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Administrative Efficiency, Clearing house Exchanges, Rate Review, and Zero Profits to Limit Healthcare Insurance Premium Increases

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Abstract

Background: The United States spends 18% of gross domestic product, the largest proportion globally, on healthcare. American healthcare administration costs two to five times more than other high-income nations, which is transferred to the public as health insurance premium price difference. Improved healthcare access is an underlying tenet of the Affordable Care Act (ACA), however inflated health insurance premiums could reduce healthcare access.

Methods: This review is based on Google, Google scholar, and PubMed literature searches performed in February 2016, to analyze rising health insurance premiums as an area for health system reform within the context of the current health system. Subsequent literature search in October 2016, confirmed the original analysis.

Results and Conclusions: Except for those whose income is less than 176% of the federal poverty level selecting the minimum premium bronze plan, despite subsidies, post-ACA premiums are greater than previous out-of-pocket costs for the insured. Excessive healthcare insurance premium prices decrease healthcare access. Implementation of zero profit margins for health insurers, maximum 14% health insurer administrative cost, and universal health insurer eligibility for reinsurance, universal health insurance annual loss ratio requirements, Medicare and Medicaid prescription drug price control, and universal clearinghouse strategy health exchanges should reduce healthcare insurance premium prices. The net effect should be improved healthcare access for all Americans, not just Americans living at 175% or less of the federal poverty level. The unchanged 62% medical bankruptcy rate in 2007 and 2015 may reflect overall unimproved financial security and healthcare accessibility provided by the ACA.

Keywords: Administrative costs; Administrative efficiency; Affordable care act; Health insurance; Premium costs

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Background

Inflated health insurance premiums are one of several reasons why the United States spends 18% of gross domestic product (GDP), the most globally, on health care [1]. Israel with four insurers spends 8%, the Netherlands with 17 insurers spends 12%, and Germany with 165 insurers spends 11% of GDP on healthcare [2]. Average annual employer-based and individual-procured private health insurance premiums for 60% of the United States population ranged from about USD $5,218 to USD $6,223 per person in 2014 [3,4]. In the Netherlands, the standard individual annual premium is USD $1,524 [4]. For Germans over age 55 years, the maximum annual premium is USD $8,280, but the platinum plan in the

United States could cost USD $12,200 or more annually [5]. The premium price difference between the United States and other high-income nations is ascribed in part, to insurers passing on costs to insured persons to preserve profits [6]. Currently, health care administration amounts to 25% of American health care costs, but only 13% in Canada and 5% of mandatory healthcare costs in Switzerland [6,7]. As 75% of American small businesses that do not offer employee health insurance cite excessive premium cost as the primary reason, the importance of affordable health insurance premiums should not be discounted [8].

Under the Affordable Care Act of March 23, 2010 (ACA), health insurance exchanges are a passive premium price control mechanism. The ACA lacks active cost containment measures for premium price reduction [6]. Premium price increases of greater than 10% are to be justified to the state government, and administrative cost must be less than 20% of premium income [6]. It is estimated that administrative cost can be contained at less than 8% of premium price [9]. Each 1% premium price reduction lowers the cost of federal subsidies by 1.25% [10]. Federal subsidies support 85% of healthcare marketplace enrollees [11]. Health insurance premium price control benefits both the 15% of Americans who personally cover the entire cost of their healthcare exchange marketplace procured health insurance, and the federal healthcare budget. Therefore, ACA reform should consider health insurance premium price control methods to reduce the financial burden of federal subsidies, and to increase health care affordability for Americans who do not receive either government or employer subsidies. The literature indicates that there are at least six mechanisms to achieve health insurance premium price control in the United States.

Methods

This review is based on Google, Google scholar, and PubMed literature searches performed in February 2016, to analyze rising health insurance premiums as an area for proposing reform within the context of the current American health system. Subsequent literature searches in October 2016, confirmed the original analysis. Literature searches focused on the period from 2012 onwards.

Results

Overpriced health insurance plan premiums

Due to enrollee price sensitivity plan switching average premiums for healthcare exchange marketplace offered plans did not change from 2014 to 2015 [11,12]. As insurers are not required to reduce premiums, insurers' cost-savings in a consolidated market do not benefit the public [13]. Mounting claims and losses in 2015, potentially fewer insurers, risk corridor removal in 2016, specialty drug price increases, diminishing returns from generics prescribing, and delayed response to economic growth were predicted to lead to 10% or greater premium increases in 2016 [11,14-16]. Reality has outpaced predictions. In April and August, 2016 United Healthcare and Aetna, respectively exited the 2017 federal healthcare exchange market [17]. All told, nationwide 40 fewer insurers will participate in the 2017 federal healthcare exchange market [17]. Single insurer counties have rebounded from a low of 182 in 2016 to a high of 960 for 2017, representing 40% of counties [17]. Nationwide 2016 enrollment period for 2017 coverage premium increases for bronze plans will average 21%, for benchmark silver plans 25%, for gold plans 22%, and for platinum plans 15% [18]. Among non-catastrophic only health plans, a bronze health plan provides the lowest-level coverage, whereas a platinum health plan provides the highest-level coverage. Most states with only 1 to 2 insurers statewide will experience premium increases ranging from 29% to 116% [17]. These premium increases confirm that reinsurance restricted to insurers with higher-than-expected claims will be insufficient to prevent premium increases. Therefore, despite a 3% premium decrease in Illinois, the prediction that employer-sponsored plans and health exchanges may experience 11%-14% higher premiums in less competitive, markets with fewer insurers is probably an understatement [13,17].

A limited regulation health insurance market allows insurers to set premiums based on profit margins and inefficient administration [6,19]. Non-profit health insurance can reduce premium prices. State health insurance prior approval rate review and 80% or more annual loss ratio requirements (ALRR), can be more stringent than the federal medical loss ratio. ALRR contribute to mean annual premiums USD $216 less than in states with file-and-use or no state review and no loss ratio requirements [20]. From 2010 to 2013, the difference-in-differences is USD $335 in favor of prior review with ALRR [20]. However, self-insured plans, which cover half of privately insured Americans, are not subject to ALRR [13]. ALRR are essential as health insurance is not purchased in a free market economy.

By 2029, the high cost employer-sponsored health plan 40% excise tax, may affect up to 75% of employer-sponsored health plans [24]. To avoid the excise tax, employers must reduce employer paid portions of health insurance and wellness programs, reducing moral hazard [21,22]. Moral hazard is the increased health care demand from insured persons rather than uninsured persons, due to insurance associated price reductions to the insured [22]. Consistent with reduced moral hazard, mathematical modeling predicts decreased health care use due to the excise tax [24].

For all groups other than those where income is less than 176% of the federal poverty level (FPL) selecting the minimum premium bronze plan, despite subsidies, post-ACA premiums are greater than previous out-of-pocket (OOP) costs for the uninsured [25]. While post-ACA premiums rose for most groups, post-ACA wellbeing status declined for all except high-risk, non-Medicaid eligible persons [25]. Therefore, other than those previously uninsured, subsidy-eligible persons with household incomes less than 250% of the FPL, the ACA benefits insurers and their shareholders, not the general American public [21,25].

Changing health insurers' milieu

Six distinct changes are presented below with supporting rationale: (a) Zero profit margins for health insurers, (b) maximum 14% health insurer administrative cost, (c) universal health insurer eligibility for reinsurance, (d) universal health insurance ALRR, (e) cost-controlled prescription drug prices for Medicare and Medicaid, and (f) universal clearinghouse strategy health exchanges. The sum effect of the proposed changes should be universal health insurance premium price reduction.

Allowed health insurer profit margins should be reduced to 0%, which is in equilibrium in a competitive insurance market, and is expected with a public insurer [26]. Stochastic game-theoretical model analysis indicates that a non-profit social-welfare maximizer insurer can operate with a balanced budget in the United States [27]. Risk-aversion can lower premium prices [27].

Administrative costs should be reduced to 14%, which is higher than the 1999 level [9,28]. It is estimated that in 2011, administrative complexity cost of USD $107 billion to USD $389 billion, accounted for 19% to 31% of wasteful healthcare spending, and 4% to 14% of all healthcare spending [29]. The literature indicates that a 6% to 13% reduction in American healthcare administrative costs is possible, achieving a Canadian style administrative system [6,30]. In 2007, the average health insurance administrative costs in high-income Organization for Economic Cooperation and Development (OECD) nations were 4.2% for social health insurance, and 12.7% for private health insurance [31]. Therefore, the ACA does not go far enough to limit administrative costs. The administrative costs base of 24% or more of healthcare costs on which future increases are to be added is excessive in comparison to other nations such as Canada, which had median high-income OECD nation administrative costs for 2002-2007 [30,31].

Health insurer activities and non-conducive context factors that increase administrative costs have been identified, facilitating targeted health insurer administrative cost reduction [31]. However, the ACA shelters identified administrative cost increasers such as some quality improvement activities, which can be reclassified as clinical benefits [32]. Consequently, this ACA provision reportedly incentivizes reclassification of administrative activities as quality improvement activities, to increase clinical benefit cost while seemingly reducing administrative costs [32]: Healthcare insurers' profitability is increased.

Reinsurance would be allowed for all health insurers that do not raise premium prices [11,33]. Health insurance prior approval rate review and ALRR will be necessary in all states and for all plans, including self-insured plans that are currently excluded from ALRR [20]. Uniform cost-sharing will reduce plan over choice paralysis [21]. Prescription drug index or reference pricing as described by the World Health Organization Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies Glossary are alternatives to vendor negotiations that can control prescription drug prices in the United States [34,35]. The ban on Medicare and Medicaid pharmaceutical vendor price negotiations can be lifted. Medicare and Medicaid pharmaceutical vendor negotiations, index pricing, or reference pricing use to limit prescription drug prices should be allowed if premiums are correspondingly reduced.

All health exchanges should use the clearinghouse strategy instead of an active purchaser strategy [36]. The active purchaser strategy may limit competition by requiring insurers to offer a plan in every category as a prerequisite to selling catastrophic plans. The clearinghouse strategy accepts all plans that meet plan criteria, irrespective of an insurer's entire product offering [36]. Clearinghouse health exchanges offer statistically significant lower premiums in all plan categories, from USD $325.2 per annum, p=0.019 to USD $520.68 p<0.001 [36].

The above changes call for the health insurance industry to fund reduced premium prices. Lower health insurer administrative costs, zero health insurer profit margins, and increased health exchange competitiveness will fund reduced premium prices. Elevated premiums from active purchaser strategy plans should be refunded to consumers [7].

Discussion

Increased transparency and reduced administrative costs are the primary intended effect of the above changes [6]. Improved operating and medical services efficiency will reduce hospital, medical, claim adjustment, and general administrative expenses [33]. Reduced fragmentation in service provision by health care insurers, hospitals, and pharmacies will permit purchasing power economies of scale [6]. Although commercial market consolidation is normally associated with higher premiums, this is not always the case [13]. Prior to the ACA, Blue Cross and Blue Shield charged lower premiums than other commercial insurers because having the largest health insurance market share meant more medical service efficiencies through negotiated lower hospital and provider charges [11]. Therefore, even if the number of insurers participating in the health exchanges decreases, lower premiums are possible.

To maintain viability in a zero-profit margin environment, insurers will find more efficient ways of doing business. Hospitals and physicians spend 6.6% to 14% of revenue on billing and insurance-related activities (BIRA) [37]. Reducing hospitals and physicians' BIRA is a means of reducing payments to hospitals and physicians without reducing hospital and physician net income. To reduce BIRA expenses, electronic health records, electronic billing, and portable personal health records will be rapidly implemented [6].

Health insurers that cover greater than average hospital and medical expenses may reduce offered benefits, which in-turn may increase use of supplemental insurance, such as critical illness and accident coverage to cover hospitalization charges [33]. Instead, health insurers should reduce BIRA costs by ending administrative provider credentialing to

create a network of preferred providers, and instead accept bills from any licensed provider [6]. Removing the need for preferred provider credentialing will also reduce provider's administrative costs and reduce patients' OOP costs, further reducing overall healthcare costs. Open networks increase consumer ability to change health plans, while maintaining continuity of care with established providers. Open networks are more important in the United States than in other high-income nations as accessing the provider of choice is more important to health care system satisfaction in the United States than in other high-income nations [38]. Thus, reversing the restricted provider network trend in the United States should also serve to improve American's health care system satisfaction.

Lower health insurance premium prices could increase low deductible plan affordability to the 15-13% of Americans who purchase insurance from health exchanges, but are ineligible for income-based health insurance subsidies or cost-sharing linked to silver level plans [25,39]. Lower health insurance premium prices would also increase low deductible plan affordability in employer-sponsored health insurance. Lower health insurance premiums would also lower costs for persons making more than 250% of the FPL. It is a misconception to assume that higher income households can blindly afford higher cost-sharing healthcare insurance plans. Indeed, higher income households have difficulty affording high-cost sharing plan premiums, $p<0.001$, report less satisfaction with such insurance, $p=0.008$, and report affordability barriers to medical and non-medical health care $p=0.04$ [40]. Health care affordability should be improved for all Americans, not just households at 250% or less of the FPL. Lower premium prices for all households may allow Americans to afford the care they need, instead of deferring care due to cost.

Lower premium prices for households with incomes from 251% to 400% of the FPL mean less cost-sharing funding from the federal government [25,39,40]. Lower premiums for households with incomes above 176% of the FPL will reduce premium subsidies [25]. The resultant savings can be spent on other healthcare programs, such as Medicare and Medicaid expansion, and ensuring universal health coverage for children through the Children's Insurance Program.

Healthcare premium subsidization is to limit healthcare premium costs to 8% of enrollee total income [41]. Nonetheless, subsidized healthcare premiums are not risk-free to recipients. Subsidy loss leads to health insurance churning, gaps in coverage, changes in providers and prescription medications, and skipped medication doses or medication discontinuation, all of which contribute to negative healthcare outcomes [42]. Current healthcare exchange market tax credits do not result in all households spending 8% or less of total income on health insurance premiums [41,43]. In fact, the "Family Glitch" whereby a family member having access to employer-based health insurance at less than 9.66% of household income, renders all family members ineligible for healthcare exchange market tax credits has resulted in families paying 15.8% of household income on health insurance premiums [43]. Subsidy cliffs at 401% of the FPL also exist in almost two-thirds of American counties for working couples aged 50 to 64 years without dependent children, such that an USD $1 income increase can raise healthcare insurance premiums from 2.4% to 24% of income [41]. These working Americans should, and deserve to benefit from affordable, lower health insurance premiums.

Medical bankruptcy incidence speaks to the importance of affordable health insurance premiums. Financial security was one of the motivations underlying at least portions of the ACA [44]. Medical bankruptcy is an indication of financial insecurity. In 2007, 62.1% of bankruptcies had underlying medical causation [45]. In 2009, 2 years after Massachusetts' health reform enactment, the proportion of medical bankruptcies in Massachusetts was statistically unchanged at 52.9% versus 59.3% in 2007, $p=0.44$ [46]. High health insurance premiums, OOP costs, and coverage gaps were cited as contributors to continued medical bankruptcies in Massachusetts despite healthcare reform [46]. Consistent with this, based on a 2015 survey, 61% of bankruptcies were solely or partly due to medical bills [47]. Medical bankruptcies form 61.9% of insured persons' bankruptcies and 71.4% of uninsured persons' bankruptcies [47].

Currently, insurers use cost-cutting narrow networks of low-cost providers, which may result in low-quality care, to reduce premium price increases. Low-quality care and narrow provider networks increase consumer dissatisfaction, in-turn potentially reducing continuing enrollment [14,38]. However, the proposed changes use six different mechanisms to reduce premium price increases: Non-profitability, lower administrative costs (increased efficiencies), broadly available reinsurance, ALRR, reduced prescription drug costs for Medicare and Medicaid, and clearinghouse health exchanges.

Conclusion

Establishment of zero profit-margin health insurance and 14% healthcare administration costs should reduce total health care expenses in the United States from 18% of GDP to 14% of GDP. Those Americans ineligible for income-based premium subsidies on the federal healthcare exchange market will be better able to afford low-deductible health plans. Americans ineligible for income-based premium subsides will be better able to afford health insurance when unemployed without having to sell assets. Americans with employer-sponsored plans and Americans with incomes greater than 250% of the FPL will also experience lower premiums. Overall, all Americans either directly through reduced premium prices, or indirectly through a reduced tax burden to cover the federal subsidies for eligible healthcare exchange market enrollees, will enjoy improved health care affordability. A significant reduction in the proportion of medical bankruptcies may be an indication of equitable health care affordability in the United States.

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References

1 Jones GH, Kantarjian H (2015) Health care in the United States – basic human right or entitlement? Ann Oncol 26: 2193-2195.

2 Shmueli A, Stam P, Wasem J, Trottmann M (2015) Managed care in four managed competition OECD health systems. Health Policy 119: 860-873.

3 Claxton G, Rae M, Panchal N, Damico A, Bostick N, et al (2014) The Kaiser Family Foundation and Health Research & Education Trust Employer Health Benefits 2014 Annual Survey. Menlo Park, CA: Henry J. Kaiser family Foundation: 244.

4 Martin AB, Hartman M, Benson J, Catlin A, The National Health Expenditure Accounts Team (2014) National health spending in 2014: Faster growth driven by coverage expansion and prescription drug spending. Health Aff 35: 150-160.

5 van Ginneken E, Rice T (2015) Enforcing enrollment in health insurance exchanges: Evidence from the Netherlands, Switzerland, and Germany. Med Care Res Rev 72: 496-509.

6 Fleming A (2014) The political viability of universal health care in the United States [Doctoral dissertation on the internet]. Waco, TX: Baylor University 2014 May.

7 De Pietro C, Crivelli L (2015) Swiss popular initiative for a single health insurer…once again! Health Policy 119: 851-855.

8 Gabel JR, Whitmore H, Pickreign J, Satorius JL, Stromberg S, et al. (2013) Small employer perspectives on the Affordable Care Act's premiums, SHOP exchanges, and self-insurance. Health Aff 32: 2032-2039.

9 Kahn JG (2010) Excess billing and insurance-related administrative costs. In: Young PL, Olsen LA, editors, The healthcare imperative. Lowering costs and improving outcomes. Workshop series summary. (1st edn). Washington, DC: The National Academies Press: 142-150.

10 Dafny L, Gruber J, Ody C (2015) More insurers lower premiums: Evidence from initial pricing in the health insurance marketplaces. Am J Health Econ 1: 53-81.

11 Gabel JR, Whitmore H, Green M, Stromberg ST, Weinstein DS, et al. (2015) In second year of marketplaces, new entrants, ACA 'Co-Ops,' and Medicaid plans restrain average premium growth rates. Health Aff 34: 2020-2026.

12 Holahan J, Blumberg LJ, Wengle E (2015) Marketplace premium changes throughout the United States, 2014-2015. Urban Institute, Washington, DC: 9.

13 Dafny LS (2015) Evaluating the impact of health insurance Industry consolidation: Learning from experience. The Commonwealth Fund 33: 1-11.

14 Blumenthal D, Collins SR (2014) Health care coverage under the Affordable Care Act – A progress report. NEJM 371: 275-281.

15 Keehan SP, Cuckler GA, Sisko AM, Madison AJ, Smith SD, et al. (2015) National Health Expenditure Projections, 2014-24: Spending Growth Faster Than Recent Trends. Health Aff 34: 1407-1417.

16 Mathews AW (2016) Insurers under pressure to improve margins on health plans. The Wall Street Journal.

17 Kliff S, Frostenson S (2016) Nearly 1,000 healthcare.gov counties will have just one insurer next year. Vox.

18 Mangan D (2016) Obamacare deductibles are on the rise for 2017, along with monthly premiums. *CNBC.*

19 Schoen C, Osborn R, Squires D, Doty MM (2013) Access, affordability, and insurance complexity are often worse in the United States compared to ten other countries. Health Aff 32: 2205-2215.

20 Karaca-Mandic P, Fulton BD, Hollingshead A, Scheffler RM (2015) States with stronger health insurance rate review authority experienced lower premiums in the individual market in 2010-13. Health Aff 2015 34:1358-1367.

21 Doonan M, Katz G (2015) Choice in the American healthcare system: Changing dynamics under the Affordable Care Act. Curr Sociol 63: 746-762.

22 Fuchs VR (2015) Major concepts of health care economics. Ann Intern Med 162: 380-383.

23 Hartman M, Martin AB, Lassman D, Catlin A, and the National Health Expenditure Accounts Team (2015) National Health Spending in 2013: Growth Slows, Remains in Step With The Overall Economy. Health Aff 34:150-160.

24 Yahiro J (2014) Projecting the effect of the excise tax on high cost employer-sponsored health coverage on health care consumption [Bachelors honors dissertation on the internet]. Bloomington, IN: Indiana University. 2014.

25 Pauly M, Leive A, Harrington S (2015) The price of responsibility: The impact of health reform on non-poor uninsured. The National Bureau of Economic Research: 38.

26 Jaspersen JG, Richter A (2015) The wealth effects of premium subsidies on moral hazard in insurance markets. Eur Econ Rev 77: 139-153.

27 Barbos A, Deng Y (2015) The impact of a public option in the U.S. health insurance market. Econ Inq 53: 508-521.

28 Woolhandler S, Campbell T, Himmelstein DU (2004) Healthcare administration in the United States and Canada: Micromanagement, macro costs. Int J Health Serv 34: 65-78.

29 Berwick DM, Hackbarth AD (2012) Eliminating waste in US health care. JAMA 307: 1513-1516.

30 Office of Technology Assessment (1994) International comparisons of administrative costs in health care. Washington, DC: Government Printing Office: 78 .

31 Mathauer I, Nicolle E (2011) A global overview of health insurance administrative costs: What are the reasons for variations found? Health Policy 102: 235-246.

32 Karaca-Mandic P, Abraham JM, Simon K (2015) Is the medical loss ratio a good target measure for regulation in the individual market for health insurance? Health Econ 24: 55-74.

33 Yang CC, Wen MM (2015) Obamacare health insurance CO-OPs: Efficiency, cost reductions, premium changes and government subsidies. SSRN.

34 Acosta A, Ciapponi A, Aaserud M, Vietto V, Austvoll-Dahlgren A, et al. (2014) Pharmaceutical policies: effects of reference pricing, other pricing, and purchasing policies. Cochrane Database of Syst Rev 10: CD005979.

35 Lee JLY, Fischer MA, Shrank WH, Polinski JM, Choudhry NK, et al. (2012) A systematic review of reference pricing: Implications for US prescription drug spending. Am J Manag Care 18: e429-e437.

36 Krinn K, Karaca-Mandic P, Blewett LA (2015) State-based marketplaces using 'clearinghouse' plan management models are associated with lower premiums. Health Aff 34: 161-169.

37 Jiwani A, Himmelstein D, Woolhandler S, Kahn JG (2014) Billing and insurance-related administrative costs in United States' health care: Synthesis of micro-costing evidence. BMC Health Serv Res 14: 556.

38 Hero JO, Blendon RJ, Zaslavsky AM, Campbell AL (2016) Understanding what makes Americans dissatisfied with their health care system: An international comparison. Health Aff 35: 502-509.

39 Demko P (2014) Subsidies cover 76% of premiums for plans purchased on HealthCare.gov. Modern Healthcare.

40 Zallman L, Nardin R, Sayah A, McCormick D (2015) Perceived affordability of health insurance and medical financial burdens five years in to Massachusetts health reform. Int J Equity Health 14:113.

41 Graetz I, Kaplan CM, Kaplan EK, Bailey JE, Waters TM, et al. (2014) The U.S. health insurance marketplace: Are premiums truly affordable? Ann Intern Med 161: 599-604.

42 Sommers BD, Gourevitch R, Maylone B, Blendon RJ, Epstein AM, et al. (2016) Insurance churning rates for low-income adults under health reform: Lower than expected but still harmful for many. Health Aff 35:1816-1824.

43 Buettgens M, Dubay L, Kenney GM (2016) Marketplace subsidies: Changing the 'Family Glitch' reduces family health spending but increases government costs. Health Aff 35: 1167-1175.

44 Hu L, Kaestner R, Mazumder B, Miller S, Wong A, et al. (2016) The Effect of the Patient Protection and Affordable Care Act Medicaid Expansions on Financial Well-being. Cambridge, MA: National Bureau of Economic Research: 46.

45 Himmelstein DU, Thorne D, Warren E, Woolhandler S (2009) Medical bankruptcy in the United States, 2007: Results of a national study. Am J Med 122: 741-746.

46 Himmelstein DU, Thorne D, Woolhandler S (2011) Medical bankruptcy in Massachusetts: Has health reform made a difference? Am J Med 124: 224-228.

47 Hamel L, Norton M, Pollitz K, Levitt L, Claxton G, et al. (2016) The Burden of Medical Debt: January 2016 Results from the Kaiser Family Foundation/New York Times Medical Bills Survey. Menlo Park, CA: The Henry J. Kaiser Family Foundation: 32.