



Canadian Geriatrics Society

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# GERIATRIC ASSESSMENT UNITS (GAUs): OPTIMIZING EVIDENCE-BASED INPATIENT CARE IN THE MODERN HOSPITAL

## Abstract

Geriatric Assessment Units (GAUs) are wards that admit frail older inpatients for a process of multidisciplinary assessment, review and therapy. They are late acute, sub-acute and post-acute units aimed at restoring the functional status of frail older adults who are no longer in the life-threatening stage of an acute illness or are recovering from an acute illness. The restoration of functional status after acute illness is important in reducing or preventing a number of undesirable outcomes such as long-term disability, prolonged hospital stays, Alternate Level of Care (ALC), avoidable readmissions to hospital and avoidable/premature institutionalization. There are randomized controlled clinical trials supporting this approach, and such units (GAUs) should be a prominent feature in all modern hospitals.

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Les Unités de Courte Durée Gériatrique (UCDG) (Geriatric Assessment Units) sont des unités hospitalières où sont admis des patients âgés fragiles dans le but de procéder à une évaluation et des interventions thérapeutiques médicales et multidisciplinaires. Ce sont des unités aiguës, subaiguës et post-aiguës visant à rétablir l'état fonctionnel des patients qui ne sont plus au stade de maladie aiguë potentiellement mortelle ou qui se remettent d'une maladie aiguë. La récupération fonctionnelle suite un épisode aigu est importante dans la prévention d'un certain nombre d'issues défavorables telles que la perte d'autonomie permanente, la prolongation inappropriée du séjour à l'hôpital, les réadmissions évitables, ainsi que l'institutionnalisation prématurée. Des essais cliniques randomisés et contrôlés soutiennent la prise en charge en UCDG et elle devrait être disponible dans tout hôpital moderne.

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## Key points

1. Hospital acquired disability is common and preventable.
2. Geriatric Assessment Units (GAUs) are inpatient wards that are designed to care for frail older adults.
3. GAUs have been shown to reduce functional decline, reduce rates of institutionalization and reduce rates of cognitive loss compared to usual care.
4. GAUs should be a prominent feature of modern acute care hospitals.

## Background

Geriatric Assessment Units (GAUs) are also called Geriatric Evaluation and Management Units (GEM Units), particularly in the US. A GAU is “a ward that admits frail older inpatients for a process of multidisciplinary assessment, review and therapy.”<sup>1</sup> They are late acute, sub-acute and post-acute units aimed at restoring the functional status of frail older adults who are no longer in the life-threatening stage of an acute illness or are recovering from an acute illness. Those wishing a non-interventional, non-aggressive approach to care may also be admitted to GAUs. Functional and cognitive recovery often lag biomedical recovery (NEMJ)<sup>2</sup>, and the restoration of functional status after acute illness is important in reducing or preventing a number of undesirable outcomes such as long-term disability, prolonged hospital stays, Alternate Level of Care (ALC), avoidable readmissions to hospital and avoidable/premature institutionalization.

## What is the rationale for GAUs?

Frail older adults are at higher risk of hospitalization<sup>3</sup>. When they are hospitalized, they are more likely to experience delirium, falls, urinary and fecal incontinence and functional decline<sup>3</sup>, all of which can contribute to unnecessarily long Lengths of Stay (LOS) and avoidable Alternate Level of Care (ALC) status. Indeed, *nearly one half of the disability in community-living older adults is acquired in hospital*<sup>4,5</sup>. Even small effects on reducing **hospital-acquired disability** may have a large effect on community disability, readmissions to hospital and the need for long-term care. Since **hospital-acquired disability** is associated with longer LOS, GAUs also have the potential to improve patient flow. Moreover, returning to their own home and avoiding institutionalization is extremely important to older adults themselves: Older adults, the main users of acute care hospitals, value functional autonomy and independence very highly.

## What is the evidence for GAUs?

A large number of randomized clinical trials (RCTs) have been conducted in many countries over several decades – meta-analyses of these RCTs have repeatedly demonstrated a number of positive benefits to seniors and to the health care system:

1. Older adults treated on GAUs are less likely to be institutionalized and more likely to be alive and in their own home one year later than those cared for in the usual manner ([JAGS](#))<sup>1</sup>.
2. Those cared for on geriatric units also showed better functional outcomes: the NNT is approximately 17 to prevent worsening disability or death ([The BMJ](#)).<sup>6</sup> Cognition was also better in those treated on geriatric units compared to usual care.<sup>6</sup>
3. A recent systematic review of RCTs (which included all inpatient geriatric units, including GAUs and Acute Care of the Elderly Units) showed that the number needed to treat (NNT) is about 20 people over one year to prevent one unnecessary death or admission to residential care, compared with general medical care ([Wiley Online Library](#)).

The costs were variable in these RCTs, and the results could not be pooled. However, the costs were lower in the GAU group in every included RCT that considered hospital costs. Medium- to long-term costs, such as the costs of avoidable or premature nursing home placement were not determined in any RCT, but would likely be

lower among those treated on GAUs, since the rates of nursing home use were lower. Other potential cost savings of GAUs such as cost savings due to the lower readmission rates experienced in many GAU settings has not been studied and represents a needed future area of research. Analysis of cost savings due to reduced readmission to hospital would likely further bolster the cost-effectiveness of GAUs.

Since geriatric inpatients have complex issues in multiple domains, they require complex interventions in multiple domains. Efforts to identify any single feature, which predicts success, have been difficult as this appears to be an aggregate effect of multiple components of GAUs. The overall structure and process of care on the GAUs included in the trials was similar in most studies<sup>6</sup>. Factors include a multidimensional assessment, regular team meetings, identification of issues and setting goals of care and a care environment that prioritizes and actively promotes progressive ambulation.

Central team members in these RCTS were a geriatrician (i.e., specialist in Geriatric Medicine) as the attending physician, nurses, social workers, physiotherapists and occupational therapists with expertise in geriatrics. Other important team members include dietitians, psychologists, recreation therapists, speech-language pathologists and pharmacists.

### **Targeting: Who benefits from GAUs and who may not?**

Older adults benefit from GAU if they have functional decline after acute illness, and the natural history of their disease is not one of inevitable decline. Older adults with terminal illness, multiple end stage organ failure, or severe irreversible functional decline are usually not able to benefit from the GAU model of care; nor are those who cannot participate in basic rehabilitation. Patients must be medically stable. Conversely, those with few functional deficits usually do not require GAU.

### **Design: What are the characteristics of GAUs?**

**Setting:** GAUs can be in acute care hospitals (late acute care) or rehabilitation hospitals (sub-acute or post-acute care) – setting will impact on patient selection (i.e., how soon after admission they can be considered for transfer).

**Structure of Care:** The ward should be quiet, clean and free from clutter. Doors and washrooms should be wheelchair accessible. The hallways should be clear, wide and with chairs to rest upon. There should be a dining room and space for group activities and exercises. There should be onsite rehabilitation space. Rooms should be as private as possible<sup>7-9</sup>.

### **Process of Care:**

**Assessment:** In addition to the routine history, physical examination and basic investigations; functional status, cognitive status, mood and nutrition should be assessed early in the stay. Social supports, social networks, caregiver stress and living situation are also assessed as they are critical to preventing readmission to hospital. Patient and family goals should be identified. Based upon this, a care plan should be put in place that is flexible. This plan should identify issues in all relevant domains, should identify therapy goals and a time frame of intervention. Patients and families should be involved in these plans, and the plan should be reviewed in regular team meetings.

**General approach:** Early and frequent ambulation is critical to prevent deconditioning. Central to this is adequate attendant staff, adequate footwear and assessment of gait aides. The patient's hearing aides and glasses should be provided. Orientation aides (such as clocks and calendars) should be in the rooms. Patients should be encouraged to participate in rehabilitation and engage in activities of daily living as soon as possible. Their own clothing should be brought from home. Nighttime should be for sleeping, and meal times for eating and socialization; rather than for diagnostic testing. The general approach should be to make the care environment as supportive and home-like as possible. Post-discharge follow-up plans should be made since most chronic diseases remain active after discharge.

### Characteristics of successful GAUs

The mandate of the GAU must be clear and patients targeted appropriately. There may be pressure to transfer medically unstable patients or patients with severe end stage disease to GAUs. These people are unlikely to benefit in the long term<sup>10,11</sup>. The pressure to accept care of such patients is not new in the history of geriatrics<sup>9</sup>, but it can be intense. The medical care that they require may be more than the standard GAU can offer, and the results may not be congruent with patient and family expectations<sup>12</sup>.

The care goals of referring physicians and families need to be similar to the care goals of the team on the GAU. Differences of opinion about the likelihood of functional recovery and/or long-term survival can be difficult to reconcile and lead to unclear care treatment goals and nebulous rehab endpoints.

### Summary – GAUs’ critical role in the modern hospital

GAUs are inpatient units for frail older adults who are not in the life threatening early stage of an acute illness or who are recovering from acute illness but are relatively stable. They should be the standard of care for frail older adults when discharge home or to another community setting is a realistic goal. Most of the interventions are straightforward and inexpensive, yet often overlooked in modern medicine. GAUs reduce **hospital-acquired disability** (e.g., deconditioning with loss of mobility, delirium) and thereby prevent premature institutional (nursing home) placement.

GAUs were described decades ago, are common-sense and have been studied in thousands of patients in numerous clinical trials in many countries. Much of the focus is on encouraging basic humane care. Yet this can be overlooked in modern medicine<sup>13,14</sup>, with its focus on biomedical measures and rapid early discharge with little view to the long term goals of seniors to remain independent at home for as long as possible.

Despite the clear evidence that GAUs are highly effective models of care for frail seniors, as evidenced by the meta-analyses cited above, sustaining GAUs can be challenging and they require ongoing evaluation and support. In an effort to reduce costs, many hospitals have eliminated or are considering eliminating GAUs based on a narrow short-term view focused only on the speed of care and discharge while ignoring readmission rates or rates of premature institutional placement. This focus on the cost of a single episode of care (GAUs may add a few days to the LOS) does not consider the cost savings to the health care system as a whole that GAUs achieve by preventing readmissions and preventing/delaying long-term care (nursing home) placement.

More importantly, seniors and their families expect compassionate care, which reduces long-term disability, lowers rates of premature institutional placement and promotes safe enduring discharges to the community. Older adults want to stay in their homes as long as possible and the evidence clearly demonstrates that GAUs achieve this goal without increasing health care costs. As the world’s population ages, health care planners must insist that a GAU be a necessary component in modern hospitals.

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