A Review of the Filing Regarding the Proposed Acquisition and Control of Aetna Inc by CVS Health Corporation in Connecticut

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Introduction

This report reviews the potential competitive effects of the proposed acquisition of Aetna by CVS Health. The proposed acquisition would affect competition from both horizontal and vertical perspectives. Its net effect on consumer welfare will depend on the conduct of the merged entity. This merger may affect consumer welfare if it significantly changes the horizontal competitiveness of health insurance markets. It may also affect consumer welfare if it alters upstream markets in ways that increase or decrease the competitiveness of health insurance markets and, more specifically, the conduct and performance of the companies in these markets.

The two merging entities currently compete directly against each other only in the standalone Medicare Plan D (PDP) market. CVS is a supplier of retail pharmacy services, mail order pharmacy, Pharmacy Benefit Manager (PBM) services, and primary care services to Aetna and to competitors of Aetna in all health insurance markets in Connecticut.

We cannot predict with a high level of confidence how the proposed merger would affect prices or the quality of care in the relevant markets. Hence, we cannot predict with a high level of confidence whether the proposed merger would increase, decrease, or have no effect on consumer welfare. We can predict that the merger will increase entry barriers to health insurance markets by increasing the minimum efficient scale to compete in those markets. Higher entry barriers, all other things equal, will decrease the structural competitiveness of a market. It is our opinion that, if the Connecticut Insurance Department ("Department") chooses to approve this transaction, it should enhance its monitoring and analysis of the markets that would be affected by merger. It is our understanding that the Department will have the information it will need

to construct the required metrics for enhanced monitoring and analysis for some companies but not all companies. Hence, it will need to enhance the data reported by health insurers to construct the required metrics. These metrics and the analysis performed by the Department will inform any regulatory actions that may be warranted in response to firms' conduct and performance.

Below we discuss the horizontal and vertical aspects of this proposed merger and its implications for the structure of the relevant markets as well as firms' conduct and performance. This is followed by our recommendations on the metrics that the Department should construct and use to monitor and analyze structure, conduct, and performance in the markets that will be affected by the proposed merger. In the appendix, we summarize the data currently available to the Department for market monitoring and analysis. We conclude our report with a summary of the implications of our analysis with respect to the Department's consideration of the proposed merger.

Horizontal Implications of Proposed Merger

Currently, the two merging entities compete directly against each other only in the standalone Medicare Plan D (PDP) markets. There are three separate and distinct PDP markets: individual, group, and group administrative service only (ASO). ASO markets are excluded from our analysis.[1] The individual and group PDP markets are separable and distinct. They are regulated differently by the Medicare program, are marketed differently by insurers, and provide limited opportunities for consumers to substitute between them. Based on data reported by insurers to the Department, average premiums in the two markets are significantly different.

[1] ASO markets enroll a small fraction of PDP consumers and are not regulated by the State.

In response to concerns from the U.S. Department of Justice, CVS has proposed to divest Aetna's PDP plan (ALIC) and a PDP plan offered by Aetna's subsidiary First Health Life & Health Insurance Company. Currently in these markets, CVS has a significant share of the individual market as measured by either enrollment or total premiums (see Table 1).[2] Aetna has a large share of the group market as measured by either enrollment or total premiums, while ALIC is only in the individual market.

The Department of Justice (DOJ) and the Federal Trade Commission (FTC) consider markets with Herfindahl-Hirschman Indexes (HHIs) between 1,500 and 2,500 as "moderately concentrated."[3] The DOJ/FTC Horizontal Merger guidelines state that mergers "resulting in moderately concentrated markets that involve an increase in the HHI of more than 100 points potentially raise significant competitive concerns and often warrant scrutiny."[4]

In Table 1, we show our calculations of the market shares of CVS and Aetna and the HHIs based on the 2017 data collected by the Department, treating Aetna and ALIC as separate firms and competitors. We should also note that, in our calculations, ALIC is treated as a stand-alone company although our expectation is that ALIC's standalone

[2] This observation is based on data collected for the calendar year 2017 by the Department in 2018 through a special data call. We note here that the governing Connecticut statute uses premiums as the measure of firms' sales or quantity of output as the basis for determining their market shares and market concentration. However, calculating market shares or concentration in markets based on premiums can be affected by firms' pricing. Hence, enrollment may be a more reliable basis on which to determine firms' market shares and market concentration. In this case, regardless of whether enrollment or premiums are used as the measure of firms' sales or outputs, the indications are essentially the same even though the market metrics vary depending on which measures of sales/outputs are used.

[3] The HHI is calculated as the sum of the squares of the individual firms' market shares in a market multiplied by 10,000. We note that the HHI, which is a commonly used indicator of market concentration, places greater weight on the market shares of the largest firms in a market. This is consistent with economic theory that the "big players" in a market drive competition (or the lack of it) in a market.

[4] United States Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines (August 19, 2010) [hereinafter, 2010 Horizontal Merger Guidelines], available at www.ftc.gov/os/2010/08/100819hmg.pdf (Page 19).

Medicare Part D buisness will be sold to another company operating in the market.[5] Measured by premiums, the pre-merger HHI in the individual PDP market is 2,131. Post-merger it would be 2,285, which would constitute an increase of 154. In the group PDP market, also measured by premiums, the pre-merger HHI is 1,944. It would remain the same post-merger.

Measured by enrollment, the pre-merger HHI in the individual PDP market is 3,043; post-merger it would be 3,119, an increase of 76. The proposed merger would not change the HHI in the group market.

Table 1
Connecticut Part D Plan Individual and Group
Market Share and Herfindahl-Hirschman Index

	Enrollment		Premiums	
	Individual	Group	Individual	Group
SilverScript	18%	1%	23%	2%
Aetna (ALIC)	2%	0%	3%	0%
Combined	20%	1%	26%	2%
HHI Premerger	3,043	2,499	2,131	1,944
HHI No Divestiture Post-merger	3,252	2,760	3,006	2,008

Source: Connecticut Department of Insurance data, authors' calculations.

Regardless of whether enrollment or premiums are used to calculate the firms' market shares and the markets' HHIs, these markets are at least "moderately concentrated" according to the DOJ/FTC merger guidelines. Aetna's divestiture of its PDP business and its subsidiary PDP business would leave these calculations unchanged.

[5] Hence, the HHIs we calculate are lower than what they would be pre and post-merger. Our calculations of the changes in the pre and post-merger HHIs are not affected by our treatment of ALIC as a stand-alone company.

Without the divestiture, there would be significant increases in concentration in the individual market.

There is an extensive academic literature on the competitive effects of horizontal mergers and acquisitions in various industries including health insurance.[6] In a market that is not structurally competitive, sellers may behave in such a way as to limit the supply of a good or service with the objective of manipulating prices to earn excessive profits and/or cover the additional costs of inefficient operations (Scherer and Ross, 1990). All other things equal, higher levels of market concentration are expected to increase sellers' ability to engage in explicit or tacit collusion to manipulate a market. As a market becomes highly concentrated with two or three firms accounting for most (e.g., 80 percent or greater) of the production in that market, the potential for collusion among these firms increases substantially.

However, a high level of market concentration will not necessarily lead to a loss of consumer welfare as other factors come into play. One of these factors is the height of barriers to entry into and exit from the market. Even in a highly concentrated market, if costs of entry and exit are relatively low, the threat of new firms coming into the market can have a disciplinary effect on the incumbent firms in the market; this is known as "market contestability."[7] However, if entry barriers are high for health insurance markets, market contestability would not be factor. One of potential effect of this merger is to increase the cost of entry as a result of the efficiencies gained by health insurers that are

[6] See Gaynor, et al. (2015) and Gaynor, M., K. Ho, and R. Town **(**2015). "The Industrial Organization of Health Care Markets." *Journal of Economic Literature*, 53(2).

[7] According to the theory of contestable markets, even a highly concentrated market may still be structurally competitive if entry and exit barriers are relatively low (Baumol et al., 1982). The theory here is that low entry and exit barriers would make it easier for new firms to enter a market if the incumbent firms are engaging in some form of collusion or otherwise refraining from competing with each other. The ability of new firms to enter a market is hypothesized to have a disciplinary effect on the behavior of incumbent firms.

vertically integrated with healthcare providers and other firms involved in the delivery of healthcare services.

Other important factors affecting competition include the bargaining power of buyers, the availability and cost of consumer information, the availability and cost of substitute products and services, and the degree to which firms are regulated. Further, even in a market populated only by "giants," the giants may choose to strongly compete with each other rather than collude or find other ways to refrain from competition.

The divestiture of Aetna's PDP plans would mean that the competitiveness of the Medicare Part D markets would not change as a result of the acquisition of Aetna by CVS Health. The PDP markets, and other health insurance markets in Connecticut are moderately concentrated. The vertical implications of this merger could potentially affect the competitiveness of multiple health insurance markets in Connecticut.

Vertical Implications of Proposed Merger

This merger may affect consumer welfare if it significantly changes the competitiveness of upstream markets that supply inputs to the associated health insurance markets. Generally, vertical integration reduces transaction costs for inputs to the downstream (in this case, health insurance) markets, lowering costs, and increasing consumer welfare. Vertical integration may increase consumer welfare by reducing transaction costs, increasing efficiency, and harmonizing the incentives of the merging firms. For example, vertically integrated firm in health insurance markets may be better able to affect the utilization of health care services in ways that benefit consumers.[8]

[8] In this example, integration that results in better utilization of services could lower costs for plan enrollees and lead to better health outcomes. Alternatively, such integration could be exploited to lower the quality of care for plan enrollees in the desire to lower costs.

However, there may be number of potential anticompetitive outcomes of a vertical merger. Vertical integration may provide the merged firm with incentives and tools to reduce competition and increase prices in upstream markets that may result in reduced consumer welfare in the downstream market. Anti-competitive effects could include reduced entry (higher entry barriers) into an insurance market, increasing the costs of existing competitors in either the insurance market or in upstream markets such as primary care, and allowing anti-competitive information sharing (between the PBM and insurance operations within the merged firm) regarding insurers that compete with the merged firm.[9] Determining if a vertical merger reduces consumer welfare requires predictions about the post-merger conduct of the merged firm.

CVS currently provides a variety of services to Aetna and Aetna's competitors. These services include retail pharmacy, primary care, and pharmacy benefit management services. The intention of the merged firm is to integrate operations of all these service lines and associated data systems (pharmacy and claims) in the production of health insurance. The merging firms argue that the merger will "result in significant cost savings and increased overall health care efficiency by facilitating and accelerating the transition by the combined firm and the industry generally toward value-based provider and consumer collaboration models to reduce costs while maintaining and improving health outcomes." Further, they argue that the cost savings will be passed on to consumers in both the self-insured and fully-insured consumer markets. The empirical literature

[9] S. Salop and D. Culley, "Potential Competitive Effects of Vertical Mergers: A How-To Guide for Practitioners," (Dec. 8, 2014), available at http://scholarship.law.georgetown.edu/facpub/1392/.

indicates that the integration of insurers with health care providers has resulted in modestly lower health insurance premiums in the individual market.[10]

Health care services markets have become increasingly concentrated and integrated over the last two decades.[11] Studies examining health care services markets have found that greater concentration results in higher prices for health care services and has a limited effect on health care quality in lowering the quality of care.[12]

Recent innovations in payment structures for health services from both public and private insurers tie payment to performance metrics (value-based purchasing). Studies of the effects of these innovations have generally found some quality of care improvements and small decreases in health care services costs.[13] These innovations require health care providers to bear some financial risk and to engage in a variety of risk management strategies. Larger, more integrated health care provider organizations are better able to bear and manage these risks. However, this also leads to more concentrated health care services markets. Providers in health services markets that are more concentrated are less likely to participate in these payment structures.[14]

A recent study found that, in concentrated health insurance markets, premiums were higher for purchased coverage but self-insured employer plans purchasing

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[10] Ambar La Forgia, Jared Lane K. Maeda, and Jessica S. Banthin, "Are Integrated Plan Providers Associated With Lower Premiums on the Health Insurance Marketplaces?" *Medical Care Research and Review* (Vol 75, Issue 2, pp. 232 – 259 (Feb, 2017) https://doi.org/10.1177/1077558717692408

[11] Cutler, David, M; Fiona Scott Morton, "Hospitals, Market Share, and Consolidation" *JAMA. 2013;310(18):1964-1970. doi:10.1001/jama.2013.281675*

[12] Gaynor, et. al. (2015). Gaynor, M., K. Ho, and R. Town. 2015. "The Industrial Organization of Health Care Markets." *Journal of Economic Literature*, 53(2).

[13] Korenstein, Deborah; Duan, Kevin; Diaz, Manuel J.; et al., "Do Health Care Delivery System Reforms Improve Value? The Jury is Still Out" *Medical Care* Volume: 54 Issue: 1: 55-66 January 2016

[14] Town, Robert, Roger Feldman, and John Kralewski. 2011. "Market Power and Contract Form: Evidence from Physician Group Practices." International Journal of Health Care Finance and Economics 11 (2): 115–32.

Administrative Services Only (ASO) from insurers had lower claims costs.[15] This suggests that insurers are using their monopsony power to negotiate lower payments to health care providers, but their market power in insurance markets to charge higher premiums to consumers. Employers who self-insure contract with these insurers to administer their plans benefit from the insurers' market power, and contribute to it by increasing the share of privately insured lives on whose behalf the insurer contracts with health providers.[16]

Concentrated health care services markets facing concentrated health insurance markets constitute a bilateral monopoly. In such instances, both the buyers and sellers have an incentive and a greater ability to reduce competition. Health care provider contracts with insurers can act as significant barriers to entry for firms that might otherwise wish to enter health insurance markets.[17]

PBM services include developing and maintaining networks of retail pharmacies, providing mail-order prescription services, developing drug formularies, and negotiating rebates from pharmaceutical manufacturers that enable the manufacturers to gain preferential status on the PBM formularies. CVS currently provides pharmacy benefit management (PBM) services to Aetna and other insurers in the PDP market.

One theoretical effect of a vertical merger is the removal of transaction costs in purchasing inputs to the downstream markets. In this view, the merger allows the downstream firm to avoid the higher prices resulting from a concentrated input market.

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[15] E. E. Trish and B. J. Herring, "How Do Health Insurer Market Concentration and Bargaining Power with Hospitals Affect Health Insurance Premiums?" *Journal of Health Economics*, July 2015 42:104–14.

[16] The implication here is that employers are able to exercise greater bargaining power with insurers in negotiating lower prices than individual consumers.

[17] L. S. Dafny, Testimony Before the Senate Committee on the Judiciary, Subcommittee on Antitrust, Competition Policy, and Consumer Rights, on "Health Insurance Industry Consolidation: What Do We Know from the Past, Is It Relevant in Light of the ACA, and What Should We Ask?" September 22, 2015. http://www.judiciary.senate.gov/imo/media/doc/09-22-10DafnyTestimonyUpdated.pdf.

In 2017, CVS (Caremark) had the largest national PBM market share with 25 percent of the market; Aetna's PBM market share was 4 percent.[18] Nationally, the pre-merger HHI for this market is 1,858; post-merger it would be 2,058. However, the PBM market is evolving. The two largest providers of PBM services, CVS and Express Scripts, are both currently proposing merging and integrating with health insurers. If both mergers are consummated, health insurance firms will account for 75 percent of the PBM market. This could induce other large health insurers to merge with PBMs.

Prescription drug costs are projected to become the fastest growing component of health care costs over the next decade.[19] Managing these costs will be an increasingly important element of health insurance plan design across all health insurance markets including ERISA plans.

Vertically integrated firms will have incentives that differ from those of nonintegrated ones when competing in both the PBM (upstream) market and the insurance (downstream) markets.[20] In general, a firm will choose prices and product qualities that maximize total profits across both upstream and downstream markets.

Increasing PBM prices may give a firm competitive advantage in the downstream market, but will reduce the demand for their PBM services. Importantly, in this market, a reduction in market share will reduce the PBM's ability to negotiate rebates with pharmaceutical manufacturers. Manufacturers provide these rebates in exchange for having specific medications listed on the formulary. The fact that pharmaceutical

[18] The Drug Channels Institute. https://www.drugchannels.net/2018/03/cigna-express-scripts-vertical.html
[19] Office of the Actuary in the Centers for Medicare & Medicaid Services "National Health Expenditure Projections 2017-2026" http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsProjected.html.
[20] Chen, Yongmin. "On Vertical Mergers and Their Competitive Effects." *The RAND Journal of Economics*, vol. 32, no. 4, 2001, pp. 667–685.

manufacturers engage in price discrimination using rebates is an indication that the market for pharmaceuticals is not competitive.

The rebates PBMs negotiate with pharmaceutical manufacturers are an important cost element for any insurer, but are particularly important in the Medicare stand-alone Plan D plans and Medicare Advantage plans. The merged firm may have an incentive to increase fees in the PBM market to the increase its competitors' costs in the health insurance market. However, in order to maintain rebates on the same or better terms, the lost enrollment in the PBM market would have to be balanced by increased enrollment in the downstream insurance markets.

Additionally, the merged firm may have an incentive to use their upstream (PBM) services to engage in anti-competitive information sharing about downstream (health insurance) competitors.[21] One factor that might mitigate this incentive is the transparency of ownership in this case. The potential of information sharing in the merged firm may reduce demand for that firm's PBM services. However, in a market where integrated firms hold 75 percent or more of a market, information sharing may be a concern.

Medicare Advantage plans are assigned a star rating based on measures of care quality and plan performance. Bonus payments are made to plans with higher quality scores. Finally, rebates to plans whose bids are below the benchmark are determined by their quality rating. The most highly rated plans will receive 70 percent of the difference between their bids and the benchmark, while the lowest rated plans will receive 50 percent of the difference. The Congressional Budget Office estimated that Medicare

[21] S. Salop and D. Culley, "Potential Competitive Effects of Vertical Mergers: A How-To Guide for Practitioners," (Dec. 8, 2014), available at http://scholarship.law.georgetown.edu/facpub/1392/.

Advantage enrollment will be 35 percent lower in 2019 then it would have been without these changes.[22]

CVS contends that the merged firm will increase their Medicare Advantage revenue by achieving care efficiencies that reduce costs and increase quality. Care efficiencies are to be achieved by integrating insurer and provider (particularly pharmacy) data to identify high cost patients, help those patients manage their care by increasing their access to appropriate care through CVS's primary care clinics (Minute Clinics) and pharmacy services, and increasing the quality of services measured by Medicare Advantage's Star system.

CVS proposes to an integrated strategy to reduce costs and increase health care quality in both public and private insurance markets and presumably in their Administrative Services Only (ASO) product lines. In most health insurance markets, other than Medicare Advantage, there is currently a less direct connection between quality scores and revenue. Leveraging CVS' Minute Clinics increases competition in the primary care markets where they exist. To the extent the merged firm is successful in reducing costs and increasing quality, consumer welfare should increase as a result of the merger.

One of the potential effects of a vertical merger of a health insurer and a medical service provider is to lower the costs of health care services. Concentration in health insurance markets can lead to lower health care services prices even in highly

[22] Congressional Budget Office, "Comparison of Projected Enrollment in Medicare Advantage Plans and Subsidies for Extra Benefits Not Covered by Medicare Under Current Law and Under Reconciliation Legislation Combined with H.R. 3590 as Passed by the Senate," March 19, 2010.

concentrated provider markets.[23] Recent health insurance mergers have resulted in decreased health provider prices and a reduction in health care employment and wages, in markets where the health insurers' market concentration increased.[24]

Recommendations

The proposed merger would create an integrated health services firm that would integrate insurance, pharmaceutical, and primary care services. The new integrated firm has the potential to achieve efficiencies that result in higher-quality care and lower consumer costs. The vertical effects of the merger will have potential effects in a number of insurance markets as well as upstream Pharmacy Benefit Manager, retail pharmacy, and primary care markets. Vertical integration alters incentives in both the upstream and downstream markets that could simultaneously decrease costs and increase quality and decrease competitiveness. Less competitive markets are associated with higher premiums and lower quality.[25] The net effect of the proposed merger will be reflected in health insurance premiums and the quality of health plan services.

To the degree the merger promotes efficiency, it necessarily increases the minimum efficient scale of a health insurance firm and reduces competition in the downstream health insurance market. The potential harmful net effects on consumer

[23] L. Dafny, M. Duggan, and S. Ramanarayanan, "Paying a Premium on Your Premium? Consolidation in the U.S. Health Insurance Industry," *American Economic Review,* April 2012 102(2):1161–85

[24] G. A. Melnick, Y. C. Shen, and V. Y Yu, "The Increased Concentration of Health Plan Markets Can Benefit Consumers Through Lower Hospital Prices," *Health Affairs,* Sept. 2011 30(9):1728–33; L. Dafny, M. Duggan, and S. Ramanarayanan, "Paying a Premium on Your Premium? Consolidation in the U.S. Health Insurance Industry," *American Economic Review,* April 2012 102(2):1161–85. A. S. Moriya, W. B. Vogt, and M. Gaynor, "Hospital Prices and Market Structure in the Hospital and Insurance Industries," *Health Economics, Policy and Law,* Oct. 2010 5(4):459–79.

[25] Cabral, Marika, Michael Geruso, and Neale Mahoney. 2018. "Do Larger Health Insurance Subsidies Benefit Patients or Producers? Evidence from Medicare Advantage." American Economic Review, 108 (8): 2048-87.

welfare include: higher prices in health insurance markets, reduced access to appropriate health care services or products, and reduced quality of care. Both positive and negative effects of this merger may differ across health insurance markets.

Market Monitoring and Analysis

Health insurance organizations are becoming more integrated and markets more concentrated.[26] Given that the effects of the proposed merger on competition and consumer welfare are uncertain, we recommend expanded monitoring and analysis of health insurance markets.

To the extent that this transaction yields increased efficiencies and better management of the utilization of services, prices should fall and/or the quality of care should increase. The market share of the downstream firm may increase as well, but only to the extent attributable to changes in price or quality favorable to consumers. However, the market share may rise without changes in price or quality if the merged entity can affect its competitor's prices or quality through actions in the upstream market. Analysis should examine both downstream health insurance prices and quality and upstream factors contributing to changes in cost and quality.

There is no simple metric that will uniquely identify the consumer welfare effects of this transaction. Metrics for price, quality, and risk selection should be evaluated together. We recommend that the Department use existing insurer reporting and data sources that need to be supplemented by additional data collection to calculate the types of measures listed below. Further, the Department will need data that is delineated for

[26] Dauda, S. (2018), Hospital and Health Insurance Markets Concentration and Inpatient Hospital Transaction Prices in the U.S. Health Care Market. Health Services Research, 53: 1203-1226. doi:10.1111/1475-6773.12706

each relevant market. The relevant markets for Medicare Part D and Medicare Advantage should be delineated separately for individual and group plans (excluding ASO business). The following metrics should be constructed or acquired:

- Firms' market shares in each relevant market
- Medical loss ratios for each relevant market
- Member risk scores for each plan or market
- Health Plan Descriptors including:
  - Measures of Network Adequacy
  - Health Plan Quality Metrics (HEDIS, Medicare Star Ratings)
- PBM formulary construction
- Total PBM prices (fees plus net rebates)
- Pharmaceutical utilization and expenditures by class (Brand, Specialty, Generic)

Market Share

The direct horizontal competitive effects of this merger are mitigated by the divestiture of Aetna's Medicare Part D plans. Vertical integration may have competitive effects in the Medicare Part D and other health insurance markets. While the Department has access to data on market concentration in many markets, collecting data for Medicare Part D market information may be an issue. These markets are moderately concentrated in Connecticut. Enrollment, price, and quality information on those plans are available to consumers and the Department through the Center for Medicaid Services (CMS). If the Department also wishes to measure insurers' market share and market concentration

based on premiums, it will need to extract the necessary data from insurers' rate filings or issue a special data call that provides a separate breakdown of the Medicare Advantage and Medicare Part D individual and group markets. Premiums could be direct written or direct earned premiums.

Loss Ratios and Profitability

In insurance, unit prices are typically calculated by dividing direct or net premiums earned by losses incurred (i.e., total claim payments incurred) with adjustments for claims adjustment and other expenses.[27] Loss ratios (losses incurred divided by premiums earned) are commonly used measures of profitability. If the Department issues a special data call, it should include data on incurred losses. As for the premium data discussed above, the call would require a breakdown of Medicare Advantage and Medicare Part D individual and group markets. Certain expense items also could be included that should be available at a state level, e.g., claim adjustment expenses. This would allow the Department to calculate loss ratios and loss ratios adjusted for certain expenses as measures of profitability.[28]

Member Risk Scores

Risk scores are constructed to use enrollee characteristics to predict utilization of medical services. As such, they could provide a measure of risk selection resulting from

[27] Some expense data is available at a state level while other expense data are only available at a company level. There also can be adjustments for investment income on loss reserves but this should not be a big factor for health insurance where the tail on claims should be relatively short.

[28] It is our understanding that these data could be extracted from the rate filings of insurers that file rates with the Department. However, not all of the firms in the Medicare Part D market file rates with the Department.

market power in the downstream market, or information sharing, foreclosure, or market power in the upstream markets.

However, risk scores may be affected by the operations of the health plan. In markets where payments to the health plan are affected by risk scores, plans may have an incentive to encourage "upcoding" diagnoses. This upcoding has been estimated to increase Medicare Advantage plan risk scores by between 6 and 16 percent and coding intensity increases with vertical integration.[29]

Risk scores may not completely capture variation in claims risk or health status. Risk adjustment relies on clinical and administrative records, which may reflect differences in diagnostic and treatment practices across insurers and providers, in addition to the underlying health of plan enrollees.[30]

Risk scores may not fully predict health care utilization because they do not incorporate differences in the behavior of individuals with a similar diagnosis.[31] If differences in behavior reflect intrinsic differences in enrollees, then health plans can exploit that difference by designing plan characteristics to attract enrollees with lower than average utilization for a given risk score. Conversely, higher quality health plans employ disease-managed programs that alter enrollee behavior to improve health and reduce health care utilization. Differentiating between these two effects require measures of health plan design and health outcomes.

[29] Geruso M. and Layton, T. (2015) "Upcoding: Evidence from Medicare on Squishy Risk Adjustment," NBER Working Paper 21222.
[30] Song, Yunjie, Jonathan Skinner, Julie Bynum, Jason Sutherland, John E. Wennberg, and Elliott S. Fisher. 2010. "Regional Variations in Diagnostic Practices." New England Journal of Medicine 363 (1): 45–53.
[31] Einav L, Finkelstein A, Kluender R, Schrimpf P. Beyond Statistics: The Economic Content of Risk Scores. American Economic Journal: Applied Economics. 2016;8(2):195–224.

Health Plan Descriptors

Value based purchasing, population health measures, integration of care, and consumer incentives have the potential to reduce costs, increase the quality of care, and improve health care outcomes. These are recent innovations whose results have not been fully tested. Historically, increased concentration in either provider or insurance markets has led to increased costs for insurance consumers.

The Medicare Advantage market is regulated with risk adjustment and quality adjustments to payments to consumers. The success of merged entity in this market would enhance competition and consumer welfare.

Quality indicators for each plan are collected and reported for each plan in the Medicare program (Medicare Star system) and for commercial insurers through the National Committee for Quality Assurance's (NCQA) HEDIS measures. Access to the NCQA's Quality Compass tool will provide the Department with measures of health outcomes and plan quality.[32]

Network Adequacy

An element of plan quality that is only indirectly measured by NCQA or Medicare star ratings is access to appropriate care. Network adequacy measures attempt to assess access to care within a health plan. Health plan networks assessment has traditionally been done with measures of the time and distance consumers traveled to treatment by specific health care providers. The National Association of Insurance Commissioners (NAIC) has proposed a model act that requires networks that are

[32] Access at https://www.ncqa.org/programs/data-and-information-technology/data-purchase-and-licensing/quality-compass/

"sufficient in numbers and appropriate types of providers ... to assure that all covered services ... will be accessible without unreasonable travel or delay."[33]

The evolution of the health care delivery system has raised questions about the efficacy of these standards as measures of access to health care. Sites of care are changing in ways that may not be captured in regulatory measures or in consumer assessments of networks. Urgent care centers for example are increasingly utilized as a part of integrated care systems.[34]

Formulary Construction

Another important element in measuring a health plan's network adequacy is the adequacy of the plan's drug formulary. Restrictive formularies serve two functions for a health plan. They enable health plans to move utilization away from high cost or less therapeutically appropriate drugs to lower cost or more appropriate drugs, thus increasing quality. They also allow plans (or usually their PBMs) to negotiate rebates in therapeutic classes with several drugs of very similar efficacy, potentially increasing revenue.

A potential effect of vertical mergers' foreclosure is that the merged firm raises the price or lowers the quality of its upstream product to downstream competitors. One measure of this conduct would be differentials in formularies between health plans using the same PBM.

Total PBM Prices (Fees Plus Net Rebates)

[33] National Association of Insurance Commissioners, Network Adequacy (NAIC, July 2016), http://www.naic.org/cipr_topics/topic_network_adequacy.htm.

[34] The Surge in Urgent Care Centers: Emergency Department Alternative or Costly Convenience? HSC Research Brief No. 26 July 2013 Tracy Yee, Amanda E. Lechner, Ellyn R. Boukus http://www.hschange.org/CONTENT/1366/

The merged entity will have an incentive to increase prices for PBM services to its competitors in the various insurance markets only if any resulting decrease in revenue in the PBM market is less than the resulting increase in revenue in the insurance markets. It is likely there will be a decrease in the demand for the merged entities' PBM business because of information sharing concerns by its competitors in the insurance markets. Any PBM price increase would further decrease demand and revenue in that market which would have to be matched by increased profit in the insurance markets to be a rational strategy.

The PBM market is concentrated however, and the trend in that market is for even greater concentration. Moreover, the quality of PBM services along several dimensions including mail order pharmacies, formulary development and composition, and sharing of manufacturer rebates could be altered to give the merged entity a competitive advantage in insurance markets.

Implications for the Department's Consideration of the Proposed Acquisition

The proposed merger would increase concentration in the individual PDP market which is already moderately concentrated. Further, the vertical aspects of this transaction could also increase concentration in downstream health insurance markets. Taken together, this increased concentration could reduce consumer welfare in these markets but we cannot predict this with any high level of confidence. On the other side of the coin, the proposed merger could have the effect of improving efficiency and the quality of services provided to consumers as well as lowering their premium costs, which would increase consumer welfare.

As we discuss above, much would depend on the behavior of the merged entity. This is not something that we can predict with any high degree of confidence. This said, should the Department decide to approve this transaction, we recommend that it use existing data sources as well as enhanced reporting of the firms in these markets (in coordination with other state and federal agencies) so that it can more effectively monitor their conduct and performance to ensure the protection of consumers' interests. This would enable the Department to take any regulatory actions that may be warranted to fulfill its consumer protection responsibilities.

Appendix A
Data Sources

Data Sources and Market Categories

Current Reports

Health insurance companies submit financial reports to state insurance departments and the NAIC that contain a number of exhibits and interrogatories that provide information at a countrywide (company) level for an insurer. The principal state-level exhibit is the Exhibit of Premiums, Enrollment, and Utilization (commonly known as the "State Page"). For each state that an insurer writes business in, this exhibit provides information on:

- Total members (by quarter);
- The total number of ambulatory encounters (physician and non-physician);
- Hospital patient days incurred;
- Hospital admissions;
- Premiums written and earned; and
- Amounts paid and incurred for health services provided.

These items are reported for the following market categories:

- Comprehensive (hospital and medical)
- Individual;
- Group;
- Medicare Supplement;
- Vision;
- Dental;
- Federal Employees Health Benefit Plan;
- Title XVIII Medicare;
- Title XIX Medicaid; and
- All other combined.

Health insurers also submit a Supplemental Exhibit that has three parts. Part 1 provides detailed information on premiums, claims, expenses, and reinsurance, as well as the number of certificates/policies, covered lives, and groups. These data are broken out for the following market categories, among others:

- Comprehensive health coverage
  - Individual
  - Small group
  - Large group
- Business subject to minimum loss ratio (MLR) standards
  - Individual
  - Small group
  - Large group
- Medicare Parts C and D combined subject to the ACA

Part 2 provides a more detailed breakdown of premiums and expenses for the same market categories as Part 1. Part 3 provides an even more detailed breakdown of expenses for the same market categories

In addition to these exhibits, insurers are required to file a Medicare Part D Coverage Supplement but this supplement only contains data at a company level and not at a state-company level.

Further, insurers are required to file a Market Conduct Annual Statement (MCAS) for each type of insurance, including health. The MCAS contains a number of items relevant to insurers' conduct and quality of service, including the number of claims paid and denied, broken down by the length of time between when the claims were filed and when they were denied or paid, and the number of authorizations approved or denied.

Insurers also report the number of claims paid and denied for pharmacy-only benefits. The market delineations in the MCAS in-exchange business are as follows:

- Individual Coverage;
- Small Group Coverage;
- Catastrophic;
- Multi-State Individual; and
- Multi-State Small Group.

These market categories are further delineated by the type of ACA plan (bronze, silver, etc.). Similar market categories are delineated for out-of-exchange business with the following additions:

- Large Group; and
- Student Coverage.