Public Comment to the Indiana Department of Health Regarding the Certificate of Public Advantage Application of Union Health and Terre Haute Regional Hospital

Pursuant to Indiana Code § 16-21-15

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Union Hospital, Inc. (Union Health) is proposing to acquire Terre Haute Regional Hospital, L.P. (Terre Haute Regional Hospital). In their application for a Certificate of Public Advantage (COPA), Union Health and Terre Haute Regional Hospital have argued that this transaction would improve local health, raise efficiency, and increase quality without raising costs for consumers or harming access to care.

This transaction involves two hospitals located approximately five miles apart. The next nearest hospital is located approximately 20 miles away. This public comment draws on the extensive evidence of how transactions of this type and similar COPAs have impacted hospital prices, hospital quality, access to care, and the health of local populations. The comment also draws on my recent work assessing how transactions like the proposed Terre Haute Regional Hospital and Union Health merger impact hospital prices, health care spending, insurance premiums, local wages, and employment (Brot-Goldberg et al., 2024; Brot-Goldberg et al., forthcoming). In this comment, I will also describe how evidence from past mergers and other states' experiences with COPAs can inform the Indiana Department of Health's assessment of how the outcomes from this proposed merger relate to the standards for issuing a COPA outlined in Indiana Code § 16-21-15.

Background: I am health economist who studies hospital competition and the functioning of health care markets. I am an Associate Professor of Public Health and Associate Professor of Economics at Yale University. I have written a number of academic articles assessing the impact of hospital competition on clinical quality and provider prices and have also studied the impact of hospital mergers on hospital prices, health spending, and economic growth in local communities (Cooper et a., 2011, Cooper et al., 2019, Cooper et al., 2022, Brot-Goldberg et al., 2024, and Brot-Goldberg et al., forthcoming). I have presented my work on hospital competition and mergers at the U.S. Department of Justice (DOJ), the Federal Trade Commission (FTC), and White House, as well as in numerous states. I have testified about hospital competition and mergers before the U.S. Senate.

Overview: Based on my nearly 20-years of studying hospital competition and hospital mergers, I firmly believe this merger would harm members of the public in Terre Haute and Vigo County. This transaction will meaningfully lessen competition and would create a new merged entity that

will have a local market share, depending on how it is measured, that ranges from approximately 75% to approximately 100%. Across a range of approaches for measuring the changes in market concentration that this transaction would, this merger would run afoul of the Department of Justice and Federal Trade Commission 2023 Merger Guidelines.

Based on my analysis of hundreds of mergers and evidence from past COPAs, this transaction is unlikely to improve the quality of care patients receive, is unlikely to meaningfully impact public health, will raise health care spending locally, will lower local access to care, and will lead to overall reductions in local income and employment in the area. The academic literature on hospital mergers that were granted COPAs also highlights that the quality of care at the merging facilities tended to fall (Garmon and Bhatt, 2022). Based on what the academic evidence suggests about the likely impact of the Terre Haute Regional Hospital and Union Health merger, my assessment is that the transaction would not achieve the goals described by the applicants and would generate more local costs than benefits. That is, the merger would not meet the approval standards outlined in Indiana Code § 16-21-15. My analysis of the merging parties' application and the relevant protections included Indiana Code § 16-21-15 also lead me to believe that the protections afforded to consumers via a COPA would not obviate the substantial harms this transaction is likely to induce for consumers.

My estimates are that this merger, even if a COPA were granted, would raise commercial prices by between 10% and 30%, raise local insurance premiums by 3% to 10%, lower wages in the area across health care and non-health care workers by 1%, cause approximately 500 job losses outside the health sector, and precipitate one to two excess deaths in the community from suicide or overdose. These suicides and overdoses stem from the job losses among workers outside of the health care sector that this transaction would generate. The collective economic harm from this transaction over a two-year period would be approximately $50 million, and the harms would continue to accumulate beyond this two-year timeframe. These harms do not include the reduction in local tax revenue that would result from this merger that stems from the fact that it transitions one of the merging parties from a for-profit entity (who therefore pays property taxes) to a non-profit entity that will have significant tax concessions. Because this transaction would raise prices and, in turn, out-of-pocket costs for consumers, it would also meaningfully harm access to care for residents of Vigo County.

Standards for Assessment: Indiana Code § 16-21-15 states that COPAs shall be granted if: "(1) A hospital merger may benefit the public by maintaining or improving the quality, efficiency, and accessibility of health care services offered to the public. (2) Benefits resulting from a hospital merger may outweigh any anticompetitive effects of joining together competitors, including addressing unique challenges in providing health care services in rural areas. (3) It is in the state's best interest to supplant state and federal antitrust law with a process for regulatory approval and active supervision by the state department, as provided in this chapter." (I.C. § 16-21-15-0.5).

Statement of Merging Parties on Competition: The applicants state on page 58 of their COPA application that, "the Transaction will enhance competition" and that "this proposed Merger will result in higher quality and improved access to health care without any undue increase in health care costs because it will not result in a meaningful reduction in competition for inpatient and outpatient services in the region." On page 58, the merging parties underscore the value of

competition when they write, "competition is valuable because it can benefit consumers. The "principal objective of antitrust policy is to maximize consumer welfare by encouraging firms to behave competitively." If the merger is consummated, the net effect will be to promote, not lessen, the traditional benefits of competition in UHI and THRH's geographic service areas."

Impact on Competition: It is unclear how the merging parties arrived at the conclusion that this merger would promote competition. Their assertion is inconsistent with standard economic theory. Unlike what the parties assert, my assessment is that this transaction would substantially lessen competition in the hospital market in Terre Haute, Indiana, and Vigo County. The dominant measure of market concentration used by the DOJ and the FTC is the Herfindahl-Hirschman Index (HHI) (Department of Justice and Federal Trade Commission, 2023). HHIs range from 0, indicating a perfectly competitive market, to 10,000, which reflects a monopoly market. According to their recently updated 2023 Merger Guidelines, the DOJ and the FTC define a market as highly concentrated if it has a HHI greater than 1,800. As the DOJ and FTC also note, "a merger that creates or further consolidates a highly concentrated market that involves an increase in the HHI of more than 100 points is presumed to substantially lessen competition or tend to create a monopoly" (Department of Justice and Federal Trade Commission, 2023). Moreover, the agencies note that "a merger that creates a firm with a share over thirty percent is also presumed to substantially lessen competition or tend to create a monopoly if it also involves an increase in HHI of more than 100 points" (Department of Justice and Federal Trade Commission, 2023).

There are multiple approaches to defining the market for hospital care in Vigo Count. Irrespective of the strategy used to assess market concentration, this merger would run afoul of the standard merger screening. Using a standard market definition based on a twenty-mile radius drawn around hospitals, the merger of Terre Haute Regional Hospital and Union Health would raise the local HHI in Vigo Country from approximately 5,000 to approximately 10,000. In other words, the merger would shift the local market from a duopoly to a monopoly and create one firm with nearly 100% of the market. According to the DOJ and FTC Merger Guidelines, this type of transaction would likely raise prices and adversely impact quality due to a lessening of competition (Department of Justice and Federal Trade Commission, 2023). Using a wider market definition based on local patient flows, this merger would raise the local HHI from approximately 3,500 to approximately 5,500 and create a combined entity with a market share of approximately 75%. This latter approach also implies that the transaction would meaningfully lessen competition.

Health Care Quality: On page 61 of their application, the applicants state, "[F]urthermore, with regard to the provision of quality health care services particularly, it is well established that there is a materially positive correlation between hospital volumes and better outcomes across a wide range of procedures and conditions. The patient volumes at Post-Merger [sic] Union Hospital will be greater than the pre-Merger patient volumes at Regional Hospital, or the pre-merger patient volumes at Union Hospital. Consistent with the findings of various studies, this increased volume will operate to improve the quality of care provided by Post-Merger [sic] Union Hospital."

Contrary to what the merging parties suggest, the best available evidence suggests that hospital mergers involving COPAs have led to reductions in quality (Garmon and Bhatt, 2011). The merging parties also misinterpret the implications of the evidence on the relationship between provider volume and quality. The applicants accurately note that the academic literature has found

a positive correlation between hospital volume and hospital quality. However, this does not mean that a merger that raises hospital volume will causally lead to higher quality. Instead, the academic literature suggests that mergers largely do not impact clinical quality (Mariani et al., 2022). While there are returns to being large, the literature suggests that this correlation is explained by the fact that better hospitals tend to grow more over time (Chandra et al., 2016).

Contrary to what the merging parties assert, there is scant evidence that mergers raise clinical quality and, if anything, reviews of the literature indicate that the relationship between mergers and quality is modestly negative (Handel and Ho, 2021). Within the literature, for example, Beaulieu et al. (2020), published in the New England Journal of Medicine, examined 246 acquired hospitals between 2009 and 2013 and concluded that "hospital acquisition by another hospital or hospital system was associated with modestly worse patient experiences and no significant changes in readmission or mortality rates." Moreover, there is a clear negative relationship between competition and mortality --- that is, hospitals facing less competition tend to have higher death rates. Kessler and McClellan (2000), Cooper et al. (2011), Gaynor, Moreno-Serra and Propper (2013), and Gaynor, Propper and Seiller (2016) all study the relationship between competition and quality and conclude that hospitals facing more competition have higher quality and lower death rates.

Garmon and Bhatt (2022) examined the impact of hospital mergers subject to COPAs prior to 2015 on clinical quality. They show that the change in market power from these mergers led to reductions in hospital quality. For example, following the Southern Maine Medical Center and MaineHealth merger, mortality rates for heart attack, heart failure, and pneumonia increased. The authors concluded that their general finding "is that COPA-regulated hospitals may experience reductions in quality." In their discussion of a second merger with a COPA, they also state that, "after Phoebe Putney's acquisition of Palmyra Medical Center, quality declined across most measures."

Health Improvement Initiatives: Union Health and Terre Haute Regional Hospital's COPA application notes that they will introduce a number of community health programs. In their application, Union Health and Terre Haute Regional Hospital state that Union Health "has implemented, and plans to implement, a number of innovative health care initiatives that are not typically associated with routine clinical care, but which nonetheless improve the health status of, and access to quality care by, patients and the public at large" (page 20). These sorts of claims are often found in COPA applications (Garmon and Bhatt, 2022).

However, once the parties merge, the reduction in competition generated by the transaction will eliminate the economic incentives for the merging parties to follow through on their commitments. It is therefore important to note, as the merging parties note on pages 25, 26, 27, and 28 of their COPA application, the majority of their public health and community initiatives have not yet been implemented and will only commence after the transaction is completed.

Past experiences with COPAs in other jurisdictions should inform the state's assessment of the likelihood that Union Health and Terre Haute Regional Health's merger will lead to public benefit. In 2018, Mountain States Health Alliance and Wellmont Health System merged to form Ballad Health System. Their COPA application included pledges to invest in public health programs

(Mountain States Health Alliance and Wellmont Health System, 2016). Five years after the merger was completed, Kaiser Health News published an article titled, "These Appalachia Hospitals Made Big Promises to Gain a Monopoly. They're Failing to Deliver," in which they outline how Ballad, the newly merged entity, failed to fulfil their pledged charity care obligations, did not meet the majority of their quality benchmarks, and engaged in aggressive debt collection (Kelman and Liss, 2023).

Efficiency: The applicants note on page 4 that "combining the management and back-office operations at a single location will maximize the coordination and efficiency of management and other administrative services, including communications across the Combined Clinical Platform…once consolidation is completed, shared services expense is expected to be reduced by $2 million annually." On page 43, the applicants state that "the Merger will produce reductions in health care costs over time," and these savings will largely result from improvements in care coordination and reductions in redundant back-office operations.

The merging parties' assertions about efficiencies are inconsistent with the academic evidence. For example, Schmitt (2017) examined the impact of hospital mergers between 2000 and 2010 on cost savings. Schmitt found evidence of cost reductions. However, these reductions were only present in transactions where the merging parties were not located nearby and hence were not competitors. Their findings echo earlier work by Dranove and Lindrooth (2003). Given the change in market structure that the merger of Union Health and Terre Haute Regional Hospital will generate, this transaction is unlikely to generate sufficient competitive pressure to incentivize the merging parties to materially reduce costs.

Health Care Prices: There is an extensive body of evidence, summarized in Handel and Ho (2021), that shows that hospital mergers involving parties that are geographically proximate generally raise prices. In my work, for example, we find that mergers involving close competitors generally lead to price increases of 5% or more (Cooper et al., 2019). Likewise, Brot-Goldberg (forthcoming) highlight how hospital mergers that raise the HHI of merging parties by more than 200 points and result in a post-merger HHI of over 2,500 points lead to price increases of, on average, more than 5%. The Union Health and Terre Haute Regional Hospital merger would raise the local HHI by approximately 5,000 points. My conservative estimate is that this transaction would raise local prices by 10% to 30%.

Critically, I.C. § 16-21-15 does include limits on growth of providers' charges. However, the vast majority of the contracts hospitals negotiate with insurers are wholly unrelated to providers' charges (Cooper et al., 2019). As a result, it is highly likely that, even with a COPA in place, the newly merged Union Health and Terre Haute Regional Hospital entity will substantially increase their negotiated prices.

To that end, as the applicants state on page 65, "as a threshold matter, it is important to note that, if the COPA is granted, Post-Merger Union Hospital will be prohibited, pursuant to I.C. § 16-21-15-7(c), from increasing the charges for individual services by more than the increase in the preceding year's annual average of the Consumer Price Index for Medical Care, as published by the federal Bureau of Labor Statistics…This prohibition limits the Hospital's charges, and consequently, limits the Hospital's ability to use its charges as a basis for negotiating higher

reimbursement rates with payors." Here, it is vital to note that, in their application, the merging parties do not assert that the COPA will limit the growth of the prices they negotiate with payers or the prices of any of their value-based or alternative. Instead, they state that it will limit their ability to use charges as a basis for negotiating higher reimbursements. As a result, the protections included in I.C. § 16-21-15-7 are unlikely to thwart supernormal growth of the actual transaction prices that the merging parties negotiate after the transaction is completed.

Access: Because the Terre Haute Regional Hospital and Union Health merger is likely to markedly increase the combined entity's negotiated prices, the transaction will also lead to an increase in patient cost-sharing. There is clear evidence that when cost-sharing increases, individuals reduce their use of health care services. As a result, it is likely that the proposed merger will reduce access to hospital care for residents of Terre Haute and Vigo Country (Brot-Goldberg et al., 2017).

Impact on Workers: On page 40 of their application, the applicants state that "the Merger is not expected to result in material cost reductions attributable to employee departures." However, when hospitals gain market power, they also gain the ability to negotiate lower wages with workers. Prager and Schmitt (2021) show that, following a merger where the merging parties gain market power, nurses' salaries drop by approximately 7%. This is an average estimate across mergers, and, given the substantial increase in market concentration that the merger in Terre Haute is likely to generate, it is likely that the Terre Haute transaction could lead to wage reductions for nurses of 10% or more.

Impact on the Local Community: The majority of working-age adults in the U.S. get their health insurance from an employer. When the price of hospital care goes up, it raises insurance premiums. In the presence of employer-sponsored health insurance, this increase makes it more costly for non-health care firms to retain workers. Brot-Goldberg et al. (2024) --- work where I am a coauthor --- studies the impact of rising hospital prices caused by hospital mergers on local wages and employment. Our work shows that when hospital prices go up, local firms reduce the count of workers they employ and local incomes go down. Moreover, the research highlights that it is middle-income workers who are most likely to become unemployed. Our results suggest that, when applied directly to this transaction, if the merger between Terre Haute Regional Hospital and Union Health led to a 10% increase in hospital prices, it would decrease local wages in Vigo County by approximately $36 million and lead to a net reduction in 300 to 800 local job losses. These job losses would be concentrated among middle class workers employed in jobs outside the health care sector.

A growing literature highlights how losing a job and becoming wholly separated from the labor market can have devastating health consequences and increase short-run mortality (Eliason and Storrie, 2009; Sullivan and von Wachter, 2009; Pierce and Schott, 2020; Venkataramani et al., 2020). The rise in mortality following job losses generally stems from a surge in overdoses, vehicular accidents, and self-harm (Eliason and Storrie, 2009 and Venkataramani et al., 2020). Consistent with this literature, Brot-Goldberg et al. (2024) find that, following price increases from hospital mergers, approximately 1 in 140 of the individuals who lose a job and become separated from the labor market die within a year from a suicide or an overdose. I estimate, based on that work, that the merger between Terre Haute Regional Hospital and Union Health would lead to one to two excess deaths from suicide or overdose.

References

Beaulieu, Nancy D., Leemore S. Dafny, Bruce E. Landon, Jesse B. Dalton, Ifedayo Kuye, and J. Michael McWilliams. 2020. "Changes in Quality of Care after Hospital Mergers and Acquisitions." *The New England Journal of Medicine* 382 (1): 51–59.

Brot-Goldberg, Zarek C., Amitabh Chandra, Benjamin R. Handel, and Jonathan T. Kolstad. 2017. "What Does a Deductible Do? The Impact of Cost-Sharing on Health Care Prices, Quantities, and Spending Dynamics*." *The Quarterly Journal of Economics* 132 (3): 1261–1318.

Brot-Goldberg, Zarek C., Zack Cooper, Stuart V. Craig, Lev R. Klarnet, Ithai Lurie, and Corbin L. Miller. 2024. "Who Pays for Rising Health Care Prices? Evidence from Hospital Mergers," NBER Working Paper No. 32613.

Brot-Goldberg, Zarek, Zack Cooper, Stuart Craig, and Lev Klarnet. Forthcoming. "Is There Too Little Antitrust Enforcement in the U.S. Hospital Sector?" *American Economic Review: Insights*.

Chandra, Amitabh, Amy Finkelstein, Adam Sacarny, and Chad Syverson. 2016. "Health Care Exceptionalism? Performance and Allocation in the US Health Care Sector." *American Economic Review* 106 (8): 2110–44.

Cooper, Zack, Stuart V Craig, Martin Gaynor, and John Van Reenen. 2019. "The Price Ain't Right? Hospital Prices and Health Spending on the Privately Insured*." *The Quarterly Journal of Economics* 134 (1): 51–107.

Cooper, Zack, Joseph J. Doyle, John A. Graves, and Jonathan Gruber. 2022. "Do Higher-Priced Hospitals Deliver Higher-Quality Care?," NBER Working Paper No. 28909.

Cooper, Zack, Stephen Gibbons, Simon Jones, and Alistair McGuire. 2011. "Does Hospital Competition Save Lives? Evidence From The English NHS Patient Choice Reforms." *The Economic Journal* 121 (554): F228–60.

Dranove, David, and Richard Lindrooth. 2003. "Hospital Consolidation and Costs: Another Look at the Evidence." *Journal of Health Economics* 22 (6): 983–97.

Eliason, Marcus, and Donald Storrie. 2009. "Does Job Loss Shorten Life?" *Journal of Human Resources* 44 (2): 277.

Garmon, Christopher, and Kishan Bhatt. 2022. "Certificates of Public Advantage and Hospital Mergers." *The Journal of Law and Economics* 65 (3): 465–86.

Gaynor, Martin, Rodrigo Moreno-Serra, and Carol Propper. 2013. "Death by Market Power: Reform, Competition, and Patient Outcomes in the National Health Service." *American Economic Journal: Economic Policy* 5 (4): 134–66.

Gaynor, Martin, Carol Propper, and Stephan Seiler. 2016. "Free to Choose? Reform, Choice, and Consideration Sets in the English National Health Service." *American Economic Review* 106 (11): 3521–57.

Handel, Ben, and Kate Ho. 2021. "The Industrial Organization of Health Care Markets." In *Handbook of Industrial Organization*, 5:521–614. Handbook of Industrial Organization, Volume 5. Elsevier.

Indiana Code § 16-21-15. 2021. *Indiana Code*. Vol. 16-21–15. https://iga.in.gov/legislative/laws/2021/ic/titles/016#16-21-15.

Kelman, Brett, and Samantha Liss. 2023. "These Appalachia Hospitals Made Big Promises to Gain a Monopoly. They're Failing to Deliver." *KFF Health News* (blog). September 29, 2023.

Kessler, Daniel P., and Mark B. McClellan. 2000. "Is Hospital Competition Socially Wasteful?" *The Quarterly Journal of Economics* 115 (2): 577–615.

Mariani, Marco, Leuconoe Grazia Sisti, Claudia Isonne, Angelo Nardi, Rosario Mete, Walter Ricciardi, Paolo Villari, Corrado De Vito, and Gianfranco Damiani. 2022. "Impact of Hospital Mergers: A Systematic Review Focusing on Healthcare Quality Measures." *European Journal of Public Health* 32 (2): 191–99.

Mountain States Health Alliance and Wellmont Health System. 2016. "Addendum 1 to COPA Application: Mountain States Health Alliance and Wellmont Health System." Tennessee:
Tennessee Department of Health. https://www.tn.gov/content/dam/tn/health/documents/WHS_-_MSHA_-_Addendum_1_to_COPA__Application.pdf.

Pierce, Justin R., and Peter K. Schott. 2020. "Trade Liberalization and Mortality: Evidence from US Counties." *American Economic Review: Insights* 2 (1): 47–64.

Prager, Elena, and Matt Schmitt. 2021. "Employer Consolidation and Wages: Evidence from Hospitals." *American Economic Review* 111 (2): 397–427.

Schmitt, Matt. 2017. "Do Hospital Mergers Reduce Costs?" *Journal of Health Economics* 52 (March):74–94.
Sullivan, Daniel, and Till von Wachter. 2009. "Job Displacement and Mortality: An Analysis Using Administrative Data*." *The Quarterly Journal of Economics* 124 (3): 1265–1306.

U.S. Department of Justice and the Federal Trade Commission. 2023. "Merger Guidelines."

Venkataramani, Atheendar S., Elizabeth F. Bair, Rourke L. O'Brien, and Alexander C. Tsai. 2020. "Association Between Automotive Assembly Plant Closures and Opioid Overdose Mortality in the United States: A Difference-in-Differences Analysis." *JAMA Internal Medicine* 180 (2): 254–62.