# Effectiveness of Acute Geriatric Unit Care Using Acute Care for Elders Components: A Systematic Review and Meta-Analysis

## STUDY QUESTION

Is acute geriatric unit (AGU) care, based on all or components of the Acute Care for Elders (ACE) model and introduced in the acute phase of illness or injury, effective in reducing iatrogenic complications, functional decline, length of hospital stay, poor discharge destination outcomes, mortality, costs, and hospital readmissions in older adults?

## STUDY DESIGN

**Design:** Systematic review and meta-analysis of 13 randomized controlled and quasi-experimental trials with parallel comparison groups retrieved from multiple sources.
**Setting:** Acute care geriatric and nongeriatric hospital units.
**Patients:** Acutely ill or injured adults (N=6,839) with an average age of 81.
**Description of Intervention:** AGU care characterized by one or more ACE components: patient-centered care, frequent medical review, early rehabilitation, early discharge planning, prepared environment.
**Outcomes:** Falls, pressure ulcers, delirium, functional decline at discharge from baseline 2-week prehospital and hospital admission statuses, length of hospital stay, discharge destination (home or nursing home), mortality, costs, and hospital readmissions.

## MAIN RESULTS

Acute geriatric unit care was associated with fewer falls (risk ratio (RR) = 0.51, 95% confidence interval (CI) = 0.29–0.88), less delirium (RR = 0.73, 95% CI = 0.61–0.88), less functional decline at discharge from baseline 2-week prehospital admission status (RR = 0.87, 95% CI = 0.78–0.97), shorter length of hospital stay (weighted mean difference (WMD) = -0.61, 95%CI = -1.16 to -0.05), fewer discharges to a nursing home (RR = 0.82, 95% CI = 0.68–0.99), lower costs (WMD = -$245.80, 95% CI = -$446.23 to -$45.38), and more discharges to home (RR = 1.05, 95% CI = 1.01–1.10). A non-significant trend toward fewer pressure ulcers was observed. No differences were found in functional decline between baseline hospital admission status and discharge, mortality, or hospital readmissions.

## CONCLUSION

Acute geriatric unit care, based on all or part of the ACE model and introduced during the acute phase of older adults' illness or injury, improves patient and system-level outcomes.

## ABSTRACTED FROM

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## COMMENTARY by Eric J. Wasserman, MD, FACEP (Newark Beth Israel Medical Center)

During hospitalization for an acute event such as illness or injury, older adults are at risk of experiencing functional decline and iatrogenic complications, including falls, pressure ulcers, and delirium, which lead to further functional decline.[1] Hospital-acquired functional decline is associated with greater hospital expenditures, institutionalization, and mortality in older adults.[2] Dedicated geriatric units, based on a model of care called Acute Care for Elders (ACE), have been designed specifically to prevent functional decline and related complications in older adults admitted to the hospital for an acute event.[3, 4] In the current meta-analysis aimed at quantifying the overall effectiveness of geriatric unit care based on the ACE model, the authors pull together a reasonably large sample from several well conducted trials and present a convincing argument that a proactive, function-focused approach incorporating ACE components can improve outcomes and reduce costs, at least in octogenarians with acute medical problems admitted through the ED.[5] Still, more original research in the form of prospective RCTs in heterogeneous older populations is necessary to confirm, particularly in the minds of providers, hospital administrators and policy-makers, the effectiveness of ACE and patient-centered geriatric unit care as a whole.

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