Yale University
Thurman Arnold Project

2024 Student Projects
Paper 5

**Vertical Mergers in Healthcare: Showing Direct Harms
to Competition from Data-Motivated Mergers**

May 2024

Victor Agbafe
Tanya Aggarwal
Sander McComiskey
Ethan Wang

In 2022, UnitedHealth Group ("UHG") completed its acquisition of Change Healthcare ("Change"), a company with use rights to over one quarter of the nation's healthcare insurance claims data. Much of this data contains details of competitors' policy designs, on which there is fierce competition in the healthcare insurance industry. Despite assurances from UHG that it will maintain internal firewalls, the incentives for UHG to access competitor data to improve its subsidiary UnitedHealth Care's policy designs far outweigh the risk that competitors abstain from using UHG's (formerly Change's) electronic data interchange (EDI) clearinghouse capabilities. As a result, there will be less incentive for insurance companies to compete and innovate in healthcare insurance policy design. This paper, using the UHG-Change merger as a case study, will provide a framework for future antitrust enforcers to build cases challenging vertical healthcare mergers involving acquisition of competitor data.

Part I will lay out the facts of the *United States v. UnitedHealth Grp. Inc.*, the arguments pursued by the DOJ, and the court's decision. Part II will detail UHG's incentive and ability to wield Change's CSI for its own benefit. Part III will discuss how enforcers may, based on this incentive and ability, show direct competitive harms that might successfully stop similar mergers in the future.

I.   A Paradigmatic Case: UnitedHealth Group's Merger with Change

A.   The Companies

In the fall of 2022, UnitedHealth Group ("UHG") closed its merger with Change Healthcare ("Change") after the D.C. District Court ruled that the merger would not violate antitrust law. UHG is one of the largest healthcare companies in the world, with an annual revenue of over $371 billion.[1] Beyond being a leading health insurance provider,[2] UHG also operates a healthcare services provider, called Optum, which is itself comprised of three businesses: OptumRx, Optum Health and Optum Insight. Optum Health and OptumRx are concerned mainly with healthcare provision and pharmacy benefits management, respectively, and Optum Insight provides software and data analytics services to healthcare systems and organizations.

Change, now part of Optum Insight, was a leading provider of two critical services in the healthcare insurance market. The first was first-pass claims editing solutions, a type of software that automatically reviews healthcare provider claims submitted to insurers and makes a preliminary determination on whether the claim should be paid, rejected, or flagged for review.[3]

---

[1] UNITEDHEALTH GRP., UNITEDHEALTH GROUP REPORTS 2023 RESULTS 1 (2024), https://www.unitedhealthgroup.com/content/dam/UHG/PDF/investors/2023/UNH-Q4-2023-Release.pdf.

[2] *See AMA Identifies Market Leaders in Health Insurance*, AM. MED. ASS'N (Dec. 12, 2023), https://www.ama-assn.org/press-center/press-releases/ama-identifies-market-leaders-health-insurance.

[3] *See* Complaint at 21, United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118 (D.D.C. 2022) (Civil Action No. 1:22-cv-0481) ("[F]irst-pass claims editing solution[s] determine[] whether claims should be paid, rejected, or flagged for further review."); United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 124 (D.D.C. 2022) ("[First-pass claims editing solutions] implement[] a payer's coverage policies by using a set of rules, or 'edits,' to determine whether a particular claim received from a provider should be paid or rejected.").

Each insurer may tailor "edits" on their first-pass claims editing solution, which may enable it to reduce error rates concordant to its own insurance policy structure.[4] Such edits are a point of competition between insurers, since they can reduce excess healthcare costs.[5]

Change's second service was providing an electronic data interchange (EDI) clearinghouse to healthcare insurers. EDI clearinghouses facilitate the digital transfer of information, including claims and remittances, between healthcare providers and insurers.[6] Currently, almost every healthcare provider and insurer are connected to an EDI clearinghouse.[7] Data transferred through an EDI clearinghouse can contain comprehensive information about the patient, the insurer, the healthcare provider, and the specific insurance transaction.[8] This data can reveal "a payer's 'adjudication logic,' and a rival who gains access to it could learn that payer's 'whole adjudication process.'"[9] Data can "hop" through multiple EDI clearinghouses to get from a provider to an insurer (and back), and each EDI clearinghouse in the chain has access to the claims data.[10] Change's EDI clearinghouse, whether as the primary clearinghouse or a linking clearinghouse, annually processed over 50 percent of medical claims in the United States.[11] With "secondary-use" rights to 50 percent of the claims it facilitates, Change could use data contained in over 25% of all medical claims data in the United States.

Change's data usage conditions allowed it to de-identify data and use or disclose most of it as it saw fit.[12] De-identified claims data need only remove health information that identifies or

---

[4] Complaint, *supra* note 3, at 21. ("First-pass claims editing solutions vendors often develop long-term relationships with health insurers, working together to create custom edits that are tailored to each health insurer's plans, policies, operating rules, and provider contracts.").

[5] UnitedHealth Grp. Inc., 630 F. Supp. 3d at 124 ("A payer's custom edits are considered proprietary, as these edits reflect payer-specific strategies to reduce healthcare costs.").

[6] *EDI Clearinghouse Options*, UNITEDHEALTHCARE, https://www.uhcprovider.com/en/resource-library/edi/edi-clearinghouse-opt.html (last visited Mar. 30, 2024) ("Clearinghouses facilitate the transfer of electronic transactions between payers and physicians, health care professionals or facilities.").

[7] *Id.* at 125 ("In 2021, 97 percent of medical claims were submitted electronically, and 95 percent of providers and 99 percent of insurers used EDI clearinghouses.").

[8] There is a further distinction between "pre-adjudication" and "post-adjudication" data that flows through the EDI clearinghouse. Pre-adjudication data "include[s] details about the provider, the patient, the employer group, the location of care, the diagnosis, the services and procedures rendered, and the billed amounts." *Id.* Post-adjudication data "include[s] even more information, such as details about the provider-payer contract, the payer's claims edits, the medical policy and benefit design, the final paid amount, and adjudication decisions." *Id.*

[9] *Id.* at 141.

[10] Complaint, *supra* note 3, at 16-17. ("When a provider's EDI clearinghouse is not directly connected with a patient's health insurer, claims data must flow through more than one EDI clearinghouse . . . Each EDI clearinghouse through which claims data passes has access to all of the information contained in the claims data.").

[11] *Id.* at 17 ("Change operates the largest EDI clearinghouse in the nation, transmitting over 14 billion total transactions (medical and other) through its EDI clearinghouse every year. According to United, over 50 percent of U.S. medical claims pass through (or touch) Change's EDI clearinghouse, making it a vital link between providers and insurers.").

[12] BENJAMIN HANDEL, UNITED STATES OF AMERICA, ET AL. V. UNITEDHEALTH GROUP INC. & CHANGE HEALTHCARE INC. 9 (2022), https://www.justice.gov/d9/case-documents/attachments/2022/08/09/405877.pdf ("Change Healthcare may de-identify PHI in accordance with 45 C.F.R. § 164.514(b) and may Use or Disclose such de-identified data unless prohibited by applicable law.").

may be used to identify an individual.[13] However, this means that the claims data may still have detailed information about the insurer, provider, and claim.[14] As a result, the de-identified data protects patients, but does little to protect insurance company information and insights that might be drawn from that information.

B.   *The Opinion*

Judge Nichols delivered the D.C. District Court's opinion in *United States v. UnitedHealth Group Incorporated*, which allowed the merger between UHG and Change to occur, conditional on Change divesting its first-pass claims editing solutions business to a private equity firm.[15] The Department of Justice (DOJ) presented three theories of competitive harm: (1) The merger would result in a monopolistic consolidation of the first-pass claims editing solutions market; (2) UHG would use the EDI clearinghouse data to benefit its insurance subsidiary, UnitedHealth Care, decreasing national competition; and (3) UHG would withhold key innovations and raise its rivals' costs to compete in the national health insurance market.[16] The District Court determined that the merger was not anticompetitive on any of those three theories.

1.   Theory 1: Monopolization on First-Pass Claims Editing Solutions

Together, UHG (through its data services business, OptumInsight) and Change would have combined to control over 90 percent of the first-pass claims editing market.[17] However, UHG agreed to divest Change's first-pass claims editing business to a private equity firm immediately after the merger. While DOJ met its *prima facie* burden of showing the merger would substantially lessen competition, the court decided that the divestiture was a sufficient rebuttal to this theory of anticompetitive harm.[18]

---

[13] 45 CFR § 164.514(a) (2024) ("Health information that does not identify an individual and with respect to which there is no reasonable basis to believe that the information can be used to identify an individual is not individually identifiable health information."). De-identification may occur in two ways. The first way is through allowing "A person with appropriate knowledge of and experience with generally accepted statistical and scientific principles and methods for rendering information not individually identifiable" determines that the data is sufficiently de-identified. 45 CFR § 164.514(b)(1) (2024). The second way is through removing a specified list of identifiers, including (but not limited to) names, zip codes, birthdates, and telephone numbers. 45 CFR § 164.514(b)(2) (2024). The first way relies much more on the "expert's" discretion.

[14] Handel, *supra* note 12 at 23.

[15] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 155 (D.D.C. 2022) ("[T]he Court enters judgment for Defendants, denies the Government's request for a permanent injunction, and orders that ClaimsXten be divested to TPG.").

[16] *Id.* at 131.

[17] *Id.*

[18] *Id.* at 135 ("[T]he trial evidence and the record demonstrated that the divestiture will preserve competition in the market for first-pass claims editing.")

2. Theory 2: Advantaging Own Insurance Subsidiary

The court's opinion acknowledged that the pre- and post-adjudication data from Change's EDI clearinghouse was "admittedly valuable."[19] However, the court was convinced that UHG's incentives not to betray the trust of Optum Insights clients outweighed its incentives to obtain a competitive edge over those same clients who compete with UnitedHealth Care in the insurance market.[20] The court subjected this theory to a 4-step test:

> (1) Optum will gain incremental access and use rights to the claims data of [UnitedHealth Care]'s rivals; (2) Optum will have an incentive to share these data—or the competitively sensitive insights derived from the data—with [UnitedHealth Care]; (3) rival payers' fear of [UnitedHealth Care] using these data or insights will chill innovation; and (4) less innovation means less competition in the relevant markets.[21]

Though acknowledging (1), that Optum would gain some access and use rights to rival data, the court determined that Optum's incentives to maintain its multi-payer business strategy,[22] supported by UHG's assertion of a corporate firewall,[23] testimony from UHG executives about company culture,[24] and UHG's stated financial motivations,[25] outweigh its incentives to use the data to benefits its insurance subsidiary (negating (2)). The court also found, based on executive testimony from competitors, that there would be no "chill" in innovation (negating (3)).[26] Lastly, the court found the DOJ had not shown sufficient proof that, even if there had been a decrease in innovation under (3), that "the lessening of innovation and competition would be *substantial*," failing (4).[27] Thus, failing the 4-step test, the district court dismissed the DOJ's theory of competitive harm from data misuse.

3. Theory 3: Access to Key Innovations

Lastly, the DOJ presented a foreclosure theory, that UHG would have the ability and incentive to withhold EDI-related innovations, which would raise competitors' costs. The DOJ

---

[19] *Id.* at 143.

[20] *Id.* at 144 ("The Court finds, based on all the evidence presented at trial, that United's incentives to protect external customers' data outweigh its incentives to 'misuse' that data.").

[21] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 141 (D.D.C. 2022).

[22] *Id.* at 144-45 (D.D.C. 2022) ("[T]he evidence established that Optum currently pursues a multipayer business strategy, and the success of that strategy turns on payers and providers trusting that their data will be protected.").

[23] *Id.* at 145-46 (D.D.C. 2022) ("The evidence established, and the Court finds, that firewalls are an industry standard means of protecting CSI in the vertically integrated healthcare space.").

[24] *Id.* at 145 ("The evidence also demonstrated, and the Court finds, that United has developed a corporate culture consistent with upholding that trust.").

[25] *Id.* at 145 ("[A]s the evidence demonstrated at trial, and as the Court finds, data misuse would place all of Optum's $63 billion in external revenue at risk, because customers think of Optum as a single unit.").

[26] *Id.* at 151 ("For example, a Cigna employee was asked, 'You are not going to compete less aggressively after UnitedHealthcare acquires Change Healthcare?' Her answer: 'So in my personal opinion, I don't think we ever compete less for any reason. We always go at it really hard. That's our job.'").

[27] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 152 (D.D.C. 2022).

focused on "integrated platforms," which reduce administrative costs. The court found that the focus on "integrated platforms" was unwarranted, since they were "'concepts,' *not* actual products."[28] Further, the court found that, based on the dearth of any evidence of previous withholding of products by UHG to competitors[29] and on executive testimony that "it is not in United's interests for Optum to abandon its multi-payer strategy,"[30] this foreclosure theory failed.

II.   Ability and Incentive for Anti-Competitive Data Use

From the merger, UHG obtained Change's EDI clearinghouse business, which contains data it already had secondary-use rights for as well as the same rights for data it will collect in the future. The district court did not inquire deeply into the data itself, or its use-cases, relying instead on UHG's corporate structure and executive strategy to disincentivize anti-competitive practices. Of course, the transformational potential of "big data," machine learning, and artificial intelligence has become salient to businesses hoping to capitalize on technological advances.[31] Given Optum Insight's explicit claims about its capabilities in those areas,[32] it is worth delving into the substance of precisely what the ability and incentives were for UHG to acquire Change (and its all-important data). This Part first examines the information contained in claims data, the regulations governing secondary-use rights, and the use-cases for competitor data. Then, this Part frames data usage in the terms of modern antitrust law. We demonstrate that, had the district court inquired further into the nature and use-cases of the data at stake during the UHG-Change merger, it may have reached a different legal outcome.

As discussed above, EDI clearinghouses process almost all medical data transferred between healthcare providers and insurers. While Change does not have secondary-use rights to all the claims data it processes, because the data for which it does have secondary-use rights represents over one-quarter of all claims in the national health market, the potential for anticompetitive harm is great. Not only is the breadth of data vast, but the content of the data is comprehensive and the regulations governing data use are permissive, further extenuating the potential harms.

---

[28] *Id.* at 153.

[29] *Id.*

[30] *Id.* at 154.

[31] Damian Scalerandi, *Business Growth Through Big Data*, FORBES (Nov. 28, 2022), https://www.forbes.com/sites/forbesbusinesscouncil/2022/11/28/business-growth-through-big-data/?sh=b6331a3784e8.

[32] UNITEDHEALTH GRP., INVESTOR CONFERENCE 2022 at 16 (2022), https://www.unitedhealthgroup.com/content/dam/UHG/PDF/investors/2022/conference/Investor-Conference-2022-Book.pdf ("We combine our deep expertise in health care with our data, technology and analytics to improve the patient and provider experience and reduce costs . . . . Our proprietary predictive models use natural language processing and machine learning to enrich and analyze information to help care providers determine the next best steps for their patients.").

A.   Information Contained in Claims Data

Claims data contains extensive information regarding a patient's medical policy. Not only does an insurance claim reveal the patient's personal details and medical treatment, but it also identifies the specific insurer, insurer plan, billing details, and claims processing "life cycle." The full array of information is depicted in Table 1.

Patient Information	Name	Provider Information	Health Provider Identification Number (NPI)
	Contact Information		Facility Where Service was Conducted
	Demographic Information		Facility Name and Address
	Health Insurance Member ID		Facility Type
Insurance Information	Insurer Name	Financial Information	Billed Amount ("list price")
	Unique Insurer ID		Allowed Amount
	Secondary Insurer Information		Amount Paid by Insurer
	Employer Group Name or Client Name		Amount Paid by Secondary Insurer
	Health Plan Name or ID		Amount Paid by Patient
Healthcare Services or Procedure Information	Codes Identifying Relevant Services (CPT or DRG)	Information from Life Cycle of Claim	Requests to Fix Errors
	Dates of Service		Rejections of Claims
	Hospital Admission and Release Date		Explanation for Rejection
	Diagnosis Information		Resubmissions of Claims
	Primary Diagnosis (ICD 10 Codes)	Additional Information	Prior Authorization
	Secondary Diagnosis (ICD 10 Codes)		Attachments

Table 1: Information in an insurance claim processed by an EDI clearinghouse.[33]

At an individual level, an insurance claim can detail almost every key aspect of a patient's transaction with her healthcare provider and insurer. At an aggregate level, insurance claims may reveal broad trends in an insurer's overall policy structure, to be discussed furtherbelow. At the very least, given the comprehensiveness of the data, the acquisition of an EDI clearinghouse with secondary-use rights to a significant fraction of all such data nationwide constitutes an increased "ability" to use it anticompetitively, and indeed, the District Court accepted this proposition in its

---

[33] Handel, *supra* note 12, at 10.

opinion.[34]

B. Regulations Governing Secondary-Use Rights

Exacerbating the ability for UHG to use the EDI clearinghouse data is the relatively lenient regulatory scheme for the secondary use of healthcare data. In Change's standard Business Associate Agreement, Change may use and disclose the claims data after de-identifying it pursuant to a regulation promulgated by the Department of Health and Human Services (HHS) governing de-identified information.[35] As opposed to Protected Health Information, which HHS subjects to stringent protections,[36] de-identified information is subject to "no restriction on [its] use or disclosure."[37] De-identified data only de-identifies claims with respect to the patient.[38] De-identification may be done by an "expert," who can retain most parts of the claim related to the insurer, so long as the data is unlikely to be traceable back to the original patient.[39]

While the requirements for de-identified data may protect patient privacy, they do nothing by themselves to protect UHG from deriving information from the data about its competitors. Indeed, even after de-identification, UHG may still retain all information about the insurer, the patient's condition, treatment received, financial information, and the claim's lifecycle. When evaluating the antitrust harms of such a data-driven merger, these patient-centered protections do little to provide regulatory protections against data misuse that harms competitors.

C. Ability and Incentive to Use Competitors' Data

Modern data analytics tools enable high-throughput analysis of large datasets, which can enable UHG to reverse-engineer their competitors' healthcare policy designs. At trial, the DOJ's expert witness presented five use-cases for the deidentified claims data: improving (1) utilization

---

[34] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 143 (D.D.C. 2022) ("The Court will therefore assume that the Government, for purposes of its *prima facie* case, has established the first step of its data misuse theory[: incremental access and use rights to rivals' claims data].").

[35] Handel, *supra* note 12, at 9.

[36] *Summary of the HIPAA Privacy Rule*, U.S. DEP'T HEALTH HUM. SERVS., https://www.hhs.gov/hipaa/for-professionals/privacy/laws-regulations/index.html (last visited Mar. 27, 2024) ("For internal uses, a covered entity must develop and implement policies and procedures that restrict access and uses of protected health information based on the specific roles of the members of their workforce.").

[37] *Id.*

[38] 45 C.F.R. § 164.514(a) (2024) (defining de-identified data as "[h]ealth information that does not identify an individual and with respect to which there is no reasonable basis to believe that the information can be used to identify an individual is not individually identifiable health information."); *see also* 45 C.F.R. § 164.514(b)(2)(i) (2024) (detailing the "safe harbor" requirements for de-identified data, all of which involve removing patient identifiers).

[39] 45 C.F.R. § 164.514(b)(1)(i) (2024) (allowing experts to de-identify information to a standard where the expert "determines that the risk is very small that the information could be used, alone or in combination with other reasonably available information, by an anticipated recipient to identify an individual who is a subject of the information").

management practices, (2) pricing and reimbursement strategies, (3) provider network designs, (4) claims adjudication processes, and (5) underwriting techniques.[40] These use-cases all implicate a key driver of insurance profitability: efficient operations.[41]

In general, modern "big data" analytics play an increasingly large role in a wide variety of fields because it condenses very large, varied, quickly-updating datasets into usable (and often, valuable) trends.[42] Due to the large amount of data involved, users may have more confidence in the generalizability of these trends.[43] Indeed, Optum Insight itself recognizes the value of data in empowering strategic business analysis, offering its own marketplace for longitudinal medical claims data.[44] Beyond the healthcare insurance industry, big data analytics have been used by the IRS to decide whom to audit,[45] by Netflix to generate show recommendations,[46] and by economics researchers to derive rates of intergenerational income mobility.[47] Large datasets enable sophisticated actors to identify trends that are more generalizable and accurate than before.

For conventional big data analytics and for machine learning techniques, larger datasets are directly proportional to the quality of derived results.[48] Such a conclusion bears on the District Court's evaluation of the incremental change in UHG's data analysis abilities and incentives from acquiring Change's claims data in *United States v. UnitedHealth Group Inc.*. The

---

[40] Handel, *supra* note 12, at 28.

[41] FIRST RESEARCH, HEALTH INSURANCE CARRIERS 2 (2024) ("The profitability of individual companies depends on efficient operations and the ability to enter favorable contracts with health care providers."). *See also* Michael McCue, Mark A. Hall, Jennifer Palazzolo, *Key Drivers of Financial Performance of Insurers in the Affordable Care Act Market Exchange*, 33 HEALTH SERVS. MGMT. RSCH. 130, 131-33 (2019) (analyzing administrative costs as a key driver of health insurance financial performance.).

[42] PHILIP RUSSOM, BIG DATA ANALYTICS 6-7 (2011), https://origin-tableau-www.tableau.com/sites/default/files/whitepapers/tdwi_bpreport_q411_big_data_analytics_tableau.pdf; Andrew McAfee & Erik Brynjolfsson, *Big Data: The Management Revolution*, HARV. BUS. REV., https://hbr.org/2012/10/big-data-the-management-revolution (last visited Mar. 30, 2024) ("[C]ompanies in the top third of their industry in the use of data-driven decision making were, on average, 5% more productive and 6% more profitable than their competitors."); *id.* ("The evidence is clear: Data-driven decisions tend to be better decisions. Leaders will either embrace this fact or be replaced by others who do.").

[43] *Id.* at 9 ("Big data provides gigantic statistical samples, which enhance analytic tool results.")

[44] OPTUM, CLINFORMATICS® DATA MART 1-2 (2017), https://www.optum.com/content/dam/optum/resources/productSheets/Clinformatics_for_Data_Mart.pdf; OPTUM, HELP CLARIFY MARKET DYNAMICS AND UNCOVER INSIGHTS WITH CLAIMS DATA 1-2 (2023), https://www.optum.com/content/dam/o4-dam/resources/pdfs/sell-sheets/clarify-market-dynamics-and-uncover-insights-with-claims-data.pdf.

[45] *See generally* Kimberly A. Houser & Debra Sanders, *The Use of Big Data Analytics by the IRS: Efficient Solutions or the End of Privacy as We Know It*, 19 VAND. J. ENT. & TECH. L. 817 (2017) (explaining how the IRS uses big data analytics to make auditing decisions).

[46] *How Netflix Used Big Data and Analytics to Generate Billions*, SELERITY (Apr. 5, 2019) https://seleritysas.com/2019/04/05/how-netflix-used-big-data-and-analytics-to-generate-billions/.

[47] Raj Chetty et. al, *The Fading American Dream: Trends in Absolute Income Mobility Since 1940*, 365 SCI. 398, 399 (2017).

[48] *See, e.g.*, A. R. Ajiboye, R. Abdullah-Arshah, H. Qin, & H. Isah-Kebbe, *Evaluating the Effect of Dataset Size on Predictive Model Using Supervised Learning Technique*, 1 INT'L J SOFTWARE ENG'G & COMPUT. SCI. 75, 82 tbl.2 (2015) (showing that larger datasets enable higher-performing predictive models).

District Court found that UHG had never used competitor claims data in the past, even though it already possessed a very small amount of competitor data.[49] But the merger would increase the amount of competitor data under UHG's control by over 600%, ultimately accounting for nearly one-third of all healthcare claims data in the country.[50] This volume of data could enable UHG to derive insights and develop models that it could not have built with any reliability using its prior data assets. Establishing the importance of data volume is a key element of showing a greater ability and incentive for post-merger anticompetitive activity.

Part of the reason the court may have underestimated UHG's incentive to use Change's CSI was its faith in UHG's internal firewall policies and corporate culture.[51] But these firewall policies have often proven inadequate in deterring profit-maximizing behavior. So-called Chinese Walls have been prescribed to prevent conflicts of interest in a broad range of contexts, including law firms, but repeated studies question the efficacy of these firewalls.[52] In recent antitrust cases, courts have been willing to rely on a high-level executive's testimony to promise certain behavior. Such behavioral remedies can include promises to act in a certain way, such as a pledge to license a specific technology or to set up a firewall, or promises to refrain from acting in a certain way, such as a pledge not to influence the selection of the independent board of directors.[53]

But such pledges have often failed to deter anti-competitive conduct. In another merger, between Ticketmaster and Live Nation, the court allowed the deal to close subject to certain behavioral measures.[54] These measures included a prohibition on retaliating against venue owners who contracted with a rival and setting up a firewall to prevent the use of ticketing data for other business.[55] Unsurprisingly to onlookers, Live Nation repeatedly and systematically violated the Final Judgment.[56] As such, the Department of Justice filed a motion to reopen the

---

[49] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 141 (D.D.C. 2022) ("Optum may have secondary-use rights for up to 4.2 percent of claims data that pass through its EDI clearinghouse . . . [but] the Government never established that Optum cannot do now, at least in some degree, what the Government says it will do after the proposed acquisition.").

[50] Closing Statement for Plaintiff at 35, United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118 (D.D.C. 2022) (Civil Action No. 1:22-cv-0481).

[51] *UnitedHealth Group Incorporated*, 630 F.Supp.3d at 128.

[52] *See, e.g.*, Christopher M. Gorman, *Are Chinese Walls the Best Solution to the Problems of Insider Trading and Conflicts of Interest in Broker-Dealers*, 9 FORDHAM J. CORP. & FIN. L. 475, 490-91 (2004) ("Chinese Walls are more successful in preventing the accidental flow of inside information than they are in preventing purposeful misconduct and conspiracies to share inside information.").

[53] David Balto and Richard Parker, *The Evolving Approach to Merger Remedies*, FEDERAL TRADE COMMISSION (May 1, 2000), https://www.ftc.gov/news-events/news/speeches/evolving-approach-merger-remedies

[54] JOHN KWOKA & DIANA MOSS, BEHAVIORAL MERGER REMEDIES: EVALUATION AND IMPLICATIONS FOR ANTITRUST ENFORCEMENT 16 (2011), https://www.antitrustinstitute.org/wp-content/uploads/2011/11/AAI_wp_behavioral-remedies_final.pdf.

[55] U.S. v. Ticketmaster Entertainment, Inc., No. 1:10-cv-00139-RMC, 2010 WL 5699134, at *9-10 (D.D.C. July 30, 2010).

[56] U.S. DEPARTMENT OF JUSTICE, OFFICE OF PUBLIC AFFAIRS, *Justice Department Will Move to Significantly Modify and Extend Consent Decree with Live Nation/Ticketmaster* (Dec. 19, 2019), https://www.justice.gov/opa/pr/justice-department-will-move-significantly-modify-and-extend-consent-decree-live.

docket, in efforts to clarify and extend the antitrust decree.[57]

Behavioral remedies are notoriously difficult to enforce, requiring "blending [of the] prosecutorial and compliance functions within the Antitrust Division of the DOJ" as well as a meaningful level of limited agency resources dedicated to monitoring, leaving less available for other enforcement efforts.[58] Self-imposed remedies, such as the promises made by UHG around data misuse, have even less potential durability, given that companies are free to alter or repeal them at any time. An in-depth analysis of the pitfalls of behavioral remedies and self-imposed firewalls should have caused the court to revise its estimate of the risks UHG faced from misusing Change's CSI.

III.   Linking Ability and Incentive to Competitive Harm

A.   The Government's Vertical Theories of Competitive Harm

The vertical harms to competition the DOJ presented in its enforcement suit all centered around innovation. By using claims data to reverse-engineer proprietary design aspects of competitor policies and practices, UHG could disincentivize motivation to innovate in those areas, thereby causing a drop in competition.[59] And, by withholding from competitors EDI innovations that would have been available had Change stayed an independent company, UHG could raise costs for competitors.[60] The court ruled against the government's EDI innovation theory on two counts. First, they held that the government inappropriately focused on an unrealized, future market, and that UHG's multi-payer strategy did not incentivize it to foreclose innovations from competitors. The court's latter objection relied upon undervaluations of the incentives for anti-competitive conduct and overvaluations of the importance of corporate structure and culture that appear throughout the opinion.

The former objection illustrates an outdated conception of market definition. In *Illumina/Grail v. FTC (2023)*, the Fifth Circuit upheld the FTC's identification of the relevant market as that for the "research, development, and commercialization" of multi-cancer early detection (MCED) tests rather than the existing market for that product.[61] In its opinion, the court flatly dismissed Illumina's argument that "the Commission should have defined the market based on the products that currently exist, not those that are anticipated or expected."[62] The decision allows that "the mere fact that some company, someday may innovate a competing product in a given market would be too speculative to support a Section 7 claim," but because "competing tests...have been clinically validated, and other developers have concrete plans to

---

[57] *Id.*

[58] KWOKA & DIANA MOSS, *supra* at note 54, 16.

[59] Complaint, *supra* note 3, at 32. ("Post-transaction, [UHG] would be able to apply these artificial intelligence and machine learning capabilities to the claims data of its insurer rivals, giving itself exclusive competitive intelligence about its rivals, learning both from the historic and new claims data.").

[60] *Id.* at 36 ("Post-transaction, however, [UHG] would have the incentive to weaken its health insurer rivals by withholding or delaying their access to [EDI] innovations.").

[61] Illumina, Incorporated v. Federal Trade Commission, 88 F.4th 1036, 1061-62 (5th Cir. 2023)

[62] *Id.* at 1049.

begin the trials necessary for FDA approval," there was clearly competition undergoing in the *present* to develop a MCED test to be sold in the *future*.[63] This precedent, then, should be seen to indicate that a market can be defined around a forthcoming product if concrete, competitive development efforts are already underway on that product.

The DOJ met this burden in UHG/Change. The trial evidence showed that "United and Change have competed to develop their own innovative integrated platforms: the Transparent Network and Real-Time Settlement, respectively," and that "if United were to acquire Change, United would control the development of the only scaled integrated platform."[64] UHG's executives testified in trial that the Transparent Network product is currently "in development."[65] The court noted that "Optum cannot 'say definitively' whether Transparent Network will ever be a marketable product," but such a conclusion is by no means necessary under antitrust laws that task courts with making "a predictive judgment, necessarily probabilistic and judgmental rather than demonstrable."[66] Additionally, the court's analysis that United's incentives were to offer EDI-related innovations to rival payers could have also benefitted from the use of *Illumina/Grail* as precedent. In that decision, the court made clear that full foreclosure was not the only risk of Illumina's control over NGS platforms; the firm could also engage in partial foreclosure "without triggering suspicion in other customers" and thus avoiding reputational damage, "such as by making late deliveries or subtly reducing the level of support services."[67] All in all, the 5ᵗʰ circuit's decision—one better positioned to govern competitive harm in developing markets—will provide highly advantageous precedent for enforcers to bring challenges future like the DOJ's withholding innovations theory in UHG/Change.

B.   The Obstacles to the Government's Data Misuse Theory of Harm

The government's data misuse theory faced similar obstacles as its other vertical theory of harm. The court took issue with multiple parts of the government's theory, but it was most critical of its third and fourth steps: the attempt to link ability and incentive to wield Change's CSI to a lessening of competition through diminished innovation. In his opinion, Judge Nichols dismissed claims that UHG's use of competitors' CSI would lessen innovation in just over a page. The core of Judge Nichols's analysis was that the government provided "zero real-world evidence that rival payers are likely to reduce innovation."[68] Specifically, Judge Nichols said that "the Government did not call a single rival payer to offer corporate testimony that it would innovate less or compete less aggressively if the proposed merger goes through."[69] Additionally, "all the [rival] payer witnesses rejected the notion that the proposed merger would harm

---

[63] *Id.* at 1050.

[64] Proposed Findings of Fact and Conclusions of Law of the United States, State of Minnesota, and State of New York at 128, United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118 (D.D.C. 2022) (Civil Action No. 1:22-cv-0481).

[65] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 153 (D.D.C. 2022)

[66] *Id.* at 129.

[67] Illumina, Inc. v. Federal Trade Commission, 88 F.4th 1036, 1053 (5th Cir. 2023).

[68] *UnitedHealth Grp. Inc.*, 630 F. Supp. 3d at 151.

[69] *Id.*

innovation."[70] Citing *AT&T*, the judge noted that "antitrust theory and speculation cannot trump facts," and decided, "on the basis of the record evidence" from "actual market participants," that the government failed on the third step of its theory.[71]

While evidence is surely necessary to show a likely lessening of innovation in a market, direct evidence is not limited to testimony, and court decisions should not rest solely on the word of industry executives. Reliance on executive testimony is common in many antitrust trials—usually in horizontal challenges where anti-competitive conduct from a leading firm has constrained competitors' market shares and profitability.[72] Such competitors have obvious financial incentives to cooperate with enforcers in these scenarios, but the situation in the UHG-Change merger was different. First, competitors were called to testify on a merger that would augment a dominant firm's power, and this merger was thought likely to be approved. An executive with a fiduciary duty would struggle to justify broadcasting that, if the merger were consummated, their company would innovate less and therefore be less profitable—even if this were true. Thus, the cost to speaking out about potential anti-competitive effects is higher. Second, as this merger was vertical rather than horizontal, the relationship between UHG and competitors cannot be reduced to simple zero-sum competition. Given UHG's integration into nearly every layer of the healthcare delivery chain, competitors will likely be unable to avoid doing business with the firm and its subsidiaries in the future. This entanglement means that competitors' incentives are less strongly aligned against UHG's success than in a horizontal competition scenario, and the financial benefit from speaking out about potential anti-competitive effects is lower. Third, and most importantly, UHG/Change set precedent as the first trial involving data-driven vertical mergers in healthcare. These mergers are highly profitable for insurers, and proposals for similar acquisitions have recently marked the news.[73] It seems unrealistic to expect executives to help the Government establish the illegality of the exact type of merger they are interested in pursuing.

But many of the difficulties the DOJ faced in advancing a theory of harm linked to innovation were independent of evidentiary disputes. Showing decreased innovation is difficult because it inherently speculates about unknowable future industry developments. The DOJ's arguments tended to portray decreased innovation as a precursor to competitive harms. However, competition has been understood to be a driver of innovation, rather than a result of it.[74] By adding an additional analytical step between the ability and incentive for UHG to use the data for its insurance subsidiary, and the eventual harm to competition in relevant markets, the DOJ unnecessarily weakened its argument.

---

[70] *Id.*

[71] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 151 (D.D.C. 2022)

[72] See, for example, testimony from Microsoft's CEO that Google's search engine dominance is anti-competitive. David McCabe & Cecilia Kang, *Microsoft C.E.O. Testifies That Google's Power in Search Is Ubiquitous*, N.Y. TIMES (Oct. 2, 2023), https://www.nytimes.com/2023/10/02/technology/microsoft-ceo-testifies-google-search.html.

[73] Lauren Thomas, Anna Wilde Mathews, & Laura Cooper, Cigna, *Humana in Talks for Blockbuster Merger*, WALL STREET J. (Nov. 29, 2023), https://www.nasdaq.com/articles/us-health-insurers-humana-cigna-in-talks-to-merge-wsj.

[74] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 141 (D.D.C. 2022).

C.   *Direct Harms to Competition*

Rather than showing a "chill" in innovation as a precursor to the merger's anticompetitive harms, the DOJ could have emphasized direct harms to competition. The DOJ briefly mentioned one direct harm to competition in its Complaint: selective identification of "national account and large group employers [that] are better insurance risks (and thus most profitable)."[75] The District Court even agreed that application of claims data to this end could entail "competitive value."[76] Using claims data to identify the best group insurance accounts could enable UHG's insurance subsidiary to bid a lower price than its competitors for those same accounts. This would decrease competition in the overall health insurance market, as UHG's competitors would be confined to less-profitable accounts. Indeed, not only would UHG be able to identify low-risk accounts now, but with predictive machine learning tools, it could more accurately predict future low-risk accounts. Using such a direct harm to competition lifts the burden of proving anything about future innovations and could put antitrust enforcers on "firmer ground."[77]

Another theory of direct competitive harm the DOJ may submit in a future case is "targeted discounting," proposed by Professor Jonathan B. Baker.[78] The "targeted discounting" theory of competitive harm does not rely on predictions of future harms to innovations. Rather, "targeted discounting" envisions an exclusionary mechanism where one firm uses data about competitor firms to acquire competitors' customers. In UHG's case, it may use claims data to identify accounts serviced by competitors and bid a lower price for similar services to induce them to switch. Indeed, UHG may combine this method with the "selective identification" method *supra* to identify and poach competitors' most profitable customers. Because UHG's competitors lack data on UHG's insurance subsidiary, they are reduced to having to raise prices to avoid losses from needing to attract new customers or competing less aggressively to prevent UHG from taking its customers. Though competitors testified at trial that they would "[n]ever compete less for any reason," UHG's ability to poach their customers may force them into less favorable markets, regardless of their stated competitive drive.[79]

D.   *Competitive Harm from Impact on High-Risk Insurance Consumers*

An additional theory of competitive harm applicable to the UHG/Change merger—proposed by Professor Theodosia Stavroulaki—focuses on the use of Change's health care data alongside advanced data analytics to discriminate against unprofitable high-risk insurance consumers and evade the Affordable Care Act's proscription of this activity.[80] The ACA implements risk adjustment policies to reduce the incentive to discriminate against such

---

[75] Complaint, *supra* note 3, at 33.
[76] UnitedHealth Grp. Inc., 630 F. Supp. 3d at 141.
[77] *Cf. id.* at 149 (describing enforcers' position as on "firmer ground" when arguing that "United is a vertically integrated firm with an incentive to maximize its overall profits, not just the profits of an individual subsidiary like Optum").
[78] Jonathan B. Baker, The Antitrust Paradigm: Restoring a Competitive Economy 130-34 (2019).
[79] United States v. UnitedHealth Grp. Inc., 630 F. Supp. 3d 118, 151 (D.D.C. 2022).
[80] Theodosia Stavroulaki, *Mergers that Harm Our Health*, 19 Berkeley Bus. L.J. 89 (2022)

customers, but they fail to fully correct for the difference in profitability between consumer groups, so insurers are incentivized to find ways to realize a healthier and more profitable pool of customers without explicitly discriminating against high-risk consumers.[81] The most promising way to do so requires health care data like what UHC gained from Change, and lots of it. In short, health care data—even when de-identified—allows insurers to gain information about the practices of different consumer groups. Insurers can then identify the types of drugs and treatments associated with high-risk consumers and move those treatments to higher cost-sharing tiers, repelling high-risk, unprofitable customers.[82] Evidence of this conduct is visible both in birds-eye analyses of insurers' cost-sharing tiers and in specific complaints against individual firms.[83] This theory of harm could allow the government to push back against data-driven mergers by health insurers: in UHG/Change, the government could have defined the sale of insurance to high-risk consumers as a separate product market and argued that the acquisition of Change would have given UHC the tools to identify and exclude those consumers, thereby lessening competition in that market.

The newly released Merger Guidelines specify that the agencies may identify markets composed of a subset of consumers if "the suppliers engaging in targeting [are] able to set different terms for targeted customers than other customers" and if arbitrage is unlikely to occur.[84] Discrimination against high-risk customers passes this test, as the covert movement of necessary drugs and treatments up cost-sharing tiers increases out-of-pocket drug costs for high-risk consumers without doing so for other consumers, a major difference in the quality of the policy.[85] In *Sysco* and *U.S. Foods*, a district court upheld the FTC's use of these price discrimination markets, finding that the consumer group likely would accept price increases rather than turn to substitutes.[86] The high-risk consumer subgroup meets the court's standard in *Sysco*, as plans with high out-of-pocket costs for necessary drugs are a poor substitute for high-risk consumers' desired plans, meaning that the group would plausibly accept small and significant increases in price before turning to those other plans. In *RR Donnelley*, the Commission also upheld the use of price discrimination markets.[87] The Commission specified that for a sub-group of consumers to constitute a market, a hypothetical monopolist should have the means to detect the inframarginal consumers that the market comprises.[88] Although Change's de-identified CSI does not allow UHC to identify individual consumers' risk levels, it provides UHG with information on the drugs and treatments high-risk consumers use, allowing them to raise the out-of-pocket costs of those treatments and therefore prices for the entire consumer subgroup as a whole.

---

[81] *Id.* at 95 (citing Rose, S. L. Bergquist, and T. J. Layton, *Computational Health Economics for Identification of Unprofitable Health Care Enrollees*, 18(4) Biostatistics 682, 691 (2017))

[82] Stavroulaki, *supra* note 80, at 95-96.

[83] *Id.*; Douglas B. Jacobs & Benjamin D. Sommers, *Using Drugs to Discriminate—Adverse Selection in the Insurance Marketplace*, 372 N. ENGL. J. MED. 399, 401 (2015).

[84] U.S. DEP'T JUST. & FED. TRADE COMM'N, MERGER GUIDELINES 44 (2023).

[85] Stavroulaki, *supra* note 80, at 112-113.

[86] Stavroulaki, *supra* note 80, at 111 (citing FTC v. Sysco Corp., 113 F. Supp. 3d 1 (D.D.C. 2015)).

[87] *Id.* (citing In re R.R. Donnelley, & Sons Co.120 F.T.C. 36 at 159–60).

[88] *Id.* at 57

Referencing the massive amount of healthcare data with secondary use rights received by UHG in the merger as well as UHG's ability to glean information from this data would have allowed enforcers to argue that the acquisition would increase UHG's ability and incentive to exclude high-risk consumers. This exclusion could easily be shown to be anti-competitive. It would allow insurers to move treatments associated with high-risk consumers to a higher cost-sharing tier and increase non-financial barriers to accessing those treatments.[89] Those consumers would either accept the higher costs or turn to other insurers, who would have the incentive to implement the same strategies.[90] This dynamic would raise prices in the relevant market (either through higher out-of-pocket costs or by charging higher premiums for plans with acceptable cost-sharing tiers), and would also definitionally result in less competition, as insurers attempt to compete less for undesirable consumers.

E. Counterarguments to Competition-Centered Arguments

One strong counterargument to competition-centered arguments is that, even if there is decreased competition, consumers will benefit from optimized insurance pricing. If UHG can identify the low-risk accounts and customers and offer a lower insurance rate, it may constitute an efficiency that offsets anticompetitive harm. However, claims about efficiencies are "very difficult to establish" and rarely successful in challenging *prima facie* showing of anticompetitive harm.[91] Antitrust enforcers may question various evidentiary justifications for efficiencies in insurance pricing and how they might benefit consumers.[92] Additionally, enforcers may counter claims to efficiencies and consumer welfare by proposing harms to future innovations.[93] Harms to future innovations may not be strong enough to establish a *prima facie* case of competitive harm. But efficiency and consumer welfare arguments do not directly implicate competitive harm, so arguments made about harms to future innovation might refute them.

IV. Conclusion

In summary, antitrust enforcers may consider directly bringing up harms to competition in future cases rather than adding an intermediate step of showing decreased innovation. By showing direct harms to competition, enforcers reduce the need to extrapolate from already-predictive reasoning, putting them on "firmer ground." Additionally, deeper inquiry into the nature and use-cases of competitively sensitive information such as the data UHG gained from Change should lead a future court to conclude that insurers face strong incentives to use this data to gain a competitive advantage over rivals. Overall, this paper provides a new framework for challenges to vertical healthcare mergers involving the acquisition of competitively sensitive data, one that will hopefully be of use in preventing anti-competitive consolidation in the future.

---

[89] *Id.* at 112-113.

[90] *Id.*

[91] Illumina, Inc. v. Federal Trade Commission, 88 F.4th 1036, 1053 (5th Cir. 2023).

[92] *See id.* at 1059-62.

[93] The Fifth Circuit expressly considered harms to future markets in its analysis of the Illumina-Grail vertical merger. *See id.* at 1051.