

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

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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.<sup>1</sup> Figure 1 provides a graphical representation of the supply chain.

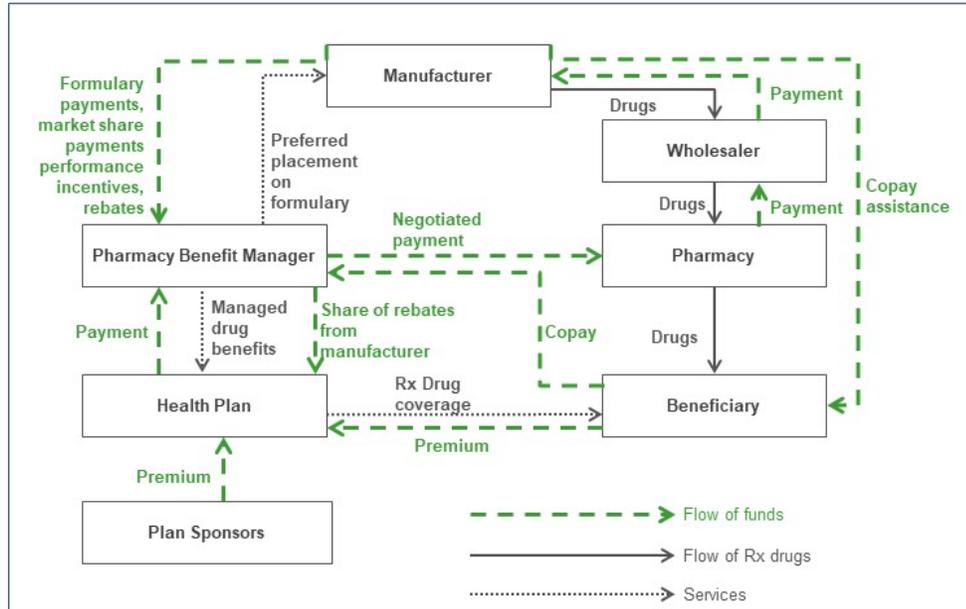
### **a. The flow of drugs**

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.

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<sup>1</sup> [http://healthpolicy.usc.edu/documents/USC%20Schaeffer\\_Flow%20of%20Money\\_2017.pdf](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".<sup>2</sup> 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.<sup>3,4,5</sup> Similarly, the large group health insurance market is also

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<sup>2</sup> [http://healthpolicy.usc.edu/documents/USC%20Schaeffer\\_Flow%20of%20Money\\_2017.pdf](http://healthpolicy.usc.edu/documents/USC%20Schaeffer_Flow%20of%20Money_2017.pdf), accessed May 18, 2018.

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

<sup>4</sup> <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.<sup>6</sup>

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.<sup>7</sup> 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.<sup>8</sup> 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.<sup>9</sup> 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

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

<sup>6</sup> <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.

<sup>7</sup> 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.

<sup>8</sup> [http://healthpolicy.usc.edu/documents/2018.03\\_Overpaying%20for%20Prescription%20Drugs\\_White%20Paper\\_v.1.pdf](http://healthpolicy.usc.edu/documents/2018.03_Overpaying%20for%20Prescription%20Drugs_White%20Paper_v.1.pdf), accessed May 22, 2018.

<sup>9</sup> <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.<sup>10</sup>

#### **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.<sup>11</sup> 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%.<sup>12</sup> 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.<sup>13</sup> 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,

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<sup>10</sup> <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.

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

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

<sup>13</sup> <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.<sup>14</sup> 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.<sup>15</sup> 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.<sup>16</sup>

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-

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

<sup>15</sup> <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.

<sup>16</sup> 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."<sup>17</sup> 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-

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<sup>17</sup> 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.<sup>18</sup>

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

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<sup>18</sup> <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.”<sup>19</sup> 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%.<sup>20</sup> 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-

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

<sup>20</sup> [http://healthpolicy.usc.edu/documents/USC%20Schaeffer\\_Flow%20of%20Money\\_2017.pdf](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%.<sup>21</sup> 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

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<sup>21</sup> [http://healthpolicy.usc.edu/documents/USC%20Schaeffer\\_Flow%20of%20Money\\_2017.pdf](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.<sup>22</sup>

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.<sup>23</sup> 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.<sup>24</sup> 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

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<sup>22</sup> [https://www.hbs.edu/faculty/Profile%20Files/Amicus%20Brief%20in%20re%20Anthem-Cigna%20Proposed%20Merger%202017\\_7df8927a-b54b-4ea2-a49c-55c98d6ef15c.pdf](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.

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

<sup>24</sup> <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.<sup>25,26</sup> 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

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<sup>25</sup>[https://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](https://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.

<sup>26</sup><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.”<sup>27</sup> 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 data<sup>28</sup>. 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. ↓

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

<sup>28</sup> <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.<sup>29</sup> 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

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

large employers are unhappy with large PBMs and are seeking alternate models.<sup>30</sup> 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.

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