

Health Status After Hospitalization: A New Target for Geriatric Cardiology

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Abstract

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Introduction

Hospitals and payers have increasingly focused on improving outcomes for older adults hospitalized with common cardiovascular conditions. Epidemiologic data have shown that approximately one in five older adults hospitalized with acute myocardial infarction or heart failure is readmitted to the hospital within 30 days [1]. Many of these patients die in the weeks after hospital discharge [2]. To mitigate these risks, the federal government has created a number of financial incentives to motivate hospitals to improve their readmission and mortality performance [3, 4]. As a result, hospitals have achieved marked improvements over time in quality, especially with regard to their readmission rates [5, 6].

The Opportunity

The focus on readmissions and mortality has not however addressed the range of outcomes important to hospitalized older adults. For example, many older patients prioritize

reduction in symptom burden or the maintenance of independence as primary goals of medical care. Others prioritize the optimization of mobility or health-related quality of life [7–9]. Indeed many organizations including the American Heart Association [10], American College of Cardiology [11, 12], American Geriatrics Society [7], and Patient-Centered Outcomes Research Institute [13] have stated that these patient-reported outcomes, also called health status outcomes, should be primary targets for medical care.

Unfortunately, improvements in health status outcomes after hospitalization have been hindered by major informational gaps. For example, little is known about expected recovery in symptoms, function, and health-related quality of life following hospital discharge, including how these outcomes relate to objective measures of physical function. Determinants of patient-reported outcomes are also poorly understood. In particular, little is known about how common toxicities of hospitalization such as immobility, poor sleep, and insufficient caloric intake relate to recovery and if specific resilience factors among patients attenuate the effects of these exposures. Finally, there is little knowledge about strategies that can improve health status after hospitalization, and in so doing, reduce health care utilization and costs.

The time is therefore now for academic and provider communities to move older patients' experiences of hospitalization and recovery towards the forefront of clinical care. To achieve this goal, a dedicated agenda is needed to better understand health status and its determinants after hospitalization. Luckily, we have entered an era where novel technologies enabled by tablets, smart phones, and smart watches can be relatively easily deployed to capture patient-reported outcomes after hospitalization and define detailed trajectories of recovery. Of course, these technologies will need to be tailored to meet the needs of older adults, many of whom have sensory impairments and unfamiliarity with these mediums. This

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agenda will also need to examine if adverse exposures during hospitalization [14, 15] including frequent sleep disruptions and limited mobility worsen symptom burden, functional status, and health-related quality of life after hospital discharge. While data in humans are lacking, these common stressors from hospitalization are clearly linked to multiple adverse outcomes including depression, infections, and acute cardiovascular abnormalities among laboratory animals [16–18].

One may ask if data are even needed to justify making the experience of hospitalization more humane for older adults. Indeed, it is already known that quiet hours at nighttime, reduced overnight interruptions for vital signs checks and medication administrations, and relaxation techniques such as massages and warm tea can promote better rest within the hospital [19]. Similarly, data has shown that early mobilization and ambulation can reduce both hospital length of stay and debility [20, 21]. As a result, it may be prudent to make such commonsense interventions regular parts of hospital care whenever possible. We do this already for hospitalized children, who are generally allowed to sleep with minimal interruption and are rarely subject to painful procedures and diagnostic tests without clear justification [22]. Yet the application of these principles to hospitalized older adults is far from the norm.

Conclusion

We are at a critical juncture in improving post-hospitalization outcomes for older adults with cardiovascular disease. Cardiovascular readmissions have declined in recent years, though now appear to have reached a plateau [6]. Similarly, mortality rates are unchanging [23]. As a result, further gains in patient outcomes will likely require a pivot to other endpoints. Health status outcomes represent an ideal next target for quality improvement. These endpoints bring the voices of patients to the center of what we do as healthcare providers. While this focus will introduce new challenges, it will also bring forth tremendous possibilities as we try to better align medical care with the values and goals of patients.

Compliance with Ethical Standards

Conflict of Interest Dr. Dharmarajan works under contract with the Centers for Medicare & Medicaid Services to develop and maintain performance measures and is a consultant for and member of a scientific advisory board for Clover Health.

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