

Sorting in a Minefield: Geriatric Triage

Rob Flint, MD FAAEM



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No disclosures or competing interests

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Objectives

Update on ED triage strategies for older patients

Update on pre-hospital and trauma triage for older adults



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United States 2022 Data on Emergency Department Visits

- Number of visits: 155.4 million
- Number of injury-related visits (includes poisoning and adverse effects): 43.5 million
- Number of visits per 100 persons: 47.3
- Number of emergency department visits resulting in hospital admission: 17.8 million
- Number of emergency department visits resulting in admission to critical care unit: 3.1 million
- Percent of visits with patient seen in fewer than 15 minutes: 40.6%
- Percent of visits resulting in hospital admission: 11.5%
- Percent of visits resulting in transfer to a different (psychiatric or other) hospital: 2.4%

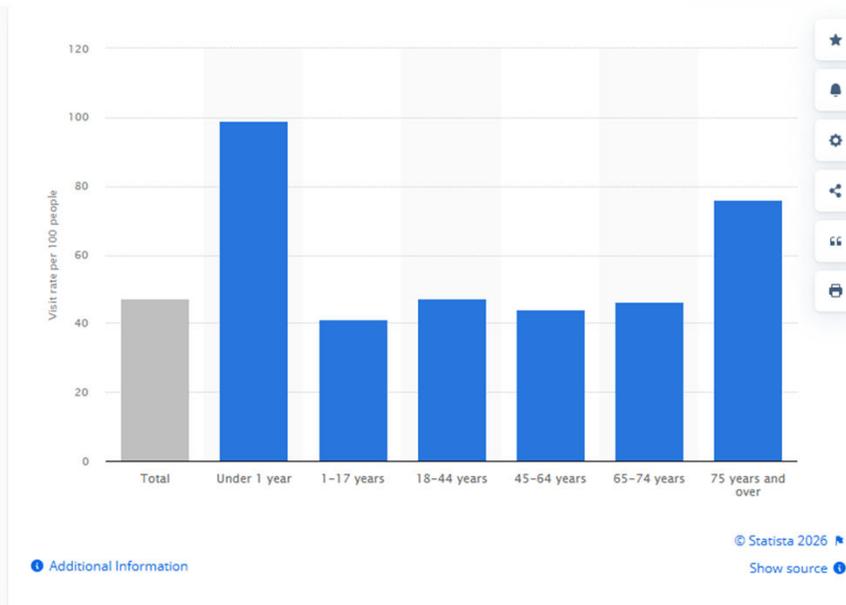
Source: [National Hospital Ambulatory Medical Care Survey: 2022 National Summary Tables, table 1, 3, 15, 23](#) 
[PDF – 1 MB]

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Which age range accounts for largest percentage?

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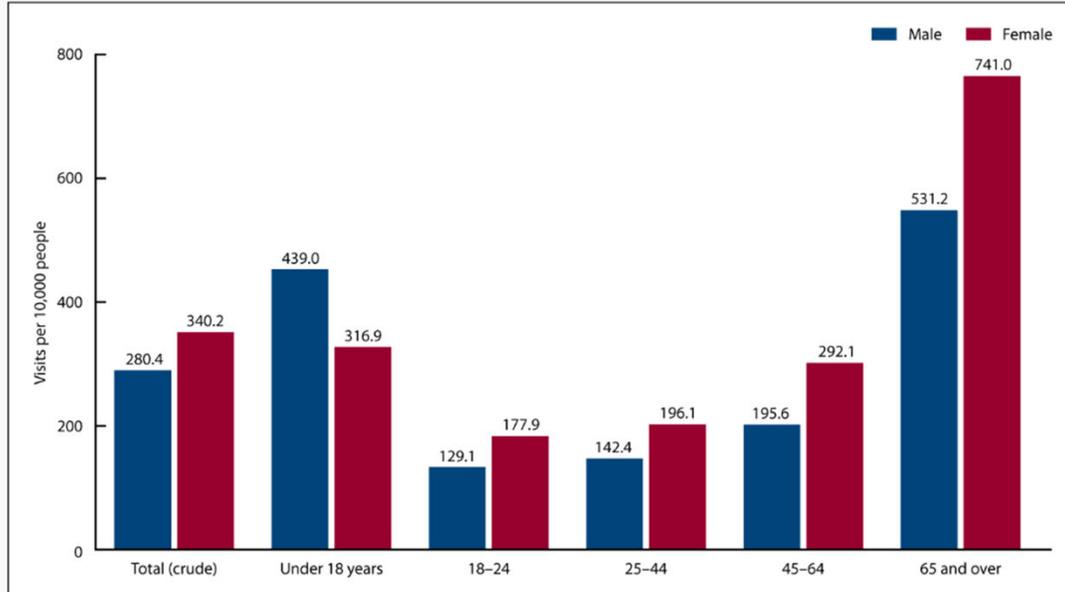
Number of emergency department visits per 100 people in the United States in 2022, by age group



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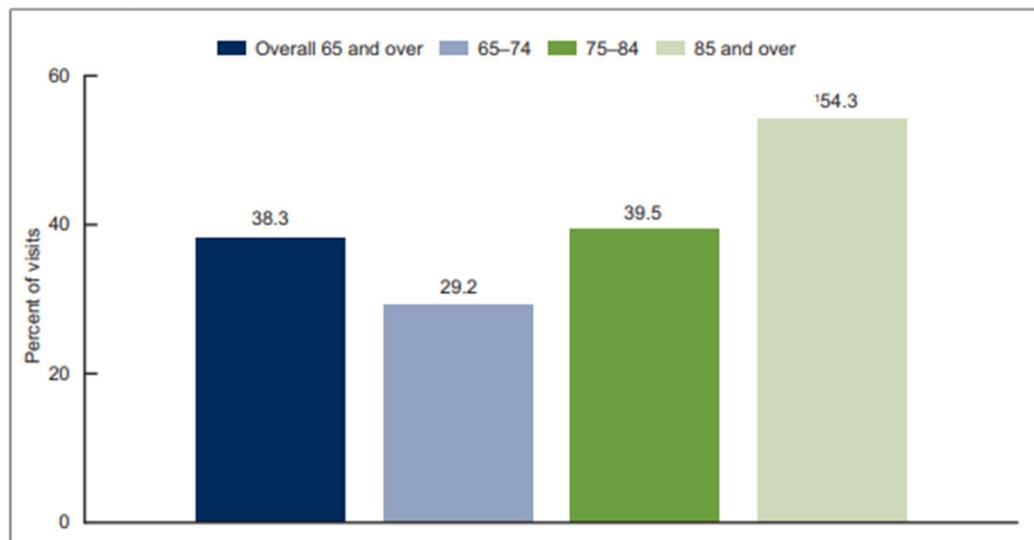
In 2017–2018, initial injury-related emergency department visit rates for unintentional falls were higher for females than for males, though differences varied by age group.

Figure. Initial injury-related visits to hospital emergency departments for unintentional falls, by sex and age group: United States, 2017–2018



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Figure 3. Percentage of emergency department visits arriving by ambulance for persons aged 65 and over: United States, 2009–2010



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Why are older ED patients different?

- Frailty
- Medications
- Non-specific complaints (weakness, nausea, fatigue, non-localizing pain)
- Dementia vs delirium
- Physiologic response
- Vision and hearing changes
- Fear of loss of autonomy

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ED Triage: What do we use?

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ESI- Emergency Severity Index

Level	Description	Examples
1	Immediate, life-saving intervention required without delay	Cardiac arrest Unresponsive Profound hypotension or hypoglycemia
2	High risk of deterioration, or signs of a time-critical problem	Cardiac-related chest pain Asthma attack Altered mental status
3	Stable, with multiple types of resources needed to investigate or treat (such as lab tests plus diagnostic imaging)	Abdominal pain High fever with cough Persistent headache
4	Stable, with only one type of resource anticipated (such as only an x-ray, or only sutures)	Simple laceration Rabies vaccination Sore throat
5	Stable, with no resources anticipated except oral or topical medications, or prescriptions	Suture removal Prescription refill Foreign body in eye

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Internationally

MANCHESTER TRIAGE SYSTEM (MTS)

CATEGORY	CLASSIFICATION	TIME TO BE SEEN
1	IMMEDIATE	STRAIGHT AWAY
2	VERY URGENT	WITHIN 10 MIN
3	URGENT	WITHIN 60 MIN
4	STANDARD	WITHIN 120 MIN
5	NON-URGENT	WITHIN 240 MIN

Triage System	Number of Acuity Levels	Primary Basis for Acuity Assignment	Key Origin / Primary Use Region(s)	Official Governing/Supporting Body
Manchester Triage System (MTS)	5	Presentational flowcharts & clinical discriminators (symptom-based)	United Kingdom / Europe	Advanced Life Support Group (ALSG) Manchester
Emergency Severity Index (ESI)	5	Acuity & anticipated resource utilization (for levels 3-5)	United States	Emergency Nurses Association (ENA)
Canadian Triage and Acuity Scale (CTAS)	5	Chief complaint & first/second order clinical/physiological modifiers	Canada	CTAS National Advisory Committee (CAEP & NENA partnership)
Australasian Triage Scale (ATS)	5	Clinical urgency based on physiological predictors & maximum waiting times	Australia / New Zealand	Australasian College for Emergency Medicine (ACEM)
South African Triage Scale (SATS)	4-5 (see description)	Triage Early Warning Score (TEWS - physiological) & clinical discriminators	South Africa / Low- & Middle-Income Countries (LMICs)	Emergency Medicine Society of South Africa (EMSSA)

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Comparing Triage Systems

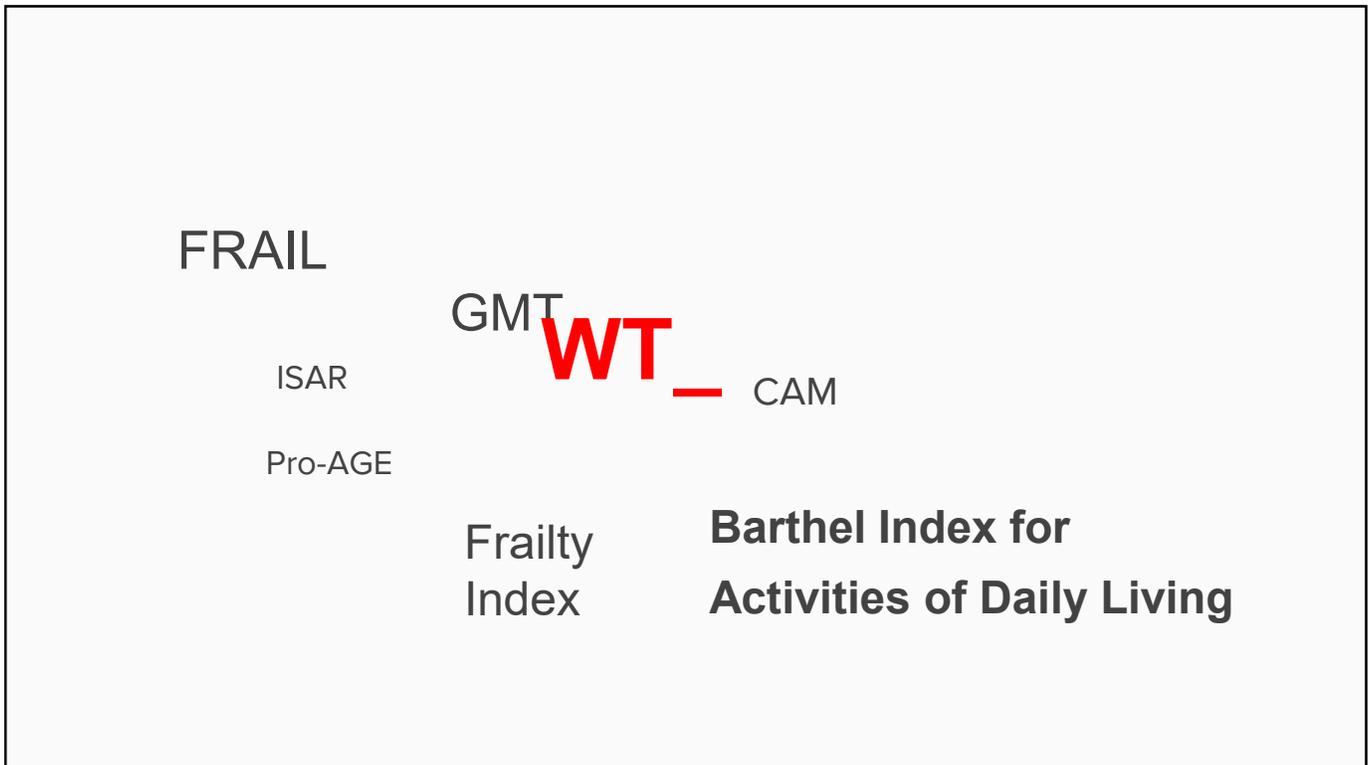
MTS and ESI show limited sensitivity in older patients, particularly with nonspecific presentations. ESI provided better discrimination of clinical urgency. Findings support revising triage systems to account for age, atypical symptoms, and geriatric vulnerability.

Citation: Ingielewicz A, Szarafińska M, Zając M, Brunka Z, Grażewicz M, Szczupak M, et al. (2025) Triage and hospitalization outcomes in the geriatric population of an emergency department: A retrospective cohort study comparing the manchester triage system and the emergency severity index. PLoS One 20(9): e0332304. <https://doi.org/10.1371/journal.pone.0332304>

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Scales, Measures, Prognostication

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The Bottom Line

- Pick one you like and uses it
- Lots of studies comparing them and they all say the same thing:

Older Patients with Underlying Disease/Frailty Do Worse

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CLINICAL FRAILITY SCALE

	1	VERY FIT	People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.
	2	FIT	People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g., seasonally.
	3	MANAGING WELL	People whose medical problems are well controlled , even if occasionally symptomatic, but often are not regularly active beyond routine walking.
	4	LIVING WITH VERY MILD FRAILITY	Previously "vulnerable," this category marks early transition from complete independence. While not dependent on others for daily help, often symptoms limit activities . A common complaint is being "slowed up" and/or being tired during the day.
	5	LIVING WITH MILD FRAILITY	People who often have more evident slowing , and need help with high order instrumental activities of daily living (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

	6	LIVING WITH MODERATE FRAILITY	People who need help with all outside activities and with keeping house . Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.
	7	LIVING WITH SEVERE FRAILITY	Completely dependent for personal care , from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).
	8	LIVING WITH VERY SEVERE FRAILITY	Completely dependent for personal care and approaching end of life . Typically, they could not recover even from a minor illness.
	9	TERMINALLY ILL	Approaching the end of life. This category applies to people with a life expectancy <6 months , who are not otherwise living with severe frailty . (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILITY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common symptoms in **mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting. In **severe dementia**, they cannot do personal care without help. In **very severe dementia** they are often bedfast. Many are virtually mute.



Clinical Frailty Scale ©2005–2020 Rockwood, Version 2.0 (EN). All rights reserved. For permission: www.geriatricmedicine.ca
Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

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Frail Scale

Component	Question
Fatigue	How much time during the previous 4 weeks did you feel tired? (all of the time, most of the time = 1 points)
Resistance	Do you have any difficulty walking up 10 steps alone without resting and without aids? (yes = 1 point)
Ambulation	Do you have any difficulty walking several hundred years alone with without aids? (yes = 1 point)
Illness	How many illnesses do you have out of a list of 11 total? (5 or more = 1 point)
Loss of Weight	Have you had weight loss of 5% or more? (yes = 1 point)

Frail Scale scores range from 0-5, one point for each component, 0=best to 5=worst

Robust = 0 points

Pre-Frail = 0-1 points

Frail = 3-5 points

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Barthel Index of Activities of Daily Living

FEEDING	0 = unable 5 = needs help cutting, spreading butter, etc., or requires modified diet 10 = independent	_____
BATHING	0 = dependent 5 = independent (or in shower)	_____
GROOMING	0 = needs help with personal care 5 = independent face/hair/teeth/shaving (implements provided)	_____
DRESSING	0 = dependent 5 = needs help but can do about half unaided 10 = independent (including buttons, zips, laces, etc.)	_____
BOWELS	0 = incontinent (or needs to be given enemas) 5 = occasional accident 10 = continent	_____
BLADDER	0 = incontinent, or catheterized and unable to manage alone 5 = occasional accident 10 = continent	_____
TOILET USE	0 = dependent 5 = needs some help, but can do something alone 10 = independent (on and off, dressing, wiping)	_____
TRANSFERS (BED TO CHAIR AND BACK)	0 = unable, no sitting balance 5 = major help (one or two people, physical), can sit 10 = minor help (verbal or physical) 15 = independent	_____
MOBILITY (ON LEVEL SURFACES)	0 = immobile or < 50 yards 5 = wheelchair independent, including corners, > 50 yards 10 = walks with help of one person (verbal or physical) > 50 yards 15 = independent (but may use any aid; for example, stick) > 50 yards	_____
STAIRS	0 = unable 5 = needs help (verbal, physical, carrying aid) 10 = independent	_____
TOTAL (0-100):		_____

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Geriatric Measurement Tool

-FRAIL plus Barthel

-Started as prognostication for pneumonia in Covid patients

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Back to Triage

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Triage Plus Strategy

Combine your favorite triage scale with your favorite geriatric prognostication tool



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Trauma Triage

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Older trauma patients

- Higher mortality for comparable injury (1.8% vs 0.5%)
- Falls from standing most common-head injury, rib and pelvic injury
- Occult injury common-under triaged to trauma centers (53.8%)
- More difficult to assess- different physiology, comorbid conditions, medications, hearing impairment

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Trauma Center Criteria (American College of Surgeons)

	Age under 65	Age over 65
Heart Rate	>120	>90
Blood Pressure	<90	<110
Fall on AC		Yes
GCS <14 GLF		Yes

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Conclusions

- Older patients present to the ED with atypical signs and symptoms
- Older patients do not have reliable physiology
- Current triage scales rely on physiology and vital signs to predict resource need and acuity making them inaccurate for older patients
- Consider increasing triage score one level in older patients
- Frailty prognostication can help with determining disposition/outcomes
- Trauma is a balance of over/under triage- ACS may over triage but no clear answer

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Rob Flint, MD FAAEM
rflint@som.umaryland.edu

