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Big Med's Spread

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Abstract:	Context: There is a growing trend of combinations among hospital systems that operate in different geographic markets known as cross-market mergers. Economists have analyzed these broader systems in terms of their anticompetitive behavior and pricing power over insurers. This article evaluates the benefits advanced by these new hospital systems that speak to a different set of issues not usually studied: increased efficiencies, new capabilities, operating synergies, and addressing health inequities. The paper thus "looks under the hood" of these emerging, cross-market systems to assess what value they might bestow and upon whom. Methods: The article examines recently announced cross-market mergers in terms of their supposed benefits, as expressed by the systems' executives as well as by industry consultants. These presumed benefits are then evaluated against existing evidence regarding hospital system outcomes. Findings: Advocates of cross-market hospital mergers cite a host of benefits. Research suggests these benefits are non-existent. Additional evidence suggests other motives may be at play in the formation of cross-market mergers that have nothing to do with efficienlcies, synergies, or community benefits. Instead these mergers may be self-serving efforts by system CEOs to boost their compensation. Conclusions: Cross-market hospital mergers may yield no benefits to the hospitals involved or the communities in which they operate. The boards of hospital systems that engage in these cross-market mergers need to exercise greater diligence over the actions of their CEOs. Keywords: hospitals, systems, mergers, cross-market, synergies, executives, boards

Big Med's Spread

Introduction

Thousands of U.S. hospitals have consolidated over the past three decades. Such facility combinations emerged in most metropolitan areas starting in the 1990s as multi-billion dollar medical enterprises dubbed by some as megaproviders (or "Big Med").[1] Such combinations were often rationalized by executives and Wall Street analysts as a way to achieve supposed scale economies and expand the service delivery network to prepare for managed care and capitation.[2] An early academic assessment at the turn of the millennium weighed these systems in the balance and found them wanting: hospital consolidations did not exhibit economies of scale and failed to achieve promised quality and cost benefits.[3] Two decades of subsequent research continues to confirm these results: consolidation is associated with higher prices and costs with little (or sometimes negative) impact on quality.[4,5,6,7,8]

The traditional (and most economically problematic) combination of hospitals in the same local market has moved to a new type of combination as Big Med spreads from (mostly) local and neighboring areas to regional and multi-state systems.[9,10,11] This geographic expansion avoids the challenges associated with combinations at the local market level, the attendant antitrust impediments to local combinations posed by federal agencies, and/or the diminished availability of local independent hospitals to acquire. If a health care system wants to get bigger with less legal risk, cross-market combinations are a way to do that. One prominent illustration of multi-state hospital combinations is the announced merger of Advocate Aurora Health (located in Illinois and Wisconsin) with Atrium Health (based in North Carolina, South

Carolina, Georgia, and Alabama). Another is the proposed merger of Fairview Health (MN) and Sanford Health (SD).

Executives of such systems, along with consultants and investment bankers, have rationalized such deals in several new ways.[12,13] They continue to emphasize the advantages of scale but not in the traditional sense of spreading fixed costs of producing inpatient "hotel" care services over larger volume. Rather, they now emphasize scale advantages in *new* areas such as physician alignment, clinical capabilities, innovation, capital access, and even tackling health inequities.[9] They presumably argue that these advantages can accrue to any geographical configuration of hospitals with approximately equal validity; the combined hospitals could just as well be on separate planets. They also now argue that system formations have the potential to improve efficiency "when done well" - - i.e., if they undertake certain cost-cutting strategies internally as part of the merger.[14] These strategies include standardizing clinical processes, reducing redundancies in service lines, redesigning the operating model to increase accountability and control at the system level, and leveraging culture. They also emphasize the need for a strong strategic vision and rationale for how the merger will create "value" (however that is defined).

Such combinations bring together hospital "plants" with no special (e.g., religious) affinity and no shared history, service area, equipment, or medical staff. That is, previously unrelated entities have now become family members. The idea is that especially adept combinations of leadership and culture may be extended from their original birthplace to other, less well-directed systems.

These new rationales are not easily amenable to empirical econometric analysis. Regulators in search of rigorous evidence (to the extent that they do) may find it hard to evaluate the new espoused benefits. Such rationales thus offer hope, motivation, and (perhaps) political cover for hospital system executives to participate in this trend. We view them with a lens of "reflective skepticism", i.e., is what we are hearing from practitioners and consultants really true? Is there any rigorous evidence base to support the rationales enunciated above? Or are there any other agendas that should be exposed? Warned by Adam Smith, we also come with a bias against combinations of sellers unless there are clear advantages to consumers from that combination; pious hopes should be supported by evidence, and the burden of proof in health policy (even if not in antitrust law) should be on those who wish to combine rather than on those anxious because of the proven harmful effects of past combinations.

This paper proceeds as follows. First, we briefly update research on the outcomes achieved by hospital system formation; more detailed findings are presented by others. Second, we briefly itemize the practitioner/consultant rationales for Big Med's continuing geographic spread. Third, we conduct a detailed evaluation of these rationales using published academic research, as well as recent studies of cross-market mergers. Fourth, we assess other, unspoken rationales for these mergers which need to be articulated. Our overall conclusion is that nothing much has changed over the past few decades to lead to great (let alone greater) expectations and confidence in executives' asserted benefits. Antitrust authorities need to continue to closely scrutinize these transactions. Hospital system governing boards have allowed these combinations take place on their watch; they may have even encouraged them.

We suggest these boards have oversight functions that are under-developed and under-powered.

Background and Prior Research

Two decades ago, researchers published a critical assessment of integrated delivery networks (IDNs) involving horizontal mergers of hospitals and vertical mergers with physicians.[3] That paper highlighted the often mistaken assumptions underlying integration efforts undertaken by providers (e.g., payers or large employers desire risk contracts with regional IDNs, hospitals can partner with physicians, systems can improve the health status of local populations, etc.) and the lack of evidence for integration's supposed benefits.[2] The paper also contrasted the integration rationales advanced by practitioners and academic researchers, comparing them to two ships passing each other in the middle of the night. Specifically, practitioner rationales focused on two key themes: scale economies and expanded service delivery networks. By contrast, academics highlighted the lack of scale economies in hospital systems and concerns about market power. Since that time, others have concluded that hospital systems do not yield scale or scope economies (i.e., lower costs) or quality improvements compared to allowing hospitals to remain freestanding.[8] They may even experience a deterioration in quality and greater provision of low-value care.[6,15] Such combinations have, however, succeeded in enabling merged hospitals to charge higher prices to insurers.[4,5,16,17]

That is, system formations serve the goals of hospital executives rather than the tripartite obejctives of policy-makers, whether expressed as pursuing "the triple aim" (reducing

per capita cost, improving population health, and improving the patient experience) or solving "the iron triangle" (reducing cost, improving quality, or increasing access).[18,19] Even if hospital system boards desire achievement of the triple aim, system executives may be tempted to pursue their own ends, such as growth in volume and scale; profitability is shaped by payer mix, market location, and cost-cutting - - which may be less amenable to executive influence.

Some consultants reinforce academic skepticism. They further suggest some possible reasons for the negative findings that involve merger effects not often observable in economic analyses. Navigant Consulting found that hospital scale (measured by 2018 total operating revenue) was negatively associated with the change in the system's net operating income from 2015-2018.[20,21] Nearly two-thirds of large systems experienced an aggregate decline in their operating income from 2015 to 2017 totaling $8.3 Billion; 21 systems saw their incomes decline by more than $100 million. Average operating margins fell 39% from 4.2% in 2015 to 2.6% in 2017; 22% of systems reported operating losses across these years. Such losses were generated by a host of driving forces, particularly expenditure increases that outpaced revenue increases by 2-3%, reduced reimbursements from insurers (e.g., falling Medicare margins), high capital costs (e.g., for electronic medical records and buildings), high labor costs (especially unionized nurses), increasing employment of physicians, and rising corporate overhead costs (10% of more annually). To be sure, other studies have sought to make the positive case for hospital mergers and acquisitions (M&A), arguing they may improve quality or reduce cost. Such studies are usually industry-sponsored (e.g., by the American Hospital Association) and are not peer-reviewed. Healthcare economists have told us they are unable to replicate and explain the AHA findings due to the opaque methodology.[22]

The unenthusiastic evidence from academic research has, however, done little to blunt (let alone reverse) the trend in hospital M&A. There is an imperative driving these combinations that overrides weak evidence on cost and quality (and even on profit). Figure 1 provides a partial list of just some of the large-scale system formations in recent years. While there are no private equity-backed or investor-owned hospital systems on this list, it is not for lack of trying. In June 2022, the Federal Trade Commission moved to block the merger of facilities owned by HCA Healthcare and Steward Health Care System in Utah. There is little evidence that hospital ownership plays a major role in the outcomes achieved by these (and other) strategic changes.[23] Economists indicate that nonprofits and for-profits engage in the same strategies.

[Figure 1 here]

More than two-thirds of hospitals (68%) are members of systems, which can be organized in local, regional, multi-regional, and national markets. Hospital M&A has continued in a wave-like fashion, oftentimes tied to regulatory initiatives such as (in historical order) the passage of Medicare (1965), the Clinton Health Plan proposal (1993), and the Patient Protection and Affordable Care Act (2010).[24] Similar patterns have been reported in Europe.[25]

It is not clear that policy-makers expected hospital consolidation following Medicare's passage; by contrast, consolidation was clearly encouraged by the latter two initiatives in the form of IDNs in the 1990s and accountable care organizations (ACOs) in the 2010s. Instead of proactively looking to consolidate, evidence suggests that hospital executives primarily reacted to regulatory and payment model changes, both real (e.g., health maintenance organizations or HMOs, diagnosis related groups) and potential (e.g., Clinton Health plan, spread of capitation) which threatened their and their hospitals' survival.

Public Rationales for Hospital M&A and System Formation

The two CEOs of Advocate Aurora and Atrium have enunciated several goals for their combination.[26,27] These include: creating jobs, harnessing their complementary strengths and clinical expertise to lead healthcare's transformation, and using their clinical and data analytic capabilities and digital consumer infrastructure to impact several key areas (safety, health equity, affordability, environmental sustainability, next-generation workforce, and learning and discovery). Overall, they state they will be able to "do more, be better, and go faster".

Executives of other merging hospital systems make similar claims about the need to grow and expand faster across new geographies. Intermountain Healthcare (based in Utah) and Sisters of Charity Leavenworth (SCL) Health (based in Colorado) completed their merger in early 2022. Intermountain's CEO stated the ultimate goal was "to spread high quality care that people can afford and is oriented to keeping people well, further and further across the United States."[28,29,30] This rationale combines elements of the triple aim and the iron triangle. The deal expands the footprint of Intermountain (including both hospitals and physician clinics) across five Western states, and includes an engineered pivot into value-based arrangements with an insurance product via the acquisition of HealthCare Partners Nevada.

These rationales are limited, not surprisingly, to the interests of the merging systems. If they do indeed grow, however, some of that growth will be at the expense of other hospitals in the region (whether system or non-system) which may destroy jobs, reduce access and quality, and incur higher average costs from smaller scale in those hospitals. Hence, from the viewpoint of the community being served or employers in it, it is unclear that they will gain from

becoming the capital city of a hospital empire. At a minimum, the effects on competitors are rarely invoked by merging system and yet should be taken into account.

Investment banking firms that champion (and sometimes finance) such combinations offer a somewhat comparable list of benefits. Cain Brothers asserts that the combinations reflect the "new reality" that the business of healthcare is becoming more regional than local, and that strong hospital systems need to combine to deal with horizontal and vertical integration strategies pursued by insurers and jointly confront some non-specified, but strong headwinds. Such combinations, it is said, can achieve scale economies, not in traditional areas such as spreading fixed costs over higher volume, but rather in new areas not normally enunciated: physician infrastructure, physician alignment, clinical capabilities, operational capabilities, technology, innovation, covered lives, insurance risk to compete in a value-based world, and access to capital.[9]

Some consultants assert that the traditional goal of scale economies is still achievable in the presence of a strategic vision, value capture, strategies for revenue growth and cost reductions (synergies), testing of the assumptions behind the rationale, thorough planning and execution, and development of a shared culture of quality. This list is based on surveys and interviews in 2017 with hospital financial executives involved in M&A conducted between 2008-2014.[14] Other consultants opine that M&A is a necessary response to (and escape hatch from) external pressures such as growing reliance on public insurers, assumption of risk under value-based payment programs, the continuing shift to outpatient care, threatened changes to other payments (Medicare sequester), and the COVID-19 pandemic - - pressures that challenge the financial health of hospitals and force closure. Several of these changes and shifts have

been going on for decades, however, making it unclear why regional hospital mergers are now the new "go to" strategy to deal with them.

Regional System Formations: An Evidence-Based Assessment of System Benefits

Desperately Seeking Synergy: Looking for Love in All the Wrong Places

One oft-cited benefit in cross-market mergers is the combination of assets from the merging systems (e.g., "complementary and unique strengths", "enhanced capabilities", "well matched" partners with "shared values"). This is usually summarized as "synergy": the combination outperforms the sum of the parts. The idea is that by standing on each other's shoulders, two short basketball players can perform like a seven-foot center. However, an analysis of the M&A path taken by many of the systems casts doubt on this supposed benefit.

Figure 2 depicts the recent historical formation of three merging systems: Advocate/Aurora/Atrium, Beaumont Health and Spectrum Health (both in Michigan), and Northshore and Edward Elmhurst (both in Illinois). In each merger, the final partner was not the original choice. Advocate sought to acquire Northshore but was blocked by a Federal Judge; Advocate then crossed state lines to merge with Aurora in Wisconsin. Advocate Aurora then tried to merge with Beaumont Health; the deal fell apart due to internal opposition at Beaumont. Advocate then turned to merge with Atrium Health. In 2022, the two systems in the failed merger attempts (Northshore, Beaumont) each found a new partner in their own state. A similar pattern occurred in the proposed Fairview-Sanford merger when Sanford failed to complete a proposed merger with Intermountain Healthcare (UT) and UnityPoint Health (IA).

[Figure 2 here]

The question immediately comes to mind: how special and complementary can each of the combining systems be when they are actually marrying "on the rebound"? Perhaps the rocker Steve Stills was correct: "when you can't be with the one you love, love the one you're with". The song lyrics promote a dubious kind of personal relationship; ricochet romance ,when applied to hospital mergers, constitutes a dubious rationale.

Size Should Matter, Right?

Consultants assert that "size should matter",[13] despite the inconvenient truth of no relationship between larger hospital scale (above some very small size, perhaps < 300 beds) and reduced costs or improved quality.[8] That may be why hospital system advocates have pivoted away from arguing for the presence of scale economies "in a traditional sense" (spreading fixed production costs over larger patient volume at the facility or "plant" level) and searched for new, more metaphysical metrics which are harder to study (let alone define). Cain Brothers suggests that scale economies can be found under a lot of (new) rocks: physician infrastructure, physician alignment, clinical capabilities, innovation, covered lives, and access to capital (to name a few).[9] Do all of the sources on their list really scale? We address each of these in the paragraphs below. We also consider three other issues in regional system formations: addressing health inequities, observed benefits in cross-market mergers, and achieving multi-plant scale economies.

Physician Infrastructure

Cain Brothers never explains what physician infrastructure is, let alone how it scales. We are skeptical. First, the term 'infrastructure' is distinct from structure (e.g., firm size, scale), so immediately we may be on shaky ground. Infrastructure literally means the "below structure" or underlying foundation. This can include the physical systems that underlie a firm, such as communication and transportation systems along with basic facilities and services. It is not clear that such systems scale - - particularly in the absence of added volume and especially among hospitals that are dispersed geographically across multiple states that do not share medical staffs or physical plants.

Second, the critical infrastructure regarding physicians has been captured at various times in various ways by various parties. In the 1990s, researchers described the infrastructure needed by physician groups to manage capitated risk.[31] This infrastructure was not purchased physicial capital or structures acquired via deals. Instead, it encompassed a host of home-grown and largely tacit attributes that included: the ability to satisfy employers and their workers, the group's credentialing and quality assurance systems, the presence of a strong medical director, data on the group's processes and performance, a commitment to primary care, financial soundness, compensation and productivity methods, claims administration systems, and the ability to manage change (among others). A lot of these attributes sound like "infrastructure"which is hard to buy off the shelf; we suspect that few scale. Indeed, evidence suggests that the coherence of physician groups and their ability to manage strategic change may deteriorate as they enlarge.[32,33]

The Federal Trade Commission (sometimes in concert with the Department of Justice) has articulated the critical infrastructure for "clinical integration" that can offer quality advantages

to offset the anticompetitve effects of hospital mergers and provide a safe legal home for such combinations. At a general level, clinical integration seeks better interaction and interdependence among physicians in their provision of medical services. At a more granular level, physicians should be actively engaged in some set of the following activities, including: forming clinical committees to develop and apply clinical practice guidelines (CPGs), developing performance benchmarks and physician scorecards as clinical goals, engaging in quality measurement and management programs, conducting practice audits to monitor the performance of their peers in using CPGs, issuing performance reports on a regular basis to physicians, developing disease registries, developing tools to risk-stratify patients according to severity-of-illness, developing programs to actively manage the highest-risk and -cost patients, and developing criteria to selectively recruit physicians who can practice cost-effective care.[34]

The activities identified by federal agencies are not well-known. They used to be central to FTC/DOJ investigations of clinical integration but have been on the wane, perhaps reflected by the FTC/DOJ's June 2020 revision of their antitrust guidelines for vertical integration arrangements. Such clinical integration activities are generally labor- rather than capital-intensive; they are also time-consuming for regulators to document. This suggests a lot of infrastructure that is unlikely to scale because more physicians to integrate will require more coordinators to perform the integration. Perhaps the Biden Administration's recent effort to re-energize antitrust surveillance, along with the FTC's September 2021 decision to rescind the 2020 revisions, will revisit the important role of clinical integration in provider consolidation.

Indeed, a series of antitrust cases brought by these Federal agencies and State Attorney Generals reveal that most activities on this long list are sadly absent or seriously under-

developed in actual systems. Too often, providers combine to do joint contracting with commercial payers in order to extract higher reimbursement fees (i.e., higher prices) and begin work by building out a common EMR platform for billing (not quality) purposes. The latter is expensive and time consuming. Systems thus postpone the clinical integration activities enumerated above to a later date, arguing that "We had to move fast; we'll bring the physicians along later." It is not clear how any system is going to scale something that is non-existent. Hospital systems also argue that such clinical integration naturally follows from their economic integration (e.g., employment) of physicians. The evidence base solidly refutes this argument.[35]

Physician Alignment

Hospitals have tried in largely unsuccessful ways to 'align' with their medical staffs ever since the rise of the IDNs in the early 1990s. Physicians themselves have made even less effort to align with each other, except perhaps within their own specialty/clinic and in small numbers. That should have sent a troubling message to hospital and system executives.

Few people know what alignment means, and what it really means to the physicians who are the targets of such efforts.[36] Long ago, researchers specified a host of criteria for evaluating the effectiveness of physician-hospital relationships, including: frequent, open, and honest communication; extent to which problems are addressed in an effective and timely fashion; a low level of complaints and good morale; physician involvement in strategic planning; and collaborative joint ventures.[37] Shortell and colleagues variously defined alignment as the working cooperation among the caregivers, managers, and governing boards[38], or even more simply as "close cooperation"[39]. Other researchers studied alignment in terms of the presence

of conflict, commitment, organizational identification, citizenship behavior, and trust.[36,40] What is often missing is a clear statement of and metric for the end goal sought by alignment; aligning physicians to "improve patient care" is too vague as an operable strategy and ignores the financial bottom line. Finally, Press Ganey distinguished physician alignment (perceived strong partnership or connection with the organization's leadership) from physician engagement (appraisal of their work environment, emotional experiences, and attachment to workplace).

However defined, it is clear that alignment encompasses relationships among people which are unlikely to scale, given that larger scale involves more people and the likely attenuation of their relationships. There is considerable evidence that the level of alignment and trust between physicians and hospitals is tepid at best.[40,41] Moreover, this tepid level is unlikely to improve as one moves from a single hospital to multiple hospitals to even larger hospital systems that cross state boundaries: physicians are less likely to know one another, let alone interact with one another. As noted above, physician cultures deteriorate in larger groups.[32,33]

Clinical Capabilities

The foregoing sections cast doubt on the ability to scale clinical expertise. And, yet, executives and consultants assert that they will scale capabilities and build "economies of capabilities" in the hospital combinations.[10] Indeed, Intermountain's Senior Vice-President and Chief Strategy Officer stated that its merger with SCL Health was not based on limiting expenses, but rather on developing new capabilities by virtue of adding a health plan to SCL's operation, improving its

risk-based arrangements, and boosting population health management. As he stated, "If you are not bringing new capabilities, a merger will create value on the margins, but that value comes at a competing cost in managing a whole bunch more complexity." Given the historical lack of hospital success (i.e., operating losses, see below) with in-house health plans and risk contracting,[42,43,44,45] it is difficult to imagine how health plan operations add more to a hospital's capabilities than to its concerns. It is also unclear how an in-house health plan fits with clinician sentiments of disdain for interfering third-party payers (regardless of who owns them). Surveys reveal that physicians express even less trust in health insurance companies - - who prosper by holding down physician payments - - than in their health system executives.[46]

It is further unclear that executives and consultants understand what capabilities really are, or whether and how they would translate into clinician behavior. The term 'capabilities', which comes out of the corporate strategy literature, denotes bundles of resources (tangible assets and intangible assets such as knowledge, skills, culture) that can be integrated with one another to render them more productive.[47,48] This would include organizational routines, coordination mechanisms, teamwork, and other interpersonal processes. The strategic goal is to develop competitive advantage by virtue of bundling resources and capabilities that are valuable, rare, difficult to imitate, and organizable. Here again, this sounds like infrastructure and processes that are heavily rooted in interpersonal relationships and, thus, likely unlikely to scale - - even if the people whose behavior is to be coordinated eagerly accepted the task. To reduce costs compared to the present someone must be delegated authority to "say no" to something of patient benefit but high cost, and there are few volunteers for doing this in a

clinical setting. The problem is compounded by the lack of strong evidence for the presumed benefits of coordinating care and the presumed feasability of reducing low-value care.[49,50]

Innovation

The question of scaling innovation has long been addressed in the management and economics literatures.[51] There are two related questions. First, are large firms more innovative than smaller firms? Second, does M&A help to promote innovation? Several bodies of evidence point towards the same conclusion. Nearly eight decades of academic research reaches the same conclusion; there is little empirical support for Schumpeter's hypothesis that larger firms operating in concentrated markets (due to M&A) are the engine of technological progress and innovation.[52] While very small firms spend less on research and development (R&D) and produce less innovation, after a certain size threshold R&D spending seems to rise proportionately with firm size, with no evidence of higher levels of innovation in large firms. Research on pharmaceutical firms shows that productivity in their R&D operations (measured by approval of new molecular entities) is critically dependent on patent protection but not aided by either larger firm size or M&A.[53,54,55,56]

Covered Lives

There are at least three ways to address the issue of scale in covered lives. First, does it make sense for providers to offer their own health plans (i.e., combine service provision with insurance)? Are such plans likely to be popular and profitable? Second, what does research evidence suggest about the minimum efficient scale (i.e., where long-run average costs are

lowest) in operating a health plan? Third, how many hospitals and systems can operate health plans at this scale of operations?

The first question is perhaps the easiest to answer. Early research showed that hospital investments in health plans were associated with lower operating margins, higher debt-to-capitalization ratios, and higher premiums (on Medicare Advantage plans).[57,58] More recent research confirms that most provider-sponsored plans have not been profitable.[44,59] Nor have large provider systems been able manage larger revenues at risk with either higher profitability or lower cost, or to improve quality of care or patient experience in doing so.[43]

With regard to the second question, earlier research showed that the minimum efficient scale for an HMO was about 100,000lives.[60,61] Subsequent data lent some confirmation.[62,63] More recent data suggest the scale may now be higher (400,000 – 800,000 lives or more) and vary based on the book of business (e.g., commercial, Medicaid, Medicare Advantage).[64,65] For the pure insurance functions (setting premiums, pooling risks, and paying claims), diminishing returns set in at relatively small sizes (thousands) for the insurer, and some functions can be efficiently contracted out like administration and stop-loss protection; almost all larger employers are able to self-insure these functions. Likewise, for managed care activities (pretreatment approval, care protocols), off-the-shelf tools are available unless the health system has some innovative strategy it is providing. In contrast, the biggest fixed cost for a health insurer involves setting up and maintaining a provider network. Unless a single health system is large enough to cover whole markets without having to involve other hospitals that insureds want to use, there will be a challenge regardless of size. The addition of hospitals in North Carolina is not going to help your Wisconsin network.

With regard to the third question, more hospitals are now running in-house health plans, often to serve the currently profitable Medicare Advantage market. According to one industry database, the number of provider-sponsored health plans doubled between 2014 and 2016 from 107 to 270.[66] Providers have also entered the risk market by sponsoring ACOs, but with less consistent success or participation. Available statistics suggest these plans are often quite small in terms of enrollment, are usually smaller than the plans offered by insurers, and certainly below the minimum efficient scale discussed above. Data also show that the number of ACOs has plateaued in recent years at roughly 1,000 players, with nearly as many exits as entries.

One problem facing providers getting into the business of health plans and attracting covered lives is that they cannot compete with insurers on a level playing field. To succeed, they have to have something special to offer that insurers cannot. Insurers have had first-mover advantage in building up their base of enrollees and associated infrastructure to manage both patients and providers. Providers have little access to the capital markets and (especially right now) fewer retained earnings to invest in health plan operations, infrastructure, and growth. Provider-sponsored plans also feature higher medical-loss ratios compared to insurer plans.[45] Finally, IDNs have historically been challenged to figure out how to allocate their budgets across three needy constituents: system hospitals, physicians, and health plans.[67] Perhaps a health system's name or reputation may matter for an insurance plan, but employers (who enroll the great majority of the privately insured) are not typically sentimental about such things. In principle, a delivery system that can achieve lower than average internal costs or payments to physicians could use this for competitive advantage if it offered its own insurance plan that

exclusively captured these advantages. Alternatively, enrollees may report better consumer experiences with provider-sponsored plans.

Access to Capital

This is one area where scale may be advantageous. Standard & Poors and Moody's Investors Service assign higher credit ratings to health systems compared to freestanding hospitals. The higher ratings allow hospital systems to borrow money in the municipal bond markets at much lower interest cost; for example, a one-notch rating difference can translate into 10-15 basis points of borrowing cost (equivalent to $100,000 - $150,000 per $100 million in debt issued). Why is this the case? Ratings agencies utilize several criteria to gauge the credit worthiness of borrowers, such as size, operating cash flow, and profitability.[68] But the criterion of size has, at least historically, carried extra weight. Greater size can come in several forms including the absolute number of hospitals, the total revenue base, and the geographic diversification of revenue and cash flow across multiple, distinct markets.[69,70] That is because (until recently) larger hospital systems rarely had operating deficits. Large size could buffer losses in individual units. They may not earn the same margins as small systems, but they reduce the probability of deficits and offer an enhanced ability to ride out economic fluctuations. Ratings agency bias towards greater size rewards larger hospital systems; as the management saying goes, "what gets rewarded is what gets done".[71]

This differential advantage in borrowing costs may have prompted many smaller, independent hospitals to seek refuge in and consolidate with larger hospital systems.[72] Whether that consolidation helps their credit repuation depends of course on the fiscal status

of their new partners; a merger with other weak hospitals will not produce a strong one, and hospitals that are financially sound may avoid problematic partners (unless they can acquire them at a price below salvage value). There is evidence that, once acquired, systems invest significantly more in these previously freestanding hospitals compared to non-acquired hospitals.[73] The inability of nonprofit hospitals to raise equity capital also puts them at a disadvantage compared to similarly-sized for-profit firms, a disadvantage rarely made up by philanthropic contributions.

It should be noted, however, that the ratings agencies do not rely on scale alone; profit prospects also matter. Moody's downgraded the debt of Catholic Health Initiatives, which merged in 2019 with Dignity Health to form CommonSpirit Health. According to Moody's, "The downgrade reflects challenges associated with rapid system growth since 2014 that have suppressed operating margins and resulted in debt service coverage metrics that are below median levels."[74] Big or small, an organization needs a healthy bottom line up front to raise capital at favorable rates.

Health Equities

The Advocate/Aurora/Atrium merger is partially rationalized on the system's pledge to invest $2 billion to "disrupt health inequities". This is a laudable (albeit somewhat imprecise) goal but one that flies in the face of three strong headwinds. First, the merger was recently held up by the Illinois Health Facilities and Services Review Board, which delayed approval based on a letter received from a union representing more than 90,000 union workers in the Midwest. The group said it opposed the deal without assurances that hospitals in the Chicago area wouldn't

be shuttered to preserve profits. In particular, there were concerns that Advocate would close down facilities and/or maternity clinics in medically underserved communities in order to cut costs and consolidate services.[75] The credibility of system promises to engage in costly community benefits is always in question.

Second, systems have received unfavorable coverage in *New York Times* and *Wall Street Journal* articles depicting their strategies to (a) extract wealth from poorer neighborhoods they served and (b) divest facilities in such neighborhoods altogether to focus on wealthier communities.[76,77,78] Ironically, bond rating agencies may praise hospital systems for abandoning under-performing hospitals in poor neighborhoods. These strategies are consistent with evidence that hospital systems often turn to more aggressive pricing that captures unexploited market power with commercial insurers (e.g., those covering residents of wealthier areas) rather than cost cutting or downsizing, and collections from patients to improve the financial status of the acquisition. Academic research often finds that system mergers induce insurers to hike their reimbursements, which are passed along to employers and then to their workers in the form of higher premiums. Some small employers respond by dropping insurance coverage; some employees respond by opting out of insurance offered at work; both can contribute to greater cost sharing, more use of tax-subsidized insurance exchanges, lower health status, and greater health and financial inequities.[79]

Third, recent research indicates that following acquisition by a nonprofit system, nonprofit hospitals decrease their spending on population health, education, research, and subsidized health services. The diminished spend on population health and community benefits is exacerbated when the acquirer is located in another state.[80]

Finally, to offset health inequities that poorly-funded taxpayer supported programs like Medicaid or neighborhood health centers have failed to eliminate, a health system has to try to raise the funds somewhere. Profit margins are the obvious target but they are often lowest in the systems with the greatest problems with health inequities. Raising charges to private insurers is daunting if the local market is competitive, and proposing to make it less competitive to do so is often opposed by those who will pay more. Even diverting funds from other social missions such as research or (as noted above) community benefits can be hard. Actually reducing disparities (versus just stating it as a goal) requires a sustainable source of payment that even larger, high-volume health sytems find hard to fund on a meaningful scale.[81]

Cross-Market Mergers

Economists who analyze cross-market mergers express concern over the growing number and the potential ability of these enlarged systems to enhance their market power and charge higher prices.[82] Different studies measure different types of cross-market activity, making it difficult to draw firm generalizations; nevertheless, the results from three of these studies are fairly consistent. Our review here is brief; readers can read more detailed summaries elsewhere.[83,84]

Lewis and Pflum studied 81 acquisitions of solo hospitals by an "out-of-market" system (i.e., that had no market overlap for 45 miles, but may have been within the same state) over a ten-year period (2000-2010).[85] They found that, post-acquisition, the prices charged by the target hospital rose 17% higher than a control group. There were also spillover effects: prices of hospitals nearby the target also increased 8%, suggesting a weakening of competition or

attenuation of nonprofit motivation. The observed price increases did not appear to be due to changes in patient case-mix, hospital quality, or the cost of care provision. Separate empirical analyses found no impact of acquisition on hospital costs for either mergers within the same market or across markets - - similar to findings reported earlier.[86]

Dafny and colleagues studied the effects of cross-market mergers between 1996-2010 within a given state, and found the mergers resulted in 7-10% price hikes relative to control hospitals.[87] The price hikes were larger and statistically significant for hospitals that were more geographically proximate. Such price increases were obtained by both the target and the acquiring hospitals. Mergers of hospitals that spanned multiple states did not result in relative price hikes, suggesting that the pricing changes resulted from less competition in a local region.

Finally, Schmitt examined mergers occurring between 2000 and 2010.[88] Over one-third of these mergers (37%) had no geographic overlap between target and acquiring hospital at the hospital referral region (HRR) level; 13% had no geographic overlap at the state level. Schmitt then analyzed hospitals with "multi-market contact" - - defined as health systems that competed simultaneously with one another in multiple markets - - and found that such contact was associated with higher hospital prices. He hypothesized the presence of "mutual forbearance" whereby oligopolistic firms competing with other firms in multiple markets may not compete as vigorously so as to avoid triggering intense competition. This multimarket contact effect held for M&A deals both within and across state lines.

It is also possible that takeover of a local hospital system by an out-of-state firm erodes the motives of local managers to keep prices down for the benefit of local businesses and consumers. With a less concentrated stake in the welfare of the local community, hospitals

may move to exercise market power they aready had for returns to the overall system (and the repayment of any debt associated with the merger).

Management researchers have also studied the operating costs of hospitals and hospital systems operating at different geographic scopes.[89] At the hospital level, they found a curvilinear relationship between hospital size and hospital cost. Hospitals become less costly as they increase in scale at the lower end of the size distribution, but become more costly as they increase in scale at higher ends of the size distribution. There are, thus, decreasing returns to "plant-level" scale after a certain size (less than 300 beds). They also found that system membership is not associated with hospital operating cost, and that the size of the system is positively associated with hospital cost. Hospitals in the upper quartile of system size (30+ hospitals) have higher costs than hospitals in smaller systems, presumably because of diseconomies of scale in coordinating more units. Hence, systems are no more efficient than freestanding hospitals, and larger systems are less efficient than smaller systems. This lack of system effects on cost is consistent over time, despite changes in information technology and vertical integration with physicians. Locally organized systems based on "hub-and-spoke models" (lower distances between hospitals organized around a teaching hospital) have lower operating costs, while national systems operating in 4+ states have higher operating costs. Overall, while systems are not lower cost, some systems do worse than others.

Finally, the researchers found that centralized systems have lower operating costs than systems that are only moderately centralized or decentralized. These findings lend credence to consultant arguments that growing system size in the presence of centralized management may yield benefits. The problem is that the data on hospital system centralization (at least through

2010) are trending the wrong way by becoming more fragmented; as systems grow and encompass more disparate units, it is hard to avoid more internal fragmentation.[90]

One issue not usually considered in research on multi-hospital systems is the existence of multi-plant scale economies. Just linking small plants into an administrative chain will not reap plant scale economies. Combining a given configuration into a chain only helps if there are cross-plant scale economies. Economists find little evidence that multi-plant scale is associated with product-specific economies.[91,92] Overall, the economies of centralized management observed in industry are slight and threatened by scale diseconomies in managing too many plants. There also does not appear to be any correlation between multi-plant operation and industry concentration.

Why Do We Observe Cross-Market System Formations?

The analysis above suggests that cross-market system formations are unlikely to yield the benefits proposed by system executives, investment bankers, and consultants - - either in terms of patient welfare or appreciably higher profit. Research evidence suggests such formations also generate no cost savings or price increases for non-proximate hospitals. This all begs the question: why are such cross-market mergers of hospitals and hospital systems on the rise?

The possibility that a merged system is more able (or more willing) to enhance its market power (even if not able to produce better care more efficiently) is often advanced by system critics. However, that hypothesis would have stronger support if mergers really did increase hospital systems' measured profits across the board, a fact not yet in evidence (though strenuously argued by antitrust economists). If there are financial gains, they do not seem to

be enormous enough to make it through the data analysis. So what other reasons might motivate the current surge in reorganization that seems, based on past experience, to provide little benefit to anyone's apparent bottom line? We offer several hypotheses.

Managerial Economics

The literature on managerial economics of nonprofits offers one hypothesis - - and one that might help explain merger mania in other industries where it has proven hard to find a connection between rearrangement and higher profitability. Nonprofit hospital systems are run by professional managers with only a limited liability for the firm, and no need to fear corporate raiders buying their way into underperforming organizations. Such limited liability for losses may predispose them to be less risk-averse and more willing to take actions that may be useless or harmful. Managers of nonprofits also have limited ability to gain personally from higher system profits *per se* (e.g., no stock options allowed). So managers may well have a predisposition to grow the size of their organizations (with or without higher profits) due to rewards that accompany size *per se*, such as added remuneration, greater likelihood of promotion, added prestige, and power. This correlation is often attributed to competition among firms for executive talent.[93,94] A bland merger, however ineffective, is then a way to appear to do something bold without really taking chances while at the same time enlarging the enterprise to be managed.

Interviews we have conducted with current and past CEOs of hospital systems support this explanation. CEOs state that their colleagues grow their salaries and executive compensation by growing the size of their systems. This is because CEO salaries are pegged to

the salaries awarded CEOs at other systems of comparable size (patient volume, revenues, beds, hospital numbers). By acquiring more hospitals and systems, CEOs can benchmark their salaries against colleagues in larger systems, and persuade the boards of their systems to hike their compensation. Hospital system executives seem to have borrowed a page from the playbook of Al Davis, former owner and general manager of the Oakland Raiders in the National Football League, who became famous for telling his players in the locker room, "Just Win, Baby".[95] For hospital executives, the mantra may simply be, "Just Grow, Baby". Growth and increased scale have been notable (and explicit) goals of hospital system formations during the past decade. The CEO of Advocate Health stated in 2014, prior to the merger with Aurora, that, "It's all about the triple aim".[96] After the Aurora merger and before the announced merger with Atrium Health, he stated that, "We are big proponents on the value of scale."[97] It is worth noting that growth in CEO compensation in the corporate world is tied to growth in firm size.[98]

Growth seems to increasingly rely on acquisitions of hospitals and systems in non-adjacent markets (e.g., other states) for two reasons. First, regulatory authorities closely scrutinize proposed mergers in local markets, recently blocking two such deals in 2022. They seem less inclined to investigate cross-market mergers, perhaps because their economic analytic tools and legal antitrust concepts do not easily lend themselves to challenging mergers spanning multiple, separate markets. Second, many local hospital markets have already increasingly consolidated into a handful of large systems; there are few (if any) freestanding, independent hospitals left to be acquired. Executives are supposed to lead, and buying another system may be about the only safe direction for leadership. Alternatively, executives could

streamline their hospital holdings but, as CEOs assert, “you cannot shrink your way to greatness”.

There are other related reasons. First, using inorganic means, mergers with more hospitals and systems boost the total revenues of the acquiring system more rapidly and dramatically than the slower route of organic (internal) growth. This may be why system executives mention the importance of ‘speed’ and ‘leading with speed’. The successful acquirer then immediately can tout itself as the x’th largest system by revenues in the U.S., leapfrogging the competition. The recently announced merger of Advocate/Aurora with Atrium Health reportedly would result in 6th largest system in the U.S. with revenues of $27 Billion. Second, inorganic growth may serve as the fastest route to higher executive compensation, which may serve the interests of hospital executives whose average tenure is only five years. Third, such large system size (in terms of both hospitals and revenues) would improve access to lower-cost capital for the acquired hospitals. Fourth, oftentimes multi-state acquisitions target hospitals which have higher operating margins (due to favorable payer mixes and bargaining leverage over insurers) than the acquiring hospitals; this increases the profit margin of the combined system relative to that of the acquiring hospital.

Cult of the CEO

A related hypothesis for these multi-market mergers is the lionization of their executives. Hospital executives we have spoken with point to “the cult of the CEO” - - the growing stature of CEOs at hospital systems that acquire lots of hospitals, medical schools, universities, and other disparate assets across wider geographic space with the promise of extracting synergies

from such unrelated diversification. Two examples of "lionized" executives are the prior CEOs at Intermountain and Jefferson Health. Intermountain's addition of SCL Health's eight hospitals contributed $4.1 Billion and boosted revenues by 24.5%; Jefferson undertook a massive expansion in its hospital holdings between 2015-2021, and sank an additional $1 Billion into a telemedicine strategy. Few observors bothered to note that these systems entered upon hard financial times, leading both CEOs to recently step down.

Where did this cult of the CEO originate? We are not entirely sure, but can point to some early examples. In the mid-late 1980s, two of the most prominent, large multispecialty physician groups diversified geographically into different states. Both sought clinic growth by entering markets with growing populations. In 1986 and 1987, The Mayo Clinic expanded into Jacksonville (FL) and Scottsdale (AZ), respectively. Within two years, emulating its main competitor, The Cleveland Clinic likewise expanded into Scottsdale and two cities in Florida (Weston, Naples), acquiring one local hospital and joint venturing with Tenet on another. Both Clinics also established "affiliates programs" whereby they would lend their brand name and clinical expertise to other hospitals around the country in exchange for a hefty fee. The affiliate initiative might serve as a hub-and-spoke model to attract specialty referrals to the main campus, as well as to boost the quality of care and quality improvement at the affiliate hospital. The Cleveland Clinic also developed a regional healthcare delivery system in Ohio by affiliating with other hospital systems to its south and west.

Such multi-state models developed by prominent medical groups attracted a lot of attention of some academics and commentators, who assumed the models were successful and worthy of emulation. Atul Gawande called attention to the Cleveland Clinic's approach to in-

state, out-of-state, and affiliate hospitals as an illustration of "super-regional healthcare systems", concluding "Big Medicine is on the way".[99] He said that their model, like others, will "reinvent medical care" and move our healthcare system "from a Jeffersonian ideal of small guilds and independent craftsmen to a Hamiltonian recognition of the advantages that size and centralized control can bring." Michael Porter echoed Gawande's message (without the Founding Fathers) one year later, including the expanded geographic reach of the Cleveland Clinic based on its affiliate model as one of six pillars for "the strategy that will fix health care".[100] These systems, and their CEOs, thus became the focus of attention and agents of change in ushering in this new regional model of healthcare delivery that other systems should emulate. Their regional expansion became normative. According to Porter, not only *should* others imitate the "best practices" of the Cleveland Clinic on their way to transformation, but providers like the Cleveland Clinic who are superior managers and expert in specific clinical conditions (e.g., heart surgery) *should* expand their geographic reach.

Of course, no one bothered to investigate just how successful the Cleveland Clinic (and others who followed their example) has been with this super-regional strategy. The Cleveland Clinic's owned Florida hospital in Naples lost $1 Million per month for the first fifteen years of its operation; it acquired the other hospital from Tenet in 2006 and struggled just to break even during the ensuing three years. It eventually decided in 2019 to bolt on four more hospitals in the Southeast Florida market in an effort to emulate (and compete) with HCA and its 49 Florida hospitals. Navigant analyses show that, overall, the Cleveland Clinic suffered an aggregate operating income loss of $194 Million between 2015-2017.

The Johns Hopkins Health System (JHHS) met with decidedly mixed success in emulating the Cleveland Clinic's super-regional strategy. In 2011, All Children's Hospital (ACH) in St. Petersburg (FL) joined JHSS in a non-cash transaction that would serve to grow its profile. In 2013, ACH opened its "Heart Institute" to treat children with heart defects and grow in size and prestige. ACH suffered a string of infant deaths in 2017 and a tripling of its mortality rate between 2015-2017. Quality issues surfaced in April 2018, including surgeon mistakes and executives' disregard of safety concerns; several top executives and the chief of heart surgery subsequently resigned. Both JHHS and ACH suffered huge financial losses during 2018-2019: JHSS's operating profit dropped roughly $32M in Q1 2019, a 70% decrease from the prior year, while ACH finished Q1 with a loss of $11.5M, compared with $11M gain during the prior year.[101]

Governance Problems

We suspect the cult of the heroic CEO is enabled by compliant (and perhaps complicit) health system boards of directors. The boards' major tasks are twofold: select the CEOs and determine their compensation. To be sure, hospital CEO compensation is potentially driven by many factors.[102] Research shows that hospital boards incentivize their CEOs to engage in strategies to boost their facility's size (e.g., patient volume, beds) and financial performance (e.g., revenues, margins, return on assets) which may abet these expansion strategies.[103,104] CEO compensation is thus directly tied to volume, growth, occupancy rates, and "heads in beds".[105,106] Indeed, as Don Berwick has stated, boards "celebrate the CEO when the hospital is full instead of rewarding business models that improve patients' care."[107] CEO compensation is also

associated with the hospital's urban location and teaching status, both of which are tied to hospital size.[107] Nonprofit hospital board members (particularly those that come from the corporate world) may tend to tie the pay of their CEOs to the pay of for-profit hospital CEOs, who (in turn) may have their pay tied to CEOs of similarly-sized industrial and financial firms in the corporate world.[107] Conversely, CEO compensation does not appear to be strongly tied to efforts to control costs, improve value, or provide uncompensated care, and may not be consistently tied to other measures of the hospital's financial performance.[102,105,108]

Part of the problem may be attributed to the voluntary, unpaid nature of board service: only 25% of system boards compensate trustees. Not only are system board members unpaid, but they also (1) convene on a quarterly basis, (2) in meetings that last 3 hours or less for the majority of boards, and (3) that entail active discussion, deliberation, and debate for less than half of board meeting time.[109] One governing board observer noted, "a board only exists when it is meeting."[110] Over time, few boards have increased the number of their meetings, the duration of their meetings, and the actual debate time of their meetings - - despite the growing complexity of the healthcare ecosystem and growth of hospital systems. Boards may thus be struggling to keep up with the rising difficulty of governing a sprawling empire. It may be that boards are unclear about their strategic role, just as they were thirty years ago.[111] Research shows that hospital boards have been slow to change from their traditional roles as peripheral monitors and/or advisors to CEOs to become more actively involved in strategic decision-making.[112] Research also has failed to identify models of activist boards for nonprofits that improve performance. Analysts argue that such active roles could serve to increase hospital

focus on such goals as population health, community benefit, and satisfying regulatory quality mandates; empirical evidence has yet to support this.[113]

Conclusion

This analysis suggests a rather sobering interpretation of today's regional system formations. We find that more recent combinations by health systems continue the trend of failing to improve delivery of quality care or cost containment, while offering little or no gain to the merging systems' bottom lines or their commnities' welfare. Only executive salaries are improved.

While we can prove only some of our conjectures with available data, hospital executives have informed and seconded our views. To be sure, executives of regional systems that have formed cannot validate the hypothesized benefits of their merger efforts. Their assertions fly in the face of considerable research evidence. We can at least ask them, along with investment bankers and consultants, to economize on the rationale of scale economies.

We call on system governing boards to more closely consider what their systems are doing. Multi-market expansion does not seem to confer any benefits beyond the C-Suite. We suggest that boards discourage a focus on growth with potential long-distance partners and spend more time on oversight of hospitals already in the system. Calendar time and managerial energy should focus on the many problems hospitals now face that include expenses outpacing revenues, disparate care of patients, and uncoordinated behavior of their medical staffs.

How can traditionally passive nonprofit boards play this role? One idea is to redirect growing CEO compensation (which is now eight times greater than the wages of hospital

workers without advanced degrees)[105] to the compensation of (currently unpaid) board members to attract individuals with greater understanding of the complex healthcare ecosystem and incentivize them to spend more time in oversight functions. This would include longer board meetings, greater educational preparation for these meetings, time for governance audits (e.g., self-evaluation), and more executive sessions of the board without the CEO present. Of course, it would clash with the ethos of the voluntary board of a small community hospital, but that model is becoming more endangered and less relevant. System boards might also take a page out of the corporate literature and foster more open and honest discussions of system strategy, not only with board members but also with the medical staff.[114] To this latter end, systems might reverse the trend in declining physician board membership and involve more clinicians in their strategy discussions.

To their credit, some consultants have recently voiced similar concerns over health systems, suggesting the need for strong oversight of their strategy.[115] They argue that system growth, if it is to occur, should be based on more board deliberation, longer-term planning (rather than opportunistic acquisitions of systems in other states which usually entail little integration of system assets), and more careful monitoring of spending. The latter is critical given the faster escalation in system expenditures than system revenues. Policy-makers, in turn, might pay attention to the adverse consequences of shifts in market share on the quality and cost of care among all hospitals in an area, rather than treat growth itself as its own justification. No market can be expected to perform well without multiple sources of checks and balances.

If there are to be paid and hardworking board members, they need to devote their time to efforts to make nonprofit systems work better. This might involve enunciating missions that go beyond platitudes or simplistic support for the triple aim, goals with metrics for improvements such as providing high-value services for community members, programs that produce serious reductions in disparities, targeted growth in spending matched by additional benefits provided, and enhanced ability to work with physicians for more coordinated, patient-responsive, and cost-effective care. Reducing emergency room crowding (by increasing resources) and cutting wait times for appointments might be practical ways to start. Then the role of the board would be to oversee achievement of these goals and to monitor unintended (but hidden) side effects, as well as controlling empire building and other distractions from the mission of care whose quality is high relative to its cost.

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Figure 1

Recent Large-Scale Formations of Hospital Systems

System Combinations	Year	# States	$$ Revenues
Catholic Health East & Trinity Health	2013	22 states	$18.3B
Providence Health & St. Joseph Health	2016	7 states	$24.4B
Advocate Health & Aurora Health	2018	2 states	$12.2B
Atrium Health & Wake Forest Baptist	2019	2 states	$ 9.1B
Catholic Health Initiatives & Dignity Health	2019	21 states	$29.2B
Intermountain Health & SCL Health	2022	6 states	$14.2B

Figure 2

Recent Formation of Three Merging Hospital Systems