Critical Thinking About Consolidation in Healthcare: 
The Curious Case of Hospital Systems

Lawton Robert Burns, Ph.D., MBA  
James Joo-Jin Kim Professor  
Professor of Health Care Management  
The Wharton School  
215-898-3711  
burnsL@wharton.upenn.edu

Lehigh Valley Business Coalition on Healthcare  
May 4, 2017

What is “critical thinking” ?

Analysis and evaluation informed by evidence

The propensity to engage in creative thought 
with reflective skepticism
Primer on Consolidation

Types of “consolidation”
(from hospital standpoint)

1. *Horizontal integration* multi-hospital system
2. *Vertical integration* employed physicians
3. *Diversification* owned health plan
4. *All of the above* be like Kaiser
The Old Days
Freestanding Community Hospital

Horizontal Integration into Hospital Systems

Corporate Parent

Hospital A
Hospital B
Hospital C
Vertical Integration into Ambulatory & Post-Acute Markets

Input Markets
- Physician Offices
- Medical Groups
- Outpatient Care

Output Markets
- Hospitals
- Skilled Nursing Facility
- Home Health Agency

Vertical Integration into Insurance/Providers

Buyers
- Health Plan:
  - HMO
  - PPO

Suppliers
- Hospitals

Lawton R. Burns-The Wharton School
Diversification
All of the Above

Physician Offices
Medical Groups
Outpatient Care

Health Plan

Hospital

Hospital

Hospital

Skilled Nursing Facility
Home Health Agency

Hospitals consolidate into larger systems

Source: Dafny, Ho, Lee (2015); data from Irving Levin Associates and American Hosp Assoc

Lawton R. Burns-The Wharton School
## Consolidation Along the Value Chain

<table>
<thead>
<tr>
<th>Decade</th>
<th>Entities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960s</td>
<td>Investor-owned Hospital Systems</td>
</tr>
<tr>
<td>1970s</td>
<td>Nonprofit Hospital Systems, Nursing Homes</td>
</tr>
<tr>
<td>1980s</td>
<td>Psychiatric Hospitals, MD Groups, Insurers</td>
</tr>
<tr>
<td>1990s</td>
<td>Hospitals, Physicians, Insurers (Again), Employer Purchasing Coalitions, Wholesalers &amp; Distributors, Group Purchasing Organizations, Manufacturers and Suppliers</td>
</tr>
<tr>
<td>2000s</td>
<td>Hospitals, Insurers (Again), Pharmacy Benefit Managers (PBMs)</td>
</tr>
</tbody>
</table>

### Rationale for Consolidation

- Lawton R. Burns - The Wharton School
Objectives of Systems / M&A

FINANCIAL OBJECTIVES
Which of the following are among the financial objectives of your overall merger, acquisition, and/or partnership planning or activity?

- Increase market share within our geography: 68%
- Improve operational cost efficiencies: 62%
- Expand geographic coverage: 58%
- Improve financial stability: 56%
- Improve position for payer negotiations: 54%
- Improve access to capital: 27%
- Improve access to operational expertise: 25%
- Improve access to financial management: 9%

Multi-response


Context of Healthcare Reform

- IOM’s six aims:
  - care that is safe, timely, effective, efficient, equitable, patient-centered
- Triple aim:
  - population health, patient experience, per capita cost
- PPACA: ACOs and APMs
- Coordination of care for poly-chronics
- Care continuum to readmissions and patient transitions
- Need for centralized governance
- Belief that systems achieve scale economies

Lawton R. Burns-The Wharton School
What Do We Get for Consolidation?

Hospital Merger Benefits: Views from Hospital Leaders and Econometric Analysis

Monica Noether, Ph.D. and Sean May, Ph.D.

January 2017
Hospital Execs Think Systems Work, Cite Three Benefits

Reduced cost of capital
- lower-cost debt
- more favorable ratings

Scale economies: spread fixed costs over larger volumes
- supply chain
- IT
- back office overhead
- pharmacy and lab operations
- physical plant management

Clinical standardization: to reduce cost, improve quality

Lawton R. Burns-The Wharton School

Systems Access Lower-cost Capital

2007 S&P Credit Ratings of Standalone Hospitals and Health Systems
(\% of rated hospitals and health systems in each rating category)

Lawton R. Burns-The Wharton School
Credit Agencies Weight Larger Systems More Favorably:

What gets rewarded gets done

Lawton R. Burns-The Wharton School

Systems Invest in Hospitals They Acquire

Original Research

Capital Investment by Independent and System-Affiliated Hospitals

Nathan W. Carroll, PhD, Dean G. Smith, PhD, and John R. C. Wheeler, PhD

Abstract
Capital expenditures are a critical part of hospitals’ efforts to maintain quality of patient care and financial stability. Over the past 20 years, finding capital to fund these expenditures has become increasingly challenging for hospitals, particularly independent hospitals. Independent hospitals struggling to find ways to fund necessary capital investment are often advised that their best strategy is to join a multi-hospital system. There is scant empirical evidence to support the idea that system membership improves independent hospitals’ ability to make capital expenditures. Using data from the American Hospital Association and Medicare Cost Reports, we use difference-in-difference methods to examine changes in capital expenditures for independent hospitals that joined multi-hospital systems between 1997 and 2008. We find that in the first 5 years after acquisition, capital expenditures increase by an average of almost $16,000 per bed annually, as compared with non-acquired hospitals. In later years, the difference in capital expenditure is smaller and not statistically significant. Our results do not suggest that increases in capital expenditures vary by asset age or the size of the acquiring system.
Freestanding Hospitals Face Survival Threat

“The idea of the stand-alone hospital is gone”

Lawton R. Burns - The Wharton School

Systems Fail to Positively Impact the Iron Triangle of Health Care

Lawton R. Burns - The Wharton School
Is the System Really the Solution? Operating Costs in Hospital Systems

Lawton Robert Burns¹, Jeffrey S. McCullough², Douglas R. Wholey³, Gregory Kruse¹, Peter Kralovec¹, and Ralph Muller¹

Abstract

Hospital system formation has recently accelerated. Executives emphasize scale economies that lower operating costs, a claim unsupported in academic research. Do systems achieve lower costs than freestanding facilities, and, if so, which system types? We test hypotheses about the relationship of cost with membership in systems, larger systems, and centralized and local hub-and-spoke systems. We also test whether these relationships have changed over time. Examining 4,000 U.S. hospitals during 1998 to 2010, we find no evidence that system members exhibit lower costs. However, members of smaller systems are lower cost than larger systems, and hospitals in centralized systems are lower cost than everyone else. There is no evidence that the system’s spatial configuration is associated with cost, although national system hospitals exhibit higher costs. Finally, these results hold over time. We conclude that while systems in general may not be the solution to lower costs, some types of systems are.
Evidence on Hospital Consolidation

*Physically merging two facilities into one …*

- lowers costs
- can increase volumes
- does not necessarily improve quality

*But consolidating 2+ facilities under a system roof …*

- does not lower costs
- may increase costs as systems get bigger
- may increase costs as systems go regional
- does not increase quality of care
- does not lead to greater provision of charity care

---

Economies of Scale – Often Discussed

**Leadership & Management**

**From holding company to operating company: 4 experts on health system economies of scale**

Written by Molly Gamble | April 27, 2017
Economies of Scale - No Empirical Evidence

ANALYSIS OF HOSPITAL PRODUCTION: AN OUTPUT INDEX APPROACH

MARTIN S. GAYNOE*, SAMUEL A. KLEINER**, AND WILLIAM B. VOGL

* Henry College, Carnegie Mellon University, Pittsburgh, PA, USA
** Centre for Market and Public Organisation, University of Bristol, UK

SUMMARY

In this study, we develop and implement an output index approach to the estimation of hospital cost functions that reflect the differentiated nature of hospital care. The approach combines the estimation of an output index within a flexible functional form. We find, in an application to California hospitals, evidence of scope economies across specialties within primary care, and diseconomies of scope within secondary and tertiary care. Minimum efficient scale is reached at larger levels of output than would be estimated by conventional techniques. These results indicate the importance of accounting for firm output heterogeneity when estimating cost functions. Copyright © 2013 John Wiley & Sons, Ltd.

Your Bible on Scale & Scope Economies

Scale and Scope: The Dynamics of Industrial Capitalism

Alfred D. Chandler, Jr.
Why Hospital Systems & Mergers Fail to Achieve Scale Economies

- Integration restricted to administrative systems and group purchasing (small percentage of costs)
- Integration not yet achieved on clinical side (large percentage of costs)
- No effort to consolidate production capacity
- Hospital systems = “stuck in neutral”

Lawton R. Burns - The Wharton School

Hospitals in Consolidated Markets Raise Prices to Private Payers

Chart 12 – Prices for Private Patient Procedures and Associated Contribution (“profit”) Margins for Providers in Concentrated and Less Concentrated Market Areas²⁴
“Black Box” Opacity of Hospital Systems

Hospital System
Lawton R. Burns-The Wharton School

Hospital Systems - - In Search of “System-ness”
Hospitals Nationwide Take Financial Bath on EMR Installation

MD Anderson points to Epic implementation for 77% drop in adjusted income

Written by Akanksha Jyantilal | August 26, 2016

Houston-based MD Anderson Cancer Center reported a 76.9 percent drop in adjusted income for the 10 months ended June 30, a downfall it largely attributes to its Epic EHR implementation project.

In its agenda book and schedule of events for the University of Texas board of regents' meeting held Wednesday and Thursday, the health system reported a $405 million decrease in adjusted income as compared to the same time period the previous year.

"The $405.0 million (76.9 percent) decrease in adjusted income...was primarily attributable to an increase in expenses combined with a decrease in patient revenues as a result of the implementation of the new Epic Electronic Health Record system," according to the agenda book.

Hospitals Nationwide are Freezing New Hires

April 21, 2017

Hiring freeze at Advocate Health

by KRISTEN SCHORSCH |

Advocate Illinois Masonic Medical Center

Photo by Associated Press

Advocate Health Care, the largest hospital network in the state, is putting hiring on hold until at least July.
Hospitals Nationwide are Downsizing

Brigham and Women’s offers buyouts to 1,600 workers

And yet, at the same time …
Hospitals Nationwide Asked to Achieve Triple Aim

The Triple Aim of Health Care

- Per Capita Cost of Care
- Individual's Experience of Care
- Health of Population

Lawton R. Burns - The Wharton School
Hospitals Nationwide Now Asked to Prepare for Changing Landscape

**Current State** – Producer-Centered
- Volume Driven
- Unsustainable
- Fragmented Care Systems
- FFS Payment Systems

**Future State** – People-Centered
- Outcomes Driven
- Sustainable
- Coordinated Care Systems

New Payment Systems
- Value-based purchasing
- ACOs Shared Savings
- Episode-based payments
- Care Management Fees
- Data Transparency

Lawton R. Burns-The Wharton School

Hospitals Nationwide Now Asked to Transform Themselves

Modern Healthcare

The Transformation Imperative

Why the social and economic forces disrupting healthcare are here to stay
Transformation as Multi-Tasking: Simultaneous Change in Payment & Provider Organization

Provider Payment Models

- Global market risk model
- Professional services risk model
- Bundled Payment / Episode of illness payment
- Pay for Performance (P4P)
- Fee-for-service

Provider Practice Models

- Integrated Delivery Networks (IDN)
- Accountable Care Organizations (ACO)
- Single-specialty & Multi-specialty Groups / Networks
- Independent practitioner associations & Physician-hospital organizations
- Hospital medical staff
- Solo practitioners

The Transformation May be Bogus

Paul Levy: Value-based payment is an 'energy-sapping distraction'

Written by Emily Rappleye | Twitter | Google+ | April 11, 2017 | Print | Email

Lawton R. Burns-The Wharton School
ACO Paragons of Virtue
Facing Monumental Problems

Cornerstone: The Rise and Fall of a Health Care Experiment

By Reed Abelson
Dec 24, 2013

SOMERSET POINT, N.J. — Connections Health Care, a large physician group here, made a big bet a few years back. It would get paid based not on how many procedures its doctors performed, but on how effectively they treated their patients.

The New York Times

Substantial Physician Turnover And Beneficiary ‘Churn’ In A Large Medicare Pioneer ACO

By John Hsu, Christine Vogeli, Mary Price, Richard Brand, Michael E. Chernow, Namita Mehta, Sreekanth K. Chaguturu, Eric Weil, and Timothy G. Ferris

ABSTRACT
Alternative payment models, such as accountable care organizations (ACOs), attempt to stimulate improvements in care delivery by better alignment of payer and provider incentives. However, limited attention has been paid to the physicians who actually deliver the care. In a large Medicare Pioneer ACO, we found that the number of beneficiaries per physician was low (median of seventy beneficiaries per physician, or less than 5 percent of a typical panel). We also found substantial physician turnover: More than half of physicians either joined (41 percent) or left (18 percent) the ACO during the 2012–14 contract period studied. When physicians left the ACO, most of their attributed beneficiaries also left the ACO. Conversely, about half of the growth in the beneficiary population was because of new physicians affiliating with the ACO; the remainder joined after switching physicians. These findings may help explain the muted financial impact ACOs have had overall, and they raise the possibility of future gaming on the part of ACOs to artificially control spending. Policy refinements include coordinated and standardized risk-sharing parameters across payers to prevent any dilution of the payment incentives or confusion from a cacophony of incentives across payers.
Physicians In Medicare ACOs Offer Mixed Views Of Model For Health Care Cost And Quality

Physicians' willingness to change how care is delivered is a key component of the ability of accountable care organizations (ACOs) to transform patient care. Yet physicians participating in Medicare ACOs are only moderately convinced that ACOs are an effective model for delivering cost-effective care.

The Affordable Care Act (ACA) launched a significant effort to refocus health care delivery and payment to reward providers for lowering costs and increasing the quality of care. One of the largest of these initiatives is the Medicare Accountable Care Organization (ACO) program. ACOs are groups of physicians and other health care providers who work together to provide high-quality, cost-effective, and financially accountable care for their patients. As of January 2017, the number of Medicare ACOs had grown to 562, with 10.5 million Medicare beneficiaries served since the program began in 2012. Many ACOs are based in large health systems, while others are networks of physician practices. However, all of them rely on primary care physicians to elimi-

Claudia L. Schur (schur@lpr.org) is senior research director at LPR Policy Research, LLC, in Washington, D.C.
Janet P. Sutton is principal research scientist at the Center for Health Research and Policy, Social & Scientific Systems, in Silver Spring, Maryland.
Kaiser-like Paragons of Virtue Show Signs of Retrenchment

Health Affairs Blog

Geisinger’s Transformation: Balancing Growth And Risk
Jeff Goldsmith
March 8, 2017

Hospitals Nationwide Asked to Engage Physicians

What is the most important change your organization needs to make in order to achieve its mission?

Responses from physicians in managed care organizations
We asked 13 physicians what they really think of their hospital

Written by Mackenzie Bean, Morgan Haefner, Emily Rappleye, Alyssa Rege and Tamara Rosin | August 02, 2016 |

The hospital-physician relationship is a delicate dance. If one steps on the other’s toes, it can make or break success — particularly in an era of reform that calls for ever-closer collaboration. To learn more about what helps or hurts alignment, we asked 13 physicians for their unfiltered opinions about their hospitals and CEOs.

10 prominent health system CEOs: Physician burnout is a public health crisis — here are 11 things we commit to do about it

Written by Tamara Rosin (Twitter: @Ginger) | March 28, 2017 | Print | Email

The CEOs of the nation’s most prominent health systems authored an article in Health Affairs examining the widespread issue of physician burnout, its main contributors, leaders’ role in responding to burnout and an 11-item call to action.

The authors of the article include:

• John Noseworthy, MD, president and CEO of Rochester, Minn.-based Mayo Clinic
• Detox “Toby” Cosgrove, MD, president and CEO of Cleveland Clinic
• Mitchell Edgworth, CEO of Nashville, Tenn.-based Vanderbilt University Hospitals and Clinics
• Ed Ellison, MD, executive medical director and chairman of the board for the Southern California Permanente Medical Group in Pasadena, Calif.
• Sarah Krejci, chief and CEO of Sacramento-based Sutter Health
• Paul Rothman, MD, CEO of Johns Hopkins Medicine in Baltimore
• Kevin Sowers, RN, president of Duke University Hospital in Durham, N.C.
• Steven Strongwater, MD, president and CEO of Atrius Health in Newton, Mass.
• David Torchiana, MD, president and CEO of Boston-based Partners HealthCare
• Dean Harrison, president and CEO of Evanston, Ill.-based Northwestern Memorial HealthCare
In many locales around the country, hospitals and health systems are scrambling to respond to poor physician engagement scores. Boards of directors are becoming exercised, task forces on “physician alignment” are being assembled, and managers are losing bonuses and even their jobs. But beneath this hubbub lie important truths about “engagement,” many of which are just emerging into view.

The cause for concern is clear: disengaged physicians are bad for health care. They reduce recruitment and retention rates. They increase the frequency of errors. They lower rates of patient adherence to treatment recommendations and quality of care. Broadly speaking, disengagement undermines morale. Health care organizations at which physicians do not like to work are generally bad places to get care.
So what can we conclude about hospital systems??
Thank you for listening