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Editorial

Front-Door Geriatrics: Frailty-Ready Emergency Department to Achieve the Quadruple Aim

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Emergency Departments (ED) across the globe are progressively challenged to provide high value geriatric care to acutely ill and frail older persons. This is fueled by the rapid and disproportionate rise in older persons attending EDs, which adds significant pressure to healthcare systems worldwide (1, 2). Older persons not only bring along considerable acute illnesses and comorbidities, but challenges even the most seasoned ED clinicians with their constellation of physical, psychological, functional, and social needs, which may not be readily apparent (3). The multidimensionality of care needs is often described by a single word – frailty – a well-known syndrome defined as a state of reduced strength and physiological malfunctioning that increases a person's susceptibility to increased dependency, vulnerability, and even death (4-7). Therefore, it is often the complexity of care exhibited by these vulnerable individuals that demand our full attention amid significant time-constraints with limited manpower at the ED (8, 9). This not only impacts on patients' health outcomes but exposes ED professionals to burnout and low job satisfaction (10, 11).

Three predominant factors are paramount in significantly influencing hospitalization outcomes among older persons, namely acuity-of-illness at presentation, premorbid frailty status, and the incidence of hazards of hospitalizations including nosocomial infections, iatrogenic complications, and functional decline (12, 13). While not much can be done to modify the former two factors once patients present to the ED, a great window of opportunity exists to mitigate the latter with possibility of admission avoidance through the prompt delivery of effective geriatric care right at the front-door of acute hospitals. Given that EDs stand as a portal to multiple care settings (i.e., acute, subacute, short-stay, intermediate, ambulatory, and palliative care), it is imperative to ensure the right patient gets the right care, and is linked-up to the right services (14).

The quadruple aim

Against this backdrop, EDs must work towards developing well-crafted strategies to embrace the critical megatrend of an aging population. To this end, we propose the adoption of the Quadruple Aim framework to promote the development and delivery of high value healthcare systems (15, 16) (Figure 1). It comprises four key objectives: improving patient health outcomes, reducing cost, improving patient experience, and improving healthcare team experience. Each objective is complementary to each other and is correlated with organizational efficiency, which ultimately enhances productivity (16). Hence, bearing the Quadruple Aim framework in mind, and recognizing that traditional ED care models can no longer adequately meet the needs of older persons, the leadership within healthcare organizations must support their EDs in every effort to redesign current care systems and practices in order to address the mismatch between existing care delivery and evidence-based best practices for caring for older persons.

Models of care for a frailty-ready ED

Several models of care for a frailty-ready ED already exist and can be divided into two broad categories: 1) environmental improvements for a senior-friendly ED that incorporates Geriatric Emergency Department (GED) care principles (17-29), and 2) geriatrics practitioner or champion care model (17, 25). The primordial model is the concept of a distinct Older People's Emergency Department (OPED), which has been well established in the US, Italy, and England (17-20). The first OPED in England was established in 2017 with staff consisting of a multidisciplinary team of advanced clinical practitioners, community access teams, nurses, geriatricians, and junior doctors. It focuses on delivering emergency care to patients aged 80 years and above. While a recent retrospective cohort study failed to show that OPED could significantly reduce the likelihood of hospitalization, it did demonstrate shorter wait for clinical assessment and reduction in time spent in the ED (20). As this concept remains at its infancy, future work is still needed to evaluate short- and long-term outcomes for patients under OPED care.

If constructing an OPED is not a viable solution, then carving out a dedicated space within the ED can be considered. Numerous hospitals in the US have established GED units (17, 21). These units are designed with structural enhancements to provide a senior-friendly environment for older patients and is often staffed with a multidisciplinary team of geriatric experts comprising geriatricians, nurses, palliative care specialists, social workers, case managers, therapists, and pharmacists. Due to limited bed capacity, screening assessments are essential to identify patients who will benefit most from the multipronged

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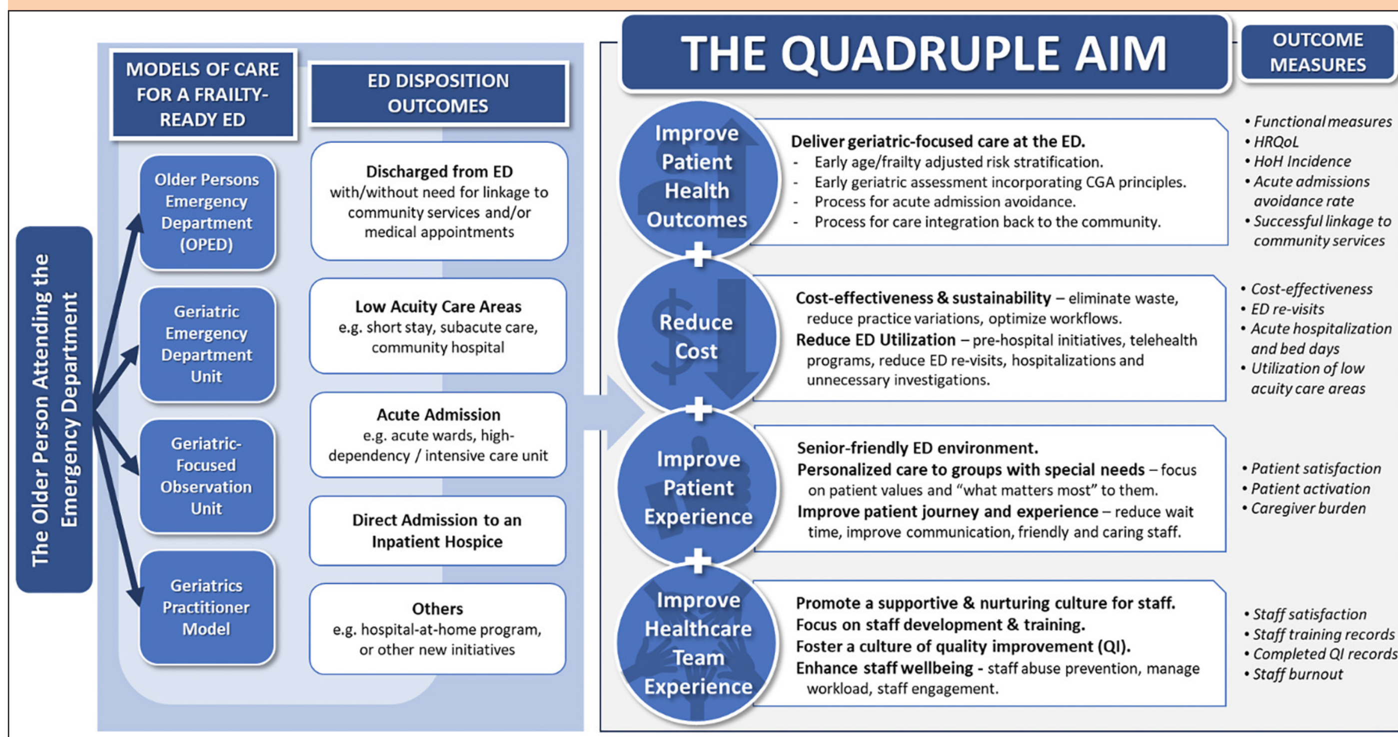
Figure 1. Current models of care for older persons at the Emergency Department (ED) & focus areas for achieving the Quadruple Aim



CGA, comprehensive geriatric assessment; ED, emergency department; HoH, hazards of hospitalization; HRQoL, health-related quality of life.

evidence-based protocols delivered at these units. The GED care model has been demonstrated to increase the likelihood of discharge, reduce hospital admissions and readmissions, shorten lengths of stay (LOS) at ED and hospital settings, decrease hospital costs, and reduce mortality risks (21-24).

Next, EDs can consider establishing geriatric-focused observation units. An increasing number of EDs have now established observation units, which are primarily designed to admit patients with an anticipated LOS of 24-48 hours (26-28). Older patients admitted to these units typically include those with presentations of falls with minor injuries, mild infections, minor trauma or road traffic accidents, and non-traumatic musculoskeletal pain (29). These units often have senior-friendly structural improvements and are developed with geriatric-focused care protocols including early administration of the CGA, which can be delivered by ED physicians and nurses trained in geriatric care. It has been successful in decreasing admissions, readmissions, and functional decline among older adults discharged from the unit (26-28).

If no dedicated space is available, EDs can consider adopting the geriatrics practitioner care model (17, 25). Geriatric-focused care approaches can be developed, which may include environmental improvements along with well-crafted evidence-based geriatric protocols (from assessment to discharge and care transitions). The model can be delivered by a multidisciplinary team of geriatric experts who can be permanently based at the ED or be activated to come down when required. The Emergency Department Interventions for Frailty (EDIFY) and the Older People Assessment and Liaison (OPAL) programs are examples of this care model (29-32). EDIFY was established in a busy ED of a 1700-bed tertiary acute hospital in Singapore with the primary aim of reducing potentially avoidable acute admissions among older patients (30). The program also delivers early CGA and frailty education to suitable older patients admitted to the ED observation unit (29). It comprises of a team of geriatric experts including a geriatrician, advanced practice nurse (APN), pharmacist and physiotherapist. The program has been shown to reduce acute admissions, attenuating frailty progression, and is potentially cost-effective (30, 31). Additionally, the program was found to improve functional outcomes and reduce ED re-attendances while attenuating sarcopenia progression by administration of early CGA among older adults (29).

If there are limited provisions for geriatrics practitioners, a geriatric champion who is normally a physician or nurse with geriatric care expertise can be appointed to lead initiatives and care coordination pathways (17, 21). The Geriatric Emergency Department Intervention (GEDI) model is an example of a nurse-led, physician-championed intervention that has successfully translated into new ED sites in Australia (25).

How can the quadruple aim be achieved?

With a firm evidence base as the springboard, the next frontier would be dissemination and context-congruent implementation of the frailty-ready ED models of care (33). In this regard, how can the Quadruple Aim help ED systems achieve high-value frailty-ready care? Figure 1 provides examples of focus areas that may be prioritized for development in order to achieve the Quadruple Aim at the ED. Firstly, improving patient health outcomes at the ED

may be achieved by developing systems and processes that can effectively deliver one of the aforementioned models of care, which should also include timely assessment using a risk stratification tool that integrates a rapid frailty assessment, early geriatric assessment incorporating CGA principles, a process for identifying cases who have the potential for acute admission avoidance, and a process for enhanced care integration back to the community (17, 34, 35). Secondly, reducing healthcare cost may be achieved by prioritizing the delivery of cost-effective and sustainable care, and by decreasing ED utilization through pre-hospital care initiatives (36), reduced ED re-visits and hospitalizations, and reduced unnecessary investigations. It is also equally, if not more important, that hospitals work collaboratively with primary healthcare providers to build up capacity and provide support in assessing and managing frail older persons, without which the overwhelming number of patients accessing the ED may remain unavoidable (37, 38). Thirdly, improving patient experience may be achieved through the development of a senior-friendly ED, delivering personalized care especially among groups with special needs, and improving patient journey by reducing waiting time, improving communication, and having a friendly and caring ED workforce who have a deeper appreciation of aging physiology and geriatric syndromes. Lastly, improving staff experience may be achieved through collective leadership that promotes a supportive and nurturing work culture, with an emphasis on developing a strong healthcare workforce through staff development and training that incorporates principles of geriatric medicine, fostering a culture of quality improvement, and enhancing staff wellbeing (15, 16, 39, 40).

Conclusion

There is an urgent need for EDs to sense the exigency to be frailty-ready by redesigning their delivery of care for older adults to prioritize frailty-centric interventions and consider the needs of the population they serve; harness the expertise and ensure the wellbeing of their front-door healthcare workers; and optimize the resources which are readily accessible to them. To achieve the Quadruple Aim of high-value frailty-care at the ED, collective leadership is essential and should be guided by the four tenets that inspires innovation and creativity to promote understanding of practice variation and benchmarking of best practices; critically appraises latest evidence to facilitate timely translation of evidence-based best practices; redesigns care delivery models in a sustainable and cost-effective way; and increases emphasis on healthcare staff support and wellbeing (41).

Conflicts of Interest: None to declare.

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