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Editorial

The future of academic medical centres in the US: Consolidation or extinction?

What does the future hold for academic medical centres (AMCs) in the US? Can they survive? Dr. Stephen Klasko, President and CEO of Jefferson Health, called the closure of the Hahnemann School of Medicine a “national warning sign” [1]. Other academic institutions, such as Emory University and Vanderbilt University, have begun to distance themselves from their associated hospital systems due to financial constraints. Our institution, the University of Louisville School of Medicine, has been involved in a several year process to save programs in heart disease and solid organ transplantation at a financially constrained, affiliated urban hospital.

How did we get to the present state of AMCs in the US? Before 1980, AMCs were defined as a medical school with one educational program and hospital [2],[3]. In the two decades after 1980, many AMCs reorganised and created “autonomous subsystems for education, hospitals, and physician services to isolate revenue streams for the university, simplify transfer payments, and reduce the risk of sending subsidy payments across campus” [2],[3]. This approach led to leadership silos, internal competition, and redundancy on the AMC level, and difficulty meeting enterprise-wide strategic goals [2].

Fast forward to the present. The current direction and reorganisation of AMCs is essentially in the opposite direction: towards reintegration [2]. Slade et al. not only noted the “turmoil and inefficiencies” of “management silos” and “competition among the subsystems,” but also noted the “economic downturn” and “national push for healthcare reform” [2]. Slade et al. described in detail the example of the successful integration of Georgia Regents University and the Health Systems University of Georgia and provided “lessons learned” [2].

The current number of AMCs in the US is not entirely clear. Chatfield et al. in their 2017 study noted that 275 member hospitals of the Council of Teaching Hospitals and Health Systems were AMCs [4]. Fleishon et al. stated that there are less AMCs than teaching hospitals, and “just over 130” AMCs in the US” [5]. Barzansky and Etzel noted 151 accredited schools of medicine in the US [6]. Many American College of Surgeons (ACS)-verified level I trauma centers in the US are part of an AMC. Although US trauma centers are a separate subject, it has been noted previously that, “There is much uncertainty about the future of the American trauma system” [7].

AMCs are expensive and complex health care delivery systems [8–10]. Fleishon noted that AMC costs were 10–20% higher on a case-adjusted basis [5]. The funding of AMCs is also complex. Clinical revenue often accounts for 80% of available revenue, and research funding accounts for 12% [5]. The US federal government is also the largest source of these research dollars [5],[11]. Medicare provided nearly $10 billion of financial support for training programs in 2010 [5]. However, much of this government funding appears to be at risk. The proposed American Health Care Act of 2017 suggested an $834 billion reduction of federal spending on Medicaid until 2026. Under this bill, the federal dollars received at the state level would continue to decline; thus, hospitals would see an increase in uncompensated care - potentially as much as 78%. This suggested bill reiterates the overwhelming concerns of future governmental support for AMCs. Nancy Andrews, during a 2009 American Society for Clinical Investigation Presidential address, stated that “success has fueled expansion beyond what relatively fixed revenue sources available to academic medical centers can provide for” [12].

AMCs are disproportionately targeted by health care reform initiatives [5],[13]. AMCs also have a disproportionate share of the uninsured and under-insured patients and function as a “safety net” within their communities and region. Current value-based payment models place AMCs at a disadvantage because of the patient populations they serve. The current revenue cycle is not sustainable. AMCs can no longer rely on clinical productivity to supplement the research and educational goals of the institutions.

What actions can be taken to strategically improve the future of AMCs in the US? Various experiences with AMCs have been discussed and may provide some answers.

Dzau et al. noted that a focused and clear mission with specific goals within areas of excellence will be necessary for AMC success [14]. They recognised that the ever-changing medical field has raised significant concerns, “a risk of extinction.” Research will necessarily shift towards clinical and translational research, focusing on the “discovery-to-care continuum,” integration of the sciences, collaboration, and elimination of intellectual isolation [14]. Rather than broad, decentralised research, AMCs will need to create centralised, focused goals to address hospital care and research direction [14].

AMCs will need to provide preventative medicine in addition to the traditional role of providing highly specialised acute care. Emphasis will need to be on efficiency and population health outcomes with improved coordination of care. Gourevitch and Thorpe recently reported on a framework for population health at AMCs with goals of population health improvement, improving patient experience, and reducing costs [15]. Davis et al. noted the

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continuing professional development of faculty as a possible key to success for AMCs in the future [16].

The University of Arizona Health network used a "transformative approach" to create a partnership with Banner Health via an academic affiliation agreement (AAA) to create Banner-University Medicine [17]. They abolished the traditional departments, and replaced them with institutes focused on a specific disease, disease process, or anatomic region. These institutes allow for delivery of coordinated, multi-specialty care focused on individualised care with the addition of nurse navigators to assist in the coordination of care. Each institute identifies five areas of focus within the specialty to coordinate research efforts, establish community identity, and improve patient satisfaction and outcomes [18].

The governance structure and organisational chart of AMCs is also another area for change. Pellegrini et al. noted that "the governance structure" of AMCs is "of critical importance" [19]. These authors noted the often cited anonymous quote, "If you've seen one academic health center, you've seen one academic health center" [19]. They also noted the heterogeneous nature of AMC governance [19]. Nonetheless, these authors noted that the essential elements of AMC governance going forward are, "Preservation of academic oversight of the faculty practice plan, a unifying central focal point of organisational decision making, and genuine physician leadership…" [19].

Itri et al. discussed challenges with funds flow at AMCs, and emphasised that, "Funds flow is the mechanism used by health systems to ensure alignment, drive accountability, support enterprise-level goals and financial sustainability, reinforce excellence in academic missions, and preserve flexibility to adapt to changing needs" [20].

Fleishon et al. noted that there is a "nationwide trend toward consolidation with academic medical centres leveraging their substantial assets to merge, acquire or establish partnerships with their community peers" [5]. These authors also noted that "nearly all sectors of the health care industry are rapidly consolidating" [5]. Consolidation would allow for development of a cohesive institutional strategy, methods for action and adaptation, along with the ability to truly implement it [21].

AMCs may also need to identify additional sources of revenue and explore financial alignments with organisations in the surrounding communities. Pharmaceutical and implant companies have made substantial profits from the research directly performed at AMCs. More industry partnerships could provide additional revenue streams.

Partnerships within local communities will become increasingly necessary to focus on population health and community engagement. Smaller community hospital partnerships or affiliations would allow for satellite locations for the AMC and lower acuity care with transfers of more ill to the more expensive AMC when necessary. This allocation of resources would exponentially offset the higher costs of an advanced care facility and avoid inappropriate utilization [21].

The attractiveness of academic medicine as a career to medical students and young physicians has also come into question. There may be varying reasons for this in addition to generational differences. Compensation can vary substantially between academic practice and private practice. Itri et al. noted that "academic radiologist salaries were only 60% of their private practice peers" [20]. When the academic physician is financially compensated significantly less than physicians in private practice with the newer physician employment model (e.g., specialist group, hospital-employed, etc.), how can this be sustainable? As AMCs look to drive physician productivity and revenue from patient care, there is increased pressure on the academic faculty at AMCs. Of course, this pressure is added on top of the other components of the AMC mission: research, education, and community engagement/service. There may be a silver lining in the intellectual capacity area. Viviano noted that AMCs attract individuals "who are visionaries in their respective areas – people who expect to be leaders in their practice, in the field of medicine, and in the industry" [4]. In addition, it has been noted that there is less interest in physician-scientist career pathways, and that most researchers with medical degrees did not receive their first major National Institute of Health (NIH) grant until they were 45 years old [22].

As American medicine continues to grow to a quintile of the US economy, what will happen to AMCs? Is it possible for the historic academic medical centre to survive as focus shifts toward profit and productivity, and away from cutting edge patient care, research, and medical education? Can AMCs be made profitable? As Robert Field asked (and this may be more of an American question), is medicine a for-profit commodity or an essential public service, and government responsibility? [23]

AMCs within the US have been the catalyst for medical progress and advancements. Whether it is consolidation by merger or closure, there will be fewer AMCs. One health care consultant has applied the term "margin meltdown" to the future plight of AMCs [24]. One can only hope that any meltdown is limited to the margin. The Hahnemann closure is only one of several examples that the process of AMC closure and consolidation has already begun. Private equity, US employers, and the healthcare industry will not wait for physicians to fix AMCs. The bell has already tolled. Physicians must rise up and be real leaders in the reorganization of AMCs in the US.

The future of AMCs remains unclear; however, options for success exist. At this time, it is necessary to identify and merge the goals of an institution and individual departments, consolidate and reallocate resources aligning with the overarching goals, and develop an action plan with a focus on efficiency. We, as physicians, need to begin locally: attend the meetings with Deans/CEOs, help establish institutional goals, and initiate change within our own departments. These small measures could initiate a wave of change within the entire AMC.

Brandi Hartley
Craig Roberts*
Department of Orthopaedic Surgery, University of Louisville School of Medicine, 550 S. Jackson Street, Louisville, KY 40292, United States

*Corresponding author.
E-mail address: craig.roberts@louisville.edu (C. Roberts)

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