Evaluation of the Proposed Transaction Between

Care New England and Lifespan

Lawton R. Burns, Ph.D., MBA
The James Joo-Jin Kim Professor
Professor of Health Care Management
The Wharton School
University of Pennsylvania
3641 Locust Walk
Philadelphia, PA 19104
215-898-3711
burnsL@wharton.upenn.edu

February 17, 2022

Report Prepared for the Office of the Attorney General
for the State of Rhode Island

TABLE OF CONTENTS

I. EXPERT WITNESS BACKGROUND & QUALIFICATIONS

1. My name is Lawton R. Burns. I am the James Joo-Jin Kim Professor at the Wharton School of the University of Pennsylvania, where I am a Professor in the Departments of (a) Health Care Management and (b) Management. I am also the Co-Director of the Roy and Diana Vagelos Program in Life Sciences and Management at the University of Pennsylvania (since 2013). In prior years, I also served as the Chair of the Health Care Management Department (2007-2014), and Director of the Wharton Center for Health Management & Economics (1998-2020). I have taught at Wharton since 1994. Prior to Wharton, I taught in the health administration programs of two other business schools: the Graduate School of Business at the University of Chicago and the College of Business and Public Administration at the University of Arizona. I have also taught in the healthcare management programs at the Indian School of Business in Hyderabad and the Guanghua School of Management at Peking University.

2. At Wharton, I teach the first-year course, "Introduction to the U.S. Health Care System", to the MBA students. The course covers the entire value chain of health care, including hospital systems and mergers, physicians and other providers, the managed care organizations and insurers who contract with and reimburse providers for their services, the employers, individuals, and governmental bodies who ultimately pay for these services, and the biopharmaceutical and medical device/supply firms that manufacture the products used by providers. I have taught this course at Wharton since the late 1990s in both the daytime/fulltime MBA program and the weekend MBA program. I have taught various versions of this course at each of the Universities I have worked at since 1981.

3. Between 1998 and 2013, I also taught the MBA elective course on "Managed Care and the Industrial Organization of Healthcare". I resumed teaching this course in the 2016-2017 school year. The course covers (a) the horizontal integration of physicians, hospitals, and insurers, and (b) the vertical integration between physicians, hospitals, and insurers. The course also covers the bargaining relationships between physicians, hospitals, and insurers - - and the strategies the three parties have undertaken to align with and/or negotiate with one another. I

taught an earlier, but parallel version of this course between 1998-2002 to physicians pursuing a masters' degree in the Administrative Medicine Program at the University of Wisconsin School of Medicine.

4. I have testified on these and related topics to several government bodies. These include the Federal Trade Commission (FTC), the Department of Justice (DOJ), and the Washington State Attorney General. The issues concerned horizontal integration, vertical integration, hospital mergers, economic and clinical integration, and payer-provider contracting. Most of these cases involved horizontal and vertical mergers of physicians and hospitals. In many of these cases, I opined on whether there was sufficient economic and/or clinical integration benefits to potentially offset the consumer welfare loss from consolidation and reduced competition. A list of cases in which I have testified at trial or deposition is found at the end of my vita (see Exhibit 1).

5. I received my Ph.D. in organizational sociology (in 1981) and my MBA in hospital administration (in 1984), both from the University of Chicago. During my MBA training, I interned with the Hospital Corporation of America (HCA), the largest for-profit chain of hospitals in the US. I also completed a one-year residency with Jackson Park Hospital on the South Side of Chicago. In both institutions, I served as the Assistant to the Administrator. I have spent my career since that time seeking to use (a) the theory and research of management, industrial organization, and healthcare delivery to (b) improve observed patterns of physician and hospital behavior by decreasing costs while maintaining or improving quality.

6. Throughout my career, I have focused much of my research on the hospital industry and the medical profession. Earlier research examined:

- hospital-sponsored primary care
- physicians' use of hospitals (e.g., admitting patterns and loyalty)
- historical transformation of the hospital from a philanthropic to a business base
- hospital adoption of reengineering
- medical group practices

- medical staff organization
- physician-hospital relationships and conflicts
- physician-hospital alignment
- physician-hospital alliances (e.g., PHOs, MSOs, IPAs, etc.)
- integrated healthcare delivery
- accountable care organizations
- hospital supply of community benefits
- hospital performance (e.g., operating costs, profitability)
- formation of hospital systems
- hospital mergers
- hospital bankruptcies
- hospital competition
- hospital – managed care bargaining
- capitated contracting between hospitals and health plans
- hospital supply chain management
- transformation from volume to value
- hospital ownership conversions, and
- alternative delivery systems (non-hospital based).

In recognition of some of this effort, the American Hospital Association awarded me the Edwin Crosby Memorial Fellowship to study physician-hospital relationships in 1992-1993. In 2015, the Academy of Management and its Health Care Administration Division awarded me the Distinguished Scholar Award.

7. In terms of management topics, I have focused much of my attention on organization structures, organization processes (e.g., participation in decision-making), and employee behavior (e.g., collaboration, conflict, satisfaction, loyalty and commitment to the organization, citizenship behaviors, etc.). In terms of corporate strategy topics, I have focused on "governance decisions" (make-in-house versus buy from the market), horizontal and vertical integration, strategic alliances and networks, and value-chain alliances.

8. In terms of healthcare topics, I have focused much of my attention on organized delivery systems. These include physician group practices, physician practice management companies

(PPMCs), ambulatory surgery centers (ASCs), and a variety of integrated delivery networks (IDNs) such as physician-hospital organizations (PHOs), management services organizations (MSOs), clinically integrated networks (CINs), accountable care organizations (ACOs), and economic and clinical integration. Many of these centered on (a) the integration within physician organizations and (b) the integration between physician organizations and hospitals. During this period, I have conducted mail surveys of thousands of physicians, personally interviewed hundreds of physicians and executives in IDNs, received numerous grants and research contracts to study physicians and IDNs, written or co-written multiple case studies of IDNs, and published multiple articles and book chapters relating to the topic of physician-hospital integration.

9. Some of the most important articles I have written focus heavily on the integration topics discussed in this report.[1] In 2000, I published an extensive review of the consolidation options available to physicians. In 2008, I published an extensive review of the literature on economic and financial integration between physicians and hospitals. In 2010, I published an extensive historical analysis of the relationships between hospitals and physicians. In 2012, I published an analysis of accountable care organizations and their resemblance with the integrated delivery networks of the 1990s. In 2013, I published an extensive analysis of the presence of scale and scope economies in physician practice and in vertically-integrated arrangements between physicians and hospitals. In 2018, I published an extensive review of the progress made to date by providers (both physicians and hospitals) in the movement from

[1] Lawton R. Burns and Douglas R. Wholey. "Responding to a Consolidating Healthcare System: Options for Physician Organizations." In *Advances in Health Care Management* Volume 1 (New York: Elsevier): 273-335. 2000. Lawton R. Burns and Ralph Muller. "Hospital-Physician Collaboration: Landscape of Economic Integration and Impact on Clinical Integration." *Milbank Quarterly* 86(3):375-434. 2008. Lawton R. Burns, Jeff C. Goldsmith, and Ralph Muller. "History of Hospital/Physician Relationships: Obstacles, Opportunities, and Issues." In Jay Crosson and Laura Tollen (Eds.), *Partners in Health* (Kaiser Permanente Institute for Health Policy, Oakland, CA). 2010. Lawton R Burns and Mark V Pauly. "Accountable Care Organizations May Have Difficulty Avoiding The Failures of Integrated Delivery Networks of The 1990s." *Health Affairs* 31(11): 2407-2416. 2012. Lawton R. Burns, Jeff Goldsmith, and Aditi Sen. "Horizontal and Vertical Integration of Physicians: A Tale of Two Tails." In *Annual Review of Health Care Management: Revisiting the Evolution of Health Systems Organization. Advances in Health Care Management*, Volume 15: 39-117. (Emerald Group Publishing). 2013. Lawton R. Burns and Mark V. Pauly. "Transformation of the Healthcare Industry: Curb Your Enthusiasm?" *Milbank Quarterly*. (March 2018) 96(1): 57-109.

volume to value. I have also written about both professional service agreements and the different contractual arrangements among physicians and between physicians and other parties, such as hospitals and practice management companies.[2] During 2022, I am publishing several lengthy reviews of clinical integration, care coordination, and network models of integration.[3]

10. I have spent the past two decades studying clinical integration in hospital systems and in physician-hospital vertical arrangements. Much of this work was conducted on behalf of the Federal Government (Federal Trade Commission, Department of Justice) as well as State Government (Attorney General in Washington State). This work is usually based on in-depth analyses of collaboration, quality improvement, and risk-assumption activities undertaken (or not undertaken) by physicians on the medical staffs of hospital systems.

11. Providers developed many integrated delivery systems to contract with insurance companies (alternatively known as payers and, now, managed care organizations). My research and teaching have analyzed the organizational vehicles developed by hospitals and doctors to promote managed care contracting, as well as the reimbursement models to be used in such contracting, and the success of such contracting efforts.

[2] Burns and Muller. 2008. Lawton R. Burns and Darrell P. Thorpe. "Trends and Models in Physician-Hospital Organization." *Health Care Management Review* 18(4): 7-20. 1993. Jeffrey Alexander, Thomas Vaughn, Lawton R. Burns et al. "Organizational Approaches to Integrated Healthcare Delivery: A Taxonomic Analysis of Physician-Organization Arrangements." *Medical Care Research and Review* 53(1): 71-93. 1996. Lawton R. Burns. "Physician Practice Management Companies." *Health Care Management Review* 22(4):32-46. 1997. Lawton R. Burns, Jeffrey Alexander, and Ronald Andersen. "How Different Governance Models May Impact Physician-Hospital Alignment." *Health Care Management Review* (2018).

[3] Lawton R. Burns, David Asch, and Ralph Muller. "Vertical Integration of Physicians and Hospitals: Three Decades of Futility?" in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022). Lawton R. Burns and Rachel M. Werner. "Care Coordination," in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022). Lawton R. Burns, Ingrid M. Nembhard, and Stephen Shortell. "Integrating Network Theory into the Study of Integrated Healthcare." *Social Science and Medicine* (forthcoming 2022).

12. I have also spent considerable time examining the efficiencies of hospital systems and hospital mergers. This work includes two longitudinal analyses of hospital systems[4] and a recent book on hospital mergers.[5] It also includes an analysis of the largest hospital system bankruptcy in the U.S. - - the Allegheny Health, Education, and Research Foundation (AHERF).[6] I served as the main expert witness in that bankruptcy case. I have also analyzed hospital systems in other countries.

I have also spent much of my career studying hospital mergers and systems up close. This work includes the completion of several case studies of hospital system formations and hospital mergers. During the 1990s, I worked on several large, extramurally-funded, field investigations of hospital systems. These investigations included lengthy site visits, interviews with major stakeholders (system board members, senior executives, physician executives, and rank-and-file physicians), surveys of both executives and physicians, and presentations to these stakeholders. The systems that I analyzed included: Virginia Mason Medical Center (Seattle, WA), Samaritan Health System (Phoenix, AZ), St. Joseph's Health System (Albuquerque, NM), Ochsner Clinic (New Orleans, LA), Geisinger Health System (Danville, PA), Advocate Health Care (Chicago, IL), Northwestern Healthcare Network (Chicago, IL), Evanston Northwestern Healthcare (Evanston, IL), Henry Ford Health System (Detroit, MI), Allegheny Health Education and Research Foundation (Pittsburgh, PA), Franciscan Health System (Seattle, WA), Intermountain Healthcare (Salt Lake City, UT), CentraCare Health (St. Cloud, MN), South Jersey Health System (NJ), the University of Pennsylvania Health System (Philadelphia, PA), and Fortis Healthcare (India). Several of these systems include teaching hospitals and academic medical

[4] Lawton R Burns, Douglas Wholey, Jeffrey McCullough, Ralph Muller, and Peter Kralovec. "The Changing Configuration of Hospital Systems: Centralization, Federalization, or Fragmentation?" In L. Friedman, G. Savage, and J. Goes (Eds.), *Annual Review of Health Care Management: Strategy and Policy Perspectives on Reforming Health Systems.* Volume 13. (Emerald Group Publishing): 189-232. 2012. Lawton R. Burns, Jeffrey McCullough, Douglas Wholey, Peter Kralovec, Gregory Kruse, and Ralph Muller. "Is the System Really the Solution? Operating Costs in Hospital Systems," *Medical Care Research and Review* 72(3) (2015): 247-272.

[5] David Dranove and Lawton R. Burns. *Big Med: Megaproviders and the High Cost of Healthcare in America*. (Chicago, IL: University of Chicago Press, Forthcoming 2021).

[6] Lawton R. Burns, John Cacciamani, James Clement, and Welman Aquino. "The Fall of the House of AHERF: The Allegheny Bankruptcy." Paper presented to Association of Professors of Medicine (Pasadena, February). *Health Affairs* 19(1): 7-41. 2000.

centers. As part of this work, I have spent considerable time with the CEOs of these systems - - first interviewing them and then oftentimes writing peer-reviewed papers on their system's formation and functioning.

13. I have served as an expert witness and consultant in cases involving the formation of academic health systems in the States of West Virginia and Pennsylvania. Part of my expert witness work involved analyzing the relationships between the WVU medical school, the medical school faculty, and the local hospitals. Part of my expert witness work involved analyzing the formation of AHERF, which involved bringing together two medical schools, two teaching hospitals and twelve community hospitals. Part of my consulting work involved analyzing the closer integration of the University of Pennsylvania Health System, which included the main teaching hospital, the faculty practice plan, the medical school, and several community hospitals. This work also included study of the "funds flow" model to finance the expansion of this academic health system using monies generated by the teaching hospital.

14. I have also spent the last twenty-four years studying supply chain management in the healthcare industry. I published the first academic text on the subject[7] and am now completing a follow-up analysis. As part of this work, I have studied the problems that hospital systems encounter in trying to standardize on specific products and vendors across their multiple hospital members. Finally, I have served as an expert witness in several litigations involving the relationships between product suppliers, group purchasing organizations, and hospitals.

15. I have also conducted research on the choices made by patients and their physicians regarding which hospitals to utilize for inpatient care.[8] That research shows that patients (physicians) gravitate to the hospitals that are geographically nearest to their homes (medical

[7] Lawton R. Burns & Wharton School Colleagues. *The Health Care Value Chain: Producers, Purchasers, and Providers* (San Francisco: Jossey-Bass). 2002.
[8] Lawton R. Burns and Douglas R. Wholey. "The Impact of Physician Characteristics in Conditional Choice Models for Hospital Care." *Journal of Health Economics* 11: 43-62. 1992.

offices). This is known in the academic literature as “the gravity model”. The gravity model rests on the advantages of convenience, shorter travel times, and lower opportunity costs.

16. I have resided and worked in the Philadelphia marketplace since 1994. During that time, I have studied the healthcare market in the local metropolitan area in great depth, in part due my work as an expert witness on the AHERF case. I am familiar with competition among large health plans (e.g., Independence Blue Cross vs. Aetna) and large hospital systems (University of Pennsylvania Health System vs. Jefferson Health). I have also studied how competition impacts the prospects for ACO formation in the local Philadelphia marketplace. These observations of the local healthcare marketplace have also influenced my work and research concerning other healthcare markets around the country.

17. Overall, I have published over one hundred and fifty articles and book chapters on these topics. I have also published several books in the same areas. Appendix 1 contains my curriculum vitae.

II. Summary of Assignment and Organization of Report

I have been retained by the Office of the Attorney General for the State of Rhode Island to provide expert assistance to review the proposed transaction between Care New England and Lifespan pursuant to R.I. Gen. Laws 23-17.14-1, including any potential financial or clinical efficiencies proffered by the transacting parties. I have also been asked to opine on several specific questions, including: (1) Are the goals of the proposed transaction achievable? (2) What problems does the proposed transaction fix? (3) What can go wrong with the proposed transaction? What will result if the stated goals of the transaction are not accomplished? (4) Based on historical experience, what are the risks of the massive changes in the proposed transaction, and have the parties taken account of these known risks? What are the risks to the Rhode Island public? (5) Does the integration plan that lies at the core of the proposed transaction make sense, particularly in light of the magnitude of the proposed changes? (6) Is bigger really better, as the parties claim? And (7) Is this transaction a realistic way to address

the public health concerns identified by the parties, or does its risks outweigh its hoped-for benefits?

My report is organized as follows. Section III provides a summary of my opinions. Section IV summarizes the stated goals of the transaction. Section V provides my assessment of whether these goals and any financial or clinical efficiencies can be realistically met. Section VI argues that each of the stated goals of the proposed transaction is difficult to achieve. Section VII addresses the seven questions itemized above.

III. Summary of Opinions

The parties to the proposed transaction have enunciated a broad set of aims that they believe their merger will serve. These aims are itemized in Section IV. Their aims fail to meet the criteria of "SMART goals" identified by management researchers (see Section V): they are not **s**pecific, **m**easurable, **a**chievable, **r**elevant, or **t**ime-bound. Instead, they offer a lengthy list of vague goals that (a) resist measurement and achievement and (b) provide little guidance as to when, if, and how they can be attained. Indeed, while their aims are laudable, in practice each of them is difficult to achieve - - an issue the parties fail to acknowledge. The parties also fail to make a convincing case that their merger is the best avenue to address these difficulties. Moreover, such difficulties pose huge downside risks to the massive changes they plan to undertake - - risks not only to themselves but also to the residents of Rhode Island. Many prior efforts resembling what the parties propose here have failed elsewhere; it is unclear whether the parties know the lessons of history here and how to avoid repeating them. The parties also fail to clarify whether and how these goals address their current operating and strategic problems. The danger is two-fold: current underlying problems may limit their ability to achieve their intended aims, and their intended aims may not address the current underlying problems. The result is far more likely to leave the parties (and the public) in worse condition than when they embarked on the massive changes envisioned here.

IV. Stated Goals of Transaction

Care New England (CNE) and Lifespan (LS) have proposed to merge and form a nonprofit organization that integrates the two hospital systems into one system. They further intend to develop a ten-year academic and research affiliation with Brown University and its Warren Alpert Medical School, under a new corporate structure called the Rhode Island Academic Healthcare System (RIAHCS). Brown will have some representation on the Board of Directors of the integrated hospital system, and both systems will nominate representatives to sit on a joint coordinating committee that oversees the RIAHCS. The exact nature of the affiliation agreement between the merged systems and Brown University is unclear, however, and will be left for future consideration. The Chartis Report commissioned by the parties [redacted]. Here is what the parties have reported about their current affiliation:

- [redacted][9] [redacted][10]
- [redacted][11]

[9] *Agreement to Amend the Affiliation Agreement Between Brown University and Lifespan Corporation of Providence*. February 2020. Page 2.
[10] *Second Amended and Restated Affiliation Agreement Between Brown University for Itself and on Behalf of the Warren Alpert Medical School and Care New England Health System*. December 12, 2018. Page 6.
[11] *Agreement to Amend the Affiliation Agreement Between Brown University and Lifespan Corporation of Providence*. February 2020. Pages 5-6.

- [redacted].[12] [redacted].[13]

The Parties do acknowledge in their public material that they currently have an integrated academic health system (and in existence since at least 2016).[14] There is also no clarity on the corporate structure that will house this affiliation and the governance issues that need to be resolved through this structure. This latter issue is dealt with in Section VI.

The two hospital systems have set forth a number of goals and claimed benefits for their pending merger.[15] These include:

1. Improve the health and well-being of every segment of Rhode Island's population. This high-level goal will be pursued via several sub-goals that include:
   a) Improve population health;
   b) Promote robust primary care;
   c) Develop a coordinated continuum of care;
   d) Transform the delivery of healthcare;
   e) Promote a broad spectrum of inpatient and outpatient services;
   f) Improve access to care;

[12] *Amendment to Affiliation Agreement*. September 7, 2010. Pages 1-2. *Amended and Restated Amendment to Affiliation Agreement*. February 6, 2014. Pages 1-2.
[13] *Second Amended and Restated Affiliation Agreement Between Brown University for Itself and on Behalf of the Warren Alpert Medical School and Care New England Health System*. December 12, 2018. Pages 8-10.
[14] Rhode Island Hospital. *Community Health Needs Assessment: Rhode Island Hospital / Hasbro Children's Hospital*, September 2016: page 3.
[15] This section summarizes material from several sources. Some (but not all) of these include: *Hospital Conversion Application* (Resubmitted October 1, 2021, originally submitted April 26, 2021): see pages 66-67. *Definitive Agreement by and Between Care New England and Lifespan Corporation*. February 23, 2021. *Amended and Restated Term Sheet for New Academic Affiliation Agreement Between and Among Brown University, Lifespan & Care New England*. February 23, 2021. Alvarez & Marsal. *Potential Integration of Lifespan and Care New England to Create a New Academic Health System for Rhode Island*. (June 10, 2020). The end of this report includes a listing of the record relied on, including documents provided by The Office of the Attorney General.

g) Promote comprehensive and clinically-integrated services (e.g., all the care that state residents need from one team), including integrated service lines (e.g., cancer, cardiovascular, women's health);
h) Provide care in the most appropriate settings;
i) Develop a unified electronic medical record (EMR) across multiple hospitals;
j) Address health disparities in the state;
k) Address unmet psychological and behavioral health needs in the population;
l) Develop a comprehensive ACO to serve the State's Medicaid population;
m) Leverage the Integra ACO and LS Coastal Medical group to invest in population health infrastructure; and
n) Build out capacity in home healthcare and ambulatory surgery centers (ASCs) and express care centers.

2. Create a nationally and internationally recognized academic health system (AHS) organized around Brown's medical school and the two hospital systems.[16] This academic system will have the following benefits:
   a) Serve as an in-state destination of high-quality tertiary and quaternary care for residents of Rhode Island;
   b) Provide basic, clinical, and translational research;
   c) Promote innovation in research, education, and clinical care;
   d) Promote technological and biotechnological innovation to attract business; (entrepreneurs, providers, manufacturers) to co-locate in the region and thereby; serve as a hub of biomedical innovation and stimulate the state's economy;
   e) Meet the needs of physicians and healthcare providers in the two systems, the medical school, and the state;
   f) Provide 21st century training and education;
   g) Allow for a "funds flow" from the merged hospital system to the medical school to support research and clinical programs; and
   h) Build a diverse and well-qualified healthcare work force.

[16] Note that Lifespan asserted in 2016 that it was already an academic health system. See below.

3. Strengthen the financial health of the state's two largest hospital systems by virtue of:
    a) [redacted];
    b) [redacted];
    c) Improving the operating model of hospital clinical programs and service lines via coordination of care, standardization, and reduction of waste;
    d) Doing things together that the two systems (and the medical school) are unable to do on their own that promote complementarities in care delivery, collaboration on clinical care and research, a foundation for high-quality, lower cost care, and synergies (the whole is greater than the sum of the parts); and
    e) Increasing scale and efficiency of operations that support quality of care and facilitate value-based contracting, as well as foster economies of scale.

V. Low Likelihood the Transaction Will Meet its Stated Goals

Overall Assessment

The stated goals for the transaction suffer from several problems that will hinder their achievement. First, the transaction suffers from a profusion of goals that are broad, imprecise, and difficult to achieve. While the goals are laudable and desirable, they are too general and vague to be accomplished. Second, the parties neglect to acknowledge the historical track record of similar merger efforts and learn from their failures. Third, the parties fail to acknowledge the costs of achieving these goals and the requisite transformation process needed to achieve them. Fourth, there is no evidence that hospital mergers facilitate attainment of these goals. The following sub-sections elaborate on these problems. Section VI of the report goes further by identifying the problems of achieving each of the goals enunciated above, as well as their inability to address the core issues of quality and cost of healthcare.

1. Profusion of Goals

As identified in Sections IV and V, the proposed transaction advances many - - and perhaps too many - - laudable aims. Management researchers label this a problem of "goal overload". The problem is that both quantity and quality of output are jeopardized by such overload. The situation is further endangered here by the fact that virtually none of the goals enunciated above are "SMART" goals: specific, measurable, achievable, relevant, and time-bound.[17] The Mayo Clinic advocates using SMART goals to improve one's personal health status.[18] The Centers for Disease Control and Prevention (CDC) advocate the use of SMART goals in "communities of practice".[19] The Agency for Healthcare Research and Quality (AHRQ) likewise recommends the use of SMART goals by healthcare organizations to improve quality of care.[20]

Academic research suggests that SMART goals provide clear, unambiguous, and objective means for evaluating performance.[21] By contrast, the lack of specificity in the goals enunciated in Section IV leads to a lack of focus, which serves to disperse employees' attention across too many possible goals. Moreover, when companies pursue too many goals at one time, employees are likely to emphasize only one objective and ignore the rest.[22]

---

[17] George Doran, Arthur Miller, and James Cunningham. "There's a S.M.A.R.T. Way to Write Management Goals and Objectives", *Management Review*, 70(11) (1981): 35-36.

[18] Mayo Clinic. "Setting SMART Goals for Success." (December 31, 2020). Available online at: https://www.mayoclinichealthsystem.org/hometown-health/speaking-of-health/setting-smart-goals. Accessed on January 19, 2022.

[19] The Centers for Disease Control and Prevention. Available online at: https://www.cdc.gov/publichealthgateway/phcommunities/resourcekit/evaluate/develop-smart-objectives.html. Accessed on January 19, 2022.

[20] Agency for Healthcare Research and Quality. https://www.ahrq.gov/sops/resources/planning-tool/develop-plan.html. Accessed on January 19, 2022.

[21] Locke, E. A., & Latham, G. P. (2006). "New Directions in Goal-Setting Theory". *Current Directions in Psychological Science*, *15*(5), 265-268. Locke, E. A., Latham, G. P., Smith, K. J., & Wood, R. E. (1990). *A Theory of Goal Setting & Task Performance* (p. 544). Prentice Hall College Div.

[22] As analyzed below, the academic health system envisioned in the transaction is already challenged by trying to pursue the triadic goals of patient care, teaching, and research. The parties to the transaction have overlaid a myriad of other aims they also wish to pursue. It is not clear the parties understand the complexity of what they propose. As management expert Jim Collins once said, "If you have more than three priorities, you don't have any." Jim Collins. *Good to Great: Why Some Companies Make the Leap and Others Don't* (New York: Harper Business, 2001).

2. Failure to Understand the Lessons of History

The historical chronicle of mergers in the healthcare industry is littered with examples of companies that advanced too many, and too many vague, goals - - what researchers call "goals gone wild" - - and did not succeed.[23] There is no indication that the parties to the proposed transaction have considered the historical record of hospital mergers that stretches back to the 1990s and/or learned its lessons. As noted in my "Expert Witness Background" (Section I, point 12), I have spent considerable time on the ground studying and writing case studies on these hospital systems, and thus have learned these lessons first-hand. Many of these history lessons are chronicled in my recent book, *Big Med: Megaproviders and the High Cost of Healthcare in America*.

Nearly three decades ago, the 1993-1994 formation of the Allina Health System in Minneapolis proposed a broad set of ambitious goals that are eerily reminiscent of those listed above. They included: assume accountability for population health, improve the health status of the local population, create ability to handle large-scale risk contracting, develop a seamless continuum of care, align incentives among providers, achieve a truly integrated system in the only way possible (merger), provide healthcare that is cheaper and higher quality and lower cost, achieve scale economies in hospital operations, reap synergies across different business units, and create the largest healthcare system in the Twin Cities that included multiple hospital systems, physicians, and health plans. The proposed transaction in Rhode Island seems to have taken a page out of the Allina playbook.

Allina fell far short of these objectives, save for creating the largest system in the local market. As suggested above, Allina suffered from goal overload and a lack of SMART goals. Allina did not focus on the hard tasks of improving population health, aligning incentives, providing lower-cost healthcare, and integrating its various components. Instead, what Allina focused on

[23] Lisa Ordonez, Maurice Schweitzer, Adam Galinsky et al. "Goals Gone Wild: The Systematic Side Effects of Over-Prescribing Goal Setting," Harvard Business School Working Paper 098-083 (2009).

was something much simpler: aggregate hospitals, build up its scale, and then increase its market power to extract higher reimbursement rates from Blue Cross of Minnesota in the late 1990s. It was one of the first IDNs that had formed during the 1993-1994 heyday period that used its large size to raise its commercial rates to insurers.

Minnesota's Attorney General, Mike Hatch, criticized Allina for its wasteful spending and poor financial management eight years after its formation. Such spending included excessive administrative costs for its health plan that prevented it from holding down insurance premiums for Minnesota consumers. AG Hatch forced Allina to divest part of its integrated system and later presented his findings before the U.S. Senate Finance Committee in 2005.[24] Allina officials themselves reported that the integration effort was not working out for them as well as expected.[25] Physicians likewise voiced their dissatisfaction with Allina. The academic evidence shows that Allina suffered from falling organizational commitment among its employed physicians after the system was formed.[26]

Another fundamental problem was that the Allina system and other similar forms of vertical integration were based on a faulty model of "managed competition" that embraced the Kaiser model of integration developed on the West Coast during the 1930s and 1940s and then tried to replicate it in other parts of the country fifty years later.[27] Kaiser contained three components - - Kaiser health plans, Kaiser hospitals, and Kaiser Permanente medical groups - - as a closed system model. Kaiser health plan enrollees served as the patients to Kaiser hospitals and medical groups; the plans used their capitated premiums to reimburse and incentivize the

[24] Mike Hatch. "Statement of Minnesota Attorney General Mike Hatch Before the U.S. Senate Finance Committee," April 5, 2005. Available online at: https://www.finance.senate.gov/imo/media/doc/mhtest040505.pdf.
[25] Bill Catlin. "A Break-up for Allina," Minnesota Public Radio (July 20, 2001). Available online at: http://news.minnesota.publicradio.org/features/200107/20_catlinb_allina/.
[26] Lawton R. Burns, Jeff Goldsmith, and Aditi Sen. "Horizontal and Vertical Integration of Physicians: A Tale of Two Tails." In *Annual Review of Health Care Management: Revisiting the Evolution of Health Systems Organization Advances in Health Care Management*, Volume 15: 39-117. (Emerald Group Publishing). 2013.
[27] Lawton R. Burns, David Asch, and Ralph Muller. "Vertical Integration of Physicians and Hospitals: Three Decades of Futility?" in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).

provider components, who did not treat patients from the outside. Hospital systems around the country adopted mantras of "be like Kaiser", along with the fashionable goals (such as population health, seamless continuum) that formed the *Zeitgeist* of that historical period. Research shows that such efforts were colossal failures for many reasons.[28] First, the Kaiser model developed at a specific time in a specific part of the country under specific conditions that are not found elsewhere.[29] Second, hospital system executives commonly (but mistakenly) believed that pursuit of these mantras and goals would (a) be achievable, (b) entail few risks and hurdles, and (c) improve quality and lower cost.[30] Allina is but one example of integration efforts in healthcare that trumpet grandiose goals.[31]

There is a danger of history repeating here. As I argue below, the parties to the proposed transaction have spread themselves too thin by seeking to achieve too many goals with too few capital resources and little slack to deal with the costs and problems that integration efforts always encounter. Moreover, as I argue in Section VI, the goals are not likely to result in higher quality or lower-cost healthcare.

3. High Transformation Costs in Achieving Stated Goals

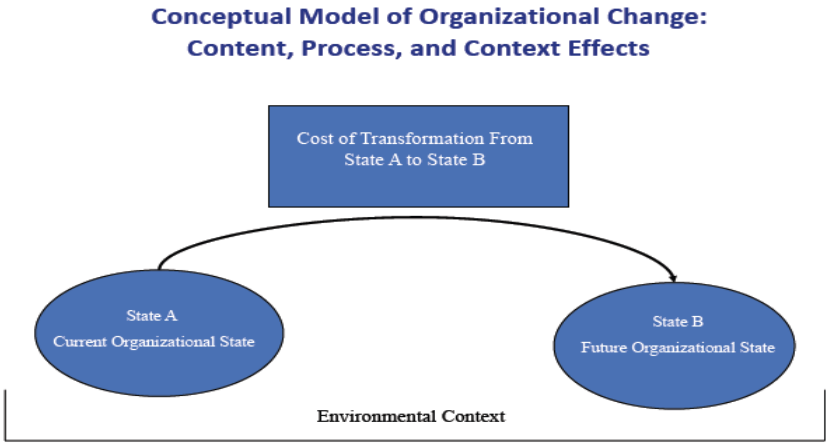
[28] David Dranove and Lawton R. Burns. *Big Med: Megaproviders and the High Cost of Health Care in America* (Chicago, IL: University of Chicago Press, 2021).

[29] Jeff Goldsmith and Lawton R. Burns, "Fail To Scale: Why Great Ideas In Health Care Don't Thrive Everywhere," September 29, 2016. http://healthaffairs.org/blog/2016/09/29/fail-to-scale-why-great-ideas-in-health-care-dont-thrive-everywhere/.

[30] Jeff Goldsmith, Lawton R. Burns, Aditi Sen, and Trevor Goldsmith. *Integrated Delivery Networks: In Search of Benefits and Market Effects*. (Washington, D.C.: National Academy of Social Insurance, 2015).

[31] I have analyzed the merger of CVS/Caremark (a pharmacy chain with a PBM) with Aetna (a health insurer) and testified about it before the State of California Health Insurance Commissioner. This merger was also labeled "transformative" by virtue of its manifold and bold set of goals: help Aetna members achieve their best health, help meet the needs of members with chronic conditions, avoid unnecessary hospital re-admissions and emergency department visits, guide patients through the healthcare system, remake the consumer healthcare experience, reduce the cost of care, provide coordinated care, offer a seamless continuum of care, promote accountable care, and offer consumers a convenient one-stop-shop healthcare hub for all of their needs. And all of this through a souped-up retail pharmacy in your local community. Of course, no one bothered to mention that the merger was largely defensive in nature. CVS had been losing market share to its competitor Walgreens, had witnessed a 50%+ drop in its stock price during the prior four years, and faced an imminent threat of Amazon entering the retail pharmacy space. Prior to the merger, the market capitalization of the merging firms was $128 billion; after the merger, the market cap of the merged firm fell to $72 billion. This represented $56 billion (44%) of "vanished" value. Clearly shareholders did not subscribe to all of the promises espoused for this transaction. For a list of CVS's goals, see:

Researchers have characterized the process of organizational change as moving from the "current State A" to a desired "future State B" via a transformation process.[32] All of this takes place in an environmental context (e.g., competitors, customers, suppliers, regulators, etc.) which motivates and/or necessitates this effort. This process of change is depicted below:



The movement from State A to State B (alternative called a transition or transformation process) entails significant costs in terms of monetary resources, personnel time, and distraction from the organization's core tasks. Any realistic strategic plan needs to take account of these costs. Unfortunately, the parties to the current transaction focus entirely on the State B they hope to achieve. This State B is captured in the profusion of goals they have articulated. They ignore the current State A of their two systems (and the systems' problems), as well as the environmental context which have motivated their desire to merge and form an AHS. Moreover, they have totally ignored the cost of transformation in getting there, basically assuming this is a frictionless and affordable process. They instead choose to focus their attention on State B and characterize it as the "transformation" or end result of merging. This fundamental error in thinking creates the circumstances for the issues discussed throughout this Report.

4. Merger of Hospitals Will Face Difficulties in Achieving the Transaction's Goals

[32] Gloria Bazzoli, Linda Dynan, Lawton R. Burns, Clarence Yap. "Two Decades of Organizational Change in Health Care: What Have We Learned?" *Medical Care Research & Review* 61(3): 247-331. 2004.

The goals to be pursued via the proposed transaction represent the parties' desired State B. This iswishful thinking. There is little research evidence that mergers of hospitals or hospital systems promote the attainment of any of these goals. On the contrary, the preponderance of the peer-reviewed evidence suggests they do not. One reason is that hospital mergers are typically not motivated to achieve such diverse goals, which are really quite difficult, expensive, and time consuming. Instead, hospital mergers are designed to achieve market power over commercial insurers. This goal is relatively easier to achieve since no effort needs to be expended on integrating, coordinating, or improving (operations, quality, population health); instead, the hospitals need to legally combine and enter single signature contracts with insurers. Even more troubling, the evidence base suggests the outcomes of such mergers exert many deleterious effects on the public's welfare - - including higher costs, higher prices, lower quality of care, reduced access, and less patient choice. In short, looking at the research track record and historical experience of hospital system formation, the particular context of this transaction, and [redacted][33], there is no evidence offered by the parties that the goals of this transaction can be achieved.

The evidence base on hospital mergers calls into serious question the parties' ability to achieve their goals. Additional research raises even more doubts on their ability to do so. The three parties propose to form an academic health system (AHS), which combines two hospital systems, multiple physician groups and contracting vehicles (ACOs), and a university-based medical school. This is an exercise in what strategy researchers label "corporate diversification" - - i.e., developing multiple lines of business: hospital care, physician care, medical education, and medical research. The corporate strategy literature is quite clear in showing the diversification into broad business lines (unrelated diversification) is much less successful than either narrow, related diversification or a strategy focused on doing one thing well.[34] Research conducted in the healthcare industry is equally pessimistic about the performance of broadly

[33] [redacted] The Chartis report. [redacted] evaluated below in Section VI.
[34] Robert Grant. *Contemporary Strategy Analysis* (Tenth Edition, 2019).

diversified organizations.[35] The problem with diverse goals has implications for the other goals the parties enunciate. As I note below, the key capability of an AHS lies in its ability to treat tertiary/quaternary conditions; it does not lie in population health, access to care, or primary care, as the Institute of Medicine (IOM) has noted.[36] The latter objectives face their own issues - - which AHSs are not geared to handle - - and are best left to other parties.

Research Comparing the Stated Aims with the Outcomes Achieved by Hospital Mergers

Recently, researchers have gained unprecedented access to the inside workings of a large 2007 merger of two for-profit hospital chains.[37] The acquirer claimed the merger would lead to tens of millions of dollars in savings from overhead reductions and renegotiated purchasing contracts - - similar to the claims in the proposed transaction. The acquirer also claimed it would reap cost savings from reallocating resources across hospitals and reduce unnecessary capital spending, standardize operations and disseminate best practices, and expand its physician recruitment and retention program to the target hospitals which would (in turn) expand patient volumes. Finally, the acquirer expected these forecasted efficiencies to be realized by implementing an aggressive integration plan over a few years.

The researchers benchmarked the merger's effects against the merger's stated merger aims (as articulated by the acquirer). The acquirer did manage to harmonize the EMRs of the two systems as well as their management practices; however, that (and the merger itself) failed to impact financial performance or patient outcomes - - even seven years after the acquisition! Instead, prices rose as well as costs (at both acquirer hospitals), with little detectable impact on

[35] Timothy Snail and James C. Robinson. "Organizational Diversification in the American Hospital," *Annual Review of Public Health.* 19 (1998): 417–53. Center for Health Administration Studies. *Does Diversification Make Health Organizations Healthier?* (Chicago, IL: CHAS, 1987). Jonathan Clark and Robert Huckman. "Broadening Focus: Spillovers, Complementarities and Specialization in the Hospital Industry," Working Paper, Harvard Business School. Robert Huckman, Robert S. and Zinner, Darren E., Does Focus Improve Operational Performance? Lessons from the Management of Clinical Trials (April 2005). Available at SSRN: https://ssrn.com/abstract=715441 or http://dx.doi.org/10.2139/ssrn.715441.

[36] Institute of Medicine. *U.S. Health in International Perspective: Shorter Lives, Poorer Health* (Washington, D.C., IOM, 2013).

[37] Martin Gaynor, Adam Sacarny, Raffaella Sadun et al. "The Anatomy of a Hospital System Merger: The Patient Did Not Respond Well to Treatment," NBER Working Paper 29449 (November 2021). Note: the names of the hospital chains involved in this merger have been kept confidential.

quality of care. Indeed, the only major change in outcomes was the profitability of the acquirer's existing hospitals - - and in a *negative* direction. The merger also failed to affect revenues at the target hospitals, and failed to impact physician recruitment and retention at both acquiring and target hospitals.

The research provides a new perspective for antitrust authorities evaluating the claimed efficiencies of hospital mergers. Rather than just focus on market competition measures, the researchers adopt a managerial view that considers the stated aims of the merger, the implementation efforts to achieve those aims, and whether such efforts impacted cost and quality outcomes. Their approach leads to two simple conclusions: (1) stated aims are not often realized, and (2) despite efforts to implement them, the merger does not improve quality or reduce cost.

Lifespan's Troubled Track Record with Mergers

Lifespan has been down the merger road before, with some rather lackluster results that do not bode well for the proposed transaction. In 1997, Lifespan entered an agreement with New England Medical Center (NEMC) under which Lifespan would become NEMC's corporate parent and NEMC would operate as one of the hospital subsidiaries in Lifespan's system. According to court documents, "Lifespan saw the proposed affiliation as an opportunity to expand its healthcare system beyond Rhode Island into Massachusetts, in preparation for what it anticipated [wrongly, as it turned out] would be a movement toward 'regionalization' of the healthcare industry across state lines."[38] The affiliation ran for five years (1997-2002).

Ernst & Young estimated the affiliation would result in annual net savings to NEMC ranging from $13.5 - $14.6 million. Based on these projections, Lifespan and NEMC officials mutually believed that the affiliation would enable NEMC to return a positive operating margin. John Schibler, Lifespan's CFO, conveyed that belief and provided these projections to the Rhode Island Attorney General, describing the projections as 'conservative' and 'attainable'. He

[38] U.S. District Court, District of Rhode Island. *Lifespan v. NEMC et al*. CV-06-241-JL. 5/24/11.

indicated that Lifespan would take 'aggressive' measures, if necessary, in an effort to achieve them.

What is often not talked about were the financial troubles at NEMC. By 1996, just prior to the affiliation, NEMC was $240 million in debt, up from $130 million in 1990; it was also losing physicians and market share in its home market of Boston. According to researchers, it "was slow to react to market pressures, and ineffective in improving processes and cash flow."[39] Lifespan was nevertheless interested in NEMC because of its status as an academic medical center (or AHS), due to its affiliation as the major teaching site for Tufts University School of Medicine and thus its expertise in tertiary care. The affiliation also would create a "health care giant" and "the regional system they wanted to be".

According to researchers, the marriage was not a happy one. The hoped-for synergies never materialized; the referral flows between institutions never panned out; and the system suffered under an extra corporate layer. There was more. According to court documents, "NEMC never achieved a positive operating margin during the affiliation. NEMC's expert Rajan Patel testified, and this court finds, that NEMC operating losses of about $25 million in fiscal year 1998, $16.2 million in fiscal year 1999, $15.8 million in fiscal year 2000, $32.3 million in fiscal year 2001, and $29 million in fiscal year 2002 …"

NEMC's total losses would have been even larger during fiscal years 2000-2002 if not for NEMC's decision to draw upon its general reserves each year. NEMC reduced its general reserves by $5.3 million in FY 2000, $8.7 million in FY 2001, and $14.1 million in FY 2002. As a result, NEMC was left with fewer net assets at the end of the affiliation with Lifespan than at the beginning ($219 million versus $289 million), less cash on hand ($44 million versus $47 million), and worse financial condition overall. [redacted]

[39] Cynthia Ingols and Lisa Brem. "Ellen Zane – Leading Change at Tufts/NEMC," in Linda Swayne, W. Jack Duncan, and Peter Ginter. *Strategic Management of Health Care Organizations* (Jossey-Bass, 2008).

[redacted]

The Lifespan-NEMC affiliation was typical of many attempted (but unsuccessful) mergers of hospitals and AMCs during the 1990s. These unsuccessful mergers included: a merger of the health systems of Stanford University and the University of California-San Francisco, Hershey Medical Center and Geisinger Health System, NYU Hospitals Center and Mt. Sinai Medical Center, and the deteriorating condition of CareGroup System in Boston. Many of these cases are chronicled in painful detail by one of my colleagues.[40]

VI. Each of the Transaction's Stated Goals is Difficult to Achieve

Section IV above lists the goals enunciated by the parties to the proposed transaction. Section V provides an overview of the general difficulties posed by this lengthy list of aims. The sub-sections below examine many of the most important goals one-by-one. I have chosen to re-organize these goals into several main buckets: care delivery, transformation and system changes, strengthened financial health of the two hospital systems, formation of an academic health system, and development of a biomedical innovation hub. The thrust of the analysis is two-fold: (a) expose the complex issues surrounding each of the stated goals and (b) show that these goals often fail to improve healthcare quality and/or reduce healthcare costs.

Care Delivery Goals

Improve Population Health in Rhode Island

Merging systems have long talked about improving the health status of their local populations. However, these systems have historically focused on providing healthcare rather than improving health status. Hospitals and hospital systems have long been in the business of providing "healthcare services". Such services are typically organized at three levels: primary care, secondary care, and tertiary care. A handful of AHSs also offer quaternary care. All of

[40] John Kastor. *Mergers of Teaching Hospitals in Boston, New York, and Northern California*. (Ann Arbor, MI: University of Michigan Press, 2003).

these services are driven by clinicians, rendered in medical settings, and delivered to address illness and injury.

By contrast, "health status" is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1948). Health status indicators include life expectancy, disease prevalence (morbidity), and functional status (the ability to perform "activities of daily living" and "instrumental activities of daily living").[41] Research has shown that the smallest driver of health status for a population in the United States (10%) is the healthcare system - - particularly access to health insurance, a well-functioning system of public health, and perhaps adequate primary care.

Moving the needle on population health is not a realistic goal of this merger. While, as discussed below, the Parties have made efforts towards extending healthcare beyond the walls of their institutions, in the absence of much larger and sustained financial commitments and developed governmental and community partnerships beyond what currently exists, improvement of population would not be accomplished by combining these systems. Improvements in population health require much more planning and effort than what the Parties have delineated.

In 2013, the Institute of Medicine (IOM) published a lengthy report comparing the health of the U.S. population with 17 other Western nations.[42] Their conclusions were shocking: the U.S. performed relatively poorly in nine domains of health:

1. *Adverse birth outcomes*: For decades, the U.S. has had the highest infant mortality rate and also ranked poorly on other birth outcomes (low birth weight). American children are less likely to live to age 5 than children in other high-income countries.

2. *Injuries and homicides*: Deaths from motor vehicle crashes, non-transportation-related injuries, and violence occur at much higher rates in the U.S. and are a leading

[41] Activities of daily living include: bathing, dressing, grooming, mouthcare, toileting, eating, walking, and climbing stairs. Instrumental activities of daily living include: shopping, cooking housework, laundry, and driving.
[42] Institute of Medicine. *U.S. Health in International Perspective: Shorter Lives, Poorer Health* (Washington, D.C., IOM, 2013).

cause of death in children, adolescents, and young adults. Since the 1950s, U.S. adolescents and young adults have died at higher rates from traffic accidents and homicide than their counterparts in other countries.

3. *Adolescent pregnancy and sexually transmitted infections*: Since the 1990s, U.S. adolescents have had the highest rate of pregnancies and are more likely to acquire sexually transmitted infections.

4. *HIV and AIDS*: The U.S. has the second highest prevalence of HIV infection among western countries and the highest incidence of AIDS.

5. *Drug-related mortality*: Americans lose more years of life to alcohol and other drugs than people in other countries, even when deaths from drunk driving are excluded.

6. *Obesity and diabetes*: For decades, the U.S. has had the highest obesity rate. High prevalence rates for obesity are seen in U.S. children and in every age group thereafter. From age 20 onward, U.S. adults have among the highest prevalence rates of diabetes.

7. *Heart disease*: The U.S. death rate from ischemic heart disease is the second highest among peer countries. Americans reach age 50 with a less favorable cardiovascular risk profile; adults age 50+ are more likely to develop and die from cardiovascular disease than are older adults in other countries.

8. *Chronic lung disease*: Lung disease is more prevalent and associated with higher mortality in the U.S. than in the United Kingdom and other European countries.

9. *Disability*: Older U.S. adults report a higher prevalence of arthritis and activity limitations than their counterparts in other countries.

The IOM researchers also conducted an extensive analysis of the drivers of the "the U.S. health disadvantage". They concluded the U.S. health disadvantage

> "probably has multiple explanations, some of which may be causally interconnected, such as unemployment and a lack of health insurance. Other explanations may share antecedents, especially those rooted in social inequality. Still others may have no obvious relationship, as in the very distinct causes of high rates of obesity and traffic fatalities. The relationships between some factors may develop over time, or even over a person's entire life course, as when poor social conditions during childhood

> precipitate a chain of adverse life events. Turmoil and risk-taking in adolescence can lead to subsequent setbacks in education or employment, fomenting life-long financial instability or other stresses that inhibit healthy life-styles or access to health care. In some cases, the explanation may simply be that the United States is at the leading edge of global trends that other high-income countries will follow, such as smoking and obesity." (p. 5)

In general, the IOM Report concludes the U.S. health disadvantage is long-standing and pervasive across population segments and measures of health status, and does not seem to be simply a function of un-insurance or poverty although these are important factors. Instead, the drivers are multiple and located in diverse areas such as public health, individual behaviors, socio-economic factors (education, income), environmental factors, and medical care system factors such as health insurance and access. The major conclusion is that "health" is not determined solely or heavily by the existing healthcare system. Instead, health reflects the behavioral and biological consequences of income, occupation, education, and social and physical environments - - which themselves are the product of private **and** public sector policies. Thus, most of the drivers of one's health status lie outside of the existing healthcare system and in the broader economy and community. According to the IOM, hospital-physician systems focus on tertiary care ("averting complications among patients with known disease"); they are ill- equipped to meet the needs of population health and chronic illness.[43] The drivers of health status that do lie inside the healthcare system deal primarily with having health insurance, affordability, and thus access to care providers when needed. The issues of health insurance and access do not align with the core capabilities of an AHS. Nevertheless, the parties to the proposed transaction assert that the foundation of their strategic approach to population health management lies in the systems' employed primary care physicians.[44]

Notably, the IOM Report does not assert that the U.S. health disadvantage lies in a lack of consolidation among providers. Similarly, it makes no mention of hospital systems and mergers

[43] IOM, page 107.
[44] *Hospital Conversion Application (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 84.

as levers to reduce the U.S. health disadvantage and/or impact the behavior of individuals in this broader environment.

We can look to the example of the formation of the Allina system nearly three decades ago where there is also no evidence that it served to improve the health status of the Twin Cities population, despite their announced intention to do so. Indeed, in April 2021, Allina formed a five-year partnership with HealthPartners to pursue many of the same goals that Allina sought to pursue back in 1993-1994.[45] When it comes to IDNs' and AHSs' espousal of population health goals, the historical record suggests two conclusions: (1) rhetoric exceeds reality and (2) hope springs eternal.

The parties to the proposed transaction emphasize their intention to focus on the health of the Rhode Island population. As noted above, they intend to address these through their primary care physicians. They also mention their efforts to provide charity care and address the social determinants of health (outlined above).[46] The Patient Protection and Affordable Care Act of 2010 (PPACA) requires tax-exempt hospitals to demonstrate community benefit by virtue of creating a hospital "community health needs assessment" (CHNA) every three years. Multi-hospital systems and chains are required to develop a CHNA for each of their facilities. Once a hospital organization completes the required triennial CHNA, the IRS expects hospital executives to use it as a benchmark for progress with action plans on their annual filing (with the IRS) on the non-profit Form 990 informational return.

Rhode Island Hospital (RIH), the largest hospital in the state and the core facility of Lifespan, has filed a "Community Health Needs Assessment" (CHNA) every three years; so have the other Lifespan facilities, including Miriam Hospital, Bradley Hospital, and Newport Hospital.[47] Here we focus on RIH for illustrative purposes. The last two RIH CHNA reports were issued in September

[45] "Allina Health and HealthPartners Announce New Partnership." (April 12, 2021). Available online at: https://www.allinahealth.org/about-us/newsroom/2021/allina-health-and-healthpartners-announce-new-partnership.
[46] *Hospital Conversion Application (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 75.
[47] https://www.lifespan.org/centers-services/lifespan-community-health-institute/reports-and-resources.

2016 and September 2019. In contrast to the proposed merger plan (which is short on details), the CHNAs are quite detailed regarding RIH's efforts to address the issues of access and population health. With regard to access, RIH's implementation plan encompasses the following: enhance access to prescription drugs, provide oral health screenings, partner with community health centers in Providence, promote women's health, promote health literacy, and provide free health screenings. Many of these services focus on barriers facing the uninsured and underserved populations. The plan also addresses specific disease areas such as asthma, obesity, mental health, and cancer. According to the 2016 and 2019 CHNAs, such programs target significant needs in the RIH community: lack of availability, high cost and out-of-pocket cost, transportation, language access, and lack of insurance coverage. According to their 2016 CHNA (p. 4), RIH and Hasbro Children's Hospital spent $855,000 on "community health improvement services and community benefit operations" in 2015. Miriam Hospital spent $494,000; Bradley Hospital spent $100,000.

There are several important points to make about RIH's ongoing, and commendable efforts to improve access to care and population health. These include:

First, none of the RIH implementation strategies involve the combination of hospitals or hospital mergers, such as contemplated in the proposed transaction. Moreover, none of these strategies is centered on what the hospital members of Lifespan do as part of their core inpatient and outpatient care missions. These strategies are, instead, community-focused and community-based.

Second, none of these implementation strategies has required a hospital system or hospital merger to implement them. Indeed, according to a September 30, 2019 document issued by Rhode Island Hospital, each hospital member of Lifespan continues to maintain its own identity, as well as its own campus and its own name - - and appears to develop its own population health strategy.

Third, the Lifespan hospitals are pursuing these strategies and population health goals because they are required to do so by the PPACA and the IRS in order to retain their tax-exempt status. There is no need to invoke a proposed merger to continue pursuit of goals that are already mandated. The two parties do not plan to invest much more in such efforts than they already

have. According to their Application, they assert they will commit to provide $10 million over three years to address the social determinants of health, while also continuing their CHNA efforts.[48]

Fourth, such efforts seem to have paid off in terms of positive results. Outside research suggests that Rhode Island is already doing quite well in terms of access and population health. In terms of health status, Rhode Island compared quite favorably with most other states. Systematic and longitudinal data collated by The Commonwealth Fund reveal that Rhode Island ranks highly on many dimensions of health system performance.[49] In 2017, the state ranked as the 4th highest overall, up from #5 in 2015. This included a ranking of #3 in terms of "access and affordability" (up from #4 in 2015), ranking of #3 in terms of "prevention and treatment" (same as in 2015), and a ranking of #2 in terms of "equity" (up from #7 in 2015). In 2019, Rhode Island still ranked highly on these dimensions (#7 overall, #3 on access and prevention, #5 on prevention and treatment, and #13 on equity). The 2019 CHNA issued by Rhode Island Hospital trumpets the fact that Rhode Island was the state that improved the most on the health system performance indicators tracked by the Commonwealth Fund.

Fifth, the 2016 CHNAs issued by Rhode Island Hospital and the other Lifespan facilities assert that RIH and the other Lifespan hospitals, *already* comprise "a comprehensive, integrated, academic health system affiliated with The Warren Alpert Medical School of Brown University".[50] That is, Lifespan already operates like an AHS that the proposed transaction seeks to develop. It is already affiliated with Brown's medical school and designated as a major affiliated teaching hospital; it already engages in manifold activities to improve access to care and the health status of the Rhode Island population; and it already has witnessed an improvement in access and population health, making Rhode Island one of the top performing states nationally.

<u>Promote Robust Primary Care</u>

The parties to the transaction claim their merger will promote robust primary care. They intend to unify and strengthen their primary care physician component as the foundation to their

[48] *Hospital Conversion Applciation (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 75.
[49] Commonwealth Fund. *2019 Scorecard on State Health System Performance*. Commonwealth Fund. *Results from the Commonwealth Fund Scorecard on State Health System Performance 2017 Edition*. Commonwealth Fund. *Results from a Scorecard on State Health System Performance 2015 Edition*.
[50] Rhode Island Hospital. *Community Health Needs Assessment: Rhode Island Hospital / Hasbro Children's Hospital*, September 2016: page 3.

strategic approach to population health.[51] The Parties projected merger outcomes are thus tied to expectations and assumptions about primary care. However, a realistic assessment of those expectations and assumptions indicates that a hefty reliance on primary care is unable to deliver on the outcomes the Parties hope to achieve.

In general, promoting primary care is a laudatory goal. Primary care has long been viewed as essential to controlling per-capita costs, improving the patient's experience of care, and maintaining and promoting the health status of the population (i.e., the triple aim). Historically, it has also been viewed as critical to lowering the cost of care, improving quality of care, and improving access to care (i.e., the iron triangle).[52] Finally, analysts suggest that primary care benefits both population and personal health by increasing use of preventive services, reducing disease and death rates, and reducing the negative health effects of income inequality on health and mortality, especially in areas where income inequality is greatest.[53] In other words, advocates propose primary care as a big picture solution to big picture goals.

Two recent studies published in the medical literature lend some initial credence to these claims. They indicate that the availability of primary care is associated with higher health status (as measured by patient mortality), higher quality of care (as measured by clinical process measures), and higher patient experience measures. One study using an epidemiological approach found a positive association of primary care physician supply (i.e., number of PCPs per 100,000 individuals in a region) with changes in life expectancy between 2005 and 2015.[54] The study did not demonstrate causality, however. The other study used a national population survey approach and found that adults with a "usual source of primary care" (defined as a physician) were more likely to fill their prescriptions, have preventive office visits, and have

[51] *Hospital Conversion Application (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 84.
[52] Barbara Starfield, Leiyu Shi, and James Macinko, "Contribution of Primary Care to Health Systems and Health," *Milbank Quarterly* 83(3) (2005): 457-502.
[53] Stephen Petterson, Robert McNellis, Kathleen Klink et al. *The State of Primary Care in the United States*. (Washington, D.C.: Robert Graham Center, January 2018).
[54] Sanjay Basu, Seth Berkowitz, Robert Phillips et al. "Association of Primary Care Physician Supply With Population Mortality in the United States, 2005-2015," *JAMA Internal Medicine* 179(4) (2019): 506-514.

higher-value (and often underused) care such as cancer screening, counseling, and recommended diagnostic and preventive testing. However, they had the same levels of inpatient, outpatient, and emergency room utilization, and similar levels of low-value care; indeed, those with a usual source of primary care were slightly more likely to report more low-value care for some conditions. Note that these summarized benefits of PCP supply are not always or directly tied to care coordination benefits.[55]

The parties seek to promote "robust" primary care. This suggests that there may not be enough primary care providers in Rhode Island. Yet, data from 2019 indicate that Rhode Island had the highest ratio of primary care physicians per 100,000 population (274.9) among all fifty states (national average of 159.6).[56] Perhaps "robust primary care" requires adequate infrastructure to surround primary care physicians, such as is found in patient-centered medical homes. The parties to the transaction do not explain why they need to merge in order to address these issues (if they exist) and how their combination will alleviate the issues. The parties also fail to discuss what the ideal composition of primary care providers (e.g., primary care physicians, nurse practitioners, physician assistants, community health centers, etc.) should look like and how they would all collaborate to deliver coordinated care.

There are, nevertheless, important caveats and some disquieting findings in these (and other recent) studies that may spell problems for (or pose limitations to) any effort to develop more robust primary care. At the least, because the Parties are relying on primary care to achieve broader goals, these realities need to be accounted for, which the Parties apparently have not done.

First, while the number of primary care physicians (PCPs) has increased over time, it has not kept up with population growth. From 2005 to 2015, the ratio of PCPs per 100,000 fell from

[55] David Levine, Bruce Landon, and Jeffrey Linder. "Quality and Experience of Outpatient Care in the United States for Adults With or Without Primary Care," *JAMA Internal Medicine* 179(3) (2019): 363-372.
[56] United Health Foundation. *America's Health Rankings 2019 Annual Report*. Page 87. Available online at: https://assets.americashealthrankings.org/app/uploads/ahr_2019annualreport.pdf. Accessed on February 8, 2022.

46.6 to 41.4. This is due not only to a larger population but also physician migration, loss of physician supply in certain (i.e., rural) areas, and medical student choice of specialty over primary care residencies. The number of physician graduates from primary care residency programs peaked in the late 1990s and (through 2014) had not risen above that level. The parties may face stiff and growing competition to attract to their state personnel from a flatlining supply of PCPs. To compete for this limited supply of PCPs, the Parties will have to offer higher salaries, relocation expenses, practice development expenses, etc. They may also have to buttress this higher compensation to support PCPs who find their practices filled with Medicaid and uninsured patients.

Second, Americans' use of primary care appears to be both low and falling. At the aggregate level, the percentage of healthcare spending devoted to primary care fell from 6.5% in 2002 to 5.4% by 2016.[57] Research indicates that roughly one-quarter of the adult population lacks a usual source of primary care (i.e., a PCP)—despite the fact that two-thirds have health insurance coverage. This may reflect geographic access issues (i.e., low supply in some areas), or it may reflect a lower perceived need for primary care, as has been reported recently among the Millennial population, born between 1981 and 1996. Empirical research also shows declining use of PCPs between 2008-2016: the proportion of adults with no medical visits rose from 26.1% to 32.5%, and the percentage with no PCP visits rose from 38.1% to 46.4%.[58] By contrast, visits to specialists did not change. Declines were greatest for younger, healthier adults, those with lower-acuity conditions, and those in low-income communities. These patterns may thus reflect several dynamics at work: preference for convenience care among Millennials, a decline in unnecessary visits, growing financial barriers to care, a shift within PCP practices to offering preventive services, and/or substitution of PCP visits with specialist visits.

[57] Sara Martin, Robert Phillips, Stephen Peterson et al. "Primary Care Spending in the United States, 2002-2016," *Journal of American Medical Association* 180(7) (2020): 1019-1020.
[58] Ishani Ganguli, Zhuo Shi, John Orav et al. "Declining Use of Primary Care Among Commercially Insured Adults in the United States, 2008-2016," *Annals of Internal Medicine* 172(4)(February 18, 2020):240-247.

Regardless of the cause, the decline in PCP use may lead to fewer medical school graduates going into primary care specialties, leading to a vicious cycle that fosters even greater medical specialization and perhaps lower care continuity. Of course, the opposite may be true: greater medical specialization may foster a decline in PCP use.

Third, the beneficial effects of primary care availability are not across-the-board. It does not appear to affect utilization of expensive services (e.g., hospital admissions, emergency room use) and do not appear to lower all forms of low-value (unnecessary) care. These are benefits often felt to be addressable by care coordination. In most studies, the measured association tween primary care utilization and spending is static (rather than dynamic) and often based on observational studies (e.g., studies that describe where spending is high or low).[59] There is some question as to whether increasing the amount of primary care spending by a county or state would bend the trend in healthcare spending over time. Rhode Island passed a statute that required commercial insurers to increase the percentage of spending on primary care by one percent, raising spending on primary care statewide from $47 million to $74 million over seven years. The underlying "theory of action" is that such spending will be devoted to prevention and care coordination, which can lead to healthier lives and lower need for acute care utilization.[60] Overall, the thesis is that primary care can substitute for secondary and tertiary care (i.e., use of emergency departments, specialists, and hospitals). Unfortunately, the evidence supporting this theory is scant (see below). Some economists would argue instead that increasing the number of physicians would foster induced demand for their services and lead to increased (and sometimes unnecessary) utilization.

[59] Mark Friedberg, Peter Hussey, and Eric Schneider. "Primary Care: A Critical Review of the Evidence on Quality and Costs of Health Care," *Health Affairs* 29(5) (2010): 766-772.
[60] Lawton R. Burns and Rachel M. Werner. "Care Coordination," in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).

Fourth, empirical evidence is mixed on whether primary care and specialty care are substitutes or complements for each other (or both).[61] There are three reasons why they might be substitutes: (1) prevention and detection in the PCP setting may avoid need for specialty care, (2) PCP management of chronic illness may prevent or delay the need for specialty care, and (3) PCP gatekeeping may reduce specialist referrals. There are three reasons why they might be complements: (1) PCPs may order specialty diagnostic tests as follow-up care, (2) PCPs may detect illness that cannot be treated in that office, and (3) PCPs may identify acute episodes that need specialty treatment. If primary and specialty care are substitutes, then building primary care capacity may promote continuity and coordination of care; if they are complements, then a greater burden is imposed on coordination. That is because there will be more visits to more physicians in more sites of care that need to be linked. Both consequences are neither good nor bad but simply need to be accounted for when building out a system based on expectations concerning primary care.

Fifth, efforts by the Patient Protection and Affordable Care Act (ACA) to foster two new delivery models in primary care have had only limited success. The Comprehensive Primary Care (CPC) and CPC Plus (CPC+) initiatives embedded care managers in PCP offices to enhance their management of chronic conditions, linked patients to a single PCP to promote continuity and post-hospitalization follow-up, and included integration with behavioral healthcare. However, practices found it difficult to find the time and resources to implement these changes fully (e.g., hire and integrate staff) as well as make the necessary changes in their care processes. This suggests a major problem with relying on PCPs for care coordination. Moreover, the models left the volume-based, fee-for-service incentives largely intact, and did not give the practices a large bump in reimbursement to make changes. Needless to say, the practices exerted little impact on cost, quality, and utilization of either hospitals or EDs.[62]

[61] John Fortney, Diane Steffick, James Burgess et al. "Are Primary Care Services a Substitute or Complement for Specialty and Inpatient Services?" *Health Services Research* 40(5) (2005): 1422-1442.
[62] Deborah Peikes, Erin Taylor, Ann O'Malley et al. "The Changing Landscape of Primary Care: Effects of the ACA and Other efforts Over the Past Decade," *Health Affairs* 39(3) (2020): 421-428.

Sixth, the presence of PCPs may not be the same as the provision of primary care. Researchers suggest that the constellation of all five elements of primary care (accessible, continuous, comprehensive, coordinated, accountable) are needed.[63] Initiatives that focus on workforce levels (e.g., more PCPs) and other *structural* interventions neglect the *process* dimensions of the care that is delivered. PCP practices likely vary in their capabilities regarding these five elements, and their patients will vary in terms of their need for all of these elements.

Seventh, it is unclear just how much value other providers such as specialists and hospitals place on the coordination benefits that accrue from interaction with PCPs. Barbara Starfield herself wrote that PCPs have not enjoyed a history of "centrality in patient care," and that specialists assigned lower values to receiving information from PCPs than PCPs did in sending it.[64] Indeed, analysts believe that some specialists have little respect for PCPs, who are near the bottom of the income and prestige scale among physicians. More recently, researchers have found that health systems' spending on primary care for beneficiaries attributed to them ranges from only 2-5% (depending on the definition of primary care) and that such spending is not associated with any of seven measures of clinical quality.[65] Primary care spending is thus dwarfed by spending on secondary and tertiary care services.

Why are these seven observations important? There are a multitude of pressures on the supply and performance of PCPs that are unlikely to be improved by merging two hospital systems and then forming an AHS with a medical school. The parties to the proposed transaction have not articulated how their pursuit of robust primary care as part of the formation of an AHS will (a) improve recruitment of PCPs and other primary care providers to Rhode Island, (b) improve patient utilization of PCPs, (c) enhance the role of PCPs in reducing low-value care, (d) improve

[63] Lawton R. Burns and Rachel M. Werner. "Care Coordination," in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).
[64] Barbara Starfield. *Primary Care: Balancing Health Needs, Services, and Technology* (New York: Oxford University Press, 1998): Chapter 11, p. 220.
[65] Rachel Reid, Aaron Kofner, Mark Friedberg et al. "Variation in Health System Primary Care Spending and Association with Quality Measure Performance", Paper presented at Fifth Annual CHSP Grantee Workshop (Aug 25, 2020).

the provision of the five elements of primary care, (e) improve coordination of care, and (f) reduce the practice pressures facing PCPs. Indeed, asking PCPs to deliver on the "four pillars" of primary care (coordination, comprehensiveness, continuity, first-person contact) conflicts with the reality of the "hamster on a treadmill" state of primary careThe office practice team operates in separate social silos, isolating physicians not only from one another but also from rest of the practice. Office practice structures are primarily focused on supporting the physician's hectic routines, leaving physician-physician, physician-nursing, and physician-patient fissures. The problems of stagnant incomes and productivity-based (relative value unit, or RVU) payment, compounded by growing PCP shortages, may make coordination increasingly difficult. And yet society has come to expect PCPs to (1) provide acute, chronic, and preventive care to patients, (2) develop positive patient experiences and build strong patient relationships that foster trust, (3) manage multiple diagnoses (often for chronic conditions) if present, and also (4) adhere to practice guidelines.[66] Again, reliance of primary care physicians to achieve the lofty goals the parties claim the merger will net fails to account for these realities which, though not impossible to reform, are difficult to alter.

Develop a Coordinated Continuum of Care

The merging parties also [redacted][67] and develop a coordinated continuum of care. The phrase "coordinated continuum" contains two different ideas that need to be unpacked. The *continuum of care* spans, at a minimum: (1) primary care rendered by PCPs and physician extenders, (2) outpatient specialist care, (3) inpatient secondary, tertiary, and quaternary care, and (4) post-acute care (PAC) such as nursing homes, home healthcare, and inpatient rehabilitation facilities (among others). The continuum of care has been central to integrated delivery network efforts, stretching back to the formation of the Allina system in 1993-1994, as well as work by the Advisory Board and the University HealthSystem Consortium (UHC) during the 1990s.[68]

[66] Thomas Bodenheimer. *Building Teams in Primary Care: Lessons Learned*. (Oakland, CA: California HealthCare Foundation, 2007).
[67] Chartis Group (2021): 4.
[68] Lawton R. Burns. *The U.S. Healthcare Ecosystem: Payers, Providers, Producers* (New York: McGraw-Hill, 2021). David Dranove and Lawton R. Burns. *Big Med: Megaproviders and the High Cost of Healthcare in*

This continuum is based on housing under one roof all of the levels of care and the care sites patients might need. This continuum is expensive to develop, since it often rests on acquisitions of non-hospital providers (e.g., physicians, PAC sites). It is unclear whether this approach is cost-effective. Cost-effectiveness analysis must account for the fact that (a) most non-hospital services are not reimbursed very highly (compared to hospital care), (b) as such, they do not offer a high return on investment, (c) a continuum entails more staff, facilities, and sites which increase the cost of care, (d) such additions do not enjoy any scale economies, and (e) most patients do not need all of these services. Indeed, research from the 1990s' heyday of IDNs suggested that among the under-65 population, only 9% of patients needed care integrated around a disease and only 7% needed care organized around multiple conditions; the proportions were higher among the elderly population (36% and 28%, respectively).[69] Thus, hospital systems and IDNs were "overshooting the mark" and engaging in overly-expensive expansion. Rhode Island residents should ask themselves, when was the last time they visited a provider and asked for either "a continuum" or some "integrated care", other than having their lab test or imaging exam taken at the same time and place? A patient does not need an AHS for this level of integration.

Coordinated care is a more troubling proposition. Care coordination is like quality of care: It is an umbrella concept that subsumes a lot of topics and means a lot of different things to a lot of different stakeholders. One systematic review of the field found more than forty definitions of care coordination. The main point here is that there is likely no "one best way" to define care coordination and, thus, perhaps no best approach to performing it. The parties to the proposed transaction have not really offered any definition of what they mean or what they intend to do here, but yet they throw these terms out because they have appeal, even if they are hollow.

America. (Chicago, IL: University of Chicago Press, Forthcoming 2021). J. Stuart Bunderson, Shawn Lofstrom, and Andrew Van de Ven. "Allina Medical Group: A Division of Allina Health System," Case Study. In Jack Duncan, Peter Ginter, and Linda Swayne (Eds.), *Strategic Management of Health Care Organizations* (Cambridge, MA: Basil Blackwell, 1998): 602-619.

[69] The Advisory Board. *State of the Union: The Performance of Vertical Integration*.

To be clear, care coordination may be a desirable goal but it will need to be pursued prudently.[70] Regardless of what approach they take, the parties will encounter severe obstacles that are not accounted for and can thwart whatever they plan to accomplish. A recent review of the topic concludes there is a lack of clarity regarding what care coordination means, what benefits it confers, and how to do it. While providers have implemented a variety of mechanisms to promote care coordination. most mechanisms have not performed well in reducing costs or improving quality; this research is summarized below. One major reason is that most coordination efforts have focused on structural solutions rather than changing the process of interactions among caregivers. The latter approach appears to help solve the problem. However, it is people-intensive, unlikely to scale easily, and perhaps a solution aimed more at quality rather than efficiency.[71]

Care Coordination and Cost

The biggest challenge facing the ability of care coordination to reduce cost is the prevalence of fee-for-service payment. In this environment, no one has the incentive (or resources) to coordinate care. The payer is the entity with the incentive. Health maintenance organizations (HMOs) have their own methods for care coordination, using PCP gatekeepers, narrow networks, and co-managing medical and pharmacy benefits (among other strategies). The Medicare program is still looking for effective ways to inspire and pay for care coordination in a mostly fee-for-service world where traditional Medicare patients can go to any provider they want and there is no funding for managing a patient. It remains to be seen if Medicare Advantage plans can do a better job than traditional Medicare. Much of this may rest with how much risk individual providers bear and what types of behaviors are incentivized.

A second challenge facing care coordination efforts is that they involve increased access to healthcare providers and services, often in an effort to address underutilization of care. Such

[70] Lawton R. Burns, Ingrid M. Nembhard, and Stephen Shortell. "Integrating Network Theory into the Study of Integrated Healthcare." *Social Science and Medicine* (forthcoming 2022).
[71] Lawton R. Burns and Rachel M. Werner. "Care Coordination," in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).

improved access almost necessarily increases spending, even if it is cost effective; patients experience more physician visits and physician interventions (e.g., prescriptions, tests). A second challenge is that care coordination often encompasses overly broad (rather than targeted) populations of patients, all of whom do not benefit from the program but are expensive to treat. Third, care coordination programs require a lot of personnel and infrastructure that is expensive. Many of the care coordination demonstration programs (many financed by CMS) have failed to recoup these investments.[72] Fourth, policy advocates fail to recognize that economies of scale tend to accompany technological investments rather than human resource investment; thus, it is hard to efficiently scale up a coordination program that is people-intensive.

A third challenge facing care coordination involves treating chronic illness. Evidence shows that patients with the most dispersed care (e.g., fragmented across multiple providers, low continuity with one provider) - - i.e., those in need of coordination - - are much more likely to have two or more chronic conditions, to have more PCP and specialist visits, and see a wider number of different specialists across different specialties.[73] The most costly patients to treat — the "polychronic" patients with five or more chronic conditions—tend to use multiple hospitals (up to 9!) and multiple physicians. They are allowed to do so under both Medicare fee-for-service and Medicare ACO payments, which allow free choice of provider. Such use may not be clinically inappropriate, but certainly complicates any effort to track (let alone coordinate) their care.[74] In fee-for-service Medicare, no one is even trying to coordinate the patients' care across providers; they aren't getting paid to do it and they don't have the tools to do so. All providers are their own silo. As I explain below, electronic medical records (EMRs) are insufficient to resolve this problem.

---

[72] J. Michael McWilliams. "Cost Containment and the Tale of Care Coordination," *New England Journal of Medicine* 375(23) (2016): 2218-2220.

[73] Brigham Frandsen, Karen Joynt, James Rebitzer et al. "Care Fragmentation, Quality, and Costs Among Chronically Ill Patients," *The American Journal of Managed Care* 21(5) (2015): 355-362.

[74] Katherine Hempstead, Derek DeLia, Joel Cantor et al. "The Fragmentation of Hospital Use Among a Cohort of High Utilizers," *Medical Care* 52(3) (supplement 2) (2014): S67-S74.

Given these limitations, some observers have argued that cost containment is not the appropriate goal for care coordination programs to target. Instead, such programs should be viewed as part of the effort to reduce use of "low-value" care and increase use of more efficient and/or higher-quality providers within a network.[75] This effort may reflect the fact that while poor coordination is associated with higher cost, we do not really understand why. One possible explanation—not often discussed—is that the culprit may be specialists who are generally quicker to hospitalize a patient. Thus, if a PCP quickly refers their patient to see a specialist, the odds of that patient getting expensive services like hospitalization, PAC, and diagnostic tests rises. This is not always because those services were necessary or cost-effective ways to treat the patient but rather were more financially rewarding to the specialist. Unfortunately, progress on reducing low-value care has been decidedly slow.[76] Research just published in *JAMA Health Forum* reveals that Care New England ranks in the highest quintile of healthcare low-value care (measured as overuse of 17 low-value services) among 676 hospital systems - - suggesting it has some work to do.[77]

Care Coordination and Quality

The need to address the care needs of patients with polychronic conditions complicates care coordination efforts to improve quality. By definition, such patients are likely on multiple medications. Drugs prescribed for one condition may be contraindicated for another; alternatively, several drugs may be needed to adequately treat a single condition. The aging of this patient group further complicates treatment by virtue of additional chronic conditions, the changing nature of their diseases, and growing severity of illness.

[75] J. Michael McWilliams. "Cost Containment and the Tale of Care Coordination," *New England Journal of Medicine* 375(23) (2016): 2218-2220.

[76] Available online at: https://altarum.org/news/new-research-shows-more-work-needed-shift-health-care-spending-low-value-high-value-care. Accessed on September 30, 2020.

[77] Jodi Segal, Aditi Sen, Eliana Glanzberg-Krainin et al. "Factors Associated with Overuse of Health Care Within US Health Systems: A Cross-sectional Analysis of Medicare Beneficiaries from 2016-2018," *JAMA Health Forum* 3(1) (2022): e214543.

The care experience of this group is also affected by non-medical or social determinants of health - - e.g., poverty, the presence/absence of informal family caregivers, the degree of stress upon family members - - that affect health status and patient outcomes, but may not be accounted for in care coordination programs. There is considerable controversy regarding whether or how physicians can play a role in ameliorating these conditions.[78] Care coordination requires greater complexity and dynamism, rather than a static, single-condition orientation or reliance on care protocols. Such an approach is beginning to be addressed by more robust chronic disease models.[79] Such models are not reliant on the formation of hospital systems or development of an AHS. The parties to the proposed transaction fail to disclose how their combination offers a better solution to this vexing issue.

Improve Access to Care

[redacted].[80] Access to care, studied by researchers for decades, has been linked to the availability of medical resources (physician and hospital supply), the ability to pay for care (family income, insurance coverage), travel distances to reach that care, and characteristics of the populations (e.g., illness level, willingness to seek care, factors enabling care-seeking). The literature subsequently distilled five dimensions of access that captured much of the initial access framework:[81]

Availability: Supply & demand mismatch, Rural & urban

Accessibility: Geography, Infrastructure, Transportation

Accommodation: Communication

Affordability: Lack of insurance, Under-insured

Acceptability: cultural barriers and preferences

[78] Nason Maani and Sandro Galea. "The Role of Physicians in Addressing Social Determinants of Health," *Journal of American Medical Association* 323(16) (2020): 1551-1552.
[79] David Grembowski, Judith Schaefer, Karin Johnson et al. "A Conceptual Model of Complexity in the Care of Patients with Multiple Chronic Conditions," *Medical Care* 52(3)(Supplement 2) (2014): S7-S14.
[80] The Chartis Group (2021): p. 12.
[81] Roy Penchansky and J.William Thomas. "The Concept of Access: Definition and Relationship to Consumer Satisfaction," *Medical Care* 19(2) (1981): 127-140.

The parties to the proposed transaction do not identify which of these access dimensions they plan to address. Insurance coverage seems to be paramount in improving population health as well as access to providers. It is not clear how a hospital merger fosters improved access to insurance. Indeed, there is empirical evidence that mergers have just the opposite impact, and may increase disparities in health insurance access and thus inequities in healthcare.[82]

Research evidence indicates that hospital consolidation does not improve access to care but in fact hurts it. One earlier study examined the impact of consolidation (measured in terms of market concentration) on a major indicator of access - - health insurance coverage - - over the period from 1990 to 2003.[83] Hospital consolidation results in higher prices for inpatient care which are passed along to health insurers; health insurers, in turn, pass these higher prices along to employers and consumers in the form of higher insurance premiums. These higher premiums, in turn, decrease health insurance coverage disproportionately for minorities and lower-income segments of the population. The downward impact of hospital consolidation on insurance take-up rates are four times larger for nonwhites than for whites; the impact on take-up rates is significantly greater among middle-income and (especially) lower-income populations. The results clearly show that hospital consolidation harms insurance coverage and, thus, access to care.

A more recent study conducted between 2014-2017 examined the relationship between hospital consolidation (measured again in terms of market concentration) and insurance premiums for products offered on the PPACA marketplaces. [84] Researchers found that higher levels of hospital consolidation are tied to higher insurance premiums. Moreover, communities

[82] Robert Town, Douglas Wholey, Roger Feldman, and Lawton R. Burns. "Hospital Consolidation and Racial/Income Disparities in Health Insurance Coverage." *Health Affairs* 26 (4): 1170-1180. 2007.
[83] Robert Town, Douglas Wholey, Roger Feldman, and Lawton R. Burns. "Hospital Consolidation and Racial/Income Disparities in Health Insurance Coverage," *Health Affairs* 26(4) (2007): 1170-1180.
[84] Andrew Boozary, Yevgeniy Feyman, Uwe Reinhardt et al. "The Association Between Hospital Concentration and Insurance Premiums in ACA Marketplaces," *Health Affairs* 38(4) (2019): 668-674.

with lower socioeconomic status (as measured by median income) were more likely to have higher levels of hospital market concentration.

A third study examined patient access to obstetric, behavioral health, and surgical inpatient services following mergers among rural hospitals during the period 2007-2018.[85] Compared to hospitals that did not combine, merged hospitals were more likely to discontinue the obstetric and surgical service lines and more likely to experience decreasing utilization (stays, admissions) for mental/substance abuse disorders. The authors suggest that while mergers may help salvage a hospital's sustainability, they also reduce service lines, access to care, and responsiveness to community needs.

Transformation and System Change Goals

The term "transformation" is one of many over-used words in healthcare. It gained traction when consultants and policy-makers began talking about the transformation "from volume to value". This was a two-fold change: (1) from a world based on fee-for-service reimbursement to one resting on value-based payment, and (2) from a market of fragmented providers to organized and integrated systems of providers (e.g., based on accountable care organizations, clinically integrated networks, etc.). Providers who moved along both of these dimensions - - and who would then resemble the Kaiser model - - would be better positioned to deliver high-quality, lower-cost care. [redacted].[86]

There are serious issues with the notion that healthcare is currently undergoing a transformation. First, the evidence does not support it; indeed, the pace of change along both dimensions is remarkably slow. Second, there is no necessary correlation between what is going on along the two dimensions. Third, it is not clear that this transformation is associated with

[85] Rachel Henke, Kathryn Fingar, H. Joanna Jaing et al. "Access to Obstetric, Behavioral Health, and Surgical Inpatient Services After Hospital Mergers in Rural Areas," *Health Affairs* 40(10) (2021): 1627-1636.

[86] [redacted].

improvements in quality or reductions in cost suggested by its proponents. The lack of evidence regarding the impact of transformation on cost and quality is summarized elsewhere.[87]

The parties to the proposed transaction envision several end-state transformative changes that will hopefully improve quality and reduce cost. These changes are evaluated below.

Promote Comprehensive and Clinically-Integrated Services and Service Lines

The parties to the proposed transaction assert that the merged entity will serve to clinically integrate services across both primary and specialty care, and across the two systems, to promote system-wide "service lines".[88] They also contracted with The Chartis Group to help them develop a "clinical integration" blueprint. Surprisingly, the two parties and consultants provide no detail on what this clinical integration will look like, let alone define what "clinical integration" means and looks like in practice.

A clear definition of clinical integration is required to develop a meaningful program with hopes of impacting quality and cost of care. A careful review of advisory letters on provider combinations issued over time by government agencies suggests it should entail clinical integration *among physicians*.[89] At a general level, clinical integration entails interaction and interdependence among physicians in their provision of medical services. The proposed combination should thus develop an active, ongoing process to facilitate cooperative activity

[87] Lawton R. Burns and Mark V. Pauly. "Transformation of the Healthcare Industry: Curb Your Enthusiasm?" *Milbank Quarterly*. (March 2018) 96(1): 57-109.
[88] *Hospital Conversion Applciation (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 100.
[89] These advisories are addressed to the following providers: (1) MedSouth. https://www.ftc.gov/sites/default/files/documents/advisory-opinions/medsouth-inc./070618medsouth.pdf. (2) Great Rochester IPA. https://www.ftc.gov/sites/default/files/documents/advisory-opinions/greater-rochester-independent-practice-association-inc./gripa.pdf. (3) Suburban Health Organization. https://www.ftc.gov/sites/default/files/documents/advisory-opinions/suburban-health-organization/suburbanhealthorganizationstaffadvisoryopinion03282006.pdf. (4) Norman PHO. https://www.ftc.gov/sites/default/files/documents/advisory-opinions/norman-physician-hospital-organization/130213normanphoadvltr_0.pdf. (5) TriState Health Partners. https://www.ftc.gov/sites/default/files/documents/advisory-opinions/tristate-health-partners-inc./090413tristateaoletter.pdf.

among physicians - - a process in which physicians are actively involved. Third, at a more granular level, physicians should be actively engaged in the following list of activities:

form clinical committees to develop and apply clinical practice guidelines (CPGs)
develop performance benchmarks and physician scorecards as clinical goals
engage in quality measurement and management programs
develop transitional care programs
engage in medical management practices
conduct practice audits to monitor the performance of their peers in using CPGs
issue performance reports on a regular basis to physicians
capital investments in computer systems and information training
integrate all physicians using a common EMR
exchange clinical information using the EMR to coordinate patient care
increase patient referrals among physicians to increase information captured on EMR
develop disease registries
develop population health programs
develop data analytics programs
developing tools to risk-stratify patients according to severity-of-illness
develop programs to actively manage the highest-risk, highest-cost patients
develop quality assurance councils to review physicians' performance
participate in physician education programs to improve adherence to CPGs
develop criteria to selectively recruit physicians who can practice cost-effective care.

The extensive list above indicates that clinical integration is a heavy lift. Getting physicians to work together is a huge challenge, and has been so for decades. The parties to the proposed transaction do mention some of these activities as part of their "population health management strategies". They also state that such activities will result in savings in total costs of care due to reducing ED visits, avoidable hospital admissions, and reducing readmissions.[90] There are only two problems with their beliefs. First, as noted above, they confuse population health with provision of physician-hospital care. Second, there is no evidence that several of these clinical integration result in the types of cost savings they envision.[91]

[90] *Hospital Conversion Application (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 137.
[91] Lawton R. Burns, David Asch, and Ralph Muller. "Vertical Integration of Physicians and Hospitals: Three Decades of Futility?" in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).

There is a risk with "integration" that is based in experience. A series of antitrust cases brought by federal agencies (such as the Federal Trade Commission) and their local counterparts (State Attorney Generals) revealed that most of these anticipated beneficial activities were sadly absent or seriously under-developed.[92] Too often, the providers in these joint ventures combined to do joint contracting in order to extract higher reimbursement fees (i.e., higher prices) from payers, but postponed the clinical integration work to a later date. This parallels research evidence from horizontal mergers that hospitals combine to extract higher rates from commercial insurers, not necessarily to pursue any of their other espoused goals.

Sadly, the same may be true in the proposed transaction. While there is no evidence the two hospital systems plan to extract higher rates from insurers in the short term but delay integration into the future, there is always that risk. This has been the sad reality in many other hospital system combinations. There are no plans to develop many of the physician integration activities itemized above, and no recognition that the parties need to address clinical integration at the level of practicing physicians. Clinical integration requires that physicians be interdependent and interact in this manner. The Chartis Group report suggests that [redacted] As argued in the next section below, the presence of an EMR will not deliver on most cost and quality benefits. The EMR is a tool and an electronic tool; what is required instead are changes in the behaviors and patterns of interactions among physicians. However, rank-and-file physicians appear to have had only limited involvement in developing the proposed RIAHCS plan.

Another critical issue is whether service lines are a cause or an effect of a well-integrated system. The parties to the proposed transaction believe they are a cause; in reality, service lines are a result. The two parties have a lot of "up front" work to do if they expect to see effective service lines materialize later on. Evidence from other academic medical centers shows that

[92] Lawrence Casalino. "The Federal Trade Commission, Clinical Integration, and the Organization of Physician Practice," *Journal of Health Politics, Policy and Law* 31(3) (2006): 569-585.

service lines require integration of business operations and clinical operations across both inpatient and outpatient areas. More importantly, successful service lines rest on judicious, sustained investments over time in clinical areas - - both patient care and research - - that lead to higher quality of care and local prominence. The latter then allows the hospital system to market its higher-quality services to local payers and the public, attract more business, and ultimately garner higher reimbursement rates. It is not clear whether the parties understand this or are prepared to make the financial commitment necessary to integrate service lines.

There are also several issues with service lines. First, the parties to the proposed transaction and The Chartis Group appear to believe that service lines are the driver of many of the quality and cost benefits they hope to achieve. Peer-reviewed research reveals, however, that these benefits are rarely observed; indeed, sometimes service lines exert negative effects on such utilization measures as discharge rates, preventable hospitalizations, and urgent care.[93] They have also exerted negative effects on job satisfaction, human resource outcomes, and professional development - - and had no impact on either service quality or clinical innovation.[94]

Second, academic medical centers have routinely struggled with service line development due to issues in balancing high-quality, lower-cost care with the research mission of a university hospital.[95] One major issue is political: which clinical department head from which hospital will lead the system's service line? [redacted]

[93] Margaret Byrne, Martin Charns, Victoria Parker et al. "The Effects of Organization on Medical Utilization: An Analysis of Service Line Organization," *Medical Care* 42(1) (2004): 28-37.
[94] Gary Young, Martin Charns, and Timothy Heeren. "Product-Line Management in Professional Organizations: An Empirical Test of Competing Theoretical Perspectives," *Academy of Management Journal* 47(5) (2004): 723-734.
[95] A.L. Epstein and M.A. Bard. "Selecting Physician Leaders for Clinical Service Lines: Critical Success Factors," *Academic Medicine* 83 (2008): 226-234. S.A. Levin, J.W. Saxton, and M.M. Johns. "Viewpoint: Developing Integrated Clinical Programs: It's What Academic Health Centers Should Do Better Than Anyone. So Why Don't They? *Academic Medicine* 83 (2008): 59-65. M.A. Keroack, B.J. Youngberg, J.L. Cerese et al. "Organizational Factors Associated with High Performance in Quality and Safety in Academic Medical Centers," *Academic Medicine* 82 (2007): 1178-1186.

[redacted]

Develop a Unified Electronic Medical Record (EMR) Across Multiple Hospitals

According to The Chartis Group, the parties to the transaction plan to [redacted]. The Chartis Group's report claims [redacted]. Again, these are commendable goals but, as discussed below, the EMR tool should not be confused with a solution; the Parties' expectations of EMRs deserve careful scrutiny.

There is a widespread belief that care coordination is promoted by the presence of an EMR. Some actually believe that the EMR is care coordination. This belief should not be surprising. For decades, researchers have similarly equated the presence of an EMR with "clinical integration." The earlier discussion suggests that may not be true. As I explicate below, EMRs may be more a tool than a powerful solution.

Promise of the EMR

EMRs may help to collate and organize patient information for providers and improve the easy distribution of this information across all providers caring for a patient. Such distribution of

information could decrease fragmentation, decrease duplicate test ordering, reduce medical errors, and alert providers of new health issues or events (e.g., hospitalization), all of which could facilitate care coordination. This may be particularly helpful for patients who see multiple specialists and when patients have an acute hospitalization or emergency room visit, or transition across care settings. With well-developed EMRs, every provider can have access to the same accurate and up-to-date information about a patient.

Inherent Limits to this Promise

EMRs do indeed contain valuable information to support care coordination such as: lab test results, image scans, medication lists, and physician progress notes. In this manner, EMRs can facilitate *within-office* care coordination, mainly by providing real-time access to data during the patient encounter when it can be used in decision-making with patients, and through electronic messaging with office staff. EMRs serve as a digital version of the patient's paper-based medical chart, which constitutes a single record and source of access to the patient's medical history and updates that history via new provider entries at the time of new patient visits. Indeed, in one study of small- and medium-sized physician practices, physicians and staff reported that EHR systems helped them coordinate patient care within their practice.

The utility of EMRs for *across-office* coordination - - i.e., visits by patients to different providers in different sites of care - - is more debatable. EMRs do potentially allow different providers to track the patient's condition at sporadic moments (tied to new patient visits) and "communicate" with one another asynchronously via updated, written notes rather than synchronous conversations. At the same time, such benefits also highlight the EMR's limits: no real-time interaction among providers, no synchronous coordination, and no care coordination in the absence of interoperable EMRs.

EMRs were never designed to serve the purpose of care coordination across the continuum of care - - e.g., to manage clinical conditions (interactive decision-making, setting care plans) as

part of a dynamic process involving multiple, distributed practitioners.[96] Rather, they were designed to capture diagnostic codes for purposes of billing and point-in-time documentation in a patient visit. EMRs also lack the ability and functionality to engage physicians, patients, and/or their families in care coordination.

Empirical Research on EMR Impact on Care Coordination

The effect of EMR adoption on care coordination is mixed. First, there is inconsistent evidence that EMR adoption facilitates physician efforts to engage in clinical integration, chronic care management, and population health management.[97] A major field investigation of physician groups found that the number of healthcare information technology (HCIT) components used was not associated with the use of care management practices.[98] That is, care management was not dependent on information technology. Another found that EMR capabilities were not associated with diabetes management, asthma maintenance, or other processes of care (preventive services).[99] A third study found that changes in EMR capability were not associated with changes in a medical group's index of care management activity.[100]

Second, studies report that HCIT usage is not associated with care coordination.[101] One study reported that EMR usage did not improve care coordination across sites of care such as

[96] Ann O'Malley, Joy Grossman, Genna Cohen et al. "Are Electronic Medical Records Helpful for Care Coordination? Experiences of Physician Practices," *Journal of General Internal Medicine* 25(3) (2009): 177-185.
[97] Ilana Graetz, Mary Reed, Stephen Shortell et al. "The Association Between EHRs and Care Coordination Varies by Team Cohesion," *Health Services Research* 49(1) Part II (2014): 438-452. Ilana Graetz, Mary Reed, Stephen Shortell et al. "The Next Step Towards Making Use Meaningful: Electronic Information Exchange and Care Coordination Across Clinicians and Delivery Sites," *Medical Care* 52(12) (2014): 1037-1041.
[98] Diane Rittenhouse, Stephen Shortell, Robin Gillies et al. "Improving Chronic Illness Care: Findings from a National Study of Care Management Processes in Large Physician Practices," *Medical Care Research and Review* 67(3) (2010): 301-320.
[99] Cheryl Damberg, Stephen Shortell, Kristina Raube et al. "Relationship between Quality Improvement Processes and Clinical Performance," *The American Journal of Managed Care*, 16(8) (2010): 601-606.
[100] Stephen Shortell, Robin Gillies, Juned Siddique et al. "Improving Chronic Illness Care: A Longitudinal Cohort Analysis of Large Physician Organizations," *Medical Care* 47(9) (2009): 932-939.
[101] Ann O'Malley, Ann Tynan, Genna Cohen et al. *Coordination of Care by Primary Care Practices: Strategies, Lessons and Implications*. Research Brief No. 12. Washington (DC): Center for Studying Health System Change; 2009. Arthur Kellerman and Spencer Jones. "What It Will Take To Achieve The As-Yet-Unfulfilled Promises Of Health Information Technology," *Health Affairs* 32(1) (2013): 63-68.

inpatient, outpatient, and emergency department areas.[102] What explains these surprising findings? Physicians require several pieces of patient information to coordinate care, including: results from patient referrals for consultation, the patient's history and reasons for referral, and hospital discharge information. They do not always get this information. Data suggest that only 16% of clinicians reported they sent a summary of care record for the majority of their patient transitions and referrals. There are also barriers posed by some specialty clinicians' failure to provide hospital admission or patient discharge summaries to PCPs in a timely fashion which may be needed at the point of care. Nurses likewise require several types of information to prepare for and conduct patient handover at shift changes. EMRs have proved cumbersome and limiting in assisting nurses with such transitions.[103]

Moreover, there are only small differences in the receipt of information to coordinate care when comparing physicians not using HCIT with physicians using HCIT. Researchers conclude that EMR adoption and electronic sharing of patient data among physicians may not be enough to ensure care coordination.[104] There are several barriers to achieving this promise - - e.g., lack of sufficient financial incentives, information burden on providers, issues of EMR data contributing to quality improvement, and required concomitant changes needed to make EMRs work in physician practices such as cohesive provider teams - - discussed elsewhere.[105]

<u>Develop a Comprehensive ACO to Serve the State's Medicaid Population</u>

Accountable care organizations (ACOs) have been promoted by the Patient Protection and Affordable Care Act (PPACA) to provide higher quality, lower cost care to Medicare

[102] Ilana Graetz, Mary Reed, Stephen Shortell et al. "The Association Between EHRs and Care Coordination Varies by Team Cohesion," *Health Services Research* 49(1) Part II (2014): 438-452. Ilana Graetz, Mary Reed, Stephen Shortell et al. "The Next Step Towards Making Use Meaningful: Electronic Information Exchange and Care Coordination Across Clinicians and Delivery Sites," *Medical Care* 52(12) (2014): 1037-1041.
[103] Kaushik Ghosh, Michael Dohan, Eileen Curl et al. "Information Tools for Care Coordination in Patient Handover: Is an Electronic Medical Record Enough to Support Nurses?" *Health Care Management Review* (2020).
[104] Chun-Ju Hsiao, Jennifer King, Esther Hing et al. "The Role of Health Information Technology in Care Coordination in the United States," *Medical Care* 53(2) (2015): 184-190.
[105] Lawton R. Burns and Rachel M. Werner. "Care Coordination," in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).

beneficiaries; they have subsequently been adopted by commercial insurers for the same purpose. ACOs accept risk for the total cost of care rendered to a population of patients who are attributed to participating PCPs from whom the patients obtain the majority of their primary care visits. PCPs and their ACOs are incentivized to use care coordination, care management, and other integration strategies to manage the patients cost and utilization. If the ACOs succeed in lowering costs of care below the historical benchmark for that population, the ACOs share in the savings with the payer.

The parties to the proposed transaction plan to [redacted]

[redacted]

[Chartis Report at C-R-CNE-LS01-0013139]

[redacted] Before including development of ACOs in a strategy to reduce costs and improve quality, the parties need to first understand the potential downfalls of this approach.

Recent research unfortunately must impress caution on the hopes of ACOs to reduce healthcare costs and support risk contracting. Research published in June 2021 shows that market exits of ACOs have increased while market entries of new ACOs have declined. Moreover, the total number of ACO contracts has plateaued since mid-2020. Starting in early 2021, the number of ACOs has declined, as has the number of covered lives.[106] Moreover,

[106] David Muhlestein, William Bleser, Robert Saunders et al. "All-Payer Spread of ACOs and Value-Based Payment Models in 2021: The Crossroads and Future of Value-Based Care," *Health Affairs Blog* (June 21, 2021).

financial results across all ACO programs suggest that ACOs are, at best, a break-even operation.[107] Given the large amounts of infrastructure investments that providers have to make in ACOs, they may more likely be a money-loser.[108]

Develop an In-State Destination of High-Quality Care for Rhode Island Residents

The parties to the proposed transaction make clear that they intend to develop services of sufficient high quality to attract more Rhode Island residents and reduce their care-seeking from hospitals in neighboring states. What the parties fail to recognize is that hospital care-seeking by patients is driven more by geographic proximity than by hospital cost and/or quality. Both patients and their physicians utilize hospitals that are nearby their homes (patients) and medical offices (physicians). Researchers have labelled this pattern "the gravity model".[109] That explains why Dr. Pflum, another expert in this matter, found that the percentage of Rhode Islanders with commercial insurance who sought care from Massachusetts hospitals was roughly double for those living in areas bordering the state line compared to those not bordering the state line.[110] Moreover, those travelling across the border have lower severity-of-illness case weights, suggesting they are not crossing the border for more intensive care but rather for more convenient (accessible) care.[111]

All of the above analyses throw into question the parties' ability to develop an in-state destination of high-quality tertiary/quaternary care for Rhode Island. None of the efforts as described by the parties and investigated above - - the EMR, clinical integration, service lines, care coordination, continuum of care, robust primary care, population health, etc. - - will likely move the needle on either cost-containment or quality improvement. Indeed, most efforts in

[107] James Kahn and Kip Sullivan. "Promise vs. Practice: The Actual Financial Performance of Accountable Care Organizations," *Journal of General Internal Medicine* (2021). https://doi.org/10.1007/s11606-021-07089-6
[108] Lawton R. Burns and Mark V. Pauly. "Transformation of the Healthcare Industry: Curb Your Enthusiasm?" *Milbank Quarterly*. (March 2018) 96(1): 57-109.
[109] Lawton R. Burns and Douglas R. Wholey. "The Impact of Physician Characteristics in Conditional Choice Models for Hospital Care." *Journal of Health Economics* 11: 43-62. 1992.
[110] Kevin Pflum. *Competitive Effects Analysis of Lifespan's Proposed Acquisition of Care New England*. See pages D-2 through D-5.
[111] Kevin Pflum. *Competitive Effects Analysis of Lifespan's Proposed Acquisition of Care New England*. See pages D-2 through D-5.

healthcare over the past several decades have met with the same fate.[112] Moreover, it is unclear whether the parties can make the sustained financial investments over time to develop high-quality quaternary services - - e.g., such as transplants and oncological care. Such services do garner higher reimbursements for the systems that develop them, but most systems are unable to develop them. They often rely on top-drawer, basic science and clinical practice found in established AMCs. They also rely on sufficient patient volumes that may not be easily generated due to the presence of high-profile, competing AMCs in nearby Boston.

Some journalists argue that the merger is motivated by "provincialism" and a desire to compete with Massachusetts. This is based on the fact that banks have moved their headquarters from Providence to Boston, and that Boston's major newspaper now competes with the *Providence Journal*.[113] A merger of local hospital systems would result in a larger hospital system that would have greater market prominence and operate less in the shadows of its larger counterparts in Boston.

The Chartis Group goes further in arguing that [redacted]

According to the parties, the combined service area of Lifespan and Care New England "encompasses portions of nearby Massachusetts".[114]

Unfortunately, The Chartis Group [redacted] Bailit Health interviewed insurance executives who reported that such reported levels of out-migration are exaggerated. Empirical analyses conducted by Dr. Pflum indicate that the outmigration rate to Massachusetts is indeed not that high (12%),

[112] Lawton R. Burns. *The U.S. Healthcare Ecosystem* (New York: McGraw-Hill, 2021): Chapters 6 and 7.
[113] Scott Mackay. "The RI Hospital Merger Follies," *The Public's Radio* (June 10, 2019). Available online at: https://thepublicsradio.org/episode/scott-mackays-commentary-the-ri-hospital-merger-follies.
[114] *Hospital Conversion Application* (Resubmitted October 1, 2021, originally submitted April 26, 2021): page 107.

ranging from 7.8% to 18.8% depending on the geographic region of Rhode Island and its proximity to the Massachusetts border. Partners Healthcare in Boston accounts for only 5.3% of this total. While some hospital care obtained by Rhode Islanders is rendered by community hospitals in Rhode Island and by AMCs in Boston, most tertiary and quaternary care needed by Rhode Island residents is already provided by Rhode Island teaching hospitals.[115] The major services in Massachusetts utilized by Rhode Islanders are for transplantation and oncological care.

Rationalizing (Reducing) Physical Capacity Across the Hospitals in the Merging Systems

The parties to the proposed transaction make little mention of reducing physical capacity (e.g., the number of beds, the number of service programs) in their merged system. According to their Application, "there are no definitive or board-approved plans for reduction of existing services or facilities…"[116] This is important since the route to scale economies and efficiencies lies in actual consolidation of such physical assets and reduction of their overhead costs (covered below).[117] The lack of mention may reflect the preference of hospital executives to grow rather than downsize and the adage "you can't shrink your way to greatness". It may also reflect their reticence to avoid the mention of downsizing which might entail personnel layoffs and service closures - - which the parties say they do not anticipate.[118]

[redacted]

[115] Bailit Health. *Market Impact Review* (February 4, 2018).
[116] *Hospital Conversion Applciation (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: Appendix D.
[117] Alfred Chandler. *Scale and Scope: The Dynamics of Industrial Capitalism* (Cambridge, MA: Harvard University Press, 1990).
[118] *Hospital Conversion Application (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 94.

[redacted][119] Of course, this begs the question why the two hospital systems could not undertake such efforts now without having to merge.

Horizontal consolidation without commensurate rationalization (i.e., reduction) of physical capacity does not generate efficiencies. If there is no rationalization of physical assets, the merger results in a multi-plant operation where the whole *is* the sum of the parts. In other words, merging one hospital system (A) with another hospital system (B) yields a larger hospital system that is merely "A+B". Research on multi-plant operations shows they do not lead to scale economies. To gain such economies with a merger, the parties must do three things: (1) move greater volume (2) across reduced physical infrastructure (3) at a faster speed.[120] There is nothing in their integration plan that addresses these three conditions.

Goals to Strengthen the Financial Health of the Two Core Hospital Systems

Financial Problems Facing the Parties to the Transaction: The Elephant in the Room

Lifespan and Care New England cite many aims for their proposed transaction. However, as noted above, the two parties fail to state what problems the proposed transaction is supposed to correct. One might surmise that one of the proposed aims is central: strengthen the financial

[119] Chartis Group (2021): page 6.

[120] Alfred Chandler. *Scale and Scope: The Dynamics of Industrial Capitalism*. (Cambridge, MA: Harvard University Press, 1990).

health of the two parties. [redacted].[121] [redacted]

[redacted]

[121] Lifespan financial performance data are taken from: Lifespan's *Annual Reports*, Fiscal Years 2016-2020.Care New England financial performance data are taken from: Bank of America, *Care New England Health System, Tax Filings and Audits by Year 2011-2019*.

These figures beg the question: would a merger of Lifespan and CNE improve upon this picture? Several studies indicate the answer is likely 'no'. The Office of the Inspector General (OIG) inside the Department of Health & Human Services (DHHS) compared eleven randomly selected hospitals that merged with a comparison group of non-merging hospitals.[122] The OIG found that the eleven merged hospitals failed to increase their revenues or their patient volumes. Another set of researchers examined the financial performance of 36 hospital systems that integrated horizontally and vertically during the period 1995-1999.[123] They reported that systems that invested more heavily in integration incurred larger declines in their operating margins. They also found that systems that invested more in hospital consolidation and featured a higher number of hospitals in their system incurred lower returns on assets. In sum, the more money that systems invested in horizontal integration and integration overall, the worse their financial performance. A third study examined the impacts of hospital mergers in the U.K. during the period 1997-2006.[124] The researchers found that mergers often resulted in worsening financial performance (falling surpluses) and a decline in patient admissions. Finally, a more recent study

[122] Richard Kusserow. *Effects of Hospital Mergers on Costs, Revenues, and Patient Volumes*. (Washington, D.C.: OIG, DHHS, 1990). OEI-12-90-02450.
[123] Lawton R. Burns, Gilbert Gimm, and Sean Nicholson. "The Financial Performance of Integrated Health Organizations (IHOs)." *Journal of Healthcare Management* 50(3): 191-213. 2005.
[124] Martin Gaynor, Mauro Laudicella, and Carol Propper. "Can Governments Do It Better? Merger Mania and Hospital Outcomes in the English NHS," *Journal of Health Economics* 31(3) (2012): 528-543.

conducted by The Netherlands Authority for Consumers and Markets (ACM) examined price and volume impacts of twelve hospital mergers between 2007-2014.[125] The ACM found that merged hospitals raised prices but did not increase patient volumes.

These results suggest that the merger benefits anticipated by the two parties to the proposed transaction are unlikely to transpire. There may be no strengthening of their financial health and, instead, a deterioration. There is also not likely to be any growth in patient volume. Given that the two parties would control roughly 80% of the local market if they merged, there is little room for growth anyway.

The above analysis suggests that perhaps the biggest weakness among the parties to the proposed transaction is their lack of financial health. Building an integrated delivery network (IDN), let alone an academic health system (AHS), is an expensive proposition.[126] The now-defunct Allegheny Health Education and Research Foundation (AHERF) built a state-wide IDN in Pennsylvania and then an AHS in the City of Philadelphia that rested on two medical schools (Medical College of Pennsylvania or MCP, and Hahnemann University). The AHS was financially troubled, and had to be subsidized using revenues generated by AHERF's financially successful, flagship, tertiary Pittsburgh facility, Allegheny General Hospital. The running joke among AHERF employees in Philadelphia is that MCP really stood for "the money comes from Pittsburgh". Unfortunately for the parties to the proposed transaction, they do not include an Allegheny General Hospital to subsidize them.

All of this begs the question: how is a merger supposed to strengthen the financial health of these two institutions, one of which has historically been financially troubled while the other has had low operating margins? Combining two weak systems does not yield a stronger system; instead, it yields an even bigger, weaker system. The combined system will have more costs to

[125] The Netherlands Authority for Consumers & Markets. *Price and Volume Effects of Hospital Mergers* (December 8, 2017). Available online at: https://www.acm.nl/sites/default/files/documents/2018-01/report-price-and-volume-effects-of-hospital-mergers.pdf. Accessed on January 12, 2022.

[126] Lawton R. Burns, Gilbert Gimm, and Sean Nicholson. "The Financial Performance of Integrated Health Organizations (IHOs)." *Journal of Healthcare Management* 50(3) (2005): 191-213.

cover, more hospitals to integrate horizontally, more physicians to integrate vertically, and a medical school operation to diversify into (and perhaps subsidize). The financial and bureaucratic costs of the combined operation may be too much to bear. Research shows that greater investments into horizontal and vertical integration lead to greater operating losses.[127] The consulting firms (Deloitte, Chartis, Alvarez & Marsal) that the parties have called upon to help map out their merged enterprise [redacted].

Achieve Savings in Merging Executive Office Personnel, Back Office Personnel, Supply Chain Operations, Laboratories, and Purchased Services

[redacted].[128] [redacted].

[127] Lawton R. Burns, Gilbert Gimm, and Sean Nicholson. "The Financial Performance of Integrated Health Organizations (IHOs)." *Journal of Healthcare Management* 50(3) (2005): 191-213. Jeff Goldsmith, John Wiest, Alex Hunter et al. *2019 Health System Financial Analysis* (Navigant, October 2019).
[128] Deloitte. *Deloitte 2021 Efficiency Report*.

There are two issues here which Deloitte and the two parties do not address. [redacted]. Second, [redacted].

[redacted].

[redacted]

[redacted].

"Waste" is everyone's favorite target for how to contain rising healthcare costs and save money. There is, however, no discussion of waste in the two existing systems that can be ferreted out and removed. Such waste often lies in what researchers call "low value care" - - care that is high in cost and low in quality. Identification of such waste requires a detailed analysis of care patterns at the clinical department and individual physician level; there is no indication that such an analysis has been conducted. Another area that may harbor waste is pricing variation; as noted above, there may be few opportunities to reduce such variation given the likely low level of overlap in clinical products used across the two systems. Oftentimes, waste in the healthcare systems is said to lie in administrative costs. If waste exists, the two systems can address the problem without having to merge. Indeed, there is the danger that a merger will result in a larger and more bureaucratic organization that (a) hides even more waste and (b) is resistant to change and rooting it out.

<u>Increase Scale and Efficiency of Operations that Supports Quality of Care and Facilitates Value-Based Contracting, as well as Foster Economies of Scale</u>

Economies of scale are perhaps the other most over-used term in healthcare. Like 'transformation', economies of scale have been weighed in the balance and found wanting. There is an extensive literature documenting that hospital systems do not enjoy scale economies and, by contrast, may suffer from scale diseconomies. Hospital systems are not more efficient than freestanding hospitals; larger hospital systems are not more efficient than

smaller hospital systems.[129] Instead, the systems suggest they can realize scale economies in primary care through group purchasing and consolidation of back-office functions - - two areas with relatively low amounts of expenditures.[130]

This calls into serious question the assertion by the parties to the proposed transaction that the large scale that will result from their merger is good. The research shows that hospital consolidation leads to higher costs, higher prices, and often lower quality of care. It is not clear how the public benefits from this.[131] Moreover, the higher prices charged by merged hospitals are absorbed by commercial insurers, passed on to employers, who then pass it on their employees in the form of higher insurance premiums. Employees face two choices: pay the higher premium (and thus suffer lower take-home pay) or forego insurance coverage. Many are forced to take the latter route. This leads to disparities and inequities in insurance coverage among lower-income workers.

'Synergy' is another over-used term that the parties' consultants occasionally reference.[132] Synergies are characterized by situations where the whole is greater than the sum of the parts (e.g., 1+1=3), and rely on the presence of complementary resources that can be shared to generate multiple products and services. Research on synergies suggests they are difficult to generate.[133] For example, there is little evidence that multi-specialty physician groups enjoy synergies; there is little evidence that health plans can generate synergies offering products

[129] Martin Gaynor and Robert Town. *The Impact of Hospital Consolidation – Update*. Robert Wood Johnson Foundation Synthesis Project (May 2012). Martin Gaynor, Samuel Kleiner, and William Vogt. "Analysis of Hospital Production: An Output Index Approach," *Journal of Applied econometrics* 30(3) (2015): 398-421.Lawton R. Burns, Jeffrey McCullough, Douglas Wholey et al. "Is the System Really the Solution? Operating Costs in Hospital Systems," *Medical Care Research and Review* 72(3) (2015): 247-272. Karyn Schwartz, Matthew Rae, and Tricia Neuman. "What We Know About Provider Consolidation," *Kaiser Family Foundation* (September 2, 2020). Nancy Beaulieu, Leemore Dafny, Bruce Landon et al. "Changes in Quality of Care after Hospital Mergers and Acquisitions," *New England Journal of Medicine* 382 (2020): 51-59. David Dranove and Lawton R. Burns. *Big Med: Megaproviders and the High Cost of Health Care in America* (Chicago, IL: University of Chicago Press, 2021).
[130] *Hospital Conversion Application (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 85.
[131] See sources in footnote 153,
[132] *Hospital Conversion Application (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 67.
[133] Mark Sirower. *The Synergy Trap: How Companies Lose the Acquisition Game*. (New York: Free Press, 1997).

across books of business (Medicare, Commercial); and there is little evidence that hospitals can generate synergies by operating both inpatient and outpatient units.[134]

Goals to Create a Nationally and Internationally Recognized AHS

The parties to the transaction - - Lifespan, Care New England, and Brown University - - plan to combine their two hospital systems with a university-based medical school. Such constellations of actors are commonly labeled an academic health system (AHS) or an academic medical center (AMC). The parties anticipate that the affiliation of the two hospital systems, their physician practices and networks, and the Alpert School of Medicine will create a fully-integrated AHS that, in turn, will have a transformative impact on the local community. They further anticipate the combined entity will gain national and international recognition (although they do not explicate what that means in practice and how it will be achieved). According to Tripp Umbach, the consultancy hired by Brown University, such an AHS "can combine leading-edge research and renowned expertise to improve the quality of care; advance biomedical discovery; and educate future leaders in medicine, public health, and biomedical engineering."[135] Unfortunately, none of these claims are substantiated in the Tripp Umbach report.

What the parties fail to discuss is that the AHS model is characterized by extreme complexity in its design, operation, and financing. Management theorist Peter Drucker called the AHS the most complex bureaucracy on earth. The parties do not address what the governance relationships among the three parties to the transaction will be, what are the key issues they will face in running the AHS, and what are the ingredients of successful AHS performance. There no mention of the long-running evidence base on AHS operations and performance, and thus

[134] Lawton R. Burns, Jeff Goldsmith, and Aditi Sen. "Horizontal and Vertical Integration of Physicians: A Tale of Two Tails." In *Annual Review of Health Care Management: Revisiting the Evolution of Health Systems Organization. Advances in Health Care Management*, Volume 15: 39-117. (Emerald Group Publishing). 2013. Martin Gaynor, Samuel Kleiner, and William Vogt. "Analysis of Hospital Production: An Output Index Approach," *Journal of Applied Econometrics* 30(3) (2015): 398-421. Douglas Wholey, Roger Feldman, Jon Christianson et al. "Scale and Scope Economies Among Health Maintenance Organizations," *Journal of Health Economics* 15(6) (1996): 657-684.
[135] Tripp Umbach. *Economic Benefits Resulting from a Transformational Partnership among Brown University, Lifespan Health System, and Care New England: Final Report* (January 2022).

no apparent recognition of the challenges facing the AHS model. The parties also fail to discuss how the AHS model is financed and from where the needed financing is going to come. The sections below identify some of these challenges.

Problems in Managing the AHS Complexity

One basic issue that any AHS has to deal with is a two-fold balancing act: balancing a *tripartite mission* of clinical care, teaching, and research with a *tripartite organizational structure* that includes hospitals, a medical school/home university, and physician groups/faculty practice plans. Academic theory and research document the manifold difficulties of managing a triad (think love triangle);[136] the parties to the proposed transaction want to form an AHS which requires having to handle two triads simultaneously. Needless to say, neither triad is easy to manage.

The first triad includes three missions that are entirely different and often difficult to reconcile. This is partially because the education and research activities are costly and not fully covered and/or reimbursed; they may also detract from patient-centered care. The AHS mission is also challenged by the reality that it faces unique business challenges such as a less favorable patient mix and traditionally higher overhead costs that support the academic mission.[137] Many observers have noted that the AHS research and teaching programs are increasingly under-funded through their traditional revenue streams, and require steady investments from the positive operating margins of the hospital ("the clinical enterprise").[138] Compared to the 1980s, when medical and clinical services represented only 20% of AMC revenues, the situation has

[136] Lawton R. Burns, David Nash, and Douglas Wholey. "The Evolving Role of Third Parties in the Hospital-Physician Relationship." *American Journal of Medical Quality* 22(6): 402-409. 2007. Lawton R. Burns. "Polarity Management: The Key Challenge for Integrated Health Systems." *Journal of Healthcare Management* 44(1): 14-33. 1999.
[137] PricewaterhouseCoopers. *The Future of the Academic Medical Center: Strategies to Avoid a Margin Meltdown*. (PWC Health Research Institute, February 2012).
[138] David Fairchild and Richard Wesslund. "Collaborating for Value – The Path to Successful Academic-Community Relationships," *Healthcare Financial Management* (June 2018): 1-6. Jeffrey Balser and William Stead. "Coordinated Management of Academic Health Centers," *Transactions of the American Clinical and Climatological Association* 128 (2017): 353-362. Arthur Levine, Thomas Detre, Margaret McDonald et al. "The Relationship Between the University of Pittsburgh School of Medicine and the University of Pittsburgh Medical Center – A Profile in Synergy," *Academic Medicine* 83(9) (2008): 816-826.

reversed with AMCs now heavily dependent on their clinical care system for anywhere from 80-85% of their revenues. This explains why AHS financial performance has often trailed the performance of non-teaching hospitals.[139] After the core AHS hospital makes the monetary transfers to fund teaching and research, its operating margin is diminished.[140]

The second triad includes three stakeholders that have traditionally operated as silos and separately from one another. Efforts to promote the vertical integration of two of these parties - - physicians and hospitals - - over the past three decades have met with disappointing results.[141] Recent research suggests that success from vertical integration may lie in relational coordination among caregivers down below at the patient level as well as in physicians' assumption of leadership for improving quality and reducing costs.[142] There have been relatively few efforts undertaken by hospitals to diversify into the medical school business. The AHERF system entered Philadelphia in the late 1980s and then again in the early 1990s by acquiring not just one but two medical schools (Medical College of Pennsylvania, Hahnemann). Both schools are now shuttered, as is AHERF.

Failure to Specify Clear Governance of this Complex AHS

The Parties have not addressed the key issue of governance of this AHS. Governance is a key issue of ACOs as in other provider combinations that involve multiple parties that historically have not worked together.[143] The prospects for strong governance of the proposed AHS appear

[139] Allen Dobson, Lane Koenig, Namrata Sen et al. *Financial Performance of Academic Health Center Hospitals, 1994-2000*. (New York: The Commonwealth Fund, September 2002).
[140] Christopher Collins, Daniel Harrison, Karen Potter et al. *Are Integrated Academic Health Systems Better? A Study of Organizational Design and Performance* (ECG Management Consultants, November 2015).
[141] Lawton R. Burns, David Asch, and Ralph Muller. "Vertical Integration of Physicians and Hospitals: Three Decades of Futility?" in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).
[142] Lawton R. Burns, David Asch, and Ralph Muller. "Vertical Integration of Physicians and Hospitals: Three Decades of Futility?" in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022). Lawton R. Burns, Ingrid M. Nembhard, and Stephen Shortell. "Integrating Network Theory into the Study of Integrated Healthcare." *Social Science & Medicine* (Forthcoming, 2022).
[143] Lawton R. Burns. "Polarity Management: The Key Challenge for Integrated Health Systems." *Journal of Healthcare Management* 44(1) (1999): 14-33. Lawton R Burns and Mark V Pauly. "Accountable Care Organizations May Have Difficulty Avoiding the Failures of Integrated Delivery Networks of the 1990s." *Health Affairs* 31(11):

weak. As noted, above the two hospital systems have yet to agree on an integration plan and who is going to run the clinical operations.[144] Indeed, prior efforts to combine the three parties fell apart in July 2019 when Care New England walked away from merger talks after (a) weighing the capital requirements and financial stability of the combined entity and (b) rumored politics over who will be the CEO.[145] According to the *Definitive Agreement* dated February 23, 2021, a permanent President and CEO will be approved by the System Parent Board after the merger is completed. Until that time, the two current hospital system CEOs would serve as Co-CEOs. Even more telling, there are no immediate plans to integrate the medical staffs of the two systems. According to the *Definitive Agreement*, they will remain separate after closing. This will effectively preclude any clinical integration efficiencies and, thus, impose a low ceiling on any possible cost savings. Physicians account for roughly 85% of all healthcare spending (both direct and indirect) due to their monopoly over most clinical decisions. Without merging the medical staffs and thus the clinical operations of the two systems, the cost savings available to the merger will be primarily administrative; such administrative costs are a small fraction of total spending inside a health system.

Failure to Consider the Ingredients of Successful AHS Performance

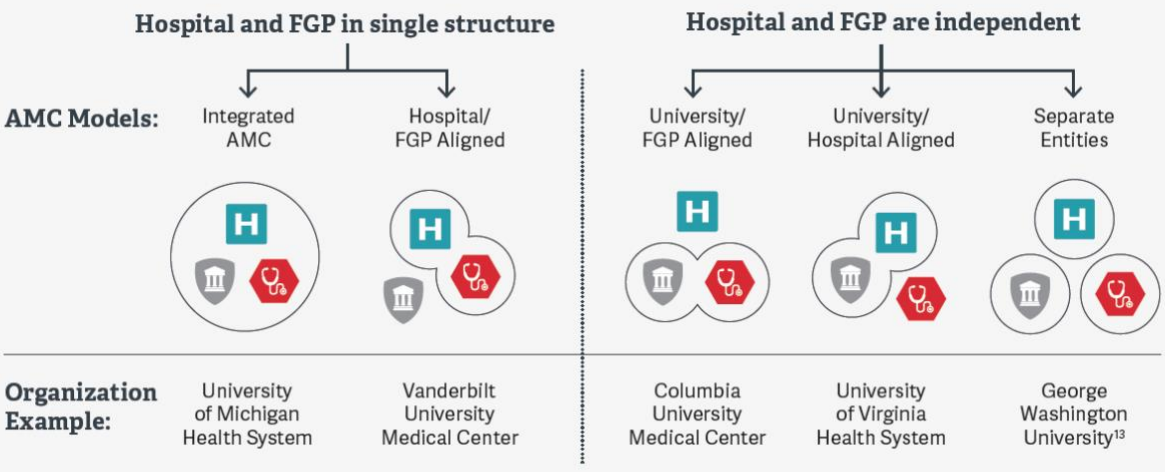
There is growing interest and scrutiny regarding the degree of integration among the three legs of the AHS stool. AHS researchers note that the core teaching hospital, faculty practice plan, and medical school are interdependent and need to be coordinated (or integrated). Such integration can occur along multiple dimensions, including: (1) structural integration encompassing the corporate, legal, and organizational arrangement connecting the three legs; and (2) functional integration, encompassing the degree to which the three legs work together in terms of strategic planning, budgeting, capital and facilities planning, decisions on clinical service offerings, physician recruitment, and matrix reporting - - regardless of their structural integration. Structural and functional integration may best be viewed as orthogonal or only loosely-coupled. Five different approaches to structural integration are depicted below:

2407-2416. 2012.

[144] *Hospital Conversion Applciation (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 81.

[145] Jessica Bartlett. "Care New England Focused on 'Going it Alone'," *Boston Business Journal*. December 9, 2019.

Figure 5 — Five AMC Structural Models



[12] AAMC. Distribution of Full-Time U.S. Medical School Faculty by School and Department, 2014.
[13] This example represents three separate entities: The George Washington University School of Medicine & Health Sciences, The George Washington University Hospital, and The GW Medical Faculty Associates.

Research suggests that closer integration (based on a composite score that spans the dimensions of functional integration above) is associated with higher performance on several dimensions, such as quality of care (HCAHPS score), NIH funding, and residency ranking (via Doximity).[146] Structural integration is often not associated with better performance measures. This suggests that the process of running the AHS is even more important than the structure of the AHS (e.g., centralized governance).[147] Indeed, more detailed information collected from a sample of AHSs revealed that the high performers on quality and patient safety exhibited several process characteristics, including:[148]

. shared sense of purpose that patient care came first among the tripartite mission
. focus on service excellence to engage clinical and nonclinical staff
. focus on closing gaps between current state and future ideal state
. efforts to minimize conflicts in mission by having hospital executive and clinical department leadership report to a single CEO

[146] Christopher Collins, Daniel Harrison, Karen Potter et al. *Are Integrated Academic Health Systems Better? A Study of Organizational Design and Performance* (ECG Management Consultants, November 2015).
[147] Mark Keroack, Nathan McConkie, Erika Johnson et al. "Functional Alignment, Not Structural Integration, of Medical Schools and Teaching Hospitals is Associated with High Performance in Academic Health Centers," *American Journal of Surgery* 202 (2011): 119-126.
[148] Mark Keroack, Barbara Youngberg, Julie Cerese et al. "Organizational Factors Associated with High Performance in Quality and Safety in Academic Medical Centers," *Academic Medicine* 82(12) (2007): 1178-1186.

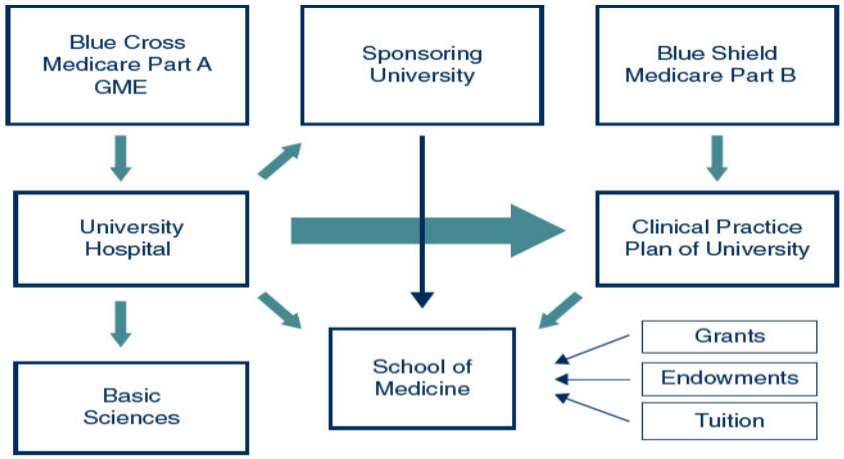
. collaborative leadership by executive leadership and department chairs
. blend of central control and decentralized responsibility
. clinical department chairs accept responsibility for quality, safety, & service
. boards more fully engaged in ensuring accountability for quality, safety, service
. collaborative relationships among administration, physicians, nurses, and other

In sum, a high-performing AHS is often based on several foundational elements. First, there is usually a financially successful teaching hospital that generates sufficient cash flow to support the academic and research mission of the medical school (and, sometimes, the university). Second, the medical school has a strong research track record with clinical faculty actively and successfully seeking grants from the National Institutes of Health (NIH) and other outside funders. Third, there is usually a strong governance model that provides unified and centralized operation to the entire enterprise.

Allow for a "Funds Flow" From the Merged Hospital System to the Medical School to Support Research and Clinical Programs

One key ingredient to AHS development is a "funds flow" program that can legally transfer revenues generated on the hospital side of the system to the physicians and clinician-researchers on the medical side of the system (without running afoul of inurement issues). The funds flow program at the University of Pennsylvania School of Medicine (SOM) and the University of Pennsylvania Health System (UPHS) is one model of how to structure the funds flows and balance these clinical and academic missions, as depicted below.[149] The model below does not include the mechanisms and criteria for allocating funds to physicians for their contributions to the various AHS missions.

[149] David Kennedy, Elizabeth Johnston, and Ethan Arnold. "Aligning Academic and Clinical Missions Through an Integrated Funds-Flow Allocation Process," *Academic Medicine* 82(12) (2007): 1172-1177. Lawton R. Burns. *The U.S. Healthcare Ecosystem* (New York: McGraw-Hill, 2021): Chapter 11.



Following the Money in the Academic Medical Center. GME, Graduate Medical Education.

Inpatient care is reimbursed by private insurers (e.g., Blue Cross) and Medicare Part A, as well as supported by graduate medical education (GME) payments from Medicare to defray some of the costs of care rendered by residents. The monies received by the hospital are then disbursed in various directions - - some to the sponsoring (parent) university, some to fund the departments of basic sciences, some to fund the school of medicine, and some to fund the clinical practices of physicians that comprise the faculty practice plan and (perhaps) reward them for their contributions to the AHS's tripartite mission.

Several forces have combined to occasion the development of these programs. Professional fee reimbursement has not kept pace with costs which, combined with potential decreases in research support associated with the reductions in NIH funding, creates additional financial challenges for academic clinical departments that do not share in technical fee reimbursement. Clinical departments in the AHS typically receive institutional budgetary support for their unfunded or underfunded missions. Such institutional support may be provided in the context of salary lines, subsidized rent, clinical service line support, faculty recruitment, or faculty retention negotiations. External research funding frequently only provides a portion of the financial support required for the overall departmental research mission. Some estimate that 12-13% of an institution's total research costs are borne by the institution. If the appropriate proportion of these costs are not reimbursed at the departmental level, and incentives are not

provided to increase research funding, there is a real risk of decreased research effort in an environment with limited fungible resources. Hence, the importance of funds flow programs.

What is not often mentioned is that a funds flow program requires sufficient funds that can flow. The monies originate on the clinical side of the academic health system (primarily the inpatient operations of the core teaching hospital) and then flow to the medical school and physician practice plan as subsidies for operations that do not usually cover their own costs. The University of Pennsylvania has been fortunate to have a health system (UPHS) that has generated operating margins in the high single digits over a sustained time period.[150] The core teaching facility, the Hospital of the University of Pennsylvania (HUP), has historically accounted for the vast majority of this surplus. UPHS made cash transfers in the hundreds of millions of dollars to the SOM, the Practice Plan, and the broader University annually. Indeed, the UPHS easily generated a large share of the University's total revenues.

<u>The Proposed AHS Lacks an "Economic Engine"</u>

The problem for the parties to the proposed transaction is that neither hospital system - - Care New England or Lifespan - - generates anywhere near this level of surplus. [redacted] Former executives of UPHS state that a hospital system needs to transfer *at least* $100 million annually *over a number of years* to the SOM to fund its clinical and research programs. There is no indication that any "deep pocket" is available to make such investments.

Neither of the two hospital systems is financially prosperous. In June 2020, Fitch Ratings downgraded CNE's debt from BB to BB- to reflect its loss of market share, its declining patient volume, and its insufficient cash flow and cash reserves. A portion of CNE's hospital revenues appear to have been diverted to support money-losing operations inside. For example, CNE's

[150] Allegheny General Hospital (AGH), the core tertiary facility of AHERF, served a similar role as the economic engine from the mid-1980s until 1998. That is when AGH ran out of money and AHERF went bankrupt. AHERF's bankruptcy was the largest hospital bankruptcy of all time. Lawton R. Burns, John Cacciamani, James Clement, and Welman Aquino. "The Fall of the House of AHERF: The Allegheny Bankruptcy," *Health Affairs* 19(1) (2000): 7-41.

physician division reported $100 million in revenues during the first eight months of 2017; $41 million of that amount derived from an internal subsidy from CNE hospitals.[151] By contrast, Fitch graded Lifespan's debt at BBB+, but reported the system was on track to achieve only $79 million in operating income. Moreover, according to Fitch, Lifespan's payor mix is relatively weak with self-pay and Medicaid combined hovering at about 25% of gross revenues with Medicaid revenues representing around 23%. The payor mix is very heavily weighted toward governmental sources, representing approximately 66% of gross revenues, wherein there is very limited ability to negotiate rates with Medicaid, and no ability to negotiate with Medicare. Versus: There is thus limited recourse for Lifespan to negotiate rates with payers, since two-thirds of their revenues derive from government-administered pricing.

These financial issues are compounded by the fact that the parties [redacted].[152] Brown has made no commitment to supply all of this capital, given that it has pledged to contribute only $125 million over <u>five</u> years (in contrast to UPHS, which contributed $100+ million every year). Moreover, the University has had its own issues. According to an October 2021 report, the University has experienced a small but persistent deficit for the past several years. According to the report, the University has limited ability to invest in new areas of education and research at desired levels. The University also has the lowest endowment among ($6.9 billion) all of its Ivy League peers - - even though it has been described as "the lone private organization with deep pockets".[153] Finally, among universities in 2020, Brown University ranked 46th in terms of NIH grants ($143 million). Among medical schools, Brown's medical school ranked 66th ($61.5 million).

Finally, regardless of which party serves as the economic engine, such investments need to be targeted at a handful of clinical areas where the system has demonstrated excellence and a

[151] Bailit Health. *Market Impact Review*. (February 4, 2018).
[152] Alvarez & Marsal. *Preliminary Integration Planning Process* (June 10, 2020).
[153] Scott Mackay. June 10, 2019.

handful of research areas where the University has strong NIH funding. The parties to the transaction have not identified which areas meet these criteria. One big threat facing these parties is the temptation and/or political pressure to spread whatever wealth they generate around widely to satisfy all stakeholders and treat all clinical and research departments equally. Instead, what is needed are tough choices about which handful of programs to invest in.

Develop a Biomedical Innovation Hub

The parties to the proposed transaction argue that the envisioned AHS will promote technological and biotechnological innovation, and thereby attract new businesses (manufacturing, providers) to co-locate in Rhode Island and serve as a hub of biomedical innovation. Such developments would, in turn, provide a spur to the state's economy. While not mentioned by name, there appears to be a desire to foster an innovative biotechnology ("biotech") cluster such as is found in Kendall Square in Cambridge (MA).

The parties do not discuss what the necessary ingredients are for such an innovation cluster, in terms of: where they currently are (present State A), where they want to end up (future State B), and how they plan to get there (transformation process and cost). Geographically, successful biomedical and biotechnological innovation rests on a supportive ecosystem, sometimes known as an "economic cluster." Such clusters foster key transfers and exchanges of knowledge, assets, and cooperative efforts that not only occur among scientists within organizations but also among scientists and other professionals across organizations. Beyond the immediate geographic cluster, new biotechs also rest on connectivity with larger pharmaceutical and biotechnology companies. Such connectivity includes two-way flows: talent from the larger companies that inhabit the startups as executives-in-residence (EIRs), and product out-licensing from the startups to the larger firms.[154]

[154] Lawton R. Burns and Philip Rea. "Organization of the Discovery Process." Forthcoming in Philip Rea, Mark V. Pauly, and Lawton R. Burns (Eds.), *Managing Discovery in the Life Sciences*. (Cambridge, UK: Cambridge University Press, 2018).

The near majority of venture capital (VC) funding of biotechnology firms ("biotech") is being funneled into startups located in a handful of "clusters." Between 2012 and 2016, the percentage of global VC biopharma funding going to such areas as Cambridge (MA) and San Francisco rose 128%, accounting for 48% of biotech VC funding (up from 31%). These geographic clusters have also enjoyed a large ramp-up in R&D employment. Data suggest that VC funding in recent years has disproportionately flowed to the Cambridge and San Francisco clusters, suggesting a geographic consolidation of financial investment. A parallel consolidation of R&D and managerial employment in biopharma has also occurred (covered below in greater detail).

Based on these impressive achievements and statistics, it is little wonder that other U.S. cities and other countries want to emulate the Cambridge example. In December 2016, New York City's Mayor and New York State's Governor announced they planned to invest $500 million to build up life science firms in Manhattan and state-wide. Never mind that the city lacks both a Harvard and an MIT, as well as a host of pharmaceutical firms and biotech startups. Despite such shortcomings, the Governor offered an additional $650 million in tax incentives, innovation space, and tax-free land at college campuses around the state. Other countries have also taken notice and begun to set up shop in the Cambridge (MA) area. Canada, the Netherlands, Denmark, and others have opened up biotech incubators and accelerators in the area. It is estimated that as many as 65 countries are members of the Science and Technology Diplomatic Circle to foster interactions on scientific and technology programs.

One should compare such nascent efforts with the ongoing, mature efforts underway in Massachusetts. In 2018, current Governor Charlie Baker committed the Commonwealth to invest up to $623 million in bond authorization and tax credits over five years in education, research and development, and workforce training in order to extend its leadership in the life sciences sector. This legislative act reauthorized the ten-year, 2007 Massachusetts Life Sciences Initiative signed by former Governor Deval Patrick that committed $1 billion. What such actions indicate is that development of a biotech hub requires massive and ongoing investments of

time and money, with the State Government acting as a true partner. The question that the parties to the proposed transaction have not addressed, but need to answer, is this: Can Rhode Island compete in this space?

Failure to Consider the Ingredients to the Development of a Biotech Hub

One path forward to developing such clusters is known as "the triple helix": the joint (but not necessarily coordinated) efforts of government, academia, and industry to create high-tech clusters.[155] According to this argument, academia and industry are more tightly linked to one another but less tightly linked to government. The three strands of the helix can be briefly summarized as follows:

Academia supplies an abundance of extraordinarily creative scientists, many of whom serve as the scientific co-founders of start-ups. The universities they come from house the offices of technology transfer that facilitate the establishment of companies based on the technologies developed by their researchers. The universities also provide students as interns and graduates as employees, as well as land and/or space for start-ups.

Industry provides entrepreneurial scientists with business partners. These include VCs, larger firms that license or acquire the technologies developed by the start-ups, the managerial cadre of these firms that can help lead the start-ups, legal firms that can help with intellectual property protection, and research institutes in which the scientists can conduct their research and entrepreneurial effort.

Government bodies at state and local levels can aid the formation of start-ups by codifying the rules for new and controversial activities (e.g., recombinant DNA research and application), offering tax concessions to build plants and other facilities, and approving the construction of manufacturing facilities (e.g., through public offices of economic development). At a higher level, governmental actions at the federal level can help inculcate a start-up culture, particularly in the life sciences. Examples include: (a) the 1974 Employee Retirement Income and Security Act (ERISA), which fueled investment in VC funds; (b) cuts in the capital gains tax rate in 1978 and 1982, which stimulated long-term investment; (c) the 1980 Bayh-Dole Act which granted

[155] Henry Etzkowitz and Loet Leydesdorff. "The Triple Helix: University - Industry - Government Relations: A Laboratory for Knowledge Based Economic Development," *EASST Review* 14(1) (1995): 14-19. Ashley Stevens. "The Biopharmaceutical Industry in Massachusetts – The Triple Helix in Action," *Journal of Biolaw and Business* 10(3) (2007): 3-10.

universities IP rights to federally-funded inventions and the means to license them to industry; (d) the 1982 Supreme Court decision (*Diamond v. Chakrabarty*) that allowed the patentability of genetically-modified bacteria, facilitating the rise of the biotechnology sector; and (e) federal funding of basic scientific research in the life sciences through the National Institutes of Health, National Science Foundation, Department of Energy, and Department of Agriculture.

Much of this activity in Kendall Square has been financed by venture capital and led by entrepreneurs and former executives from pharmaceutical firms. It is unclear whether the city of Providence and the State of Rhode Island can attract this level of funding and talent, how long it would take them to do so, and whether they can play "catch up". Kendall Square and the Cambridge area developed as local scientist-inventors reclaimed factory space ("abandoned wasteland") that had closed-down in the 1940s and 1950s to house their companies. Phillip Sharp (a co-recipient of the 1993 Nobel Prize for his work on gene structure and function) chose the area for his start-up Biogen due to its proximity to his laboratory in the university and future employees of his company. Biogen's move was shortly followed by Genzyme, creating a nascent biotechnology hub. Cambridge also benefited from the start of the Internet era in the 1990s given that MIT was home to web inventor Tim Berners-Lee. The University leased space to entrepreneurs who developed the Cambridge Innovation Center in 1999, which attracted and hosted many small tech start-ups in affordable and adjacent space. Add to this the "Sloanies," named after the University's Sloan School of Management: a captive pool from which interns and employees might be recruited (along with their former faculty advisors), and angel investors solicited. Unlike the Bay Area, start-ups in the Cambridge area faced less competition for these sources of support which in turn attracted VC investment and larger tech firms such as Google and Amazon. Added to this, local business leaders organized early VC funds (e.g., the American Research and Development Corporation) to invest in new companies (e.g., Digital Equipment) that spawned other sources of capital that fueled the start-ups. Major pharmaceutical firms developed a research presence in the Boston metropolitan area, starting with Johnson & Johnson in 1982, American Home Products in 1992, and Abbott Laboratories in 2000. Novartis set up its research lab in Cambridge (MA) in 2003. Other pharmaceutical firms were soon to follow suit: Pfizer in 2014, Amgen in 2014, AstraZeneca in 2016, and Abbott

Laboratories (now AbbVie) in 2016. Providence will face a tough, uphill slog to try to replicate this.

Failure to Consider the Gravity Model in Biotech Hub Development

Cities that wish to become biotech hubs clearly face a lot of competition, as noted above. What the parties to the proposed transaction fail to consider is whether Providence (and Rhode Island in general) possess any competitive advantage here - - e.g., in terms of the triple helix components outlined above. Economics teaches that such competition will, at a minimum, drive down any financial returns and, more importantly, threaten the success of any effort. There are clearly huge risks here given the number of cities, states, and countries seeking to develop biotech hubs.

Analysts refer to the biotech sector in Europe as a laggard from an entrepreneurial perspective by virtue of limited funding, limited R&D-veteran experience in entrepreneurship and risk-taking, and limited prospects for scaling companies. While there may be great science taking place in Europe's first-class research institutions, these countries are challenged in commercializing that science into local startups and biopharma companies. European biotech startups funded by venture capital have slower "times to exit" and 20-25% lower investment return multiples than do U.S.-based biotechs.[156] More importantly, analysts suggest that the European biotechs represent the appropriate peer group (comparison) for the U.S. biotech sector that lies outside of the Cambridge and San Francisco areas.[157]

This suggests that nascent efforts planned for Rhode Island face a competitive disadvantage in two respects. Evidence suggests that the two major biotech hubs in the U.S. today - - Cambridge (MA) and San Francisco - - not only dominate the biotech landscape but also appear to be increasing their advantage. Between 2012-2016, these two geographic hubs enjoyed

[156] HBM Pharma/Biotech M&A Report 2017. Available online at: https://slidelegend.com/hbm-pharma-biotech-ma-report-2017-hbm-partners_59d71bda1723ddffc4e346dc.html. Accessed on January 20, 2022.
[157] Life Sci VC. "The Inescapable Gravity of Biotech's Key Clusters: The Great Consolidation of Talent, Capital, & Returns," (March 21, 2017).

128% growth in global VC funding for biopharma, and increased their share of that funding from 31% to 48%. Conversely, the other U.S. geographic clusters saw VC funding rise only 19% and their share of global funding shrink from 40% to 33%. A similar pattern was observed for talent recruitment. Between 2007-2014, the two key clusters enjoyed 30.2% growth in biopharma R&D employment, compared to an employment decline of -6.2% in non-key U.S. clusters. Another similar pattern was observed for the economic returns from these investments (shorter time-to-exit from year of founding to IPO/M&A, and higher median exit value).[158] Finally, there is some evidence that the flow of NIH funds is also highly concentrated in these clusters. In 2017, California and Massachusetts ranked first and second in terms of total NIH funding to their institutions, with Massachusetts having nearly three times (3x) the level of NIH funding per capita compared to other strong states (NY, PA, CA, NJ) and five of the top six NIH-funded independent research hospitals (in Boston area).

Finally, the parties to the transaction fail to consider that the number of biotech startups receiving first VC-backed financing has remained relatively flat during the past decade (roughly 30 startups a year), despite the increase in VC funding. Analysts identify three barriers to start-up formation: scarcity of talent in terms of both entrepreneurs and executives with life science backgrounds, problems in reproducing academic science in commercial settings, and operation in an esoteric and regulated business.[159] There is thus growing demand and competition among U.S. cities to house a biotech hub but only a limited supply of biotech startups.

The parties also fail to realize there is a disconnect between where scientific discoveries are made and where they are commercialized in the form of startups. Many of the startups in the two biotech hubs did not have their scientific roots there; indeed, the science can be sourced from across the globe. Science competes on a global stage; startups tend to originate and access the resources they need more on a local level in these hubs.

[158] Jason Rhodes. "Introduction to Biotech Venture Formation". Presentation to the Wharton School (November 2020).
[159] Jason Rhodes. "Introduction to Biotech Venture Formation". Presentation to the Wharton School (November 2020).

There are, thus, two inconvenient truths. First, there is an ongoing consolidation and gravitation of capital and talent to the Cambridge and San Francisco clusters to serve this limited supply of biotech startups. Second, building up the science and research capabilities at Brown University may not produce new companies and thus the hoped-for economic boost envisioned by the parties. Great science can and does originate anywhere in the world, but may end up migrating (gravitating) to one of these two hubs to see their discoveries commercialized.

VI Conclusions: Answers to the "Big Picture Questions"

1. Are the Goals of the Proposed Transaction Achievable?

There are serious issues with nearly every goal espoused by the parties to the proposed transaction. These goals roll quite easily off the tongues of integration advocates, but readily resist efforts to achieve them. If the aim is to improve the quality and/or reduce the cost of care for the residents of Rhode Island - - which are the explicit or implicit motivations behind all of these goals - - the answer is a categorical "no".

2. What Problems Does the Proposed Transaction Fix?

The parties to the proposed transaction fail to fully state what problems the merger is designed to address. The Chartis Group report briefly mentions that [redacted]. But there is no argument *why* a merger is the required solution (and the only solution, according to the hospital system boards[160]) to these challenges, *how* a merger will increase personnel recruitment, and *whether* a merger improves financial performance. The answer to each of these questions is likely "no". And there is no discussion of how the merger will address operating and strategic problems internal to these two systems. This is a case of "the weak rescuing the weak". The two systems should each be focused on dealing with their

[160] *Hospital Conversion Application* (Resubmitted October 1, 2021, originally submitted April 26, 2021): page 30.

underlying problems, not lumping them together. Thus, the answer to the question of what problems this merger will fix is, “who knows?”

3. What Can go Wrong with the Proposed Transaction? What will Result if the Stated Goals of the Transaction are not Accomplished? What are the Risks to the Rhode Island Public?

There is plenty that can go wrong with the proposed transaction. First, and foremost, it is unlikely to achieve most (if not all) of the goals it seeks to achieve. The report above reviews these goals in great detail and shows they are not easily solved, and may not be best addressed through a provider merger. Second, the transaction will result in a larger system with even larger market power that will likely seek rate increases from commercial insurers (or state legislators) to help finance the higher cost of its operations and purported transformation efforts. Third, Rhode Island residents may be asked to pay more for healthcare that is more expensive and lower in quality - - just the opposite of “value”. Fourth, the consolidated system will appeal to legislators and government officials for more money since it is now “too big to fail”.

The merger will not serve the public welfare of Rhode Island. They will see a lower level of competition among hospitals - - in a state that currently has one of the most competitive hospital markets in the country, and one that has grown more competitive.[161] Research clearly shows that competitive hospital markets lead to higher quality, lower cost care. This merger will change all of that - - and not for the better.

4. What are the Risks of the Massive Changes in the Proposed Transaction? Have the Parties to the Transaction Considered Them?

There are several risks to the changes planned in the proposed transaction. First, as outlined in Section VI, each of the goals to be pursued is not likely to improve the quality or reduce the cost of care rendered to the residents of Rhode Island. And that will be the end result of the

[161] Rhode Island Health Insurance Commissioner.

massive amounts of time and money invested by the parties. In the parlance of the industry, this will be "low-value healthcare" (higher spending with no improvement in outcomes).

Second, there are huge opportunity costs to the parties. They will devote massive amounts of time and money to their integration efforts at the expense of doing something else more valuable. Rather than jump on "the merger and integration bandwagon", which has historically failed to deliver public welfare benefits, the leadership of these institutions should consider alternative avenues that hold more promise and entail less risk. Research shows that the more money a health system invests in integration, the worse its financial performance.

It is not clear that the parties to the proposed transaction have taken these risks into account. They should perhaps take a page out of the 10-K reports that public companies file with the Securities and Exchange Commission. Such reports usually include an analysis of the "risk factors" facing the company's business. Some of the possible downside risks of this transaction include reduced access to care, decreased services, financial failure, layoffs and downsizing, and underfunded pensions.

5. Does the Integration Plan that Lies at the Core of the Proposed Transaction Make Sense?

The system integration plan that lies at the core of the proposed transaction does not make sense, since it is not rooted in reality, or reflect foundational analysis that leads to the conclusion that the goals are achievable or risks will not outweigh marginal, if any, benefits. The parties have espoused some lofty integration goals they wish to achieve but show no real understanding of what clinical integration means or how to achieve it. It also does not help that there is no research evidence and few illustrations that clinical integration leads to higher quality or lower cost of care.[162] Moreover, the two systems have failed to acknowledge that a hospital's medical staff is often described as a collection of "tribes" or "fiefdoms" that function

[162] Lawton R. Burns, David Asch, and Ralph Muller. "Vertical Integration of Physicians and Hospitals: Three Decades of Futility?" in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022). Lawton R. Burns, Ingrid M. Nembhard, and Stephen Shortell. "Integrating Network Theory into the Study of Integrated Healthcare." Forthcoming, *Social Science and Medicine* (2022).

autonomously more than collaboratively. Such fragmentation is already evident in the different cultures and processes utilized by the different primary care physicians/groups employed by the two hospital systems.[163] This fragmented situation gets compounded in a system of hospitals and then further compounded in a merger of two systems of hospitals. The systems sidestep this enormous issue and lack any plan to bring these tribes together "to drink in peace at the watering hole".

6. Is Bigger Really Better, as the Parties Claim?

The answer to this question is also a categorical "no". Just the opposite is true: bigger is not better and may in fact be worse. All one has to do is look at the Jefferson Health System in Philadelphia, for which the Chartis Group recently served as a strategic advisor. Jefferson expanded the number of its hospitals from 3 to 14 between 2015-2018, and then added on the Einstein Healthcare Network (a barely break-even operation), resulting in an 18-hospital system. In the year ending June 2020, Jefferson logged an operating loss of nearly $460 million, even after receiving $320 million in Federal COVID assistance. Two months ago, Jefferson's CEO resigned. This is not an example for Rhode Island to emulate.

7. Is the Transaction a Realistic Way to Address Public Health Concerns Identified by the Parties?

As noted earlier, the AHS envisioned by the parties to the proposed transaction is not the best way to address population health and access to healthcare. The tertiary and quaternary care mission of the AHS is better suited to treating more complex conditions and complications faced by those with ongoing and acute conditions. By contrast, population health is better left to the public health system, local and state policy-makers concerned with improving social and economic conditions, and the educational outreach efforts of all providers. This argument has already been eloquently made by The Institute of Medicine. There is no evidence that a merger of hospitals and/or formation of an AHS promotes health status and the public's health.

[163] *Hospital Conversion Application (Resubmitted October 1, 2021, originally submitted April 26, 2021)*: page 84.

Documents Relied Upon in This Report

1. Hospital Conversion Initial Application (April 26, 2021)
2. Hospital Conversion Initial Application Resubmission (October 1, 2021)
3. Definitive Agreement
4. Term Sheet
5. The Chartis Group, LLC Report dated October, 2021
6. Alvarez & Marsal Report dated June 10, 2020
7. Deloitte Report dated October 1, 2021
8. KPMG Report dated February 12, 2021
9. PwC Report dated February 15, 2021
10. SUO Transcript – Lisa Ahern, Deloitte Designee (November 17, 2021)
11. SUO Transcript – Melissa Hearsch Anderson (November 16, 2021)
12. Brown-Lifespan Affiliated Agreement
13. Brown-CNE Affiliated Agreement

Exhibit 1 : Lawton R. Burns Vita

Lawton Robert Burns, PhD, MBA

The James Joo-Jin Kim Professor
Professor - Health Care Management
Professor – Management
Co-Director - Roy & Diana Vagelos Program in Life Sciences and Management
The Wharton School

CURRICULUM VITAE (August 2021)

Office Address:

Health Care Management Department
The Wharton School
203 Colonial Penn Center
3641 Locust Walk
Philadelphia, PA 19104

Phone: 215-898-3711
Fax: 215-573-2157
Cell: 610-247-0902
Email: burnsL@wharton.upenn.edu
http://hcmg.wharton.upenn.edu/burnsL

HONORS AND FELLOWSHIPS

Teaching Excellence Award. The Wharton School. 2020.

Midland Lecture, Ohio State University, March 2017

Teaching Excellence Award, Wharton Weekend MBA Program, Class of 2017.

Distinguished Scholar Award, Academy of Management – Health Care Administration Division, August 2015.

Outstanding Author Contribution Award. Emerald Literati Network. 2012.

Institute of Medicine Committee on Evaluation of the Lovell Federal Health Center Merger (2011-2012)

Outstanding Author Contribution Award. Emerald Literati Network. 2010.

Wharton Faculty Seminar: Beijing and Shanghai, August 2009

Board of Institute of Medicine (IOM) – Health Services Section. 2003-2006.

Paul A. Gross Distinguished Leadership Lecture, Virginia Commonwealth University. 2002.

Election to Life Fellow, Clare Hall, University of Cambridge. 2001.

Arthur Andersen Distinguished Visiting Professor, Judge Institute of Management Studies, University of Cambridge. 2001.

Invited Lecture Series, National University of Singapore (NUS). 2000.

James Joo-Jin Kim Professorship (Endowed Chair). 1999.

Teacher of the Year, Administrative Medicine Program, University of Wisconsin School of Medicine. 1999.

Invited Lecture Series. Catholic University of Rome, LUISS, & National Agency Health Care Services (Italy). 1997.
Edwin L. Crosby Memorial Fellowship, Hospital Research and Educational Trust, Chicago IL. 1992-1993.

Udall Fellowship in Public Policy, Udall Center for Studies in Public Policy, University of Arizona. 1990-1991.
Graduate Training Fellowship, Kaiser Family Foundation and the Graduate School of Business, University of Chicago. 1982-1984.

Post-Doctoral Research Fellowship, Graduate School of Business, University of Chicago. 1981-1982.

Doctoral Research Fellowship, Kaiser Family Foundation and the Graduate School of Business, University of Chicago. 1979-1980.

Doctoral Research Fellowship, National Health Care Management Center, University of Pennsylvania.1979-1980.

Ernest W. Burgess Fellowship, Department of Sociology, University of Chicago. 1975-1976.

EDUCATION

MBA, Graduate School of Business, University of Chicago, Chicago, Illinois, 1984
Specialization in Hospital Administration & Marketing.

Ph.D. Sociology, University of Chicago, Chicago, Illinois, 1981
- Dissertation: "The Adoption and Diffusion of Decentralized Management in Hospitals."
- Committee: James Coleman, Edward Laumann, Charles Bidwell

M.A. Sociology, University of Chicago, Chicago, Illinois, 1976

B.A. Sociology and Anthropology, cum laude, Haverford College, Haverford, Pennsylvania, 1973

MAJOR FIELDS OF INTEREST

- Health Care Management
- Integrated Health Care
- Strategic Alliances
- Organizational Change
- Health Care Systems of India & China
- Strategic Management
- Formal Organizations
- Evaluation Research
- Strategic Implementation
- Health Systems Science (School of Medicine)

ACADEMIC POSITIONS

Co-Director, Vagelos Life Sciences & Management Program (LSMP). 2013 – Present

Area Leader, Health Care Management Program, India School of Business. 2010 – 2017.

Chair, Department of Health Care Management. 2007 – 2014.

Arthur Andersen Distinguished Visiting Professor, Judge Institute of Management Studies, University of

Cambridge, 2001

James Joo-Jin Kim Professor, University of Pennsylvania, 1999-Present

Director, Wharton Center for Health Management and Economics, 1999-2020

Professor of Health Care Systems, The Wharton School, 1998-Present

Visiting Professor, Department of Preventive Medicine, University of Wisconsin Medical School, 1997-Present

Director of Research, Leonard Davis Institute of Health Economics, University of Pennsylvania, 1996-2000

Associate Professor of Health Care Systems, The Wharton School, University of Pennsylvania, Philadelphia PA (Tenured), 1994-1998

Associate Professor, College of Business and Public Administration, University of Arizona, Tucson, Arizona. Joint Appointments in Management & Policy, Public Administration & Policy, Psychology, 1992-1994

Assistant Professor, College of Business, Univ. of Arizona, 1985-1991

Administrative Practicum, Jackson Park Hospital, Chicago, Illinois, 1983-1984

Assistant to the Administrator, Medical Plaza Hospital, Ft Worth, 1983

Lecturer in Health Administration, Graduate School of Business, University of Chicago, 1981-1984

Post-Doctoral Fellow, Graduate School of Business, Univ. of Chicago, 1981-1982

GRANTS AWARDED

2017-2018	"Physician Consolidation and its Effect on Specialist Care: A Causal Analysis with Machine Learning." Robert Wood Johnson Foundation. Co-Investigator.
2014	American Hospital Association. "Purchasing Executives' Perspective on Group Purchasing Organizations," $138,000.
2011-2012	University of Pennsylvania Health System, "Accountable Care Organizations (ACOs): Stakeholder Analysis in the Philadelphia Market," $45,000.
2009-2011	Understanding the Role of Clinician Collaborators in Medical Device Innovation. InHealth. Award: $380,000.
2007-2008	Retail Medical Clinics and Their Impact on Physician-Hospital Relationships. Center For Health Management Research. Award: $97,000
2006-2007	Guanghua - Wharton Joint Research Initiative. "Informal Payments in China's Health Care Sector."
2004-2006	National Science Foundation. "Inventory and Distribution in Integrated Delivery Networks." Co-Principal Investigator. Award: $200,000
2004-2006	Robert Wood Johnson Foundation, HCFO Initiative. "Co-Evolution in HMO and Hospital Markets." (With Robert Town)
2003-2004	IBM Global Services. "Trends in the Pharmaceutical Outsourcing Market." Award: $50,000.

2000-2001	Robert Wood Johnson Investigator Award in Health Policy Research. "Implementing and Sustaining Fundamental Change in Health Care Organizations." (With Gloria Bazzoli). Award: $250,000.
1999-2001	Wharton Program on Pharmaceutical Policy, Economics, and Management." Research Grant from Merck Award: $200,000.
1998-2000	"Hospital Ownership Conversions." Robert Wood Johnson Foundation. Award: $349,000. (Co-Investigator; PI: Frank Sloan).
1998-1999	"Provision of Community Benefits among FAHS Member Hospitals." Federation of American Health Systems. Award: $120,000. (Co-Investigator; PI: Mark Pauly).
1998-2000	"Impact of Hospital Consolidation on Supplier-Provider Contracting: Value Chain Analysis." Center for Health Management Research. Award: $183,000. (Principal Investigator).
1996-1999	"Aligning Physician Groups and Health Systems." National Science Foundation and Center for Organized Delivery Systems. Award: $840,000. (Co-Investigator; PI: Steve Shortell). Analyze success factors in strategic alliances between integrated delivery systems and physician group practices.
1996-1999	"Referrals to Specialists in HMOs". Agency for Health Care Policy & Research (AHCPR). Award: $250,000. (Co-Investigator). Measure rates and types of referrals in midwestern HMO.
1996-1997	"Physician-Organization Arrangements: Impact on Integration and Managed Care." Robert Wood Johnson Foundation. Award: $232,394. (Co-Principal Investigator). Assess impact of integrated delivery systems on primary care and managed care infrastructure in hospitals.
1995-1997	"HMO Impact on Integrated Networks and Services." Grant from Agency for Health Care Policy & Research. Award: $288,157 (Principal Investigator). Assess impact of HMO prevalence and penetration on development of integrated systems in local markets.
1995-1997	"Managed Care and Hospital-Physician Integration." Grant from Agency for Health Care Policy & Research. Award: $313,482 (Co- Investigator). Assess impact of managed care on specific mechanisms used by hospitals to integrate their medical staffs.
1994-1997	"Managing Uncertainty to Promote Self-Help in Breast Cancer." Grant from National Cancer Institute. Award: $990,000. (Co-Investigator). Evaluation of efficacy of nursing intervention to promote self-care and self-help in treatment for breast cancer.
1993-1995	"A Comprehensive Evaluation of Physician-Hospital Arrangements." Grant from the Industry/University Cooperative Research Center for Health Management. Award: $200,000. (Co-Investigator). Evaluation of physician-hospital networks forming in response to managed competition and managed care contracting.
1991-1992	"Impact of State Subsidies for Liability Insurance on the Delivery of Obstetrical Care by Rural Physicians." Grant from Office for Rural Health Policy, Health Resources & Services Administration (USPHS). Award: $ 6,000. (Principal Investigator). Evaluation of impact of stipend award and stipend amount on decisions by rural physicians to continue obstetrical practice.
1990-1993	"Interdisciplinary Training for Rural Health Action." Grant from Bureau of Health Professions. Award: $891,000. Department of Family and Community Medicine, College of Medicine, University of Arizona. (Faculty Trainer).

1990-1991 "Structure and Outcomes of Joint-Venture Relationships Between Physicians and Hospitals." Grant from Health Care Management and Technology Assessment Center, University of Arizona. Award: $ 6,700. (Principal Investigator). Survey of joint ventures between Arizona physicians & hospitals and their impact on utilization of hospitals.

1989-1991 "Nursing Interventions Promoting Self-Help to Cancer." Grant from the National Cancer Institute. Award: $1.2 million. College of Nursing, University of Arizona. (Co-Investigator). Experimental Design to study the clinical- and cost-effectiveness of three nursing interventions to improve self-care knowledge and behaviors among 360 women with breast cancer.

RESEARCH CONTRACTS

2020-2021 Private Equity and Nurse Practitioners. Funded by the American Medical Association.

2006 “Determinants of Small Device Firm Survival and Growth.” Funded by C.R. Bard.

2005- 2006 "Assessment and Restructuring of the University of Pennsylvania Health System Supply Chain." Funded by UPHS.

2005 "Physician Preference Among Surgical Products." Funded by Broadlane.

2004 "Buyer-Supplier Contracting." Funded by Johnson & Johnson Health Care Systems.

2000 "Using Network Analysis to Understand Change in Local Healthcare Markets." Funded by Center for Studying Health System Change. (With Douglas Wholey)

1998-1999 "The Rise and Fall of AHERF: Lessons for Academic Medical Centers." Funded by Association of Professors of Medicine.

1995-1997 "Development of Integrated Delivery Systems in Illinois." Funded by Illinois Hospital and Health Systems Association. Statewide study of integrated system development in community and academic medical centers. With Institute of Medicine.

1997 "Impact of Physician Practice Management Companies on Hospital-Based Integrated Delivery Systems." Center for Health Management Research. With James C. Robinson.

1992-1993 "Physicians' Decisions Concerning Resource Allocation by Hospitals." Funded by Tucson Medical Center, Tucson AZ. County-wide study of physician estimates regarding the areas to which hospitals should allocate their scarce resources.

1992 "Patient Care Restructuring Project." Funded by University Medical Center, Tucson AZ. Evaluation of new personnel roles on inpatient units to relieve nurses of nonprofessional tasks and improve patient management.

1992 "Decentralization of the Veterans Administration Hospital System." Funded by the VA Medical Center, Boston, MA. Study to develop models for the decentralized operation of the VA hospital system. Reviewer.

1991-1992 "Clinical and Cost Outcomes of Nurse Case Management in a Medicare HMO Setting." Funded by Carondelet-St. Mary's Hospital/Health System, Tucson AZ.

1989-1990 "Access and Quality of Care Outcomes in Medicaid HMOs." Funded by Joint Commission on Accreditation of Healthcare Organizations. Analysis of the adherence of Medicaid HMOs to JCAHO accreditation criteria.

PUBLICATIONS

Books:

Mark Pauly, David Asch, Lawton R. Burns, et al. *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation*. (Cambridge, UK: Cambridge University Press, 2022).

Lawton R. Burns. *The U.S. Healthcare Ecosystem: Payers, Providers, Producers* (New York: McGraw-Hill, 2021).

David Dranove and Lawton R. Burns. *Big Med: Megaproviders and the High Cost of Healthcare in America*. (Chicago, IL: University of Chicago Press, Forthcoming 2021).

Lawton Burns. *The Business of Healthcare Innovation* – 3rd Edition. (Cambridge, UK: Cambridge University Press). 2020. Prior editions in 2005 and 2012.

Lawton R. Burns, Elizabeth Bradley, and Bryan Weiner (Eds.), Shortell & Kaluzny's *Health Care Management: Organization Design and Behavior* - Seventh Edition. (Delmar). 2019. Prior edition in 2011.

Philip Rea, Mark V. Pauly, and Lawton R. Burns (Eds.). *Managing Discovery: Harnessing Creativity to Drive Biomedical Innovation* (Cambridge, UK: Cambridge University Press, 2018).

Lawton R. Burns and Gordon Liu. *China's Healthcare System and Reform* (Cambridge, UK: Cambridge University Press, 2017).

Lawton R. Burns. *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing* (Cambridge, UK: Cambridge University Press, 2014).

Rosemary Stevens, Charles Rosenberg, and Lawton R. Burns (Eds.), *Health Care History and Policy in the United States* (New Brunswick, NJ: Rutgers University Press). 2006.

Lawton R. Burns & Wharton School Colleagues. *The Health Care Value Chain: Producers, Purchasers, and Providers* (San Francisco: Jossey-Bass). 2002.

Articles/Book Chapters:

Lawton R. Burns, David Asch, and Ralph Muller. "Vertical Integration of Physicians and Hospitals: Three Decades of Futility?" in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).

Lawton R. Burns and Rachel M. Werner. "Care Coordination," in Mark V. Pauly (Ed.), *Seemed Like a Good Idea: Alchemy versus Evidence-Based Approaches to Healthcare Management Innovation* (Cambridge, UK: Cambridge University Press, 2022).

Lawton R. Burns, Howard Forman, and Carolyn Watts. "Teaching the Introductory Course on the U.S. Healthcare System: Issues, Challenges, and Lessons." *Journal of Health Administration Education* (forthcoming).

Akshat Kumar, Rohit Gupta, and Lawton R. Burns. "Strategic Analysis of India's Private Hospital Sector," in Ali Mehdi and Irudaya Rajan (Eds.), *Health of the Nation: Perspectives for a New India*. (Oxford University Press 2020): 223-239.

Gregory Kruse, Lawton R. Burns, and Ralph Muller. "Health Care Inc." in James Schaefer, Richard M. Mizelle, Jr., & Helen K. Valier (Eds.), *Oxford Handbook of American Medical History*. Chapter 16. Forthcoming 2020.

Mark V. Pauly and Lawton R. Burns. “When is Medical Care Price Transparency a Good Thing (And When Isn’t It)?” in Jennifer Hefner and Mona Al-Amin (Eds.), *Advances in Health Care Management – Transforming Health: A Focus on Consumerism and Profitability*. Volume 19 (Emerald Press, 2020): 75-97.

Ann Kutney-Lee, Douglas Sloane, Kathryn Bowles, Lawton R. Burns, & Linda Aiken. (2019). “Electronic Health Record Adoption and Nurse Reports of Usability and Quality of Care: The Role of Work Environment. *Applied Clinical Informatics*. https://doi.org/10.1055/s-0039-1678551. 10(1) (2019): 129-139.

Lawton R. Burns and Allison Briggs. “Hospital Purchasing Alliances: Ten Years After.” *Health Care Management Review*. Forthcoming.
Lawton R. Burns, Jeffrey Alexander, and Ronald Andersen. "How Different Governance Models May Impact Physician-Hospital Alignment." *Health Care Management Review*. Forthcoming.

Lawton R. Burns and Mark V. Pauly. “Transformation of the Healthcare Industry: Curb Your Enthusiasm?” *Milbank Quarterly*. (March 2018) 96(1): 57-109.

Edward Zajac, Thomas D’Aunno, and Lawton R. Burns. “Managing Strategic Alliances: Neither Make nor Buy but Ally,” in L.R. Burns, E. Bradley, & B. Weiner (Eds.), *Health Care Management: Organization Design & Behavior*. 7th Edition. (Delmar Cengage Learning, forthcoming).

Lawton R. Burns, Elizabeth Bradley, & Bryan Weiner. “The Management Challenge of Delivering Value in Health Care: Global and U.S. Perspectives,” in L.R. Burns, E. Bradley, & B. Weiner (Eds.), *Health Care Management: Organization Design & Behavior*. 7th Edition. (Delmar Cengage Learning, forthcoming).

Lawton R. Burns and Gordon G. Liu. “Health, Disease, and Medical Care,” in Weiping Wu and Mark Frazier (Eds.), *The SAGE Handbook of Contemporary China* (Sage, 2018).

Lawton R. Burns, Alex Rosen, Philip Rea et al. "Regeneron: Agility, Resilience, and Balance." Forthcoming in Philip Rea, Mark V. Pauly, and Lawton R. Burns (Eds.), *Managing Discovery in the Life Sciences*. (Cambridge, UK: Cambridge University Press, 2018).

Lawton R. Burns and Philip Rea. “Organization of the Discovery Process.” Forthcoming in Philip Rea, Mark V. Pauly, and Lawton R. Burns (Eds.), *Managing Discovery in the Life Sciences*. (Cambridge, UK: Cambridge University Press, 2018).

Simon Basseyn, Sourav Bose, Lawton R. Burns, and Chris Groskaufmanis. “The Development of Percutaneous Transluminal Coronary Angioplasty.” Forthcoming in Philip Rea, Mark V. Pauly, and Lawton R. Burns (Eds.), *Managing Discovery in the Life Sciences*. (Cambridge, UK: Cambridge University Press, 2018).

Lawton R. Burns, Michael Housman, Robert Booth, and Aaron Koenig. “Physician Preference Items: What Factors Matter to Surgeons? Does the Vendor Matter?” *Medical Devices: Evidence and Research* 11 (2018): 39-49.

Karen B Lasater, Michael R Richards, Nikila Dandapani, Lawton R Burns, and Matthew D McHugh. “Magnet Hospital Recognition in Hospital Systems Over Time,” *Health Care Management Review*. 42 (2017):

Mirko Noordegraff and Lawton R. Burns. “Paradoxes of Leading and Managing Healthcare Professionals to Integrate Healthcare Services,” in Gary Young, Kathleen Sutcliffe, and Tim Hoff (Eds.), *The Healthcare Professional Work Force: New Directions in Theory and Practice* (Oxford, UK: Oxford University Press, 2016).

Lawton R. Burns, Jeffrey McCullough, Douglas Wholey, Peter Kralovec, Gregory Kruse, and Ralph Muller. “Is the System Really the Solution? Operating Costs in Hospital Systems,” *Medical Care Research and Review* 72(3) (2015): 247-272.

Michael McHugh, Linda Aiken, Myra Eckenhoff, and Lawton R Burns. “Achieving Kaiser Quality,” *Health Care Management Review* (2015).

Jeff Goldsmith, Lawton R. Burns, Aditi Sen, and Trevor Goldsmith. *Integrated Delivery Networks: In Search of Benefits and Market Effects*. (Washington, D.C.: National Academy of Social Insurance, 2015).

Lawton R Burns. "Medical Tourism Opportunities and Challenges: Illustration from US-India Trade." *International Journal of Healthcare Management* 8(1) (2015): 15-26.

Guy David, Richard Lindrooth, Lorens Helmchen. and Lawton R Burns. "Do Hospitals Cross-subsidize?" *Journal of Health Economics* 37 (September 2014): 198-218. 2014.

Lawton R. Burns. *The Performance of Group Purchasing Organizations (GPOs) in the Health Care Value Chain: A Literature Review*. (Philadelphia, PA: Wharton Center for Health Management & Economics, 2014).

Lawton R. Burns and Rada Yovovich. *Hospital Supply Chain Executives Perspectives on Group Purchasing: Results from a 2014 Survey*. (Philadelphia, PA: Wharton Center for Health Management & Economics, 2014).

R. Carter Clement, Arunavo Roy, Ravi Shah, James Calderwood, and Lawton R. Burns. "The Aravind Eye Care System," in Lawton Burns (Ed.), *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing*. 2014.

Jessica Pickett, Aditi Sen, and Lawton R Burns. "The Health Insurance Sector in India: History and Opportunities." In Lawton Burns (Ed.), *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing*. 2014.

Ajay Bakshi and Lawton Burns. "The Medical Profession in India." In Lawton Burns (Ed.), *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing*. 2014.

Lawton R Burns, Prashanth Jayaram, and Richa Bansal. "Medical Tourism: Opportunities and Challenges." In Lawton Burns (Ed.), *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing*. 2014.

Lawton R. Burns, Bhuvan Srinivasan, and Mandar Vayda. "India's Hospital Sector: The Journey from Public to Private Healthcare Delivery." In Lawton Burns (Ed.), *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing*. 2014.

Lawton R Burns. "India's Healthcare Industry: A System Perspective." In Lawton Burns (Ed.), *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing*. 2014.

Lawton R Burns. "India's Healthcare Industry: An Overview of the Value Chain." In Lawton Burns (Ed.), *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing*. 2014.

Lawton Burns, Tanmay Mishra, Kalyan Pamarthy, and Arunavo Roy. "The Medical Device Sector in India" In Lawton Burns (Ed.), *India's Healthcare Industry: Innovation in Delivery, Financing, and Manufacturing*. 2014.

Lawton R. Burns, Jeff Goldsmith, and Aditi Sen. "Horizontal and Vertical Integration of Physicians: A Tale of Two Tails." In *Annual Review of Health Care Management: Revisiting the Evolution of Health Systems Organization Advances in Health Care Management*, Volume 15: 39-117. (Emerald Group Publishing). 2013.

Lawton R Burns. "Matrix Structure." *Encyclopedia of Management Theory*. 2013.

Corinna Sorenson, Michael Drummond, and Lawton Burns. "Evolving Reimbursement and Pricing Policies for Devices in Europe and the United States Should Encourage Greater Value." *Health Affairs* 32(4): 788-796: 2013.

Lawton R Burns, Douglas Wholey, Jeffrey McCullough, Ralph Muller, and Peter Kralovec. "The Changing Configuration of Hospital Systems: Centralization, Federalization, or Fragmentation?" In L. Friedman, G. Savage, and J. Goes (Eds.), *Annual Review of Health Care Management: Strategy and Policy Perspectives on Reforming Health Systems*. Volume 13. (Emerald Group Publishing): 189-232. 2012.

Lawton R Burns and Mark V Pauly. "Accountable Care Organizations May Have Difficulty Avoiding the Failures of Integrated Delivery Networks of the 1990s." *Health Affairs* 31(11): 2407-2416. 2012.

Michael Johns, Stephen Shortell, Nancy Adams, George Anderson, Peter Angood, Lawton Burns, et al. *Evaluation of the Lovell Federal Health Care Center Merger: Findings, Conclusions, and Recommendations* (Washington, D.C.: Institute of Medicine). 2012.

Lawton R Burns, Stephen Sammut, and David Lawrence. "Healthcare Innovation across Sectors: Convergences and Divergences." Chapter 8. In LR Burns (Ed.), *The Business of Healthcare Innovation* (Cambridge, UK: Cambridge University Press). 2012.

Lawton R Burns, Sean Nicholson, and Joanna Wolkowski. "Pharmaceutical Strategy and the Evolving Role of Mergers and Acquisitions (M&A)." Chapter 3. In LR Burns (Ed.), *The Business of Healthcare Innovation* (Cambridge, UK: Cambridge University Press). 2012.

Lawton R. Burns, Eduardo Cisneros, William Ferniany, and Harbir Singh. "Strategic Alliances Between Buyers and Suppliers: Lessons From the Medical Imaging Industry," in C. Harland, G. Nassimbeni, and E. Schneller (Eds.), *The SAGE Handbook of Strategic Supply Management* (Sage Publications). 2012.

Stefanos Zenios, Lawton Burns, and Lyn Denend. *The Role of Physicians in Device Innovation: Critical Success Factor or Conflict of Interest?* (Stanford University, Graduate School of Business). 2012.

Lawton R Burns. "Comparative Effectiveness Research: What it Means, What it Means for Hospitals." *Economic Outlook* (September): 14-18. 2011.

Lawton R Burns and Stephen Sammut. "Doing More with Less: Lessons From a Doctor." *Insight* 9(2): 16-19. 2011.

Stephen Sammut and Lawton R Burns. "Meeting the Challenges of Healthcare Needs in India: Paths to Innovation." *Insight* 9(2): 5-9. 2011.

Lawton R. Burns, Elizabeth Bradley, and Bryan Weiner. "The Management Challenge of Delivering Value in Health Care: Global and U.S. Perspectives." In Burns, Bradley, and Weiner (Eds.), *Health Care Management: Organization Design and Behavior,* Sixth Edition. (Delmar). 2011.

Lawton R. Burns, Guy David, and Lorens Helmchen. "Strategic Responses by Providers to Specialty Hospitals, Ambulatory Surgery Centers, and Retail Clinics." *Population Health Management* 14(2): 69-77. 2011.
Edward Zajac, Thomas D'Aunno, and Lawton R. Burns. "Managing Strategic Alliances." in *Health Care Management: Organization Design and Behavior* 6th Edition. (Albany, NY: Delmar). 2011.

Lawton R. Burns, Jeff C. Goldsmith, and Ralph Muller. "History of Hospital/Physician Relationships: Obstacles, Opportunities, and Issues." In Jay Crosson and Laura Tollen (Eds.), *Partners in Health* (Kaiser Permanente Institute for Health Policy, Oakland, CA). 2010.

Lawton R. Burns, Michael Housman, Robert Booth, and Aaron Koenig. "Implant Vendors and Hospitals: Competing Influences over Product Choice by Orthopedic Surgeons." *Health Care Management Review* 34(1): 2-18. 2009.

Archstone Consulting and Lawton R. Burns. *The Biopharmaceutical Sector's Impact on the U.S. Economy: Analysis at the National, State, and Local Levels*. Report issued by PhRMA. 2009.

Lawton R. Burns, Rajiv Shah, Frank Sloan, and Adam Powell. "The Impact of Hospital Ownership Conversions: Results From a Comparative Field Study." *Biennial Review of Health Care Management: Meso Perspectives*. Volume 8: 171-229. 2009.

Lawton R. Burns and Mark V. Pauly. "Price Transparency for Medical Devices." *Health Affairs* 27(6): 1544-1553. 2008.

Lawton R. Burns, Michael Housman, and Charles Robinson. "Market Entry and Exit by Medical Device and Biotechnology Companies Funded by Venture Capital." *Health Affairs*. Web Exclusive. December 2, 2008. W76-86.

Lawton R. Burns and Ralph Muller. "Hospital-Physician Collaboration: Landscape of Economic Integration and Impact on Clinical Integration." *Milbank Quarterly* 86(3):375-434. 2008.

Lawton R. Burns and J. Andrew Lee. "Group Purchasing Organizations (GPOs): Issues and Evidence." *Health Care Management Review* 33(3): 203-215. 2008.

Lawton R. Burns, J. Andrew Lee, Eric T. Bradlow, and Anthony C. Antonacci. "Assessment of Medical Devices: How to Conduct Comparative Technology Evaluations of Product Performance." *International Journal of Technology Assessment in Health Care* 23(4): 455-463. 2007.

Lawton R. Burns, David Nash, and Douglas Wholey. "The Evolving Role of Third Parties in the Hospital-Physician Relationship." *American Journal of Medical Quality* 22(6): 402-409. 2007.

Lawton R. Burns, J. Andrew Lee, Eric T. Bradlow, and Anthony C. Antonacci. "Surgeon Evaluation of Suture and Endo-Mechanical Products." *Journal of Surgical Research* 141: 220-233. 2007.

Robert Town, Douglas Wholey, Roger Feldman, and Lawton R. Burns. "Hospital Consolidation and Racial/Income Disparities in Health Insurance Coverage." *Health Affairs* 26 (4): 1170-1180. 2007.

Kwang Jum Kim and Lawton R. Burns. "Factors Affecting the Performance of Hospital Alliances: Evidence from Korea." *Health Services Management Research* 20: 141-152. 2007.

Lawton R. Burns. "Growth and Innovation in Medical Devices: A Conversation with Stryker Chairman John Brown." *Health Affairs*. May 1, 2007. Web Exclusive.

James Zazzali, Stephen Shortell, Jeffrey Alexander, and Lawton R. Burns. "Organizational Culture and Physician Satisfaction with Group Practice: A Multilevel Model of Cultural Perception and Context." *Health Services Research* 42 (3): 1150-1176. 2007.

Robert Town, Roger Feldman, Douglas Wholey, and Lawton R. Burns "Revisiting the Relationship Between Managed Care and Hospital Consolidation." *Health Services Research* 42 (1): 219-238. 2007.

Lawton R. Burns. "Clinical Technology: Confronting the Technological Imperative." *Future Scan: Healthcare Trends and Implications, 2007 – 2012*: 29-33. 2007.

Lawton R. Burns. "Dealing with Innovation and Costs in Orthopedics: A Conversation with Dane Miller." *Health Affairs* 25 (2006): W241-251. Published online May 18, 2006.

Lawton R. Burns and Alexandra Burns. "Policy Implications of Hospital System Failures: The Allegheny Bankruptcy." In Stevens, Rosenberg, and Burns (Eds.), *History and Health Policy in the United States*. Rutgers University Press. 2006.

Lawton R. Burns, Gilbert Gimm, and Sean Nicholson. "The Financial Performance of Integrated Health Organizations (IHOs)." *Journal of Healthcare Management* 50(3): 191-213. 2005.

Gloria Bazzoli, Linda Dynan, Lawton R. Burns, Clarence Yap. "Two Decades of Organizational Change in Health Care: What Have We Learned?" *Medical Care Research & Review* 61(3): 247-331. 2004.

Douglas R. Wholey, Jon B. Christianson, Debra Draper, Cara Lesser, and Lawton R. Burns. "Embedded Responses of Communities to National Healthcare Firms." *Journal of Health and Social Behavior* 45(Extra Issue): 118-135. 2004.

Lawton R. Burns, Thomas D'Aunno, and John Kimberly. "Globalization in Healthcare." In H. Gatignon and J. Kimberly (Eds.), *The INSEAD-Wharton Alliance on Globalizing: Strategies for Building Successful Global Businesses*. (Cambridge, UK: Cambridge University Press): 395-421. 2003.

Lawton R. Burns. "Physician-Hospital Organizations." *Encyclopedia of Health Care Management*. 2003.

Lawton R. Burns. "Networks." *Encyclopedia of Health Care Management*. 2003.

Lawton R. Burns and Mark V. Pauly. "Integrated Delivery Networks (IDNs): A Detour on the Road to Integrated Healthcare?" *Health Affairs*, 21(4): 128-143. 2002.

Lawton R. Burns. "Competitive Strategy." In Daniel Albert (Ed.), *A Physician's Guide to Healthcare Management*. (Malden, MA: Blackwell Science): 46-56. 2002.

Grace Kreulen, Manfred Stommel, Barbara Gutek, Lawton R. Burns, Carrie Braden. "Utility of Retrospective Pretest Ratings of Patient Satisfaction with Health Status." *Research in Nursing and Health* 25: 233-241. 2002.

Peter Budetti, Stephen M. Shortell, Teresa Waters, Jeffrey Alexander, Lawton R. Burns, et al. "Physicians and Health System Integration." *Health Affairs* 21(1): 203-210. 2002.

Douglas R. Wholey and Lawton R. Burns. "Understanding Health Care Markets: Actors, Products, and Relations." Paper prepared for Center for Studying Health System Change. In Stephen Mick (Ed.), *Innovation in Health Care Delivery*. 2nd Edition. 2002.

Lawton R. Burns, Jeffrey Alexander, Stephen M. Shortell et al. "Physician Commitment to Organized Delivery Systems." *Medical Care* 39(7): I 9-29. July Supplement. 2001.

Jeffrey Alexander, Teresa Waters, Lawton R. Burns et al. "The Ties that Bind: Organizational Linkages and Physician-System Alignment." *Medical Care* 39(7): I 30-45. July Supplement. 2001.

Stephen M. Shortell, James Zazzali, Lawton R. Burns et al. "Implementing Evidence-Based Medicine: The Role of Market Pressures, Compensation Incentives and Culture in Physician Organizations." *Medical Care* 39(7): I 62-78. July Supplement. 2001.

Stephen M. Shortell, Jeffrey Alexander, Lawton R. Burns et al. "Physician-System Alignment: Introductory Overview." *Medical Care* 39(7): I 1-18. July Supplement. 2001.

Robin Gillies, Howard Zuckerman, Lawton R. Burns, Stephen M. Shortell, et al. "Physician-System Relationships: Stumbling Blocks and Promising Practices." *Medical Care* 39(7): I 92-106. July Supplement. 2001.

Jeffrey Alexander, Teresa Waters, Shawn Boykin, Lawton R. Burns et al. "Risk Assumption and Physician Alignment with Health Care Organizations" *Medical Care* 39(7): I 46-61. July Supplement. 2001.

Teresa Waters, Peter Budetti, Katherine Reynolds, Robin Gillies, Howard Zuckerman, Jeffrey Alexander, Lawton R. Burns, and Stephen Shortell. "Factors Associated with Physician Involvement in Care Management." *Medical Care* 39(7): I 79-91. July Supplement. 2001.

Lawton R. Burns, Stephen Walston, Jeffrey Alexander, Howard Zuckerman, Ronald Andersen, and Paul Torrens. "Just How Integrated Are Integrated Delivery Systems? Results from a National Survey." *Health Care Management Review* 26(1): 22-41. 2001.

Stephen Walston, John R. Kimberly, and Lawton R. Burns. "Institutional and Economic Influences on the Adoption and Extensiveness of Managerial Innovation in Hospitals: The Case of Reengineering." *Medical Care Research & Review* 58(2): 194-228. 2001.

Jeffrey Alexander, Lawton R. Burns, Michael Morrisey, and Victoria Johnson. "CEO Perceptions of Competition and Strategic Response in Hospital Markets." *Medical Care Research & Review* 58(2): 162-193. 2001.

Lawton R. Burns and Darrell P. Thorpe. "Why Provider-Sponsored Health Plans Don't Work." *Healthcare Financial Management: 2001 Resource Guide*: 12-16. 2001.

Sean Nicholson, Mark V. Pauly, Lawton R. Burns, Agnieshka Baumritter, and David Asch. "Measuring Community Benefits Provided by For-Profit and Nonprofit Hospitals." *Health Affairs* 19(6): 168-177. 2000.

Lawton R. Burns. "A Research Agenda for Health Services Management." *Health Care Management Review* 25(4): 85-87. 2000.

Craig Holm and Lawton R. Burns. "The Future of Health System - Physician Integration." *Journal of Healthcare Management* 45(6): 356-358. 2000.

Lawton R. Burns, Gloria Bazzoli, Linda Dynan, and Douglas Wholey. "Impact of HMO Market Structure on Physician-Hospital Strategic Alliances." *Health Services Research* 35(1): 101-132. 2000.

Lawton R. Burns, John Cacciamani, James Clement, and Welman Aquino. "The Fall of the House of AHERF: The Allegheny Bankruptcy." Paper presented to Association of Professors of Medicine (Pasadena, February). *Health Affairs* 19(1): 7-41. 2000.

Edward Zajac, Thomas D'Aunno, and Lawton R. Burns. "Managing Strategic Alliances." In *Health Care Management: Organization Design and Behavior* 4th Edition. (Albany, NY: Delmar): 307-329. 2000.

Douglas R. Wholey and Lawton R. Burns. "Tides of Change: The Evolution of Managed Care in the United States." In *Handbook of Medical Sociology* 5th Edition, Ed. By Chloe Bird, Peter Conrad, and Allen Fremont. (Upper Saddle River, NJ: Prentice Hall): 217-237. 2000.

Lawton R. Burns and Douglas R. Wholey. "Responding to a Consolidating Healthcare System: Options for Physician Organizations." In *Advances in Health Care Management* Volume 1 (New York: Elsevier): 273-335. 2000.

Gloria Bazzoli, Linda Dynan, Lawton R. Burns, and Richard Lindrooth. "Is Provider Capitation Working? Effects on Physician-Hospital Integration and Costs of Care." *Medical Care* 38(3): 311-324. 2000.

Jeffrey Alexander, Thomas Vaughn, and Lawton R. Burns. "The Effects of Structure, Strategy, and Market Conditions on the Operating Practices of Physician-Organization Arrangements." *Health Services Management Research* 13:1-15. 2000.

Gloria Bazzoli, Linda Dynan, and Lawton R. Burns. "Capitated Contracting of Integrated Health Provider Organizations." *Inquiry* 36(4): 426-444. 2000.

Gloria Bazzoli, Linda Dynan, and Lawton R. Burns. "Capitated Contracting Roles and Relationships in Health Care." *Journal of Healthcare Management* 45(3): 170-187. 2000.

Stephen Walston, Lawton R. Burns, and John Kimberly. "Does Reengineering Really Work? An Examination of the Context and Outcomes of Hospital Reengineering Programs." *Health Services Research* 34(6): 1363-1388. 2000.

Lawton R. Burns, Kevin Anbari, and Jasmin Patel. "The Physician Practice Management Industry: A Partner for Pharmaceutical Companies in Clinical Trials?" *Spectrum: Health Care Delivery and Economics*. 2000.

Lawton R. Burns, Robert DeGraaff, and Harbir Singh. "Acquisition of Physician Group Practices by For-Profit and Not-for-Profit Organizations." *Quarterly Review of Economics and Finance* 39(4): 465-490. 1999.

Michael Morrisey, Jeffrey Alexander, Lawton R. Burns, and Victoria Johnson. "The Effects of Managed Care on Physician and Clinical Integration in Hospitals." *Medical Care* 37(4): 350-361. 1999.

Lawton R. Burns. "Polarity Management: The Key Challenge for Integrated Health Systems." *Journal of Healthcare Management* 44(1): 14-33. 1999.

Lawton R. Burns, Terry Connolly, and Robert DeGraaff. "The Impact of Physicians' Perceptions of Malpractice and Adaptive Changes on Intention to Cease Obstetrical Practice." *Journal of Rural Health* 15(2): 134-146. 1999.

Douglas R. Wholey, Lawton R. Burns, and Risa Lavizzo-Mourey. "Managed Care and the Delivery of Primary Care to the Elderly." *Health Services Research* Part II 33(2): 322-353. 1998.

Lawton R. Burns, Michael Morrisey, Jeffrey Alexander, and Victoria Johnson. "Managed Care and Processes to Integrate Physicians/Hospitals." *Health Care Management Review* 23(4): 70-80. 1998.

Linda Dynan, Gloria Bazzoli, and Lawton R. Burns. "Assessing the Extent of Operational and Financial Integration Achieved Through Physician-Hospital Arrangements." *Journal of Healthcare Management* 43(3): 242-262. 1998.

Howard Zuckerman, Diana Hilberman, Ronald Andersen, Jeffrey Alexander, Lawton R. Burns, and Paul Torrens. "Physicians and Organizations: Strange Bedfellows or a Marriage Made in Heaven?" *Frontiers of Health Services Management* 14(3): 3-34. 1998.

Jeffrey Alexander, Michael Morrisey, Lawton R. Burns, and Victoria Johnson. "Physician and Clinical Integration in Rural Hospitals." *Journal of Rural Health* 14(4): 312-326. 1998.

Lawton R. Burns, Stephen M. Shortell, and Ronald M. Andersen. "Does Familiarity Breed Contentment? The Effects of Physician-Hospital Integration." *Research in the Sociology of Health Care*, (Greenwich, CT: JAI Press): 85-110. 1998.

Lawton R. Burns and James C. Robinson. "Physician Practice Management Companies: Implications for Hospital-Based Integrated Delivery Systems." *Frontiers of Health Services Management* 14(2): 3-35. 1997.

Lawton R. Burns, Gloria Bazzoli, Linda Dynan, and Douglas Wholey. "Managed Care, Market Stages, and Integrated Delivery Systems: Is There a Relationship?" *Health Affairs* 16(6): 204-218. 1997.

Lawton R. Burns. "Physician Practice Management Companies." *Health Care Management Review* 22(4):32-46. 1997.

Lawrence Van Horn, Lawton R. Burns, and Douglas R. Wholey. "The Impact of Physician Involvement in Managed Care on Efficient Use of Hospital Resources." *Medical Care* 35(9): 873-889. 1997.

Lawton R. Burns, Jill Egan, and Susan Van Duyne. *The Process of Physician-System Integration in Illinois*. (Naperville, IL: Illinois Hospital & Health System Association). 1997.

Lawton R. Burns and Darrell P. Thorpe. "Physician-Hospital Organizations: Strategy, Structure, and Conduct." In R. Conners (Ed.), *Integrating the Practice of Medicine*. (Chicago, IL: American Hospital Association Publishing Co:): 351-371. 1997.

Michael A. Morrisey, Jeffrey A. Alexander, Lawton R. Burns, and Victoria A. Johnson. "Managed Care and Physician-Hospital Integration." *Health Affairs* 15(4): 62-73. 1996.

Jeffrey Alexander, Thomas Vaughn, Lawton R. Burns et al. "Organizational Approaches to Integrated Healthcare Delivery: A Taxonomic Analysis of Physician- Organization Arrangements." *Medical Care Research and Review* 53(1): 71-93. 1996.

Jeffrey Alexander, Lawton R. Burns, Howard Zuckerman et al. "An Exploratory Analysis of Market-based Physician-Organization Arrangements." *Hospital and Health Services Administration* 41(3): 311-329. 1996.

Stacie Geller, Lawton R. Burns, and David Brailer. "The Impact of Non-Clinical Factors on Practice Variations: The Case of Hysterectomies." *Health Services Research* 30(6): 729-750. 1996.

Lawton R. Burns, Gerri S. Lamb, and Douglas R. Wholey. "Impact of Integrated Community Nursing Services on Hospital Utilization and Costs in a Medicare Risk Plan." *Inquiry* 33(1): 30-41. 1996.

Stephen Walston, John Kimberly, and Lawton Burns. "Owned Vertical Integration and Health Care: Promise and Performance." *Health Care Management Review* 21(1): 83-92. 1996.

Lawton R. Burns. "Medical Organization Structures that Promote Quality and Efficiency: Past Research and Future Considerations." *Quality Management in Health Care* 3(4): 10-18. 1995.

Lawton R. Burns and Darrell P. Thorpe. "Managed Care and Integrated Healthcare." In *Health Care Management: Managed Care*. Harvey Jolt (Ed.). (Philadelphia, PA: Hanley & Belfus): 101-108. 1995.

Lee R. Beach and Lawton R. Burns. "The Service Quality Improvement Strategy (QIS): Identifying Priorities for Change." *International Journal of Service Industry Management* 6(5): 5-15. 1995.

Lawton R. Burns, Stacie Geller, and Douglas Wholey. "The Effect of Physician Factors on the Cesarean Section Decision." *Medical Care* 33(4): 365-382. 1995.

Lawton R. Burns, Jon Chilingerian, and Douglas Wholey. "The Effect of Physician Practice Organization on Efficient Utilization of Hospital Resources." *Health Services Research* 29(5): 583-603. 1994.

Lawton R. Burns and Lee Sechrest. "Key Challenges Posed by the Clinton Healthcare Reform Proposal." In *Health Care Management: U.S. Healthcare in Transition*. Harvey Jolt (Ed.) (Philadelphia, PA: Hanley & Belfus): 81-90. 1994.

Lawton R. Burns and Lee R. Beach. "The Quality Improvement Strategy (QIS): A Method for Tying Quality Improvement to Physician Satisfaction with Hospital Services." *Health Care Management Review* 19(2): 21-31. 1994.

Lawton R. Burns. "Network Models of the Dissemination of Innovations and Information." In *Effective Dissemination of Clinical and Health Information*. Lee Sechrest, Everett Rogers, et al. (Eds.) (Rockville, MD: Agency for Health Care Policy & Research): 153-158. 1994.

Lawton R. Burns and Douglas R. Wholey. "Adoption and Abandonment of Matrix Management Programs: Effects of Organizational Characteristics and Interorganizational Networks." *Academy of Management Journal* 36(1): 106-138. 1993.

Lawton R. Burns, Douglas R. Wholey, and Marty O. Abeln. "Using Managed Care to Mainstream the Poor: Hospital Utilization and Mortality Levels for Patients in the Arizona Health Care Cost Containment System." *Inquiry* 30(2): 142-156. 1993.

Lawton R. Burns, Ronald M. Andersen, and Stephen M. Shortell. "Trends in Hospital/Physician Relationships." *Health Affairs* 12(3), 213-223. 1993.

Douglas R. Wholey and Lawton R. Burns. "Organizational Transitions: Form Changes by Health Maintenance Organizations." In *Research in the Sociology of Organizations*, Samuel Bacharach (Ed.) (Greenwich, CN: JAI Press): 257-293. 1993.

Lawton R. Burns. *1991 Medical Staff Survey Report*. Division of Medical Affairs. (Chicago, IL: American Hospital Association). 1993.

Lawton R. Burns and Darrell P. Thorpe." Trends and Models in Physician- Hospital Organization." *Health Care Management Review* 18(4): 7-20. 1993.

Lawton R. Burns. *Physician-Hospital Relations: Bibliography Drawn from the Academic and Trade Literatures*. Chicago, IL: Hospital Research & Educational Trust. 1993.

Lawton R. Burns, Jon Chilingerian, and Douglas R. Wholey. "Factors Affecting Physician Efficiency in Managing Hospitalized Patients." In M. Malek (Ed.), *Strategic Issues in Health Care Management*. (Chichester: John Wiley): 211-228. 1993.

Linda D. MacKeagan, Lon N. Larson, JoLaine R. Drugalis, J. Lyle Bootman, and Lawton R. Burns. "Time Preference for Health Gains Versus Health Losses." *PharmacoEconomics* 3(5): 374-386. 1993.

Lawton R. Burns et al. "The Use of Continuous Quality Improvement Methods in the Dissemination of Medical Practice Guidelines." *Quality Review Bulletin* 18(12): 434-439. 1992.

Lawton R. Burns and Douglas R. Wholey. "The Impact of Physician Characteristics in Conditional Choice Models for Hospital Care." *Journal of Health Economics* 11: 43-62. 1992.

Lawton R. Burns and Douglas R. Wholey. "Factors Affecting Physician Loyalty and Exit: A Longitudinal Analysis of Physician-Hospital Relationships." *Health Services Research* 27(1): 1-24. 1992.

Lawton R. Burns, Denise Hurtado, and Leila Shehab. "Hospitals' Investment and Return from Volunteer Departments and Auxiliaries: Evidence from One Community." *Health Care Management Review* 16(4): 79-89. 1991.

Douglas R. Wholey and Lawton R. Burns. "Convenience and Independence: Do Physicians Strike a Balance in Admitting Decisions?" *Journal of Health and Social Behavior* Vol. 32(3): 254-272. 1991.

Lawton R. Burns and Douglas R. Wholey. "Differences in Access and Quality of Care Across HMO Types." *Health Services Management Research*. 4 (1): 32-45. 1991.

Lawton R. Burns and Douglas R. Wholey. "The Effects of Patient, Physician, and Hospital Characteristics on Length of Stay and Mortality." *Medical Care* 29 (3): 251-271. 1991.

Lawton R. Burns, Ronald M. Andersen, and Stephen M. Shortell. "The Effect of Hospital Control Strategies on Physician Satisfaction and Hospital-Physician Conflict." *Health Services Research* 25 (3): 527-560. 1990.

Lawton R. Burns. "The Transformation of the American Hospital: From Community Institution Towards Business Enterprise." In Craig Calhoun (Ed.) *Comparative Social Research, Vol. 12: Business Institutions.* (JAI Press): 77-112. 1990.

Lawton R. Burns. "Matrix Management in Hospitals: Testing Theories of Matrix Structure and Development." *Administrative Science Quarterly* 34 (3): 349-368. 1989.

Lawton R. Burns, Ronald M. Andersen, and Stephen M. Shortell. "The Impact of Corporate Structures on Physician Inclusion and Participation." *Medical Care* 27 (11): 967-982. 1989.

Lawton R. Burns, Douglas R. Wholey, and John Huonker. "Physician Use of Hospitals: Effects of Physician, Patient, and Hospital Characteristics." *Health Services Management Research* 2 (3): 191-203. 1989.

Lawton R. Burns and Selwyn Becker. "Leadership and Managership." In Stephen Shortell and Arnold Kaluzny (Eds.), *Health Care Management: A Text in Organizational Theory and Behavior*, 2nd Edition (John Wiley & Sons): 147-186. 1987.

Lawton R. Burns. "Hospital-Medical Staff Tensions: An Historical Overview and Analysis." *Medical Practice Management*. 1 (3): 191-198. 1986.

Lawton R. Burns, Ronald M. Anderson, and Stephen M. Shortell. "Evidence on Changing Hospital-Physician Relationships." In *Cost Containment and Physician Autonomy: Implications for Quality Care*, George Bugbee Symposium on Hospital Affairs, Graduate School of Business, University of Chicago: 122-142. 1986.

Lawton R. Burns. "A Framework to Measure the Impact of Hospital-Sponsored Primary Care on Patient Access." In *Hospital-Physician Sponsored Primary Care: Marketing and Impact*, by Lu Ann Aday, Ronald M. Anderson, et al. (Ann Arbor, Michigan: Health Administration Press): 20-34. 1985.

Lawton R. Burns and Selwyn Becker. "Leadership and Decision Making." In Stephen Shortell and Arnold Kaluzny, (Eds.), *Health Care Management: A Text in Organizational Theory and Behavior* (John Wiley & Sons): 128-166. 1983.

Lawton R. Burns. "Diffusion of Unit Management Among United States Hospitals" *Hospital and Health Services Administration*, Vol. 27 (2): 43-57. 1982.

Lawton R. Burns. "The Chicago School and the Study of Organization-Environment Relations." *Journal of the History of the Behavioral Sciences* 16: 342-358. 1980.

Kenneth E. Friend and Lawton R. Burns. "Sources of Variation in Job Satisfaction: Job Size Effects in a Sample of the U.S. Labor Force." *Personnel Psychology* 30 (Winter): 589-605. 1977.

Web Affairs / LDI / Other Blogs:

David Dranove and Lawton R. Burns. "Where Did All Our Provider Systems Come From? Part I: Large Provider Systems Dominate American Healthcare." *Psychology Today* (June 3, 2021). https://www.psychologytoday.com/us/blog/the-health-healthcare/202106/where-did-all-our-provider-systems-come

Ingrid Nembhard, Lawton R. Burns, and Stephen Shortell. "Responding to Covid-19: Lessons from Management Research," *NEJM Catalyst* (April 17, 2020). https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0111

Lawton R. Burns and Mark V. Pauly. "Detecting BS in Health Care," https://ldi.upenn.edu/brief/detecting-bs-health-care

Lawton R. Burns and Mark V. Pauly. "Detecting BS in Health Care 2.0," https://ldi.upenn.edu/brief/detecting-bs-health-care-20

Jeff Goldsmith and Lawton R. Burns, "Fail To Scale: Why Great Ideas In Health Care Don't Thrive Everywhere," September 29, 2016. http://healthaffairs.org/blog/2016/09/29/fail-to-scale-why-great-ideas-in-health-care-dont-thrive-everywhere/.

Jeff Goldsmith, Nathan Kaufman, and Lawton R. Burns. "The Tangled Hospital-Physician Relationship," May 9, 2016. http://healthaffairs.org/blog/2016/05/09/the-tangled-hospital-physician-relationship/.

Francois de Brantes and Lawton R. Burns, "Payment Reform Should Drive Delivery System Reform," April 16, 2009. http://healthaffairs.org/blog/2009/04/16/payment-reform-should-drive-delivery-system-reform/.

Book Reviews:

*Mergers of Teaching Hospitals in Boston, New York, and Northern Californi*a by John Kastor. Health Affairs 21(1): 266. 2002.

Medicare's New Hospital Payment System: Is It Working? by Louise Russell, American Political Science Review. 1992.

Purchasing Power in Health: Business, The State, and Health Care Politics by Linda Bergthold, American Political Science Review. 86(2): 524-525. 1992.

All Organizations are Public by Barry Bozeman, Contemporary Sociology (September).1988.

Consumerism in Medicine by Marie Haug and Bebe Lavin, American Journal of Sociology (January: 1004-1007. 1986.

Wall Street Reports:

Salomon Brothers PPM Perspectives Series - Wharton Professor Interview. New York: Salomon Brothers. 1997.

Case Studies:

Multispecialty Practice Plan at Academic Medical Center. 1997.

RESEARCH UNDER REVIEW & CURRENT MANUSCRIPTS

Articles/Book Chapters:

Lawton R. Burns, Ingrid M. Nembhard, and Stephen Shortell. "Integrating Network Theory into the Study of Integrated Healthcare." Paper presented at OTHC Association Annual Meeting (June 4, 2021).

Lawton R. Burns, Mark V. Pauly, and Judd Hollander. "Can Retail Clinics Serve as a Healthcare Hub? Assessing the Rationales for Pharmacy-Insurer Mergers."

Allison Briggs and Lawton R. Burns. "Do Group Purchasing Organizations Help Hospitals to Reduce Supply Costs?"

Lawton R. Burns, Michael Housman, Allison Briggs, Robert Booth, and Aaron Koenig. "What Factors Shape Physician Preferences for Physician Preference Items?"

Jeffrey McCullough, Ira Moscovice, and Lawton R. Burns. "Integration and Competition in Physician Markets: Urban versus Rural Effects."

Lawton R. Burns, Mark V. Pauly, and Philip Rea. "How to Manage Scientific Innovation: Penn's Program in Life Sciences & Management (LSM)."

Lawton R Burns, Riitta Katila, Sruthi Thatchenkery, and Stefanos Zenios. "Innovation in Medical Device Startups: A Multi-Level Analysis".

INDUSTRY PRESENTATIONS

Palo Alto Medical Foundation (Palo Alto), July 1994
Western Network for Healthcare Education (Berkeley, CA), August 1994
Berlex Laboratories (NJ), January 1995
Main Line Health (Radnor, PA), January 1995
Medical Group Management Association, January 1995
St. Luke's Medical Center (K.C.), January 1995

Center for Physician Development, Beth Israel Hospital (Boston), May 1995
Johnson & Johnson Wharton Fellows Program, June 1995
American Healthcare Radiology Administrators (Nashville, TN), August 1995
Orthopedics in a Managed Care Environment (Scottsdale, AZ), October 1995
Massachusetts Health Data Consortium (Boston), September 1995
Berlex Laboratories (NJ), January 1996
Geisinger Medical Center (Danville, PA), January 1996
American Society of Ophthalmic Administrators, February 1996
Main Line Health (Radnor, PA), February 1996
Geisinger Medical Center (Danville, PA), May 1996
Johnson & Johnson Wharton Fellows Program, June 1996
American Society of Cataract and Refractive Surgery (Nashville), July 1996
VA/VISN 11 Task Force (An Arbor), November 1996
Health Strategy Network (Philadelphia), December 1996
American Society of Ophthalmic Administrators, January 1997
Main Line Health (Radnor, PA), February 1997
UNUM Insurance, March 1997
AHA Center for Health Care Leadership (Chicago), June 1997
Johnson & Johnson Wharton Fellows Program, June 1997
Prime Care/Merck (Staten Island), June 1997
Association of Professors of Medicine (Philadelphia), July 1997
University of Alabama Alumni of Health Administration (Fort Walton Beach), August 1997
HRET Future Focus Forum (Boston), September 1997
Illinois Hospital & Health Systems Association (Chicago), October 1997
Brazilian Social Security Cultural Institute, November 1997
Catholic University of Rome (Rome), November 1997
Italian National Agency for Health Care Services (Rome), November 1997
Memorial Health System (Springfield, IL), November 1997
Main Line Health (Radnor, PA), December 1997
American Society of Ophthalmic Administrators, January 1998
Association of Professors of Medicine (Scottsdale), February 1998
American Organization of Nurse Executives, March 1998 (San Diego)
American Society of Cataract and Refractive Surgery (Phoenix), March 1998
University of Alabama Executive Education Program for Physicians, March 1998
UNUM Insurance, March 1998
Johnson & Johnson Wharton Fellows Program, June 1998
Riverview Medical Center (Red Bank, NJ), June 1998
Smithkline Beecham, June 1998
Small & Rural Hospitals Constituency Section, IHHA (Springfield, IL), September 1998
National Association of Children's Hospitals (Houston), October 1998
Meridian Health System (NJ), October 1998
University of Alabama Executive Education Program for Physicians, October 1998
Premier Health Alliance (Chicago), November 1998
Martins Point Health Care (Portland, ME), January 1999
Association of Professors of Medicine (Scottsdale), February 1999
Children's Hospital (Columbus, OH), February 1999
Children's Memorial Hospital (Chicago, IL), February 1999
Christiana Care Physicians Organization (Wilmington, DE), February 1999
Johnson & Johnson (New Brunswick, NJ), February 1999
Martins Point Health Care (Portland, ME), February 1999
Integrated Healthcare 2000 (Vail, CO), March 1999
IBM Global Services (Palm Beach), April 1999
Interurban Clinical Club (Philadelphia), April 1999
East Coast Health Care Executive Summit (Boston), June 1999
Johnson & Johnson Wharton Fellows Program, June 1999
Premier Practice Management (Charlotte), June 1999

Annual Symposium on Governing Integrated Healthcare Systems (Aspen, CO), August 1999
University of Alabama Alumni of Health Administration (Fort Walton Beach), August 1999
Wisconsin Health & Hospital Association Convention (Lake Geneva), September 1999
Austral University (Argentina), October 1999
IBM Global Services (Palm Beach), October 1999
The Global Rx Supply Chain Conference (Philadelphia), October 1999
University of Alabama Executive Education Program for Physicians, October 1999
Symposium for Governing Healthcare Systems (Palm Springs), November 1999
Symposium on Governing/Managing Integrated Health Systems (Naples), January 2000
Annual Winter Symposium on Integrated Healthcare (Aspen), March 2000
Centocor/Johnson & Johnson (Cincinnati), April 2000
INSEAD, Seminar on Healthcare Management (Fontainebleau), May 2000
Merck Advisory Board (Chicago), May 2000
National Association of Children's Hospitals (Philadelphia), September 2000
SmithKline Beecham (Philadelphia), September 2000
University of Alabama Physician Leadership Institute (Birmingham), October 2000
Johnson & Johnson Hospital Program/National University of Singapore, November 2000
Sparrow Hospital and Health System (Lansing, MI), November 2000
Glaxo SmithKline Industry Conference, (Raleigh, NC), May 2001
J&J Wharton CEO Program in Health Care Leadership (Philadelphia), October 2001
Johnson & Johnson Hospital Program/National University of Singapore, November 2001
Johnson & Johnson Health System CEO Forum (Philadelphia, PA), December 2001
Ochsner Clinic Foundation (New Orleans, LA), December 2001
Chestnut Hill Health Care - Board Retreat (Philadelphia), February 2002
Glaxo SmithKline Pharmacy Leaders (Philadelphia), February 2002
Health Industry Distributors Association (Tucson, AZ), March 2002
College of Surgeons (Philadelphia), "Lessons from the Allegheny Bankruptcy," April 2002
Center for Health Management Research CHMR Value Chain," May 2002
Goldman Sachs Institutional Investors (NYC), "Improving the Health Care Value Chain," May 2002
Health Industry Group Purchasing Association Global Summit (Amsterdam), May 2002
Putnam Institutional Investors (Boston), "Improving the Health Care Value Chain," May 2002
Accenture Conference on Supply Chain Excellence (London, UK), June 2002
Association for Health Services Research and Policy (Washington D.C.), June 2002
Johnson & Johnson Nurse Fellows Program, "Integrated Delivery Networks," June 2002
American Society of Ophthalmic Administrators and American Society of Corrective and Refractive Surgeons (ASOA/ASCRS), August 2002
Association for Health Resource and Materials Management (San Antonio), August 2002
IDN Summit (Atlanta), "Improving the Health Care Value Chain," September 2002
UniMED (Sao Paolo), September 2002
VHA West Materials Managers Meeting, September 2002
Workshop on Antitrust in Health Care. Federal Trade Commission (Washington D.C.), "Group Purchasing Organizations and Antitrust Implications," September 2002
Health Industry Group Purchasing Association (Orlando), October 2002
Healthcare Marketing and Manufacturers Council (Chicago), November 2002
Johnson & Johnson Hospital Management Program (Singapore), November 2002
Premier 2002 Partnerships Meeting (Chicago), November 2002
Dade Behring (Fort Lauderdale), January 2003
Premier Governance Education Conference (Naples), January 2003
NCI Conference on Hospital Systems (Orlando), January 2003
International Pharmaceutical Wholesalers Conference (New York), February 2003
Aventis Pharmaceuticals (Philadelphia), April 2003
Inova Health Systems (Virginia), April 2003
VHA Leadership Conference (Boston), April 2003
Premier Leadership Conference (Las Vegas), May 2003
Humana (Philadelphia), June 2003
Association of Biotechnology Financial Officers (Scottsdale), June 2003

UniMED (Sao Paolo), July 2003
Dade Behring Executive Team (Philadelphia), July 2003
Association of Healthcare Resource and Materials Managers (San Diego), August 2003
McKesson Corporation (Atlanta), August 2003
W.L. Gore & Associates (Maryland), August 2003
UNIMED (Philadelphia), September 2003
Kettering Medical Center Network (Dayton), October 2003
DePuy, November 2003
Johnson & Johnson Hospital Management Program (Singapore), November 2003
Ethicon (Somerville, NJ), January 2004
Health Industry Distributors Association (Amelia Island Plantation), March 2004
Lehigh Valley Health System (Allentown), March 2004
Heritage Valley Health System (Beaver, PA), April 2004
New England Health Care Assembly (Worcester, MA), April 2004
Ohio State Medical Society (Cincinnati), May 2004
Inova Health System (Virginia), May 2004
American Medical Association - HMSS Section (Chicago), June 2004
Johnson & Johnson Contract Excellence (Princeton), September 2004
Chesapeake General Hospital (Williamsburg), September 2004
Biosciences Forum (Philadelphia), October 2004
Cooper Heart Institute (Voorhees, NJ), October 2004
Adventist Health Care (Nemacolin, PA), October 2004
Christiana Care (Wilmington, DE), November 2004
Christiana Care (Wilmington, DE), January 2005
Cooper University Hospital (Camden, NJ), May 2005
Cerner Corporation May 2005
HDMA (Orlando, FL), June 2005
Johnson & Johnson Wharton Nurse Fellows Program, June 2005
Maine Health (Bar Harbor, ME), October 2005
Greater New York Hospital Association (NYC), October 2005
DePuy (Puerto Rico), January 2006
Broadlane Annual Client Summit (Dallas), March 2006
Owens & Minor Board Retreat (Richmond), March 2006
Johnson & Johnson/ Wharton Executive Management Academy, April 2006
Cooper University Hospital - Heart Institute Advisory Board, May 2006
Medtronic Marketing Leader Program (Minneapolis), May 2006
Johnson & Johnson/Wharton Nurse Fellows Program, June 2006
Medtronic Directors Program, July 2006
Sisters of Charity of Leavenworth Health System (San Diego), October 2006
Health Industry Group Purchasing Association (HIGPA), 2006 Expo, October 2006
National Federation of Municipal Analysts. (Washington, D.C.), November 2006
ECRI Conference on "Confronting Dilemmas of Risk in Healthcare" (Plymouth Meeting, PA), November 2006
Greater New York Hospital Association (NYC), November 2006
Johnson and Johnson/ Wharton Hospital CEO Program, November 2006
South Jersey Healthcare, December 2006
Medtronic Director Development Program, January 2007
World Congress Summit on Healthcare Supply Chain Management, January 2007
Johnson & Johnson Health Care Systems National Meeting, February 2007
Lancaster General Hospital Leadership Conference, April 2007
Medtronic Directors Program, May 2007
United Healthcare (Minneapolis), May 2007
Cooper Health System, June 2007
Healthcare Distribution Management Association, June 2007
Johnson & Johnson/ Wharton Nurse Fellows Program, June 2007
Teva Pharmaceuticals, June 2007
Eisai Pharmaceuticals, July 2007, August 2007

Hospital & Healthcare Association of Pennsylvania, July 2007
Novartis, July 2007
United HealthCare, July 2007
Medtronic Directors Program, August 2007
University of Miami / Humana Health Services Research Center, January 2008
United Healthcare, January 2008
Kaiser Permanente Institute for Health Policy, February 2008
United HealthCare, April 2008
Cooper University Hospital, May 2008
Trinity College - Dublin, June 2008
Health Services Executive, Republic of Ireland, June 2008
Johnson & Johnson / Wharton Nurse Fellows Program, June 2008
Medtronic Directors Program, June 2008
Lehigh Valley Health System, June 2008
Health Industry Group Purchasing Association (HIGPA), October 2008
Ephrata Community Hospital. September 2008
American Health & Drug Benefits Conference, October 2008
World Health Care Information Technology Congress, December 2008
Novartis, February 2009
Astra-Zeneca, March 2009.
LeHigh Valley Health System, April 2009
West Penn Allegheny Health System, April 2009
McKesson, April 2009
West Penn Allegheny Health System, June 2009
Boston Scientific, June 2009
Cooper Heart Institute, June 2009
Johnson & Johnson / Wharton Nurse Fellows Program, July 2009
Beijing University, August 2009
Anesthesia Business Group, September 2009
American Health & Drug Benefits Conference, October 2009
Indian School of Business, Hyderabad, January 2010
World Economic Forum, Davos (Switzerland), January 2010
West Penn Allegheny Health System, March 2010
Medtronic, March 2010
Universal Health Services, March 2010
Wheaton Franciscan Health System, April 2010
Johnson & Johnson/Wharton Nurse Fellows, June 2010
Anesthesia Business Group, September 2010
Sanofi/Aventis, September 2010
Cooper Heart Institute, September 2010
Academy Health and Research Insights, December 2010 and February 2011
Methodist Health System, February 2011
Lockheed Martin, March 2011
Becton Dickinson, April 2011
Association of Health Journalists, April 2011
VHA Leadership Conference, May 2011
MacEachern Symposium/Kellogg Graduate School of Management, May 2011
West Penn Allegheny Health System, June 2011
Johnson & Johnson, June 2011
Harkness Fellows Program, September 2011
APAX Partners, October 2011
Anesthesia Business Group, January 2012
PricewaterhouseCoopers, March 2012
Morgan Stanley, May 2012
US-China Biopharma Congress 2012 & SAPA-GP 10th Annual Conference, June 2012
HealthTrust, July 2012

Rite-Aid, August 2012
Edwards Life Sciences, December 2012
Anesthesia Business Group, January 2013
Astra-Zeneca, January 2013
US Congressional Staffers & Health Industry Group Purchasing Association, January 2013
Edwards Life Sciences, April/May 2013
Rite-Aid, August 2013
Edwards Life Sciences, August 2013
Novo Nordisk, December 2013
Anesthesia Business Group, January 2014
Novo Nordisk, January 2014
Securities Industry Institute, March 2014
Novo Nordisk, April 2014
World Bank, April 2014
Wharton Global Forum – Beijing , June 2014
Novo Nordisk, October 2014
Novartis, October 2014
Edwards Life Sciences, October 2014
Vertex Pharmaceuticals, November 2014
Edwards Life Sciences, November 2014
Webinar on India's Healthcare System, November 2014
Penn Medicine - University of Pennsylvania, January 2015
Anesthesia Business Group, January 2015
McKesson, February 2015
Vertex Pharmaceuticals, February 2015
Edwards Life Sciences, March 2015
Securities Industry Institute, March 2015
Princeton Healthcare Conference, May 2015
Genentech, July 2015
Mayo Clinic, September 2015
Genentech, October 2015
Bristol-Myers Squibb, October 2015
Novartis, November 2015
The Health Industry Forum, November 2015
Anesthesia Business Group, February 2016
Securities Industry Institute, March 2016
Novo Nordisk – China, April 2016
Genentech, April 2016
Edwards Life Sciences, May 2016
Sino-American Pharmaceutical Professionals Association (SAPA), June 2016
Janssen Pharmaceuticals, August 2016
Cooper Health System, September 2016
Edwards Life Sciences, November 2016
Massachusetts Association of Health Plans, November 2016
Webinar on China, December 2016
Anesthesia Business Group, February 2017
Center for Therapeutic Effectiveness Research, April 2017
China – U.S. Business Leaders Roundtable, NYC, April 2017
Edwards Life Sciences, April 2017
Lehigh Valley Business Coalition, May 2017
Central Pennsylvania Business Group on Health, September 2017
Healthcare Executives Leadership Network, January 2018
Securities Industry Institute, March 2018
Population Health Colloquium, Jefferson Health, March 2019
Securities Industry Institute, March 2019
Physician Group Practice Strategic Transactions, NYC, April 2019

Novo Nordisk, Philadelphia, June 2019
Veterinary Trends, Philadelphia, June 2019
Association of Academic Health Centers, Boston, July 2019
Teva Pharmaceuticals, September 2019
Central Pennsylvania Business Group on Health, October 2019
Pharma & Healthcare Business Summit, University of the Sciences, February 2021
Securities Industry Institute, March 2021
Medtronic, July 2021

ACADEMIC DIRECTOR - EXECUTIVE EDUCATION PROGRAMS

American Society of Ophthalmic Administrators (ASOA), August 2002

Johnson & Johnson Health Care Systems, April 2003

Aventis Pharmaceuticals, January 2003, April 2003, October 2003, February 2004

Humana, June 2003

Eisai Pharmaceuticals, July - December 2007

Novo Nordisk, October 2014

Bristol-Myers Squibb, October 2015

American Association of Orthodontists, Spring-Summer 2021

FEDERAL/STATE GOVERNMENT: EXPERT WITNESS TESTIMONY

Federal Trade Commission: "Group Purchasing Organizations and Antitrust Implications." Workshop on Antitrust in Health Care. Federal Trade Commission. September 9, 2002.

Federal Trade Commission: "Hospital Vertical Integration and Antitrust Implications." Joint FTC/DOJ Hearings on Health Care and Competition Law and Policy. April 9, 2003.

Senate Judiciary Committee, Subcommittee on Antitrust, Hearings on Independence Blue Cross, April 12, 2004.

Expert Witness. Federal Trade Commission. *FTC v. Piedmont Health Alliance*. 2004.

Expert Witness. Federal Trade Commission. *FTC v. Evanston Northwestern Healthcare Medical Group*. 2004-2005.

Medicare Payment Advisory Commission. (MedPAC), "Perspectives on Physician Group Practices," October 2006.

Senate Judiciary Committee, Subcommittee on Antitrust, Hearings on IBC - Highmark Merger. April 9, 2007

Pennsylvania Senate, Committee on Banking and Insurance, Hearings on IBC - Highmark Merger. June 26, 2007.

Federal Trade Commission, "Clinical Integration in Health Care: A Check-up," May 29, 2008

Expert Witness. Department of Justice. *DOJ v. Childrens' Health Associates*, 2009.

Expert Witness. Department of the Treasury. *IRS Commissioner v. Boston Scientific*, January 2013 – 2016.

Federal Trade Commission, Health Care Competition Workshop, February 2015

Expert Witness, Federal Trade Commission, United States v. St. Cloud Medical Group / CentraCare Health, 2016

Expert Witness, Department of Justice, United States and State of Michigan vs. Hillsdale Community Health Center and Allegiance Health, 2016

Expert Witness, Department of Justice, United States V. Aetna and Humana, 2016

Expert Witness, Attorney General, State of Washington, State of Washington v. Franciscan Health System, 2017-18

PRIVATE SECTOR: EXPERT WITNESS TESTIMONY

Cravath, Swaine, and Moore. *Unsecured Creditors of Allegheny Health, Education and Research Foundation v. PricewaterhouseCoopers*. 2004-2005.

Sidley Austin. *ConMed Corporation v. Ethicon/Ethicon Endo-Surgery*. 2005.

Boies, Schiller & Flexner. *Spartanburg Regional Healthcare System v. Hillenbrand Industries*. 2005.

Winston and Strawn. *Rochester Medical Corporation v. C.R. Bard*. 2006.

ECRI v. Guidant, 2007

Goodwin Proctor. *USA v. Richard Lane*, 2008.

Winston and Strawn. *Southeast Missouri Hospital and Saint Francis Medical Center v. C.R. Bard*, 2009.

Venable. *Retractable Technologies Inc. v. Abbott Laboratories*, 2009-2010.

Baker and McKenzie. *Medtronic Inc. v. IRS Commissioner*, 2010.

Morgan, Lewis and Bockius. *USA v. Amgen*, 2011.
Greenberg Traurig. *Freedom Medical v. Universal Hospital Services*, 2011.

Akin Gump Hauer Strauss and Feld. *Lenox MacLaren v. Medtronic*, 2012, 2015.

Lowis & Gellen. *Fabiszak v. Silver Cross Hospital*, 2013.

Bubb, Grogan, and Cocca, *AHS Hospital Corporation v. Town of Morristown*, 2013.

Buchanan Ingersoll & Rooney. *Aetna Life Insurance v. Foundation Surgical Associates*, 2015.

Dykema. *Kerrins v. Palos Community Hospital*, 2016.

Hamstead Williams & Shook, Wiles v. West Virginia University Hospitals, 2017-2018

Lowenstein Sandler, Appraisal of Team Health Holdings, 2018

Lowenstein Sandler, Brigade Capital v. Kindred Healthcare, 2018-2019

American Medical Association. CVS Health / Aetna Merger. 2018

Dorsey & Whitney, *Consolidated Class Action Lawsuit – EpiPen ERISA Litigation*, 2019-2020.

Lieff, Cabraser, Heimann & Bernstein. The Hospital Authority of Metropolitan Government of Nashville &

American Federation of State, County, and Municipal Employees District Council 37 Health and Security Plan. 2019.

Kirkpatrick Townsend. Premera v. The Everett Clinic, Eastside Family Medical Clinic. 2020.

Oxley Rich Sammons. Jane Doe and West Virginia Residents v. Steven Matulis. 2021.

PROFESSIONAL ACTIVITIES

Editorial Board:

Health Care Management Review (1992-2000). Associate Editor (1994-2000)
Health Services Research (1994-Present)
AUPHA / Health Administration Press

Governmental Research Review Committees:

Agency for Health Care Policy & Research:
Health Services Research Review Subcommittee (1994-1998)

Consulting Reviewer (Journals):

Academy of Management Journal
Administrative Science Quarterly
Health Affairs
Health Care Management Review
Inquiry
Journal of American Medical Association
Journal of Health Economics
Journal of Management Studies
Medical Care
Milbank Fund Quarterly
Social Science and Medicine
Strategic Management Journal

Consulting Reviewer (Grants):

Agency for Health Care Policy and Research (Rockville, MD)
Health Care Financing Administration (Baltimore, MD)
Robert Wood Johnson Foundation
Veterans Administration (Washington, DC)

Affiliations:

Academy of Management
American Hospital Association
Association for Health Services Research

TEACHING

Integrated Delivery Systems
Analysis of Health Systems
Comparative Health Care Management
Organizational Behavior
Health Care Strategy
Organizational Change
Innovation in India's Health Care System
Life Sciences & Management
Seminar on the Professions
Health Care Policy
Evaluation Research
Issues in Rural Health Care
Managed Care & Industrial Organization of Healthcare
Strategic Implementation
China's Healthcare System & Reform
Health Systems Science