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Aligning emergency care with the triple aim: Opportunities and future directions after healthcare reform

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ABSTRACT

The Triple Aim of better health, better care, and lower costs has become a fundamental framework for understanding the need for broad health care reform and describing health care value. While the framework is not specific to any clinical setting, this article focuses on the alignment between the framework and Emergency Department (ED) care. The paper explores where emergency care is naturally aligned with each Aim, as well as current barriers which must be addressed to meet the full vision of the Triple Aim. We propose a vision of EDs serving as a nexus for care coordination optimally consistent with the Triple Aim and the requirements for such a role. These requirements include: (1) substantial integration in coordinated care models; (2) development of reliable and actionable data on ED quality, population health, and cost outcomes; (3) specific initiatives to control and optimize ED utilization; and (4) payment models which preserve surge and disaster response capacity.

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1. Introduction: the Triple Aim

The Triple Aim has become a fundamental framework for understanding the need for broad health care reform since described in a 2008 article by Berwick and colleagues.[1] At its core, the Triple Aim is a "system of linked goals" designed to achieve a high value, equity-based health care system, one that "contribute[s] to the overall health of populations while reducing costs."[2]

The first "aim" is *Better Care* or improving the individual experience of care. This aim is frequently articulated by the six drivers for improvement in the Institute of Medicine (IOM) report *Crossing the Quality Chasm* – safe, effective, timely, patient-centered, equitable, and efficient care delivery. The second aim, *Better Health*, captures improvement in the overall health of populations, which includes traditional health care services and disease prevention and health promotion. This aim seeks to integrate numerous aspects of population health, such as socioeconomic, physiological, and behavioral factors to lower disease burden, reduce mortality, and improve health and functional status. The final aim, *Lower Costs*, encapsulates the full range of expenses in the health care system – public and private payer, consumer out-of-pocket, public health, and indirect expenditures – to understand and lower the true cost of care for populations.

The three aims of this framework are in constant tension and can at times be in competition or complementary to one other. A particular delivery system change, such as a new expensive medication, may increase the cost of care while improving care provision or population health. Or provision of services in a low cost environment may improve the timeliness of care delivery but have negative impact on individual or population health outcomes. The framework requires a broad time horizon and viewpoint to be effective; over time, a responsible delivery system could work to correct such imbalances by lowering per capita cost while maintaining quality outcomes and access to care. The Triple Aim does not necessarily require equipoise today, but prioritizes equity above all else and demands a constant drive towards equipoise. The required balance and need to optimize all three aims is what distinguishes this framework from the current market and regulatory approach.

Relatively little work has been done to apply the Triple Aim framework to particular clinical environments. This article focuses on the alignment between the Triple Aim and Emergency Department (ED) care, so often depicted as too expensive, uncoordinated, and unintegrated with broader delivery reform. ED care could be viewed as being at odds with the Triple Aim. This paper will explore where emergency care is naturally aligned with each Aim of the framework, as well as current barriers to alignment (Fig. 1). We will also discuss specific innovations in emergency care pushing the field further along toward realization of the Triple Aim. Finally, we will propose a vision of EDs serving as a nexus for care coordination and the requirements for such a role.

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Triple Aim	Current Alignment	Barriers	Demonstrated Improvements	Vision: Nexus for Care Coordination
Better Care	• Quick and effective management of acute and life-threatening conditions • Ability to deal with unscheduled and unpredictable care • Desired setting for "first contact" care • Expedited, often complex evaluations	• Lack of integration in longitudinal care; episodic approach to care • Current economics rely on patient volume and quick disposition • Short-comings in experience of care: wait times, crowding, boarding, quality outcomes • Disparities in care	• Increased ED integration in coordinated care models: improved quality and performance measurement, availability of primary care to appropriately leverage ED care, focus on high cost and complex conditions • Promotion of high value ED utilization: eliminate excess utilization, offer more longitudinal services and consistent follow-up, technology enhancements • Creation of specialty EDs: focused, efficient services for specific patient populations • Incorporation of efficient, Lean manufacturing processes: parallel processing, rapid intake and team triage	• Substantial integration in different models of care and delivery system approaches: structural and cultural integration, public health support • Development of reliable and actionable data on ED quality, population health, and cost outcomes • Specific initiatives to control and optimize ED utilization, streamline processes, eliminate waste • Payment models which preserve surge and disaster response capacity
Better Health	• Safety net: care of the uninsured, underinsured, and other disenfranchised populations • Complex patients with numerous co-morbidities and elevated acuity	• Lack of preventive services, specialty care, or outpatient integration • Lack of comprehensive, ED-based metrics of performance and outcomes		
Lower Cost	• Comprises 2-4% of national healthcare expenditure • Higher intensity care may prevent hospitalizations • EDs preserve system response capacity to healthcare needs and disasters	• High cost, resource intensive care • Outlier billing behavior • Expensive, complex decision making (e.g., patient admission)		

Fig. 1. Alignment of Emergency Care with the Triple Aim.

2. *Better care*: efficient ED diagnosis and care of complex conditions

Optimizing care delivery for individuals requires that it be safe, effective, timely, patient-centered, equitable, and efficient. On many of these metrics, ED care shows significant alignment with this Aim. Unlike many specialties, IOM drivers for improvement are explicit in much of ED care. EDs are equipped and designed to quickly and effectively manage acute and life-threatening conditions and are judged routinely on timeliness and efficacy: 90 min for percutaneous intervention of certain heart attacks, three hours for diagnosis and treatment of stroke, four hours to antibiotics in pneumonia, and the "golden hour" of trauma care are some examples. All of this occurs in an unscheduled, unpredictable, and open environment under tremendous volume pressure: the number of ED visits has increased by 34% over the last 15 years and now exceeds 130 million visits annually.[3] Improving throughput and efficiency through lean processes is a common approach to enhancing the timeliness and patient-centeredness of ED care.[4]

EDs are also increasingly being demanded by patients for "first contact care." Over the last 10 years, treatment location for acute care visits has been shifting from physician offices to EDs – though ED physicians comprise less than 5% of the U.S. physician workforce, they now manage and treat over one-quarter of all acute care encounters.[5] The highest increase in ED visits by time of day has been during traditional outpatient office hours.[6] There are numerous factors leading to this shift, including symptom severity, convenience, the lack of other options, and limited hours or availability of primary care settings. Lack of insurance coverage does not appear to be the primary determinant of this trend, as many studies have documented a correlation between increasing insurance coverage and increasing ED utilization.[7–10]

Outpatient physicians too are demanding ED care for their patients, primarily to expedite diagnostic workups.[11,12] A major benefit EDs offer is the availability of numerous resources, including a wide range of diagnostics, procedures, services, and access to specialty care. EDs are able to leverage these resources with efficiency gains over other outpatient settings. A patient requiring laboratory and radiologic testing and specialist consultation for the evaluation of a new or changing condition will often be referred to the ED, where such an evaluation can be performed in hours instead of days. The improvement in patient experience can be dramatic. Numerous factors contribute to this trend, including increasingly busy primary care providers, decreasing reimbursement, and the growing burden of complex patients. For both patients and physicians, ED care can offer value unduplicated in other settings.

2.1. Current challenges to care: lack of longitudinal care and crowding

Despite their role in improving the individual experience of care, EDs face significant challenges in this aspect of the Triple Aim. One critical limitation is the lack of integration in longitudinal care. EDs typically adopt an episodic approach to care. Emergency care is built to treat symptoms at presentation, not diagnoses over a broad arc of care.[13] This tension, for example, produces significant reluctance to perform screening tests in the ED (e.g., HIV screening) or manage chronic conditions without an acute component during the presentation (e.g., hypertension without hypertensive urgency or emergency). Such limits are consistent with an episodic, fee-for-service approach but discordant with a patient-centered, efficient system which would demand reasonable optimization of every patient encounter.