

What We Can Do To Justify Hospital Investment in Geriatric Emergency Departments

In this issue of *Academic Emergency Medicine*, Southerland et al.¹ describe a business model for staffing and equipment in a Level 1 accredited, academic geriatric emergency department (GED). The authors described program costs, including staff salaries for a geriatric nurse practitioner, pharmacist, and physical and occupational therapists. Equipment costs were mobility aids, delirium aids, sensory aids, and personal care items. Reimbursement was the potential increase in billing from the addition of new staff.

According to the authors, the additional GED staff become “self-sustaining” at specific workload thresholds. This meant that their costs would equal their potential billings at 7.1 daily consultations for the geriatric nurse practitioner, 7.7 daily medication reconciliations for the ED pharmacist, and 5.7 and 4.6 daily evaluations by physical and occupational therapists, respectively. Equipment costs were <\$5,000. The authors also assessed how their GED impacted ED metrics and patient safety, finding no impact overall on ED throughput (e.g., prolonged lengths of stay), decisions to admit, or ED returns. However, fall rates in the ED and ED observation unit declined by about 25%. From the fall reductions, they estimated cost savings of ~\$80,000.

This paper was written for a singular purpose: to help justify hospital investment in creating a GED. It involves return on investment (ROI), a common business term infrequently invoked in clinical circles. Financial ROI is defined as the financial gain (or loss) that may be realized through starting a new program. In the current environment, ROI is given inadequate

attention by clinicians despite its vital importance, including those who seek to start GEDs.

To unpack the importance of ROI, it is first illustrative to explore how complex, mercurial organizations like hospitals make enigmatic decisions about investing in new programs like GEDs and addressing other pressing issues. ROI is one component, but the decision to invest staff time and financial resources in a new venture like a GED is multidimensional.

First and foremost, hospitals invest in programs that address an immediate threat, also called a “hair-on-fire” issue. The current coronavirus (COVID-19) public health crisis is a great example of this: COVID-19 impacts patients, staff, and a hospital’s ability to conduct business. Hospitals also invest when required to by external organizations such as through the Centers for Medicare & Medicaid Services’ Conditions of Participation or accrediting bodies perceived to be necessary to operations such as The Joint Commission (TJC). Requirements by these organizations are also hair-on-fire issues.

Another important factor but lower priority than hair-on-fire issues are programs that bring reputational benefit to the hospital; for example, gaining an accreditation—such as a GED. Accreditations are used in marketing materials with the goal of improving market share and may even allow for high reimbursement. For example, hospitals charge higher fees when they are designated as a trauma center versus not having that designation.² Programs impacting clinical quality metrics are also high priority for hospitals, in particular those that are tied to reimbursement bonuses or

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penalties. Metrics can also impact important reputational scores, such as the Medicare Stars ratings. Yet arguably, the most important question is the nonfinancial “R” in ROI: what is the evidence that a new program will improve patient outcomes?

For program economics—financial ROI is the metric of choice. Financial ROI is an estimation of the costs (fixed and variable) and revenue generated from new programs. This calculation aims to include all measurable aspects of the program that impact the bottom line. Another important economic consideration is the trade-off between investments in a particular program in comparison to competing alternatives. Let us now apply these criteria to two relevant decisions facing hospitals: whether to fix ED crowding and whether to develop an accredited GED.

The alarm bell on ED crowding was loudly sounded in 2006 with the publication of three Institute of Medicine reports describing common and frequently overcrowded state of a fragmented American emergency care system.³ Since that time, a steady stream of literature has linked crowding with higher mortality, higher rates of complications, and worse quality of care.⁴ It is unquestionable that having an overcrowded ED is an adverse situation for both patients and staff.

Emergency department crowding is also eminently fixable. An expanding set of tools exists to reduce ED crowding and boarding and improve hospital flow.⁵ Nearly 15 years after the wide dissemination of these reports, many hospitals have successfully addressed crowding. But many have not.⁶ Crowding and boarding are still common problems, particularly in large academic EDs. The reason for inaction by some hospitals comes back to the criteria that hospitals use to make decisions, including financial ROI.

First, crowding is not really a hair-on-fire issue for many hospitals, despite years of cage-rattling from the ED community. Second, TJC and CMS have not required hospitals to reduce ED crowding. TJC’s Patient Flow Standard attempts to address crowding, but there is no enforcement. CMS has not addressed crowding or boarding in the Conditions of Participation. There is also no direct impact of crowding on reimbursement, as hospitals are allowed to charge inpatient fees even when patients board in ED beds for prolonged periods. As a positive step, however, in 2013, metrics of ED crowding were released on the public website Hospital Compare and metrics related to ED length of stay and boarding have also appeared

in public reporting,⁷ but these metrics emerged at the same time as a panoply of other metrics, including those garnering higher attention like hospital readmissions.

Finally, the ROI question of reducing ED crowding and boarding has been addressed by capturing revenue from the care provided to additional patients who would otherwise have left without being seen.⁸ However, large academic medical centers that can operate at high occupancy do not place the same priority on reducing hospital volumes—particularly from lucrative elective surgeries—merely to reduce crowding in the ED. Also, many large academic hospitals—before COVID-19—were in a capacity-constrained model: there were more patients demanding care than they could accommodate. Therefore, persistent ED crowding was just a by-product of an intentional strategy to maintain high occupancy.

However, other hospitals who have viewed their EDs as the front door have prioritized reducing crowding and improving flow. Many hospitals see ED efficiency as a basis of competition. To these hospitals, reducing crowding and boarding has been seen as a worthwhile investment, that is, a good ROI, despite the large challenges of collaboration across departments and stakeholders.

Moving to GEDs, hospitals would likely apply similar criteria in the decision whether to implement one. First, starting a GED is no hair-on-fire issue, nor is part of any Medicare or TJC rule, which would require the immediate proliferation of GEDs. Yet, many hospitals see having a GED as a reputational benefit to be used in marketing materials to attract patients, particularly in communities with high proportions of seniors. As of April 2020, a total of 132 hospitals are accredited as GEDs by the American College of Emergency Physicians (ACEP). In their article, Southerland et al. also describe the impact on ED-based falls. ED-based falls are a subset of hospital-based falls, a component of publicly reported hospital quality metrics. The degree to which a potential 25% drop in ED and observation unit based falls—if generalizable—attributed to a GED might influence actual reimbursement from public reporting programs is an important calculation that an individual hospital would need to make.

Even more importantly, however, while GEDs have been in place for many years, high-quality evidence that supports their efficacy on outcome improvement still remains scant. Supporting evidence largely

consists of single-center before–after studies with variable results.^{9,10} Therefore, a weakness in the argument for a GED is that no major trials have truly demonstrated a large, consistent clinical impact on care or outcomes. This lack of evidence will limit widespread uptake of this model until these data emerge.

Finally, there is a financial ROI component for GEDs which the authors address in their report. Specifically, the authors do deliver a partial justification for direct costs and potential reimbursement effects. But the article does not include all the costs or benefits that a hospital might spend or reap with a GED, including the fixed costs of the accreditation (\$2,500–\$15,000), trade-offs on how using the space for a GED might reduce space for other activities, how reducing falls may increase payments or reduce penalties in actual practice, and how the ROI for GEDs might compare to that of other types of accreditation. In addition, there may also be other hidden benefits that may impact the ROI for GEDs such as improving acute care transitions in care and the effect on other quality metrics in public programs.

Ultimately, each hospital will need to decide whether implementing a GED is the right model for them. Justification of ROI is one piece of that puzzle, but the more important mission now is to generate the evidence that GEDs improve patient outcomes in the short and long term. High-quality evidence linking GEDs to improved outcomes will raise the priority of organizations such as TJC, CMS, and other quality measurement bodies to promote GEDs and GED-focused quality metrics. If and when that data emerge, our nation's aging population may have an increasing cadre of GEDs to meet their care needs.

Jesse M. Pines, MD, MBA^{1,2} 

(pinesj@usacs.com)

Simon Edginton, MD¹

Amer Z. Aldeen, MD¹

¹ US Acute Care Solutions, Canton, OH,

² Department of Emergency Medicine, Allegheny General Hospital, Pittsburgh, PA,

References

1. Southerland LT, Savage EL, Muska Duff K, et al. Hospital costs and reimbursement model for a geriatric emergency department. *Acad Emerg Med* 2020;27. <https://doi.org/10.1111/acem.13998>
2. Zocchi MS, Hsia RY, Carr BG, Sarani B, Pines JM. Comparison of mortality and costs at trauma and nontrauma centers for minor and moderately severe injuries in California. *Ann Emerg Med* 2016;67:56–67.e5.
3. Institute of Medicine. IOM report: the future of emergency care in the United States health system. *Acad Emerg Med* 2006;13:1081–5.
4. Bernstein SL, Aronsky D, Duseja R, et al. The effect of emergency department crowding on clinically oriented outcomes. *Acad Emerg Med* 2009;16:1–10.
5. Chang AM, Cohen DJ, Lin A, et al. Hospital strategies for reducing emergency department crowding: a mixed-methods study. *Ann Emerg Med* 2018;71:497–505.e4.
6. Warner LS, Pines JM, Chambers JG, Schuur JD. The most crowded US hospital emergency departments did not adopt effective interventions to improve flow, 2007–10. *Health Aff (Millwood)* 2015;34:2151–9.
7. Mullins PM, Pines JM. National ED crowding and hospital quality: results from the 2013 Hospital Compare data. *Am J Emerg Med* 2014;32:634–9.
8. Pines JM, Batt RJ, Hilton JA, Terwiesch C. The financial consequences of lost demand and reducing boarding in hospital emergency departments. *Ann Emerg Med* 2011;58:331–40.
9. Aldeen AZ, Courtney DM, Lindquist LA, et al. Geriatric emergency department innovations: preliminary data for the geriatric nurse liaison model. *J Am Geriatr Soc* 2014;62:1781–5.
10. Grudzen C, Richardson LD, Baumlin KM, et al. Redesigning geriatric emergency care may have helped reduce admissions of older adults to intensive care units. *Health Aff (Millwood)* 2015;34:788–95.