

# Health Theater

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*“Security theater” has been defined as an effort to “provide the feeling of security instead of the reality.” The concept of security theater has been discussed in both the popular press and academic literature, but has not yet entered health law. This project suggests that a parallel category of “health theater” picks out a set of practices in medical screening and health care delivery that provide a mere simulacrum of protection against medical risk, rather than providing genuine medical benefit.*

*Part I summarizes some of the distinctive advantages and disadvantages of health and security theater. Like security theater, health theater frequently comes at high cost; employs high technology in place of individualized, personal assessment; and ignores differences between individuals. And, as with security theater, health theater also amplifies general anxiety and ignores the costs of false positives. Part II discusses some of the advantages of health theater, including its capacity to make patients feel respected and to produce psychological security. Part III discusses three potential alternatives to health theater: high-touch medicine, precise targeting of diagnostic efforts, and elimination of threats at their source. Last, Part IV considers how law could support alternatives to health theater, focusing on changes in the financing of health care, changes in liability regimes, and increased investment in public health.*

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## INTRODUCTION

Most frequent travelers in the United States are familiar with the full-body scanners used to screen airline passengers for firearms and explosives. But the scanners' comprehensive examination of travelers' exteriors is also capable of detecting something of little danger to secure aviation, but potentially great danger to health: unusual spots that, as described in two recent medical reports, proved to be cancerous melanomas.<sup>1</sup> This surprising finding prompted one team of reporting physicians to consider whether "airport scanners could serve as incidental

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1. Paul Caine et al., *A Desmoplastic Melanoma Detected by an Airport Security Scanner*, 69 J. PLASTIC, RECONSTRUCTIVE & AESTHETIC SURGERY 874, 874–75 (2016); Jonathan E. Mayer & Brian B. Adams, *Nodular Melanoma Serendipitously Detected by Airport Full Body Scanners*, 230 DERMATOLOGY 16, 16–17 (2014).

free screening for suspicious nodular lesions,” but they ultimately concluded that current forms of airport screening are likely neither specific nor sensitive enough to constitute a recommended strategy for medical diagnosis.<sup>2</sup>

Concerns about the wisdom of screening are not unique to the unusual situation where an airport security scanner detects a medical problem. Nor are they only a matter of interest to physicians. Rather, concerns have been raised by critics of the use of full-body scanning in airports to detect security threats and by critics of its use in medical settings to diagnose disease. These critics include not only scientists concerned about the prevalence of false positives and negatives, but also policy and legal scholars who are concerned about the costs and negative effects of screening.

This Article, like the finding with which it began, connects the practice of screening individuals’ bodies for threats to national security with similar practices that screen for threats to health. It does so by extending a concept from the security literature—Bruce Schneier’s idea of “security theater”<sup>3</sup>—for the first time to the medical context. After defining a category of “health theater” parallel to Schneier’s concept of “security theater,” this Article explains how this category includes many screening practices endemic to modern medicine, examines how current law works to permit and even facilitate the spread of health theater, and considers how changes in law could forestall its growth.

Part I summarizes some of the distinctive advantages and disadvantages of health and security theater. Like security theater, health theater frequently comes at a high cost; employs high technology in place of individualized, personal assessment; and ignores differences between individuals. And, as with security theater, health theater also amplifies general anxiety and ignores the costs of false positives. Part II discusses some of the factors that explain the prevalence of health theater, including its capacity to make patients feel respected and to produce psychological security. Part III discusses three potential alternatives to health theater: high-touch medicine, precise targeting of diagnostic efforts, and elimination of threats at their source. Last, Part IV considers how law could support these alternatives to health theater, focusing on changes in the financing of health care, changes in liability regimes, and increased investment in public health.

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2. Mayer & Adams, *supra* note 1, at 17.

3. BRUCE SCHNEIER, BEYOND FEAR: THINKING SENSIBLY ABOUT SECURITY IN AN UNCERTAIN WORLD 38 (2006).

## I. SECURITY THEATER

A. *Defining Security Theater*

Cybersecurity writer and practitioner Bruce Schneier coined the term “security theater” to describe and criticize security countermeasures that “provide the feeling of security instead of the reality.”<sup>4</sup> Examples of security theater that Schneier describes include armed guards at airport security checkpoints and tamper-resistant food packaging.<sup>5</sup> As security and surveillance measures came to the forefront of the public mind during the War on Terror, Schneier’s definition of security theater gained currency in debates surrounding national security law and policy. The title of a 2012 congressional hearing asked whether the Transportation Security Administration (“TSA”) was providing “effective security or security theater,”<sup>6</sup> while journalists asked Department of Homeland Security head Michael Chertoff whether “security theater is an important aspect of actual security.”<sup>7</sup>

Members of Congress also employed the concept of security theater during congressional debates over security efforts. Congressman Scott Garrett criticized TSA searches of vehicles and passengers leaving, rather than entering, ports as being “really not security . . . just security theater,”<sup>8</sup> and elsewhere described these searches as addressing “no conceivable threat whatsoever and engaging in basically what really is security theater.”<sup>9</sup> Congressman John Duncan read into the Congressional Record a *Vanity Fair* article that castigated many security efforts as “little more than security theater; actions that accomplish nothing but are designed to make the government look like it is on the job.”<sup>10</sup> These criticisms also received support across traditional ideological lines, with American Civil Liberties Union (“ACLU”) director Nadine Strossen criticizing searches of mass transit stations as

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4. *Id.*

5. *Id.*

6. *TSA Oversight Part III: Effective Security or Security Theater?: Hearing Before the H. Comm. on Oversight and Gov’t Reform and the H. Comm. on Transport. and Infrastructure*, 112th Cong. 1 (2012) [hereinafter *TSA Security Hearings*].

7. Press Release, Dep’t of Homeland Sec., Blogger Roundtable on the State and Future of Dep’t of Homeland Sec. (Dec. 9, 2008).

8. 159 CONG. REC. H3178 (daily ed. June 5, 2013) (statement of Rep. Garrett), 159 Cong Rec H3162-04, at H3176 (Westlaw).

9. 158 CONG. REC. H3631 (daily ed. June 7, 2012) (statement of Rep. Garrett), 158 Cong Rec H3618-01, at H3631 (Westlaw).

10. 158 CONG. REC. H735 (daily ed. Feb. 15, 2012) (statement of Rep. Duncan), 158 Cong Rec H735-01, at H735 (Westlaw).

“security theater,”<sup>11</sup> and Democratic Congresswoman Zoe Lofgren indicating that she, too, found the searches criticized by Garrett to be inappropriate.<sup>12</sup>

The concept of security theater also made its way into scholarship evaluating the legal dimensions of the security proposals being debated by Congress and by the public. For instance, the legal scholar Peter Swire proposed that part of a “due diligence checklist” for evaluating information-sharing proposals by national security actors should include an assessment of whether such proposals constitute “security theater” that provide only “the appearance of security.”<sup>13</sup> Other legal commentators criticized searches at airports (including the full-body scanners discussed earlier), no-fly lists, and restrictions on items that can be carried onto airplanes on the basis that they constitute security theater.<sup>14</sup>

Conversely, some scholars have defended these practices on the basis that security theater can indirectly improve the functioning of institutions by deterring rather than blocking attackers,<sup>15</sup> or by shoring up public confidence.<sup>16</sup>

### B. Extensions and Analogies

Discussions of security theater have extended into areas of law unrelated to national security. Notably, a Michigan Court of Appeals

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11. Symposium, *Eyes and Ears Everywhere? Privacy in an Age of Government and Technological Intrusion*, 63 DRAKE L. REV. 1135, 1135, 1139 (2015).

12. 158 CONG. REC. H3631 (daily ed. June 7, 2012) (statement of Rep. Lofgren), 158 Cong. Rec. H3618-01, at H3631 (Westlaw).

13. Peter P. Swire, *Privacy and Information Sharing in the War on Terrorism*, 51 VILL. L. REV. 951, 952, 965 (2006).

14. Aaron H. Caplan, *Nonattainder as a Liberty Interest*, 2010 WIS. L. REV. 1203, 1255 (2010); R. Gregory Israelsen, *Applying the Fourth Amendment's National-Security Exception to Airport Security and the TSA*, 78 J. AIR L. & COM. 501, 539 (2013); see also Deema B. Abini, *Traveling Transgender: How Airport Screening Procedures Threaten the Right to Informational Privacy*, 87 S. CAL. L. REV. POSTSCRIPT 120, 152 (2014) (questioning whether TSA's current screening procedures are necessary or if they are merely security theater); Richard Sobel, *The Right to Travel and Privacy: Intersecting Fundamental Freedoms*, 30 J. MARSHALL J. INFO. TECH. & PRIVACY L. 639, 664 (2014) (“[M]any air travel requirements and procedures represent what security expert Bruce Schneier has called ‘security theater.’”).

15. Samuel J. Rascoff, *Counterterrorism and New Deterrence*, 89 N.Y.U. L. REV. 830, 847–48 (2014); see also Jennifer S. Ellison & Marc Pilcher, *Advanced Imaging Technology (AIT) Deployment: Legal Challenges and Responses*, 24 AIR & SPACE LAW. 4, 4–8 (2012) (concluding that advances in technology will advance TSA's security mission).

16. K. A. Taipale, *Technology, Security and Privacy: The Fear of Frankenstein, the Mythology of Privacy and the Lessons of King Ludd*, 7 YALE J.L. & TECH. 123, 166 n.167 (2005); see also SCHNEIER, *supra* note 3, at 38–39 (suggesting that “security theater scares off stupid attackers and those who just don't want to take the risk,” and can help reassure people who believe they are under threat).

concurrency criticizing the application of sex offender registration requirements to past juvenile offenders castigates such requirements for reducing sex offender registration “from a tool that empowers people and communities to help protect themselves to a pointlessly life-destroying piece of security theater.”<sup>17</sup> In a recent *Harvard Law Review* article, Adam Samaha suggests that requirements to show ID before entering the voting booth may be “akin to airport security efforts that some call necessary inconveniences and others call security theater.”<sup>18</sup> Other legal academics have applied the concept of security theater to social media privacy,<sup>19</sup> as well as to debates over protective orders in software litigation.<sup>20</sup>

These extensions of the concept of security theater in new areas have also led scholars to propose related terminology to describe activities that create the perception of some other value without the reality. One such example is “privacy theater,” which “seeks to heighten a feeling of privacy protection without actually accomplishing anything substantive in this regard.”<sup>21</sup> Another is “enforcement theater,” which similarly involves activities that purport to enforce intellectual property protections without actually doing so.<sup>22</sup>

Despite its clear relevance to debates over the costs and benefits of screening, scanning, and surveillance efforts that purport to improve health, security theater and its analogues have been undiscussed in health law. Only one passing reference exists in health privacy law, where Frank Pasquale contends that unless health privacy law extends its protections far beyond the current requirements imposed by the Health Insurance Portability and Accountability Act (“HIPAA”), it “risks mirroring the ‘security theater’ that plagues homeland security operations” by giving patients a false assurance that their health information is protected.<sup>23</sup>

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17. *In re TD*, 823 N.W.2d 101, 113 (Mich. App. 2011) (Krause, J., concurring), *vacated*, 821 N.W.2d 569 (Mich. 2012) (referencing SCHNEIER, *supra* note 3).

18. Adam M. Samaha, *Regulation for the Sake of Appearance*, 125 HARV. L. REV. 1563, 1592 (2012).

19. Stephen E. Henderson, *Expectations of Privacy in Social Media*, 31 MISS. C. L. REV. 227, 234 (2012).

20. Lydia Pallas Loren & Andy Johnson-Laird, *Computer Software-Related Litigation: Discovery and the Overly-Protective Order*, 6 FED. CTS. L. REV. 75, 98 (2012).

21. Paul M. Schwartz, *Reviving Telecommunications Surveillance Law*, 75 U. CHI. L. REV. 287, 310 (2008).

22. Andrew Rens, *Enforcement Theater: The Enforcement Agenda and the Institutionalization of Enforcement Theater in the Anti-Counterfeiting Trade Agreement*, 35 SUFFOLK TRANSNAT'L L. REV. 553, 572 (2012).

23. Frank Pasquale, *Redescribing Health Privacy: The Importance of Information Policy*, 14 HOUS. J. HEALTH L. & POL'Y 95, 108 (2014).

## II. HEALTH THEATER

This Part proposes a concept of “health theater” parallel to Schneier’s concept of security theater, and identifies the dangers that it poses as well as the factors that promote its prevalence. This Article argues that recognizing a category of health theater will help resolve legal and policy challenges posed by health screening, diagnosis, and surveillance.

Health theater has many of the same advantages and disadvantages as security theater, and the literature on security theater can help law and policy respond to the problems that health theater poses. Generally, health theater parallels security theater: it comprises the class of medical interventions that provides the feeling of protection from threats to health without the reality of improved health outcomes. Given the broad scope of interventions that claim or strive to affect health, however, a simple translation of Schneier’s definition of security theater merits further specification.<sup>24</sup> This Article focuses on systemic practices that are regarded as justified by those implementing them and that have population-wide effects, rather than individual instances of inefficient health-care delivery or cases of knowing quackery.

The remainder of this Part examines health theater in more depth. First, this Part considers its dangers, which include cost, harm to patients and public health, degradation of medical professionals’ role, and the production of overconfidence and complacency. This Part then turns to some of the virtues of health theater, in particular its ability to create psychological comfort for patients, to extend respect to patients, and sometimes to substantively benefit individual patients.

### *A. The Downsides of Health Theater*

#### 1. Cost Ineffectiveness

Perhaps the foremost criticism of security theater has revolved around its high costs. Some identify advanced imaging scanners—which create detailed image of individuals’ bodies—as a primary cause of excessive costs: one source reports their cost at \$1.2 billion per year.<sup>25</sup> Others object to “puffer” machines—which attempt to detect explosives—as costly and unreliable.<sup>26</sup> Even defenders of security theater note that,

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24. See SCHNEIER, *supra* note 3, at 38 (defining “security theater”).

25. Israelsen, *supra* note 14, at 539; see also *TSA Security Hearings*, *supra* note 6, at 2 (statement of Rep. Darrell Issa) (“By 2013, TSA will arguably, by its own accounting, have wasted more than \$500 million of taxpayer money developing advanced imaging technology, or AIT, machines.”).

26. Woodrow Hartzog, *The Fight to Frame Privacy*, 111 MICH. L. REV. 1021, 1033 (2013).

when assessing security technologies, “their cost—in terms of resource allocation . . . —needs to be considered in the context of their overall benefit.”<sup>27</sup>

The same criticism applies to the systemic medical practices that constitute health theater. As early as 1990, commentators noted that

American medicine, like American society, is enamored of high technology. Computerized body scanning equipment, sophisticated laboratory procedures involving radiologic techniques, and electronic monitoring of body functions are mainstays of medical diagnosis in this country. These techniques are enormously expensive. Yet, in the words of officials of the federal Health Care Financing Agency, “the evidence substantiating the effectiveness of many such practices is frequently questionable and in many cases entirely lacking.”<sup>28</sup>

The evolving armamentarium of medicine affords physicians numerous technologies that offer the glitzy capacity to display the whole body, but its evidentiary support is dubious. Concerns about the high cost of high-technology scanning and diagnostic technologies have only intensified over time. In 2000, a Southern District of New York opinion observed that “advances in medical science have demanded ever more sophisticated and expensive equipment for diagnosis and treatment.”<sup>29</sup> A more recent law review article discussing Medicare spending discussed the high costs of “coaxial tomography (‘CT’) and magnetic resonance imaging (‘MRI’) scans” and observed that both types of scans were among “the top twenty most expensive hospital outpatient services for Medicare.”<sup>30</sup>

Other commentators have recognized the burgeoning field of diagnostic imaging as a particularly costly area of medicine with little evidentiary support.<sup>31</sup> As in the national security arena, whole-body scanning appears highly popular while supported by limited evidence.<sup>32</sup>

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27. Taipale, *supra* note 16, at 166 n.167.

28. Nancy E. Cropley, *The American “Right” to Health Care—an Idea Whose Time Has Come?*, 20 GOLDEN GATE U. L. REV. 681, 684 (1990).

29. New York *ex rel.* Spitzer v. Saint Francis Hosp., 94 F. Supp. 2d 399, 422 (S.D.N.Y. 2000).

30. Isaac D. Buck, *Breaking the Fever: A New Construct for Regulating Overtreatment*, 48 U.C. DAVIS L. REV. 1261, 1287 (2015).

31. William P. Kratzke, *Tax Subsidies, Third-Party-Payments, and Cross-Subsidization: America’s Distorted Health Care Markets*, 40 U. MEM. L. REV. 279, 311 n.104 (2009) (“The CT scanner’s usefulness was never proved in large medical studies to be better than cheaper or older tests. However, once doctors and hospitals have the CT scanner, they ‘have every incentive to use the machines as often as feasible.’” (quoting Alex Berenson & Reed Abelson, *Weighing the Costs of a Look Inside the Heart*, N.Y. TIMES, June 29, 2008, at A1)).

32. Bruce Patsner, *Marketing Approval Versus Cost of New Medical Technologies in the Era of Comparative Effectiveness: CMS, Not FDA, Will Be the Primary Player*, 3 J. HEALTH & LIFE SCI. L. 38, 79 (2010) (“[T]he U.S. medical landscape is littered with FDA-approved innovations in



Accordingly, national health care systems that focus on cost control, such as the Canadian health care system, have taken steps to rein in the cost of health theater.<sup>33</sup>

Just as security theater encompasses both advanced technology, such as full-body scanners, and low-tech approaches, such as searches of all passengers entering or leaving an airport, health theater similarly encompasses not only technological interventions, such as MRI and CT scans, but also more traditional proposals, such as universal health checks at physicians' offices. In 2009, the United Kingdom introduced plans for universal "health checks, requiring primary care trusts to screen all adults aged 40 to 74, roughly 15 million people, for diabetes, chronic kidney disease, chronic lung disease, cardiovascular disease, and stroke risk, regardless of their risk profile."<sup>34</sup> In 2013, the health checks were "expanded to include risk assessments of alcohol consumption and dementia awareness."<sup>35</sup> While no similar proposal has been advanced in the United States, the Affordable Care Act's choice to subsidize preventive care—including routine screening—by barring participating insurers from imposing cost sharing on preventive interventions is likely to increase the use of routine screening on this side of the Atlantic as well.<sup>36</sup>

Similar to universal screening of airport passengers, universal health checks were adopted in the face of substantial criticism. Much of this criticism focused on the opportunity costs of universal health checks: apart from any affirmative harm health checks might do to patients, they consume time and resources that could instead be used to provide other medical interventions.<sup>37</sup> Practicing physicians, for example, criticized

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diagnostic and therapeutic technology that have been highly touted, expensive, and ultimately shown to be worthless, such as the use of whole body CT scanning as a screening for asymptomatic disease in healthy people, or routine chest CT scanning to screen for common malignancies.”).

33. Michael Roth, Comment, *Universal Health Care: Concerns for American Physicians, Using the Canadian Experience as a Model*, 4 IND. INT'L & COMP. L. REV. 415, 434 (1994) (“Provincial governments limit the proliferation of hospital capacity and expensive diagnostic equipment by funding them separately through the hospital capital and operating budgets, instead of through fees per item of service.”).

34. Ingrid Torjesen, *Government Prioritises Health Checks for 15 Million Adults Despite Pre-Election Promise to Scrap Them*, 346 BMJ f2941, f2941 (2013).

35. *Id.*

36. See Micah L. Berman, *From Health Care Reform to Public Health Reform*, 39 J.L. MED. & ETHICS 328, 330 (2011) (raising the concern that “the patient-by-patient approach embodied by the [Affordable Care Act] is likely to be exceedingly expensive and the false-positive results produced by widespread screening may lead to unnecessary surgeries and other medical treatments”).

37. See Theo Lorenc & Kathryn Oliver, *Adverse Effects of Public Health Interventions: A Conceptual Framework*, 68 J. EPIDEMIOLOGY & COMMUNITY HEALTH 288, 289 (2014) (proposing a category of “opportunity cost harms” in which “potential benefits which may be forgone as a

the British proposal for universal health checks because they feared that the checks “would divert general practices’ time and resources from sick people to the ‘worried well.’”<sup>38</sup> Scholarly commentators also raised concerns about cost-effectiveness and the diversion of finite medical resources:

Healthcare, including available time for general practice consultation, is a finite resource. Time and money spent on health checks are not available for other primary care provision. Although there may be good evidence for targeted screening of people at high risk, the generic approach of composite screens for the entire population could produce many false positives and false negatives, might not be value for money, and has the potential for harm.<sup>39</sup>

This section has focused on criticisms involving cost-effectiveness, while the next section will focus on the danger of harm.

## 2. Harm to Patients

In addition to diverting resources from more effective medical interventions, health theater might also affirmatively harm patients who are screened. A recent review noted that

[c]lear patient harms have been identified from practices such as screening for breast, prostate, and thyroid cancer. Similarly, magnetic resonance imaging for uncomplicated back pain can lead to surgery that poses net harm to patients. The risk of harm from overuse varies depending on the disease, its treatment, and the rate of overuse of the therapy. Unnecessary treatment burden (the activities required of patients to access and use care and navigate complex healthcare systems) is an additional negative consequence of overuse.<sup>40</sup>

One cause of harm is the propensity of health theater to produce false positives. False positives can cause psychological stress, which constitutes a harm in itself and can produce negative health effects. Meanwhile, the imposition of additional screening and treatment that frequently follows false positives can cause physical harm. One critic of universal health checks noted that because such checks “offer a bundle of tests to people at the lower end of the risk spectrum . . . the pre-test

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result of committing resources to ineffective or less effective interventions”); *see also* Wylie Burke et al., *Seeking Genomic Knowledge: The Case for Clinical Restraint*, 64 HASTINGS L.J. 1649, 1658 (2013) (“Healthcare systems must consider which screening and preventive efforts are worth the cost, given that resources could otherwise be directed toward other healthcare needs.”).

38. Torjesen, *supra* note 34, at f2941.

39. Felicity Goodyear-Smith, *Government’s Plans for Universal Health Checks for People Aged 40-75*, 347 BMJ f4788, f4788 (2013).

40. Daniel J. Morgan et al., *Setting a Research Agenda for Medical Overuse*, 351 BMJ h4534, h4534 (2015).

probability is low, with a high chance of false positives.”<sup>41</sup> Ultimately, “any benefits could be offset by harms produced through wrong diagnoses and unneeded treatments.”<sup>42</sup>

One such example of the risk of harm from false positives involves prostate-specific antigen (“PSA”) screening.

A positive PSA test is modestly predictive of the risk of developing invasive cancer of the prostate but epidemiological modelling shows that 1,500 men need to be screened to prevent one death from prostate cancer and this death would be averted at the cost of unnecessary surgery for 80 low-risk men whose quality of life would be seriously impaired.<sup>43</sup>

The limitation of PSA tests reflects a general problem with tests in a low-risk population: even if the rate of false positives is low in absolute terms, it may still be high compared to the proportion of individuals who genuinely have the medical condition under study. A recent law review article observes that “[a]lthough the prostate test itself is just as accurate for men under 30 as it is for men over 50, the base rate for prostate cancer for men under the age of 30 is so low that almost all positive tests are actually false positives,” and notes that

the seemingly constant shifts in medical policies and recommendations regarding when and to whom certain diagnostic tests and screenings should be given (e.g., breast cancer, pap smears) is based primarily on concerns that medical testing on low risk and symptom-free individuals yields a high false positive rate relative to the true positive rate owing to the fact that the base rate for the illness in question is very low.<sup>44</sup>

Despite the acknowledged risks of PSA screening, phasing it out has

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41. Goodyear-Smith, *supra* note 39, at f4788; *see also* Lorenc & Oliver, *supra* note 37, at 1 (“Perhaps, most obviously, some population screening programmes may produce high numbers of false-positive results, potentially leading to substantial adverse effects in terms of psychological stress and unnecessary treatment.”).

42. Goodyear-Smith, *supra* note 39, at f4788.

43. Wayne D. Hall et al., *Being More Realistic About the Public Health Impact of Genomic Medicine*, 7 PLOS MED. 10 E1000347, E1000347 (2010); *see also* Burke et al., *supra* note 37, at 1657 (“In a more recent example, screening for prostate cancer by testing for the prostate-specific antigen (‘PSA’) has become increasingly controversial because of evidence that it performs poorly as a screening test, leading to many unnecessary and debilitating interventions in healthy men. The U.S. Preventive Services Task Force has recently suggested discontinuing this screening program.”).

44. Gary L. Wells et al., *Eyewitness Identification: Bayesian Information Gain, Base-Rate Effect-Equivalency Curves, and Reasonable Suspicion*, 39 L. & HUM. BEHAV. 99, 104 (2015); *see* Thomas S. Ulen, *A Nobel Prize in Legal Science: Theory, Empirical Work, and the Scientific Method in the Study of Law*, 2002 U. ILL. L. REV. 875, 889 (providing an example where a patient who had a low likelihood of developing a serious illness is nevertheless provided with additional screening).

proven difficult.<sup>45</sup>

The recent controversy over whether mammograms should be recommended for women under fifty years old represents another instance of this debate over the harms of medical theater. In 2009, the World Health Organization and the United States Preventive Services Task Force (“USPTF”) both recommended that physicians cease to routinely perform screening mammograms on women under fifty, on the basis that the harms of routine mammograms for this age group outweighed their benefits.<sup>46</sup> These determinations, however, generated a heated debate.<sup>47</sup> In support of this claim, organizations and advocates asserted that the harms of false positives, including invasive biopsies, unnecessary treatment, and psychological stress, outweighed its benefits.<sup>48</sup> One article advocating delaying screening until age fifty calculated that screening women every two years at age forty “would result in an additional 0.7 breast-cancer deaths averted, 21 life-years gained, 4,921 mammograms performed, and 470 false positive mammography results requiring diagnostic imaging leading to 33 false positive biopsy results.”<sup>49</sup>

In contrast, advocates of routine screening for younger women argued that society should be willing to accept a large number of small harms—such as the false positive mammograms and biopsies listed above—to prevent catastrophic events such as death from breast cancer: “Screening can be thought of as a kind of insurance. As with all insurance, there are costs for protection against adverse events that have a low probability of occurrence but could be catastrophic if they occurred without the insurance.”<sup>50</sup> Some population surveys showed the same willingness to

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45. See Ronen Avraham, *Overlooked and Underused: Clinical Practice Guidelines and Malpractice Liability for Independent Physicians*, 20 CONN. INS. L.J. 273, 276–77 (2014) (describing how, despite the existence of a United States Preventive Services Task Force “recommendation against PSA-based screening for prostate cancer,” less than 2 percent of physicians “actually planned to stop using the test”).

46. U.S. Preventive Services Task Force, *Screening for Breast Cancer: U.S. Preventive Services Task Force Recommendation Statement*, 151 ANNALS INTERNAL MED. 716, 716 (2009).

47. Micah L. Berman, *A Public Health Perspective on Health Care Reform*, 21 HEALTH MATRIX 353, 374 (2011); see also Breanne Sergent, Comment, *Disclosing the Gray Areas of Mammography: Should Women with Dense Breast Tissue Remain in the Dark About Breast Cancer Screening Alternatives?*, 34 J. LEGAL MED. 453, 469 (2013) (discussing different guidelines regarding screening).

48. U.S. Preventive Services Task Force, *supra* note 46, at 716.

49. Robert A. Smith et al., *Mammography Screening for Breast Cancer*, 367 NEW ENG. J. MED. e31(1), e31(3) (2012).

50. *Id.* at e31(2); cf. Jan Blustein & Theodore R. Marmor, *Cutting Waste by Making Rules: Promises, Pitfalls, and Realistic Prospects*, 140 U. PA. L. REV. 1543, 1559 n.59 (1992) (discussing “the question of whether the health and social cost of tens of thousands of unnecessary surgeries

accept many small harms to avoid a major harm.<sup>51</sup> Ultimately, advocates of routine screening prevailed in the political arena, with the Affordable Care Act explicitly rejecting reliance on the 2009 recommendations,<sup>52</sup> and recent legislation continuing to provide mammograms with no cost sharing to women under fifty.<sup>53</sup> Nonetheless, the USPTF has reiterated its position that the evidence in favor of routine mammography before fifty is weak.<sup>54</sup>

The debate over the harms and benefits of routine screening has taken place in courts as well as legislatures. In a recent case, the Ohio Court of Appeals affirmed a jury's verdict in favor of a physician who, in reliance on recommendations from professional societies, did not provide a mammogram to a woman under forty who ultimately developed breast cancer.<sup>55</sup> Some of the testimony that was identified as supporting the verdict included statements by board-certified specialists that "early mammography 'misses most of the cancers' and results in a number of 'false positives,' which can lead to additional diagnostic tests and, in some instances, surgery to diagnose mammographic abnormalities."<sup>56</sup> Under similar circumstances, the Ohio Court of Claims found in favor of a physician who did not perform PSA tests, crediting the testimony of an expert physician who testified that "PSA screening has been controversial because it has not been shown to lead to a decrease in the risk of mortality from prostate cancer."<sup>57</sup> The physician also explained "that the controversy over PSA screening has been fueled by the fact that PSA screening may result in both false/positive and false/negative readings, and because many unnecessary biopsies are performed as a result of the imprecise correlation between PSA and prostate cancer."<sup>58</sup>

The debate over false positives in medical screening has a clear parallel in the security debate. One scholarly commentator observes that "[f]alse

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each year outweighs the benefit of a few hundred lives saved").

51. Lisa M. Schwartz et al., *U.S. Women's Attitudes to False Positive Mammography Results and Detection of Ductal Carcinoma in Situ: Cross Sectional Survey*, 320 *BMJ* 1635, 1638 (2000).

52. 42 U.S.C. § 300gg-13(a)(5) (2010) ("[T]he current recommendations of the United States Preventive Service Task Force regarding breast cancer screening, mammography, and prevention shall be considered the most current other than those issued in or around November 2009.").

53. Kerry Young, *Mammography Provision in Bill Gets Mixed Reaction*, CQ ROLL CALL (Dec. 22, 2015), 2015 WL 9283843.

54. Kerry Young, *Task Force Repeats Lukewarm Mammography Finding*, CQ ROLL CALL (Jan. 12, 2016), 2016 WL 123727.

55. *Higgins v. Ranasinghe*, No. 100722, 2014 WL 5386944, ¶ 18 (Ohio Ct. App. Oct. 23, 2014).

56. *Id.*

57. *Bingman v. Ohio Dep't of Rehab. & Corr.*, No. 2014-06828, 2005 WL 3163945, ¶ 10 (Ohio Ct. Cl. Nov. 2, 2005).

58. *Id.*

positives which result in innocent people being detained, denied boarding on airplanes, denied employment, or subject to additional investigation not only inconvenience individuals and threaten constitutionally protected rights, they also consume significant resources and may undermine security by diverting attention from real threats.”<sup>59</sup> This discussion identifies both harm to the individuals screened and costs to the overall system as dangers posed by false positives.

Concerns about false positives have been directed at the TSA’s MALINTENT screening system, which involves technology that measures the reactions of passengers to questioning:

As false positives must be investigated just as stringently as other threats to determine whether an actual security risk exists, the presence of false positives undermines the MALINTENT system by devoting scarce security resources away from actual threats. The severity of such a drawback depends largely on how many false positives the system identifies. As noted, currently available data suggests that the MALINTENT system is running at about seventy-eight percent accuracy level regarding malintent detection.<sup>60</sup>

Similar concerns were raised about other technologies used as part of airport security efforts.<sup>61</sup> As with false positives caused by medical theater, false positives caused by security theater could involve both psychological and real harm to individuals being screened. For this reason, the National Research Council Committee on Commercial Aviation Security recommended that “technologies that yield a high volume of false positive results . . . should be avoided or used only in conjunction with other devices.”<sup>62</sup>

In health contexts, another cause of harm is side effects produced by the technologies used to carry out screening. As explained below, some screening technologies, such as CT and positron emission tomography (“PET”) scanning, expose patients to ionizing radiation that increases the risk of cancers and other health problems. A recent medical article examining the risks of CT scans raises the concern that “the increasingly large number of people exposed, coupled with the increasingly high exposure per examination, could translate into many cases of cancer

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59. Fred H. Cate, *Government Data Mining: The Need for a Legal Framework*, 43 HARV. C.R.-C.L. L. REV. 435, 475 (2008).

60. Lindsey Gil, Note, *Bad Intent or Just a Bad Day? Fourth Amendment Implications Raised by Technological Advances in Security Screening*, 16 B.U. J. SCI. & TECH. L. 231, 237 (2010).

61. Sara Kornblatt, Note, *Are Emerging Technologies in Airport Passenger Screening Reasonable Under the Fourth Amendment?*, 41 LOY. L.A. L. REV. 385, 406 (2007).

62. Alan Calnan & Andrew E. Taslitz, *Defusing Bomb-Blast Terrorism: A Legal Survey of Technological and Regulatory Alternatives*, 67 TENN. L. REV. 177, 228 (1999).

resulting directly from the radiation exposure from CT,” with some patients experiencing an increase in cancer risk of as much as one in eighty.<sup>63</sup> Similarly, a recent study on the use of PET scans to screen for heart disease found that the radioactive isotopes injected into patients are likely to cause future cancers, which must be weighed against the benefits of screening.<sup>64</sup> Courts have recognized the risk of radiation-induced harm when considering whether physicians should be held liable for ordering, or declining to order, CT scans,<sup>65</sup> and whether the imposition of unnecessary CT scans constitutes harm to children.<sup>66</sup> Even an MRI, which does not use ionizing radiation, poses some risk due to the possibility of injury by metal objects in or on the patient’s body or in the scanning room,<sup>67</sup> as well as harm caused if non-radioactive contrast agents are injected.<sup>68</sup> Ultrasound is likely the safest form of imaging, with few reported risks—though even in the case of ultrasound, the general advice is to minimize unnecessary screening.<sup>69</sup>

Many of these concerns about imaging have been raised in the context of security theater as well. Notably, the use of backscatter x-ray machines has been criticized for potentially exposing patients to excessive levels of

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63. Rebecca Smith-Bindman et al., *Radiation Dose Associated with Common Computed Tomography Examinations and the Associated Lifetime Attributable Risk of Cancer*, 169 ARCHIVES INTERNAL MED. 2078, 2079 (2009).

64. Amy Berrington de Gonzalez et al., *Myocardial Perfusion Scans: Projected Population Cancer Risks from Current Levels of Use in the United States*, 122 CIRCULATION 2403, 2403 (2010).

65. *Powell v. Buncich*, No. 2:11-CV-277-PPS-PRC, 2011 WL 4818526, at \*5 (N.D. Ind. Oct. 11, 2011) (finding doctor’s “explanation as to why he declined to order a CT scan or other medical imaging to be reasonable and persuasive, particularly given the risk of exposure to harmful radiation”); *Burns v. Cleveland Clinic Found.*, 974 N.E.2d 1291, 1292 (Ohio Mun. Ct. 2011) (“[S]ince a CT scan subjects the patient to radiation, its inappropriate use creates an avoidable, slight but definite risk of cancer in the long term.”).

66. *See, e.g., In re Joyner*, No. 325263, 2015 WL 3766868, at \*5 (Mich. Ct. App. June 16, 2015) (concluding that exposure of healthy children to unnecessary CT scans constituted exposure to harm); *In re Anesia E.*, 791 N.Y.S.2d 867 (N.Y. Fam. Ct. 2004), *aff’d*, 23 A.D.3d 465 (N.Y. App. Div. 2005) (similar); *see also* *Conservatorship of Pers. & Estate of Maria B.*, 218 Cal. App. 4th 514, 521–22 (2013) (holding that risks of CT scanning justified medical procedure that would obviate the need for repeated scans).

67. *E.g., Morris v. Dep’t of Veterans Affairs*, 597 F. App’x 861, 863 (6th Cir. 2015) (describing a case in which a metal oxygen tank, negligently allowed into the same room with an MRI machine, “flew across the room into the bore of the MRI scanner, narrowly missing . . . the patient”).

68. Jennifer Marshall et al., *A Comprehensive Analysis of MRI Research Risks: In Support of Full Disclosure*, 34 CAN. J. NEUROLOGICAL SCI. 11, 14 (2007).

69. Hariharan Shankar & Paul S. Pagel, *Potential Adverse Ultrasound-Related Biological Effects: A Critical Review*, 115 ANESTHESIOLOGY 1109, 1109 (2011); *see also* Archie A. Alexander, “Just Scanning Around” with Diagnostic Medical Ultrasound: Should States Regulate the Non-Diagnostic Uses of This Technology?, 16 ANNALS HEALTH L. 1, 22 (2007) (discussing the potential risks of ultrasounds).

radiation.<sup>70</sup> Ultimately, these concerns were a cause of these machines being phased out. In contrast, millimeter wave imaging, which uses nonionizing radiation, is much less likely to pose a risk to patients—though some have raised concerns about a lack of transparency regarding the intensity of the radiation used.<sup>71</sup>

Physically invasive forms of screening also come with risks. Blood draws, for instance, impose pain and have the danger of causing longer-term physical injury,<sup>72</sup> even though courts are divided on whether they are properly regarded as painful.<sup>73</sup> Pap smears and pelvic examinations for women can also be painful.<sup>74</sup> Additionally, screening may cause psychological stress by framing the disease screened for as an imminent threat or prompting people to think about, and anticipatorily dread, unpleasant outcomes.<sup>75</sup> For instance, proposals to universally screen elementary-school aged children for excessive lipid levels have been criticized for ignoring potential screening-produced harms such as

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70. Rebekka Murphy, Note, *Routine Body Scanning in Airports: A Fourth Amendment Analysis Focused on Health Effects*, 39 HASTINGS CONST. L.Q. 915, 923 (2012) (reviewing “increased risk of cancer, the TSA’s failure to ensure safety generally, the lack of independent oversight and testing, and questions regarding the device’s functionality”); Robert N. Strassfeld, *Special Topic Introduction: Minerva at the Departure Gate*, 22 HEALTH MATRIX 433, 436 (2013) (“Maine Senator Susan Collins introduced legislation in the United States Senate to require that the TSA contract with an independent laboratory to test the safety of its backscatter scanners.”).

71. John E. Moulder, *Risks of Exposure to Ionizing and Millimeter-Wave Radiation from Airport Whole-Body Scanners*, 177 RADIATION RES. 723, 725 (2012).

72. Douglas S. Diekema, *Conducting Ethical Research in Pediatrics: A Brief Historical Overview and Review of Pediatric Regulations*, 149 J. PEDIATRICS S3, S6 (2006) (concluding that a “project requiring multiple blood draws for research purposes exceeds minimal risk, not because it represents a danger to the child’s physical health but because of the pain and distress related to multiple blood draws”); Annette Rid & David Wendler, *A Framework for Risk-Benefit Evaluations in Biomedical Research*, 21 KENNEDY INST. ETHICS J. 141, 164 (2011) (“[A] blood draw is widely—and arguably appropriately—considered a minimal risk procedure although it poses a very small risk of serious infection or permanent nerve damage.”).

73. Compare *United States v. Hook*, 471 F.3d 766, 775 (7th Cir. 2006) (referring to “the minimal pain and discomfort accompanying a blood draw”), and *People v. Inman*, No. F041824, 2004 WL 1472576, at \*24 (Cal. Ct. App. July 1, 2004) (“[A] blood draw is a commonplace, minimally intrusive procedure that involves virtually no risk, trauma, or pain.”), with *State v. Scheffler*, No. A13-0399, 2014 WL 4957113, at \*3 (Minn. Ct. App. Oct. 6, 2014), review denied (Dec. 16, 2014) (regarding as commonplace the proposition that “some pain is associated with a blood draw”), and *Nawrocki v. Linder*, No. 08-CV-14-BBC, 2008 WL 4533681, at \*2 (W.D. Wis. Mar. 7, 2008) (“Having blood drawn can be painful, especially if the needle is not placed properly.”). Notably, the leading Supreme Court case on blood draws concludes only that “for most people, the procedure involves virtually no risk, trauma, or pain.” *Schmerber v. California*, 384 U.S. 757, 771 (1966) (emphasis added).

74. Amir Qaseem et al., *Screening Pelvic Examination in Adult Women: A Clinical Practice Guideline from the American College of Physicians*, 161 ANNALS INTERNAL MED. 67, 69 (2014).

75. Russell P. Harris et al., *The Harms of Screening: A Proposed Taxonomy and Application to Lung Cancer Screening*, 174 JAMA INTERNAL MED. 281, 283 (2014).



“dietary neuroses, family conflict, and [cardiovascular disease] anxiety.”<sup>76</sup> Similarly, screening for abdominal aortic aneurysms—a potentially life-threatening condition—can cause psychological upset and distress.<sup>77</sup> But little data exists regarding the magnitude and frequency of psychological harm due to screening.<sup>78</sup>

Concerns about harm have been particularly acute in the debate over required universal health checks. A 2013 Cochrane review of universal health checks concluded that they were “not associated with lower rates of mortality or morbidity[,]” but “may increase the number of diagnoses and the use of medications,” thus bearing out the authors’ concern that “if general health checks result in unnecessary testing, treatment, and labeling, they could be harmful.”<sup>79</sup> The authors criticized the British government for defending the provision of universal health checks despite evidence against their effectiveness and observing that “[s]creening [programs] for healthy people are justifiable only when [randomized] trials clearly show that benefits outweigh harms. For health checks, the trials seem to show the opposite.”<sup>80</sup> They conclude that “[d]octors should not offer general health checks to their patients, and governments should abstain from introducing health check [programs] . . . . Current [programs], like the one in the United Kingdom, should be abandoned.”<sup>81</sup>

### 3. Physician Deskilling

The shift toward imaging and other forms of screening also may encourage an increased reliance on screening technology by physicians and reduced training in other forms of diagnosis and treatment, such as patient interviews and visual, auditory, or tactile observation. Medical commentary has lamented the decline of the physician-patient interview in favor of high technology alternatives that are favored for their higher

76. Thomas B. Newman et al., *Overly Aggressive New Guidelines for Lipid Screening in Children: Evidence of a Broken Process*, 130 PEDIATRICS 349, 350 (2012); see also Alan R. Schroeder & Rita F. Redberg, *Cholesterol Screening and Management in Children and Young Adults Should Start Early—NO!*, 35 CLINICAL CARDIOLOGY 665, 666 (2012) (criticizing proposals for universal cholesterol screening of children).

77. Minna Johansson et al., *Harms of Screening for Abdominal Aortic Aneurysm: Is There More to Life Than a 0.46% Disease-Specific Mortality Reduction?*, 387 LANCET 308, 309 (2016).

78. Jessica T. DeFrank et al., *The Psychological Harms of Screening: The Evidence We Have Versus the Evidence We Need*, 30 J. GEN. INTERNAL MED. 242, 242 (2014).

79. Lasse T. Krogsbøll et al., *General Health Checks in Adults for Reducing Morbidity and Mortality from Disease*, 309 JAMA 2489, 2489 (2013).

80. Peter C. Gøtzsche et al., *General Health Checks Don’t Work: It’s Time to Let Them Go*, 348 BMJ 1, 1 (2014).

81. *Id.*

reimbursement rate or ability to conserve scarce physician time.<sup>82</sup> Just as pilots who frequently fly on autopilot may lack practice at dealing with in-flight challenges, physicians who rely on imaging and screening diagnostics may lack the capacity to diagnose patients effectively by using traditional techniques.<sup>83</sup> In contrast, physicians practiced in forms of diagnosis that include patient interviews and engagement may be able to employ technology more beneficially and cost effectively, rendering it genuine health improvement rather than health theater.<sup>84</sup>

The debate between imaging and skilled judgment has been raised in the context of national security and crime prevention as well. The United States airport security system, which relies heavily on imaging, is frequently contrasted with other systems that involve much greater exercise of skill and discretion by security screeners, and much more questioning and interaction with passengers who are potential security threats.<sup>85</sup> Some have argued for greater adoption of at least some of these techniques in the American context, rather than a greater reliance on imaging:

The country should . . . be employing and training thousands of extra employees to implement a system of personal interaction. These airport security officers will be spending approximately five minutes per passenger questioning them about their travel plans, all the while keeping an eye out for physical cues such as nervousness or eye movement in order to determine which passengers should be separated and be required to go through further screening procedures. The goal should be to search out possible threats by personally interacting with passengers just by having five-minute conversations with screened passengers. Furthermore, the country should start phasing out full-body

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82. Abraham Verghese & Ralph I. Horwitz, *In Praise of the Physical Examination*, 339 *BMJ* 1, 1 (2009) (“[T]he electronic medical record and advanced imaging technology have not only seduced doctors away from the bedside but also devalued the importance of their role there.”).

83. Georges Bordage, *Where Are the History and the Physical?*, 152 *CANADIAN MED. ASS’N J.* 1595, 1596 (1995) (describing contexts where reliance on imaging reduces physicians’ skill).

84. Priscilla J. Slanetz, *Teaching Appropriate, Cost-Effective Care Using the American College of Radiology Appropriateness Criteria*, 86 *ACAD. MED.* e14, e14 (2011); Verghese & Horwitz, *supra* note 82, at 1 (contending that clinicians “who are skilled at the bedside examination make better use of diagnostic tests and order fewer unnecessary tests”).

85. *E.g.*, *El Al Israel Airlines, Ltd. v. Tsui Yuan Tseng*, 525 U.S. 155, 163 (1999) (“In conformity with standard El Al preboarding procedures, a security guard questioned Tseng about her destination and travel plans. The guard considered Tseng’s responses ‘illogical,’ and ranked her as a ‘high risk’ passenger.”); Timothy M. Ravich, *Is Airline Passenger Profiling Necessary?*, 62 *U. MIAMI L. REV.* 1, 32–33 (2007) (“For years Israeli aviation security officials have focused on airline passengers themselves. They screen passengers individually and personally in a process taking hours per person.”).

scanners and replacing them with security measures that have proven to be more efficient and effective.<sup>86</sup>

Of course, the increased use of skilled judgment in screening will itself require an investment of time and money, both in screening itself and in training physicians or screeners. Routine security screeners in the United States receive much less training than screeners elsewhere,<sup>87</sup> and some have argued that efforts to use skilled judgment in screening have proven ineffective.<sup>88</sup>

#### 4. Privacy Violations

A frequent argument against security theater is that it violates the privacy rights of the screened individuals. Concerns about the ability of imaging technology to produce and record images of screened individuals' nude bodies motivated concern about the use of imaging as part of airport security.<sup>89</sup> Some have worried about the storage of images after the screening is complete, or the use of screening images to stigmatize passengers or gratify the prurient interests of screeners.<sup>90</sup> There is anecdotal evidence that both storage of images and the use of scanned images to stigmatize passengers has occurred.<sup>91</sup> Similarly, fears

86. Courteney L. Taylor, *Touched by an Agent: Why the United States Should Look to the Rest of the World for a New Airport Security Scheme and Stop Using Full-Body Scanners*, 35 HOUS. J. INT'L L. 503, 524–25 (2013); see also Rebecca Tillery, Comment, *The Changing Face of General Aviation Security Regulation: What Is Being Done, What Needs to Be Done, and Why Does Anything Need to Be Done in the First Place?*, 71 J. AIR L. & COM. 307, 336 (2006) (discussing the training necessary for threat detection as a way to improve airport security).

87. Justin Florence & Robert Friedman, *Profiles in Terror: A Legal Framework for the Behavioral Profiling Paradigm*, 17 GEO. MASON L. REV. 423, 431 (2010) (detailing differences in security screening training between the United States and Israel).

88. *TSA Security Hearings*, *supra* note 6, at 2 (Statement of Rep. Darrell Issa) (“GAO [the Government Accountability Office] believes Screening of Passengers by Observation Techniques, or SPOT, program, which has already cost taxpayers \$800 million, is ineffective and that Congress should consider limiting funds for this program.”).

89. *Roberti v. OSI Sys., Inc.*, No. CV 13-9174-MWF (VBKx), 2015 WL 1985562, at \*2 (C.D. Cal. Feb. 27, 2015) (“[T]he public began raising privacy concerns over the detailed ‘naked body’ images produced by the AIT scanners . . . . Responding to these concerns, in late 2010, TSA mandated that all AIT scanners be upgraded with Automated Target Recognition (‘ATR’) software, which would modify the scanner’s images to display only generic figures.”).

90. Yofi Tirosh & Michael Birnhack, *Naked in Front of the Machine: Does Airport Scanning Violate Privacy?*, 74 OHIO ST. L.J. 1263, 1274, 1283 (2013) (reporting concerns about the storage of images and about scanner operators using the technology to harass female passengers).

91. Jason Edward Harrington, *Dear America, I Saw You Naked*, POLITICO (Jan. 30, 2014), <http://www.politico.com/magazine/story/2014/01/tsa-screener-confession-102912> (“Just as the long-suffering American public waiting on those security lines suspected, jokes about the passengers ran rampant among my TSA colleagues: Many of the images we gawked at were of overweight people, their every fold and dimple on full awful display. Piercings of every kind were visible. Women who’d had mastectomies were easy to discern—their chests showed up on our

about the scanning of large quantities of information have been raised in response to proposals by security agencies to search computers and electronic devices.<sup>92</sup>

Medical contexts are less likely to generate concerns about privacy insofar as imaging procedures and diagnostic tests are explicitly sought by patients, rather than imposed on them. But proposals to require or incentivize universal screening for various conditions generate privacy concerns, particularly if insurers or others could use health information in ways that are adverse to the screened individual's interests.<sup>93</sup> Furthermore, screening technologies tend to generate far more information than physician-based interviews. For instance, the panel of tests run after a blood draw will include information not only about the medical condition that motivated the blood draw, but also information that may be relevant to many other conditions. The same is true for other screening procedures such as MRIs and genetic tests.<sup>94</sup> Even if the additional information is not revealed to the patient, there is a risk that it may become accessible to others.

### 5. Overconfidence in Technology

Security theater, with the glamour of scans and extensive data, can generate the illusion that we know more about potential risks than we do. Commentators have noted that “too much security theater can result in complacency and a false sense of security if such ‘feel good’ measures

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screens as dull, pixelated regions.”); *How Much Do Full-Body Scanners Show?*, ECONOMIST (May 8, 2010, 10:11 PM), [http://www.economist.com/blogs/gulliver/2010/05/full-body\\_scanners](http://www.economist.com/blogs/gulliver/2010/05/full-body_scanners) (similar).

92. *United States v. Cotterman*, 709 F.3d 952, 964 (9th Cir. 2013) (concluding that a search of a laptop at the border requires reasonable suspicion in light of the immense informational content of computing devices); *United States v. Kim*, 103 F. Supp. 3d 32, 57 (D.D.C. 2015), *appeal dismissed sub nom.* *United States v. Jae Shik Kim*, No. 15-3035, 2015 WL 5237696 (D.C. Cir. Aug. 14, 2015) (concluding that an airport search of a laptop was inappropriate in part on the basis that “the invasion of privacy was substantial: the agents created an identical image of Kim’s entire computer hard drive and gave themselves unlimited time to search the tens of thousands of documents, images, and emails it contained, using an extensive list of search terms, and with the assistance of two forensic software programs that organized, expedited, and facilitated the task”).

93. Maria Asuncion A. Silvestre et al., *Trade-Off Between Benefit and Harm Is Crucial in Health Screening Recommendations. Part II: Evidence Summaries*, 64 J. CLINICAL EPIDEMIOLOGY 240, 243 (2011) (“Screening results may have unexpected consequences for individuals, depending on who is allowed access to information. Employment may be denied, insurance premiums may be raised, and family relationships may be adversely affected.”).

94. Yann Joly et al., *Genetic Discrimination and Life Insurance: A Systematic Review of the Evidence*, 11 BMC MED. 1, 4 (2013) (“[G]enomic information in the typical individual’s medical record is likely to increase tremendously in the next few years as whole-genome sequencing costs are reduced and personalized medicine becomes more common in clinical settings.”).

are not also accompanied by real security strategies,”<sup>95</sup> and that “[a]n inherently intuitive allure attaches to scanning massive amounts of data in dimly lit control rooms, using sophisticated algorithms and scientific computer-matching methods to predict future behaviors and identify suspect individuals.”<sup>96</sup> While the other risks mentioned above constitute the material costs of security and health theater—whether physical, dignitary, or economic—the danger of overconfidence might be thought of as an *epistemic* cost of security and health theater, in that it undermines our ability to accurately perceive the facts. Of course, inaccurate perception will also contribute to the material costs discussed above.

An analogous example where framing evidence as technological leads to epistemic misjudgments involves the neuroscience evidence in court. Some have raised the concern that evidence from imaging, or neuroscience-based claims generally, is given more weight by jurors and even judges than is warranted.<sup>97</sup> A variety of factors may explain the excessive persuasiveness of imaging evidence, ranging from presenting a direct and unmediated observation of an individual’s brain to their highlighting of structural, rather than functional, abnormalities.<sup>98</sup>

Some commentators on health screening have recognized the danger of epistemic overconfidence posed by an overload of data. One article criticizing the proposal for universal lipid screening has observed that

[i]n the expert panel’s report, the complex algorithms for initiating drug treatment of lipid levels in children receive all the highlighted emphasis that comes with large tables and long discussion. Indeed, the new recommendation for universal lipid screening may divert attention away from other important parts of the report, including the use of diet and physical activity to reduce obesity.<sup>99</sup>

Similarly, some have worried that physicians may rely on evidence from imaging technologies like MRI to the exclusion of other sources of evidence, leading to misdiagnosis.<sup>100</sup>

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95. Taipale, *supra* note 16, at 166–67 n.167.

96. Candice L. Kline, Comment, *Security Theater and Database-Driven Information Markets: A Case for an Omnibus U.S. Data Privacy Statute*, 39 U. TOL. L. REV. 443, 450 (2008).

97. Deena Skolnick Weisberg et al., *The Seductive Allure of Neuroscience Explanations*, 20 J. COGNITIVE NEUROSCIENCE 470, 470 (2008); see also So Yeon Choe, *Misdiagnosing the Impact of Neuroimages in the Courtroom*, 61 UCLA L. REV. 1502, 1506 (2014) (reviewing a “number of empirical studies [that] show that presenting general neuroscience evidence is overpersuasive”).

98. Teneille Brown & Emily Murphy, *Through a Scanner Darkly: Functional Neuroimaging as Evidence of a Criminal Defendant’s Past Mental States*, 62 STAN. L. REV. 1119, 1190–96 (2010).

99. Bruce M. Psaty & Frederick P. Rivara, *Universal Screening and Drug Treatment of Dyslipidemia in Children and Adolescents*, 307 JAMA 257, 258 (2012).

100. Lawrence B. Marks, “Error Bars” in *Medical Imaging: Stealth and Treacherous*, 277 RADIOLOGY 318, 323 (2015).

## B. *The Upsides of Health Theater*

### 1. Diffuse Harms, Focused Benefits

Even if the total costs of health theater outweigh its benefits, its costs frequently take the form of small harms and risks for the entire population, while its benefits take the form of large gains for a few. For instance, universal screening efforts may subject numerous people to anxiety, cost, and false positives, but may save a few people whose dangerous medical conditions would not have been caught, but for the screening tests. Some have made the argument that imposing small costs on many to avoid major harms is simply common sense in both the health and security contexts:

[W]e can intuit several situations . . . in which it would be far more important to minimize [false negatives] than [false positives]. In the instance of airport screening for weapons, we would prefer to endure the additional delay and invasion of privacy associated with a full-scale search of our carry-on luggage than bear the thought that more lax screening might permit a terrorist to bring a deadly weapon onboard. And in the field of medical diagnostics, type I errors—after which additional testing can reveal the false nature of the initially positive result—generally are also preferred over type II errors, which are likely to give the patient a false sense of security and result in his foregoing necessary medical treatment. We see that in both of these cases, the cost of a false negative can be much higher than the cost of a false positive.<sup>101</sup>

This argument might be extended into a challenge to the coherence of the categories of health and security theater: if almost all interventions described as theater benefit at least a few people, then the interventions might be said to actually succeed in providing more than a simulacrum of benefit, and therefore to fall outside the definition of health or security theater. In response, one might distinguish two conceptions of health and security theater: “gross” and “net.” Even though screening may identify a few genuine threats or dissuade a few attackers—thereby producing some benefits and therefore not counting as theater on a “gross” conception—it still counts as theater on a “net” conception because it

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101. Ann Morales Olazábal, *False Forward-Looking Statements and the PSLRA's Safe Harbor*, 86 IND. L.J. 595, 627 n.122 (2011); see also Douglas Mossman, *Analyzing the Performance of Risk Assessment Instruments: A Response to Vrieze and Grove (2007)*, 32 L. & HUM. BEHAV. 279, 282–83 (2008) (“For example, if an airport metal detector beeps when an unarmed passenger goes through (a false positive), a minor inconvenience results (the passenger gets wanded), but the consequences of missing a weapon (a false negative) could be a hijacking or worse . . . It would . . . be foolish to lower the metal detector’s sensitivity so that fewer false positives occurred if doing so would allow armed passengers to board.”).

fails to diminish risk and harm when its costs are taken into account.

The evaluation of situations that involve widely distributed harms with focused benefits has spawned two separate debates: one involving a question of distributive justice (whether many small harms can be aggregated to outweigh a few larger ones), and another involving a question of democratic politics (whether a smaller group of concentrated beneficiaries will tend to prevail over a larger, disorganized public, and whether this tendency is objectionable).<sup>102</sup> Turn first to distributive justice and the question of aggregation. A perspective that focuses solely on aggregate costs and benefits would routinely be willing to countenance large harms to a few in order to avoid a much greater total of small harms spread across many people. As such, an aggregative perspective will not regard health or security theater's tendency to avoid large harms to a few at the expense of small harms to many as a point in its favor. The more interesting question, however, is whether health and security theater can be justified even if one allows for some restrictions on aggregate benefit. Where the small harms imposed by health or security theater are widespread enough, they are likely to also produce ill effects comparable in magnitude to the harms prevented: one is no longer trading lives for inconveniences, but lives for lives.<sup>103</sup> In a criticism of profiling-based security approaches, Jerry Kang makes this point:

[I]f profiling is being justified in cold, logical cost-benefit terms, we should dispassionately consider how many statistical lives we will actually save. Could we save far more lives by mandating head-curtain airbags, reducing the national speed limit (thereby decreasing dependence on Middle Eastern oil), discouraging smoking, and encouraging exercise? To be sure, the possibility of death in a car accident feels different than death in a terrorist act. The fear of the former does not paralyze the nation; the fear of the latter does. But that difference does not automatically justify what might end up being a misallocation of life-saving resources.<sup>104</sup>

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102. See generally IWAO HIROSE, *MORAL AGGREGATION* (2014) (providing an overview of arguments regarding aggregation and distributive justice); see also MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* (2002) (discussing democratic politics and the power of concentrated interest groups).

103. Cf. *Int'l Union, United Auto., Aerospace & Agric. Implement Workers of Am., UAW v. Occupational Safety & Health Admin.*, 938 F.2d 1310, 1326 (D.C. Cir. 1991) (Williams, J., concurring) (“[W]hile officials involved in health or safety regulation may naturally be hesitant to set any kind of numerical value on human life, undue squeamishness may be deadly. Incremental safety regulation reduces incomes and thus may exact a cost in human lives.”); STEPHEN BREYER, *BREAKING THE VICIOUS CIRCLE: TOWARD EFFECTIVE RISK REGULATION* 623 (1993) (“[A] costly standard that seeks to save a few statistical lives more likely saves no lives at all . . .”).

104. Jerry Kang, *Thinking Through Internment: 12/7 and 9/11*, 9 *ASIAN L.J.* 195, 198 (2002).

Similarly, some have argued that airport security measures could cause more deaths than they prevent, by increasing the inconvenience of air travel and encouraging passengers to select riskier modes of transportation.<sup>105</sup>

Additionally, some of the harms of health and security theater—even when they do not lead to loss of life—are far more significant than minor inconvenience, and indeed significant enough to be worth sacrificing lives for. Many consider patients who are willing to take risky medications to avoid anxiety reasonable; it may similarly be reasonable to risk some human lives to avoid serious harms. In the security theater context, Kang suggests that profiling produces serious harms:

Just ask a young Black man profiled as a rapist; a Black woman profiled as a drug mule; a Latino profiled as an illegal immigrant; a survivor of the Japanese American internment profiled as a traitor. The leap of empathy is difficult, so we must all try hard to imagine living the life of a “false positive,” stopped at airports, bus stops, stadiums, skyscrapers, and malls. Think about the time, the inconvenience, the insult to your dignity. Think about trying to calm your children bewildered by armed men pulling you aside. Now think about this happening every day of your life.

While health theater does not involve the same close tie between false positives and existing social disadvantage that Kang identifies, one must similarly make sure not to devalue the serious burdens of psychological stress and anxiety, as well as physical harm from overtreatment, imposed by medical false positives. As such, even a non-aggregative approach is unlikely to countenance a perspective on security theater that is completely blind to the costs it imposes.

In contrast to the moral challenge of aggregation, the political challenge of protecting the interests of the general public against the lobbying efforts of narrower interest groups is more difficult. This is particularly true because hindsight is selective: individuals will have an easy time attributing a terrorist attack or an undiscovered cancer to a lack of screening, but a difficult time attributing a stress-induced heart attack or a radiation-produced tumor to excessive screening. Discussions of interest group politics, however, have not asserted that the claims of smaller groups *should* have priority over the interests of the public at large. Rather, discussions around the intersection of screening and interest group politics have focused on the practical difficulty of either organizing the general public to protect its interests or blunting the power of narrow, but well-organized, interests.

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105. Jamie Belcore & Jerry Ellig, *Homeland Security and Regulatory Analysis: Are We Safe Yet?*, 40 RUTGERS L.J. 1, 15 (2008).



Scholars in both the health and security contexts have discussed concerns about the power of interest groups to capture focused benefits while imposing diffuse harms on the public at large. Scholars examining the costs and benefits of airport screening have worried about the public's tendency to focus on a few high-profile cases of terrorism without considering the costs of counterterrorism efforts, and the possibility that political actors will exploit that tendency.<sup>106</sup> Similarly, scholars in health law have noted that interest groups who are more effective in pursuing their interests than the general public at large frequently defend screening initiatives such as universal mammograms.<sup>107</sup> Some who raise doubts about the normative desirability of universal health screening nonetheless concede that it "might be difficult" to get rid of universal health checks because "[s]ome doctors believe strongly in the benefits of health checks, some earn a living through them, and there are many faces to be saved."<sup>108</sup> Ultimately, however, most argue that society should work to resist the public tendency to focus on a few benefits and ignore smaller, but widespread, harms: "Disclosure and treatment standards should not be creatures born of political lobbying that are nurtured through public fear and sentiment. Rather, they must be products of rigorous scientific research, crafted by knowledgeable and experienced medical professionals, and based on objective evaluation of the data."<sup>109</sup>

## 2. Perceptions of Fairness and Respect

Another factor that may favor the continuation of health and security theater is that these practices both create a perception of fairness and respect by involving everyone in the screening process. Even if universal screening is not cost effective, it may appear fairer than no screening at all or targeted screening because it does not leave anyone out of the process. As Peter Swire observes,

Suppose that you have analyzed five proposed security measures, and decided that none of them is effective at preventing an attack and all are costly to implement. At the meeting, you are asked to recommend what to do. One possibility is that the Secretary could appear before Congress and say: "We have looked at all the options, and decided that there are no security measures that are cost-effective, so we are going to do nothing at all." How will this approach play with Congress and

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106. Erik Luna, *The Bin Laden Exception*, 106 NW. U. L. REV. 1489, 1496 (2012).

107. E.g., Jessica Mantel, *Setting National Coverage Standards for Health Plans Under Healthcare Reform*, 58 UCLA L. REV. 221, 245–46 (2010) (recounting the effective lobbying campaign by interest groups to require funding for mammograms).

108. Götzsche et al., *supra* note 80, at 11.

109. Sergent, *supra* note 47, at 482.

the press? In my experience, not well at all. There is a great temptation to show that one is “doing something” and to describe concrete measures being taken in an area. In assessing a proposed information sharing or other security measure, it is thus useful to specifically analyze the extent to which a measure creates security or the appearance of security.<sup>110</sup>

The physician Peter Ubel and his collaborators have similarly identified a public tendency to prefer universal measures—even if they ultimately save fewer lives—over more targeted measures that save more lives. In one study, members of the public preferred to offer a screening test to the entire population, even when doing so would lead to fewer lives saved, rather than the use of a more effective screening test, but only for half of the population.<sup>111</sup> Many respondents described this preference as being grounded in a desire to treat everyone equitably or fairly.<sup>112</sup>

The possibility of invidious discrimination is another concern associated with moving away from universal screening and imaging, toward greater exercise of skill and discretion. Concerns about profiling formed a major part of the objection to shifting away from universal, imaging-based airport screening toward alternative approaches. While, as noted above, the medical industry may face a lesser amount of concerns about profiling—insofar as patients are actively seeking out screening—there may still be concerns that efforts to target screening, rather than providing it universally, will allow either unconscious or conscious bias to exert a harmful effect.<sup>113</sup>

### 3. Psychological Comfort

A major argument offered in defense of security theater has been its capacity to provide psychological comfort. If individuals feel protected from harm, even if they are no more protected overall than before, this feeling of protection may be a benefit sufficient to justify some of the costs of health or security theater. Several discussions of security theater have made this point. For instance, Peter Swire suggests that, under some circumstances,

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110. Swire, *supra* note 13, at 965.

111. Peter A. Ubel et al., *Cost-Effectiveness Analysis in a Setting of Budget Constraints: Is It Equitable?*, 334 NEW ENG. J. MED. 1174, 1174 (1996).

112. *Id.* at 1176.

113. *E.g.*, Christopher V. Almario et al., *Examining the Effectiveness of an Opt-in Approach to Prenatal Human Immunodeficiency Virus Screening*, 202 AM. J. OBSTETRICS & GYNECOLOGY 159.e1, 159.e5 (2010) (“[T]he opt-in approach may allow a physician’s bias about a patient’s risk for HIV to become an issue.”).

the appearance of security is itself a reasonable goal. For instance, Schneier mentions that, in the wake of the 9/11 attacks, “the U.S. government posted armed National Guard troops at airport checkpoints . . . (but were smart enough not to give them bullets).” It seems to me quite possible that such a measure was beneficial in establishing calm and promoting trust in air travel immediately after the attacks. In such instances, a moderate amount of theater may produce a moderate amount of good, in restoring calm and confidence.<sup>114</sup>

Similarly, K.A. Taipale suggests that security theater can help “maintain confidence in systems and allow for normal functioning” and “policy makers must also consider whether making passengers *feel* safer is important for maintaining the viability of the economic, transportation or other systems regardless of whether it actually increases security against a specific threat.”

The justification for security theater on the basis of its ability to create a feeling of psychological comfort was even embraced publicly by Secretary of Homeland Security Michael Chertoff, who suggested in a roundtable discussion that “visible security does have a role to play because I think it does inspire a sense of confidence.”<sup>115</sup>

Defenses of health screening have similarly relied on the claim that screening can improve psychological comfort by making patients who are screened feel like their health is being attended to. For instance, one study of cervical cancer screening among women who had recently immigrated to Scandinavia reported that the regular screening “gave them a feeling of security that they were being checked.”<sup>116</sup> Another study among military reservists similarly suggested that “involving this group in mental health screening may increase their feeling of being supported by the military.”<sup>117</sup> Some have also found that participating in health screening programs improves patients’ perceived control over their own health and also improves self-efficacy and responsibility.<sup>118</sup> As the placebo effect suggests, these effects could also work to improve health itself.

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114. Swire, *supra* note 13, at 965–66.

115. Press Release, *supra* note 7.

116. Fatima Azerkan et al., *When Life Got in the Way: How Danish and Norwegian Immigrant Women in Sweden Reason about Cervical Screening and Why They Postpone Attendance*, 10 PLOS ONE 1, 12 (2015).

117. Samantha Bull et al., *Medical and Welfare Officers Beliefs About Post-Deployment Screening for Mental Health Disorders in the UK Armed Forces: A Qualitative Study*, 15 BMC PUB. HEALTH 1, 7 (2015).

118. Judith A. Cook et al., *Health Risks and Changes in Self-Efficacy Following Community Health Screening of Adults with Serious Mental Illnesses*, 10 PLOS ONE 1, 2 (2015).

The gains in psychological comfort from screening must, of course, be balanced against potential risks. While health and security theater can produce psychological comfort and security and can give individuals a sense of mastery over their own situation, they can also enhance individuals' sense of vulnerability. For example, the United States Food and Drug Administration valued the reduction in anxiety caused by reducing the propensity of mammograms to produce false-positive tests at \$12.7 million.<sup>119</sup> Similarly, security theater can also produce a feeling of anxiety and fear by exacerbating the perception that terrorism is a major and impending threat.

The reverse is also possible, namely that security and health theater could induce a false sense of security that prevents a rapid response to genuine, serious threats. One commentator on security theater contends that it “soothes public concerns at a time of fear and unease, but also dulls the senses.”<sup>120</sup> Numerous commentators have raised similar concerns that medical screening can induce a false sense of security in physicians and patients. For instance, some have suggested that screening newborns for hearing loss may lead physicians and patients to incorrectly conclude that any risk of lost hearing has been eliminated.<sup>121</sup> Others have raised similar concerns about the capacity of self-screening via breast self-examinations, or cholesterol screening as part of a universal program, to create a false sense of security in patients in whom no abnormalities are found.<sup>122</sup>

### III. ALTERNATIVES TO HEALTH THEATER

Part II.A identifies concerns about the spread of health theater. But, for these concerns to matter, some workable alternative to health theater must exist. This Part examines alternative strategies that might be adopted to pursue the same goal—security against threats to health—that health theater aims at, but arguably fails to realize.

#### A. High Touch

Some critics of the expansion of high-technology screening in health have instead called for a return to, and reinvigoration of, “high-touch”

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119. Richard L. Revesz, *Quantifying Regulatory Benefits*, 102 CAL. L. REV. 1423, 1446 (2014).

120. Kline, *supra* note 96, at 449.

121. Jack L. Paradise, *Universal Newborn Hearing Screening: Should We Leap Before We Look?*, 103 PEDIATRICS 670, 671 (1999).

122. Joan Austoker, *Breast Self Examination: Does Not Prevent Deaths Due to Breast Cancer, But Breast Awareness Is Still Important*, 326 BMJ 1, 1 (2003); Irene M. Strychar et al., *Impact of Receiving Blood Cholesterol Test Results on Dietary Change*, 14 AM. J. PREVENTIVE MED. 103, 109 (1998).

medical practice. High-touch medicine involves increased interaction between health care professionals and patients rather than the use of technological screening. Dr. Ezekiel Emanuel, a physician and former White House health policy advisor, is a prominent advocate of the high-touch approach and has argued that high-touch medicine can improve patient satisfaction and health while limiting costs.<sup>123</sup> The high-touch approach that Emanuel advocates for would have physicians spend more time talking to, and interacting with, patients via “extended office hours, use of e-mail and online visits, same day appointments and house calls,” and would also expand the number and use of other medical professionals, such as nurses and care coordinators, to ensure that patients receive more in-person interaction.<sup>124</sup> In a *New York Times* opinion article, Emanuel and other physicians argued for the application of high-touch approaches to cancer care:

[W]e need more “high touch” oncology practices. In these practices, nurses manage common symptoms before they escalate to the point that they require visits to the emergency room, and doctors talk with patients about palliative-care services and end-of-life preferences early on—not in the weeks before death. These services are frequently not paid for by insurers but can improve the quality of care and save significant money by averting repeated tests, hospitalizations and futile, toxic chemotherapy. Insurers need to share the resulting savings, enabling physicians to invest in providing these services.<sup>125</sup>

Though high-touch medicine deemphasizes the use of high-technology screening tests,<sup>126</sup> it does not eschew technology entirely; rather, it calls for the use of technology and data analytics to store and analyze the data collected through these physician-patient interactions.<sup>127</sup>

Others discussing medical practice have similarly defined high-touch approaches and contrasted them with alternatives:

What do I mean by high-touch medicine? I mean medicine based on a carefully constructed medical history coupled with a pertinent physical examination and critical assessment of the information thus obtained.

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123. Bernie Monegain, *Emanuel Proposes Vision for Doing More with Less in Healthcare*, HEALTHCARE FIN. (Oct. 12, 2009), <http://www.healthcarefinancenews.com/news/emanuel-proposes-vision-doing-more-less-healthcare>.

124. *Id.*; see also Ezekiel J. Emanuel, *Saving by the Bundle*, N.Y. TIMES (Nov. 16, 2011, 7:55 PM), <http://opinionator.blogs.nytimes.com/2011/11/16/saving-by-the-bundle/> (discussing how cost control can be combined with quality improvement for health care).

125. Ezekiel J. Emanuel, *A Plan to Fix Cancer Care*, N.Y. TIMES (Mar. 3, 2013, 2:02 PM), <http://opinionator.blogs.nytimes.com/2013/03/23/a-plan-to-fix-cancer-care/>.

126. Emanuel, *supra* note 124 (“Additional savings come from referring patients to carefully selected specialists, ones who don’t order a battery of tests and procedures for every patient.”).

127. *Id.*

One then determines which studies, *if any*, are indicated. And if studies are deemed necessary, the simpler ones are ordered first. In comparison, high-tech medicine essentially bypasses the medical history and physical examination, and, primarily on the basis of the patient's chief complaint, goes directly to a slew of tests that typically include magnetic resonance imaging or computed tomography, or both.<sup>128</sup>

This approach to high-touch medicine connects it to the approach to medical practice promoted by William Osler, which regards effective medicine as based on knowledge of how patients' individual circumstances affect their medical condition.<sup>129</sup>

High touch, of course, is not without problems.<sup>130</sup> Current educational and hiring models might not be up to the task of providing the needed skilled personnel.<sup>131</sup> Current physicians, for instance, might lack adequate training in the examination and interpersonal skills that will be essential in a high-touch environment.<sup>132</sup> While changes in medical education—such as innovative models that emphasize high-touch skills and revisions to the medical school application and admissions process that stress interpersonal and humanistic competence<sup>133</sup>—could fill the gap in the long run, this shortfall could make the transition to high-touch medicine challenging. As noted before, high-touch approaches—by allowing greater room for discretionary judgments—might also open the door to bias.<sup>134</sup> And patients who have grown accustomed to the glitz of high-tech testing and screening technologies may balk at the shift toward the high-touch model—a risk that Emanuel and co-author Victor Fuchs note in their work:

[United States] patients prefer high technology over high touch. As the energy crisis highlights, Americans tend to embrace technologic fixes for problems. [United States] culture emphasizes the new and the fancy; old and plain is equated with deprivation. In the medical sphere,

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128. Herbert L. Fred, *Hyposkillia: Deficiency of Clinical Skills*, 32 TEX. HEART INST. J. 255, 255–56 (2005).

129. *Id.*

130. *See id.* at 255 (discussing the deficiency of clinical skills in the medical profession).

131. Compare the similar observation in the security theater context raised in Florence & Friedman, *supra* note 87, at 430–31 (discussing the much more extensive education and training provided to Israeli security screening personnel and concluding that “to implement an aviation security program in the United States that paralleled the Israeli model would present massive logistical difficulties and significant financial costs”).

132. *See* Fred, *supra* note 128, at 255.

133. Darrell G. Kirch, *Transforming Admissions: The Gateway to Medicine*, 308 JAMA 2250, 2251 (2012); Verghese & Horwitz, *supra* note 82.

134. *See* Almario, *supra* note 113, at 159.e5 (“[T]he opt-in approach may allow a physician’s bias about a patient’s risk for HIV to become an issue.”).

this cultural value informs a patient perception that doing more tests and receiving more treatments and interventions is receiving better care.<sup>135</sup>

### *B. Precise Targeting*

While high-touch efforts represent an important alternative to health theater, the gains from technology in medicine are real and substantial. Detailed physician-patient interactions cannot, and should not, completely replace medical technology as a diagnostic tool. Rather, physicians could use medical screening technologies more effectively by targeting their application to those who can benefit most.

As Emanuel suggests in his proposal that data analytics should be integrated with high-touch medicine, improvements in computing can help to target screening and other efforts more precisely. Just as the conversations involved in high-touch medicine help generate more information about patients, computational approaches can help physicians identify the medical implications of that information. For instance, computational techniques that employ natural language processing can analyze electronic medical records to identify patterns that correlate with medical outcomes.<sup>136</sup> Data analytics could also help physicians select treatment options for patients by providing them with real-time guidance in making decisions drawn from expert clinical practice.<sup>137</sup> And it could allow public health screening initiatives to be targeted more narrowly at the populations most at risk of a given illness.<sup>138</sup>

One example of the use of computing technology to target medical diagnosis and health care more precisely is the recent Institute of Medicine proposal for a “health care system that learns.”<sup>139</sup> This proposal advocates for the use of “new tools, such as online patient portals, to gather and assess patients’ perspectives and use the information to improve their care delivery,” and suggests that data generated in the care delivery process be analyzed to improve future

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135. Ezekiel J. Emanuel & Victor R. Fuchs, *The Perfect Storm of Overutilization*, 299 JAMA 2789, 2790 (2008).

136. Travis B. Murdoch & Allan S. Detsky, *The Inevitable Application of Big Data to Health Care*, 309 JAMA 1351, 1352 (2013).

137. *Id.*

138. *See id.* (describing how medical data could be used to further public health initiatives to reduce smoking and obesity by targeting the appropriate people based on their social media profiles).

139. Mark Smith et al., *What’s Needed Is a Health Care System That Learns: Recommendations from an IOM Report*, 308 JAMA 1637, 1637 (2012).

care.<sup>140</sup>

Targeting programs more narrowly also can be more cost-effective. A recent article argued for replacing the embattled proposal for universal health checks in the United Kingdom with targeted health checks, noting that “guidelines only support the actual management of those at high risk, not universal health checks. Since a targeted approach will identify and manage the high risk equally effectively, but far more cost effectively, this is a good alternative.”<sup>141</sup>

Use of technology in targeting may raise the concern that this additional technology simply amounts to a new form of health theater. What differentiates targeting from health theater, however, is its use of technology in data analysis and precise targeting, rather than health theater’s promiscuous collection of data—much of which lacks diagnostic significance. Additionally, the data collection strategies used in targeted methods involve patients in the collection of their data or analyze information contained in a patient’s electronic medical record—information that would have been collected in any case as part of clinical care. This contrasts with health theater, which treats patients as mere sources of information and employs screening and imaging technologies that inconvenience them or put them at additional risk. Rather than stopping patient care to engage in the theatrical performance of technological screening, targeted approaches collect the information elicited during patient care and allow physicians to learn from that information and apply it in real time during patient encounters.

A more justified concern is that targeting efforts will necessarily be imperfect and may ossify existing biases. Concerns about the ways in which targeted surveillance and security measures can reify existing biases have arisen in debates over “predictive policing,” which targets police surveillance toward areas identified as high crime.<sup>142</sup>

Other commentators on algorithmic surveillance have noted that any algorithm designed to help decision makers learn from data is ultimately only as good as its designers: if the analysis of data selectively emphasizes the wrong information, or if data analysis is based on

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140. *Id.* at 1638.

141. Andrew Dalton et al., *The NHS Health Check Programme: A Comparison Against Established Standards for Screening*, 64 BRIT. J. GEN. PRAC. 520, 520–21 (2014).

142. Andrew Guthrie Ferguson, *Crime Mapping and the Fourth Amendment: Redrawing “High-Crime Areas”*, 63 HASTINGS L.J. 179, 196 n.107 (2011) (“[W]ithout oversight, a data-driven approach creates a self-fulfilling prophecy: the increase in police presence in a specific high-crime area results in more arrests in that area. With more arrests taking place, analysts have more evidence that it is a higher-crime area, which means more targeting and more officers. One can create a permanent high-crime area with such a self-perpetuating, numbers-driven system.”).



incomplete or selective information, it may make outcomes worse rather than better.<sup>143</sup>

### *C. Eliminating Threats*

The most powerful alternative to both health theater and other health care strategies is eliminating the threat to health at issue. In the security arena, the analogous strategy is frequently costly and controversial. One example of a threat-elimination strategy is the Authorization for Use of Military Force, which granted the President the power to use force “against those nations, organizations, or persons he determines planned, authorized, committed, or aided the terrorist attacks that occurred on September 11, 2001, or harbored such organizations or persons, in order to prevent any future acts of international terrorism against the United States by such nations, organizations or persons.”<sup>144</sup> Yet the Supreme Court and other courts have skeptically noted the open-ended and indefinite nature of the War on Terror.<sup>145</sup> Commentators have also argued that the War on Terror was not a cost-effective way of improving security.<sup>146</sup> Meanwhile, even foes of the War on Terror frequently argue not for continued screening, but for alternative ways of eliminating security threats that focus on the “root causes” of terrorism, hypothesized to include poverty, oppression, and lack of education.<sup>147</sup> It is doubtful,

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143. See Andrew Guthrie Ferguson, *Predictive Policing and Reasonable Suspicion*, 62 EMORY L.J. 259, 318 (2012) (“However, in 2011, an internal governmental audit discovered the existence of 79,000 police memos in which potential crimes were recorded, but not counted in the crime statistics. This trove of documents called into question the scope of the crime reduction, as many potential crimes were simply not inputted into the computer system.”); see also Tal Z. Zarsky, *Understanding Discrimination in the Scored Society*, 89 WASH. L. REV. 1375, 1391 (2014) (“For instance, at some points, analysts must decide which correlations and patterns should be incorporated into the scoring model and which must be set aside as ‘junk,’ random results, or statistical errors. Here, the analyst’s biases might shape the final outcome and the discriminatory effect it will involve.”).

144. Authorization for Use of Military Force, Pub. L. No. 107-40, 115 Stat. 224 (2001).

145. *E.g.*, *Hamdi v. Rumsfeld*, 542 U.S. 507, 520 (2004) (“[T]he national security underpinnings of the ‘war on terror,’ although crucially important, are broad and malleable.”); *Ali v. Obama*, 736 F.3d 542, 553 (D.C. Cir. 2013) (Edwards, J., concurring) (“Our Nation’s ‘war on terror’ started twelve years ago, and it is likely to continue throughout [the petitioner’s] natural life.”); *Bourgeois v. Peters*, 387 F.3d 1303, 1312 (11th Cir. 2004) (“We cannot simply suspend or restrict civil liberties until the War on Terror is over, because the War on Terror is unlikely ever to be truly over.”); *United States v. Kincaid*, 379 F.3d 813, 851 (9th Cir. 2004) (Gould, J., concurring) (discussing “the potentially endless duration of our current ‘war on terror’”).

146. *E.g.*, LINDA J. BILMES & JOSEPH STIGLITZ, *THE THREE TRILLION DOLLAR WAR: THE TRUE COST OF THE IRAQ CONFLICT*, at x (2008) (estimating the cost of the War in Iraq to be three trillion dollars, a cost that is largely hidden from American taxpayers).

147. *E.g.*, David Cortright, *Winning Without War: Nonmilitary Strategies for Overcoming Violent Extremism*, 21 TRANSNAT’L L. & CONTEMP. PROBS. 197, 218 (2012) (arguing for “a more holistic approach that prioritizes development, human rights, and democratic governance”).

though, that any of these threat-elimination strategies will prove sufficient to obviate the need for some form of security screening.

In the health context, however, some threat-elimination strategies have been far more successful and have the potential to be tremendously cost effective.<sup>148</sup> Most notable have been the efforts to eliminate infectious diseases such as malaria and smallpox, which have in turn removed the need to conduct broad screening for these conditions. While eliminating HIV/AIDS entirely is likely to be far more difficult, progress has been made toward that goal as well.<sup>149</sup>

As with the elimination of security threats, the mechanisms for eliminating health threats, and the personnel and resources needed, are likely to be quite different from those needed for screening efforts. For instance, the problem of tobacco smoking was not addressed purely, or even primarily, through the work of health care professionals; rather, tobacco control was implemented via public health strategies such as tobacco taxation, regulation, and antismoking campaigns.<sup>150</sup>

#### IV. ENDING HEALTH THEATER

If health theater is ultimately an unjustified practice, and there are good alternatives to health theater, the next question that presents itself is *how* health theater can be replaced with a better alternative. This Part examines three strategies for ending health theater. The first involves restructuring the funding of health care to disincentivize the provision of health theater. The second involves changing regimes of legal liability and responsibility. And the third invigorates public health efforts to eliminate the conditions that promote the need for health theater.

##### A. Redesigning Funding

Health theater could be discouraged via the removal of financial and funding incentives that favor it. Efforts to discourage health theater through changing funding involve two distinct, but complementary, strategies. One set of strategies aims to decrease the quantity of funding flowing to health theater, while another set of strategies aims to increase

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148. See Scott Barrett, *Eradication Versus Control: The Economics of Global Infectious Disease Policies*, 82 BULL. WORLD HEALTH ORG. 683, 684 (2004) (arguing, by analyzing the eradication of smallpox, that for eradication of a pathogen should only be considered it must be “technically and biologically feasible, yield a benefit in excess of the cost, and have political commitment behind it”).

149. Anthony S. Fauci et al., *HIV-AIDS: Much Accomplished, Much to Do*, 14 NATURE IMMUNOLOGY 1104, 1107 (2013).

150. See *infra* Part IV.C. (discussing public health alternatives to health theater in more depth).

the funding that flows toward alternatives.

Current health care financing models, many of which pay professionals per procedure, create incentives for elaborate performances of health theater. Some health law scholars have noted the connection between these financing models and overuse of screening and imaging technology: “Another motivation for the excessive use of diagnostic imaging, including X-rays, can be attributed to the financial incentive accruing to doctors who own these units, or obtain financial incentives from pharmaceutical companies.”<sup>151</sup> Even in the absence of financial gain from procedures, the fact that frequently neither physicians nor patients will bear the financial costs of ordering screening tests encourages their use:

Patients want CAT scans because they want more information about their headache and because they do not directly feel the cost of knowing that information. Physicians want CAT scans because they want more information, too often without critical analysis of whether that information will be useful, and, to a certain extent, because our current system of payment, particularly for care outside of the hospital, rewards ever-greater use of technology.<sup>152</sup>

Health law and policy scholars have suggested approaches that would incorporate cost-effective considerations into the assessment of some of the health technologies discussed above, such as MRI and CT scans. Bill Sage, for instance, suggests factoring “medical necessity into a system of graduated cost-sharing for many treatments similar to that already in use for prescription drug benefits” as a response to health plans’ tendency to either deny coverage for an expensive screening examination or cover the procedure in full “sometimes based on exaggerated information regarding symptoms or risk factors submitted by the referring physician.”<sup>153</sup>

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151. Barbara P. Billauer, *The Right to Health—A Holistic Health Plan for the Next Administration*, 5 RUTGERS J. L. & PUB. POL’Y 234, 264–65 (2007); see also Jackson Williams, *Sunshine Proposals for Imaging Ownership and Drug/Medical Device Manufacturer Relationships: Physician Disclosures and the Limits of Consumerism in Health Care*, 13 DEPAUL J. HEALTH CARE L. 131, 131 (2010) (“Physicians are responsible for ordering imaging studies, prescribing drugs, and choosing medical devices for implantation, and it is widely believed that physicians’ decision making can be influenced by their financial interests. Researchers studying physician ownership of imaging equipment have found that physicians who perform their own imaging are 1.7 to 7.7 times as likely to order imaging as peers who do not.”).

152. Joel D. Howell, *Diagnostic Technologies: X-Rays, Electrocardiograms and CAT Scans*, 65 S. CAL. L. REV. 529, 562 (1991).

153. William M. Sage, *Managed Care’s Crime: Medical Necessity, Therapeutic Benefit, and the Goals of Administrative Process in Health Insurance*, 53 DUKE L.J. 597, 639 (2003) (“Currently, if a forty-something, male law professor in generally good health wants an expensive screening examination such as a colonoscopy or magnetic resonance imaging (MRI) scan, health

Other scholars have similarly noted that the cost insensitivity of medical-necessity determinations, and the dichotomy they draw between necessary and unnecessary treatments, leads to the overuse of imaging and screening.<sup>154</sup> They argue, instead, to use “validated multi-level ratings of medical necessity, based on clinical circumstances for a majority of commonly performed and costly diagnostic and therapeutic procedures,” and provide an example of how such a process could be applied to the question of whether to perform an MRI for a patient with lower back pain.<sup>155</sup>

[A] patient desiring an MRI during the first week of his symptoms could be offered the procedure with a 50 percent co-pay. Alternatively, should he elect to delay the imaging and try non-operative treatments, but remain symptomatic and disabled by his back and leg symptoms after a period of six to eight weeks, he would receive imaging with a nominal or no co-pay since the failure of symptoms to follow the usual pattern of spontaneous resolution places the patient in a different clinical category where the benefits of imaging and decompressive surgery of a disc herniation begin to outweigh the potential risks.<sup>156</sup>

This proposal represents a way of harnessing funding to implement the suggestion in Part III.B that health screening be targeted to patients for whom it would be especially beneficial, rather than provided universally to all.

Even without a more general push to require that health care meet a cost-effectiveness goal, many have argued that restrictions on certain health care financing arrangements would help to curb the overuse of screening. For instance, some have argued that physicians who own the screening machines ought to be required to disclose to patients that they stand to gain.<sup>157</sup> Others argue that physicians ought to be restricted in their capacity to self-refer patients for testing or prohibited entirely from doing so.<sup>158</sup>

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plans either deny coverage as unnecessary or cover the procedure in full . . . .”).

154. Ryan Abbott & Carl Stevens, *Redefining Medical Necessity: A Consumer-Driven Solution to the U.S. Health Care Crisis*, 47 *LOY. L.A. L. REV.* 943, 949 (2014).

155. *Id.* at 959.

156. *Id.*

157. See Williams, *supra* note 151, at 132 (discussing the “Medicare Imaging Disclosure Sunshine Act,” which “would require that when a physician self-refers for advanced imaging, the referring physician inform the patient in writing that the patient may obtain the services elsewhere and provide the patient with a written list of other suppliers”).

158. See generally Maureen Kwiecinski, Comment, *Limiting Conflicts of Interest Arising from Physician Investment in Specialty Hospitals*, 88 *MARQ. L. REV.* 413 (2004) (discussing the importance of self-referral restrictions and the potential flaws in the proposed self-referral legislation).

Efforts have also been made to better fund alternatives to health theater. To promote high-touch medicine, Emanuel argues that payments to health professionals should be “bundled” to reward treating an individual throughout an illness, rather than paid based on the provision of individual medical services.<sup>159</sup> The push to coordinate medical care via patient-centered medical homes is one prominent effort to use funding to reintegrate high-touch norms into medical care. The Affordable Care Act made explicit efforts to promote patient-centered medical homes, defining them and establishing programs to support them with grant funding.<sup>160</sup> A recent study has examined how medical homes work to realize “high-touch” values, including the goals of having an “ongoing relationship for first-contact, continuous, and comprehensive care,” the use of a physician-directed team that incorporates nurse practitioners and uses team members to provide health counseling, and efforts to promote enhanced access through open scheduling, expanded hours, and new avenues of communication with physicians.<sup>161</sup>

### *B. Revising Liability and Responsibility*

Another approach that might help to discourage health theater focuses on legal liability. Again, as with financing, this can work in two ways: legal liability regimes can reduce the incentives to engage in health theater by making alternatives more attractive from a liability perspective, or by making health theater less attractive by exposing it to liability as well.

Many have identified “defensive medicine”—the practice of medicine with a desire to avoid legal liability—as a major driver of health theater:

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159. Emanuel, *supra* note 124 (“Extending high touch medicine . . . to average practices requires helping doctors and hospitals redesign the way they deliver care, and this can happen only by changing how they are paid. It is impossible to deliver high touch medicine in a fee-for-service system that emphasizes quantity over quality.”).

160. *See, e.g.*, 42 U.S.C. § 256a-1 (2010) (defining a “patient-centered medical home” as a “mode of care” that includes several patient-centered and care coordination elements); *see also* 42 U.S.C. § 280g-12 (2011) (supporting physicians in partnering with a “local, community-based health worker who facilitates and provides assistance to primary care practices by implementing quality improvement or system redesign, incorporating the principles of the patient-centered medical home to provide high-quality, effective, efficient, and safe primary care”); 42 U.S.C. § 293k(a) (1999) (providing grants to train physicians in providing care via a patient-centered medical home); *see generally* Alexandria A. Ottens, *There’s No Place Like Home: Moving Towards Patient-Centered Medical Homes for Healthcare Reform*, 20 ANNALS HEALTH L. ADVANCE DIRECTIVE 1 (2011) (describing the history of patient-centered medical homes and their inclusion in the Affordable Care Act).

161. Jeanne M. Ferrante et al., *Principles of the Patient-Centered Medical Home and Preventive Services Delivery*, 8 ANNALS FAM. MED. 108, 108 (2010).

In a national survey, “79% [of physicians] said they had ordered more tests than they would, based only on professional judgment of what is medically needed, and 91% have noticed other physicians ordering more tests.” A 2005 survey in the *Journal of the American Medical Association* found that virtually ninety-three percent of high-risk specialists in Pennsylvania ordered unnecessary tests, performed unwarranted diagnostic procedures, and referred patients for unneeded consultations to protect themselves from litigation. In a 2008 survey, eighty-three percent of Massachusetts physicians reported practicing defensive medicine; the survey also concluded that about twenty-five percent of all radiological imaging tests were ordered for defensive purposes, and twenty-eight percent and thirty-eight percent, respectively, of those surveyed admitted reducing the number of high-risk patients they saw and limiting the number of high-risk procedures or services they performed.<sup>162</sup>

While defensive medicine is widely recognized as a problem, identifying a solution has proven difficult. Proposals to cap damage awards are blunt instruments, limiting justified recoveries as well as unjustified ones, and it is unclear whether they are the most effective way of limiting defensive medicine.<sup>163</sup>

A better solution may be to adopt reforms that ensure that superior alternatives to health theater are given proper weight when assessing a physician’s conduct. David Hyman suggests that “treating compliance with authoritative treatment guidelines as an absolute bar to liability” would be a superior way of limiting ineffective care.<sup>164</sup> Such safe-harbor proposals have won approval from Peter Orszag, the former director of the White House Office of Management and Budget, and are seen as the next wave of malpractice reforms.<sup>165</sup> These proposals would work to protect doctors who pursue the ex ante medically best course of action (defined by authoritative guidelines) against lawsuits should a negative outcome nonetheless result. Even if an absolute bar is unworkable or

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162. Mark A. Behrens & Cary Silverman, *The Constitutional Foundation for Federal Medical Liability Reform*, 15 J. HEALTH CARE L. & POL’Y 173, 193–94 (2012) (citing OFFICE OF THE ASSISTANT SEC’Y FOR PLANNING AND EVALUATION, U.S. DEP’T OF HEALTH & HUMAN SERVS., CONFRONTING THE NEW HEALTH CARE CRISIS: IMPROVING HEALTH CARE QUALITY AND LOWERING COSTS BY FIXING OUR MEDICAL LIABILITY SYSTEM 4 (2002), <https://aspe.hhs.gov/sites/default/files/pdf/72891/litrefm.pdf>).

163. See David A. Hyman, *What Lessons Should We Learn from the First Malpractice Crisis of the Twenty-First Century?*, 1 DREXEL L. REV. 261, 268 (2009) (“[E]ven if everyone agrees that defensive medicine is a serious problem (and not everyone does), it is hard to believe that a cap on non-economic damages is the optimal strategy for doing something about it.”).

164. *Id.*

165. Michael D. Frakes, *The Surprising Relevance of Medical Malpractice Law*, 82 U. CHI. L. REV. 317, 381 (2015).

overbroad, other reforms may serve to reduce the risk of liability. For instance, an empirical study found that providing patients with a decision aid led mock jurors to be much less likely to find that failing to automatically test all patients fell below an absolute standard of care.<sup>166</sup>

Another way of reducing health theater's prevalence would be to raise the liability risk of health theater, as well as, or instead of, decreasing the liability risk of alternatives. This outcome is illustrated in a recent case that held a physician liable for ordering unnecessary scans that exposed his patient to slight, but unwarranted, radiation risks.<sup>167</sup> It is also exemplified by prosecutions of physicians who profit from performing unnecessary medical tests for fraud.<sup>168</sup>

### C. Investing in Public Health

A third possible approach to reducing the prevalence of health theater is to reduce the need for it by expanding funding for public health measures that aim to address threats to health. Many analyses have suggested that the impact of population-wide, public health measures on health can be larger than the impact of individual medical diagnosis or treatment decisions.<sup>169</sup>

Public health interventions could reduce the prevalence of many of the medical conditions that health theater targets—such as cancer, cardiovascular disease, and metabolic disorders. For instance, rather than universally screening children for dyslipidemia caused in part by an unhealthy diet, public health interventions present the alternative of making healthy nutritional options more attractive, both by raising the price of unhealthy foods and by lowering the price of healthy ones.<sup>170</sup>

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166. Michael J. Barry et al., *Reactions of Potential Jurors to A Hypothetical Malpractice Suit Alleging Failure to Perform a Prostate-Specific Antigen Test*, 36 J.L. MED. & ETHICS 396, 401 (2008).

167. *Burns v. Cleveland Clinic Found.*, 974 N.E.2d 1291, 1294 (Ohio Mun. Ct. 2011).

168. *E.g.*, *United States v. Vest*, 116 F.3d 1179, 1181 (7th Cir. 1997) (affirming the conviction of a physician who “used his position as an internist to order unnecessary medical tests conducted at his own clinic, thereby bilking patients, private insurance companies, and the government out of thousands of dollars”).

169. *E.g.*, Earl S. Ford & Simon Capewell, *Proportion of the Decline in Cardiovascular Mortality Disease Due to Prevention Versus Treatment: Public Health Versus Clinical Care*, 32 ANN. REV. PUB. HEALTH 5, 12 (2011) (finding that public health factors better explained the change in cardiovascular disease mortality than did treatment factors); Thomas R. Frieden, *A Framework for Public Health Action: The Health Impact Pyramid*, 100 AM. J. PUB. HEALTH 592, 592 (2010) (“Changing the environmental context so that individuals can easily take heart-healthy actions in the normal course of their lives can have a greater population impact than clinical interventions that treat individuals.”).

170. *E.g.*, Jennifer L. Pomeranz, *Taxing Food and Beverage Products: A Public Health Perspective and a New Strategy for Prevention*, 46 U. MICH. J.L. REFORM 999, 1015–17 (2013)

Public health interventions targeting urban planning and factors such as park access could also make it easier for children to exercise and be active.<sup>171</sup> Similarly, rather than screening for heart disease, society could redirect resources toward interventions that reduce stress—a major cause of heart disease.<sup>172</sup>

Infectious disease—another area where health theater has been prominent—is also amenable to public health efforts. For example, some airports screen and image traveling individuals to identify whether they are suffering from infectious diseases such as fever.<sup>173</sup> Advocates have argued that, rather than attempting to keep infectious diseases out of their countries via screening, developed countries would be wiser to invest in initiatives that help prevent disease pandemics in the rest of the world.<sup>174</sup>

These public health efforts are not a panacea. Even with improved public health measures, some individuals will still suffer from the conditions that prompted health theater in the first place. And the few individuals who do not benefit from public health efforts might receive far more attention than the many who have been kept safe. But increased investment in public health represents a sustainable and effective long-term strategy for improving health.

#### CONCLUSION

The conditions that create the demand for theater, whether health or security, are not going away. Instability in the Middle East and the rise of the Islamic State of Iraq and the Levant (“ISIS”) has produced at least a perception of a resurgence in terror attacks. As officials discuss the challenge of improving the security of even more locations—such as the public areas of airports and major transit centers<sup>175</sup>—security theater will

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(discussing the connection between sugar intake and dyslipidemia and suggesting efforts to limit sugar intake via taxation combined with support for fruit and vegetable intake).

171. Donald R. Dengel et al., *Does The Built Environment Relate To The Metabolic Syndrome In Adolescents?*, 15 HEALTH & PLACE 946, 949 (2009).

172. Marianna Virtanen et al., *Overtime Work and Incident Coronary Heart Disease: The Whitehall II Prospective Cohort Study*, 31 EUR. HEART. J. 1737, 1737 (2010) (arguing that overtime work contributes to heart disease).

173. For sources regarding the Zika virus, see *infra* note 178.

174. See, e.g., Mark A. Rothstein, *The Moral Challenge of Ebola*, 105 AM. J. PUB. HEALTH 6, 8 (2015) (“In an interconnected world it is impossible to prevent the spread of disease by simply walling off one’s country. The only effective and humane strategy is to attack the disease where it arises.”).

175. Alan Levin & Jeff Plungis, *Brussels Subway Death Toll Highlights Airport Security Focus*, BLOOMBERG (Mar 25, 2016, 4:00 AM), <http://www.bloomberg.com/news/articles/2016-03-25/brussels-subway-death-toll-highlights-airport-security-focus>.



no doubt suggest itself as a likely response.<sup>176</sup>

Meanwhile, the expanding power of medical screening technology, coupled with the financial rewards to be gained from deploying it, will similarly make health theater a likely response to health threats. New infectious disease threats, such as Zika, present themselves on the horizon, and have already prompted calls for border screening by prominent presidential candidates in the United States as well as the adoption of such screening elsewhere,<sup>177</sup> even though screening is currently judged to be ineffective.<sup>178</sup> In an overlap between health and airport screening, some have argued that thermal imaging technology installed at airports to detect travelers with fevers may create a false sense of protection against a pandemic.<sup>179</sup> Meanwhile, an aging population is likely to lead to an increasing number of individuals who worry about conditions such as cancer and heart disease, and look for the reassurance that health theater promises to provide.

In the face of these ongoing challenges, the concept of health theater represents a useful way of naming a problem and suggesting a pathway to change. Those looking to limit the spread of health theater might look

176. *E.g., id.* (reporting statement by international president of Amalgamated Transit Union that “we haven’t exercised anywhere near the same diligence with respect to transit facilities that we have with airports and airlines”); Christopher A. Rogers, Note, *A Slow March Towards Thought Crime: How the Department of Homeland Security’s FAST Program Violates the Fourth Amendment*, 64 AM. U. L. REV. 337, 346 (2014) (describing new screening program under development by the Department of Homeland Security and stating that the Department “hopes that the system will soon be ready for deployment in less controlled venues, such as mass transit portals . . .”).

177. *E.g.*, Letter from Sen. Marco Rubio to Gil Kerlikowske, Comm’r for U.S. Customs & Border Prot. (Jan. 29, 2016), [http://www.rubio.senate.gov/public/index.cfm?a=files.serve&File\\_id=6F40FF14-88FF-4760-9351-8920498D0F83](http://www.rubio.senate.gov/public/index.cfm?a=files.serve&File_id=6F40FF14-88FF-4760-9351-8920498D0F83) (“What steps is CBP taking to prepare for this outbreak, including the potential screening of travelers from affected areas, particularly in Florida’s airports and seaports?”); *see also* *China Increases Zika Screening at Borders*, CCTV AM. (Feb. 27, 2016), <http://www.cctv-america.com/2016/02/27/china-increases-zika-screening-at-borders> (“Body temperature detectors first screen the arriving passengers of international flights.”); Sanchita Sharma, *India to Issue Travel Alert, Screen Passengers from Zika-Hit Countries*, HINDUSTAN TIMES (Jan. 30, 2016, 8:18 IST), <http://www.hindustantimes.com/india/india-to-issue-travel-alert-screen-passengers-from-zika-hit-countries/story-i4V75B33GETppEC5W1Vr0H.html> (describing Zika screening at Indian and Sri Lankan airports).

178. Press Release, Dep’t of Homeland Security, *Zika Virus: DHS Response Plan* (Feb. 11, 2016), <https://www.dhs.gov/news/2016/02/11/zika-virus-dhs-response-plan> (asserting that “enhanced public health entry screening for Zika would not be effective because most people who are infected with Zika are asymptomatic and therefore could not be identified during the screening process”); Australian Government Department of Health, *Border Measures to Protect Australia from Zika*, <http://health.gov.au/internet/main/publishing.nsf/Content/ohp-zika-border> (last updated Mar. 2, 2016) (“Screening of travellers at the Australian border is not recommended at this time as there is currently no practical mechanism to detect Zika virus in arriving passengers.”).

179. Ng et al., *supra* note 173, at 105.

to the strategies adopted by critics of security theater, as well as to the suggestions offered in this Article. While the impetus that motivates health theater is likely to continue, identifying and criticizing its manifestations can help to ensure that responses to health threats serve to genuinely improve health, rather than merely creating the appearance of security against disease.