of patient data.<sup>83</sup> Generally states release this data (that is no longer in the HIPAA-

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<sup>79</sup> Nicolas P. Terry & Leslie P. Francis, Ensuring the Privacy and Confidentiality of Electronic Health Records, 2007 U. Ill. L. Rev. 681, 714-15 (2007).

<sup>80</sup> David Lazarus, CVS thinks \$50 is enough reward for giving up healthcare privacy, LA Times, Aug. 15, 2013, <http://www.latimes.com/business/la-fi-lazarus-20130816,0,2932825.column>

<sup>81</sup> Wendy K. Mariner, Mission Creep: Public Health Surveillance and Medical Privacy, 87 B.U. L. Rev. 347 (2007)

<sup>82</sup> CCHF, 50-State Report Unveiled; States Track Medical Data from Birth to Death Without Consent, Aug. 21, 2013, <http://www.cchfreedom.org/cchf.php/802#.UheQzRukr9I>

<sup>83</sup> Sean Hooley & Latanya Sweeney, Survey of Publicly Available State Health Databases, 2013 [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2277688](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2277688)



protected zone) in somewhat de-identified or anonymized form but with little restriction on future use of the data. The naïve thought that such data was only being released to academic researchers was upended by the Data Privacy Lab's discovery that many of the major buyers of such state health databases were big data companies.<sup>84</sup> Most states only charge small fees that are not a major source of revenue for them, and many are oblivious to this practice.<sup>85</sup>

The obvious solution is for the state public health agencies to contractually prohibit re-identification. For example, the National Practitioner Data Bank (NPDB) collects information about physician malpractice awards, adverse licensure reports, and Medicare/Medicaid exclusions.<sup>86</sup> Although it is not a public resource the NPDB does release de-identified data. Following a re-identification episode<sup>87</sup> NPDB now contains a prohibition on re-identification, specifically against using its "dataset alone or in combination with other data to identify any individual or entity or otherwise link information from this file with information in another dataset in a manner that includes the identity of an individual or entity."<sup>88</sup>

Clearly, state health departments and any similarly placed recipients of HIPAA data should require similar restrictions. Indeed, the proposed FTC privacy framework would mandate such:

... if a company makes such de-identified data available to other companies – whether service providers or other third parties – it should contractually prohibit such entities from attempting to re-identify the data. The company that transfers or otherwise makes the data available should exercise reasonable oversight to monitor compliance with these contractual provisions

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<sup>84</sup> Harvard Data Privacy Lab The Data Map, Top buyers of Publicly Available State Health Databases, <http://thedatamap.org/buyers.html>.

<sup>85</sup> Jordan Robertson, States' Hospital Data for Sale Puts Privacy in Jeopardy, *BusinessWeek*, Jun. 05, 2013, <http://www.businessweek.com/news/2013-06-05/states-hospital-data-for-sale-leaves-veteran-s-privacy-at-risk>

<sup>86</sup> As originally mandated by the Health Care Quality Improvement Act of 1986

<sup>87</sup> See Duff Wilson, Withdrawal of Database on Doctors Is Protested, *New York Times*, Sept. 15, 2011, [http://www.nytimes.com/2011/09/16/health/16doctor.html?\\_r=0](http://www.nytimes.com/2011/09/16/health/16doctor.html?_r=0)

<sup>88</sup> NPDB, Public Use Data File, <http://www.npdb-hipdb.hrsa.gov/resources/publicData.jsp>

and take appropriate steps to address contractual violations.”<sup>89</sup>

Until such prohibitions are instituted HIPAA’s public health exception will continue to permit protected patient data to be “laundered” as it is transferred from a data protected domain to an unprotected space.

## **B. The Self-Quantified, Self-Curating Patient**

Ironically one of the greatest threats to an individual’s health privacy is ... the individual. One of the first examples of theretofore HIPAA-protected data migrating to HIPAA-free space was during President George W. Bush’s Administration at a time when the slowing of the administration’s provider-curated EMR program coincided with the launching of PHR platforms by Google and Microsoft.<sup>90</sup> As a result the HITECH Act architects attempted to protect for the first time health data that migrated from a protected to an unprotected (or marginally protected) zone. However, they chose to do so with a swiftly outmoded, downstream breach notification model.<sup>91</sup>

In the interim different (and unregulated) technologies have emerged that encourage patient rather than provider curation of patient data. The most obvious example is the federal government’s “Blue Button” technology<sup>92</sup> that allows patients to download their records to their own devices. The “Blue Button” approach to patient access and hence *control* of their health data has become a rallying cry for many (if not all<sup>93</sup>) patient privacy advocates<sup>94</sup> and has been encouraged by President Obama’s administration.<sup>95</sup> Indeed, then ONC

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<sup>89</sup> Fed. Trade Comm’n, *Protecting Consumer Privacy in an Era of Rapid Change: Recommendations for Businesses and Policymakers* (2012), at 21, <http://www.ftc.gov/os/2012/03/120326privacyreport.pdf>

<sup>90</sup> See generally Nicolas Terry, *Personal Health Records: Directing More Costs and Risks to Consumers?* 1 Drexel L. Rev. 216 (2009).

<sup>91</sup> See discussion at note 44.

<sup>92</sup> See <http://www.va.gov/bluebutton/>; <http://www.healthit.gov/bluebutton>

<sup>93</sup> See Leslie P. Francis, *When Patients Interact with EHRs: Problems of Privacy and Confidentiality*, 12 Hous. J. Health L. & Pol’y 171 (2012).

<sup>94</sup> See e.g., <http://www.gosanangelo.com/news/2013/jul/08/blue-button-puts-patient-in-control/>; <http://patientprivacyrights.org/2013/06/experts-tout-blue-button-as-enabling-information-exchange-between-medical-provider-and-patient/>

<sup>95</sup> <http://www.whitehouse.gov/blog/2010/10/07/blue-button-provides-access-downloadable-personal-health-data>

National Coordinator Farzad Mostashari announced a Blue Button Mash-Up challenge to build software for patients designed to combine their downloaded Blue Button information with other data sources.<sup>96</sup>

At root such patient curation of health data bespeaks autonomy and is symbolic of patient ownership of the data. However, it fails to take into account one practical limitation—the canonical version of the record will remain in the provider’s control – and one legal one—that only the provider-curated copy is protected by HIPAA-HITECH. In contrast, the patient-curated “copy” attracts little meaningful privacy protection. Well-meaning privacy advocates should think carefully before promoting this autonomy-friendly “control” model until data protection laws (not to mention patient education as to good data practices) catch up with patient curated data.

A similarly dichotomous result is likely as the medically quantified self develops. The quantified-self movement concentrates on personal collection and curation of inputs and performance.<sup>97</sup> Obviously, health, wellness, and medically inflected data generally will likely comprise a large proportion of such data.

A similar, if less formal, scenario is emerging around health and wellness apps on smartphones and connected domestic appliances such as scales.<sup>98</sup> Smartphones are crammed with sensors for location, orientation, sound and pictures that add richness to data collection.<sup>99</sup> And, there is ongoing and explosive growth in the medical apps space that seeks to leverage such sensors.<sup>100</sup>

More and more we are going to demand control of information about ourselves *and* generate medically inflected and core health data about ourselves. These processes will in most cases lead to medically inflected data that exists outside of the HIPAA-HITECH protected zone.

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<sup>96</sup> Mary Mosquera, Mostashari urges Blue Button-big data, Healthcare IT News, Jun. 7, 2012, <http://www.healthcareitnews.com/news/mostashari-urges-blue-button-big-data-mashup>

<sup>97</sup> See Gary Wolf, Know Thyself: Tracking Every Facet of Life, from Sleep to Mood to Pain, 24/7/365, 06.22.09 [http://www.wired.com/medtech/health/magazine/17-07/lbnp\\_knowthyself?currentPage=all](http://www.wired.com/medtech/health/magazine/17-07/lbnp_knowthyself?currentPage=all) See generally <http://quantifiedself.com/>

<sup>98</sup> See <http://www.withings.com/>

<sup>99</sup> See Nicolas Terry, Information Technology’s Failure to Disrupt Healthcare, 13 Nevada L.J. 722, 749-56 (2013).

<sup>100</sup> See generally Nathan Cortez, The Mobile Health Revolution? SSRN, June 24, 2013, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2284448](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2284448).

### C. Medically Inflected Data

Arguably the greatest challenge to the current health privacy models of data protection, and hence to health privacy exceptionalism, is the proliferation of what McKinsey refers to as patient behavior and sentiment data.<sup>101</sup> According to *ProPublica* big data companies start with basic information about individuals before adding demographics, educational level, life events, credit reports, hobbies, salary information, purchase histories, and voting records.<sup>102</sup> As to health information:

Data companies can capture information about your “interests” in certain health conditions based on what you buy — or what you search for online. Datalogix has lists of people classified as “allergy sufferers” and “dieters.” Acxiom sells data on whether an individual has an “online search propensity” for a certain “ailment or prescription.”<sup>103</sup>

Unlike laundered HIPAA or patient self-curated data these medically inflected data were not created for direct wellness or medical purposes. Rather, medically inflected data are quintessential *high-variety* big data. Their sources are diverse and include web-browsing trails,<sup>104</sup> exhaust data from online transactions,<sup>105</sup> web scrapers,<sup>106</sup>

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<sup>101</sup> McKinsey & Company, Center for US Health System Reform Business Technology Office, The ‘big data’ revolution in healthcare, at 4, Jan. 2013, [http://www.mckinsey.com/insights/health\\_systems\\_and\\_services/~media/mckinseydotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the\\_big\\_data\\_revolution\\_in\\_healthcare.ashx](http://www.mckinsey.com/insights/health_systems_and_services/~media/mckinseydotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the_big_data_revolution_in_healthcare.ashx)

<sup>102</sup> Lois Beckett, Everything We Know About What Data Brokers Know About You, *ProPublica*, Mar. 7, 2013, <http://www.propublica.org/article/everything-we-know-about-what-data-brokers-know-about-you>

<sup>103</sup> Lois Beckett, Everything We Know About What Data Brokers Know About You, *ProPublica*, Mar. 7, 2013, <http://www.propublica.org/article/everything-we-know-about-what-data-brokers-know-about-you>

<sup>104</sup> See e.g., Marco D. Huesch, Privacy Threats When Seeking Online Health Information, *JAMA Intern Med.* July 8, 2013, <http://archinte.jamanetwork.com/article.aspx?articleid=1710119>

<sup>105</sup> See e.g., Marcus Wohlsen, Amazon’s Next Big Business Is Selling You, *Wired*, 10.16.12, <http://www.wired.com/business/2012/10/amazon-next-advertising-giant/>; Alistair Barr & Jennifer Saba, Analysis: Sleeping ad giant Amazon finally stirs, *Reuters*, Apr. 24, 2013, <http://www.reuters.com/article/2013/04/24/us-amazon-advertising-idUSBRE93N06E20130424>

social media interactions,<sup>107</sup> mobile phone usage,<sup>108</sup> and both medical<sup>109</sup> and non-medical networked devices.<sup>110</sup> Some of this data may still be unused by big data because it is “dark data” that has been left over or discarded from other processes and not yet leveraged<sup>111</sup> or, in the words of Andrew McAfee and Erik Brynjolfsson, “there’s a huge amount of signal in the noise, simply waiting to be released.”<sup>112</sup>

Consider just one example of a recognized big data source: social media interactions. Michal Kosinski and colleagues analyzed the Facebook “likes” of almost 60,000 volunteers. Using big data techniques the researchers were able to predict “sexual orientation, ethnicity, religious and political views, personality traits, intelligence, happiness, use of addictive substances, parental separation, age, and gender” and speculated that “given appropriate training data, it may be possible to reveal other attributes as well.”<sup>113</sup> As hypothesized by FTC Commissioner Julie Brill:

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<sup>106</sup> See e.g., Julia Angwin & Steve Stecklow, ‘Scrapers’ Dig Deep for Data on Web, *Wall St J.* Oct. 11, 2010

<sup>107</sup> See e.g., Rebecca Greenfield, Facebook Now Knows What You’re Buying at Drug Stores, *The Atlantic Wire*, Sep. 24, 2012, <http://www.theatlanticwire.com/technology/2012/09/facebook-tracking-you-drug-store-now-too/57183/>

<sup>108</sup> See e.g., Stephanie Clifford & Quentin Hardy, Attention, Shoppers: Store Is Tracking Your Cell, *NY Times*, July 14, 2013, [http://www.nytimes.com/2013/07/15/business/attention-shopper-stores-are-tracking-your-cell.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2013/07/15/business/attention-shopper-stores-are-tracking-your-cell.html?pagewanted=all&_r=0)

<sup>109</sup> See e.g., Amy Dockser Marcus & Christopher Weaver, Heart Gadgets Test Privacy-Law Limits, *Wall St J.* Nov. 28, 2012, <http://online.wsj.com/article/SB10001424052970203937004578078820874744076.html>

<sup>110</sup> See e.g., Evgeny Morozov, Requiem for Our Wonderfully Inefficient World, *Slate*, April 26, 2013, [http://www.slate.com/articles/technology/future\\_tense/2013/04/senor\\_based\\_dynamic\\_pricing\\_may\\_be\\_efficient\\_but\\_it\\_could\\_create\\_inequality.html](http://www.slate.com/articles/technology/future_tense/2013/04/senor_based_dynamic_pricing_may_be_efficient_but_it_could_create_inequality.html)

<sup>111</sup> “Dark data is data and content that exists and is stored, but is not leveraged and analyzed for intelligence or used in forward looking decisions” <http://blogs.starcio.com/2013/04/dark-data-business-definition.html>.

<sup>112</sup> Andrew McAfee and Erik Brynjolfsson, Big Data: The Management Revolution, *Harv. Bus. Rev.* Oct 2012, at 5.

<sup>113</sup> Michal Kosinski, David Stillwell, and Thore Graepel, Private traits and attributes are predictable from digital records of human behavior, *PNAS*, 2013 110 (15) 5733-5734, <http://www.pnas.org/content/early/2013/03/06/1218772110>. See also Katie Lobosco, Facebook friends could change your credit score, *CNN*, Aug. 27, 2013, [http://money.cnn.com/2013/08/26/technology/social/facebook-credit-score/index.html?hpt=hp\\_t2](http://money.cnn.com/2013/08/26/technology/social/facebook-credit-score/index.html?hpt=hp_t2)

[W]e can easily imagine a company that could develop algorithms that will predict ... health conditions – diabetes, cancer, mental illness – based on information about routine transactions – store purchases, web searches, and social media posts – and sells that information to marketers and others.<sup>114</sup>

Hyper amounts of medically inflected data processed through advanced analytics provide data custodians with a proxy for protected health information without the HIPAA-HITECH regulatory costs, negating health privacy exceptionalism. HIPAA was designed, inter alia, to limit the secondary uses of health data, a game of *Whac-A-Mole* played out in the regulated zone with different types of prohibitions, authorizations and consents, compound authorization rules, and opt-in or opt-out defaults. Big data marginalizes that game. It absorbs clinical and related data pools such as “laundered” HIPAA data and unregulated medically inflected data. As a result the new privacy reality is no longer the fifteen-year-old fight to contain secondary uses of protected data but a new problem—the primary use of secondary data. In the words of Viktor Mayer-Schonberger and Kenneth Cukier, “Unfortunately, the [privacy] problem has been transformed. With big data, the value of information no longer resides solely in its primary purpose... it is now in secondary uses.”<sup>115</sup> In short, big data can produce basically unprotected patient-level data that will serve as an effective proxy for HIPAA-protected data.

#### IV. How “Sticky” is Health Privacy Exceptionalism?

Claims for exceptional treatment are frequently controversial. This is the case for such diverse claims as the “American Exceptionalism” lens on foreign relations,<sup>116</sup> the constitutionality of

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<sup>114</sup> Commissioner Julie Brill, Reclaim Your Name, 23rd Computers Freedom and Privacy Conference, Jun. 26, 2013, at 7, <http://www.ftc.gov/speeches/brill/130626computersfreedom.pdf>

<sup>115</sup> Viktor Mayer-Schönberger and Kenneth Cukier, *Big Data : A Revolution That Will Transform How We Live, Work, and Think* (2013) at 153

<sup>116</sup> See generally Harold Hongju Koh, On American Exceptionalism, 55 *Stan. L. Rev.* 1479 (2003)

health care legislation,<sup>117</sup> HIV-AIDS policy<sup>118</sup> and so on. At the risk of being reductive, however, U.S. law encourages such exceptionalism by eschewing broad principles of privacy law of general application, in contrast to, say, European law.<sup>119</sup>

Yet the claims for health privacy exceptionalism are well established and have exceptional provenance. The IoM that “asks and answers the nation’s most pressing questions about health and health care”<sup>120</sup> argued prior to HIPAA:

For the most part, privacy law in this country has been formulated under the assumption that holders of information about people may generally do with it what they please, constrained only by corporate ethics and the good taste of business, societal acceptance (or outrage), occasional attention by the government, pressures of consumer activist groups, and the consequences of legal actions brought by individuals or consumer groups. This historical view may prove inappropriate or even dangerous in regard to health data.<sup>121</sup>

The IoM has since repeated this position (“The demands of health care with regard to security and availability are both more stringent and more varied than those of other industries”) in 2001’s *Crossing the Chasm*.<sup>122</sup> Indeed, exceptionalism seems sufficiently well

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<sup>117</sup> See e.g., Abigail R. Moncrieff, *Understanding the Failure of Health-Care Exceptionalism in the Supreme Court’s Obamacare Decision*, CHEST, July 16, 2012, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2109396](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2109396) (highlighting the Supreme Court’s refusal to recognize special constitutional treatment for healthcare legislation).

<sup>118</sup> See e.g., Scott Burris, *Public Health, “Aids Exceptionalism” And The Law*, 27 J. Marshall L. Rev. 251 (1994); Zita Lazzarini, *What lessons can we learn from the exceptionalism debate (finally)?* 29 J.L. Med. & Ethics 149 (2001).

<sup>119</sup> See generally Viktor Mayer-Schönberger, *Beyond Privacy, Beyond Rights-Toward A “Systems” Theory of Information Governance*, 98 Cal. L. Rev. 1853 (2010). See also Nicolas Terry, *Privacy and the Health Information Domain: Properties, Models and Unintended Results*, 10 European Journal of Health Law 223 (2003).

<sup>120</sup> <http://www.iom.edu/About-IOM.aspx>

<sup>121</sup> Institute of Medicine, *Health Data in the Information Age: Use, Disclosure, and Privacy* (Molla S. Donaldson and Kathleen N. Lohr, Editors; Committee on Regional Health Data Networks, Institute of Medicine, 1994) at 211.

<sup>122</sup> INST. OF MED., *CROSSING THE QUALITY CHASM: A NEW HEALTH SYSTEM FOR THE 21ST CENTURY* 172 (2001).

established in the domain to support claims for heightened exceptional treatment for subsets of health information, such as psychiatric privacy,<sup>123</sup> genetic privacy,<sup>124</sup> and neuro-privacy.<sup>125</sup>

This section examines exceptionalism outside of the health domain and then analyses its strength or “stickiness” under state and federal law.

### **A. Limited Exceptional Models Outside of Health Care**

US law does not protect data through any generalized regulatory system nor by reference to any general principles. Rather, the system is vertical or sector-based. As such, persistent criticisms of HIPAA privacy must be put in perspective; HIPAA stands tall when compared to protections given to personal data in other sectors.

For example, the Gramm-Leach-Bliley Act of 1999 (GLBA) governs consumer privacy in the financial sector.<sup>126</sup> The Act declares that financial institutions have “an affirmative and continuing obligation to respect the privacy of its customers and to protect the security and confidentiality of those customers’ nonpublic personal information.”<sup>127</sup> Reminiscent of HIPAA, GLBA is emphatically sector-specific and applies to narrowly defined groups of financial data custodians. Just as HIPAA does not apply to all custodians of health care data, so GLBA does not apply to all who hold consumer financial data.<sup>128</sup> And like HIPAA, GLBA is a downstream data protection model that erects a duty of confidentiality (non-disclosure of “nonpublic

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<sup>123</sup> APA Generally Pleased With HIPAA Final Privacy Rule, *Psychiatric News Alert*, Jan. 24, 2013, <http://alert.psychiatricnews.org/2013/01/apa-generally-pleased-with-hipaa-final.html>

<sup>124</sup> See e.g., LO, Hodge JG. Genetic privacy and the law: an end to genetics exceptionalism. *Jurimetrics*. 1999 Fall:21-58 (criticizing enhanced protection for genetic information inter alia on public goods grounds).

<sup>125</sup> See e.g., Stacey A. Tovino, Functional Neuroimaging Information: A Case For Neuro Exceptionalism? 34 *Fla. St. U. L. Rev.* 415 (2007).

<sup>126</sup> Pub. L. No. 106-102, 113 Stat. 1338 (1999). Subtitle A of Title V. See generally Edward J. Janger, Paul M. Schwartz The Gramm-Leach-Bliley Act, *Information Privacy, and the Limits of Default Rules*, 86 *Minn. L. Rev.* 1219 (2002).

<sup>127</sup> § 6801.

<sup>128</sup> § 6805. Notwithstanding, the FTC does have some broad residual powers. See *Privacy of Consumer Financial Information*; Final Rule 16 C.F.R. § 313, 65 *Fed. Reg.* 33646 (May 24, 2000), <http://www.gpo.gov/fdsys/pkg/FR-2000-05-24/html/00-12755.htm>.



personal information” to “nonaffiliated third parties”<sup>129</sup>) and requires notice to consumers of an institution’s privacy policies and practices.<sup>130</sup> Overall, however, GLBA is far less effective than HIPAA; there is administrative confusion because of the large number of federal agencies involved, penalties or other remedies are limited, and the core non-disclosure rule is subject to seldom triggered consumer opt-out.<sup>131</sup>

A far narrower provision, the Reagan-era Video Privacy Protection Act of 1988 (VPPA), applies a downstream data protection model to “personally identifiable rental records” of “prerecorded video cassette tapes or similar audio visual material.”<sup>132</sup> The written consent to share (opt-in) provision was watered down by the Video Privacy Protection Act Amendments Act of 2012 at the behest of streaming video providers and social media services that wished to use Internet-based consent models.<sup>133</sup>

Outside of these narrow exceptionally treated domains where legislators were prepared to assert private spaces, privacy protection in the U.S. has been moribund. There the FTC has struggled to protect consumer privacy with outdated or clumsy theories such as false or misleading representations contained in published privacy policies.<sup>134</sup>

## **B. State Privacy Law**

Health privacy and HIPAA frequently are viewed as indistinguishable. However, health privacy exceptionalism is not restricted to federal law. In the decade and a half since the appearance of the HIPAA regulations and notwithstanding the Privacy Rule’s limitation on preemption,<sup>135</sup> state law regarding health privacy appears to have receded into the background. The Bush Administration’s HIT narrative included the characterization of divergent state laws (“variations in privacy and security policies that can hinder

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<sup>129</sup> § 6802.

<sup>130</sup> § 6803.

<sup>131</sup> Kathleen A. Hardee, *The Gramm-Leach-Bliley Act: Five Years After Implementation, Does The Emperor Wear Clothes?* 39 *Creighton L. Rev.* 915, 921-36 (2006).

<sup>132</sup> Pub.L. 100-618 (1998).

<sup>133</sup> See also the Cable TV Privacy Act of 1984, 47 USC Sec. 551.

<sup>134</sup> See e.g., <http://ftc.gov/os/caselist/0923184/111129facebookcmpt.pdf>;  
<http://ftc.gov/opa/2012/05/myspace.shtm>;  
<http://www.ftc.gov/opa/2011/03/google.shtm>

<sup>135</sup> 45 CFR 160.202

interoperability.”<sup>136</sup>) as impeding EHR implementation. Furthermore, in the intervening years several states have normalized their laws with HIPAA.<sup>137</sup>

There *are* explicit protections of privacy in a handful of State constitutions.<sup>138</sup> And some state supreme courts have implied such a right<sup>139</sup> that subsequently has been applied in cases involving medical information.<sup>140</sup> Yet there is nothing that could be as described as exceptional. In contrast, many state legislatures embraced strong, exceptional health privacy models (particularly in the pre-HIPAA years).<sup>141</sup> Indeed many state privacy statutes continue to escape preemption due to HIPAA’s “more stringent” provision.<sup>142</sup>

Any generalized account fails to credit the resilience of health privacy exceptionalism in some states. Of course, there should be little surprise that California has built on its enviable protective reputation with additional substantive and enforcement provisions. The state’s original *Confidentiality of Medical Information Act* dates from 1981. It is notable for possessing a broader reach than HIPAA, applying, for example, to health data custodians who are not health care providers.<sup>143</sup> California passed one of the first health information breach notification laws.<sup>144</sup> More recently the state established the Office of Health Information Integrity to “ensure the enforcement of state law mandating the confidentiality of medical information and to

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<sup>136</sup> Activities of the Office of the National Coordinator for Health Information Technology: Testimony before the S. Comm. on Commerce, Science, and Transportation Subcomm. on Technology, Innovation, and Competitiveness, 109th Cong. (2005) (statement of David J. Brailer, M.D., Ph.D., National Coordinator for Health Information Technology, U.S. Department of Health and Human Services) <http://www.hhs.gov/asl/testify/t050630a.html>.

<sup>137</sup> Ann Waldo. Hawaii and health care: A small state takes a giant step forward, O’Reilly Media, Aug. 21, 2012, <http://radar.oreilly.com/2012/08/hawaii-health-care-law-simplicity.html> (discussing House Bill 1957, 2012)

<sup>138</sup> Alaska, Art. I, § 22, Arizona, Art. II, § 8, California, Art. I, § 1, Florida, Art. I, § 12 § 23, Hawaii, Art. I, §§ 6 & 7, Illinois, Art. I, §§ 6 & 12, Louisiana, Art. I, § 5, Montana, Art. II, § 10, South Carolina, Art. I, § 10, Washington, Art. I, § 7.

<sup>139</sup> *Pavesich v. New England Life Ins. Co.*, 50 S.E. 68 (1905),

<sup>140</sup> See e.g., *King v. State*, 535 S.E.2d 492 (2000). Cf. *State v. Davis*, 12 A.3d 1271 (2010)

<sup>141</sup> E.g., California’s Confidentiality of Medical Information Act, Civil Code §§ 56-56.07. See also Wis. Stat. 146.81-.82.

<sup>142</sup> 45 C.F.R. § 160.202

<sup>143</sup> West’s Ann.Cal.Civ.Code § 56.06

<sup>144</sup> West’s Ann.Cal.Civ.Code § 1798.29(g)(4)(5)

impose administrative fines for the unauthorized use of medical information”<sup>145</sup> which requires:

Every provider of health care shall establish and implement appropriate administrative, technical, and physical safeguards to protect the privacy of a patient's medical information. Every provider of health care shall reasonably safeguard confidential medical information from any unauthorized access or unlawful access, use, or disclosure.<sup>146</sup>

Recently Texas enacted similarly broad protection for health information. In sharp contrast to the narrow HIPAA conception of a “covered entity” the Texas law applies to “any person who ... engages ... in the practice of assembling, collecting, analyzing, using, evaluating, storing, or transmitting protected health information.”<sup>147</sup> Texas also requires “clear and unambiguous permission” before using health information for marketing<sup>148</sup> and broadly prohibits the sale of an individual's protected health information.<sup>149</sup>

As discussed above, HITECH (together with a change in administration) provided the enforcement focus that HIPAA had lacked.<sup>150</sup> However, the 2009 legislation did not alter the longstanding HIPAA position of not permitting private rights of action.<sup>151</sup> Of course a small number of states permit such actions under their health privacy statutes.<sup>152</sup> However, almost all jurisdictions allow some species of the breach of confidence action in such cases,<sup>153</sup> and some even allow HIPAA in through the “back door” establishing a standard of care in negligence *per se* cases.<sup>154</sup>

For example, *Resnick v. AvMed, Inc.*,<sup>155</sup> concerned two unencrypted laptops that were stolen from the defendant managed

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<sup>145</sup> West's Ann.Cal.Health & Safety Code § 130200

<sup>146</sup> § 130203(a)

<sup>147</sup> Tex. Health & Safety Code Ann. § 181.001(b)(2) (West)

<sup>148</sup> Tex. Health & Safety Code Ann. § 181.152 (West)

<sup>149</sup> Tex. Health & Safety Code Ann. § 181.153 (West)

<sup>150</sup> See text accompanying note 17 et seq.

<sup>151</sup> *Acara v. Banks*, 470 F.3d 569, 572 (5th Cir.2006); *Johnson v. Quander*, 370 F. Supp. 2d 79 (D. Colo. 2005)

<sup>152</sup> See e.g., Cal. Civ. Code § 56.36(b) (West)

<sup>153</sup> See e.g., *Biddle v. Warren Gen. Hosp.*, 86 Ohio St.3d 395 (1999)

<sup>154</sup> See e.g., *I.S. v. Washington Univ.*, 2011 WL 2433585 (E.D. Mo. June 14, 2011)

<sup>155</sup> 693 F.3d 1317 (11<sup>th</sup> Cir. 2012)

care company. The compromised data concerned 1.2 million persons, some of whom subsequently become victims of identity theft. Dealing with Florida law allegations of breach of contract, breach of implied contract, breach of the implied covenant of good faith and fair dealing, and breach of fiduciary duty the Eleventh Circuit addressed the question whether plaintiffs had alleged a sufficient nexus between the data theft and the identity theft. The court concluded that the plaintiffs had “pled a cognizable injury and ... sufficient facts to allow for a plausible inference that AvMed’s failures in securing their data resulted in their identities being stolen. They have shown a sufficient nexus between the data breach and the identity theft beyond allegations of time and sequence.”<sup>156</sup>

State privacy case law<sup>157</sup> and legislation<sup>158</sup> are continually evolving both in and out of the health care space. However, there is reason to believe that health privacy exceptionalism remains an accepted tenet among state courts and legislatures.

### C. Exceptionalism at the Federal Level

While the ethical basis (the fundamental autonomy) for exceptional protection for health privacy is robust,<sup>159</sup> a strong legal basis for health privacy exceptionalism is harder to articulate. The US Constitution is silent on the issue although the decisional privacy cases do recognize limited penumbral privacy claims.<sup>160</sup> *Whalen v. Roe* did articulate the duality of informational and decisional privacy in a case

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<sup>156</sup> 693 F.3d at 1330.

<sup>157</sup> See e.g., *Tyler v. Michaels Stores, Inc.*, 984 N.E.2d 737 (Mass. 2013) (Massachusetts law limiting collection of personal identification data extended to a store collecting zip codes during credit card transaction (when not required by issuer). Cf *Siegler v. Best Buy Co. of Minnesota Inc.*, 11th Cir., 5/28/13) (retailer not liable under the federal Driver's Privacy Protection Act for collecting information from customers' driver's licenses when they return goods). See also State of Connecticut, Office of the Attorney General, Attorney General Announces \$7 Million Multistate Settlement With Google Over Street View Collection of WiFi Data, March 12, 2013, <http://www.ct.gov/ag/cwp/view.asp?Q=520518>

<sup>158</sup> See e.g., Cal. Fin. Code § 4052.5 requiring explicit consent from consumer for disclosure of financial information. See also Vt. Stat. tit. 8, ch. 200, §§ 10203-04.

<sup>159</sup> Tom L. Beauchamp & James F. Childress, *Principles of Biomedical Ethics*, 103-104 (6<sup>th</sup> Ed. 2009)

<sup>160</sup> See e.g., *Griswold v. Connecticut*, 381 U.S. 479 (1965); *Planned Parenthood of Central Missouri v. Danforth*, 428 U.S. 52 (1976).

that, broadly at least, concerned health privacy.<sup>161</sup> Yet Justice Stevens' broadest pro-privacy statement in *Whalen* failed to articulate any exceptional treatment of health information.<sup>162</sup> Of course, in *Jaffee v. Redmond*, the same Justice did recognize a broad federal common law psychotherapist privilege rooted in confidence and trust,<sup>163</sup> yet it was hardly exceptional as it was analogized to the spousal and attorney-client privileges.<sup>164</sup> More recently, the Supreme Court, while restraining some aspects of the surveillance state,<sup>165</sup> generally has favored data liquidity over data protection.<sup>166</sup>

Outside of the health-related HIPAA, the Genetic Information Nondiscrimination Act of 2008 (GINA)<sup>167</sup>, and a few other narrow sector-specific statutes like GLBA most federal privacy law is quite general in its reach. For example, the Privacy Act of 1974, while applicable to health care data collected by the federal government, does not seem to apply exceptionally.<sup>168</sup> The same can be said of federal scrutiny of the privacy standards of private, non-health care entities. In this general space the FTC asserts two types of claims under Section 5(a) of the Federal Trade Commission Act: "unfair or deceptive acts or practices in or affecting commerce."<sup>169</sup> Thus, with regard to privacy, an unfair business practice case might be brought against a business for, say, failing to have adequate security, while a deceptive or misleading claim might apply to a business that, say, failed to comply with its own stated privacy policy. The FTC will leave most health care privacy cases to the HHS Office of Civil Rights (OCR)<sup>170</sup> although it has asserted its jurisdiction in cases involving non-HIPAA entities. For example, *In the Matter of Cbr Systems, Inc.*, the FTC entered into a settlement with a

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<sup>161</sup> 429 U.S. 589, 599-600 (1977).

<sup>162</sup> 429 U.S. 589, 605 (1977).

<sup>163</sup> 518 U.S. 1 (1996).

<sup>164</sup> *Id.* at 10.

<sup>165</sup> *United States v. Jones*, 132 S. Ct. 945, 949 (2012).

<sup>166</sup> *Sorrell v. IMS Health, Inc.*, 131 S.Ct. 2653, 2656-58 (2011) (striking down Vermont statute that restricted the sale and use of pharmacy records documenting prescribing practices of physicians).

<sup>167</sup> Public Law 110-233, 122 STAT. 881. Title 1 (applicable to health insurers) and Title II (employers and related entities) of GINA prohibits the use of genetic information in making insurance and employment decisions, restricts those entities from requesting, requiring or purchasing genetic information, places limits on the disclosure of genetic information.

<sup>168</sup> Pub.L. 93-579, 88 Stat. 1896.

<sup>169</sup> Ch. 311, §5, 38 Stat. 719, codified at 15 U.S.C. §45(a).

<sup>170</sup> See generally <http://www.hhs.gov/ocr/office/index.html>

provider of umbilical cord blood and umbilical cord tissue-banking services. The proceeding related to the theft of unencrypted computer drives exposing the health information of almost 300,000 of the bank's customers.<sup>171</sup>

There has been little Congressional consideration of the implications of health privacy exceptionalism or, for that matter, its absence. A rare exception was at the 1999 hearings on GLBA. When it became apparent that health insurers would be covered by the proposed legislation a provision was added with the intent to protect health data.<sup>172</sup> However, that provision would have had the unintended consequence of opening up health data to broad opt-out sharing among financial institutions with attendant secondary use risks. Organizations such as the American Medical Association<sup>173</sup> and the American Psychiatric Association (APA)<sup>174</sup> strongly voiced their concerns, and the provision was dropped from the final bill. Before the House of Representatives the APA's Dr. Richard Harding argued "[i]t is critically important to recognize the difference between medical records privacy and financial privacy," so making the case for health privacy exceptionalism:

[T]he damages from breaches of medical records privacy are of a different nature. Medical records information can include information on heart disease, terminal illness, domestic violence, and other women's health issues, psychiatric treatment, alcoholism and drug abuse, sexually transmitted diseases and even adultery... These

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<sup>171</sup> <http://ftc.gov/os/caselist/1123120/130128cbragree.pdf>

<sup>172</sup> H.R.10, Financial Services Act of 1999 (Reported in House - RH), § 351 (Confidentiality of Health and Medical Information), <http://thomas.loc.gov/cgi-bin/query/F?c106:2:/temp/~c106cogH2K:e887946>:

<sup>173</sup> Financial Privacy: Hearing Before the Subcomm. on Financial Institutions and Consumer Credit Comm. on Banking and Financial Services, 106th Cong. 5 (1999), 97-98, 525-34 (Re: Medical Privacy Issues in HR 10, Presented by Donald J. Palmisano, American Medical Association, available at <http://ia700309.us.archive.org/16/items/financialprivacy00unit/financialprivacy00unit.pdf>

<sup>174</sup> Financial Privacy: Hearing Before the Subcomm. on Financial Institutions and Consumer Credit Comm. on Banking and Financial Services, 106th Cong. 5 (1999), 535-39 (testimony of Richard Harding, M.D., on behalf of the American Psychiatric Association on Medical Records Privacy) available at <http://ia700309.us.archive.org/16/items/financialprivacy00unit/financialprivacy00unit.pdf>

disclosures can jeopardize our careers, our friendships, and even our marriages.

And if such disclosures occur, there are truly few meaningful remedies. Seeking redress will simply lead to further dissemination of the highly private information that the patient wished to keep secret...<sup>175</sup>

Just a few months later this model of health privacy exceptionalism was confirmed when President Clinton introduced the first version of the HIPAA privacy rule.<sup>176</sup> The rhetoric of exceptionalism was clear. As the President noted the purpose of the regulation was “to protect the *sanctity* of medical records” and represented “an *unprecedented step* toward putting Americans back in control of their own medical records.”<sup>177</sup>

Today the federal commitment to health privacy exceptionalism seems strong. Of course there were a couple of bumps in the road as the Bush Administration replaced the original Clinton Administration requirement of patient consent to disclosure for treatment, payment, or health care operations (TPO) purposes<sup>178</sup> with the more permissive statement that “[a] covered entity may obtain consent of the individual to use or disclose protected health information to carry out treatment, payment, or health care operations.”<sup>179</sup>

On the other hand the Bush Administration seemed to endorse health privacy exceptionalism when it championed the Genetic Information Nondiscrimination Act (GINA). GINA, signed into law by President Bush in May 2008, broadly prohibits discrimination by employers and health insurers based upon genetic information. It does so primarily by using an upstream data protection model whereby would-be data custodians are prohibited from collecting genetic information.<sup>180</sup>

Two recent federal government reports that have recommended the strengthening of data protection both recognize health privacy

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<sup>175</sup> *Id.*

<sup>176</sup> White House Press Release, Remarks by the President on Medical Privacy, October 29, 1999, <http://archive.hhs.gov/news/press/1999pres/19991029b.html>

<sup>177</sup> *Id.* (emphasis added)

<sup>178</sup> 45 C.F.R. § 164.506 (2001), amended by 45 C.F.R. § 164.506 (2009).

<sup>179</sup> 45 C.F.R. § 164.506(b)(1) (2009).

<sup>180</sup> Genetic Information Nondiscrimination Act of 2008, Pub. L. No. 110-233, 122 Stat. 881. See also note 167.

exceptionalism. Unfortunately, in doing so they may drive the unintended consequence of keeping strong, upstream protections out of the health care space.

First, the White House report *Consumer Data Privacy in a Networked World*,<sup>181</sup> while calling for Congress to enact legislation that includes an impressive Consumer Privacy Bill of Rights rotating around “Fair Information Practice Principles” (“FIPPs”), limits that request “to commercial sectors that are not subject to existing Federal data privacy laws.”<sup>182</sup> Second, the FTC’s *Protecting Consumer Privacy in an Era of Rapid Change*<sup>183</sup>, which calls for privacy by design and best privacy practices, expresses its sensitivity to burdens introduced by “overlapping or duplicative requirements on conduct that is already regulated,” but more positively suggests the potential for the FIPPs framework to provide “an important baseline for entities that are not subject to sector-specific laws like HIPAA or GLBA.”<sup>184</sup> Their considerable promise aside, neither report has led to legislation. And with the major political parties closing ranks over the Big Data-tainted NSA spying controversy a privacy law reform proposal does not seem likely to emerge from either the White House or Congress.<sup>185</sup>

## V. Big Data’s Potential and Reforming Health Privacy

Clearly big data challenges the core tenets of health privacy and its regulation.<sup>186</sup> As Viktor Mayer-Schonberger and Kenneth Cukier pithily note, “In the era of big data, the three core strategies long used to ensure privacy—individual notice and consent, opting out, and anonymization—have lost much of their effectiveness.”<sup>187</sup> Indeed, some

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<sup>181</sup> THE WHITE HOUSE, CONSUMER DATA PRIVACY IN A NETWORKED WORLD: A FRAMEWORK FOR PROTECTING PRIVACY AND PROMOTING INNOVATION IN THE GLOBAL DIGITAL ECONOMY (2012), at i., available at <http://www.whitehouse.gov/sites/default/files/privacy-final.pdf> [hereinafter CONSUMER DATA PRIVACY].

<sup>182</sup> CONSUMER DATA PRIVACY, *supra* note 85, at i.

<sup>183</sup> FED. TRADE COMM’N, PROTECTING CONSUMER PRIVACY IN AN ERA OF RAPID CHANGE: RECOMMENDATIONS FOR BUSINESSES AND POLICYMAKERS (2012), available at <http://www.ftc.gov/os/2012/03/120326privacyreport.pdf>.

<sup>184</sup> FTC, 16-17

<sup>185</sup> See generally NSA Spying Controversy Highlights Embrace Of Big Data Huffington Post, 06/12/2013, [http://www.huffingtonpost.com/2013/06/12/nsa-big-data\\_n\\_3423482.html](http://www.huffingtonpost.com/2013/06/12/nsa-big-data_n_3423482.html).

<sup>186</sup> *Protecting Patient Privacy*, note 2 at 5-13.

<sup>187</sup> Viktor Mayer-Schonberger and Kenneth Cukier, *Big Data : A Revolution That Will Transform How We Live, Work, and Think* (2013) at 156.



of the big data implications for privacy are quite dramatic: First, the relative agnosticism of big data processing to either data size or data format radically reduces the traditional protective role of friction. Second, big data predictive analytics do not content themselves with populations but operate on the individual level, thus challenging the core, autonomy based privacy model. Third, big data nullifies core regulatory components such as de-identification or anonymization.<sup>188</sup> Fourth, and for health privacy regulation the most important effect, is the argument presented in this article—that big data increasingly will sidestep sector-based downstream health data protection by replicating that data with proxy data generated from data pools that are located in lightly regulated, HIPAA-free space.

### **A. The Trade-Off? Better Health Care with Big Data**

While big data is only now attracting the attention of privacy advocates, its health-related businesses are in full flow. Clearly the big data model is attracting big claims. For example in 2011 the McKinsey Global Institute estimated that “US health care could capture more than \$300 billion in value every year, with two-thirds of that in the form of reductions to national health care expenditure of around 8 percent.”<sup>189</sup> Robert Kocher and Bryan Roberts have noted that big data should improve “personalization of care, assessment of quality and value for many more conditions” as well as helping “providers better manage population health and risk-based reimbursement approaches.”<sup>190</sup> Other touted uses include disease modeling,<sup>191</sup> epidemic prediction,<sup>192</sup> and pharmacovigilance.<sup>193</sup>

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<sup>188</sup> See e.g., Yves-Alexandre de Montjoye et al, Unique in the Crowd: The privacy bounds of human mobility, *Scientific Reports* 3, Article number: 1376, <http://www.nature.com/srep/2013/130325/srep01376/full/srep01376.html>

<sup>189</sup> JAMES MANYIKA ET AL., MCKINSEY GLOBAL INST., BIG DATA: THE NEXT FRONTIER FOR INNOVATION, COMPETITION, AND PRODUCTIVITY, 39 (2011), [http://www.mckinsey.com/~media/McKinsey/dotcom/Insights%20and%20pubs/MGI/Research/Technology%20and%20Innovation/Big%20Data/MGI\\_big\\_data\\_full\\_report.ashx](http://www.mckinsey.com/~media/McKinsey/dotcom/Insights%20and%20pubs/MGI/Research/Technology%20and%20Innovation/Big%20Data/MGI_big_data_full_report.ashx).

<sup>190</sup> Robert Kocher & Bryan Roberts, Meaningful Use of Health IT Stage 2: The Broader Meaning, *HEALTH AFF.* (Mar. 15th, 2012), <http://healthaffairs.org/blog/2012/03/15/meaningful-use-of-health-it-stage-2-the-broader-meaning/>.

<sup>191</sup> Steve Lohr, Sizing Up Big Data, Broadening Beyond the Internet, *NY Times*, June 19, 2013, <http://bits.blogs.nytimes.com/2013/06/19/sizing-up-big-data-broadening-beyond-the-internet/>

Today we are seeing more evidence of specific applications of big data technologies. For example, *Crimson*, a product of The Advisory Board Company, uses big data techniques such as predictive analytics to decrease readmissions and improve outcomes for its customer hospitals.<sup>194</sup> Likewise, the VHA has issued request for proposals to install a clinical reasoning and prediction system that will seek to predict potential medical problems in specific patients.<sup>195</sup>

Fraud and abuse reduction is a major target of big data analytics, driven in large part by the extremely low detection rate resulting from conventional investigatory methods.<sup>196</sup> Various big data techniques aimed at identifying fraud prior to payment may be applicable. These include pattern tracking, anomaly detection<sup>197</sup>, and particularly link analysis for examining “relationships among claims, people and transactions.”<sup>198</sup> The Obama Administration has articulated a “zero tolerance” approach to fraud and abuse that is operationalized by a Cabinet-level antifraud task force.<sup>199</sup> The Affordable Care Act (ACA) imposed more stringent entry requirements for those seeking to bill Medicare, compliance measures, and penalties.<sup>200</sup> Funded by ACA and required by the *Small Business Jobs Act of 2010*, CMS has, since June

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<sup>192</sup> Ginsberg J, Mohebbi MH, Patel RS, et al. Detecting influenza epidemics using search engine query data. *Nature* 2009;457:1012–14.

<sup>193</sup> Ryen W White et al, Web-scale pharmacovigilance: listening to signals from the crowd, *J Am Med Inform Assoc* 2013;20:404-408

<sup>194</sup> <http://www.advisory.com/Technology/Crimson>. See generally Anna Wilde Mathews, Hospitals Prescribe Big Data to Track Doctors at Work, *Wall St. J.* at A1, July 11, 2013; Rx to Avoid Health-Law Fines, *Wall St. J.* Aug. 7, 2013, <http://online.wsj.com/article/SB10001424127887323838204578654152046151798.html>

<sup>195</sup> Can Computers Predict Medical Problems? VA Thinks Maybe, *Nextgov*, Jan. 30, 2013, <http://www.nextgov.com/health/2013/01/can-computers-predict-medical-problems-va-thinks-maybe/61000/>

<sup>196</sup> Roger Foster, Top 9 fraud and abuse areas big data tools can target, *Government Health IT*, May 14, 2012, <http://www.govhealthit.com/news/part-3-9-fraud-and-abuse-areas-big-data-can-target>

<sup>197</sup> *Id.*

<sup>198</sup> Russ Schreiber, Fighting fraud with predictive analytics and link analysis, *Healthcare Finance News*, Aug. 8, 2012, <http://www.healthcarefinancenews.com/news/fighting-fraud-predictive-analytics-and-link-analysis>

<sup>199</sup> John K. Iglehart, The ACA's New Weapons against Health Care Fraud *N Engl J Med* 2010; 363:304-306, July 22, 2010

<sup>200</sup> *Id.* See generally Eliminating Fraud and Abuse, *Health Affairs*, July 31, 2012, [http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief\\_id=72](http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=72)

2011, run a pre-payment predictive analytics program called the *Fraud Prevention System* (FPS) against Medicare fee-for-service claims. FPS claimed savings of over \$115m in its first year.<sup>201</sup> Although generally supportive of the FPS, the GAO has criticized CMS for failure to fully integrate the program with its other anti-fraud systems and better benchmark the program's effectiveness.<sup>202</sup>

Similar potential lies in using big data to improve public health surveillance. Public Health is data rich, but barriers to sharing and analysis challenge its surveillance systems.<sup>203</sup> By adopting "a nationwide patient and treatment database, public health officials can ensure the rapid, coordinated detection of infectious diseases and a comprehensive outbreak surveillance and response through an Integrated Disease Surveillance and Response program."<sup>204</sup>

Finally, the Food and Drug Administration (FDA) has several major projects that seem to leverage big data.<sup>205</sup> For example, Janus (seeing into the past and the future)<sup>206</sup> combines historical clinical trial data with post-marketing studies and surveillance-based adverse event data. Another project, the Sentinel Initiative,<sup>207</sup> is a post-marketing

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<sup>201</sup> CMS, Report to Congress, Fraud prevention System, First Implementation Year, 2012, <http://www.stopmedicarefraud.gov/fraud-rtc12142012.pdf>

<sup>202</sup> GAO, MEDICARE FRAUD PREVENTION: CMS Has Implemented a Predictive Analytics System, but Needs to Define Measures to Determine Its Effectiveness, GAO-13-104, Oct 15, 2012, <http://www.gao.gov/assets/650/649537.pdf>

<sup>203</sup> Amy B. Bernstein & Marie Haring Sweeney, Public Health Surveillance Data: Legal, Policy, Ethical, Regulatory, and Practical Issues, *MMWR*, July 27, 2012 / 61(03);30-34, <http://www.cdc.gov/mmwr/preview/mmwrhtml/su6103a7.htm>

<sup>204</sup> JAMES MANYIKA ET AL., MCKINSEY GLOBAL INST., BIG DATA: THE NEXT FRONTIER FOR INNOVATION, COMPETITION, AND PRODUCTIVITY, 49 (2011), [http://www.mckinsey.com/~media/McKinsey/dotcom/Insights%20and%20pubs/MGI/Research/Technology%20and%20Innovation/Big%20Data/MGI\\_big\\_data\\_full\\_report.ashx](http://www.mckinsey.com/~media/McKinsey/dotcom/Insights%20and%20pubs/MGI/Research/Technology%20and%20Innovation/Big%20Data/MGI_big_data_full_report.ashx). See generally Roger Foster, How to harness big data for improving public health, *Government Health IT*, April 3, 2012, <http://www.govhealthit.com/news/how-harness-big-data-improving-public-health>; Big data and public health, part 2: Reducing unwarranted services, *Government Health IT*, May 7, 2012, <http://www.govhealthit.com/news/big-data-and-public-health-part-2-reducing-un-warranted-services?page=0,1>

<sup>205</sup> In large part authorized by the Food and Drug Administration Amendments Act of 2007. See generally <http://formularyjournal.modernmedicine.com/formulary-journal/news/clinical/clinical-pharmacology/fdaaa-empowers-fda-have-greater-control-over-d>

<sup>206</sup> See generally <http://www.fda.gov/ForIndustry/DataStandards/StudyDataStandards/ucm155327.htm>

<sup>207</sup> See generally <http://www.fda.gov/safety/FDAsSentinelInitiative/ucm2007250.htm>

product safety system for drugs, vaccines, biologics and devices. When fully operational it will “actively” (automatically) pull data from sources such as electronic health records and insurance claims databases.

For all the bold claims and notwithstanding the potential shown by the application of some big data technologies to health care, barriers remain. A recurring problem with the mapping of technological solutions to the US health care model is that major progress is dependent on antecedent change by health care cultures, processes, precepts and stakeholders.<sup>208</sup> In a 2013 report McKinsey & Company stated the big data challenge as follows:

The old levers for capturing value—largely cost-reduction moves, such as unit price discounts based on contracting and negotiating leverage, or elimination of redundant treatments—do not take full advantage of the insights that big data provides and thus need to be supplemented or replaced with other measures related to the new value pathways. Similarly, traditional medical-management techniques will no longer be adequate, since they pit payors (sic) and providers against each other, framing benefit plans in terms of what is and isn’t covered, rather than what is and is not most effective. Finally, traditional fee-for-service payment structures must be replaced with new systems that base reimbursement on insights provided by big data—a move that is already well under way.<sup>209</sup>

If nothing else this anterior requirement for health care itself to change significantly before the power of big data can be fully leveraged may furnish a brief window in which to strengthen health privacy.

While many big data claims are the products of marketing frenzy, as yet another group of rent-seekers look to claim a piece of the health care economy, some contain a germ of truth. The question is then the

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<sup>208</sup> See generally Nicolas Terry, *Information Technology’s Failure to Disrupt Healthcare*, 13 Nev. L.J. 722, 738-42 (2013).

<sup>209</sup> McKinsey & Company, *Center for US Health System Reform Business Technology Office, The ‘big data’ revolution in healthcare*, Jan. 2013, [http://www.mckinsey.com/insights/health\\_systems\\_and\\_services/~/media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the\\_big\\_data\\_revolution\\_in\\_healthcare.ashx](http://www.mckinsey.com/insights/health_systems_and_services/~/media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the_big_data_revolution_in_healthcare.ashx)

classic instrumental one—do the health care gains trump the privacy losses.

### B. Will Big Data Join the Instrumentalist Narrative?

Because of such positive claims made for big data a fair question to ask is whether the benefits to health care should overcome (even if only partially) health privacy and its exceptional protections. Over the last decade and a half, as the HIPAA model of exceptional privacy has asserted itself, many involved in public health or biomedical research have supported a more utilitarian position. For example, Larry Gostin and James Hodge have argued, “Individuals should not be permitted to veto the sharing of personal information irrespective of the potential benefit to the public” and that “Privacy rules should not be so arduous and inflexible that they significantly impede... health services research or surveillance...”<sup>210</sup>

However, the traditional rationales for privacy offer little room for an instrumentalist balancing of interests. Privacy claims traditionally have been based on quite absolutist claims of personhood, autonomy, property, control,<sup>211</sup> freedom from surveillance, protection from discrimination, or “hybrid inalienability.”<sup>212</sup>

The physician-patient relationship was the font from which claims of privacy were derived. In this model privacy is a consequent or a component of autonomy. And, according to Tom Beauchamp and James Childress, in the ethical domain “[r]espect for autonomy is not a mere *ideal* in health care; it is a professional *obligation*. Autonomous choice is a *right*—not a *duty*—of patients.”<sup>213</sup> For them privacy is part of the core autonomy “rights” bundle that must be protected as “the

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<sup>210</sup> Gostin LO, Hodge JG., Personal privacy and common goods: a framework for balancing under the national health information privacy rule, 86 Minn. L. Rev. 1441-42 (2002). See also Miller FG. Research on medical records without informed consent, Journal of Law, Medicine & Ethics 2008;36:560-66. See also Fred H. Cate, Protecting Privacy in Health Research: The Limits of Individual Choice, 98 Cal. L. Rev. 1765 (2010). Cf. Rothstein MA, Shoben AB. Does consent bias research? Am J Bioeth. 2013;13(4):27-37.

<sup>211</sup> For a broad (non-sector based) argument for a control-property model see Vera Bergelson It's Personal But Is It Mine? Toward Property Rights In Personal Information, 37 U.C. Davis L. Rev. 379 (2003)

<sup>212</sup> Paul M. Schwartz, Property, Privacy, and Personal Data, 117 Harv. L. Rev. 2055 (2004)

<sup>213</sup> Tom L. Beauchamp & James F. Childress, Principles of Biomedical Ethics (6th Ed 2009) at 107

justification of the right to privacy parallels the justification of the right to give an informed consent..."<sup>214</sup>

This autonomy model plays out as follows. The autonomous patient cedes control over (and/or property in) health data to the physician. The physician then becomes the patient's agent, and either is bound by the agent's duty of confidentiality in curating the patient's health data<sup>215</sup> or, according to Daniel Solove, may be liable for a confidence's betrayal.<sup>216</sup>

Not surprisingly, therefore, reformers wanting to see more health data made available for public health or research seek to undermine patient autonomy and the physician-patient relationship as foundational of health privacy (and indeed health privacy exceptionalism). For example, Roger Magnusson has argued that modern health privacy is less about the rights and obligations inherent in the physician-patient relationship and is more about "the power of the state as the broker for information flows within health care settings." He predicts that:

Twenty years from now, it is by no means clear that the obvious starting point when considering health privacy law will be either the autonomy interests of health consumers or their treating physicians. What we now call health privacy laws are likely, at that time, to be less patient-focused, and to be described (and defended) with reference to the variety of aims that information policy, within the health sector, is designed to achieve.<sup>217</sup>

Calling out what he believes to be an artifact of a waning bilateral relationship Magnusson predicts that more instrumental forces will recalibrate health privacy and, to put words into his mouth, reduce health privacy exceptionalism.

While it seems arguable that industrial health care will continue to minimize the importance of the physician-patient relationship as a

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<sup>214</sup> Tom L. Beauchamp & James F. Childress, *Principles of Biomedical Ethics* (6th Ed 2009) at 298

<sup>215</sup> Nicolas P. Terry, What's Wrong with Health Privacy? 5 J. Health & Biomedical L. 1 (2009).

<sup>216</sup> Daniel J. Solove, A Taxonomy of Privacy, 154 U. Pa. L. Rev. 477, 527 (2006)

<sup>217</sup> Roger S. Magnusson, The Changing Legal And Conceptual Shape Of Health Care Privacy, 32 J.L. Med. & Ethics 680, 681 (2004).

font of duties,<sup>218</sup> there are other, equally strong (or potentially stronger) rationales for privacy. For example, Edward Janger and Paul Schwartz argue for “constitutive privacy” whereby “[a]ccess to personal information and limits on it help form the nature of the society in which we live and shape our individual identities.”<sup>219</sup> Although they seem to admit of considerable balancing at work in their model, this is not merely a relabeled utilitarian justification for turning over private information. Although Janger and Schwartz were primarily discussing the GLBA their constitutive privacy concept seems even stronger in the health care sector. They were also impressively prescient about big data, noting more than a decade ago:

A financial institution knows whether a customer has recently bought running shoes or other consumer products, the name of one's physicians (as well as the nature of their specialty), and whether one has purchased orthotics or aspirin or other kinds of health care products. Some of this information might be embarrassing, and some of it might create potentially damaging labels for persons or lead to other harmful results. The cumulative impact of these disclosures can have a profound impact on the society in which we live. Regulatory attention is needed to control the resulting patterns of data accumulation and use.<sup>220</sup>

As the big data debate heats up it is likely that public health and research interests will join the data-brokers and the purveyors of BI in making instrumental arguments for data liquidity. Implied consent or opt-out rules will be proposed as the preferable operational rules. It will take a considerable effort to maintain the health privacy exceptionalism we currently enjoy, let alone to promote new upstream controls on the data-brokers.

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<sup>218</sup> Nicolas P. Terry, What's Wrong with Health Privacy? 5 J. Health & Biomedical L. 1, 17-17 (2009).

<sup>219</sup> Edward J. Janger, Paul M. Schwartz The Gramm-Leach-Bliley Act, Information Privacy, and the Limits of Default Rules, 86 Minn. L. Rev. 1219, 1251 (2002)

<sup>220</sup> Edward J. Janger, Paul M. Schwartz The Gramm-Leach-Bliley Act, Information Privacy, and the Limits of Default Rules, 86 Minn. L. Rev. 1219, 1253 (2002)

### C. Self-Regulation?

In *Predictive Analytics* Eric Siegel discusses medically-inflected data in the context of both the well-known story of Target Corporation's use of predictive analytics to identify potential customers in their second trimester of pregnancy<sup>221</sup> and his own research into the (apparently benign) practice of a health insurance company that predicted customer deaths so as to trigger end-of-life counseling.<sup>222</sup> He concludes:

Its not what an organization comes to know; its what it *does* about it. Inferring new, powerful data is not itself a crime, but it does evoke the burden of responsibility. Target does know how to benefit from pregnancy predictions without actually divulging them to anyone... But any marketing department must realize that if it generates quasi-medical data from thin air, it must take on, with credibility, the privacy and security practices of a facility or department commonly entrusted with such data, *You made it, you manage it*.<sup>223</sup>

It also seems to be the FTC position that “with big data comes big responsibility. Firms that acquire and maintain large sets of consumer data must be responsible stewards of that information.”<sup>224</sup> Unfortunately there is little or no evidence that the big data industry has either recognized or accepted any such “made it, manage it” mantra. It is at least as likely that these data custodians think of data protection as merely creating friction at a time when their businesses are thriving on data liquidity.

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<sup>221</sup> Charles Duhigg, *How Companies Learn Your Secrets*, NY TIMES, Feb. 16, 2012, available at <http://www.nytimes.com/2012/02/19/magazine/shopping-habits.html?pagewanted=all>.

<sup>222</sup> Eric Siegel, *Predictive Analytics: The Power to Predict Who Will Click, Buy, Lie, or Die*, 64-65 (2013)

<sup>223</sup> *Id.* at 65.

<sup>224</sup> Keynote Address By FTC Chairwoman Edith Ramirez, The Privacy Challenges Of Big Data: A View From The Lifeguard's Chair, Technology Policy Institute Aspen Forum, Aug. 19, 2013, <http://ftc.gov/speeches/ramirez/130819bigdataaspen.pdf>



In late 2012 Senator John Rockefeller opened an investigation into information brokers,<sup>225</sup> following in the footsteps of Representatives Edward Markey and Joe Barton who had sent letters of inquiry to industry members.<sup>226</sup> The acting chief executive of the Direct Marketing Association subsequently characterized the senator's investigation as "a baseless fishing expedition."<sup>227</sup>

The indications are that the FTC also is skeptical that any exhortation to self-regulation or best data practices will be sufficient. In late 2012 the agency sent subpoenas to a range of data brokers seeking to learn "the nature and sources of the consumer information the data brokers collect" and "the extent to which the data brokers allow consumers to access and correct their information or to opt out of having their personal information sold."<sup>228</sup> The FTC increased the pressure in March 2013 when it sent warning letters to ten data brokers. These alerted the recipients of possible violations of the Fair Credit Reporting Act,<sup>229</sup> such as selling consumer information for use in making insurance or employment decisions without the appropriate safeguards.<sup>230</sup>

#### **D. The Case for a New Upstream Data Protection Model**

Distinct from the rationale for data protection are its persistent functional and taxonomical problems. Daniel Solove has suggested a "harmful activities" taxonomy with four components, "(1) information collection, (2) information processing, (3) information dissemination,

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<sup>225</sup> Natasha Singer, *Senator Opens Investigation of Data Brokers*, NY Times, Oct. 10, 2012, [http://www.nytimes.com/2012/10/11/technology/senator-opens-investigation-of-data-brokers.html?\\_r=0](http://www.nytimes.com/2012/10/11/technology/senator-opens-investigation-of-data-brokers.html?_r=0)

<sup>226</sup> Natasha Singer, *Congress to Examine Data Sellers*, NY Times, July 24, 2012, <http://www.nytimes.com/2012/07/25/technology/congress-opens-inquiry-into-data-brokers.html>

<sup>227</sup> Natasha Singer, *Senator Opens Investigation of Data Brokers*, NY Times, Oct. 10, 2012, [http://www.nytimes.com/2012/10/11/technology/senator-opens-investigation-of-data-brokers.html?\\_r=0](http://www.nytimes.com/2012/10/11/technology/senator-opens-investigation-of-data-brokers.html?_r=0)

<sup>228</sup> FTC Press Release, *FTC to Study Data Broker Industry's Collection and Use of Consumer Data*, Commission Issues Nine Orders for Information to Analyze Industry's Privacy Practices, 12/18/2012, <http://www.ftc.gov/opa/2012/12/databrokers.shtm>

<sup>229</sup> 15 U.S.C. § 1681. The operative provision is 15 U.S.C.A. § 1681b that lists the exclusive grounds whereby a "consumer reporting agency may furnish a consumer report."

<sup>230</sup> FTC Warns Data Broker Operations of Possible Privacy Violations, 05/07/2013, <http://www.ftc.gov/opa/2013/05/databroker.shtm>

and (4) invasion.”<sup>231</sup> I prefer a broadly consistent classification based on the prescribed data protection model. As discussed below I make a broad distinction between upstream (“privacy”) and downstream (“confidentiality”) data protection models.

The former cluster includes processes or rules designed to reduce the value or threat of data (such as imposing inalienability or requiring de-identification) and requirements that place formal limitations on data collection such as prohibitions on the collection of certain data such as genetic information or contextual rules that, say, prohibit the collection or retention of any data other than that necessary for the transaction in question. The latter, downstream protective cluster, includes security requirements specifying physical and technological barriers to protect collected data, restrictions on the retention, disclosure, or distribution of collected information (for example to certain persons or for certain purposes), and notification of breach rules when the data has been compromised.

Clearly HIPAA began as a downstream confidentiality model. HIPAA regulatory tweaks and the HITECH statutory modifications may have created a better mousetrap but have not deviated from the commitment to downstream data protection. HITECH went further in the direction of downstream protection with the new breach notification duty.<sup>232</sup> The question is whether a mature confidentiality rule abetted by breach notification can cabin big data and maintain health privacy exceptionalism.

The core problem is that downstream, disclosure-centric models are highly dependent on the context of the original data grant. For example, a patient provides data (say, via a physical examination) for the purposes of better informing his or her care team. It is very difficult to determine appropriate levels of disclosure by the health care providers outside that context. This is one of the reasons that the “secondary use” question has been problematic. When there is *no disclosure context*, as is the case when a data-broker creates a medical data proxy of the patient using a variety of sources, it is very difficult to draw the non-disclosure line. As a result data-brokers seek to avoid that issue by nudging any regulation in the direction of a highly permissive consumer opt-out.<sup>233</sup> As recently noted by Edith Ramirez,

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<sup>231</sup> Daniel J. Solove, A Taxonomy of Privacy, 154 U. Pa. L. Rev. 477, 489 (2006)

<sup>232</sup> See generally text accompanying note 37 et seq.

<sup>233</sup> See Natasha Singer, A Data Broker Offers a Peek Behind the Curtain, NY Times, Aug. 31, 2013, <http://www.nytimes.com/2013/09/01/business/a-data-broker->

As important as they are, use restrictions have serious limitations and cannot, by themselves, provide effective privacy protection. Information that is not collected in the first place can't be misused. And enforcement of use restrictions provides little solace to consumers whose personal information has been improperly revealed. There's no putting the genie back in the bottle.<sup>234</sup>

With disclosure (downstream) regulation so limited the solution must be to better constrain the supply of big data to the data-brokers with a collection (upstream) model. The White House's 2012 Consumer Privacy Bill of Rights lists six Fair Information Practices (FIPs)<sup>235</sup>, but consider just two primarily upstream limitations: Individual Control and Respect for Context. The former is explained as "Consumers have a right to exercise control over what personal data companies collect from them and how they use it." The latter as "Consumers have a right to expect that companies will collect, use, and disclose personal data in ways that are consistent with the context in which consumers provide the data."<sup>236</sup>

Without federal action (and exactly how the FTC proceeds in its investigations of data-brokers will be a key barometer) we will likely see some states swatting at big data symptoms. While outright state bans on data collection are unlikely given the chilling effect of *Sorrell v. IMS Health, Inc.*,<sup>237</sup> states may require increasingly disclosive privacy policies as exemplified by proposed amendment to the California law<sup>238</sup>

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offers-a-peek-behind-the-curtain.html?hp=&adxnnl=1&adxnnlx=1378046196-x6G6L6Bn65czQyL8dCiCyw&\_r=3&

<sup>234</sup> Keynote Address By FTC Chairwoman Edith Ramirez, The Privacy Challenges Of Big Data: A View From The Lifeguard's Chair, Technology Policy Institute Aspen Forum, Aug. 19, 2013, <http://ftc.gov/speeches/ramirez/130819bigdataaspen.pdf>

<sup>235</sup> The White House, Consumer Data Privacy in a Networked World: A Framework for Protecting Privacy and Promoting Innovation in the Global Digital Economy (2012), <http://www.whitehouse.gov/sites/default/files/privacy-final.pdf>

<sup>236</sup> The White House, Consumer Data Privacy in a Networked World: A Framework for Protecting Privacy and Promoting Innovation in the Global Digital Economy (2012), <http://www.whitehouse.gov/sites/default/files/privacy-final.pdf>

<sup>237</sup> 131 S.Ct. 2653, 2656-58 (2011). See note 166, above

<sup>238</sup> West's Ann.Cal.Bus. & Prof.Code § 22575

that would require data collectors to disclose its responses to signals such as those from a Web browser requesting “do not track.”<sup>239</sup>

Achieving either broad (controls on collection) or narrow (for example, disclosure of collection practices) limitations on big data collection likely will require both regulation and industry adherence to best practices consistent with the FTC’s “privacy by design” model.<sup>240</sup> Of course it is probable that if legislation *is* passed to give life to the Consumer Privacy Bill of Rights it will be of general applicability and not limited to health data. Indeed, one of the challenges for reformers will be to avoid the exclusion of health data based upon its existing regulatory models.<sup>241</sup> The reality (indeed the *necessity*) is that HIPAA’s downstream model can co-exist with a new upstream regulatory model. That is the model that will guarantee health privacy’s continued exceptional treatment.

## VI. Conclusion

There is little doubt how the big data industry and its customers wish any data privacy debate to proceed. In the words of a recent McKinsey report the collective mind-set about patient data needs to be shifted from “protect” to “share, with protections.” Yet these “protections” fall far short of what is necessary and what patients have come to expect from our history of health privacy exceptionalism. Indeed, some of the specific recommendations are antithetical to our current approach to health privacy. For example, the report suggests encouraging data sharing and streamlining consents, specifically that “data sharing could be made the default, rather than the exception.”<sup>242</sup> However, McKinsey also noted the privacy-based objections that any such proposals would face:

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<sup>239</sup> AB-370, Aug. 2013,

[http://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=201320140AB370](http://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB370)

<sup>240</sup> Fed. Trade Comm’n, Protecting Consumer Privacy in an Era of Rapid Change: Recommendations for Businesses and Policymakers (2012), <http://www.ftc.gov/os/2012/03/120326privacyreport.pdf>

<sup>241</sup> See text accompanying 181 et seq.

<sup>242</sup> McKinsey & Company, Center for US Health System Reform Business Technology Office, The ‘big data’ revolution in healthcare, Jan. 2013, at 13, [http://www.mckinsey.com/insights/health\\_systems\\_and\\_services/~media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the\\_big\\_data\\_revolution\\_in\\_healthcare.ashx](http://www.mckinsey.com/insights/health_systems_and_services/~media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the_big_data_revolution_in_healthcare.ashx)

[A]s data liquidity increases, physicians and manufacturers will be subject to increased scrutiny, which could result in lawsuits or other adverse consequences. We know that these issues are already generating much concern, since many stakeholders have told us that their fears about data release outweigh their hope of using the information to discover new opportunities.<sup>243</sup>

Speaking at a June 2013 conference FTC Commissioner Julie Brill acknowledged that HIPAA was not the only regulated zone that was being side-stepped by big data as “new-fangled lending institutions that forgo traditional credit reports in favor of their own big-data-driven analyses culled from social networks and other online sources.”<sup>244</sup> With specific regard to HIPAA privacy and, likely, data proxies the Commissioner lamented:

[W]hat damage is done to our individual sense of privacy and autonomy in a society in which information about some of the most sensitive aspects of our lives is available for analysts to examine without our knowledge or consent, and for anyone to buy if they are willing to pay the going price.<sup>245</sup>

Indeed, when faced with the claims for big data, health privacy advocates will not be able to rely on *status quo* arguments and will need to sharpen their defense of health privacy exceptionalism, while demanding new upstream regulation to constrict the collection of data being used to create proxy health data and sidestep HIPAA. As

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<sup>243</sup> McKinsey & Company, Center for US Health System Reform Business Technology Office, The ‘big data’ revolution in healthcare, Jan. 2013, at 13, [http://www.mckinsey.com/insights/health\\_systems\\_and\\_services/~/media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the\\_big\\_data\\_revolution\\_in\\_healthcare.ashx](http://www.mckinsey.com/insights/health_systems_and_services/~/media/mckinsey/dotcom/insights/health%20care/the%20big-data%20revolution%20in%20us%20health%20care/the_big_data_revolution_in_healthcare.ashx)

<sup>244</sup> Commissioner Julie Brill, Reclaim Your Name, 23rd Computers Freedom and Privacy Conference, Jun. 26, 2013, at 4, <http://www.ftc.gov/speeches/brill/130626computersfreedom.pdf>

<sup>245</sup> Commissioner Julie Brill, Reclaim Your Name, 23rd Computers Freedom and Privacy Conference, Jun. 26, 2013, at 8, <http://www.ftc.gov/speeches/brill/130626computersfreedom.pdf>

persuasively argued by Beauchamp and Childress, “We owe respect in the sense of deference to persons’ autonomous wishes not to be observed, touched, intruded on, and the like. The right to authorize access is basic.”<sup>246</sup>

Of course one approach to the issue is to shift our attention to reducing or removing the incentives for customers of predictive analytics firms to care about the data. Recall how Congress was sufficiently concerned about how health insurers would use genetic information to make individual underwriting decisions that it passed GINA, prohibiting them from acquiring such data. Yet, today some (but not all) arguments for such genetic privacy exceptionalism seem less urgent given that the ACA broadly requires guaranteed issue and renewability,<sup>247</sup> broadly prohibiting pre-existing condition exclusions or related discrimination.<sup>248</sup> A realistic long-term goal must be to reduce disparities and discrimination and thereby minimize any incentive to segment using data profiling.

A medium-term but realistic prediction is that there is a politically charged regulatory fight on the horizon. After all, as Mayer-Schonberger and Cukier note, “The history of the twentieth century [was] blood-soaked with situations in which data abetted ugly ends.”<sup>249</sup> Disturbingly, however, privacy advocates may not like how that fight likely will turn out. Increasingly, as large swathes of the federal government become embroiled in and enamored with big data-driven decision-making and surveillance, so it may become politically or psychologically difficult for them to contemplate regulating mirroring behavior by private actors.<sup>250</sup>

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<sup>246</sup> Tom L. Beauchamp & James F. Childress, *Principles of Biomedical Ethics* (6th Ed 2009) at 298

<sup>247</sup> See KFF, *Health Insurance Market Reforms: Guaranteed Issue*, June 2012, <http://kaiserfamilyfoundation.files.wordpress.com/2013/01/8327.pdf>. See also <http://www.hhs.gov/news/press/2013pres/02/20130222a.html>

<sup>248</sup> Section 1201 amending the Public Health Service Act §§ 2701, 2702, 2704 to prohibit pre-existing condition exclusions, discriminatory premium rates and requiring guaranteed availability of insurance coverage. See also Department of Health and Human Services 45 CFR Parts 144, 147, 150, et al. Patient Protection and Affordable Care Act; Health Insurance Market Rules; Rate Review; Final Rule, <http://www.gpo.gov/fdsys/pkg/FR-2013-02-27/pdf/2013-04335.pdf>

<sup>249</sup> Viktor Mayer-Schönberger and Kenneth Cukier, *Big Data: A Revolution That Will Transform How We Live, Work, and Think* (2013) at 151.

<sup>250</sup> See generally Ashkan Soltani, *Technology, Not Law, Limits Mass Surveillance*, MIT Technology Review, July 1, 2013, <http://www.technologyreview.com/view/516691/technology-not-law-limits-mass->

On the other hand the position that we should not be taken advantage of without our permission could gain traction resulting in calls such as expressed herein for increased data protection. Then we will need to enact new upstream data protection of broad applicability (i.e., without the narrow data custodian definitions we see in sector-based privacy models). Defeat of such reform will leave us huddled around downstream HIPAA protection, an exceptional protection, but increasingly one that is (in big data terms) too small to care about and that can be circumvented by proxy data produced by the latest technologies.

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[surveillance/](#); James Risen & Nick Wingfield, Web's Reach Binds N.S.A. and Silicon Valley Leaders, NY Times, June 19, 2013, <http://www.nytimes.com/2013/06/20/technology/silicon-valley-and-spy-agency-bound-by-strengthening-web.html?pagewanted=all&r=0>; Jill Lepore, The Prism: Privacy in an age of publicity, The New Yorker, June 24, 2013, [http://www.newyorker.com/reporting/2013/06/24/130624fa\\_fact\\_lepore](http://www.newyorker.com/reporting/2013/06/24/130624fa_fact_lepore); James Risen & Eric Lichtblau, How the U.S. Uses Technology to Mine More Data More Quickly, NT Times, Jun. 8, 2013, <http://www.nytimes.com/2013/06/09/us/revelations-give-look-at-spy-agencys-wider-reach.html?pagewanted=all>