Geriatric Triaging in Emergency Department

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Introduction

- Patients aged 65 years and older present to emergency departments worldwide with increasing frequency
- Older patients tend to have

✓ a greater burden of co morbidities than younger patients

✓ higher rates of serious acute illnesses

✓ frequent communication barriers

- Emergency providers are being pressurised to make accurate decisions to admit or discharge older patients

What is wrong?

- Our services are designed for people with one thing wrong at once
- People with many things wrong turn up
- These patients are termed inappropriate and labelled as a “problem”-*Kenneth Rockwood*
- Older patients have distinct and complex care needs that are not suited to an episodic or specialty-focused care system

Factory

Triage

- *Definition* - how emergency rooms assess priority for patient care in hospital
- Triage determines which groups of the patients should receive treatment and care services based on

✓ their clinical status

✓ the prognosis of disease

✓ available resources

to ensure that they receive appropriate attention, in a suitable location, with the requisite degree of urgency

ED presentation

ED presentation has been identified as

- a sentinel event for older people
- a time when immediate medical problems can be addressed
- risk factors assessed and managed to reduce the probability of future adverse health outcomes

Emergency medicine physicians require

✓ accurate and sensitive information regarding function to appraise patient status

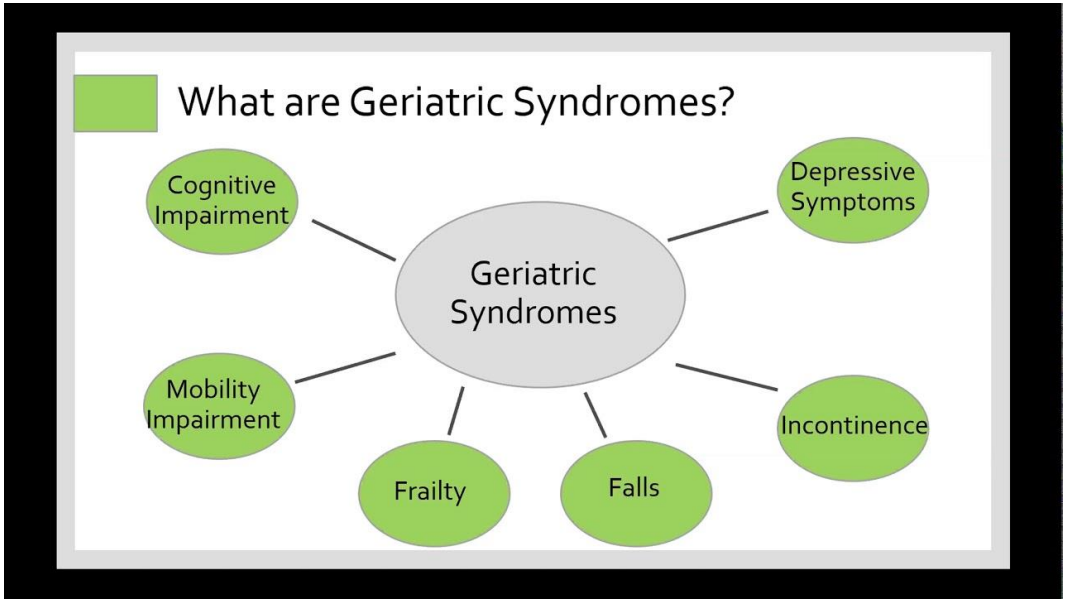
✓ to make decisions for discharge to community or in-patient admission

Presentation to the ED

Illness	Percentage
Coronary disease	20
Falls	15-30
Neuropsychiatric disorders	7-10
Polypharmacy and adverse drug effects	11
Alcohol and substance abuse	5-14
Abdominal pain	3- 13
Social cases	9
Infections	4

Geriatric syndromes

- Clinicians are advised to look at the patient as a whole rather than relying on a specific parameter to make clinical decisions



Admit/discharge

- Decisions to admit or discharge from the ED are generally based on the patient's risk of suffering a short-term adverse outcome

SHORT TERM	**LONG TERM**
Cognitive impairment	Unplanned unavoidable readmissions
Functional decline	3-12 month mortality
In-hospital mortality	Institutionalisation
Institutionalisation	

Priority

Colour code	Priority
Red	Immediate evaluation by physician
Orange	Emergent, evaluation within 15 minutes
Yellow	Potentially unstable, evaluation within 60 minutes
Green	Non-urgent, re-evaluation every 180 minutes
Blue	Minor injuries or complaints, re-evaluation every 240 minutes

Priority I – CMC guidelines

ABC compromised TPR	Hypertensive emergency BP Systolic > 180 and/or Diastolic >120 mmHg with evidence of end organ failure like altered sensorium, chest pain, breathing difficulty, visual disturbance, oliguria	HR<50 or >150 / min Palpitation HR > 150/minute Haemodynamically unstable (systolic BP < 80 mm Hg)
GCS< 8 / altered sensorium	Poisoning with h/o consumption <8 hrs and GCS<13 or haemodynamically unstable.	CVA < 4 hour
· RR < 12 or > 40 /min · Spo2 < 80	Active seizures	Acute onset fever with altered sensorium
Chest pain < 8 hours (back, shoulder, epigastric pain)		

National Early Warning Score 2

The NEWS2 and a local 3-level triage scale are

- statistically significant
- poor in accuracy

✓ in predicting 30-day mortality

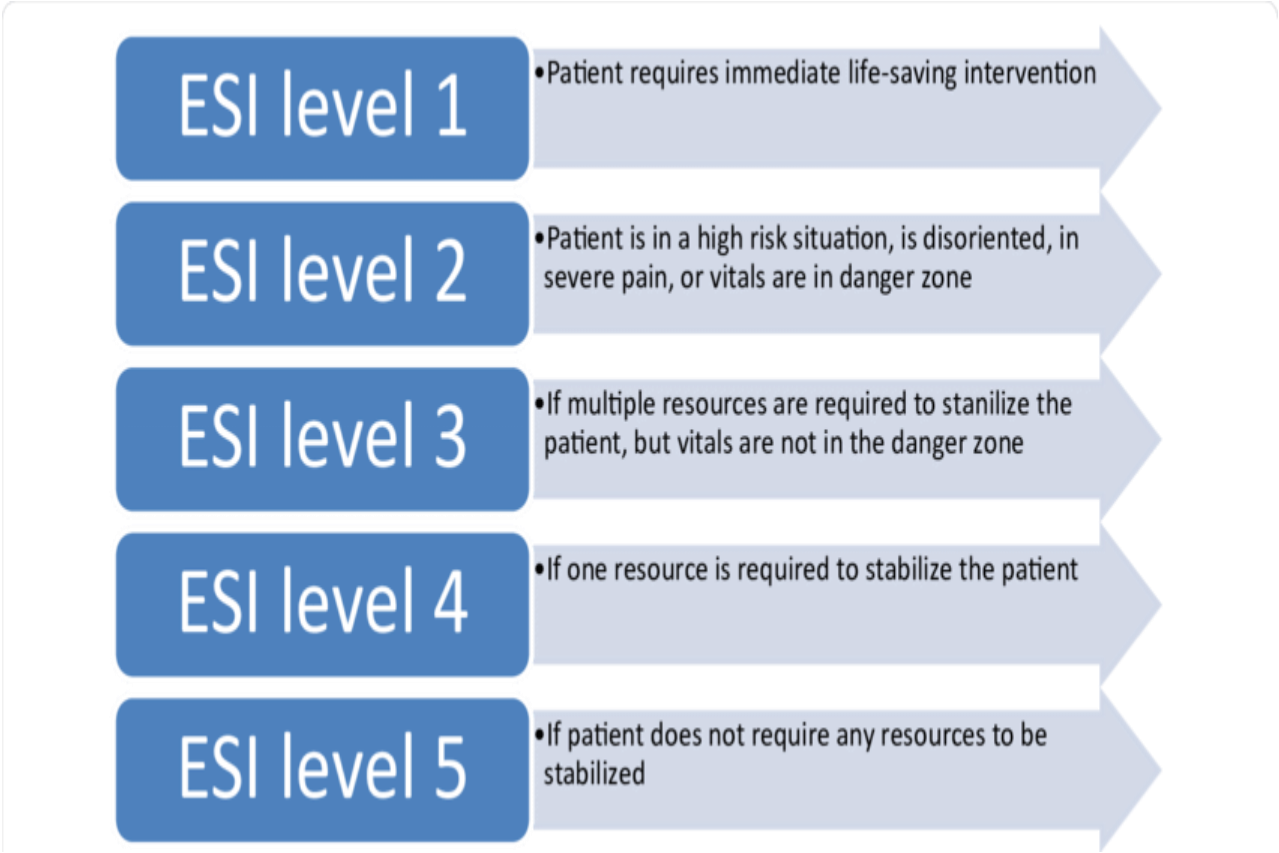
✓ HDU admission

but not for ED LOS or revisit rates for frail older adults

- NEWS2 also seems to predict hospital admission

Kirsi Kemp et al. National Early Warning Score 2 (NEWS2) and 3-level triage scale as risk predictors in frail older adults in the emergency department. BMC Emerg Med. 2020 Oct 28;20(1):83.

Emergency Severity Index



Classification - ESI

Level 1	Immediate medical care
Levels 2 and 3	Care within 15 minutes
Levels 4 and 5	Care within 30 minutes

The ESI objective is to decentralize medical care

Emergency Severity Index

Several studies have evaluated the performance of ESI with in an older population

- In a study of 929 patients age 65 or older with a total of 1,087 ED visits over a 1-month period in 2004
- The ESI algorithm performed well in the following areas

✓ ED resource utilization
✓ ED length of stay
✓ hospital admission
✓ 1-year survival

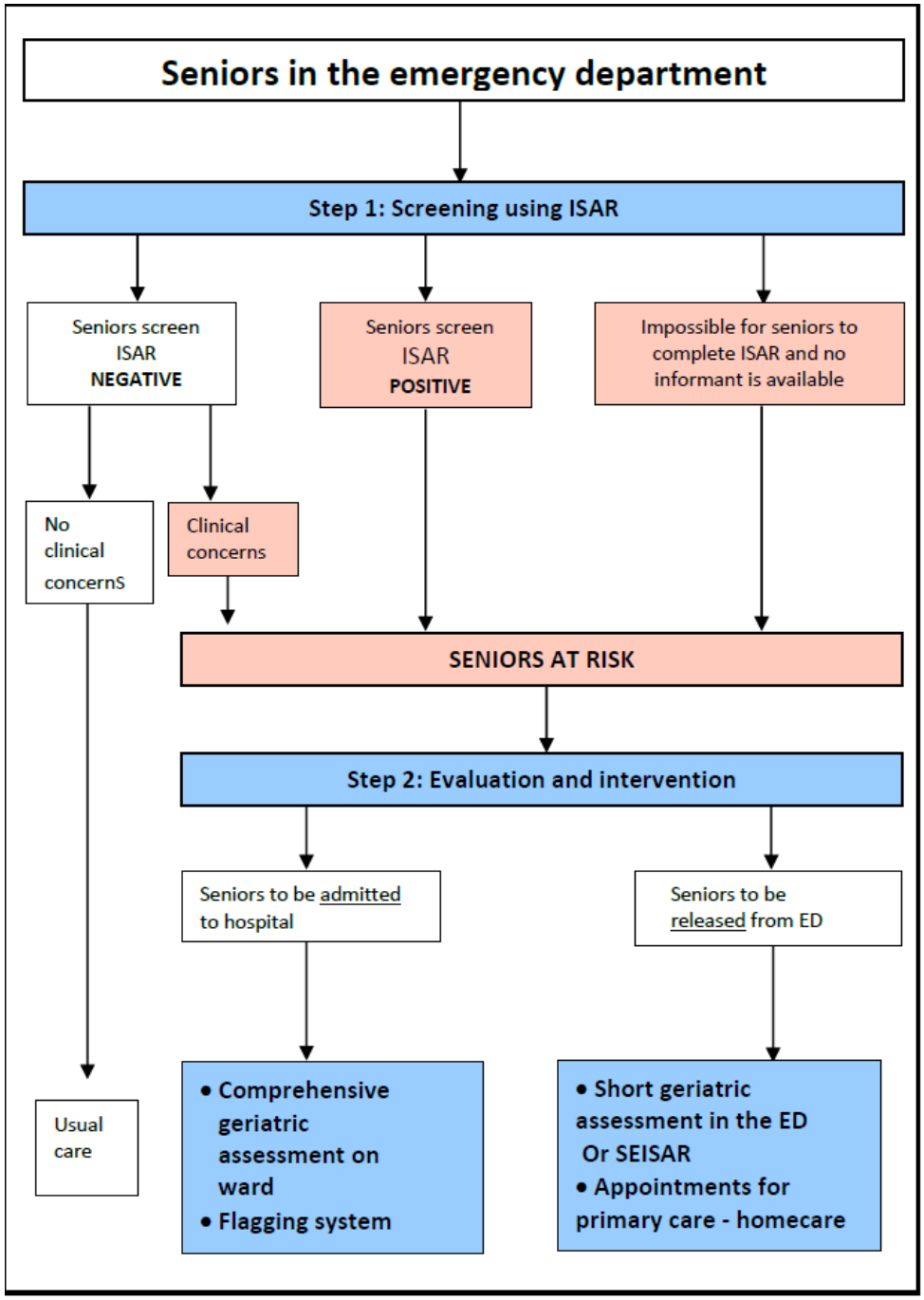
(Baumann & Strout, 2007)

Identification of Seniors at risk

ISAR screening questions

1.	Before the illness or injury that brought you to the Emergency Department, did you need someone to help you on a regular basis?	Yes/No
2.	Since the illness or injury that brought you to the Emergency Department, have you needed more help than usual to take care of yourself?	Yes/No
3.	Have you been hospitalized for one or more nights during the past six months (excluding a stay in the Emergency Department)?	Yes/No
4.	In general, do you see well?	Yes/No
5.	In general, do you have serious problems with your memory?	Yes/No
6.	Do you take more than three different medications every day?	Yes/No

Score of 2 or more may indicate increased risk.


Seniors in the emergency department
Step 1: Screening using ISAR
Seniors screen ISAR NEGATIVE
Seniors screen ISAR POSITIVE
Impossible for seniors to complete ISAR and no informant is available
No clinical concernS
Clinical concerns
SENIORS AT RISK
Step 2: Evaluation and intervention
Seniors to be admitted to hospital
Seniors to be released from ED
Usual care
• Comprehensive geriatric assessment on ward
• Flagging system
• Short geriatric assessment in the ED Or SEISAR
• Appointments for primary care - homecare

ISAR - predictions

Hospitalisations	Predicts risk of hospital admission, readmission, and longer hospital stays for up to 6 months following as ED visit.
Mortality	Predicts risk of mortality for up to 6 months following an ED visit.
Return ED visits	Predicts risk of more frequent return ED visits for up to 6 months following an ED visit.
Use of community services	Predicts risk of high use of community services during the 5 months following the ED visit.

Triage Risk Screening Tool (TRST)					
Item No.	Item property		Item score		
1.	**Presence of cognitive impairment** Known diagnosis of dementia, confusion, cognitive disorders with loss of memory of recent events and/or temporo-spatial disorientation		**Yes=1**		**No=0**
2.	**Gait disturbances, transfer difficulties, falls before admission**				
3.	**Habitual polymedication** (5 or more)				
4.	**History of hospitalization (3 months) or admission to emergency (1 month)**				
Evaluation of activities of daily living (ADL) in the 15 days before hospitalization		ADL	Independent=0	Partial=0.5	Fully dependent=1
		Washing			
		Dressing			
		Toileting			
		Transferring			
		Continence			
		Feeding			
		Subtotal			
			If subtotal is ≥2, put score of 1 in the functional evaluation box below		
5.	**Evaluation of function in the 15 days before hospitalization**				
	TOTAL				

Triage Risk Screening Tool - TRST

- TRST was effective in
- ✓ identifying baseline functional impairment
- ✓ can predict subsequent functional decline among older adults discharged from the ED
- The TRST may be useful in identifying
- ✓ high-risk patients who would benefit from referrals for further evaluation or surveillance upon ED discharge
- It is not useful in predicting those at risk for

decline based on perceived physical health

ISAR and TRST

- The authors concluded that ISAR and TRST are comparable in their predictive ability
- ISAR has moderate accuracy, slightly higher sensitivity, and lower specificity than for TRST (no statistical significance)

Salvi F, Morichi V, Lorenzetti B, et al. Risk stratification of older patients in the emergency department:comparison between the identification of seniors at risk and Triage Risk Screening Tool. Rejuvenation Res. 2012;15(3):288-294.

TRST and rapid Geriatric screening

- Compared with subjects who received standard care, those who were screened using the TRST and received rapid geriatric screening had better preserved function a year after the index ED visit.

After the study adjusted for

✓ TRST score

✓ baseline instrumental activity of daily living (IADL)

patients in the intervention group showed significant preservation in their functions at 12 months

Foo CL, Siu VWY, Ang H, Phuah MWL, Ooi CK. Risk stratification and rapid geriatric screening in an emergency department—a quasi-randomised controlled trial. BMC Geriatr. 2014;14:98.

Other instruments

CTAS is a valid instrument in identifying patients who need immediate life-saving Intervention

Runciman and Rowland questionnaires

- Neither of these 2 questionnaires was able to stratify high-risk patients for poor outcomes

Variable indicator of Placement

- A significant number of patients who were not at risk were falsely identified at risk (false positive).
- VIP was not reliable in assessing elderly patients who are at risk for unplanned readmissions, potentially missing as high as 83% of high-risk patients

Limitations in these tools

- These tools do not take into account

✓ socioeconomic

✓ health literacy

✓ disability

✓ illness severity

of certain population groups.

Evaluation of older adults

- The need to validate these tools will continue to grow due to an increasing number of older adults utilizing ED services.
- The geriatric multidisciplinary team will remain at the forefront of geriatric assessment in the ED and an important stakeholder in continuing to

✓ refine

✓ develop

✓ test evidence-based protocols

in the safe and quality care of at-risk older adults, now and in the near future

Barthel Index of Activities of Daily Living

Instructions: Choose the scoring point for the statement that most closely corresponds to the patient's current level of ability for each of the following 10 items. Record actual, not potential, functioning. Information can be obtained from the patient's self-report, from a separate party who is familiar with the patient's abilities (such as a relative), or from observation. Refer to the Guidelines section on the following page for detailed information on scoring and interpretation.

The Barthel Index

Bowels
0 = incontinent (or needs to be given enemata)
1 = occasional accident (once/week)
2 = continent
Patient's Score: _____

Bladder
0 = incontinent, or catheterized and unable to manage
1 = occasional accident (max. once per 24 hours)
2 = continent (for over 7 days)
Patient's Score: _____

Grooming
0 = needs help with personal care
1 = independent face/hair/teeth/shaving (implements provided)
Patient's Score: _____

Toilet use
0 = dependent
1 = needs some help, but can do something alone
2 = independent (on and off, dressing, wiping)
Patient's Score: _____

Feeding
0 = unable
1 = needs help cutting, spreading butter, etc.
2 = independent (food provided within reach)
Patient's Score: _____

(Collin et al., 1988)

Transfer
0 = unable – no sitting balance
1 = major help (one or two people, physical), can sit
2 = minor help (verbal or physical)
3 = independent
Patient's Score: _____

Mobility
0 = immobile
1 = wheelchair independent, including corners, etc.
2 = walks with help of one person (verbal or physical)
3 = independent (but may use any aid, e.g., stick)
Patient's Score: _____

Dressing
0 = dependent
1 = needs help, but can do about half unaided
2 = independent (including buttons, zips, laces, etc.)
Patient's Score: _____

Stairs
0 = unable
1 = needs help (verbal, physical, carrying aid)
2 = independent up and down
Patient's Score: _____

Bathing
0 = dependent
1 = independent (or in shower)
Patient's Score: _____

Total Score: _____

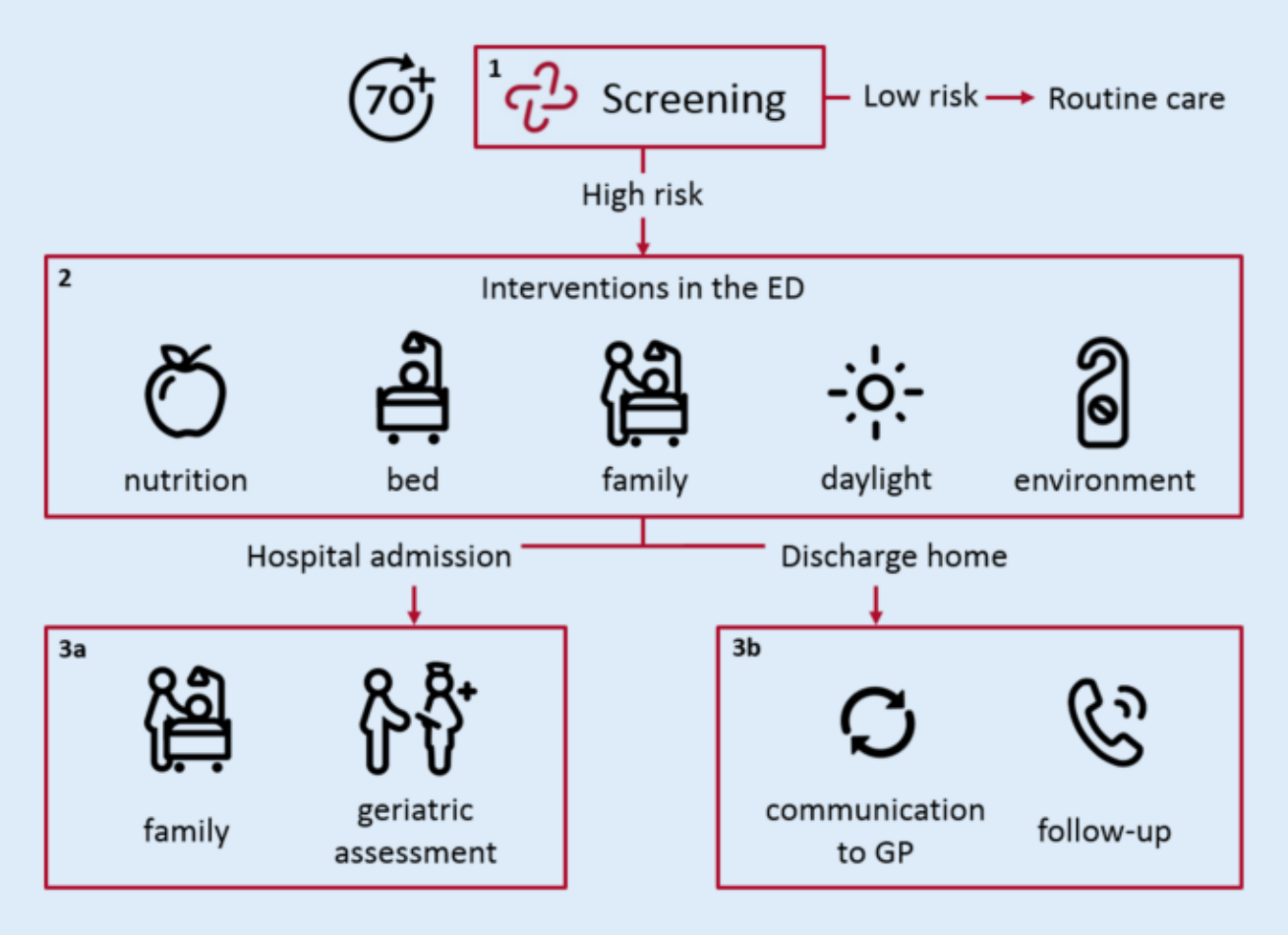
Scoring:

Sum the patient's scores for each item. Total possible scores range from 0 – 20, with lower scores indicating increased disability. If used to measure improvement after rehabilitation, changes of more than two points in the total score reflect a probable genuine change, and change on one item from fully dependent to independent is also likely to be reliable.

Sources:

- Collin C, Wade DT, Davies S, Horne V. The Barthel ADL Index: a reliability study. *Int Disabil Stud.* 1988;10(2):61-63.
- Mahoney FI, Barthel DW. Functional evaluation: the Barthel Index. *Md State Med J.* 1965;14:61-65.
- Wade DT, Collin C. The Barthel ADL Index: a standard measure of physical disability? *Int Disabil Stud.* 1988;10(2):64-67.

Acutely presenting older person



Lessons to be learnt

- The tools should not be used as the sole instrument in predicting adverse outcomes
- Disease-specific prognostic instruments should be incorporated in the overall assessment in order to be more effective in identifying patients who are likely to experience adverse outcomes
- Include the patient's preferences and choices when making healthcare decisions
- Ensure that interprofessional team members work toward the same patient goals
- Dedicate high-quality discharge education
- Educate the community of potential adverse outcomes of older adults

Bottom line

- It is the most vulnerable who will have most to lose from systems that are unsafe or inadequately designed to address their needs
- Radical redesign may be necessary to help health services provide safe and sustainable patient-centered care
- This will include

✓ greater provision of acute geriatric assessment in the ED – beds in ED – *interface geriatrics*

✓ ready access to Allied Health input

✓ strategies that provide safe alternatives to admission. Work with carers

Thank you