



Addressing the Public Health Crisis of Boarding of Older Adults in America

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HEALTH SYSTEM

Where discoveries are delivered.SM

Learning Objectives

01

Describe the unique context and challenges of emergency care of older adults who are acutely ill or injured.

02

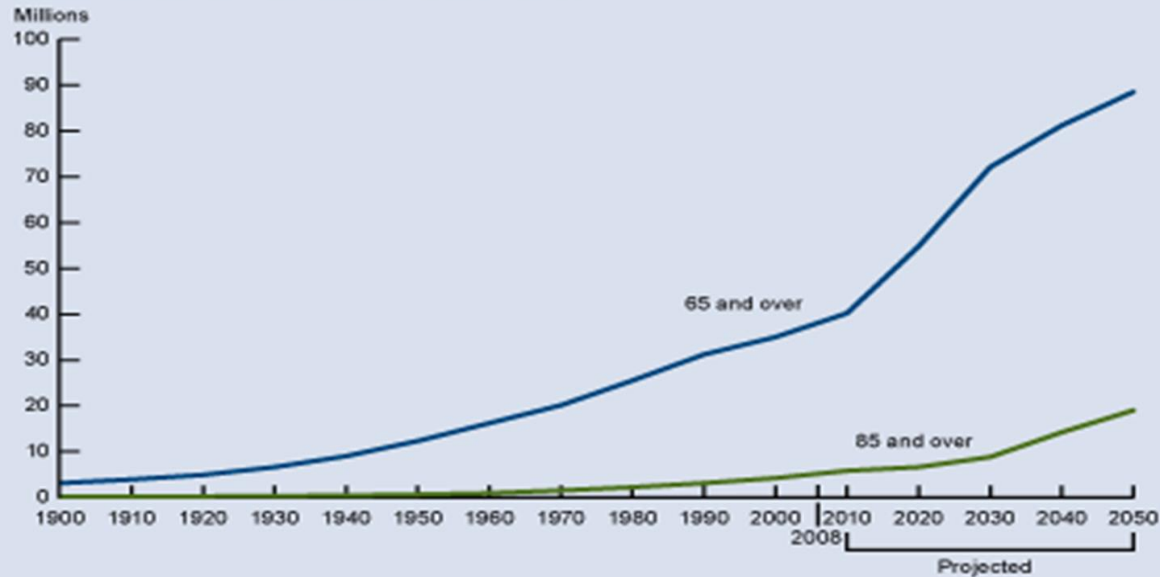
Describe evidence-based approaches to improve emergency care for older adults.

03

Describe next steps in bringing excellent emergency care to all older Americans.

The Population is Getting Older...

Population age 65 and over and age 85 and over, selected years 1900–2008 and projected 2010–2050



NOTE: Data for 2010–2050 are projections of the population.
Reference population: These data refer to the resident population.
SOURCE: U.S. Census Bureau, Decennial Census, Population Estimates and Projections.

NUMBER OF AMERICANS 65 AND OVER IS EXPECTED TO DOUBLE TO MORE THAN



98
MILLION
BY 2060²

BY 2060, NEARLY ONE-QUARTER OF AMERICANS WILL BE

65
AND OLDER³



NUMBER OF PEOPLE 85 AND OLDER IS PROJECTED TO MORE THAN TRIPLE FROM 6 MILLION IN 2015 TO NEARLY

20
MILLION
BY 2060⁴



21.3
MILLION

PATIENTS OVER 65 WERE TREATED IN EMERGENCY ROOMS IN 2015,

UP

FROM ABOUT 16 MILLION IN 2001⁵



Quick facts about older adults...

- 10,000 people turn 65 every day
- 46% of all Emergency Department visits resulting in hospitalization are seniors
- Patients >75 yrs represent the second highest group of emergency department users (following only those 1-4 years old)
- The growing number of seniors with increased medical needs will place a non-sustainable cost burden on the current U.S. Healthcare System



Quick facts about Emergency Care...

- By 2060, nearly one quarter of Americans will be 65
- Number of people 85 and older is projected to more than triple from 6 million to nearly 20 million in 2060
- 21.3 Million patients over 65 were treated in Emergency Rooms in 2015. Up from about 16 Million in 2001
- Healthcare Spending is projected to increase to nearly 20% of the Gross Domestic Product (GDP) by 2024



Disconnect Between EDs and Older Adults...



Space designed for ED priorities of rapid patient evaluation and turnover, privacy forsaken for maximal use of space, crowding of narrow beds, shiny linoleum floors for quick cleanup...

Literature Suggests

- 1) An ED visit is a **sentinel event** and marks early functional decline, leading to poor health outcomes, higher health care utilization and higher cost of care.
- 2) **Transitions of Care** are key points wherein physicians and care teams have the ability to impact the trajectory of patients and improve quality of care and decrease the cost of care.

Friedmann PD, et.al. Am J Emerg Med 2001
Aminzadeh F, et.al. Ann Emerg Med 2002
Coleman EA, et.al. Med Care 2005
Hastings SN, et.al. Med Care 2008

Senior Emergency Care is Different



The Need:

Needs of our senior population are different from other populations.

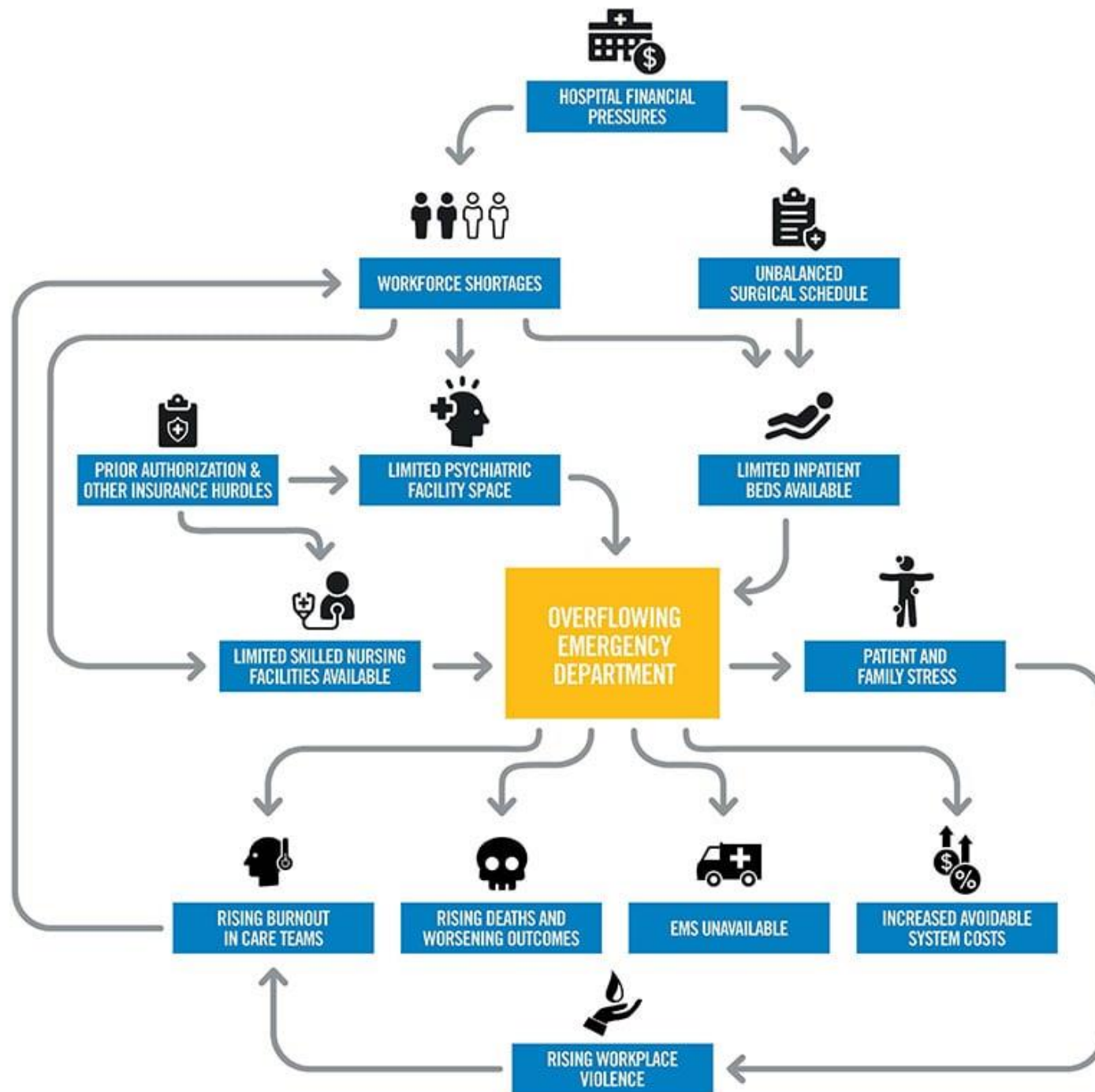
Social, Family, functional, patient centered goals

Senior Emergency Care is Different

How do we know this?

- Repeatedly, a growing body of data from existing models of geriatric emergency care, which promote best clinical practices for seniors and create a more positive and sensitive physical environment, demonstrate the **potential to improve patient outcomes and their transitions of care, while lowering costs.**





ACEP Boarding and Crowding
2023 Summit

ED Boarding – GEDC roundtable April 2024

True Cost of Boarding: What we know...It's Bad

ED Boarding Harms Older Adults

- More likely to
 - experience boarding
 - board for prolonged durations
- Deadly
- Results in
 - Immobility & Hospital Acquired Disability
 - Delirium
 - Restraints
- One overnight in the ED
 - 1.39 aRR death
 - 1 extra inpatient day

Boarding Begets Boarding

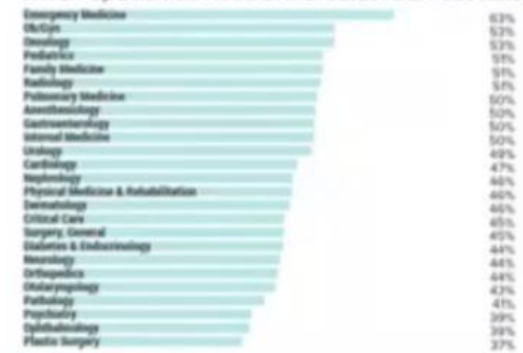
- High volume → higher likelihood of admission
 - OR 1.007/ per additional patient in the ED



It's a Workforce Issue

- Burnout
- Moral injury
- Violence

Which Specialties Have the Greatest Burnout Rates?



Factors impacting Boarding

Throughput

- Decision to admit
- Consult times
- Study and procedure timing
- Discharge planning




Output

- Transport delays
- Bed availability
- Care transition plan



Systematic Review

Association between Boarding of Frail Individuals in the Emergency Department and Mortality: A Systematic Review

Pasquale Iozzo ^{1,*}, Noemi Spina ², Giovanna Cannizzaro ², Valentina Gambino ², Agostina Patinella ², Stefano Bambi ³ , Ercole Vellone ^{1,4} , Rosaria Alvaro ¹ and Roberto Latina ⁵ 

- Systematic review published early 2024
- Boarding and adverse outcomes
- Numerous studies: association of longer boarding of higher frailty patients with adverse outcomes
- Frail patients have more co-morbidities, require more time due to management complexities, and have longer LOS

Original Investigation

November 6, 2023

Overnight Stay in the Emergency Department and Mortality in Older Patients

Melanie Roussel, MD¹; Dorian Teissandier, MD²; Youri Yordanov, MD, PhD^{3,4}; [et al](#)

» [Author Affiliations](#)

JAMA Intern Med. 2023;183(12):1378-1385. doi:10.1001/jamainternmed.2023.5961

- Prospective cohort study
- Higher mortality and morbidity for older patients, especially those with limited autonomy (need more help with ADLs)
- Need for prioritization for hospital ward bed

Approaches to Improve Care for Seniors in the ED



What is a GED?

Culture of care tailored to the specific needs of seniors in the ED

Improve clinical outcomes and reduce unnecessary hospitalizations, ED revisits, and readmissions.

May consist of varying components

Staff

- Emergency & geriatrics-trained physician
- Geriatric nurse
- Care coordinator
- Geriatric nurse practitioner
- Geriatrician



Processes

- Frailty
- Delirium & cognitive decline
- Functional Impairment
- Fall risk
- Social support
- Polypharmacy



Community

- Skilled nursing and assisted living facilities
- Home health
- Primacy Care Physician
- Meals on wheels
- Agencies on aging



Physical Modifications

- Dedicated, separate space
- Few, dedicated beds at specific times
- No physical space changes



Why have a Geriatric ED

The Need:

Senior Emergency Care is Different

- The needs of our senior population are different from other populations.
- Social, Family, Functional, Patient Centered Goals

The Opportunity:

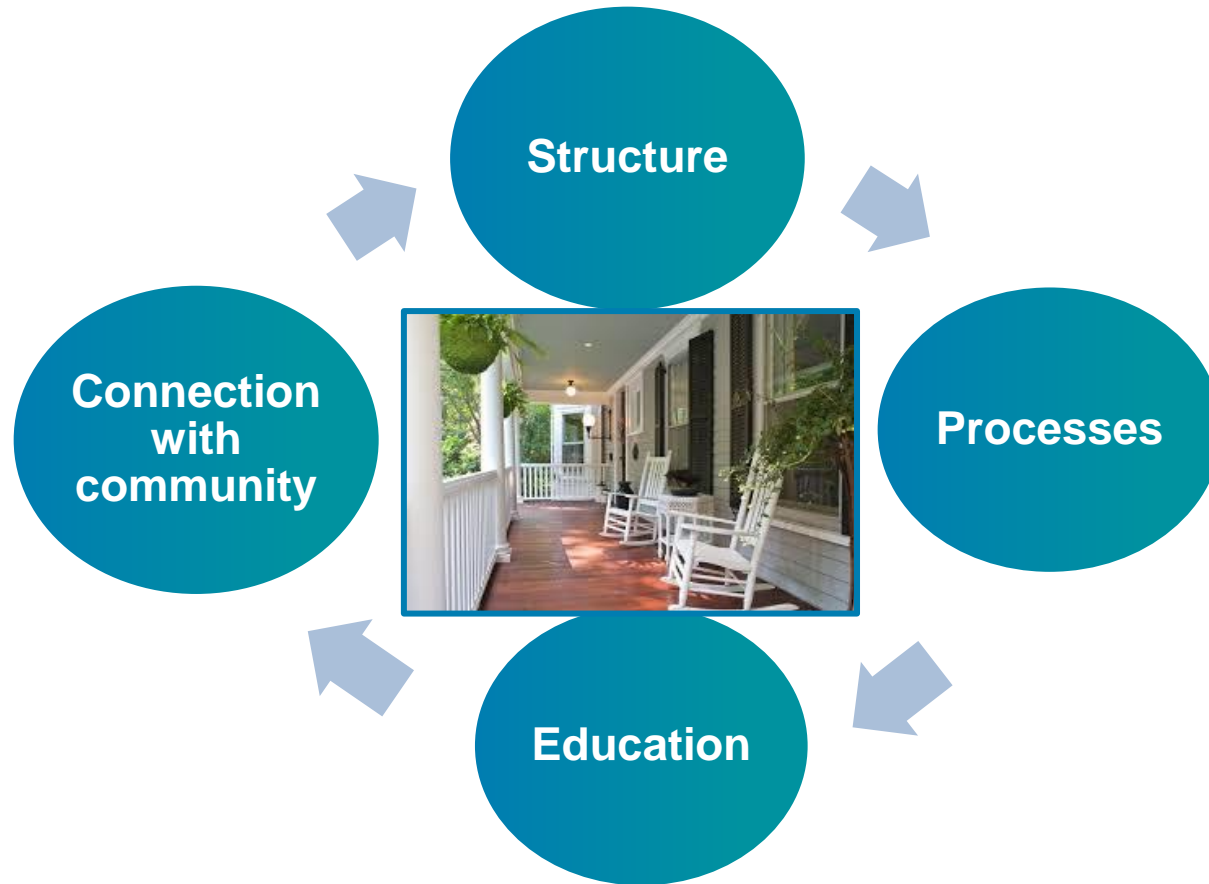
Geriatric Emergency Department will offer the necessary services specialized for this population

- Health & wellness acute care screening
- Geriatric medicine consultation
- Case management
- Pharmacy
- NICHE trained nurses
- Technician staff to assist patients
- Specialized equipment, lighting, and experience
- Social and psychiatric services

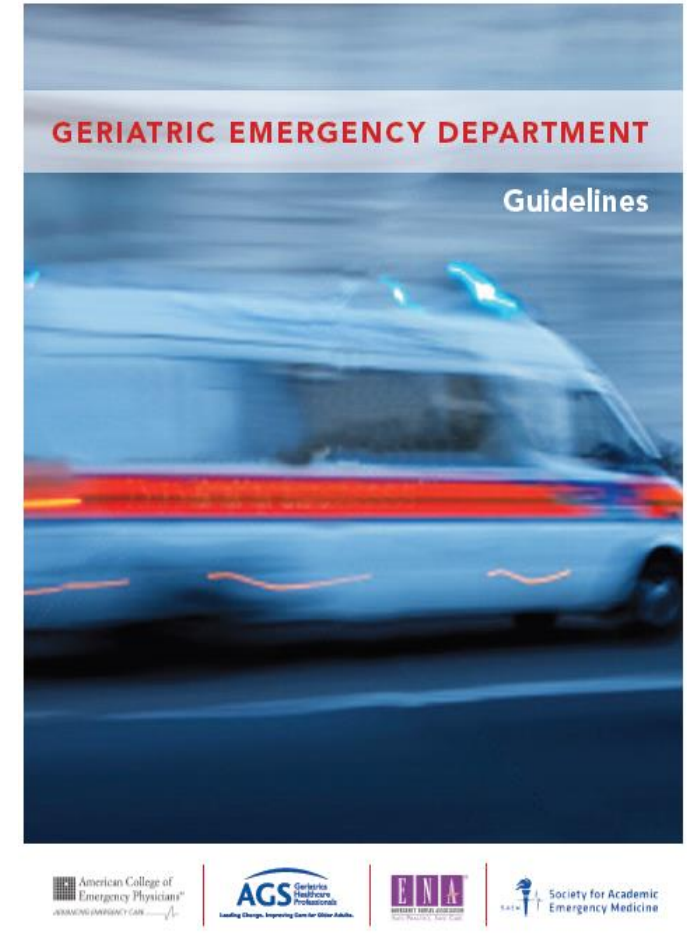


Geriatric ED Guidelines:

Four Critical Components of a Geriatric-Appropriate ED



**Geriatric ED
Guidelines 2014**





Levels 1 and 2 are designed to reflect an increasing commitment to senior-specific care in the Emergency Department.



Level 3 is designed to be within reach of every hospital

GEDA is created in partnership with the Gary and Mary West Health Institute and The John A. Hartford Foundation.

Level 1 GED: Gary and Mary West Emergency Department at UC San Diego Health

Fast Facts

Annual ED Volume: 40,000

ED Visits by Seniors: 32%

Half of all ED admissions (patients >65)

GED Outcomes

- Reduced admissions from the ED
- Provide targeted referrals & services
- Reduced total costs for patients discharged to Acute Care at Home
- First Level 1 GED in CA



Geriatric-friendly Physical Modifications

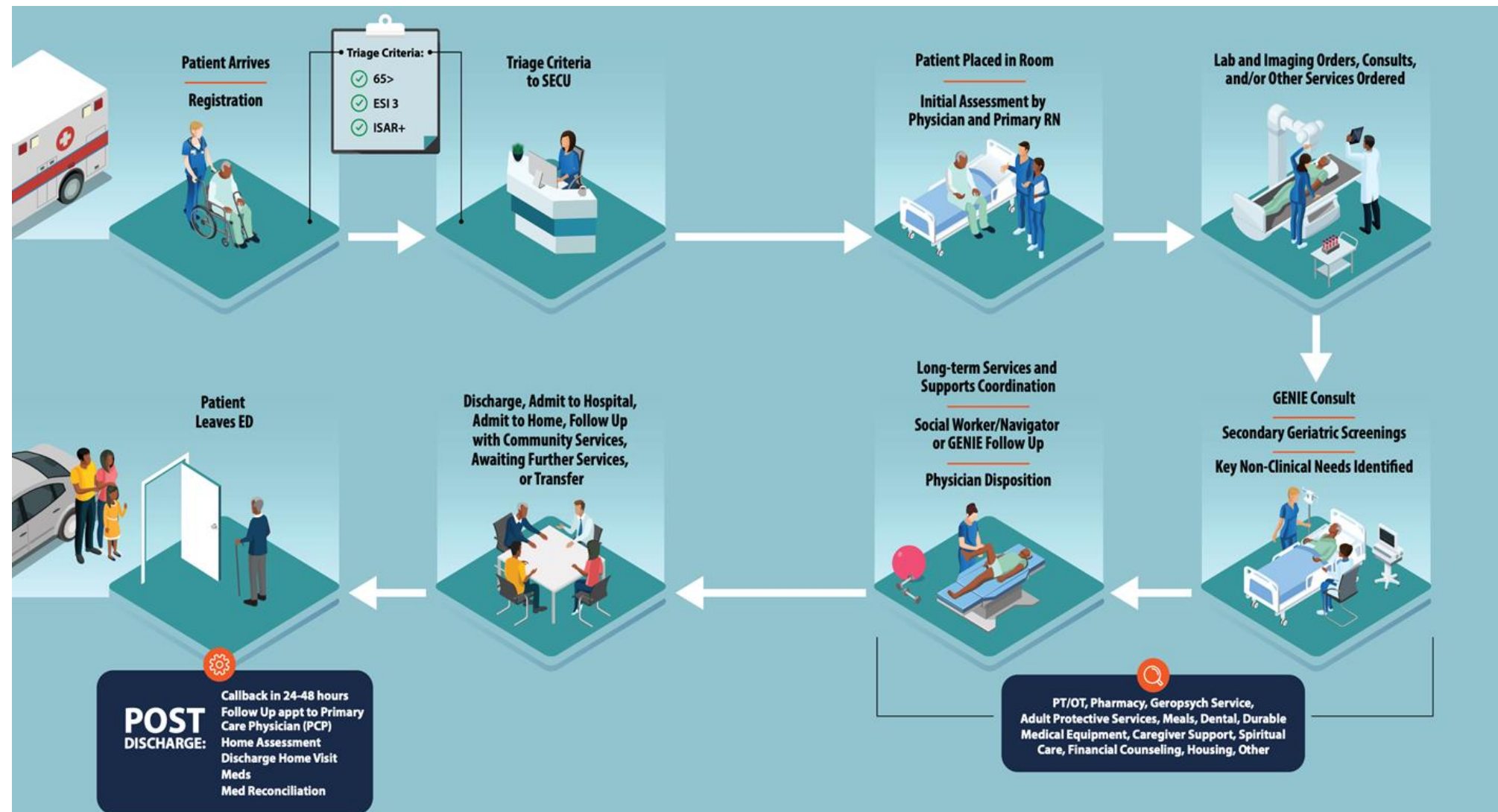
Bringing in natural light
and elements with windows,
glass and interior finishes

Increased square footage
for additional space

40" smart TVs for easy
viewing of patient
charts, labs, etc.



Patient Movement through the SECU



Consult Services

- APS
- Caregiver Support
- Dental
- DME
- Financial
- Counseling
- Geriatric-Medicine
- Geriatric-psychiatry
- Housing
- Meals
- Nutrition
- PT/OT
- Pharmacy
- Spiritual Care
- Transportation

Role of the GENIE Nurse

GENIE REFERRALS TO UCSD CASE MANAGER AND UCSD SOCIAL WORK

- **GENIE:**
 - Psychiatry for Major Depression, SECU Pharmacy for Medication Safety, ER Attending for Delirium, UCSD Nutrition for malnutrition or food insecurity (MOW), IPPT, IPOT, IPST for swallowing or choking, Cognitive positive scores referral to UCSD MARC Clinic (Memory, Aging and Resilience Clinic).
- **UCSD Case Manager:**
 - All Home Health Referrals, Skilled Nursing Facility, Rehabilitation Facility, Memory Care Facility, Adult Day Care, Caregiver Resources.
- **UCSD Social Work:**
 - Abuse and Neglect, Psychiatry for other than Major Depression, Caregiver Strain, Transportation,
 - Community Resources

Approach

An example of the GENIE summary screen with information from multiple GED screenings embedded within a single location in the EHR.



Event Log | Patient Summary | Physical Diagram | Orders

Index | ED Orders | ED PT Care Timeline | ED Notes | Triage Summary | Chart Reminders | GENIE ED Nursing Assessment

Genie, Patient #80002236

SECU SCREENING TESTS

Date and Time	ISAR Score (Scores 2 or higher indicate High Risk)	Meets criteria for fall risk?	GUG Score	RASS Score	CAM-ICU	KATZ Total (Score of 3 or less is Abnormal)	PHQ2 Score	PHQ9 Score (calculated)	MPO or: abn
	9
	0	..	3	13	..	..
	3 - Mildly abnormal	+1	Positive	3	..	..	..
	Yes	..	..	..	..	..	..
	2	..	..	..	..	..	..	..	..



NAME

ED GENIE NURSE NOTE

Hide copied text

Hover for attribution information

Introduced myself as Geriatric Emergency Nurse and obtained verbal consent to perform geriatric screenings.

Genie Assessment:

Medication safety:
All medications screened and no unsafe medication identified as long as taken as prescribed.

Exceptions: No potentially unsafe medications identified when taken as prescribed.

Referral #1 = MoCA score 18/30 with 26/30 or greater normal. Refer to MARC clinic "Memory Aging and Resilience Clinic" for memory problems. Lower scores were in memory recall and naming

Please see GENIE Screens completed during this ER visit.

UCSD ER attending aware and approves of geriatric referrals today.

The following orders are available after senior screenings are completed.



Order Sets

UC ED SECU Personalize

INCLUSION CRITERIA:

PRIMARY NURSE
ISAR >= 2 -> positive -> GENIE consult
GUG >= 3 -> positive -> GENIE consult -> PT consult

GENIE SCREENS
CAM positive if features 1 & 2 are "yes" and either 3 or 4 are "yes"
KATZ <= 4 -> positive -> Social Work and Case Management consult
RASS >0 -> positive -> Agitation orderset
PHQ2 >1 -> positive -> PHQ9 done
PHQ9 >= 15 -> psych consult
PHQ9 <15 -> outpatient psych referral.
Nutrition screen -> 0-7 = positive -> consult nutrition and social work
EAI = positive if any criteria* below are met.
MoCA <26 = positive -> referral to MARC

* EAI POSITIVE IF:
If the healthcare person suspects abuse, neglect, abandonment or coercion
If evidence in the healthcare professional exam indicates abuse etc
Or if the senior states they are being abused etc

ED Consult Orders

UC ED SECU CONSULT ORDERS

- SP Consult to Social Work
- SP Consult to Case Management
- SP Physical Therapy Evaluate and Treat Order
- SP Occupational Therapy Evaluate and Treat Order
- SP Consult to Nutrition
- SP Speech Therapy Evaluate and Treat
- SP Consult to Pharmacy

ED Referral to Outpatient Setting

UC ED SECU OUTPATIENT REFERRALS

Click for more

Geriatric-Specific Medication Alerts

FOR PATIENTS 65 YEARS AND OLDER, NEW GUIDANCE WILL APPEAR FOR MEDICATIONS ON THE BEERS CRITERIA

ALPRAZolam (XANAX) tablet 0.5 mg

✓ Accept ✗ Cancel



For patients ≥ 65 years old:
Avoid use, **except for withdrawal.**

New Beers Criteria information section in the order composer.

Only displays if patient is 65 years and older

Alternatives for agitation/delirium:

- Use non-pharmacological interventions FIRST
- Use medications after these have failed.
- Consider low-dose haloperidol (0.5-1 mg PO or IM/IV), but avoid in patients with suspected Lewy Body dementia.
- Other alternatives include short-term use of low-dose 2nd generation antipsychotics (risperidone, quetiapine, olanzapine, aripiprazole).

Alternatives for anxiety:

- SSRIs (except paroxetine and fluoxetine)
- SNRIs
- Mirtazapine
- Buspirone
- Gabapentin

Alternatives for sleep:

- Use non-pharmacological interventions FIRST
- Use medications after these have failed.
- Consider melatonin (OTC), low dose mirtazapine (7.5 mg), trazodone (25-50 mg), gabapentin (if concomitant neuropathic pain or restless leg syndrome).

Reference Links: 1. Clinical Pharmacology

Links:

Dose: 0.5 mg 0.125 mg 0.25 mg

Different (lower) dose buttons if the patient is 65 or older

Weight Type: Recorded Ideal Adjusted Order-Specific

Weight: 52 kg 45.5 kg 48.1 kg

Recorded weight: 52 kg (recorded 16 days 3 hours ago)

Different max dose for patients 65 and older

ALPRAZolam Details

↑ Single dose of 0.5 mg exceeds recommended maximum of 0.25 mg, over by 100% Use 0.25 mg

↑ Daily dose of 1.5 mg (0.5 mg EVERY 8 HOURS PRN) exceeds recommended maximum of 0.75 mg, over by 100%

Override Reason/Comment: Override Reason...

Beers Criteria Warning



For Patients 65 years and older, the recommended starting dose for ALPRAZolam (XANAX) is **0.25 mg two or three times daily** for immediate release (IR) formulation, Or **0.5 mg/day** for extended release (ER) formulations.

If dose alert is overridden for patients 65 or older, BPA appears

Remove the following orders?

Remove

Keep

ALPRAZolam (XANAX) tablet 0.5 mg
0.5 mg, Oral, EVERY 8 HOURS PRN, starting today at 1119, Until Discontinued, Anxiety

Acknowledge Reason

Previously Tolerated

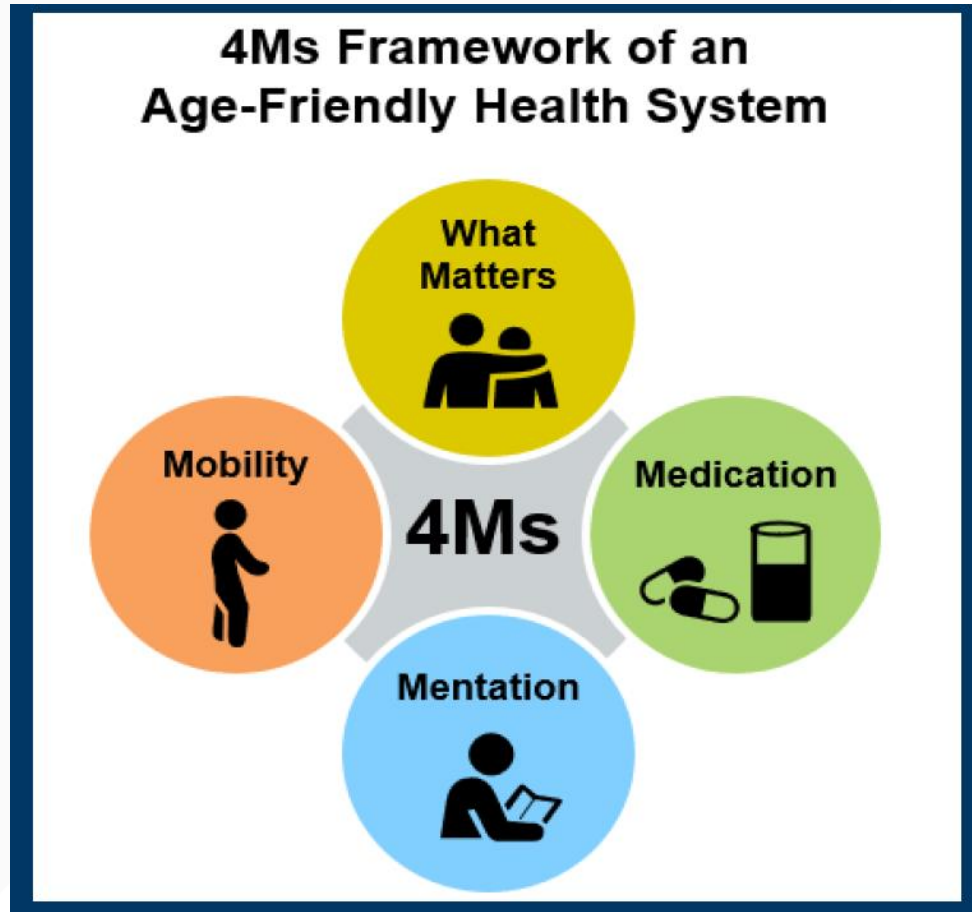
Clinically Indicated

Other

✓ Accept

Cancel

4Ms of Age-Friendly Care



what **M**atters

Know and align care with what Matters to each older adult

Medications

Deprescribe or do not prescribe high- risk meds considering what matters most

Mobility

Promote safe mobility to maintain function and do what matters most

Mind

Prevent, diagnosis, and manage delirium, depression, and dementia to enjoy what matters most

GED interventions have been shown to...

- Improve ED utilization
 - Decrease in risk of hospital admission at index visit (Keene et al., 2022; Hwang et al., 2018)
 - Decrease ED revisits in high-risk populations (Huded et al., 2022; Lesser et al., 2018)
 - Decrease ED readmissions (Dresden et al., 2019)
 - Reduce length of stay inpatient post-ED (Keene et al., 2022)
- Reduce costs
 - Lower cost of care for older adults (~\$2500-\$2900 per Medicare beneficiary) in the 30 days following a GED visit (Hwang et al., 2021)
 - Estimated savings of \$1.7 million per year as result of reduction in inpatient LOS (Keene et al., 2022)
- Connect patients to care outside of ED encounter
 - Increase referral rates to gerontology and home-based primary care (Huded et al., 2022)
- Increase staff satisfaction and patient experience (Guttman et al., 2005; Mion et al., 2003)

Future Steps

- Need established frailty assessment tool
- Identify goals of care (4 Ms)
- Focused screening
- Align outcomes of screenings with operational and flow priorities
- Models for care at home
- AI and LLM for earlier risk identification and stratification

GEDC 2019 Boarding and Overcrowding Newsletter

Strategies to manage older adults boarding in the emergency department

- Develop a “safety and comfort” protocol for boarding older adults.
- Avoid catheters and NPO designation
- Early medication reconciliation to continue management of chronic conditions.
- Decrease risk of deconditioning by encouraging mobility and getting out of bed.
- Employ a delirium mitigation protocol for those older adults at increased risk, such as those with underlying dementia.
- Emphasize caregiver comfort and communication by frequent updates, nutrition, adequate seating, Wi-Fi, and parking assistance.
- Review the systems-based flow of patients with hospital leadership to improve the flow of patients. Look at patterns and practices to better address the needs of patients.
- Obtain Case Management and PT/OT evaluations onboarding patients who will need post-acute services.
- Work with the admitting services to clearly delineate responsibility for admitted patients boarding in the ED, including a protocol regarding rounding and orders for boarding patients.
- Develop a protocol to frequently review admission status for boarding patients to address



Prioritizing Care of Older Adults in Times of Emergency Department Overcrowding

*April Ehrlich, MD, Mitchel Erickson, DNP, Esther S Oh, MD PhD, Todd James, MD,
Saket Saxena, MD*

- Health system preparedness
- Prioritize Care for Older Adults
- Transitions of Care
- Community Engagement
- National Engagement

Strategies to Mitigate impact of Boarding on Older adults

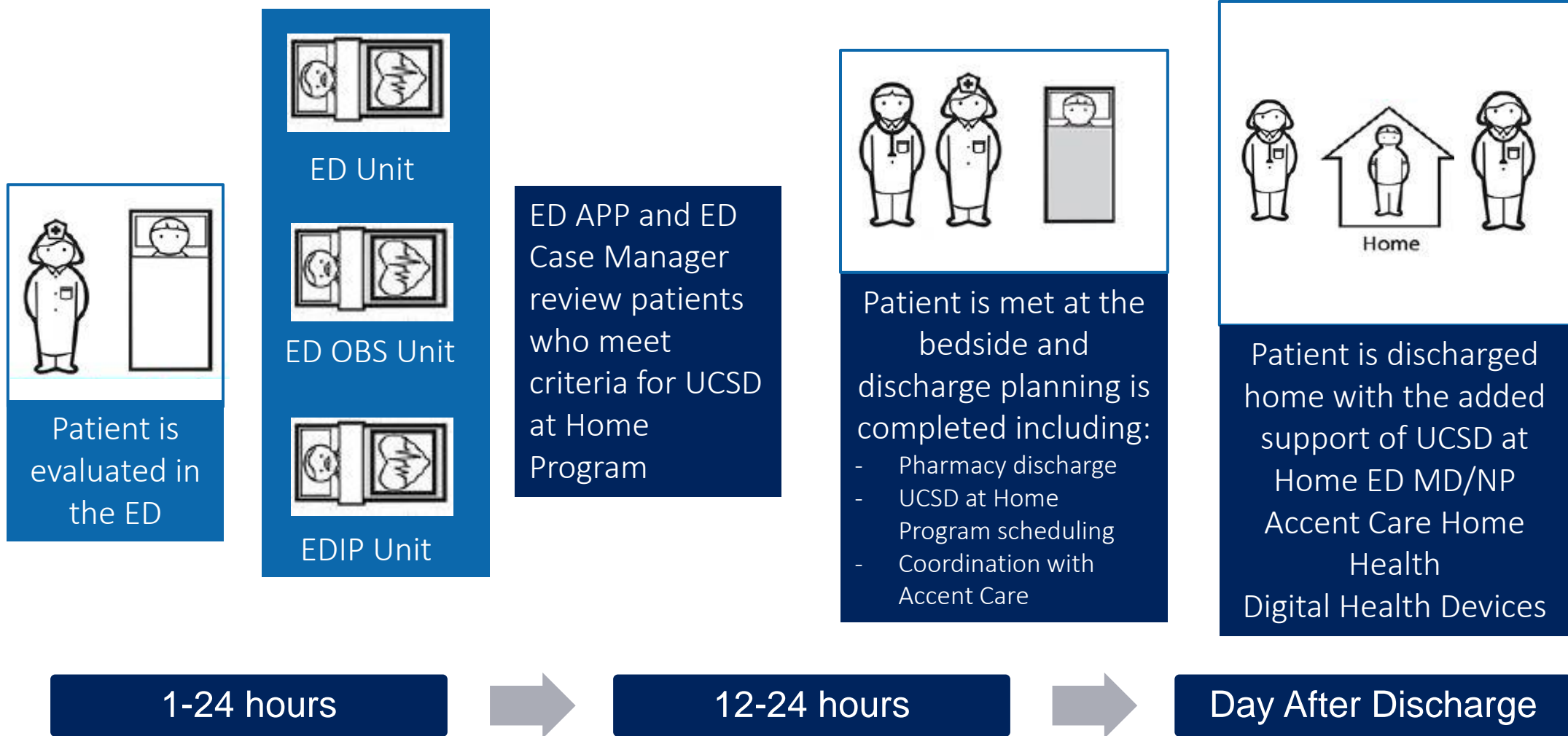
- Prioritize access to outpatient care
- Improve virtual access to acute care
- Improved connections to behavioral and cognitive impairment services

- Geriatric ED initiatives
- Prioritize care for higher risk older adults
- Improve communication and transitions of care

- Begin care coordination and discharge planning in the ED
- Focus on WHAT MATTERS. Include caregivers and family in ongoing care decisions
- Community resources and care coordination for an "enhanced" discharge

UCSD at Home

Patient Flow from ED to UCSD at Home

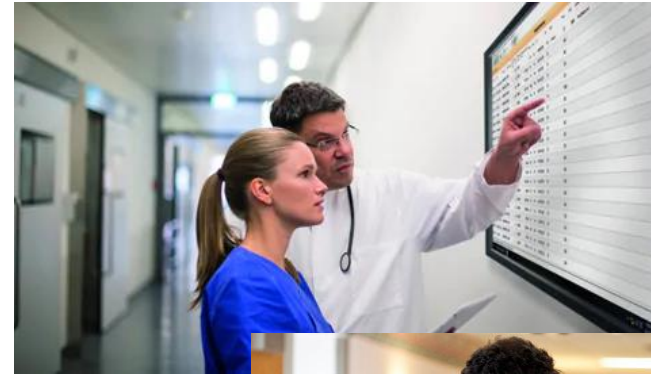


Remote Monitoring Care

Helps caregivers identify early signs of patient deterioration and detects falls to drive early intervention



Philips wearable biosensors for VS, falls, position



Data analytics and early notifications,
automated alerts to staff for any change in
status, or risks

Lasts for Average Patient Stay (3-4 Days)

AI/Machine Learning/Predictive Analytics

Sepsis

Likelihood to occupy Bed

- Look for alternative care models

ED Flow Predictions / census mgmt.

- Forecasting, opening alternative sites (IC, UC, OR)

Thank you!

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