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Health Research Brief

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Safety Net Hospitals in Health Systems: Variation in ACO Participation and Other Characteristics

In recent years, hospitals and physicians have increasingly consolidated into health systems. Safety net hospitals may join or form health systems to bolster their financial stability, position themselves to succeed under alternative payment models, or fulfill their strategic mission of providing more comprehensive care to their communities.

Using data from the Agency for Healthcare Research and Quality's Compendium of U.S. Health Systems, we examined how the characteristics of safety net hospitals vary based on whether they are part of systems and, if they are, on the size of those systems. Compared with safety net hospitals outside of systems, those that are in systems:

- Are relatively large, as measured by bed size
- Provide more graduate medical education, as measured by resident-to-bed ratios
- Are more likely to join an accountable care organization
- Are more commonly owned by investors or religious not-for-profit entities
- Have healthier operating margins
- Provide more essential health care services

Introduction

Various market forces, arguably made stronger by coverage and payment changes implemented under the Affordable Care Act (ACA) and other federal and state initiatives, have spurred transformation and consolidation within the U.S. health care delivery system. Increasingly, hospitals and physicians are owned or managed by health systems (Cutler and Morton 2013). At the end of 2016, 70 percent of hospitals and 45 percent of all physicians were in systems (Furukawa et al. 2019).

Safety net hospitals serve a disproportionate share of low-income patients and often provide essential community services, such as trauma care, that may not be offered by other hospitals (Coughlin et al. 2014; Bachrach et al. 2012). Changes to coverage and payment policies may affect whether these hospitals form or join systems. For example, case studies on the ACA's effects on safety net hospitals show that these hospitals often seek to build or strengthen integrated systems of care to more fully address patient needs, improve care coordination, increase provider efficiency, and assume financial risk (Coughlin et al. 2014; Felland et al. 2016). But little systematic information is available to assess the extent to which these hospitals are owned or managed by systems.

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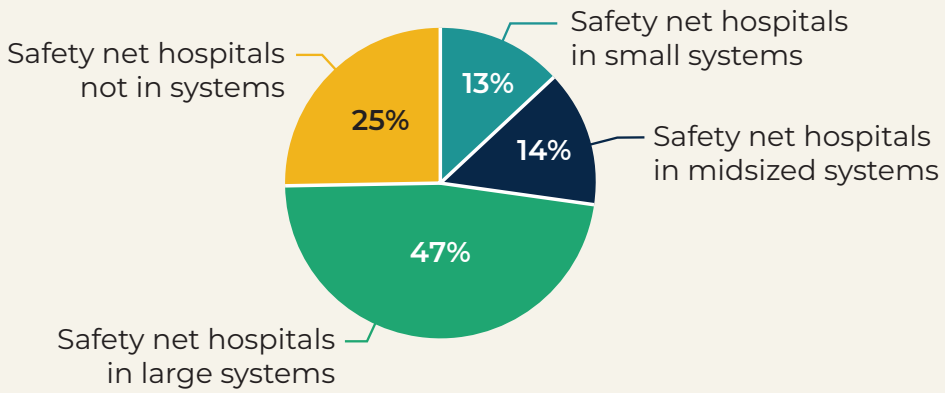
This research brief explores the ownership or joint management of safety net hospitals by systems, drawing on data from two new sources: the Compendium of U.S. Health Systems (2016) and the Hospital Linkage File (2016), developed by the Agency for Healthcare Research and Quality (AHRQ). The Compendium defines a health system as including at least one hospital and one group of clinicians who provide primary and specialty care.

Studies that have considered the consolidation of hospitals and physicians more broadly have received considerable attention from policymakers, researchers, and health system planners, among others. But the impact of this consolidation on the safety net remains relatively unexplored. Our analysis is designed to provide detailed information about safety net hospitals in systems, thereby helping to build an evidence base on the effects of consolidation on the safety net. This analysis is intended to inform future research and policymaking related to the safety net.

Characteristics of safety net hospitals in health systems

Most safety net hospitals are owned or managed by health systems. In 2016, 75 percent of U.S. safety net hospitals, or 447 hospitals, were in health systems (Figure 1). Among these hospitals, more than two-thirds (283) were in large systems.

Figure 1: Percentage of U.S. safety net hospitals in health systems, overall and by system size



Notes: Authors' analysis of AHRQ's Compendium of U.S. Health System and Healthcare Cost Report Information Systems data. System size is defined by the number of general acute care hospitals in the system (small = 1 or 2; midsized = 3 to 6; large = 7+).

Safety net hospitals in systems, especially in small systems, are larger and more likely to provide graduate medical education than their nonsystem counterparts. Generally, safety net hospitals in systems are larger than their nonsystem peers: the median number of hospital beds in system hospitals is twice the median number in nonsystem hospitals (226 versus 109). Among safety net hospitals in systems, those in small systems have a higher median number of beds than those in large systems (282 versus 196, Appendix A).

Among safety net hospitals in small systems, the median ratio of full-time equivalent (FTE) residents to beds is 0.42, with 59 percent of these hospitals meeting or exceeding the ≥ 0.25 residents-to-beds

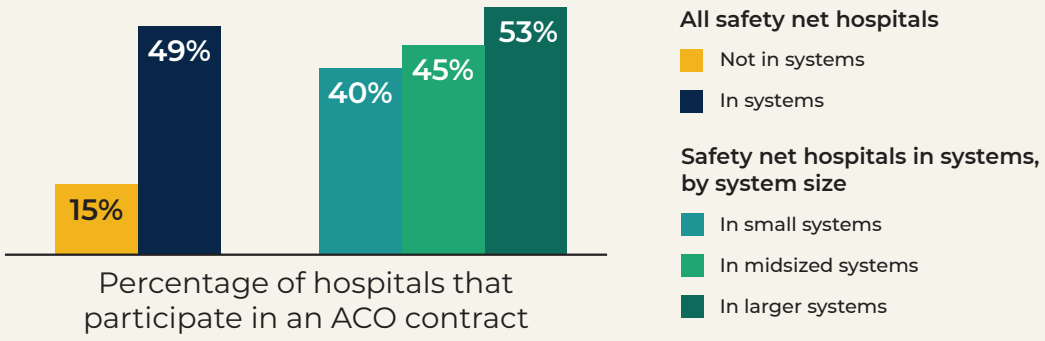
ratio commonly used to designate major teaching hospitals. In contrast, the median ratio of FTE residents to beds among safety net hospitals in large systems is zero, with only 21 percent of these hospitals meeting the designation of a major teaching hospital (Appendix A).

These findings line up with earlier research showing that smaller regional systems commonly coalesce around a large academic medical center (Cutler and Morton 2013). For safety net hospitals with an academic mission, this relationship may present advantages, such as the ability to recruit and retain physician specialists and attract a broader mix of patients and payers. But it also poses challenges because these hospitals must balance the need to deliver care, provide medical education, and conduct research (Cutler and Morton 2013).

More safety net hospitals in systems participate in accountable care organizations (ACOs) than their nonsystem counterparts. Safety net hospitals in systems are over twice as likely as their nonsystem counterparts to participate in accountable care organizations (ACOs) (Figure 2). Compared with the nonsystem hospitals, the system hospitals are five times more likely to participate in a commercial ACO contract (39 versus 7 percent) and in a Medicare ACO contract (24 versus 5 percent). But participation in Medicaid ACOs is not much different for safety net hospitals in systems compared with those not in systems. Among the system hospitals, those in large systems account for the highest percentage of ACO participation, driven largely by their participation in commercial ACOs (Appendix A).

Vulnerable patients with complex medical problems or social needs, often served by safety net hospitals, may stand to gain the most from an emphasis on prevention and management of chronic disease, which is a primary focus of the ACO model (Lewis et al. 2012). Further, safety net hospitals in systems, especially in large systems, may be better positioned than others to participate in ACOs because they can draw on their systems' capital investments and infrastructure, such as health information technology (VanDeusen et al. 2015).

Figure 2: Percentage of safety net hospitals participating in any ACO, overall and by system size

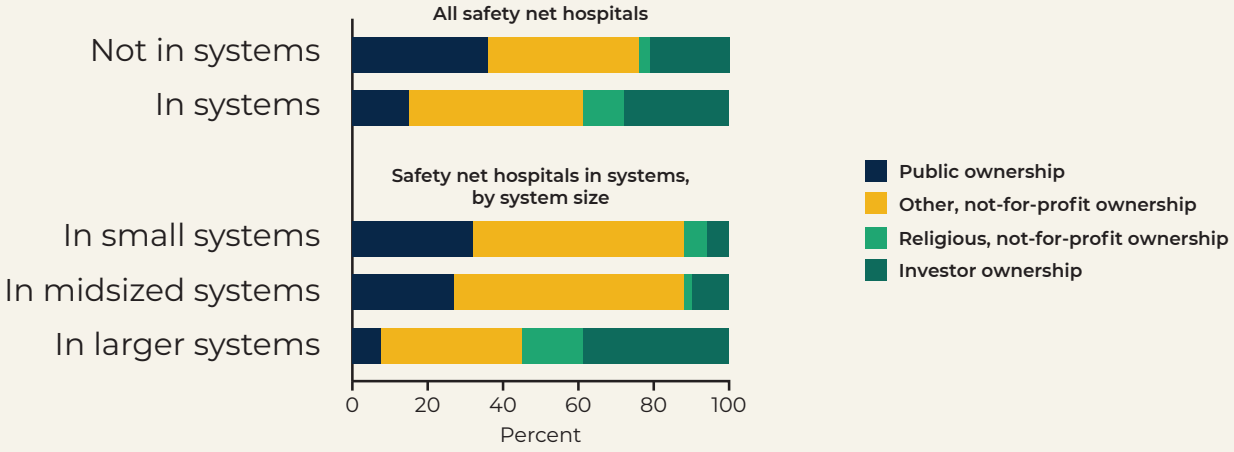


Notes: Author's analysis of AHRQ's Compendium of U.S. Health Systems, Healthcare Cost Report Information System data, and Leavitt Partners data. System size is defined by the number of general acute care hospitals in the system (small = 1 or 2; midsized = 3 to 6; large = 7+).

Safety net hospitals in systems, especially in large systems, are more commonly owned by investors or religious not-for-profit entities than their nonsystem peers are. Hospital ownership affects available funding streams and may be a proxy for a hospital's mission (Bazzoli et al. 2003). In general, public or other (nonreligious) not-for-profit entities own most safety net hospitals (Figure 3), with public ownership being more prevalent among the nonsystem hospitals than system hospitals. Conversely, a greater percentage of system safety net hospitals, especially those in large systems, are owned by investors or religious institutions. Legal or political reasons may keep publicly owned safety net hospitals from forming or joining systems (Witgert and Hess 2012).

Safety net hospitals in systems have healthier operating margins than those not in systems. Given that safety net hospitals serve many low-income and uninsured patients, they often face payment shortfalls and therefore are at greater financial risk than providers with more diversified payment sources. Although they are operating at a net loss, safety net hospitals in systems have higher operating margins than those not in systems (-2.0 versus -8.5 percent) (Figure 4). Only safety net hospitals in large systems have a positive median operating margin, suggesting that these hospitals have greater financial stability.

Figure 3: Ownership of safety net hospitals, overall and by system size



Notes: Author's analysis of AHRQ's Compendium of U.S. Health Systems, Healthcare Cost Report Information System data, and Leavitt Partners data. System size is defined by the number of general acute care hospitals in the system (small = 1 or 2; midsized = 3 to 6; large = 7+).

Compared with their nonsystem peers, safety net hospitals in systems provide more essential services, suggesting that many serve as tertiary care facilities. Safety net hospitals are often the sole providers of certain essential services in their communities, such as trauma and burn care (Cunningham and Felland 2013). In the current policy and payment context, however, safety net hospitals must balance their role as providers of essential hospital services with the need to expand their primary care capacity (Felland et al. 2016). Across the essential services we examined, a larger share of safety net hospitals in systems provide each service than their nonsystem counterparts

(Figure 5). For example, 53 percent of safety net hospitals in systems provide trauma services, compared with 38 percent of the nonsystem hospitals. In general, safety net hospitals in small systems are more likely than those in large systems to provide essential health care services.

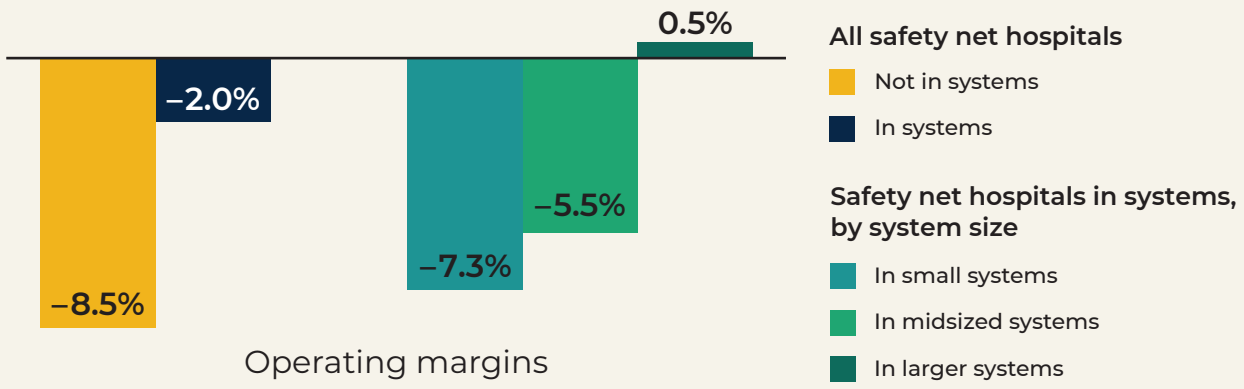
Implications for research and policy

Market dynamics, along with policy and payment changes, may be causing safety net hospitals to join or form systems and integrate and coordinate care across the continuum. We find considerable diversity in the characteristics of safety net hospitals in and outside of systems, suggesting that policymakers should explicitly consider these differences when creating policies for safety net hospitals. For example, safety net hospitals in systems may require different supports than those outside of systems if they are to perform well under alternative payment models, such as bundled payments and ACOs. The needs of hospitals in small systems may also differ from those of hospitals in larger systems.

Future analyses should focus on contextual factors, such as market concentration or provider supply, which may explain some of the observed differences between the characteristics of safety net hospitals in systems and those not in systems. Because we cannot ascertain, for example, whether system ownership or management causes better financial performance, or whether those safety net hospitals with healthier operating margins are more likely to form or join systems, future analyses should also examine changes in safety net hospitals' connection to systems and these hospitals' characteristics over time, which would help differentiate between safety net hospitals that formed a system versus those that joined existing systems.

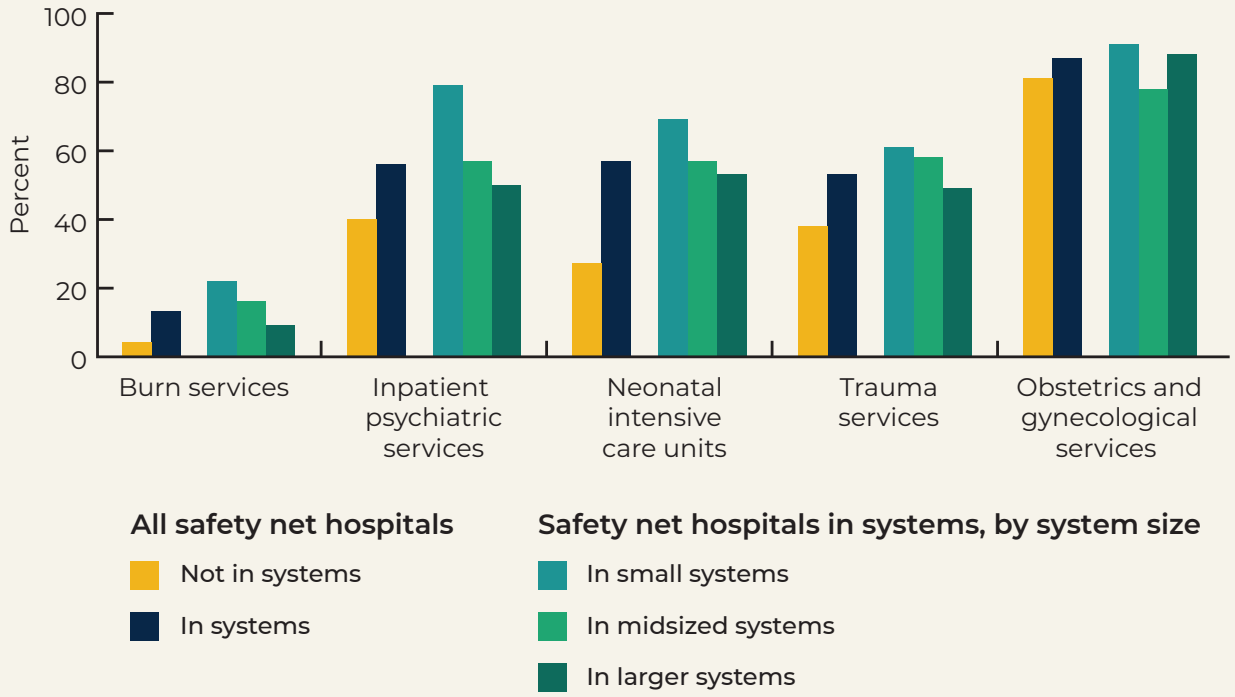
Our descriptive study represents foundational work around the impacts of consolidation on the safety net. New data resources, including a forthcoming 2018 Compendium of U.S. Health Systems, will facilitate future analyses on this topic.

Figure 4: Operating margins of safety net hospitals, overall and by system size



Notes: Author's analysis of AHRQ's Compendium of U.S. Health Systems, Healthcare Cost Report Information System data, and Leavitt Partners data. System size is defined by the number of general acute care hospitals in the system (small = 1 or 2; midsized = 3 to 6; large = 7+).

Figure 5: Provision of essential health care services for safety net hospitals, overall and by system size



Notes: Author's analysis of AHRQ's Compendium of U.S. Health Systems, Healthcare Cost Report Information System data, and Leavitt Partners data. System size is defined by the number of general acute care hospitals in the system (small = 1 or 2; midsized = 3 to 6; large = 7+).

Methods

Our analysis was based on the AHRQ Compendium of U.S. Health Systems (2016) and on the Hospital Linkage File (2016). We obtained additional hospital characteristics from the American Hospital Association's annual survey (2015), including hospital ownership type and provision of essential health care services, and from the Healthcare Cost Report Information System (2015), including percentages of Medicare disproportionate share hospital (DSH) patients, total beds, teaching intensity (based on the ratio of FTE residents to beds), and operating margins. We also used data from Leavitt Partners (2016) to construct indicators for hospital participation in ACOs overall and by ACO type (commercial, Medicare, and Medicaid). We defined "safety net hospitals" as hospitals in the top quintile of the Medicare DSH patient percentage among all nonfederal general acute care hospitals (Centers for Medicare & Medicaid Services 2018). We defined system size by the number of general acute care hospitals in the system (small = 1 or 2, midsized = 3 to 6, and large = 7 or more). We selected a subset of essential health care services from a list developed by the Medicaid and CHIP Payment and Access Commission (2018). For more information about the Compendium, see the technical documentation at https://www.ahrq.gov/chsp/compendium/technical-documentation.html.

AHRQ's Comparative Health System Performance Initiative and Compendium of U.S. Health Systems

In 2015, AHRQ created the Comparative Health System Performance (CHSP) Initiative to study how health care systems promote evidence-based practices in delivering care. AHRQ's goals are to understand the factors that affect health systems' use of patient-centered outcomes research and to identify best practices in disseminating and using this type of research.

To achieve AHRQ's goals, the initiative established three Centers of Excellence (Dartmouth College, the National Bureau of Economic Research, and the RAND Corporation) and a Coordinating Center (Mathematica) to identify, classify, track, and compare health systems.

A key first step of the initiative was to identify and enumerate health systems. To do this, AHRQ developed an initial Compendium of U.S. Health Systems, the first publicly available national resource that identifies and describes health systems (in this case, as of the end of 2016). The Compendium defines a health system as including at least one hospital and one group of clinicians who provide primary and specialty care. It was constructed using three data sources: (1) QuintilesIMS healthcare organization services, (2) SK&A healthcare databases, and (3) the American Hospital Association's annual survey. System characteristics come from the Healthcare Cost Report Information System and include data on system beds, teaching intensity, and uncompensated care burden.

For more information on the Compendium and the Hospital Linkage File, visit https://www.ahrq.gov/chsp/compendium/index.html.

Appendix A: Characteristics of safety net hospitals, by size and system participation

	Safety net hospitals not in systems	Overall	In small systems	In midsized systems	In large systems
Number of hospitals	150	447	78	86	283
Size and teaching intensity (median)					
Number of beds	109	226	282	273	196
Ratio of residents per 100 beds	0	3	42	8	0
Participation in ACOs (percent)					
Hospital participates in any ACO contract	15%	49%	40%	45%	53%
Hospital participates in a commercial ACO contract	7%	39%	21%	38%	45%
Hospital participates in a Medicare ACO contract	5%	24%	26%	20%	25%
Hospital participates in a Medicaid ACO contract	4%	5%	9%	5%	5%
Hospital ownership type (percent)					
Public (state or local government)	36%	15%	32%	27%	7%
Other (nonreligious) not-for-profit	40%	46%	56%	61%	38%
Religious, not-for-profit	3%	11%	6%	2%	39%
Investor, for-profit	21%	27%	5%	9%	39%
Financial health (median)					
Hospital operating margin	-8.5%	-2.0%	-7.3%	-5.5%	-0.5%
Provision of essential health care services (percent)					
Burn services	4%	13%	22%	16%	9%
Inpatient psychiatric services	40%	56%	79%	57%	50%
Neonatal intensive care units	27%	57%	69%	57%	53%
Trauma services	38%	53%	61%	58%	49%
Obstetrics and gynecology services	81%	87%	91%	78%	88%

Notes: System size is defined by the number of general acute care hospitals in the system (small = 1 or 2; midsized = 3 to 6; large = 7+).

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