



STATEMENT

of the

American Medical Association

to the

Insurance Commissioner of the State of Connecticut

Re: The Acquisition of Aetna, Inc. by CVS Health Corporation

October 2, 2018

The American Medical Association (AMA) appreciates the opportunity to provide our views regarding the proposed merger of CVS Health Corporation (CVS), the largest retail pharmacy chain and specialty pharmacy in the United States and one of the two largest pharmacy benefit managers (PBM), and Aetna, Inc. (Aetna) the third largest U.S. health insurer. We commend the Insurance Commissioner of the State of Connecticut (Commissioner) for scrutinizing this massive proposed merger and the potential negative impact it poses to Connecticut health care consumers. It is the AMA's position that unless blocked, this merger would likely injure consumers by raising prices, lowering quality, reducing choice and stifling innovation in Connecticut health insurance markets. As such, we urge the Commissioner to block the proposed CVS-Aetna merger.

THE MERGER VIOLATES CONNECTICUT'S STATUTORY LAW PROTECTING HEALTH INSURANCE MARKETS FROM ANTICOMPETITIVE MERGERS

According to Connecticut General Statute § 38a-131:

(i) An acquisition involving two or more involved insurers competing in the same market shall be prima facie evidence of a violation of the competitive standards described in this subdivision if (I) there is a significant trend toward increased concentration in the market, (II) one of the involved insurers is included in a grouping of large insurance companies that shows the increase in market share specified in subparagraph (B)(ii) of this subdivision, and (III) another involved insurer's market share is two per cent or more.

(B)(ii) For purposes of this subparagraph, there is a significant trend toward increased concentration in the market when the aggregate market share for any grouping of the largest insurance companies in the market, from the two largest to the eight largest, has increased by seven per cent or more of the market over a period extending from any base year not less than five years and not more than ten years prior to the proposed acquisition.

As explained in the attached report of Richard Scheffler, PhD, Distinguished Professor Emeritus of Health Economics and Public Policy at the School of Public Health and the Goldman School of Public Policy at the University of California, Berkeley, CVS' proposed acquisition of Aetna fails the Connecticut Competitive Standard in Connecticut's Medicare Part D Stand-alone Prescription Drug Plan Market.¹ Thus, the acquisition may substantially lessen competition and the Commissioner should enter an order denying the acquisition.

ADDITIONAL REASONS WHY THE MERGER IS ANTICOMPETITIVE IN CONNECTICUT HEALTH INSURANCE MARKETS

Health Insurance Markets in Connecticut are Highly Concentrated

It is now well-established that markets for health insurance, including those in Connecticut, are highly concentrated with high barriers to entry, and that they are often dominated by one or two insurers.² The AMA's 2017 Update to *Competition in Health Insurance: A Comprehensive Study of U.S. Markets*, finds that nearly 70 percent of the combined HMO + PPO + POS + EXCH (commercial) markets are highly concentrated. Moreover, Aetna's market share is either the first or second largest in 57 of the 389 Metropolitan Statistical Areas (MSAs) studied. In a separate analysis of Medicare Advantage (MA) insurer markets, the AMA found that 85 percent of MA markets are highly concentrated. Aetna had the

¹ See Dr. Sheffler's attached Report.

² See *United States v Aetna*, 240 F Supp.3d (D.D.C 2017); *United States v. Anthem*, 835 F 3d 345 (D.C. Cir. 2017).

first or second largest MA market share in 60 of the 381 MSAs studied. In a total of 94 MSAs, Aetna had the first or second largest share in the commercial market, MA market, or in both of those markets.

The State of Connecticut's commercial health insurance market is consistent with this picture.³ Half of MSA-level commercial health insurance markets in Connecticut are highly concentrated (New Haven-Milford, Norwich-New London-Westerly).⁴ The proposed CVS-Aetna merger potentially raises significant competitive concerns in Connecticut's remaining three MSA-level health insurance markets (Bridgeport-Stamford-Norwalk, Danbury, and Hartford-West Hartford-East Hartford). Connecticut's health insurance markets need new entry. As explained below, however, a vertical merger between a large insurer and a national PBM with scale and buying power will only further raise entry barriers into these Connecticut health insurance markets – an anticompetitive result that should be of great concern to the Commissioner and Connecticut residents.

Merger Ramifications in Connecticut's Health Insurance Market

According to health economist and University of Southern California professor Neeraj Sood, PhD,⁵ the merger “will further strengthen the already dominant position of Aetna and will exacerbate the lack of competition in health insurance markets. This will come from CVS-Aetna's ownership and control of two segments of the pharmaceutical supply chain-PBMs and retail pharmacies.”⁶

A Merged CVS-Aetna is Likely to Foreclose Aetna Rivals by Supplying Needed PBM and/or Pharmaceutical Services on Disadvantageous Terms that Favor Aetna

PBM services are an important input into the production and selling of health insurance, an area of the economy that requires more, not less, competition.⁷ Aetna rivals and would-be sellers of health insurance need to be able to purchase essential PBM services.

In the event the CVS-Aetna merger were approved by the Commissioner, Aetna rivals that decide to rely on drug rebates from CVS would likely be hurt by the merger, ultimately to the detriment of competition and Connecticut consumers. PBMs are agents of health insurance plans.⁸ They help health plans negotiate with pharmacies and pharmaceutical firms. According to Professor Sood, a national expert on pharmaceutical and health insurance markets, if CVS were to merge with Aetna, CVS would be a worse agent for health plans competing with Aetna. The PBM arm of CVS-Aetna would have weaker incentives to control prescription drug costs and overall health care costs for health plans competing with Aetna. Indeed, in Professor Sood's opinion “the PBM arm of CVS-Aetna has an incentive to disadvantage health plans competing with the insurance arm of CVS Aetna in passing rebates from pharmaceutical firms. This will likely result in less competition in the insurance market.”⁹

Professor Sood observes that the adverse effects of the incentives for CVS-Aetna to disadvantage competing health plans are exacerbated by the fact that the PBM market is highly concentrated. Health

³ *Competition in Health Insurance: A Comprehensive Study of US Markets* (2017 update).

⁴ *Id.*

⁵ Neeraj Sood, PhD, is Professor of Health Policy and Vice Dean for Research at USC's Sol Price School of Public Policy. He is also a faculty member and past Director of Research of the USC Leonard Schaeffer Center for Health Policy and Economics and a Research Associate at the National Bureau of Economic Research.

⁶ See Dr. Sood's attached Report at 8.

⁷ Given the present structure of the health insurance market, health insurers have the ability unilaterally or through coordinated interaction to exercise market power by raising premiums, reducing service or stifling innovation. See *United States v Aetna*, 240 F Supp.3d (D.D.C 2017); *United States v. Anthem*, 835 F 3d 345 (D.C. Cir. 2017).

⁸ Sood Report at 8.

⁹ Sood Report at 10.

plans competing with CVS-Aetna do not have many options to switch PBMs. Most desirable sources of PBM services are firms like CVS and Express Scripts that are large enough to drive the biggest discounts in drug prices. Given the U.S. Department of Justice's recent approval of the Cigna-Express Scripts merger, if Aetna were to merge with CVS, all large PBMs would either have been acquired by the country's five largest insurers, e.g., Aetna, Anthem, Cigna, Humana, and UnitedHealth Group, or would otherwise have become an in-house service of these insurers.¹⁰

Aetna rivals or new market entrants could easily fall victim to a strategy known in antitrust parlance as "raising rivals' costs." The PBMs owned by (or that own) a health insurer could refuse to deal with other health insurers except on discriminatory terms that lessen competition in the health insurance market. Facing little threat from competing PBMs, they would have strong incentives and capacity to coordinate their strategies to disadvantage rival health insurers.¹¹

The result of this input foreclosure for health insurers seeking PBM services will be less competition in an already highly concentrated Connecticut health insurance market. In the words of Professor Sood, the merger will further strengthen the already dominant position of Aetna and will exacerbate the lack of competition in health insurance markets.¹² Professor Amanda Starc, PhD, Associate Professor of Strategy at the Kellogg School of Management and a Faculty Research Fellow at the National Bureau of Economic Research, also foresees increased barrier to entry:

Even if the PBM and health insurance markets were competitive, the merged firm could reduce future competition in the insurance market. If the merged entity is successful, future entry may require capabilities to be a payer, PBM, and provider, which may be difficult and especially costly for potential new entrants to replicate.¹³

CVS-Aetna respond to these input foreclosure concerns by contending that Aetna would comprise a small fraction of their combined revenue and the merged firm would never follow the risky strategy of not aggressively bidding for a large fraction of the market.¹⁴ However, the strategy is hardly risky given the high PBM market concentration and the strong incentives for the major vertically integrated health insurers to coordinate their strategies to disadvantage rival health insurers. Moreover, opaque pricing and the rebate structure give both the pharmaceutical manufacturer and the PBM incentives to allow higher list prices and higher rebates.¹⁵ How an Aetna competitor would ever detect whether it was being given a bid less desirable deal than that given Aetna is unclear. Finally, the size of the incentives for CVS-Aetna to disadvantage health plans competing with the insurance arm of CVS-Aetna is substantial. Professor Sood concludes "that one insurance customer is as valuable as 14 PBM customers; providing strong incentives for CVS Aetna to disadvantage competing health plans to gain insurance customers even if it risks losing some PBM customers."¹⁶

¹⁰ United Healthcare now operates Optum RX2; Humana has Humana Pharmacy Solutions; Anthem is developing its own PBM service with the help of CVS; and CIGNA operates CIGNA Pharmacy Management, in addition to proposing to acquire Express Scripts. See also Sood Report at 10.

¹¹ See testimony presented at a June 19, 2018, hearing concerning the proposed CVS-Aetna merger before the California Department of Insurance by University of California at Hastings Law Professor and prominent antitrust in healthcare scholar, Thomas Greaney, accessible at <http://www.insurance.ca.gov/01-consumers/110-health/60-resources/CVS-Aetna-Merger-Information.cfm>.

¹² Sood Report at 8

¹³ See Dr. Starc's attached Report at 11.

¹⁴ See e.g. Thomas Moriarty Esq., testimony before the US House Judiciary Committee at a hearing entitled "Competition in the Pharmaceutical Supply Chain: The Proposed Merger of CVS Health and Aetna (February 26, 2018).

¹⁵ Starc Report at 11.

¹⁶ Sood Report at 12.

A Merged CVS-Aetna is Likely to Foreclose Aetna Rivals by Refusing to Supply Retail Pharmacy Services to them or by providing them those Services on Disadvantageous Terms

Just as a merged CVS-Aetna is likely to disadvantage insurer competitors needing PBM services, the merged firm may also foreclose competing insurers from access to CVS “must have” retail pharmacies, either entirely or by offering terms that are not competitive with those offered Aetna. Professor Sood reasons that CVS-Aetna could leverage its must-have pharmacy network to disadvantage competing plans.¹⁷ Health plans that do not have CVS in their pharmacy network will be less attractive to consumers, especially in markets where CVS has a dominant market share. CVS-Aetna could exploit this fact to charge higher prices to health plans competing with CVS-Aetna. This effect, says Professor Starc, may be especially important in the market for generic drugs, which are generally competitive at the wholesale, but not the retail level and represent a large fraction of total bills.¹⁸ In recent years, prices for some generic molecules (even particularly old ones whose branded equivalents’ patents expired decades ago) have increased substantially. According to Professor Sood, if health plans refused to accept the high prices and do not include CVS-Aetna pharmacies in their network, they risk losing customers. If they accept the high prices, then they face higher health care costs, which might result in higher premiums and lower market share for these health plans. This will result in less competition in the insurance market.¹⁹

The likelihood of the merged firm’s pharmacy customers falling victim to the merged company’s favoring the Aetna side of its business is enhanced by “the numbers.” Professor Sood has found that “one insurance customer is as valuable as roughly nine pharmacy customers; providing strong incentives for CVS-Aetna to disadvantage competing health plans to gain insurance customers even if it risk losing some PBM customers.”²⁰

The Merger is Likely to Lead to Anticompetitive Behavior Due to Information Sharing Among Competing Health Insurers

If CVS were to merge with Aetna, then health plan entrants and Aetna rivals seeking PBM partners would essentially be forced to share sensitive information with insurer competitors – something they may be loath to do even with the promise of information firewalls.

For example, if the merger were approved, Aetna could potentially have access to the prescription drug experience of Aetna’s competitors, which might help it engage in cream-skimming. Aetna could determine the illness profile of its competitors’ covered populations. If Aetna determines that those populations consist of desirable insureds, it can design formulary profiles and other health insurance benefit design features to attract them. But if they have high drug expenditures, Aetna could steer them away.

Aetna’s potential post-merger access to competing health insurer confidential business information could also create opportunities for monitoring competitors’ costs and for health insurer collusion that are additional reasons for opposing the merger.

¹⁷ Sood Report at 11.

¹⁸ Starc Report at 11.

¹⁹ Sood Report at 10 and Starc Report at 11.

²⁰ Sood Report at 12.

CONCLUSION

For all the reasons expressed in this statement and reports accompanying this statement, it is the AMA's opinion that this merger would likely substantially lessen competition in Connecticut health insurance markets. The nation has learned the hard way that overlooking consolidation and its anticompetitive effects in health insurance is costly. The AMA, therefore, respectfully requests that the Commissioner block the proposed CVS-Aetna merger.

Exhibits to American Medical Association Statement to
Connecticut Department of Insurance on the
Proposed Merger of CVS-Aetna
October 2, 2018

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- Exhibit A Can you make Exhibit A the following: Sheffler, Richard, Ph.D., “Report Regarding CVS Health Corporation’s Proposed Acquisition of Aetna Inc. in Connecticut”
- Exhibit B Neeraj, Sood, Ph.D., “Potential Effects of the Proposed CVS Acquisition of Aetna on Competition and Consumer Welfare”
- Exhibit C Starc, Amanda, Ph.D., “Comments on Selected Issues re: The Proposed Mergers of Aetna and CVS”

Report Regarding CVS Health Corporation's Proposed Acquisition of Aetna Inc. in Connecticut
by
Richard M. Scheffler
September 12, 2018

Qualifications

I am a Distinguished Professor Emeritus of Health Economics and Public Policy at the School of Public Health and the Goldman School of Public Policy at the University of California, Berkeley. I hold the Chair in Healthcare Markets and Consumer Welfare endowed by the Office of the Attorney General for the State of California and am the founding director of The Nicholas C. Petris Center on Health Care Markets and Consumer Welfare.

I recently testified at the California Department of Insurance's June 19, 2018 hearing on CVS Health Corporation's proposed acquisition of Aetna Inc. Additionally, I testified at the January 22, 2016 hearing on Centene Corporation's proposed acquisition of Health Net, Inc. and the California Department of Insurance's March 29, 2016 hearing on Anthem, Inc.'s proposed acquisition of Cigna Corporation. I also testified at the Federal Trade Commission and Department of Justice Meeting: Examining Healthcare Competition in Washington D.C. (February 25, 2015).

For further background on the Medicare Part D market and a literature review on the impact of market power on Medicare Part D premiums, see the June 19, 2018 testimony I delivered before the California Department of Insurance.¹

I thank the American Medical Association for supporting my work that went into preparing this report. My report reflects my views and opinions, not necessarily the views of the American Medical Association.

Connecticut's Medicare Part D Stand-alone Prescription Drug Plan (PDP) Market

In 2018, 43 million of the 60 million people with Medicare have prescription drug coverage under a Medicare Part D plan.² Of the 43 million, 25 million (58%) are covered under a stand-alone prescription drug plan (PDP) while the remaining 18 million (42%) are enrolled in Medicare Advantage prescription drug plans (MA-PDs).² In this report, I focus exclusively on the PDP market – the part of the Medicare Part D market where CVS Health Corporation and

¹ Scheffler, Richard M. "Testimony Regarding CVS Health Corporation's Proposed Acquisition of Aetna Inc." Expert testimony before the California Department of Insurance. June 19, 2018. Available from: <http://www.insurance.ca.gov/01-consumers/110-health/60-resources/upload/Scheffler-CVS-Aetna-Testimony-06-19-18.pdf>

² Cubanski, Juliette, Anthony Damico, and Tricia Neuman. "Medicare Part D in 2018: The Latest on Enrollment, Premiums, and Cost Sharing." San Francisco, CA: Kaiser Family Foundation. May 17, 2018. Available from: <https://www.kff.org/medicare/issue-brief/medicare-part-d-in-2018-the-latest-on-enrollment-premiums-and-cost-sharing/>

Aetna Inc. have competing business. In Connecticut, just under 300,000 people are enrolled in a PDP in 2018.³

Table 1 shows Connecticut PDP market shares by plan sponsor in 2018. In 2018, UnitedHealth Group, Inc. has the largest market share with just under 29% of PDP enrollment in the state. CVS Health Corporation and Aetna Inc. rank 2nd and 5th, respectively, in terms of market share at 21.7% and 8.9%. A CVS Health Corporation acquisition of Aetna Inc. would make the combined company number one in terms of market share at 30.6% market share.

Table 1. Connecticut PDP Market Enrollment and Market Shares, 2018

Plan Sponsor	Enrollment	Market Share (%)
UnitedHealth Group, Inc.	84,010	28.6
CVS Health Corporation	63,771	21.7
Express Scripts Holding Company	39,358	13.4
Humana Inc.	39,153	13.3
Aetna Inc.	26,046	8.9
WellCare Health Plans, Inc.	14,960	5.1
Anthem Insurance Co. & BCBSMA & BCBSRI & BCBSVT	10,827	3.7
Rite Aid Corporation	9,766	3.3
CIGNA	4,432	1.5
TOTAL	292,323	99.5%*

Note: *Only plan sponsors with greater than 1% market share are included in the table.

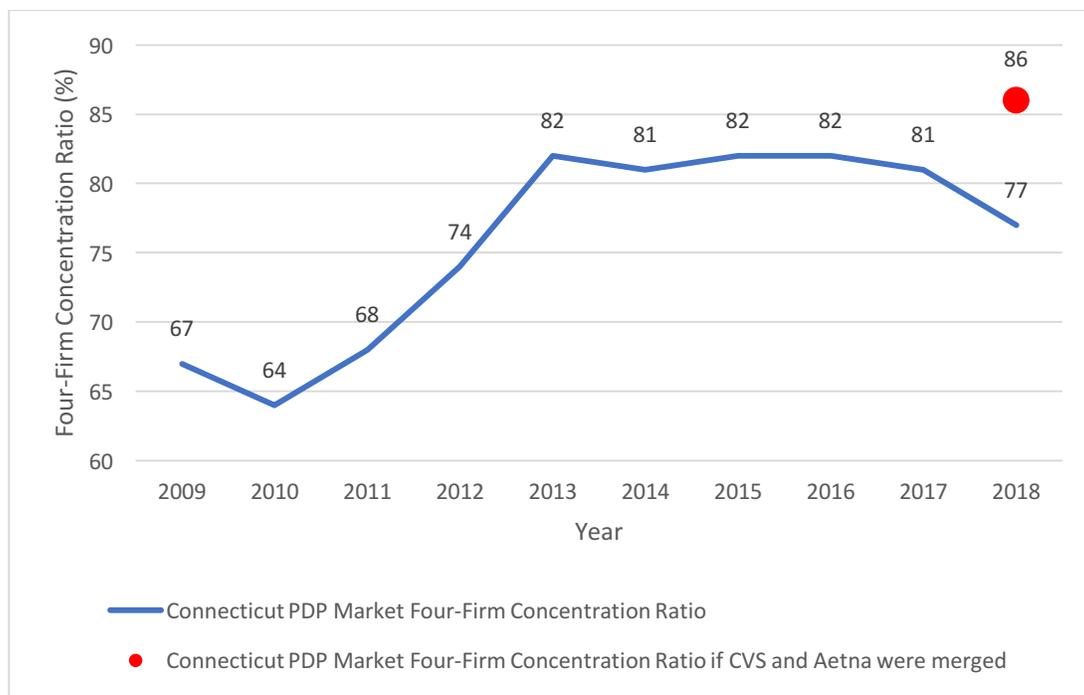
Figure 1 shows the four-firm concentration ratio in the Connecticut PDP market from 2009 to 2018. The four-firm concentration ratio is simply the sum of the market shares of the four firms with the largest market shares. In 2009, the four-firm concentration ratio in the Connecticut PDP market was 67%. By 2018, the four-firm concentration ratio was 77% -- an increase of 10 percentage points.

The combined facts of (1) a Connecticut PDP four-firm concentration ratio of 77% (2) CVS Health Corporation’s PDP market share of 21.7%, and (3) Aetna Inc.’s PDP market share of 8.9% are “prima facie evidence of a violation of competitive standards” according to Conn. Gen. Stat. § 38a-131 (d)(1)(A)(i)(I). If CVS and Aetna had been merged in 2018, the Connecticut PDP market four-firm concentration ratio would have been 86%. Additionally, there is also “prima facie evidence of a violation of competitive standards” according to Conn. Gen. Stat. § 38a-131 (d)(1)(B). Conn. Gen. Stat. § 38a-131 (d)(1)(B) states there is evidence of a violation of competitive standards if “there is a significant trend toward increased concentration in the market.” A significant trend is considered to have occurred “when the aggregate market share for

³ Author’s analysis of PDP enrollment data from the Centers of Medicare & Medicaid Services (CMS). Available from: <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MCRAAdvPartDENrolData/Monthly-PDP-Enrollment-by-State-County-Contract.html>

any grouping of the largest insurance companies in the market, from the two largest to the eight largest, has increased by seven per cent or more of the market over a period extending from any base year not less than five years and not more than ten years prior to the proposed acquisition.” The change in the four-firm concentration ratio from 2010 to 2018 shown in Figure 1 satisfies this condition. The market shares of the four largest firms in the market increased by 20 percent (64 percent in 2010 to 77 percent in 2018) over a period of eight years.

Figure 1. Connecticut’s Medicare Part D Stand-alone Prescription Drug Plan (PDP) Four-Firm Concentration Ratio, 2009-2018



Note: A four-firm concentration ratio is the sum of the market shares of the four firms with the largest market shares.

CMS’ Connecticut, Massachusetts, Rhode Island, Vermont PDP Region

The Centers for Medicare & Medicaid Services (CMS) divides states into 34 PDP regions.⁴ Connecticut, Massachusetts, Rhode Island, and Vermont make up one of the 34 PDP regions. This section reproduces the analysis of the previous section, but under the assumption that the Connecticut/Massachusetts/Rhode Island/Vermont PDP market is the relevant geographic market, rather than the state of Connecticut.

In 2018, the four-firm concentration ratio of the Connecticut/Massachusetts/Rhode Island/Vermont PDP market is 73%. The 2018 market shares of CVS Health Corporation and Aetna Inc. 26.6% and 7.9%, respectively, in the Connecticut/Massachusetts/Rhode Island/Vermont PDP market (see Table 2). A CVS Health Corporation acquisition of Aetna Inc.

⁴ <https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/downloads/PDPRegions.pdf>

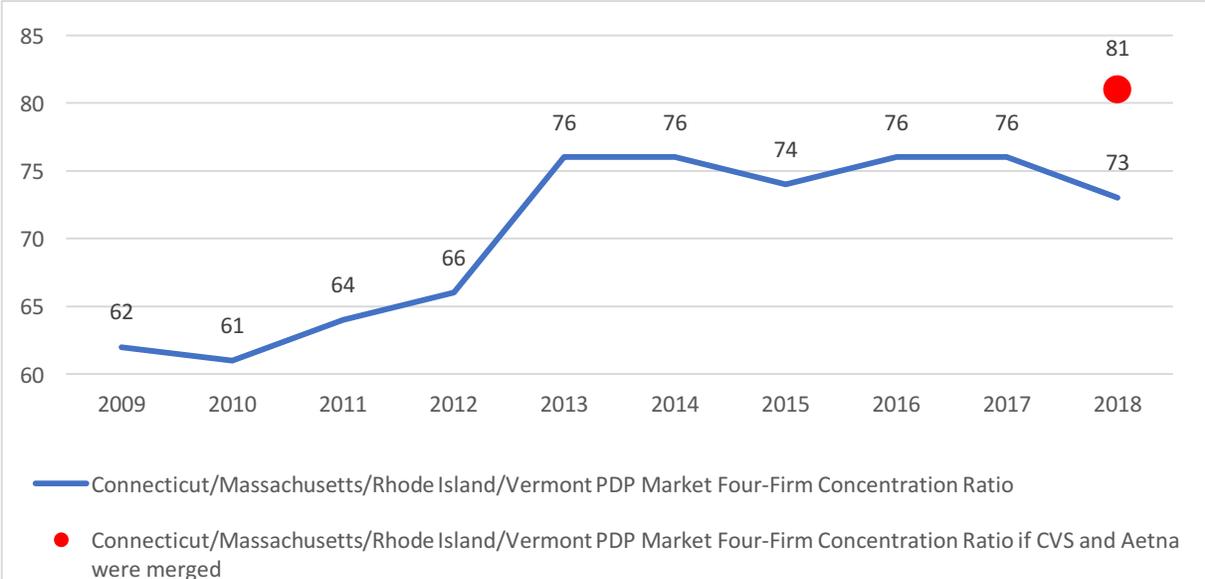
would give the combined company 34.5% market share in the Connecticut/Massachusetts/Rhode Island/Vermont PDP market. A CVS Health Corporation acquisition of Aetna Inc. would increase the four-firm concentration ratio in the Connecticut/Massachusetts/Rhode Island/Vermont PDP market to 81% (see Figure 2).

Table 2. Connecticut/Massachusetts/Rhode Island/Vermont PDP Market Enrollment and Market Shares, 2018

Plan Sponsor	Enrollment	Market Share (%)
CVS Health Corporation	310,117	26.6
UnitedHealth Group, Inc.	216,840	18.6
Humana Inc.	164,509	14.1
Anthem Insurance Co. & BCBSMA & BCBSRI & BCBSVT	158,570	13.6
Aetna Inc.	91,712	7.9
Express Scripts Holding Company	90,574	7.8
WellCare Health Plans, Inc.	66,119	5.7
Rite Aid Corporation	43,012	3.7
CIGNA	13,266	1.1
TOTAL	1,154,719	99.1%*

Note: *Only plan sponsors with greater than 1% market share are included in the table.

Figure 2. Connecticut/Massachusetts/Rhode Island/Vermont’s Medicare Part D Stand-alone Prescription Drug Plan (PDP) Four-Firm Concentration Ratio, 2009-2018



Note: A four-firm concentration ratio is the sum of the market shares of the four firms with the largest market shares.

The combined facts of (1) a Connecticut PDP four-firm concentration ratio of 73% (2) CVS Health Corporation's PDP market share of 26.6%, and (3) Aetna Inc.'s PDP market share of 7.9% are "prima facie evidence of a violation of competitive standards" according to Conn. Gen. Stat. § 38a-131 (d)(1)(A)(i)(II). Additionally, there is also "prima facie evidence of a violation of competitive standards" according to Conn. Gen. Stat. § 38a-131 (d)(1)(B). Conn. Gen. Stat. § 38a-131 (d)(1)(B) states there is evidence of a violation of competitive standards if "there is a significant trend toward increased concentration in the market." A significant trend is considered to have occurred "when the aggregate market share for any grouping of the largest insurance companies in the market, from the two largest to the eight largest, has increased by seven per cent or more of the market over a period extending from any base year not less than five years and not more than ten years prior to the proposed acquisition." The change in the four-firm concentration ratio from 2010 to 2018 shown in Figure 2 satisfies this condition. The market shares of the four largest firms in the market increased by 20 percent (61 percent in 2010 to 73 percent in 2018) over a period of eight years.

Richard Scheffler 09/28/18



Potential effects of the proposed CVS acquisition of Aetna on competition and consumer welfare

Neeraj Sood, PhD

June 14, 2018

I thank the American Medical Association for supporting my work in preparing this report. This report reflects my views and opinions, not necessarily the views of the American Medical Association or of my employer, the University of Southern California.

A. About the author

I am a Professor of Health Policy and Vice Dean for Research at the Sol Price School of Public Policy, University of Southern California (USC). Sol Price School of Public Policy is ranked 3rd in health policy and management in the nation by the US News and World Report. I am a faculty member and past Director of Research of the USC Leonard D. Schaeffer Center for Health Policy and Economics. I am also a research associate at the National Bureau of Economic Research -- the nation's premier economics research organization.

I have published more than 100 papers and reports on health policy and economics. My past research has focused on health insurance markets, pharmaceutical markets and global health. This research has been published in leading journals in economics, health policy and medicine including publications in the *Quarterly Journal of Economics*, *Journal of Economic Perspectives*, *Journal of Health Economics*, *JAMA* and *Health Affairs*. My work on health care costs and the pharmaceutical supply chain has been cited by the Council of Economic Advisors of President Obama and President Trump. I have been invited to participate in expert consensus committees of the National Academies of Science, Engineering and Medicine. I have received more than \$10 million in extramural research funding and have been a scientific advisor and consultant for several organizations in the health care industry. My work has also been featured in media outlets including the *New York Times*, *Washington Post*, *U.S. News and World Report*, and *Scientific American*. I was the finalist for the 16th and 21st Annual NIHCM Health Care Research Award, recognizing outstanding research in health policy. I was also the 2009 recipient of the Eugene Garfield Economic Impact Prize, recognizing outstanding research demonstrating how medical research impacts the economy.

I am an associate editor for leading journals in my field including the *Journal of Health Economics* and *Health Services Research*. I am also a board member of the *American Society of Health Economists*. Prior to joining USC, I was a senior economist at RAND. I obtained my PhD in Public Policy from the Pardee RAND

Graduate School and Masters in Economics from Indiana University and Delhi University.

B. Scope of this report

This report reflects my opinions and views on the potential effects of the proposed merger of CVS and Aetna on competition in the insurance, pharmacy, and pharmacy benefit management market. Evaluation of the detrimental or beneficial effects of the merger through other potential pathways was beyond the scope of this report. These views are based on my assessment of economic theory, past research, and data on the structure, conduct and performance of firms in relevant industries. Some of the statements in this report are forward-looking statements or predictions and thus inherently involve uncertainties. I use underline font to highlight key points.

C. Market overview

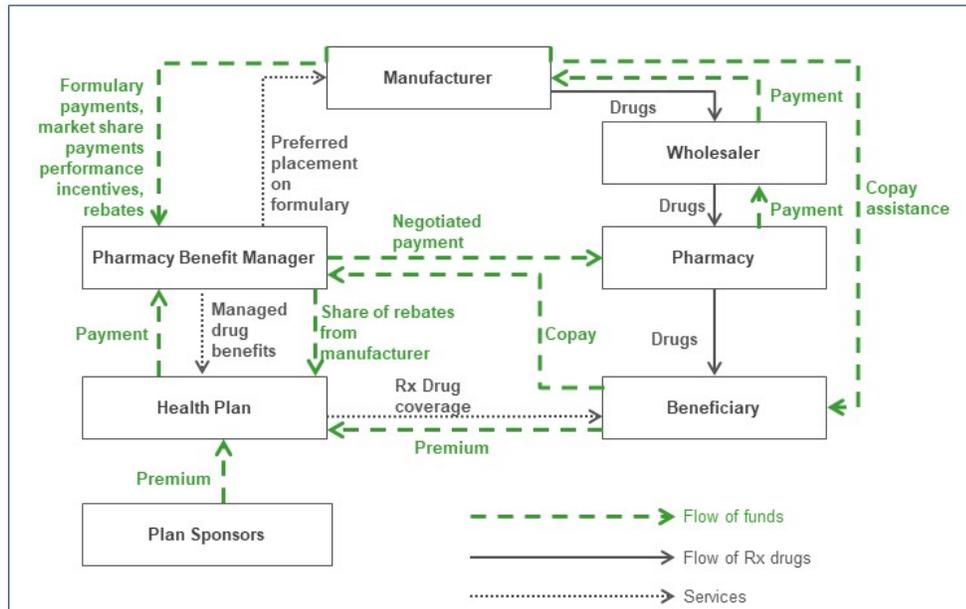
CVS and Aetna are major players in the pharmaceutical supply chain. Therefore, to understand the potential consequences of CVS's acquisition of Aetna we need to first understand the flow of funds and services in the pharmaceutical supply chain. Below, I give a primer on this complex supply chain based on my recent publication on this market.¹ Figure 1 provides a graphical representation of the supply chain.

a. The flow of drugs

Consider an insured consumer who purchases a drug from a retail pharmacy. The pharmacy dispenses the drug to the consumer. The pharmacy acquires the drug from a wholesaler and the wholesaler in turn acquires the drug from a manufacturer. So, the drug supply chain is manufacturer to wholesaler to pharmacy to consumer.

¹ http://healthpolicy.usc.edu/documents/USC%20Schaeffer_Flow%20of%20Money_2017.pdf, accessed May 18, 2018.

Figure 1: The flow of drugs, funds and services in the pharmaceutical supply chain



b. The flow of funds

The flow of funds is more complex than the flow of drugs. The insured consumer pays a copay or coinsurance to the pharmacy at the point of purchase. The pharmacy passes the copay or coinsurance to the pharmacy benefit manager (PBM). The pharmacy also invoices the PBM for providing the drug to the insured consumer. The PBM pays the pharmacy the negotiated rate for the drug. The PBM in turn invoices the health plan for reimbursing the pharmacy. The health plan pays the PBM. The health plan generates revenue by charging premiums to consumers or their employers. The pharmacy restocks the drug by paying a wholesaler for the drug. The wholesaler in turn pays a manufacturer for the drug. The manufacturer pays a rebate to the PBM. The PBM passes some of the rebate back to the health plan. The manufacturer might also pay the consumer in the form of a copay coupon.

c. The flow of services

Pharmacies provide retail service or the storefront for consumers to purchase drugs. Wholesalers purchase drugs from manufacturers and sell drugs to pharmacies. Thus, they provide drug distribution and storage services. Manufacturers conduct research and development to discover new drugs. They obtain approval from the Food and Drug Administration to sell the drug to consumers. Once a drug is approved, manufacturers produce and market the drug to doctors, health plans and consumers. Health plans provide insurance to consumers and thus take on the risk of high prescription drug costs and health care costs. PBMs are agents of health plans. They provide two core services to a health plan. First, they negotiate rebates with manufacturers in exchange for preferred formulary placement (lower copays or coinsurance) for the manufacturers' drugs relative to drugs from competing manufacturers. Second, they negotiate contracts with pharmacies and thus decide whether a pharmacy will be in the network and the reimbursement the pharmacy will receive for dispensing drugs to the insured consumer.

d. Market structure and conduct

I estimate that for every \$100 in spending by an insured consumer on a drug sold in a retail pharmacy only \$58 reaches the manufacturer and the remaining \$42 is kept by intermediaries or "middlemen".² Insurers keep \$19, PBMs keep \$5, pharmacies keep \$15 and wholesalers keep \$2. The analysis does not directly address the question of whether these returns are "excessive". However, market concentration or lack of competition is an important indicator of companies' ability to earn excess returns, and several segments of the pharmaceutical supply chain are highly concentrated. The top three PBMs account for 70% of the market, the top three pharmacies account for 50% of the market, and the top three wholesalers account for 90% of the market.^{3,4,5} Similarly, the large group health insurance market is also

² http://healthpolicy.usc.edu/documents/USC%20Schaeffer_Flow%20of%20Money_2017.pdf, accessed May 18, 2018.

³ <http://www.drugchannels.net/2017/12/the-cvs-aetna-deal-five-industry-and.html>, accessed May 22, 2018.

⁴ <http://www.drugchannels.net/2018/02/the-top-15-us-pharmacies-of-2017-market.html>, accessed May 22, 2018

highly concentrated with the top three insurers accounting for more than 50% of the market in 33 states.⁶

Market power in the pharmaceutical supply chain can hurt consumers by increasing drug spending and out of pocket costs. Prior research documents that market power manifests itself in several practices of intermediaries in the supply chain that potentially harm consumers. For example, my prior work suggests that pharmacies within a local market charge widely varying prices for exactly the same product. The research also suggests that drug prices found at independent pharmacies or at online discount websites were lower on average than prices at chain drug stores.⁷ Similarly, insurers often charge consumers more in out of pocket costs than the drug acquisition costs for the insurer. According to a recent study by my colleagues, almost a quarter of pharmacy prescriptions involved a patient copayment that exceeded the average reimbursement by the insurer or PBM to the pharmacy.⁸ Furthermore, insurer and PBMs often have “gag clauses” which prohibit the pharmacy from disclosing to consumers that they could save money by paying cash for their prescription drugs rather than using their insurance.⁹ Finally, PBMs might not be good agents of health plans and consumers. PBMs often do not disclose the amount of rebates they receive from manufacturers raising questions about the extent to which they pass on rebate dollars to health plans. For example, Anthem, the second largest health plan in the US, recently sued its PBM, Express Scripts, saying it withheld billions in cost savings owed to Anthem. Similarly, PBMs sometimes create incentives to increase drug prices in return for higher rebates. The increase in drug prices might offset the savings from rebates, so that health plans

⁵ <https://www.mdm.com/2017-top-pharmaceuticals-distributors>, accessed May 22, 2018.

⁶ <https://www.kff.org/other/state-indicator/market-share-and-enrollment-of-largest-three-insurers-large-group-market/?currentTimeframe=0&print=true&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>, accessed May 22, 2018.

⁷ Arora, Sanjay, Neeraj Sood, Sophie Terp, and Geoffrey Joyce. "The price may not be right: the value of comparison shopping for prescription drugs." *The American journal of managed care* 23, no. 7 (2017): 410-415.

⁸ http://healthpolicy.usc.edu/documents/2018.03_Overpaying%20for%20Prescription%20Drugs_White%20Paper_v.1.pdf, accessed May 22, 2018.

⁹ <https://www.nytimes.com/2018/02/24/us/politics/pharmacy-benefit-managers-gag-clauses.html>, accessed May 22, 2018.

end up paying more for drugs despite getting bigger rebates. In addition, the high drug prices hurt consumers in high deductible health plans who pay the list price of the drug rather than the price after rebates and other discounts.¹⁰

D. Key findings

In this section, I discuss the potential effects of the acquisition of Aetna by CVS on competition in insurance, pharmacy and PBM markets.

a. The merging firms

The merger of CVS and Aetna would merge firms with significant market power in their respective markets. Aetna is the third largest insurer in the US with more than 23 million persons receiving insurance through Aetna. Aetna's net revenues in 2016 were \$63 billion and its revenues have increased at about 10% per year.¹¹ CVS is the largest pharmacy company in the US and accounts for 24% of prescription drug revenues in the US. CVS is also one of the largest PBMs in the US and has a market share of about 24%.¹² CVS and Aetna both also sell Medicare Part D prescription drug plans. The combined revenues of CVS-Aetna would be \$221 billion making it the fourth largest company in the US.¹³ Thus, the merged entity CVS-Aetna would wield considerable market power in the health insurance, pharmacy, and PBM markets.

b. Potential effects on competition in insurance markets

Health insurance markets in the US are already characterized by a lack of competition. The federal trade commission considers markets to be highly concentrated if the HHI (a measure of market competition) for a market is greater than 2,500. According to recent data from an American Medical Association study,

¹⁰ <https://www.bloomberg.com/news/articles/2016-10-05/patients-lose-out-on-big-pharma-s-secret-rebate-merry-go-round>, accessed May 22, 2018.

¹¹ <https://healthpayerintelligence.com/news/top-5-largest-health-insurance-payers-in-the-united-states>, accessed May 22, 2018.

¹² <http://www.drugchannels.net/2017/12/the-cvs-aetna-deal-five-industry-and.html>, accessed May 22, 2018.

¹³ <http://investors.cvshealth.com/~media/Files/C/ CVS-IR-v3/AET%20transaction/ CVS-Aetna%20Investor%20Presentation.pdf>, accessed May 22, 2018.

the vast majority of US health insurance markets had an HHI greater than 2,500.¹⁴ For example, 94% of HMO markets are highly concentrated and 86% of PPO markets are highly concentrated. Data from the Kaiser Family Foundation for the individual, small group and large group market paint a similar picture of highly concentrated markets.¹⁵ Aetna is a dominant firm in the health insurance market. According to recent data, Aetna is the number 1 or number 2 insurer in over 70 HMO markets and over 100 PPO markets.¹⁶

The merged entity CVS-Aetna will be a formidable competitor in the health insurance market. The merger will further strengthen the already dominant position of Aetna and will exacerbate the lack of competition in health insurance markets. The competitive edge would come from CVS-Aetna's ownership and control of two segments of the pharmaceutical supply chain – PBMs and retail pharmacies.

PBMs are agents of health insurance plans. They help health plans negotiate with pharmacies and pharmaceutical firms. If CVS were to merge with Aetna, CVS would be a better agent for Aetna. Post-merger CVS would have a stronger incentive to control prescription drug costs (net of rebates) and overall health care costs for Aetna. CVS would have reduced incentives to engage in practices that increase rebates at the cost of increasing spending on prescription drugs for Aetna. Some of the savings to Aetna will be passed on to Aetna subscribers as lower premiums.

However, the extent of savings from CVS being a better PBM for Aetna depend on what PBM services CVS is providing to Aetna. Savings only arise if CVS is making strategic decisions for Aetna such as decisions on formulary design and price negotiations with pharmaceutical companies. Savings would be minimal or non-

¹⁴ Competition in health insurance: A comprehensive study of U.S. markets, 2017 Update. American Medical Association.

¹⁵ <https://www.kff.org/other/state-indicator/large-group-insurance-market-competition/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>, accessed May 22, 2018.

¹⁶ Competition in health insurance: A comprehensive study of U.S. markets, 2017 Update. American Medical Association.

existent if CVS is only providing administrative or claims processing services and Aetna is making its own decisions on formulary design and negotiations with pharmaceutical companies. Aetna's financial statements to the SEC state that "We also perform various pharmacy benefit management services for Aetna pharmacy customers consisting of: product development, Commercial formulary management, pharmacy rebate contracting and administration, sales and account management and precertification programs. Caremark PCS Health, L.L.C. (a wholly-owned subsidiary of CVS Health) performs the administration of selected functions for our retail pharmacy network contracting and claims administration; home delivery and specialty pharmacy order fulfillment and inventory purchasing and management; and certain administrative services. Other suppliers also provide certain pharmacy benefit management services."¹⁷ Therefore, Aetna's own financial statements to the SEC indicate that Aetna already performs its core PBM functions and thus the potential efficiencies from merging with the PBM arm of CVS would be minimal.

Post-merger, CVS would be a worse agent for other health plans. Post-merger, CVS would have weaker incentives to control prescription drug costs and overall health care costs for health plans competing with Aetna. As explained earlier, PBMs earn rebates from pharmaceutical firms. They make profits by keeping some of these rebates and passing the remaining back to health plans. Although passing rebates back to health plans lowers the profit margin of PBMs, they do so because it helps health plans lower costs and thus helps the PBM retain the business from health plans. The PBM arm of CVS-Aetna would have less of an incentive after the merger to pass rebate dollars back to health plans competing with the insurance arm of CVS-Aetna. The rationale is that passing rebate dollars to health plans competing with the insurance arm of CVS-Aetna will lower their costs and thus will hurt the insurance arm of CVS-Aetna. In other words, the PBM arm of CVS-Aetna has an incentive to disadvantage health plans competing with the insurance arm of CVS-

¹⁷ Aetna 10-K report available online at <http://investor.aetna.com/phoenix.zhtml?c=110617&p=irol-sec> , accessed May 22, 2018.

Aetna in passing rebates from pharmaceutical firms. This will likely result in less competition in the insurance market.

PBMs also negotiate prices with pharmacies on behalf of health plans. In these negotiations the PBM arm of CVS-Aetna has two potential conflicts. First, helping health plans competing with CVS-Aetna lower their pharmacy costs hurts the insurance arm of CVS-Aetna. Second, helping health plans competing with CVS-Aetna lower their CVS pharmacy costs hurts both the insurance arm of CVS-Aetna and the retail arm of CVS-Aetna. Therefore, the PBM arm of CVS-Aetna has an incentive to disadvantage health plans competing with the insurance arm of CVS-Aetna in negotiations with pharmacies. This will result in less competition in the insurance market.

Therefore, the merger simultaneously creates incentives for CVS to be a better agent for Aetna (which potentially helps consumers with insurance from Aetna) and be a worse agent for health plans competing with Aetna (which potentially hurts consumers with insurance from other health plans). CVS currently provides PBM services to 94 million plan beneficiaries of which about 22 million are Aetna subscribers.¹⁸

The adverse effects of the incentives for CVS-Aetna to disadvantage competing health plans are exacerbated by two facts. First, the PBM market is highly concentrated. So, health plans competing with CVS-Aetna do not have many options to switch PBMs. In addition, several of the largest PBM competitors for CVS-Aetna, such as OptumRx, Humana Pharmacy Solutions, and Prime Therapeutics are also owned by health plans. Second, CVS recently entered into an agreement to provide PBM services to Anthem. Anthem is the second largest health plan in the US and actively competes with Aetna in several insurance markets. For example, in Thousand Oaks, California, Aetna is the second largest insurer and faces stiff competition from Anthem which is the largest insurer. The story is the same in many

¹⁸ <https://cvshealth.com/about/facts-and-company-information>, accessed May 22, 2018.

other markets ranging from New Haven-Milford, Connecticut to Albany, Georgia to Evansville, Kentucky. The PBM arm of CVS-Aetna has a strong incentive to help the insurance arm of CVS-Aetna be the number one insurer in these markets.

CVS-Aetna will also own one of the largest retail pharmacy networks in the US. CVS Health financial statement filed with the SEC states: “We currently operate in 98 of the top 100 United States drugstore markets and hold the number one or number two market share in 93 of these markets.”¹⁹ CVS-Aetna could leverage this pharmacy network to disadvantage competing health plans. Health plans that do not have CVS in their pharmacy network will be less attractive to consumers, especially in markets where CVS has a dominant market share. CVS-Aetna could exploit this fact to charge higher prices to health plans competing with CVS-Aetna. If health plans refuse to accept the high prices and don’t include CVS-Aetna pharmacies in their network they risk losing customers. If they accept the high prices then they face higher health care costs which might result in higher premiums and lower market shares for these health plans.

One might question the size of the incentives for CVS-Aetna to disadvantage health plans competing with the insurance arm of CVS-Aetna. After all, if it does not provide competitive PBM and pharmacy services then health plans might drop CVS-Aetna and seek the same services from elsewhere. Consider a consumer who spends \$10,000 a year on average (this is roughly equal to US per capita health spending) on health care and \$1,000 or roughly 10% of her total spending (this is roughly equal to the fraction of health spending on prescription drugs) is on prescription drugs. Data from SEC on the profitability of PBM and health insurance sectors suggests a net profit margin of PBM services of 2.3% and a net profit margin of health insurers of 3.0%.²⁰ Therefore, if CVS-Aetna were to lose this consumer as a PBM customer then CVS-Aetna would lose about \$23 (2.3% x 1,000) in profits. However, if CVS-

¹⁹ <https://www.sec.gov/Archives/edgar/data/64803/000006480316000074/cvs-20151231x10k.htm>, accessed May 22, 2018.

²⁰ http://healthpolicy.usc.edu/documents/USC%20Schaeffer_Flow%20of%20Money_2017.pdf, accessed May 22, 2018

Aetna were to gain the same consumer as a health insurance customer then CVS-Aetna would gain about \$323 in profits stemming from \$300 (3% x 10,000) in profits from providing insurance and \$23 in profits from providing PBM services. Therefore, 1 insurance customer is as valuable as 14 PBM customers; providing strong incentives for CVS-Aetna to disadvantage competing health plans to gain insurance customers even if it risks losing some PBM customers.

The numbers are similar when we look at incentives on the pharmacy market. Net profit margins in the pharmacy sector are 4%.²¹ Therefore, if CVS-Aetna were to lose an average pharmacy customer they would lose roughly \$40 in profits per year. However, if CVS-Aetna were to gain this customer as a health insurance subscriber who also bought his or her prescriptions from CVS-Aetna they would stand to gain \$363 in profits. Therefore, 1 insurance customer is as valuable as roughly 9 pharmacy customers; providing strong incentives for CVS-Aetna to disadvantage competing health plans to gain insurance customers even if it risks losing some PBM customers.

Some might argue that lack of competition or greater market concentration in insurance markets might be a good for consumers. It might help health plans negotiate lower prices with hospitals and other health care providers and some of these savings might be passed to consumers as lower health insurance premiums. However, this view is not supported by past empirical research. An amicus brief filed by me and other leading health economists related to the merger of Anthem and Cigna summarizes the past empirical research as follows: “This body of work finds that *consolidation in health insurance markets does not, on average, benefit consumers*. Although, greater insurance market concentration tends to lower provider prices, there is no evidence the cost savings are passed through to

²¹ http://healthpolicy.usc.edu/documents/USC%20Schaeffer_Flow%20of%20Money_2017.pdf, accessed May 22, 2018

consumers in the form of lower premiums. To the contrary, premiums tend to rise with increased insurer concentration."²²

In summary, the potential benefits of merging the PBM arm of CVS with Aetna are likely to be minimal. In contrast, the merger creates strong incentives for CVS-Aetna to disadvantage health plans competing with CVS-Aetna. In my opinion, the potential costs of reduced competition due to foreclosure in the insurance market outweigh the potential efficiencies of the merger for CVS-Aetna in the insurance market.

c. Potential effects on competition in pharmacy markets

Pharmacy markets in the US are uncompetitive or highly concentrated. According to a 2015 study CVS and Walgreens together control between 50 and 75 percent of the drugstore market in each of the country's 14 largest metro-areas. They also control the majority of the market share in 70 of the top 100 metro-areas in the country.²³ The merger of CVS with Aetna will further strengthen the already dominant position of CVS in the pharmacy market and will exacerbate the lack of competition in pharmacy markets. The health insurance arm or PBM arm of CVS-Aetna could disadvantage pharmacies competing with CVS by excluding them from their pharmacy network or through other business practices. A recent news story in the Columbus Dispatch alleges that CVS already engages in some questionable practices in Ohio.²⁴ First, the story alleges that the PBM arm of CVS set up a website for consumers to compare drug prices. But the site disadvantaged pharmacies competing with CVS pharmacies by automatically putting CVS pharmacies at the top of the comparison list. Second, the PBM arm of CVS lowered Medicaid payment to independent pharmacies putting them under financial duress. Then the pharmacy arm of CVS sent letters to many of the same pharmacies, asking whether they would be interested in selling their pharmacies to CVS. Third, the

²² https://www.hbs.edu/faculty/Profile%20Files/Amicus%20Brief%20in%20re%20Anthem-Cigna%20Proposed%20Merger%202017_7df8927a-b54b-4ea2-a49c-55c98d6ef15c.pdf, accessed May 22, 2018.

²³ <http://www.businessinsider.com/cvs-and-walgreens-us-drugstore-market-share-2015-7>, accessed May 22, 2018.

²⁴ <http://www.dispatch.com/news/20180415/three-cvs-actions-raise-concerns-for-some-pharmacies-consumers>, accessed May 22, 2018.

insurance arm of CVS encouraged Medicare beneficiaries to transfer their prescriptions to CVS pharmacies to save money. These communications favored CVS pharmacies over other low-cost pharmacies. Such practices are not isolated to CVS. In September 2017, an independent pharmacy filed a lawsuit against Walgreens and a PBM called Prime Therapeutics.^{25,26} The lawsuit alleges that Walgreens and Prime Therapeutics entered into a business agreement in August 2016 which made Walgreens the primary retail pharmacy for Prime Therapeutics. The lawsuit alleges that Prime Therapeutics wrongfully terminated its contract with the plaintiff pharmacy because it wanted to advantage Walgreens.

In addition to the above practices, CVS-Aetna could also advantage CVS-Aetna pharmacies by creating a preferred network and giving preference to CVS-Aetna pharmacies in the network. The incentive to engage in practices that increase the fraction of Aetna subscriber prescriptions filled at CVS pharmacies increases post-merger as currently Aetna does not have an incentive to favor CVS pharmacies even though Aetna's PBM CVS-Caremark has an incentive to engage in practices that favor CVS. Post-merger this check on the incentives for CVS-Caremark to favor CVS will be reduced as Aetna will be part of CVS. Therefore, the merger likely cements CVS pharmacies already dominant position with Aetna and creates additional incentives to further increase the share of Aetna subscriber prescriptions filled by CVS pharmacies. This vertical foreclosure in the pharmacy market will lead to reduced competition in the pharmacy market by leading to exit of existing pharmacies or deterring entry of new pharmacies. Eventually reduced pharmacy competition will lead to higher pharmacy costs for health plans and consumers.

The effects of this vertical foreclosure on competition in the pharmacy market will be most severe in markets where Aetna has a dominant market share. Hovenkamp, a

²⁵https://www.duanemorris.com/alerts/small_pharmacy_hits_walgreens_prime_therapeutics_billion_dollar_antitrust_suit_0917.html?utm_source=Mondaq&utm_medium=syndication&utm_campaign=View-Original, accessed May 22, 2018.

²⁶<https://cookcountyrecord.com/stories/511114389-pharmacy-accuses-insurance-claims-processor-prime-therapeutics-of-squeezing-it-out-of-business>, accessed May 22, 2018.

leading antitrust scholar states that “Both tying arrangements and vertical mergers are condemned under the same Clayton Act standard when they “may substantially lessen competition,” and the fundamental concerns are the same. However, there are important factual differences. The vertical merger is more permanent than either tying or exclusive dealing contracts, and this serves to eliminate the considerable competition that occurs when vertical contracts must be renewed. Secondly, when tying or exclusive dealing is used to facilitate collusion, downstream firms upon whom these arrangements are imposed can be expected to resist. When the integration occurs by merger, however, the downstream business becomes part of the colluding firm itself. As a result, condemnation on market shares of 25% or perhaps 20% seems appropriate, provided that entry barriers are high and other market factors indicate that collusion or oligopoly is likely.”²⁷ Given that Aetna has greater than 20% market share in several MSA health insurance markets condemnation of the merger on the grounds of foreclosure in the pharmacy market is justified.

The potential anticompetitive effects in pharmacy markets should be compared to potential efficiencies. CVS argues that the merger will lead to lower health care costs through integration of pharmacy and medical data²⁸. One view is that providing medical data to pharmacists will allow them to better counsel patients. However, CVS-Aetna will likely not have access to electronic health record data for the vast majority of its subscribers. True integration of pharmacy and medical data to guide medical management of patients either in doctors’ offices or pharmacies will prove difficult without access to such data. I believe that just medical claims data is not sufficient to enhance the services provided by pharmacists.

Another view is that juxtaposing pharmacy data with medical data the health plan will be able to identify which types of drugs reduce medical spending. Using this insight, the health plan can design a better drug benefit to lower overall health spending. ↓

²⁷ Herbert Hovenkamp, Federal Antitrust Policy §9.4, at p. 346 (1994)

²⁸ <https://judiciary.house.gov/wp-content/uploads/2018/02/Moriarty-REVISED-Testimony.pdf>, accessed May 22, 2018.

certainly agree that integration of pharmacy and medical data has the potential to lower health care costs. Prior research clearly shows that more generous coverage of certain drugs or so-called value-based benefit designs lower medical spending.²⁹ However, it is unclear if Aetna already has access to its pharmacy data from CVS and if so, the extent to which the merger will lead to better integration of data.

In my opinion, the potential anticompetitive effects of the merger on pharmacy markets outweigh potential efficiencies from integration of pharmacy and medical claims data. Even if efficiencies exist, they can be achieved through contractual arrangements for sharing data across organizations.

d. Potential effects on competition in PBM markets

PBM markets in the US are uncompetitive or highly concentrated. The top 3 PBMs account for about 70% of the market share. Currently Aetna contracts with CVS for some PBM services, but Aetna has the option to drop CVS and choose another PBM if it is not satisfied with the service. A CVS-Aetna merger would mean that Aetna will not contract with a PBM since it will have its own in house PBM. Given that Aetna is the third largest insurer the merger reduces the size of the PBM market and thus reduces incentives for new PBMs to enter the market. In addition, several of the largest PBMs in the US such as OptumRx, Humana Pharmacy Solutions, and Prime Therapeutics are also owned by health plans. So new stand-alone PBM entry is unlikely given that several health plans already have their own PBMs. It seems likely that the only PBMs vertically integrated with a health plan might be able to effectively compete in this market place.

Some argue that greater market concentration in the PBM market is good for consumers because it helps PBMs negotiate lower prices for drugs. However, there is no empirical evidence that larger PBMs actually reduce drug costs for health plans. On the contrary, recent news stories suggests that several health plans and

²⁹ <https://www.cbo.gov/publication/43741>, accessed May 22, 2018.

large employers are unhappy with large PBMs and are seeking alternate models.³⁰ Prior research on insurance markets suggest that when higher concentration leads to both high monopsony power and higher monopoly power, it can simultaneously lead to lower input prices and higher output prices.

E. Summary

In summary, several segments of the pharmaceutical supply chain are highly concentrated and several players engage in practices that hurt consumers. The acquisition of Aetna by CVS will increase incentives for CVS to be a better PBM for Aetna but it will simultaneously create incentives for CVS to be a worse PBM for health plans competing with Aetna. These incentives will likely reduce competition in health insurance markets. In my opinion, the potential costs of reduced competition in insurance markets outweigh potential benefits of CVS being a better PBM for Aetna. The acquisition of Aetna by CVS will also likely reduce competition in the pharmacy and PBM markets, increasing drug spending and out of pocket costs for consumers. The potential costs of reduced competition in pharmacy and PBM markets due to the merger outweigh potential benefits, if any, of integration of medical and pharmacy data due to the merger. Thus, within each of the specific markets- insurance, pharmacy and PBM- in which the merger is likely to have anticompetitive effects, there are no potential benefits of sufficient magnitude and certainty that would outweigh the anticompetitive effects of the merger. Evaluating whether there are other pathways through which the merger might benefit consumers is beyond the scope of this study.

³⁰ <http://prospect.org/article/hidden-monopolies-raise-drug-prices>, accessed May 22, 2018.

COMMENTS ON SELECTED ISSUES RE: THE PROPOSED MERGERS OF AETNA AND
CVS¹

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May 15, 2018

A handwritten signature in black ink, appearing to read 'A Starc', written over a horizontal line.

¹ I thank the American Medical Association for supporting my work in preparing this document. These comments reflect my views, not necessarily the views of the American Medical Association or of Northwestern University.

I. Qualifications

I am an Associate Professor of Strategy at the Kellogg School of Management at Northwestern University. I am also a Faculty Research Fellow at the National Bureau of Economic Research (NBER). Much of my research has been focused on health economics and health insurance, particularly on issues involving pharmaceutical markets and regulation. I have published numerous articles on industrial organization, health economics and insurance in journals including the *Review of Economic Studies*, *Review of Economics and Statistics*, *RAND Journal of Economics*, and *Journal of Health Economics*.

II. Introduction and Background

CVS Health operates both a pharmacy benefit manager (PBM) and pharmacies. As a PBM, they design pharmacy benefits for employers and health plans, including their own Medicare Part D Plans through subsidiary SilverScript Insurance Company. They also operate over 9,000 retail pharmacies. Aetna is a large, national insurer. Approximately half of their revenues were from Medicare (Medicare Part D and Medicare Advantage) and Medicaid products, while the remainder comes from the commercial market. In the latter market, they may not actually bear risk for medical or pharmacy benefits.

Both firms operate in highly concentrated industries, and the merged entity will have substantial overlap in the Medicare Part D market in particular. The level of concentration in both the PBM market and health insurance markets, in particular, have been the subject of recent antitrust scrutiny. In addition to potential harms from horizontal consolidation, the welfare effects of the merger depend on the impact of vertical integration on consumers.

In these comments, I do not cover all the issues relevant to an evaluation of the proposed merger. Instead, I concentrate more narrowly on the economic theory and empirical evidence on:

1. the extent to which market power is likely to harm consumers.
2. the extent to which foreclosure in PBM and health insurance markets could harm consumers.
3. the potential merger specific efficiencies.
4. the likelihood of pass-through of any savings to consumers.

In addition to summarizing previous research, I will draw conclusions based on economic theory. When doing so, I will make any assumptions explicit and be clear about my predictions regarding post-merger behavior.

III. Summary of Conclusions

I first review the extent to which the merger is likely to increase concentration in existing markets. Critically, the proposed merger will lead to increased concentration in the Medicare Part D insurance market. In Section IV below, I focus on describing both the market and the potential harms to consumers due to increased consolidation. Currently, Aetna has a 9% market share among Part D plans, with CVS Health (branded as SilverScripts) has an 24% market share; overlap is even greater in a subset of geographic markets. An increase in concentration could increase firm market power, leading to higher premiums. Economic evidence – from the Part D market and others – suggest that premium increases are likely.

Furthermore, I review the level of concentration in various markets in which CVS Health and Aetna currently operate. I describe the PBM industry, noting that approximately 70% of all prescriptions are processed by one of three firms, including CVS/Caremark. I further discuss adjacent markets, focusing on the specialty pharmacy market, in which 60% of all revenues are collected by one of three firms, including CVS.

In addition to these concerns, the proposed merger could also lead to foreclosure in the PBM or retail pharmacy markets. In particular, the merged entity could increase the cost of PBM services to insurers other than Aetna, the cost of prescription drugs to other payers, or make it difficult for other PBMs to attract customers. In doing so, they may reduce the attractiveness or increase the price of rival insurance products or make entry less likely. While the lack of data on these contractual arrangements has prevented careful empirical examination of these issues, I describe the economic theory and potential merger effects below.

However, it is possible that the merger could increase contracting efficiency by aligning incentives within benefit packages to lead to more efficient investment in enrollee health. I discuss the theoretical scope and empirical evidence for benefit design effects. These efficiencies are at least partially specific to integration. However, a potentially large portion of the potential gain could be achieved via contract or the efficiencies could be achieved through the development of an in-house PBM. Given the mix of enrollees in Aetna plans, I also discuss limitations to the size of these efficiencies.

Finally, I explore the extent to which any cost-savings are likely to be passed on to the consumer in the form of lower out-of-pocket costs or premiums. Theoretically, the magnitude of any cost savings for consumers will depend on the nature of competition in the insurance market.

Given the degree of concentration and horizontal consolidation in the insurance industry, it is reasonable to believe that any cost-savings will increase insurer profits, rather than reducing consumer costs. Empirically, there are reasons to be skeptical that the savings will be realized and ultimately captured by the consumer. Therefore, the potential for harm to consumers from this merger is likely to outweigh any gains.

IV. Pharmacy Benefits in the United States

Health insurance plans typically consist of a “medical benefit” and a “pharmacy benefit,” which need not be administered by the same insurer. In particular, health insurers often contract out pharmacy benefits to PBMs, who design formularies, run utilization management programs, establish networks of retail pharmacies, and negotiate rebates from the list prices for pharmaceuticals. Americans obtain pharmacy benefits in a variety of ways. For many, pharmacy benefits are part of the insurance package offered by employers. The insurers who service these contracts with employers may use a PBM to provide drug benefits. There are three large PBMs: Express Scripts, CVS Health, and OptumRx, which is itself owned by UnitedHealth Group. The high level of concentration in the PBM market has attracted attention by antitrust regulators (Brill 2012).

However, not all Americans obtain coverage through an employer. Public financing of pharmacy coverage is also common. In both the Medicaid and Medicare programs, much of the provision of drug coverage is outsourced to private insurers. Duggan and Scott Morton (2006) and Dranove, Ody, and Starc (2018) show that private insurers reduce overall expenditure and prices in the Medicare and Medicaid programs, respectively. However, to understand the impact

of the proposed merger, one must understand prescription drug coverage in the Medicare program in particular.

The Medicare Part D program, enacted under the Medicare Modernization Act in 2003, was introduced in 2006. Medicare beneficiaries can enroll in a private insurance plan that provides prescription drug coverage. For most Medicare beneficiaries not offered a plan by a previous employer, there are two ways to obtain Part D coverage. They can enroll in a stand-alone prescription drug plan (PDP) that only covers prescription drugs or they can enroll in a Medicare Advantage (MA) plan. In MA plans, Medicare pays most or all of the premiums to a private insurer. Most MA plans are managed care plans: in return for reduced choice of providers and utilization review, the Medicare beneficiary obtains more complete coverage, typically including pharmacy coverage. The market share of MA plans have fluctuated over time, primarily because of changes in reimbursement generosity.

Typically, enrollees in PDPs receive their medical coverage from traditional Medicare. Part D is heavily subsidized; as a result, it is financially beneficial for most Medicare beneficiaries to enroll in some form of drug coverage. The program requires insurers to provide coverage at least as generous as the “standard benefit,” which has a nonlinear structure in which the beneficiary pays differing out-of-pocket costs depending on the phase of the benefit design. Despite the large number of plan offerings typically available, markets are typically concentrated. Over 50% of Part D beneficiaries enroll in plans offered by three carriers.

The private insurers participating in the Medicare Part D program are free to negotiate drug prices with drug manufacturers and distributors. Most famously, PBMs can obtain “rebates” from manufacturers in exchange for preferred placement on formularies. Essentially,

pharmaceutical manufacturers give plans a discount in exchange for PBMs steering consumers to their drugs. Less well appreciated is negotiation with pharmaceutical distributors and retail pharmacies in particular. While many studies of drug pricing have focused on manufacturers' market power, pharmacy companies are increasingly concentrated as well.

V. Market Concentration

Health insurers sell policies to consumers, often through groups, and purchase services from health care providers. Insurer market power enables an insurer to charge premiums above average costs. Higher premiums could lead to inefficiently low levels of insurance or degradation of insurance quality. In the case of the proposed merger, harm to consumers is likely.

Economists have established that imperfect competition is likely to exist in many insurance markets, with important implications for policy. Leemore Dafny (2010) tests for the presence of imperfect competition in commercial insurance markets and argues that insurer market power is an important feature of the market she studies. In a 2014 paper, I show that the need to establish a credible “brand” and market to consumers can create a barrier to additional entry. As a result, economists typically model insurers as exerting pricing power in markets ranging from Medicare Part D (of particular interest here, see Ho, Hogan, and Scott Morton 2017) to exchanges (Ericson and Starc 2015, Jaffe and Shepard 2018, Tebaldi 2018).

Economists have further shown that the extent of competition varies across local markets, and explore the implications of local variation for consumers. The weight of the research indicates that more competing firms or less concentrated local markets lead to lower premiums. Leemore Dafny, Mark Duggan and Subramaniam Ramanarayanan used a merger of two large

national health insurance carriers to measure the effect of changes in local market concentration on employer health insurance premiums (2012). The authors found an increase in local concentration to be statistically associated with a significant increase in employer insurance premiums. As summarized by Leemore Dafny in testimony before the Senate, “There are a number of studies documenting lower insurance premiums in areas with more insurers, including on the state health insurance marketplaces, the large group market (self- and fully insured combined), and Medicare Advantage. A recent study suggests premiums for employer-sponsored fully-insured plans are increasing more quickly in areas where insurance market concentration is rising, controlling for other area characteristics such as the hospital market concentration” (Dafny 2015).

In the Medicare Part D context, a number of studies point to insurer pricing power. Francesco Decarolis, Maria Polyakova, and Stephen Ryan (2017) estimate mark-ups over costs in the order of 9 percent on average. As documented by both Keith Ericson (2013) and Kate Ho, Joseph Hogan, and Fiona Scott Morton (2018), premiums have increased over time as switching costs and, correspondingly, pricing power, have risen. Ericson finds that firms engage in an “invest then harvest strategy,” in which initially low premiums grew over time for plans with larger number of enrollees. Ho, Hogan, and Scott Morton explore the impact of alternative policies that reduce consumer switching costs and decrease premiums. Finally, Anna Chorniy, Daniel Miller, and Tilan Tang (2018) find that “premiums that rise by an average of 5.2% across all market and 7.3% in markets in which the merging parties overlap.” They also find limited evidence of lower plan generosity.

The relationship between concentration and the split of consumer and producer surplus is found more broadly. Marika Cabral, Michael Geruso, and Neale Mahoney (2018) find that

higher concentration is associated with higher profitability in the MA market. Leemore Dafny, Jonathan Gruber, and Christopher Ody (2015) show that higher insurer concentration leads to higher premiums in the newly created health insurance marketplaces. David Dranove, Anne Gron and Michael Mazzeo (2003) find that an increase in the number of competing HMOs in a given local market are associated with lower insurer profits.

The PBM market is also highly concentrated. Approximately 70% of all prescriptions are processed by one of three firms: Express Scripts, Caremark (owned by CVS Health) and Optum Rx (owned by UnitedHealth, Fein 2017). Both policymakers and economists have raised serious concerns about the lack of competition in the PBM market and its implications for consumers (Brill 2012, Garthwaite and Scott Morton 2018). Furthermore, the market is characterized by price obfuscation: in the absence of a well-functioning, competitive market, byzantine arrangements may harm consumers. While the nature of contracting also makes it difficult for researchers to evaluate the impact of competition on prices, the simultaneous presence of concentration and high and opaque prices is certainly suggestive. The high level of concentration in the PBM market is likely to persist due, in part, to barriers to entry in the industry. The scale required to negotiate favorable discounts from manufacturers makes it difficult for fringe players to compete.

Similar issues may apply in adjacent markets as well. For example, the specialty pharmacy market represents a growing proportion of drug costs. These pharmacies tend to focus on providing medications for consumers with complex medical conditions, including cancer, autoimmune disorders, cystic fibrosis, and HIV/AIDS. While the number of specialty pharmacy locations has increased over time, the market remains extremely concentrated. Nearly 60% of all specialty pharmacies revenues are collected by three largest firms – owned by CVS Health,

Express Scripts, and Walgreens Boots Alliance (Fein, 2017). While the merger does not entail horizontal overlap in this market, the foreclosure arguments described below are likely to apply in this market as well. For example, Aetna may attempt to steer at least a portion of their consumers to CVS's specialty pharmacy in ways that may harm competition or overall consumer welfare. Anticompetitive behavior is especially concerning in this setting, as it may have important clinical, in addition to financial, consequences.

VI. Foreclosure

Vertical mergers may lead a newly integrated distributor to stop selling products to a downstream firm's rivals, a practice known as vertical foreclosure. Such arrangements raise antitrust concerns, since rivals may be excluded from a market altogether or, more commonly, forced to use higher cost means to bring their products to market. Empirical evidence on the extent and impact of foreclosure in the health care industry is limited. Therefore, in this section, I outline the likely effects of integration and highlight the potential for vertical foreclosure in the affected markets.

a. Insurance Markets

The main concern is that merged entity could raise its rival's costs along two dimensions. First, the merged entity could increase the cost of PBM services to insurers other than Aetna; price increases could be facilitated by the lack of competition and opaque nature of pricing in the PBM market. Although Aetna is the third largest insurer in the United States, foreclosure may be a risky strategy, as it involves not aggressively bidding for a large fraction of the market. Aggressive bidding is unlikely especially to the extent that it will strengthen the position of Aetna's rivals in the downstream insurance market. While high market concentration is often a

cause for concern, it is particularly worrisome in the PBM market. Opaque pricing and the rebate structure give both the pharmaceutical manufacturer and the PBM incentives to allow higher list prices and higher rebates.

Second, and perhaps more important, the merged entity could increase the cost of prescription drugs to other payers. This effect may be especially important in the market for generic drugs, which are generally competitive at the wholesale, but not the retail level and represent a large fraction of total fills. In recent years, prices for some generic molecules (even particularly old ones whose branded equivalents' patents expired decades ago) have increased substantially.

b. PBM Markets

The ability to raise rivals' costs has important implications beyond the firms currently participating in the industry. In particular, the potential for vertical foreclosure could reduce the attractiveness of entry in either the PBM or insurance markets. PBMs know that they will have few potential customers absent Aetna, and, perhaps more importantly, non-integrated insurers will face weakly worse terms. Even if the PBM and health insurance markets were competitive, the merged firm could reduce future competition in the insurance market. If the merged entity is successful, future entry may require capabilities to be a payer, PBM, and provider, which may be difficult and especially costly for potential new entrants to replicate. In addition, the merger could make it less likely that fringe PBMs or new entrants can compete effectively for Aetna's business; high concentration and existing vertical arrangements between insurers and PBMs exacerbate the extent to which this will harm the profitability of such players.

Furthermore, the proposed merger may lead to fewer competitors in the PBM space for several reasons. First, Aetna has stated publicly that one alternative to the merger would be to build an in-house PBM (Sabatino 2018). Such a PBM could potentially add a meaningful competitor in a concentrated space. Second, despite claims that larger firms such as Amazon are poised to enter this space, the merger may impede future entry. In addition to the proposed merger, additional consolidation, including Cigna's proposed acquisition of Express Scripts, is likely in this market (Thomas, Abelson, and Bray 2018). Therefore, the merger may have negative implications for consumers in both the health insurance and PBM markets.

VII. Potential Efficiencies

The welfare impacts of vertical mergers depend on both the potential for foreclosure and the potential for efficiencies. CVS and Aetna have cited a number of potential efficiencies that could result from the merger. The merging entities claim that the combined company "could provide integrated community-based health care that would improve patient health outcomes, increased integration of data and analytics that would lower costs, and improved coordination to treat chronic disease" (Garthwaite 2018). In this section, I explore the extent to which improved coordination through combined contracting is likely to arise and to what extent any such efficiencies may be merger-specific.

The merging parties could better align incentives within insurance contracts. Specifically, PBMs may not always design insurance benefits in order to minimize overall medical expenditure if they are not fully at risk. Insurers that offer combined medical and pharmacy benefits may do more to increase drug adherence and reduce hospitalizations: for example, they

may ensure that patients are taking blood pressure medication to prevent cardiac events and avoid the associated costs.

Empirical evidence supports this hypothesis. In work with Robert J. Town, we find Medicare Advantage Part D (MA-PD) plans that cover drug and medical expenditures tend to be designed to keep consumers out of the hospital, as compared to stand-alone PDPs that only cover drugs. MA insurers charge consumers lower copays for preventative medications—which effectively means sending consumers the right price signals. Outside of the direct impact on plan enrollment, the PDPs have little incentive to consider the influence of their benefit design decisions on enrollee medical care utilization.

A potentially large portion of the potential gain could be achieved via contract. An insurer could put the PBM at risk for at least part of medical spending. Under such a contract, there will be an implicit trade-off: as the PBM faces higher powered incentives, they must also be compensated for taking on additional risk. Because insurers will not fully internalize the benefits of optimal insurance design across treatment modalities, it is impossible to achieve the savings without fully internalizing the risk associated with total spending – without taking on all of the risk associated with medical expenditure. Furthermore, as the health care landscape changes and emphasizing paying for value more and more, contracting issues are likely to become more acute.

These efficiencies could be achieved via merger or, alternatively, by developing an in-house PBM. Other players have pursued the latter approach. The savings are also potentially limited to the set of contracts joint to Aetna and CVS in which Aetna does not already control the formulary: plans in which the merged entity is *at risk* for both medical and pharmacy benefits.

In the Part D market, efficiencies will be limited by the (lack of) consumer switching from stand-alone plans to MA-PD plans. In the commercial market, efficiencies will be limited to fully insured contracts; these efficiencies do not apply to administrative services only contracts, which compose a significant fraction of Aetna's business.

VIII. Pass-Through of Cost Savings

Any savings obtained as a result of the merger could increase insurer profits or reduce premiums and increase plan generosity. Insurers frequently claim that cost savings will be passed through nearly one-for-one to consumers; however, theoretically, incidence will depend on the degree of competition in the market and enrollee selection. Consider pass-through under monopoly. When the monopolist sets price such that marginal cost is equal to marginal revenue, the decrease in price due to a reduction in marginal costs is smaller than under perfect competition because the marginal revenue curve is steeper than the demand curve. Under linear demand and constant marginal costs, we expect a pass-through rate of one-half, as the marginal revenue curve is twice as steep as the demand curve.

In work with Mark Duggan and Boris Vabson, we found that while an increase in MA reimbursement was successful in attracting more providers, it provided lackluster benefit to consumers. Only about one fifth of the additional reimbursement was passed through in the form of lower premiums, co-pays, or deductibles. The remaining 80 percent went to insurers' profits and advertising. While other estimates (Cabral, Geruso, and Mahoney 2018) find greater pass-through of reimbursements to consumers, all estimates in the literature imply incomplete pass-through: at least some of the benefits accrue to the supply side of the market. Similarly, we

should be skeptical of claims that the merged entity will naturally craft more competitively priced insurance products for employers and individual consumers.

Furthermore, a separate set of issues arises in the PBM market, in which confidential rebates may or may not be passed along to the consumer. In a competitive market, we expect PBMs to try to attract consumers by promising them a greater share of rebates. However, given firm behavior and price opacity in the PBM market, it is likely that a substantial fraction of any rebates are retained by the PBM. To the extent that the merger increases concentration in the PBM industry, it is even less likely that savings will accrue to the consumer.

IX. Conclusions

My comments do not cover all the issues involved in evaluating the proposed merger. Instead, I focus on the research relevant to insurer market power, foreclosure, a subset of the most achievable efficiencies, and their impact on consumer costs.

I argue that the markets in which CVS Health and Aetna operate are typically highly concentrated. I describe concentration in the PBM industry, the specialty pharmacy market, and, critically, the Medicare Part D market, in which the merging firms have substantial overlap. Economic research has shown that concentration in insurance markets leads to higher premiums for consumers. Furthermore, the merged entity has the potential to foreclose future entry or raise the costs of current rivals. Both insurer market power and the potential for foreclosure are likely to have negative impacts on consumer welfare.

There may be potential efficiencies that are created by the merged entity. I focus on one – the alignment of medical and pharmacy benefits – that may only be fully achieved through

integration, but may be partially achieved via contract or achieved through the development of an in-house PBM. I argue that any cost efficiencies are not likely to translate into lower premiums or more attractive benefit packages for consumers. Therefore, I conclude that the potential harm to consumer welfare from the proposed merger is likely to outweigh the potential gains.

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