

# Towards a Real Personalized Geriatric Medicine: The Example of the Prevention of Hospital-Acquired Disability

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It is striking that a clinical situation like hospital-acquired disability (HAD) continues to be such an important and prevalent issue in the lives of older adults despite the continuous and repeated evidence that geriatric management can efficiently prevent such risk. Geriatric patients who require hospitalization are highly vulnerable to significant functional and cognitive decline, and more than 20-30% of admitted patients develop HAD within the first 24-48 hours (1-5). This does not imply that hospitalizations are inherently negative since numerous diagnostic and therapeutic procedures require an intensive approach. However, the archaic model of hospitalization tends to prioritize the use of the best and most advanced technology, forgetting that we are not treating diseases, but rather patients. What is even more peculiar is that some of the earliest articles addressing this problem were published almost a century ago (6, 7). In fact, several of Marjorie Warren's most important articles address this issue and make it clear that comprehensive geriatric approaches are the cornerstone that should guide the treatment and care of hospitalized geriatric patients, integrating aspects such as exercise, occupational therapy, or physiotherapy in these settings (8, 9).

However, an editorial by Cynthia J. Brown pondered that, despite significant changes in the healthcare systems over time, rates of HAD have remained largely unchanged over the last decades, and she objectively addressed this issue, pointing out the importance of integrating effectively functional assessment and evidence-based models in geriatric care (10). Additionally, we should consider other aspects, such as the limitations in establishing uniform concepts and methodologies regarding definitions and tools for analysis and interventions. A common example is the remarkable number of definitions of frailty used in different trials, as well as the wide variability of assessments, outcomes, and follow-up. Another example is the diversity of tools used to quantify functional modifications, which can offer very different results since each intervention can have distinctive effects on activities of daily living or functional performance measures (11).

Chung Wang et al., in this issue, provide evidence that participation in a multidomain intervention program during hospitalization improved the functional status and decreased the length of hospital stay, medical costs, and readmission rates of frail older people (12). The authors of this article implemented

a multidomain program that demonstrates the integration of geriatric concepts for the prevention of nosocomial disability. HAD can be approached with different approaches or models. Traditionally, many models have focused on increasing mobility specifically, but the results have been inconsistent and often unable to modify the trajectory of activities of daily living (13), even when aspects such as comprehensive geriatric assessment or nutrition were integrated into the hospital or community setting (14, 15). However, other approaches have shown functional and even cognitive benefits (16).

Various systematic reviews with meta-analyses have also demonstrated that both functional aspects in community-dwelling older adults and those related to frailty during hospitalization can be addressed in a multidimensional way with complex interventions (17, 18). What makes the study by Chung Wang et al. interesting is precisely the ability to transform a healthcare system, moving from theoretical concepts to practical implementations that provide significant benefits at multiple levels, including healthcare, social, and economic aspects. As it has happened in other scientific fields, there is no single answer to a problem, and this is especially important in the case of older adults, where chronological age often leads to a high degree of heterogeneity that requires specifically individualized management based on multiple factors, which in other clinical settings is known as personalized medicine.

When we link the concept of personalized medicine to HAD, we understand why some interventions are more adequate for demonstrating clinical benefits (19, 20), in a context of wide variability in responses to exercise programs (21). On the other hand, frailty is not a contraindication for robust exercise prescription; rather, it is one of the most important reasons to prescribe it. Despite the well-known benefits of exercise, it is rarely fully integrated into aged care and geriatric medicine practice, and it is still absent from the core training of most geriatricians and other health care professionals (22, 23).

There is one last issue that should be highlighted. The focus of multidomain programs to prevent HAD is often on the hospital period. Recent studies have demonstrated that after hospitalization older adults experience a period of prolonged vulnerability for adverse outcomes including HAD and due to fatigue, fear of falling and apathy have a hard time regaining their functioning after discharge (24, 25). Older

adults lose muscle mass post-discharge, but we currently have no inconclusive evidence on how to effectively rehabilitate older adults after discharge and lack concrete training protocols and multidomain interventions (26, 27). There is a need for multidomain transitional care programs that bridge the period from admission to at least one month post-discharge and to integrate the principles that Chung Wang et al have developed.

It is evident that the “geriatric philosophy” is contaminating all medical and surgical specialties, facilitating the integration of geriatric concepts in a cross-cutting model. However, new evidence will still be necessary, including randomized and preferably multicenter international clinical trials, focusing on the hospitalization period, but also on recovery after hospital discharge.

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