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INTRODUCTION

Voters consistently rank health care among their top issues,[1] and for good reason. Over the past few decades health care spending has consistently risen faster than the general inflation rate, often by significant amounts.[2] In 2016, health care spending comprised 17.9 percent of the gross domestic budget, as compared to only 5 percent in 1960.[3] This sustained growth in health care spending raises health insurance premiums for individuals and employers, leaving less for other household or business expenditures and contributing to stagnant wages.[4] Higher public

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1. *See, e.g.*, Arial Edwards-Levy, *Voters Say Health Care is a Top Issue In the 2018 Election – A Good Sign for Democrats*, HUFFPOST (Apr. 6, 2018 10:05 AM), https://www.huffingtonpost.com/entry/voters-say-health-care-is-their-top-issue-in-the-2018-election-thats-a-good-sign-for democrats_us_5ac642e2e4b09d0a119103c4; Dan Mangan, *Health care top issue for votes, and could hurt Republicans in 2018 midterms big-time*, CNBC (Jan. 12, 2018), https://www.cnbc.com/201§8/01/12/health-care-top-issue-for-voters-could-hurt-republicans-in-midterms.html.

2. *See* Health Spending Explorer, PETERSON-KAISER HEALTH SYSTEM TRACKER, https://www.healthsystemtracker.org/interactive/?_sft_category=spending&display=Annual%2520%2525%2520Change%2520%2520Inflation%2520Adjusted&service=All%2520Types%2520of%2520Services (U.S. Health Expenditures 1960-2016, annual % change – inflation adjusted for all services, all sources of funds) (last visited Jun. 6, 2018).

3. *See id.* (showing U.S. Health Expenditures 1960-2016, as a % of GDP, all types of services, all sources of funds).

4. Harriet Komisar, *The Effects of Rising Health Care Costs on Middle-Class Economic Security*, AARP PUB. POL'Y INST., (Jan. 2013), https://www.aarp.org/ppi/issues/security/info-2015/impacts-of-rising-healthcare-costs-AARP-ppi-sec.html (noting that rising health costs "represents a growing burden for middle-class families. . . crowding out other important priorities and leading to employers scaling back wage increases . . ."); Jessica Mantel, *A Defense of Physicians' Gatekeeping Role: Balancing Patients' Needs with Society's Interests*, 42 PEPP. L. REV. 633, 653 (2015) (discussing the consequences of higher health care spending).

expenditures for health care also threatens to push aside other government priorities, such as education, crime prevention, transportation, and welfare.[5]

While the reasons for rising health care spending are complex and varied, a primary cause is the high volume and intensity of care provided to patients.[6] For most medical conditions, providers must choose among a variety of treatment options, ranging from acute hospital care and surgery to less intensive outpatient interventions or watchful waiting.[7] Faced with these choices, providers often err on the side of doing more for their patients—prescribing more drugs, ordering more diagnostic tests, performing more invasive procedures.[8] Providers' propensity to provide a higher volume and intensity of care stems from a combination of patients' demands for all care of possible benefit to their health and payment policies that reward volume and intensity.[9]

In an effort to address these causes of rising health care spending, policymakers, insurers, and employers have embraced two major strategies.[10] The first strategy targets the demand-side of the equation. Specifically, patients are encouraged to become more price-sensitive consumers through the imposition of higher cost sharing.[11] The second strategy targets the supply-side, offering financial rewards to physicians, hospitals, and other providers that successfully constrain health care costs while also improving the quality of care.[12] Both cost-control strategies have had some success in slowing health care spending.[13]

Many third-party payors have simultaneously adopted both higher-cost sharing for patients and financial incentives for providers to lower costs and improve quality.[14] Yet while a wealth of literature examines the two cost-control strategies' independent effects, the potential interplay between them

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5. *See* Mantel, *supra* note 4, at 653.

6. *See generally* Jessica Mantel, *Spending Medicare's Dollars Wisely: Taking Aim at Hospitals' Culture of Overtreatment*, 49 U. MICH. J.L. REFORM 121, 121 (2018) (explaining physicians' propensity to do more for their patients).

7. *Id.*

8. *See generally id.* at 121(explaining physicians' propensity to do more for their patients).

9. *See infra* Part I.

10. Alex Kacik, *The March of Rising Healthcare Costs Has Slowed, But It's Still Unsustainable*, MODERN HEATLHCARE (June 13, 2017), http://www.modernhealthcare.com/article/20170613/NEWS/170619962.

11. *Id.*

12. *Id.*

13. *See infra* Part III.B (discussing how higher cost sharing induces patients to consume less health care); Kacik, *supra* note 10 ("The healthcare industry continues to shift toward paying for value, emphasizing care management and increasing cost sharing with consumers. A surge in high-deductible health plans and streamlining care to provide the right treatments at the right time have translated to a drop in utilization — helping slow the cost curve.")

14. *See infra* Part I.

remains largely unexplored.[15] This Article fills that gap and concludes that their concurrent adoption puts patients and providers on a collision course. Specifically, providers' efforts to promote coordinated, high-value health care are undermined by patients who delay or forego recommended care in response to higher cost sharing burdens.[16] This provider-patient conflict may be particularly acute as between providers and their lower income and sicker patients, the two groups that have the greatest difficulty meeting their cost sharing obligations.[17] To the extent this conflict diminishes providers' performance under supply-side programs that reward efficiency and quality improvements, some providers may refuse to treat these patients.[18]

The prospect of providers avoiding high deductible health plans (HDHP) and consumer directed health plans (CDHP) patients raises significant concerns. Patients fired by their providers experience discontinuity in care, which can lead to poorer health and higher health costs.[19] Patients rejected by providers also may lose trust in the medical profession[20] and experience stigma and shame, feelings that can have adverse psychological consequences and trigger health-harming stress and maladaptive behaviors.[21] Moreover, because lower income patients are more likely than higher income patients to delay or forego care in response to higher cost sharing burdens, HDHP and CDHP patients rejected by providers will disproportionately come from lower socioeconomic groups, leading to greater disparities in health.[22]

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15. *But see* Elliott S. Fisher & Peter V. Lee, *Toward Lower Costs and Better Care — Averting a Collision between Consumer- and Provider-Focused Reforms*, 374 NEW ENG. J. MEDICINE 30 (2016) (highlighting the potential conflict between high cost sharing and ACOs and patient-centered medical homes); Suzanne F. Delbanco et al., *Payment Methods and Benefit Designs: How They Work and How They Work Together to Improve Health Care* 1, 12 (Apr. 2016), https://www.urban.org/sites/default/files/publication/80301/2000776-Payment-Methods-How-They-Work.pdf [hereinafter PAYMENT METHODS] (noting concerns as to whether high-deductible health plans and payments operating under a budget, such as capitation, global budgets, and bundled episodes).

16. *See infra* Part III.

17. *See infra* note 38 and accompanying text.

18. *See generally* Jessica Mantel, *Refusing to Treat Noncompliant Patients is Bad Medicine*, 39 CARDOZO L. REV. 127, 132-40 (2017) (explaining that physicians may reject noncompliant patients who harm their performance under new payment models or provider report cards). With limited exceptions, both the law and standards of professional conduct permit physicians to refuse to treat noncompliant patients. *See id*. at 140-42.

19. *See id*. at 153-55 (discussing the consequences of discontinuity of care experienced by noncompliant patients fired by their physicians).

20. *See id*. at 155-57 (explaining why noncompliant patients rejected by physicians may develop lower levels of trust in health professionals).

21. *See id*. at 157-59 (describing the stigma and shame experienced by patients fired by their physicians).

22. *Cf id*. at 161-62, (arguing that when physicians fire their noncompliant patients, they reinforce if not increase disparities in health, as the burdens of poor health disproportionately affect vulnerable populations).

Part I discusses two key drivers of rising health care spending, moral hazard and fee-for-service. Part II then describes the dominant policy solutions to the problems of moral hazard and fee-for-service. Part II.A focuses on strategies that target the patient-consumer, namely high deductible health plans and personal health spending accounts. Part II.B explains provider-focused cost-control strategies, including value-based purchasing, high-performance provider networks, and tiered provider networks. Finally, Part III examines the interplay between these consumer-focused and provider-focused cost-control strategies. It explains that as intended, higher cost sharing induces patients to demand less health care, with lower-income and sicker patients particularly prone to delay or forego appropriate care.[23] Part III.A shows how these delays or avoidance of needed care can frustrate providers' performance under supply-side programs that hold providers accountable for their patients' health status through the use of quality metrics. Part III.B turns to efficiency considerations and argues that because patients subject to higher cost sharing in the aggregate consume less health care, overall they improve providers' performance under initiatives that hold providers' accountable for utilization and costs. However, at the level of the individual patient, certain patients may undermine providers' efforts to reduce utilization and costs, as delaying or foregoing needed care can eventually lead to costly complications. Some providers may fire or refuse to treat these patients in order to avoid harming the providers' performance under various cost-control programs.

I. CAUSES OF RISING HEALTH CARE COSTS: MORAL HAZARD AND FEE-FOR-SERVICE

The reasons for rising health care costs are complex and varied. Health policy experts agree, however, that two of the major drivers of health inflation are third-party payors that pay part of patients' medical bills and the manner in which these payors compensate health care providers. Unlike other goods and services, most medical care is paid for by health insurers, government health programs, and employers.[24] Insulated from the full cost of their medical care, patients have less incentive to consider the cost of

23. *See infra* Part III.A.

24. *See* D. ANDREW AUSTIN & JANE G. GRAVELLE, CONG. RESEARCH SERV., RL34101, DOES PRICE TRANSPARENCY IMPROVE MARKET EFFICIENCY? IMPLICATIONS OF EMPIRICAL EVIDENCE IN OTHER MARKETS FOR THE HEALTH SECTOR 9-10 (2007) (explaining that hospital care and other care for complicated episodes is mostly paid for by public health programs and private insurers).

such care, a concept known as moral hazard.[25] Insurance thereby encourages patients to consume more health care, no matter how slight the potential benefit or costly the care.[26] Economists contend that moral hazard results in patients demanding more health care than is optimal,[27] including interventions whose costs exceed their clinical value.[28]

In addition, the manner in which payors reimburse health care providers encourages providers to meet patients' demands for all care that may improve their health. Both private and public payors traditionally have paid for their enrollees' health care on a fee-for-service basis, with providers receiving a separate payment for each unit of service they provide.[29] Basing providers' payment on the quantity, and not the quality, of care rewards the excessive provision of medical care.[30] Physicians, for example, see higher reimbursements when they schedule patients for repeat office visits, additional diagnostic tests, or multiple invasive procedures.[31] Fee-for-service thereby nudges providers to err on the side of doing more for their

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25. *See* Tiffany Chan & Nancy Turnball, *Assessment of the Impact of High-Deductible Health Plans on Patient Health and the Financial Impact on Medical Practices* 1, 7 (2017), http://www.massmed.
org/highdeductible/ (explaining that moral hazard is "the idea that insurance shields people from the actual costs of medical services, and so changes their behavior when they 'consume' medical care").

26. *See* Timothy Stoltzfus Jost, *The American Difference in Health Care Costs: Is There a Problem? Is Medical Necessity the Solution?*, 43 ST. LOUIS U.L.J. 1, 15 (1999) ("[I]f the questioned test or procedure is likely to be of any benefit, the informed patient may expect or demand it."); Jerry L. Mashaw & Theodore R. Marmor, *Conceptualizing, Estimating, and Reforming Fraud, Waste, and Abuse in Healthcare Spending*, 11 YALE J. ON REG. 455, 458 ("The reliance on third-party payments to finance medical care strengthens patients' own bias towards using whatever methods are available when their health is at stake.").

27. *See* Chan & Turnball, *supra* note 25, at 7.

28. If the cost of a specific intervention exceeds its value, patients nevertheless will desire such care if its value exceeds the patient's out-of-pocket costs, which for insured patients will usually be less than the intervention's full cost. *See* David Orentlicher, *Rationing Health Care: It's a Matter of the Health Care System's Structure*, 19 ANNALS HEALTH L. 449, 462-63 (2010) (explaining how financial incentives for insured patients lead them to demand care with benefits below societal costs).

29. *See* Harold D. Miller, *From Volume to Value: Better Ways to Pay for Health Care*, 28 HEALTH AFF. 1418, 1419 (2009), http://content.healthaffairs.org/content/28/5/1418.full.pdf+html (defining fee-for-service as paying providers a predetermined amount for each discrete service provided).

30. *See* INST. OF MED. OF THE NAT'L ACADEMIES, REWARDING PROVIDER PERFORMANCE: ALIGNING INCENTIVES IN MEDICARE 25–26 (2007) (discussing the incentives of the Medicare fee-for-service payment system that result in overutilization); Arnold S. Relman, *Doctors as the Key to Health Care Reform*, 361 NEW ENG. J. MED. 1225, 1225 (2009), http://www.nejm.org/doi/full/10.1056/NEJMp09
07925 ("Most doctors are paid on a fee-for-service basis, which is a strong financial incentive for them to maximize the elective services they provide[,] . . . a major factor in driving up medical expenditures.").

31. *See* Gloria Bazzoli, *Medical Service Risk and the Evolution of Provider Compensation Arrangements*, *in* UNCERTAIN TIMES: KENNETH ARROW AND THE CHANGING ECONOMICS OF HEALTH CARE 144 (Peter Hammer et al., eds., 2003) ("[A]s the agent for a patient, a physician will increase the supply of services as long as his or her marginal reimbursement exceeds marginal costs . . . .").

patients rather than less,[32] including providing care of marginal or uncertain benefits.[33] Fee-for-service also skews the health care system toward sophisticated, labor-intensive treatments that garner higher payment rates than less intensive, low-tech interventions.[34] Fee-for-service thus rewards providers who provide patients a higher volume of care and favor high-tech, more intensive treatments.[35]

In an effort to counteract the inflationary effects of health insurance and fee-for-service, policymakers, third-party payors and employers have turned to various reforms that alter patients and providers' financial incentives. These reforms are described in Part II.

II. ADDRESSING THE PROBLEMS OF MORAL HAZARD AND FEE-FOR-SERVICE

Although there are many proposed solutions to controlling health care costs, over the past couple decades two approaches have dominated policy discussions. The first approach targets patient demand by incentivizing patients to act as more price-sensitive consumers through the imposition of higher cost sharing. The second approach focuses on the supply side and offers financial incentives to physicians, hospitals, and other providers to improve the quality of care while lowering costs. Subpart A discusses the first approach while subpart B explains the second approach.

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32. Empirical studies show that physicians paid on a fee-for-service basis provide more care to their patients than physicians paid under alternative payment models, such as capitation or salary. *See* Robert Town et al., *Market Power and Contract Form: Evidence from Physician Group Practices*, 11 INT'L J. HEALTH CARE FIN. ECON. 115, 131 (2011) ("Numerous papers have demonstrated an empirical link between FFS payment and increased provision of services . . . .").

33. *See* James C. Robinson, *Theory and Practice in the Design of Physician Payment Incentives*, 79 MILBANK Q. 149, 152 (2001) (arguing that by paying for care on a piece-rate basis, fee-for-service "result[s] in an input-intensive, gold-plated form of service that expends resources as if they had no alternative uses and enjoys life as if there were no tomorrow").

34. *See generally* Jessica Mantel, *Accountable Care Organizations: Can We Have Our Cake and Eat It Too?*, 42 SETON HALL L. REV. 1392, 1405 (2012) ("Because fee-for-service payment rates are largely based on the time, resources, and expertise involved in treating a patient, more sophisticated, labor-intensive tests and procedures garner higher payment rates than less intensive interventions."); Ezekiel J. Emanuel & Victor R. Fuchs, *The Perfect Storm of Overutilization*, 299 JAMA 2789, 2789–90 (2011) https://jamanetwork-com.onu.ohionet.org/journals/jama/fullarticle/182076 (commenting on the impact of fee-for-service paying significantly more for procedures, rather than for evaluation and management).

35. *See generally* Mantel, *supra* note 34, at 1405 (describing how fee-for-service encourages "the provision of care of marginal or uncertain benefits, as doing so increases providers' incomes and satisfies patient demands that providers do everything possible to improve a patient's health," and "skews the system toward more costly interventions").

A. Consumer-Focused Cost-Controls: Higher Cost Sharing and Personal Health Spending Accounts

To address the problem of moral hazard, many policymakers and employers advocate for patients paying a larger proportion of their medical costs. Specifically, they call for higher cost sharing, usually in the form of high deductible health plans that increase the amount patients must pay out-of-pocket on covered medical care before their health plan provides coverage.[36] Proponents of HDHPs argue that exposing patients to the financial consequences of their health care choices will lead to more prudent decisions and will reduce utilization, "since patients may think twice before spending money on care deemed avoidable, deferrable, or unnecessary."[37] For example, patients enrolled in HDHPs may avoid expensive emergency department visits for low severity conditions than can be treated in less costly outpatient settings.[38]

HDHPs often are paired with either a health reimbursement arrangement (HRA) or health savings account (HSA), both of which receive favorable tax treatment.[39] These arrangements are commonly referred to as "consumer-directed health plans" (CDHPs).[40] Funds in both HRAs and HSAs may be used toward a patient's cost sharing obligations, including the deductible.[41] Only employers can contribute to HRAs, and the employee upon leaving his or her job forfeits any unused balance remaining in an HRA.[42] In contrast, both employers and employees can contribute to HSAs, although neither is required to do so.[43] The HSA account balance also is owned by the employee and is portable when the employee changes jobs or

36. For example, in a plan with a $2,000 deductible, the enrollee must spend $2,000 on covered services before the plan will pay for care. After satisfying the deductible, the enrollee typically pays co-pays or co-insurance for covered services up to any out-of-pocket maximum. *See* M. Kate Bundorf, *Consumer-Directed Health Plans: A Review of the Evidence*, 83 J. RISK & INS. 9, 12 (2016) (explaining high-deductible health plans).

37. Ifrad Islam, *Trouble Ahead For High Deductible Health Plans?*, HEALTH AFFAIRS BLOG (Oct. 2, 2015) https://www.healthaffairs.org/do/10.1377/hblog20151007.051048/full/.

38. *See* Katy B. Kozhimannil et al., *The Impact of High-Deductible Health Plans on Men and Women: An Analysis of Emergency Department Care*, 51 MED CARE 639, 640 (2013) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4012427/.

39. *See* PAYMENT METHODS, *supra* note 15, at 12; I.R.C. § 223(a) (allowing a deduction for amounts contributed to HSAs); I.R.C. §§ 105(b), 106(d) (excluding from taxable income amounts contributed to HRAs and HSAs by employers and individuals).

40. *See* Bundorf, *supra* note 36, at 9-10 (explaining that consumer-directed health care generally refers to plans that include a high deductible and a personal spending account, and also may include information tools to support informed decision-making by enrollees).

41. *See* Amelia M. Haviland et al., *How Do Consumer-Directed Health Plans Affect Vulnerable Populations?,* 14 F. FOR HEALTH ECON. & POL'Y 1, 1 (2011) (explaining HRAs and HSAs); I.R.C. § 223(d) (defining the terms "health savings account" and "qualified medical expenses"); I.R.C. §§ 105(b).

42. *See* Haviland et al., *supra* note 41, at 1.

43. I.R.C. § 223(a) (allowing a tax deduction for HSA contributions paid "by or on behalf" of the individual).

retirees.[44] Proponents of CDHPs argue that HRAs and, in particular, HSAs create financial incentives for employees and their dependents to lower their health care spending in an effort grow their account balances.[45]

HDHPs and CDHPs have grown in popularity.[46] The movement toward higher cost sharing largely emerged in the private sector, as employers facing rising premiums sought ways to reign-in health care costs.[47] HDHPs have proven attractive to employers, as they typically have lower premiums than traditional plans.[48] Today, over 43 percent of adults aged 18-64 with employer-sponsored plans are enrolled in HDHPs, as compared to 26.3 percent in 2011.[49] Employees enrolled in HDHPs had an average deductible in 2017 of $2,304 for single coverage and over $4400 for family coverage.[50] Just over half of employers also contribute to HRAs or HSAs, although their contributions typically are less than the associated HDHP's deductible.[51]

Individuals enrolling in plans offered through the health insurance exchanges established under the Affordable Care Act also face high deductibles. In 2018, 63 percent of exchange plan enrollees selected a "silver" plan[52] with an average deducible of $4,034,[53] and 29 percent

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44. A HSA is a trust belonging to the account beneficiary, and therefore stays with the beneficiary with changes in employment status. I.R.C. § 223(d) (defining an HSA as a "trust" that pays the qualified medical expenses of the account beneficiary).

45. *See* Haviland et al. *supra* note 41, at 1.

46. *See,* Paul Fronstin & Ann Elmlinger, *Consumer Engagement in Health Care: Findings from the 2016 EBRI/Greenwald & Associates Consumer Engagement in Health Care Survey*, 433 EMP. BENEFIT RES. INST., GREENWALD & ASSOCIATES, 5 (2017), https://www.ebri.org/pdf/briefspdf/EBRI_IB_433_CE
HCS.25May17.pdf; *see also,* Michael E. Martinez et al., *Health Insurance Coverage: Early Release of Estimates from the National Health Interview Survey*, U.S. DEP'T HEALTH & HUMAN SERV. 1 (Feb. 2018), https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201708.pdf.

47. *See* Fronstin & Elmlinger, *supra* note 46, at 5 (explaining that over the past decade employers have turned their attention to CDHPs in response to rising premiums and seeking ways to manage health care cost increases); Fisher & Lee, *supra* note 15, at 30 ("The consumer-focused strand of activity largely emerged from the private sector.").

48. *See* Kozhimannil, *supra* note 38, at 640 (explaining that HDHPs generally have lower premiums than traditional plans).

49. *See* Martinez et al., *supra* note 46, at 6; Robin A. Cohen et al., *High-deductible Health Plans and Financial Barriers to Medical Care: Early Release of Estimates From the National Health Interview Survey, 2016*, U.S. DEP'T HEALTH & HUMAN SERV. 1 (June 2017), https://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201708.pdf.

50. KAISER FAMILY ET AL., EMPLOYER HEALTH BENEFITS 138-39 (2018).

51. *See id*. at 141.

52. *Marketplace Plan Selections by Metal Level*, HENRY J. KAISER FAMILY FOUND. ST. HEALTH FACTS (2018), https://www.kff.org/health-reform/state-indicator/marketplace-plan-selections-by-metal-level2/?dataView=1&currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D [hereinafter *Marketplace Plan Selections*].

53. *See Cost-Sharing for Plans Offered in The Federal Marketplace For 2018*, HENRY J. KAISER FAMILY FOUND. (Nov. 3, 2017), https://www.kff.org/health-reform/fact-sheet/cost-sharing-for-plans-offered-in-the-federal-marketplace-for-2018/ [hereinafter *Cost-Sharing for Marketplace Plans*]. Kaiser Family Foundation did not separately calculate deductibles for enrollees with individual coverage and enrollees with family coverage.

enrolled in a "bronze" plan[54] with an average deductible of $6,002.[55] Although many exchange enrollees receive cost sharing subsidies that reduces their cost sharing obligations,[56] including their deductible, over 40 percent do not and must cover their deductible and other cost sharing out-of-pocket.[57]

As policymakers, insurers, and employers have turned to higher cost sharing as a lever for constraining health care spending, patients increasingly find themselves paying for a larger share of their health care costs.[58] Yet responsibility for reigning-in health care costs does not rest solely in the hands of patients. Many plans also incorporate supply-side cost controls that incentivize providers to lower costs.[59]

B. Provider-Focused Cost-Controls: Value-Based Purchasing, High-Performance Networks, and Tied Networks

As noted above, paying providers on a fee-for-service basis has contributed to rising health care costs. Fee-for-service also does not promote patients receiving high quality care, as it compensates providers based on what they do and not on whether their patients' health improves.[60] These concerns have led payors to shift away from fee-for-service in favor of new payment models collectively known as value-based purchasing (VBP).[61] VBP payment methodologies financially reward providers for both improving health outcomes and lowering the cost of care.[62] Under the

54. *See Marketplace Plan Selections*, *supra* note 52.

55. *See Cost-Sharing for Marketplace Plans*, *supra* note 53.

56. The federal government no longer reimburses insurers for the cost sharing subsidies provided to eligible individuals. Notice at 1, U.S. House of Representatives v. Hagan, et al., (2017) (No. 16-5202). (Exhibit A—letter from Eric Hargan to Seema Verma, Oct. 12, 2017) (ordering that cost sharing reduction payments to issuers stop immediately). Insurers, however, must still offer cost sharing subsidies to individuals with household incomes between 100 percent to 250 percent of the federal poverty line, and they also must lower the out-of-pocket limit for those with household incomes between 100 percent and 400 percent of the federal poverty line. 42 U.S.C. § 18071 (a) and (b)(2) (requiring qualified health plan to reduce the cost sharing and out-of-pocket limits for qualifying individuals with household incomes between specified limits).

57. *See Total Marketplace Enrollment & Financial*, HENRY J. KAISER FAMILY FOUND. (Feb. 2017), https://www.kff.org/health-reform/state-indicator/total-marketplace-enrollment-and-financial-assistance/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22 (reporting that in 2017, 57 percent of enrollees in plans purchased through state exchanges received cost sharing subsidies).

58. *Employer Health Benefits 2017 Annual Survey*, HENRY J. KAISER FAMILY FOUND. (Sept. 19, 2018), https://www.kff.org/health-costs/report/2017-employer-health-benefits-survey/.

59. Bundorf, *supra* note 36, at 10.

60. *See* Steven A. Schroeder & William Frist, *Phasing Out Fee-for-Service Payment*, 368 NEW ENG. J. MED. 2029, 2030 (2013).

61. Mantel, *supra* note 18, at 133.

62. *See* Mantel, *supra* note 18, at 133 ("[VBP] payment strategies link providers' compensation to their success in raising the quality and lowering the cost of care.").

first category of VBP programs, known as pay-for-performance,[63] providers are rewarded with higher payment rates or bonuses if they perform well on selected measures of quality and/or efficiency, such as reducing the rate of post-operative complications, lowering diabetic patients blood glucose (or A1c) levels,[64] decreasing the rate of hospital admissions and readmissions, or lowering average treatment costs. Pay-for-performance initiatives also may penalize providers with lower payment rates if they perform poorly.[65]

Risk-based alternative payment models comprise the second category of VBP payment models. Risk-based alternative payment models hold providers accountable for the quality and cost of care by shifting financial risk to providers.[66] For example, under bundled payments, providers treating a patient receive a single payment for an episode of care.[67] This incentivizes providers to lower costs in order to avoid exhausting the fixed bundled payment amount.[68] When bundled payments are combined with quality measures, providers also have incentives to enhance quality.[69] Another prominent example of risk-based alternative payment models is shared savings for accountable care organizations (ACOs). ACOs are local organizations comprised of primary care physicians and other providers that agree to be jointly accountable for the cost and quality of care delivered to a patient population.[70] For example, under Medicare's Shared Savings Program, providers participating in ACOs that successfully lower the aggregate annual cost of caring for their Medicare patients receive a

63. *See* CHERYL L. DAMBERG ET AL., MEASURING SUCCESS IN HEALTH CARE VALUE-BASED PURCHASING PROGRAMS: FINDINGS FROM AN ENVIRONMENTAL SCAN, LITERATURE REVIEW, AND EXPERT PANEL DISCUSSIONS xi (2014), http://www.rand.org/content/dam/rand/pubs/research_reports/RR 300/RR306/RAND_RR306.pdf (defining pay-for-performance); DONALD M. STEINWACHS ET AL., ACCOUNTING FOR SOCIAL RISK FACTORS IN MEDICARE PAYMENT: IDENTIFYING SOCIAL RISK FACTORS 1–2 (Leslie Y. Kwan et al., eds., 2017) (describing VBP payment models that include financial or quality incentives).

64. An A1c test measures a patient's average blood glucose during the previous 2–3 months. Lower A1c values signal better diabetes control and reduce a patient's risk of developing complications such as eye, heart, and kidney disease. *See* American Diabetes Association, *Your A1c Results: What Do They Mean?*, CLINICAL DIABETES (Jan. 2006), http://clinical.diabetesjournals.org/content/diaclin/24/1/9.full.pdf.

65. *See* DAMBERG ET AL., *supra* note 63, at xi, xiv.

66. *See* STEINWACHS ET AL., *supra* note 63, at 1–2.

67. *Bundled Payments: Payment Reform with Promise*, 7 ALTARUM HEALTHCARE VALUE HUB 1, 1 (July 2015), http://www.healthcarevaluehub.org/files/3914/9909/7006/Hub-Altarum_RB_7__Bundled_ Payment.pdf.

68. *See id.* ("Compared to traditional fee for service, [bundled payments] places financial pressure on providers by putting them at risk if they order too many services or otherwise provide inefficient care.").

69. *See id*. at 4 ("When bundled payments are combined with quality of care measures, a few studies suggest that quality of care can be enhanced.").

70. 42 U.S.C. § 1395jjj (2012).

percentage of the savings, provided the ACO also satisfies certain quality measures.[71]

Experimentation with VBP payment models began among private payors and state Medicaid programs in the mid-1990s, with the Medicare program joining the trend over ten years ago.[72] Today, payors have fully embraced VBP payment models,[73] with providers anticipating that an increasing portion of their compensation from payors will be tied to cost and quality outcomes.[74]

Some health insurers also use performance measures to support their use of high-performance networks or tiered networks. These insurers classify providers based on their performance on selected quality and efficiency measures.[75] Insurers may then share this information with their enrollees in the hopes that enrollees will select the higher performing providers.[76] Insurers adopting narrow provider networks also use performance measures to support their selecting only high quality, low cost providers.[77] In addition, insurers are making greater use of tiered provider

71. Under the shared savings payment model, the ACO continues to receive fee-for-service based payments, but Medicare also rewards an ACO that meets or exceeds its targeted cost savings with a bonus equal to a percentage of the savings. *See* Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations, 76 Fed. Reg. 67802, 67927 (Nov. 2, 2011) (to be codified at 42 C.F.R. pt. 425). The Medicare Shared Savings Program also includes economic incentives for ACOs to improve quality by tying a portion of an ACO's reimbursement to its performance on quality benchmarks. For example, an ACO that performs poorly on the relevant quality measures may be ineligible for any bonus payment under the shared savings or shared savings and risk payment models, even if the ACO lowers the cost of care. *See* 42 C.F.R. § 425.100(b) (2012) (stating that ACOs participating in the Medicare Shared Savings Program are eligible for shared savings only if they meet the minimum quality performance standards, among other requirements).

72. *See* DAMBERG ET AL., *supra* note 63 at 1 (describing the history of value-based purchasing).

73. *See* David Muhlestein, *Growth and Dispersion of Accountable Care Organizations in 2015*, HEALTH AFFAIRS BLOG (Mar. 31, 2015), https://www.healthaffairs.org/do/10.1377/hblog20150331.045829/full/ (reporting that Medicaid ACOs have grown significantly since 2014, and that the growth in people included in accountable care arrangements since 2014 is primarily from the commercial and Medicaid sectors); DAMBERG ET AL., *supra* note 63, at ix.

74. *See* Dave Barkholz, *Changing How Doctors Get Paid*, MODERN HEALTHCARE (Mar. 11, 2017), http://www.modernhealthcare.com/article/20170311/MAGAZINE/303119983 (quoting various health care executives who note that a higher percentage of their organizations' payor contracts will be based on cost and quality outcomes, with some organizations responding by linking a higher share of their physicians' compensation to performance measures).

75. *See* Aparna Higgins et al., *Provider Performance Measures in Private and Public Programs: Achieving Meaningful Alignment with Flexibility to Innovate*, 32 HEALTH AFFAIRS 1453, 1454 (2013).

76. *See id*.

77. *See* Joseph Burns, *Narrow Networks Found to Yield Substantial Savings*, MANAGED CARE (Mar. 18, 2012), https://www.managedcaremag.com/archives/2012/2/narrow-networks-found-yield-substantial-savings (summarizing comments from health insurance executives, who described adopting narrow networks built around cost-effective, high-quality providers); Merrill Goozner, *Building Narrow Networks that Work*, MODERN HEALTHCARE (Dec. 21, 2013), http://www.modernhealthcare.com/article/20131221/MAGAZINE/312219986; *see also Issue Brief: High-Value Provider Networks*, AM.'S HEALTH INS. PLANS (2013) (describing trends of insurers adopting smaller provider networks comprised of providers with a track record of providing high-quality, cost-efficient care).

networks, with plan enrollees paying lower cost sharing when they select efficient, high-value providers and higher cost sharing when treated by less efficient, lower quality providers.[78] Consequently, providers with a poor track record for quality or efficiency risk losing patients to higher performing providers or exclusion from plans' networks or preferred tiers.[79]

III. POTENTIAL CONFLICTS BETWEEN CONSUMER-FOCUSED AND PROVIDER-FOCUSED COST CONTROL STRATEGIES

Although most plans initially pursued either consumer-focused or provider-focused cost-control strategies, today many plans have combined both approaches.[80] This raises important questions as to whether the two strategies complement or conflict with one another. In other words, does higher cost sharing under HDHPs and CDHPs encourage patient behavior that supports providers' success under VBP payment models and other programs using performance measures, or does higher cost sharing undermine providers' efforts to improve quality and lower costs? This Part examines this question and concludes that HDHP and CDHP enrollees, particularly those with lower income or poor health, may harm providers' performance under programs employing quality-based performance measures. Some HDHP and CDHP patients also may experience costly complications, thereby frustrating their providers' efforts to reduce utilization and costs. Consequently, providers may avoid certain patients enrolled in HDHPs and CDHPs.[81]

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78. *See* Paul Fronstin, *Tiered Networks for Hospital and Physicians Health Care Services*, EMP. BENEFIT RES. INST. (Aug. 2003), http://www.ebri.org/pdf/briefspdf/0803ib.pdf (explaining that payors with tiered networks may assign providers to tiers based on their quality and efficiency of care). Providers also may be assigned to tiers based on their charges. *See id.*

79. *See Hospitals in Pursuit of Excellence: A Compendium of Action Guides*, AM. HOSPITAL. ASS'N (2013), www.hpoe.org/Reports-HPOE/2013_HPOE_Compendium.pdf (explaining that less efficient, lower quality providers may "be excluded from the narrow and tiered networks that are being formed nationwide"); Suzanne F. Delbanco, *The Payment Reform Landscape: Benefit and Network Design Strategies to Complement Payment Reform*, HEALTH AFFAIRS BLOG (Nov. 4, 2014), http://m.healthaffairs .org/blog/2014/11/04/the-payment-reform-landscape-benefit-and-network-design-strategies-to-complement-payment-reform/ (stating that higher cost, lower quality providers "do not make it into the preferred tiers"); Bryan A. Liang, *Deselection Under Harper v. Healthsource: A Blow for Maintaining Patient-Physician Relationships in the Era of Managed Care?*, 72 NOTRE DAME L. REV. 799, 799–803 (1997) (explaining that deselection is driven by managed care plan's desire to minimize costs).

80. *Cf.* Bundorf, *supra* note 36, at 29 ("While the original vision of a CDHP was a plan in which the responsibility for managing care was in the hands of the consumer rather than the plan, even plans that rely more heavily on supply-side cost control mechanisms, such as HMOs, are now offering products that incorporate higher deductibles and personal spending accounts and tend to fall under the CDHP umbrella.").

81. *Cf.* Mantel, *supra* note 18, at 138 (explaining how providers have incentives to fire or reject noncompliant patients who harm their performance under VBP payment models).

A. The Interplay Between Higher Cost Sharing and Quality Measures

As discussed in Part II, payors uses of performance measures incentivize providers to improve the quality of care. However, these goals cannot be realized simply by providers improving the clinical care given patients, but also depend on patients' health behavior, such as whether patients seek care when needed and follow providers' medical recommendations.[82] If HDHP and CDHP patients adopt healthier behaviors in an effort to lower their health spending, their providers may perform better on various quality measures. If, however, HDHPs and CDHPs induce patients to delay or forego needed medical care, providers with a high percentage of HDHP and CDHP patients may score poorly on certain quality measures, leading to lower payments under VBP payment models or the loss of patients under high-performance network or tiering programs.[83] As discussed below, evidence on the behavioral responses of enrollees in HDHPs and CDHPs suggests the later scenario is far more likely than the former.

In theory, those who face greater financial responsibility for their health will be motivated to adopt healthier behaviors, such as quitting smoking or adhering to their medication regimen. For example, in an effort to prevent costly complications, HDHP and CDHP diabetic patients may consistently take their prescribed medications, self-monitor their blood glucose, and abide by recommended dietary restrictions. Unfortunately, there is little if any empirical evidence suggesting that the financial incentives under

82. *See id.* at 136.

83. *See* Leigh Page, *Why Should Your Noncompliance Harm My Income?*, MEDSCAPE (Oct. 9, 2014), http://www.medscape.com/features/content/6006314 ("As payers begin to shift to outcomes-based reimbursements, physicians with high percentages of nonadherent patients stand to potentially see payments fall."). Providers who treat patients who are sicker on average could perform worse on quality and cost measures due to patient factors that are not under the provider's control (e.g., age, severity of illness), rather than due to lower quality care. *See Fact Sheet: Risk Adjustment*, CTRS. FOR MEDICARE & MEDICAID SERVS. (Apr. 2015), https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/Downloads/Risk-Adjustment-Fact-Sheet.pdf. Payors therefore use risk adjustment to adjust scores on quality measures and ensure that comparisons are fair across providers. *See id.;* Eric Schone & Randall S. Brown, *Risk Adjustment: What Is the Current State of the Art, and How Can It Be Improved?*, ROBERT WOOD JOHNSON FOUND. (July 2013), http://www.nhpg.org/media/17362/state%20of%20risk%20adjustment%20-%20schone%20and%20%20brown.pdf. Risk adjustment, when done properly, thereby deters providers from avoiding sicker patients. Risk adjustment, however, does not account for differences in the extent to which a provider's patients comply with medical advice or adopt healthier behaviors. *See, e.g.*, *See Fact Sheet: Risk Adjustment*, CTRS. FOR MEDICARE & MEDICAID SERVS. (Apr. 2015), https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedback Program/Downloads/Risk-Adjustment-Fact-Sheet.pdf. (describing the factors CMS takes into account when performing risk adjustment under the Physician Value-Based Payment Modifier program). Consequently, risk adjustment does not account for the impact of patient noncompliance on providers' quality and cost measure scores.

HDHPs and CDHPs induce patients to choose more health-conscious behaviors.[84]

Alternatively, because HDHP and CDHP patients must foot the entire bill for covered health services until they meet their deductibles, they may delay or forego care in an effort to minimize their health care expenditures.[85] Because health plans cannot impose cost sharing on preventive care,[86] preventive care is exempt from the deductible. HDHP and CDHP patients therefore are unlikely to delay or forego these services.[87] However, other care would be subject to the deductible, including diagnostic and therapeutic services affecting serious conditions. Physicians' recommendations for non-preventive diagnostic testing or follow-up visits may be ignored, prescriptions may go unfilled, and costly surgical procedures may be delayed.[88] These and similar behaviors would frustrate providers' efforts to perform well on quality measures through better management of patients' care and improved health outcomes.[89]

Low income individuals may be especially prone to delay or forego care, as they frequently face higher deductibles than those with higher incomes. Many lower income individuals lack employer-sponsored coverage and therefore obtain coverage through silver or bronze exchange plans, plans that commonly have very high deductibles.[90] Among those with employer-sponsored coverage, lower income workers are more likely to be employed at firms with higher cost sharing requirements than higher

84. *Cf*. Bundorf, *supra* note 36, at 23 (noting that surveys of CDHP enrollees found that those electing to enroll in CDHPs were more knowledgeable about and skilled in managing their own health than those enrolling in traditional plans, but that "there was no evidence that enrollment in a CDHP caused an enrollee to become more activated over time"); *Research Highlights: The Health Insurance Experiment: A Classic RAND Study Speaks to the Current Health Care Reform Debate*, RAND HEALTH (2006), https://www.rand.org/pubs/research_briefs/RB9174.html (finding that higher cost sharing did not induce individuals to take better care of themselves, such as by quitting smoking or losing weight).

85. *See* PAYMENT METHODS, *supra* note 15, at 17.

86. Patient Protection and Affordable Care Act, 42 U.S.C. § 300gg-13 (2012). "Grandfathered" plans, or plans that existed prior to March 23, 2010, are exempt from this requirement. *See id*. The list of preventive services are derived from recommendations made by the U.S Preventive Services Task Force, the Advisory Committee on Immunization Practices, the Health Resources and Services Administration, and the Institute of Medicine Committee on Women's Clinical Preventive Services. 29 C.F.R. § 2590.715-2713 (2017).

87. PAYMENT METHODS, *supra* note 15, at 17.

88. *See* American Academy of Pediatrics, Committee on Child Health Financing, *High-Deductible Health Plans*, 133 PEDIATRICS e1461, e1465 (2014) (stating that patients confronted with high deductibles "may decide not to accept physician recommendations for testing or referrals or for follow-up visits to monitor the progress of a disease process").

89. *See* PAYMENT METHODS, *supra* note 15, at 16 (stating that HDHP arrangements "may make it more difficult for providers to manage their patients' care" and, if patients skimp on needed care, this "could lead to adverse clinical outcomes"); American Academy of Pediatrics, *supra* note 88, at e1465 (patients' postponement or rejection of recommended care "will affect both health outcomes and processes for patients").

90. In 2018, the average deductible for a silver plan was over $4000, and the average deductible for a bronze plan was over $6000. *See Cost-Sharing, supra* note 53.

income workers. For example, according to a survey conducted by Kaiser Family Foundation and the Health Research & Education Trust, the plans offered by firms with "many lower-wage workers" had an average annual deductible for single coverage of $2,234 in 2017, as compared to the all firm average of $1,505.[91]

Lower income individuals also generally lack the financial resources to satisfy their deductibles and other cost sharing. Patients who suffer from costly chronic conditions or medical events not only must satisfy their deductibles, but also may incur coinsurance and co-pays up to their plan's out-of-pocket maximum for in-network services,[92] which for most private plans in 2018 is $7,350 for single coverage and $14,700 for family coverage.[93] Yet approximately half of families with incomes between 150 percent and 400 percent of the federal poverty line have less than $3,000 in liquid assets to cover their cost sharing obligations, with low and moderate single-person households averaging even fewer assets.[94] Lower wage earners also are less likely than higher wage employees to receive employer contributions to an HRA and HSA,[95] and generally lack the financial resources to contribute much if anything to an HSA.[96] Consequently, many

91. *See* KAISER FAMILY ET AL., *supra* note 50, at 101 (Figure 7.4). Firms with many lower-wage workers is defined as firms where at least 35 percent of workers fall in the lowest quartile of national earners (at or below $24,000 in 2017). *See id*.

92. *See* Matthew Rae et al., *Do Health Plan Enrollees have Enough Money to Pay Cost Sharing?*, KAISER FAMILY FOUND. (Nov. 3, 2017), https://www.kff.org/health-costs/issue-brief/do-health-plan-enrollees-have-enough-money-to-pay-cost-sharing/ (explaining that coinsurance and other cost sharing can increase out of-pocket liabilities beyond the deductible up to the maximum out-of-pocket limits for in-network services). Patients who obtain services out-of-network or services excluded from coverage under their plans face even higher out-of-pocket liabilities, as they must themselves pay for such services in full. *See id*.

93. *Out-of-pocket Maximum/Limit*, HEALTHCARE.GOV (2018) https://www.healthcare.gov/glossary/out-of-pocket-maximum-limit/.

94. *See* Rae et al., *supra* note 92. *See also* Salem Abdus et al., *The Financial Burdens of High-Deductible Plans*, 35 HEALTH AFFAIRS 2297, 2297 (2016) (reporting that as compared to plan enrollees with middle or high incomes, in 2011-2013 those with family incomes below 250 percent of the federal poverty level experienced higher frequencies of financial burden, defined as spending more than 20 percent of their after-tax income on health premiums and health).

95. *See* Catherine Hoffman & Jennifer Tolbert, *Health Savings Accounts and High Deductible Health Plans: Are They An Option for Low-Income Families?*, HENRY J. KAISER FAMILY FOUND. (Oct. 2006), https://kaiserfamilyfoundation.files.wordpress.com/2013/01/7568.pdf (explaining that "low-wage workers may also be less likely to work for employers that contribute to HSAs" given that businesses that employ more low-wage workers tend to impose higher employee cost sharing requirements than other businesses).

96. *See Health savings account in the individual market: Young adults may need more than they think to cover health care expenses*, DELOITTE (2017), https://www2.deloitte.com/content/dam/Deloitte/us/Documents/life-sciences-health-care/us-lshc-health-savings-accounts-in-the-individual-market.pdf ("One problem, some experts say, is that many low-income individuals enroll in HSA-compatible HDHPs to take advantage of low premiums, but often cannot afford to set aside the money to fund the account."); M. Gregg Bloche, *Consumer-Directed Health Care and the Disadvantaged: If the consumer-directed model prevails in the marketplace, class and racial disparities in care will probably worsen*, 26 HEALTH AFFAIRS 1315, 1319 (2007) ("[T]he least well-off are the last able to contribute to HSAs, and

patients facing significant illness cannot meet their cost sharing obligations, increasing the risk that they will delay or forego needed care.

Empirical studies of HDHPs and CDHPs confirm that patients enrolled in these plans frequently delay or forego health care. Relative to enrollees in traditional plans and HMOs, HDHPs and CDHPs enrollees reduce their use of medical services,[97] including prescription drugs, physician office visits, diagnostic testing, and emergency department visits.[98] Importantly, enrollees do not simply reduce their utilization of discretionary health care, such as low severity emergency department visits, but also forego necessary care.[99] These findings are consistent with the results of the famous 1970s

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their lower marginal tax rates makes doing so less attractive."); Hoffman & Tolbert, *supra* note 95, at 12 ("Low-income families have limited ability to save for future health care costs . . . ."); Lorens A. Helmchen et al., *Health Savings Accounts: Growth Concentrated Among High-Income Households And Large Employers*, 34 HEALTH AFFAIRS 1594, 1595, 1597 (2015) (finding that tax "filers in the highest income quartile were substantially more likely to contribute to an HSA than those in any other income group," and that highest-income filers "were substantially more likely to fund their HSAs fully than filers in the lower-income quartile"); Mary Reed et al., *Consumer-Directed Health Plans With Health Savings Accounts: Whose Skin is in the Game and How do Costs Affect Care Seeking*?, 40 MEDICAL CARE 585 (2012) ("[T]hose who had higher incomes were more likely to report making HSA contributions."); *Health Savings Accounts (HSAs) and Consumer Driven Health Care: Cost Containment or Cost Shift?: Hearing Before the H. Subcomm. on Health, Comm. on Ways and Means*, 110th Cong. 10 (2008) (testimony of John E. Dicken, Director, Health Care, U.S. Government Accountability Office) (reporting GAO's findings that tax filers who reported HSA activity had higher adjusted gross income than other filers).

97. *See generally* Rajender Agarwal et al., *High-Deductible Health Plans Reduce Health Care Cost and Utilization, Including Use of Needed Preventive Services*, 36 HEALTH AFFAIRS 1162 (2017) (finding, based on a systematic review of studies examining the impact of HDHP enrollment on utilization, that enrollment in a HDHP is associated with a reduction in the use of health services); Haviland et al., *supra* note 41, at 2 ("The preponderance of evidence is that, in the general population, CDHPs reduce health care spending."); Paul Fronstin & Sara R. Collins, *Early Experience With High-Deductible and Consumer-Driven Health Plans: Findings From the EBRI/ Commonwealth Fund Consumerism in Health Care Survey*, EMP. BENEFIT RES. INST. (Dec. 2005), https://www.ebri.org/publications/ib/index.cfm?fa=ib
Disp&content_id=3606 ("About one-third of individuals in CDHPs (35 percent) and HDHPs (31 percent) reported delaying or avoiding care, compared with 17 percent of those in comprehensive health plans.").

98. *See* Agarwal et al., *supra* note 97, at 1765-66 (summarizing the results of studies of the impact of HDHP enrollment on medical use, and noting that various studies find reduced office visits, emergency department visits, diagnostic testing, and prescription drug use; there was some evidence of reduced hospitalizations, but the results of other studies on hospitalizations were mixed); Bundorf, *supra* note 36, at 28 (summarizing studies finding that CDHP and HDHP enrollees reduced their overall drug use, had fewer physician visits for both acute and chronic conditions, and fewer emergency department visits); Alison A. Galbraith et al., *Nearly half of families in high-deductible health plans whose members have chronic conditions face substantial financial burden*, 30 HEALTH AFFAIRS 322, 328 (Table 2) (2011) (finding that families enrolled in HDHPs reported delaying or foregoing acute visits, emergency department visits, chronic care visits, checkups, and tests at higher rates than that families enrolled in traditional plans).

99. *See, e.g.*, Chan & Turnball, *supra* note 25, at 10 ("[T]here is a substantial amount of evidence that, when faced with increased cost-sharing, consumers often indiscriminately reduce their use of health cares, including reducing use of high-value care."); Agarwal et al., *supra* note 97, at 1765-65 (summarizing studies reporting that enrollees in HDHPs reduced the use of both appropriate and inappropriate health care); Amelia M. Haviland et al., *Do 'Consumer-Directed' health plans bend the*

Rand Health Insurance Experiment, a randomized controlled study which found that those subject to greater cost sharing reduced their use of both high value and low value care.[100] Moreover, lower income HDHP and CDHP enrollees and those with ongoing health problems are more likely to delay or forego appropriate care,[101] confirming that the financial burdens imposed by consumer-focused cost-control strategies fall hardest on more vulnerable populations.

HDHP and CDHP patients who delay or forego appropriate care may harm providers' performance on certain quality measures. Performance measures are classified as structure, process, or outcome measures, a classification system developed by Avedis Donabedian.[102] HDHP and CDHP patients delaying or foregoing care likely has no impact on a providers' performance on structure measures, which assess a health

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cost curve over time?, 46 J. HEALTH ECON. 33, 34 (2016) ("Most recent observational studies have . . . provided evidence that CDHP enrollees reduce some necessary preventive and chronic care.") [hereinafter *Do 'Consumer-Directed' health plans bend*]; Bundorf, *supra* note 36, at 28 (summarizing findings of studies showing reduced physician office visits for visits classified as both high and low priority); Judith H. Hibbard et al., *Does Enrollment in a CDHP Stimulate Cost-Effective Utilization?*, 65 MED. CARE RES. & REV. 437, 437 (2008) (finding that reductions in office visits by CDHP enrollees "appear to be indiscriminate, with patients cutting back in both high- and low-priority visits").

100. *See Analysis of High Deductible Health Plans*, RAND CORP., (2008), https://www.rand.org/pubs/technical_reports/TR562z4/analysis-of-high-deductible-health-plans.html (summarizing the results of the RAND Health Insurance Experiment).

101. *See* David L. Rabin et al., *Among Low-Income Respondents With Diabetes, High-Deductible Versus No-Deductible Insurance Sharply Reduces Medical Services Use*, 40 DIABETES CARE 239, 242 (Table 2) (2017) (reporting that lower-income diabetics with a high deductible reported higher decreases in primary care services, checkups, and specialty visits than lower-income diabetics with no deductible or a lower deductible and higher-income diabetics); Paul Fronstin & M. Christopher Roebuck, *The Impact of an HSA-Eligible Health Plan on Health Care Services Use and Spending by Worker Income*, 425 EMP. BENEFIT RES. INST. 1 (2016), https://www.ebri.org/pdf/briefspdf/EBRI_IB_425.Aug16.HSAs.pdf (finding a larger decline in utilization for outpatient office visits for lower income enrollees in HSA-eligible health plans); Ryan A. Crowley, *Addressing the Increasing Burden of Health Insurance Cost Sharing*, AM. C. PHYSICIANS 5-6 (2016), https://www.acponline.org/acp_policy/policies/insurance_cost_sharing_2016.pdf (citing a study finding that among enrollees in a HDHP plan, sicker workers were most likely to forgo care); J. Frank Wharam et al., *Low-Socioeconomic-Status Enrollees In High-Deductible Plans Recued High-Severity Emergency Care*, 32 HEALTH AFFAIRS 1398 (2013) (finding that enrollees in employer-sponsored HDHPs with low socioeconomic status reduced high-severity emergency department visits by 25-30 percent, whereas no such trend was found among HDHP enrollees of high socioeconomic status); Fronstin & Collins, *supra* note 97, at 15 (reporting that problems with CHDP and HDHP enrollees avoiding, skipping, or delaying health care because of cost was "particularly pronounced among those with health problems or incomes under $50,000"); Galbraith et al., *supra* note 98, at 328 (finding that among HDHP enrollees, families with a least one person with a chronic condition were more likely to report delaying or foregoing care than those without a chronic conditions, and families with lower incomes were also at higher risk for delaying or foregoing care); Jeffrey Kullgren et al., *Health Care Use and Decision Making Among Lower-Income Families in High-Deductible Health Plans*, 170 ARCH. INTERN MED. 1918, 1920 (2010) (finding that families with incomes less than 300 percent of the federal poverty line were more likely than higher income families to report cost-related delayed or foregone care (57 percent vs. 42 percent)).

102. *See* Avedis Donabedian, *The Quality of Care: How Can It be Assessed?*, 260 JAMA 1743 (1988).

provider's capacity, systems, and processes.[103] However, as explained below, reduced use of medical care can impact a provider's performance on process and outcome measures,[104] the former of which assess a provider's actions to maintain or improve health and that later of which measures the impact of the providers' actions on patients' health status.[105]

Health plans rely heavily on process measures when assessing providers' performance, with a 2013 study of twenty-three large health plans finding that process measures comprised half of the performance measures used by the plans.[106] Process measures assess whether a provider's diagnosis and treatment of a patient conforms with recommended clinical guidelines, such as the percentage of a provider's patients receiving recommended preventive services or the percentage of diabetic patients who have their blood glucose (or A1c) levels monitored on a regular basis.[107] A provider's performance on these measures is lower when their HDHP and CDHP patients delay or forego recommended care. For example, diabetic patients with both a high deductible and lower income have fewer primary care visits, checkups, and specialty visits than other patient groups.[108] For the providers treating these patients, fewer outpatient visits can translate into lower scores on diabetes process measures, such as the percentage of diabetic patients receiving regular monitoring of their A1c levels.[109]

Health plans also make regular use of outcome measures.[110] Examples of outcome measures include the percentage of a provider's diabetic patients with A1c levels within the recommended range, the providers' rate of surgical complications, or mortality rates.[111] Unfortunately, it is difficult to assess whether enrollment in a HDHP or CDHP adversely impacts patient outcomes, as the empirical research on this issue is scant.[112] However,

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103. *See Types of Quality Measures*, AGENCY FOR HEALTHCARE RESEARCH AND QUALITY (AHRQ), https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/types.html (last visited Aug. 5, 2018). Examples include whether the provider uses electronic medical records or the ratio of health professionals to patients.

104. *See* American Academy of Pediatrics, *supra* note 88, at e1465 (stating that high deductible patients who delay or forego care "will affect both health outcomes and processes for [these] patients").

105. *See Types of Quality Measures*, *supra* note 103.

106. *See* Higgins, *supra* note 75, at 1453 (Exhibit 1). Among other quality measures, outcome measures comprised 19 percent of measures used, while structural and patient experience measures each comprised only 6 percent. Efficiency measures comprised 14 percent (utilization 11 percent and cost of care 3 percent), with "other" measures such as access to care and physician experience comprising the remaining 5 percent of measures.

107. *See Types of Quality Measures*, *supra* note 103.

108. *See* Rabin et al., *supra* note 101, at 243.

109. *Id.* at 242.

110. *See* Higgins, *supra* note 75, at 1453 (Exhibit 1) (among twenty-three large health plans, outcome measures comprised 19 percent of the performance measures used by the plans).

111. *See Types of Quality Measures*, *supra* note 103.

112. *See* Agarwal et al., *supra* note 97, at 1767 (noting that studies of the effects of HDHPs did not consider outcomes, such as health status, morbidity, mortality, or patient experience); Bundorf, *supra*

several studies that generally look at the consequences of delaying or foregoing recommended care have found an association with poorer health outcomes.[113] In particular, lower levels of medication adherence increases the risk for complications that may require emergency care or hospitalization or that may cause death.[114] For example, hypertensive patients who have poor medication compliance have poorer controlled blood pressure, which markedly increases the risk of stroke, acute myocardial infarction, and renal impairment.[115] These studies suggest that HDHP and CDHP patients who delay or forego recommended care may lower their providers' scores on quality outcome measures.

In sum, HDHPs and CDHPs induce patients, particularly those with lower income or high health care needs, to delay or forego needed medical care. Providers with a high percentage of HDHP and CDHP patients therefore may have difficulty performing well on certain quality measures, resulting in the providers receiving lower payments under VBP payment models or losing patients under high-performance network or tiering programs. In order to protect their bottom line, some providers may refuse to treat those HDHP and CDHP patients that harm the providers' performance on quality measures.

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note 36, at 33 (stating that the literature offers no evidence on the effects of CDHPs on outcomes). *But see* Rabin et al., *supra* note 101, at 242 (finding no statistically significant changes in physical health scores for diabetic patients enrolled in plans with high deductibles as compared to other patients).

113. *See, e.g.*, Jie Chen et al., *The Health Effects of Cost-Related Treatment Delays, 26 Am. J. of Medical Quality* 26 AM. J. MED. QUALITY 261, 261 (2011) (finding that "people who delayed or forewent medical treatment were significantly less likely to report having excellent or very good ex post health status and had significantly lower quality-of-life scores" as compared to those who never delayed or forwent necessary care, even after controlling for socioeconomic and demographic factors, chronic medical conditions, and baseline health status); Jing Jin et al., *Factors Affecting Therapeutic Compliance: A Review From The Patient's Perspective*, 4 THERAPEUTICS & CLINICAL RISK MGMT. 269, 270 (2008) (summarizing studies of the clinical consequences of therapeutic noncompliance); Ali R. Rahimi et al., *Financial Barriers to Health Care and Outcomes After Acute Myocardial Infarction*, 297 JAMA 1063, 1063 (2007) (finding that among patients who had an acute myocardial infarction, those who reported financial barriers to health services and medications had higher rates of both cardiac and all-cause rehospitalizations than those who did not report financial barriers to care; those who reported financial barriers to medication also had higher rates of angina).

114. *See* Leslie R. Martin et al., *The Challenge of Patient Adherence*, 1 THERAPEUTICS & CLINICAL RISK MGMT. 189, 189 (2005) (explaining that medication nonadherence is a risk factor for a variety of subsequent health outcomes, including hospitalizations and even death). *See also* Michael C. Sokol et al., *Impact of Medication Adherence on Hospitalization Risk and Healthcare Cost*, 43 MED. CARE 521, 521 (2005) (finding that for patients with diabetes and hypercholesterolemia, "a high level of medication adherence was associated with lower disease-related medical costs," including lower hospitalization rates); Meghan E. McGrady & Kevin A. Hommel, *Medication Adherence and Health Care Utilization in Pediatric Chronic Illness: A Systematic Review*, 132 PEDIATRICS 730, 730, 737 (2013) (reporting that a systematic review found that nine of ten studies demonstrated a relationship between medication nonadherence and increased health care use among children and adolescents with chronic medical conditions); Neil Chesanow, *The Noncompliance Epidemic: Why Are So Many Patients Noncompliant?*, MEDSCAPE (Jan. 16, 2014), http://www.medscape.com/viewarticle/818850 ("Poor medication compliance is implicated in over 125,000 US deaths per year.").

115. *See* Jin et al., *supra* note 113, at 270 (2008).

B. The Interplay Between Higher Cost Sharing and Efficiency Measures

In addition to rewarding providers for providing quality care and improving patient outcomes, payors also reward providers who lower health care spending. To assess a provider's efficiency, many health plans employ utilization and cost measures.[116] Utilization (or resource) measures count "the frequency of defined health system resources,"[117] while cost measures report "an amount, usually specified in dollars, related to receiving, providing, or paying for medical care" over a specified time period.[118] Examples of utilization measures include counts of x-rays, emergency department visits, or inpatient admissions,[119] and examples of cost measures include average monthly costs for covered care provided to a plan's enrollees or average cost of inpatient admissions.[120] If enrollees respond to HDHP and CDHP incentives by lowering their health care consumption and spending, their providers may perform better on utilization and cost measures. Similarly, providers assuming financial risk for health care costs under risk-based alternative payment models also benefit when their HDHP and CDHP patients reduce utilization and spending. As described below, however, some HDHP and CDHP patients may lower their providers' scores on certain efficiency measures or impair their performance under risk-based alternative payment models. If so, some providers may choose to avoid these patients.

Empirical evidence repeatedly finds that HDHP and CDHP enrollees as a group reduce their utilization of health care services.[121] As noted previously, studies of HDHPs and CDHPs show that their enrollees reduce their use of prescription drugs, physician office visits, and diagnostic

116. *See* Higgins, *supra* note 75, at 1453 (Exhibit 1) (finding that among 23 large plans, utilization measures comprised 11 percent of all performance measures and cost of care measures comprised 3 percent).

117. Endorsement Summary: Resource Use Measures, NAT'L QUALITY F. (Apr. 2012), https://webcache.googleusercontent.com/search?q=cache:XlmfvLklbO8J:https://www.qualityforum.org/News_And_Resources/Endorsement_Summaries/Efficiency_Resource_Use_Endorsement_Summary.aspx+&cd=1&hl=en&ct=clnk&gl=us.

118. *Glossary of Terms*, NAT'L QUALITY F., https://www.qualityforum.org/Measuring_Performance/Submitting_Standards/NQF_Glossary.aspx. *See also* ANDREW M. RYAN & CHRISTOPHER P. TOMPKINS, EFFICIENCY AND VALUE IN HEALTHCARE: LINKING COST AND QUALITY MEASURES vi (2014) (defining cost of care measures as "measures [of] total health care spending, including total resource use and unit price(s), by payor or consumer, for a health care service or group of health care services associated with a specified patient population, time period, and unit(s) of clinical accountability").

119. *See* DAVID R. NERENZ & NANCY NEIL, PERFORMANCE MEASURES FOR HEALTH CARE SYSTEMS 7-8 (2001).

120. *See id.*

121. *See generally* Agarwal et al., *supra* note 97.

testing.[122] Some studies also have found that enrollment in HDHPs and CDHPS is associated with lower use of inpatient care and fewer emergency department visits.[123] In the aggregate, then, HDHP and CDHP enrollees reduced use of health care may raise providers' scores on utilization measures, such as measures of emergency department visits or use of diagnostic imaging services.

Nevertheless, providers may have incentives to reject certain HDHP and CDHP enrollees if at the individual level these patients threaten providers' performance on certain utilization measures. When HDHP and CDHP patients delay or forego medically appropriate care, they may experience deteriorating health that ultimately leads to higher utilization.[124] The potential adverse consequences from reduced utilization may be particularly acute for HDHP and CDHP patients with chronic conditions and other serious illnesses, as these health problems are unlikely to resolve on their own if not adequately treated.[125] For example, patients with chronic conditions such as hypertension and diabetes are at higher risk of needing emergency care or inpatient care if they forego their prescribed medications.[126] The fact that HDHP and CDHP patients with poorer health are more likely to delay or forego care[127] raises significant concerns as to whether in the longer-term these patients will require *more* health care, thereby harming their providers' performance on certain utilization measures.

Although few researchers have examined whether reduced care by some HDHP and CDHP enrollees in the short-term raises long-term utilization, a

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122. *See* American Academy of Pediatrics, *supra* note 88, at e1465 (finding that patients confronted with high deductibles "may decide not to accept physician recommendations for testing or referrals or for follow-up visits to monitor the progress of a disease process").

123. Other studies, however, have found either no difference or an increase in hospitalizations and emergency department visits *see* Agarwal et al. *supra* note 97, at 1765-66 (summarizing the results of studies of the impact of HDHP enrollment on hospitalizations and emergency department visits); Bundorf, *supra* note 36, at 26 (noting that overall studies on CDHPs found inconsistent results for inpatient utilization and spending and emergency department use).

124. *See Do 'Consumer-Directed' health plans bend, supra* note 99, at 34 (explaining that because patients indiscriminately reduce care, including medically appropriate care, this could lead to "deteriorating health and higher health spending in the long term"); Crowley, *supra* note 101, at 6-7 ("If patients delay or forgo screening and other diagnostics services because of cost, it may lead to more severe health problems in the future, including chronic disease . . . .").

125. *See* Mary Reed et al., *High-Deductible Health Insurance Plans: Efforts To Sharpen A Blunt Instrument: Deductibles can create powerful yet potentially indiscriminate and blunt incentives for consumers to alter their care-seeking behavior*, 28 HEALTH AFFAIRS 1145, 1150 (2009) (stating that whereas "for low-severity, self-resolving conditions, avoiding care altogether could be appropriate," reduced care for sicker patients "raises concerns about potential adverse clinical consequences").

126. *See* Rabin, *supra* notes 101, at 240. *See also Do 'Consumer-Directed' health plans bend, supra* note 99, at 42 ("[R]esearch has shown that cost-sharing induced reductions in pharmaceutical use can lead to increased hospitalizations.").

127. *See* Mantel, *supra* note 18, at 162.

few studies have found an association. Specifically, initial reductions in utilization among HDHP and CDHP enrollees with low income or poorer health is associated with higher utilization of emergency department and inpatient care in subsequent years.[128] For example, a 2013 study of HDHP enrollees found that during their first year of enrollment male patients had fewer hospitalizations and fewer high and low severity emergency department visits; in year 2, however, they experienced a significant increase in hospitalizations.[129] In contrast, female HDHP enrollees, who in year 1 reduced only low severity emergency department visits (but not high severity visits), did not experience an increase in hospitalizations in year 2.[130] These findings suggest that initial reductions in needed care by low income individuals and those in poorer health can increase the long-term need for emergency department and inpatient care.[131] If so, then the providers treating these patients will score lower on utilization measures assessing the frequency of emergency department visits or inpatient admissions.

The story for cost measures is similar. The empirical evidence shows that collectively HDHP and CDHP enrollees not only reduce their utilization of health care, but also incur lower health care spending.[132]

128. *See* Bundorf, *supra* note 36, at 26 (noting that overall, studies on CDHPs found inconsistent results for inpatient utilization and emergency department use, but that one study found that an initial reduction in inpatient spending dissipated by the third year of enrollment, other studies documented increases in inpatient utilization for some patient groups, one study found an increase in emergency department visits among CDHP enrollees in third and fourth years of enrollment, and one study found increased emergency department utilization among very high spenders); Wharam et al., *supra* note 101, at 1404 (finding that among low income enrollees in HDHPs, both high-severity emergency department visits and hospitalizations declined during the first year of enrollment by 25-30 percent and 23 percent respectively, but rose in year two; similar trends were not found among higher income HDHP enrollees); Sheila R. Reddy et al., *Impact of a High-Deductible Health Plan on Outpatient Visits and Associated Diagnostic Tests*, 52 MED. CARE 86 (2014) (finding that CDHP enrollees had fewer office visits and laboratory tests in the first two years of enrollment, but that a decrease in inpatient stays in the first year was followed by increases in the second year).

129. *See* Kozhimannil, *supra* note 38.

130. *Id*.

131. *See* Wharam, *supra* note 101, at 1398 (hypothesizing that higher hospitalizations among low income HDHP enrollees in year two of enrollment following a decline in emergency department use in year one of enrollment suggest these enrollees "responded appropriately to high-deductible plans and that initial reductions in high-severity [emergency department] visits might have increased the need for subsequent hospitalizations"); Kozhimannil, *supra* note 38, at 639 ("Initial across-the-board reductions in [emergency department] and hospital care [among men] followed by increased hospitalizations imply that men may have foregone needed care following HDHP transition."). *Cf*. *Do 'Consumer-Directed' health plans bend*, *supra* note 99, at 34 (commenting that a decline in outpatient spending in the short-term followed by increased hospitalizations and emergency department visits is "suggestive of people cutting back on necessary care").

132. *See* Agarwal et al., *supra* note 97 (reporting that based on a review of studies on the impact of HDHPs on health care utilization and costs, enrollment in HDHPs is associated with lower health care costs); Haviland et al., *supra* note 41, at 11 (analysis of claims data for 59 large employers found that total health care spending was lower for enrollees in HDHPs for both vulnerable and non-vulnerable enrollees as compared to control groups).

Moreover, the higher an enrollee's deductible the greater the reduction in spending.[133] Some of the reduced spending among HDHP and CHPD enrollees stems from their adoption of cost-conscious behavior unlikely to adversely impact health, such as substituting less expensive generic drugs for brand name drugs or inquiring about less costly treatment options.[134] Most of the cost savings, however, is due to the decline in utilization among HDHP and CDHP enrollees, particularly reduced used of drugs and other outpatient care.[135] The overall reduction in health care spending among HDHP and CDHP enrollees may raise providers' scores on cost measures, such as the average monthly costs for covered care provided to a plan's enrollees. Lower costs also improve providers' performance under risk-based alternative payment models.

Yet at the individual patient level, certain HDHP and CDHP enrollees may harm providers' performance on cost measures or their performance under risk-based alternative payment models. As explained above, HDHP and CDHP enrollees with lower income and poorer health are more likely to delay or forego needed medical care, thereby increasing their risk for costly complications. Whether care delayed or foregone by HDHP and CDHP enrollee can lead to higher overall costs for some patients has not been explored empirically. However, the studies finding an association between initial reductions in care by poorer and sicker HDHP and CDHP enrollees and subsequent higher rates of emergency department and inpatient care

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133. *See Do 'Consumer-Directed' health plans bend*, *supra* note 99, at 42 ("CDHPs with larger financial incentives are associated with greater and more long-lasting reductions in spending than CDHPs with smaller financial incentives."); Haviland et al., *supra* note 41 (analysis of claims data for 59 large employers found that reductions in overall health care spending for CDHP enrollees "increase with the level of the deductible"). Cost savings also decreases with more generous employer contributions to HSA or HRA accounts. Cost savings also decreases with more generous employer contributions to HAS or HRA accounts. *See* Bundorf, *supra* note 36, at 29-30 (summarizing studies suggesting that "a generous spending account may have attenuated reductions in utilization associated with a high deductible"); Melinda Beeuwkes Buntin et al., *Healthcare Spending and Preventive Care in High-Deductible and Consumer-Directed Health Plans*, 17 AM. J. OF MANAGED CARE 222, 223 (2011) (finding that first year savings from enrollment in HDHPs and CDHPs decreased with generous employer contributions to healthcare accounts).

134. *See* Fronstin & Elmlinger, *supra* note 46, at 12 (finding that CDHP and HDHP enrollees were more likely than those enrolled in traditional plans to exhibit certain cost-conscious behavior, including asking for generic drugs instead of brand name drugs, discussing with their physicians prescription options and costs, asking their physician about less costly prescriptions or other treatment options, and using their health plan's online cost-tracking tool); James Frank Wharam et al., *Two-year Trends in Colorectal Cancer Screening After Switch to a High-deductible Health Plan*, 49 MED. CARE 865 (2011) (finding that lower socioeconomic HDHP enrollees substituted less expensive colorectal screening methods for more expensive colonoscopies).

135. *See* Agarwal et al., *supra* note 97 (stating that a review of studies shows that enrollment in HDHPs is associated with lower health care costs due to reduced use of health services); Bundorf, *supra* note 36, at 25 (summarizing results from studies of CDHPs and reporting that "[t]he savings associated with CDHPs are driven primarily by reductions in pharmaceutical and outpatient expenditures").

suggest that delaying or foregoing care can lead to higher costs long-term.[136] Accordingly, for some HDHP and CDHP patients, the savings from initial reductions in care may be negated by subsequent increases due to costly complications and deterioration in the patients' health. These patients therefore may harm providers' performance on cost measures and threaten their success under risk-based alternative payment models.

In conclusion, the interplay between higher cost sharing on the one hand and efficiency measures and risk-based alternative payment models on the other likely produces mixed results. Lower health care utilization and spending by HDHP and CDHP enrollees generally make them attractive to providers subject to efficiency measures or risk-based alternative payment models. However, certain HDHP and CDHP enrollees, particularly those in poorer health, can harm providers' efforts to reduce utilization and costs if care delayed or foregone leads to costly emergency care, hospitalizations, or other avoidable treatments. Some providers therefore may fire or refuse to treat these HDHP and CDHP patients.

CONCLUSION

In response to ever-rising health care spending, many health insurers, employers, and government payors embraces higher cost sharing for patients, including high deductibles, and health spending accounts. Critics, however, have expressed concern that high deductibles will lead to patients delaying or foregoing needed care. This Article highlights another problematic consequence of higher cost sharing — growing tension between HDHP and CDHP patients and their providers who are rewarded for improving quality and lowering health care costs. Specifically, HDHP and CDHP patients who delay or forego medically appropriate care threaten providers' performance on various quality and efficiency measures used by payors to evaluate providers. In addition, HDHP and CDHP patients who delay or forego care may experience costly complications, thereby limiting their providers' success under risk-based alternative payment models that shift financial risk to providers. To the extent HDHP and CDHP patients who fail to follow treatment recommendations threaten providers' profitability, some providers may refuse to treat these patients.

In sum, the interplay between higher patient cost sharing and quality and cost-based financial incentives for providers may lead to conflict

136. *Cf.* Crowley, *supra* note 101, at 5 ("Health system savings from cost-sharing may be tempered by elevated costs elsewhere."); Jin, *supra* note 113, at 271 (asserting that therapeutic noncompliance also causes an increased financial burden for society, and then summarizing studies showing an association between therapeutic noncompliance and higher treatment costs, as well as urgent care and hospitalizations).

between providers and their HDHP and CDHP patients. More research is needed on the extent to which the behavior of HDHP and CDHP patients impacts providers' performance under supply-side cost-control initiatives, such as value-based purchasing, high-performance provider networks, and tiered provider networks. In addition, regulators and payors should closely monitor whether conflicts between providers and their HDHP and CDHP patients leads the former to avoid treating the latter. If so, policymakers and payors should consider policies that will mitigate this conflict, such as adjusting cost sharing based on income, lowering or eliminating cost sharing for medical interventions of proven effectiveness, or reducing or doing away with cost sharing for individuals with lower income or poor health.