UC San Diego Health

A PRACTICAL GUIDE TO IMPLEMENTING A

GERIATRIC EMERGENCY DEPARTMENT

westhealth

Implementing a Geriatric Emergency Department in your Facility

With 10,000 people turning 65 every day and emergency department (ED) visits among this age group growing from approximately 16 million in 2001 to over 21 million visits in 2015, the ED serves as a critical entry point to the healthcare system where people are either admitted or discharged, setting the stage for the future of care.

A tremendous opportunity exists to catalyze broader adoption of senior-appropriate acute care models so every older adult across the nation has access to emergency care tailored to their needs. Early 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.

To support health systems developing a geriatric emergency department (GED) in their own facility, UC San Diego Health and the Gary and Mary West Health Institute (West Health) have created this implementation guide based on our experience establishing the Gary and Mary West Senior Emergency Care Unit (SECU) within the Gary and Mary West Emergency Department at UC San Diego Health in La Jolla.

In May 2018, the ED was the first in California to receive GED accreditation by the American College of Emergency Physicians (ACEP) and was among the first in the nation to receive Level 1 designation – the highest and most comprehensive level. While our GED is not the first of its kind, it is one of the early examples, specifically, within an academic medical center, serving the needs of seniors.

In the following pages, you will find a firsthand account of how the two organizations partnered to launch a successful GED, and some of the important take-aways considered before any health system strives to do the same. To make this resource as comprehensive as possible, an overview of our direct experiences and recommendations are included along with insights into industry-wide standards so you can customize the approach that will best align with the resources and vision of your individual health system.

For reference, the acronym "SECU" refers to the UC San Diego Health/West Health SECU experience, and "GED" refers to best practices for delivering geriatric emergency care. We empower you to determine the best model that will meet the needs of your organization and the patients you serve.

We look forward to your feedback and wish you the best of luck as you embark on this exciting venture to improve care for our nation's aging population.

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JUST THE FACTS

PATIENTS OVER THE AGE OF 75
REPRESENT THE SECOND HIGHEST GROUP OF EMERGENCY DEPARTMENT USERS (FOLLOWING ONLY THOSE 1-4 YEARS OLD)[1]

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

98 MILLION BY 2060[2]

BY 2060, NEARLY ONE-QUARTER OF AMERICANS WILL BE

65 AND OLDER[3]

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

20 MILLION BY 2060[4]

21.3 MILLION PATIENTS OVER 65 WERE TREATED IN EMERGENCY ROOMS IN 2015, UP FROM ABOUT 16 MILLION IN 2001[5]

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CHAPTER 1

WHY GEDS?

Every day, more and more baby boomers turn 65, making seniors one of the largest populations of patients impacting the U.S. healthcare system.

- Ted Chan, MD, Chair of the Department of Emergency Medicine, UC San Diego Health

The Need

As the population ages, the proportion of adults age 65 years and older who require healthcare services continues to increase.

Following trends across all age groups in the U.S. healthcare system, more older adults are turning to their local emergency department (ED) for clinical support to manage their healthcare needs – both emergent and primary care.

In fact, some estimates indicate nearly one ED visit for every two older Americans each year.

As a result, the growing demand for senior-specific care in the ED has been recognized as a priority by national geriatric and emergency medicine organizations with the endorsement of the 2014 Geriatric Emergency Department (GED) Guidelines that outline recommendations for optimal geriatric emergency care.

INDICATORS demonstrating the growing interest and need for GEDs and specially trained geriatric emergency medicine providers include:

MORE THAN 130
GEDs CURRENTLY EXIST IN THE U.S.

GROWING NUMBER
OF EDs HAVE APPLIED FOR OR INDICATED INTEREST IN ACEP'S GERIATRIC ED ACCREDITATION PROGRAM

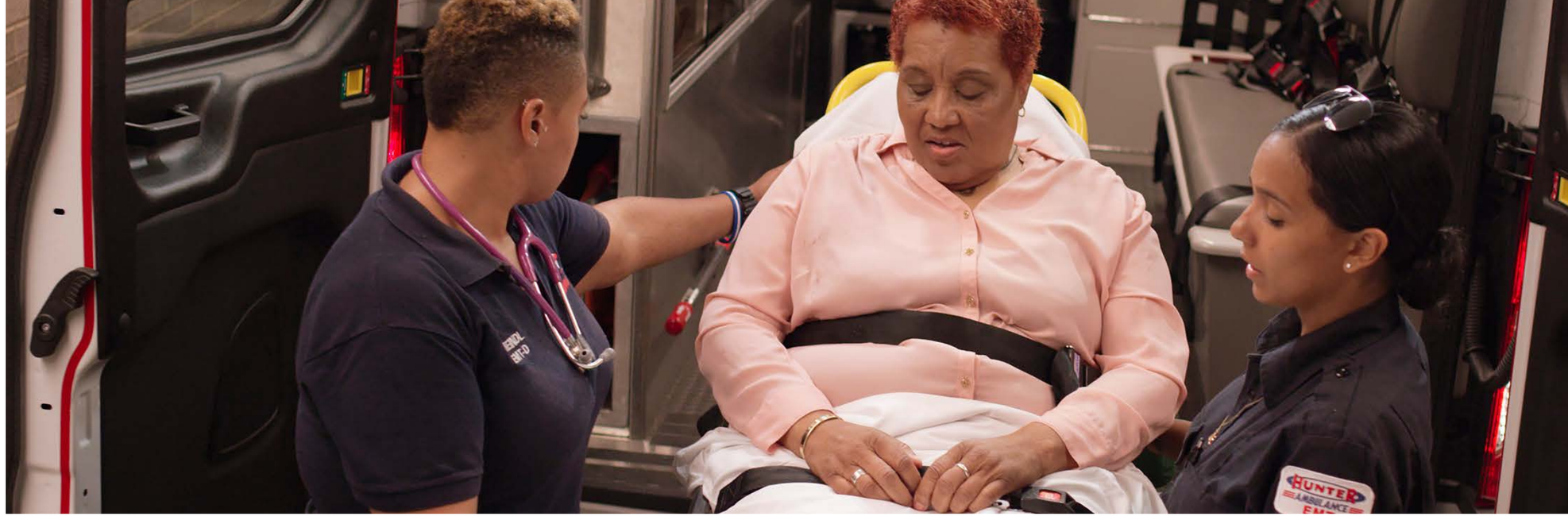
46%
OF ALL ED VISITS RESULTING IN HOSPITALIZATION ARE SENIORS[6]

ONE OUT OF EVERY 10
HOSPITAL ADMISSION IS POTENTIALLY AVOIDABLE

60%
OF THOSE ADMISSIONS ARE FOR PATIENTS 65 YEARS OR OLDER[7]

THE GROWING NUMBER OF SENIORS WITH INCREASED MEDICAL NEEDS WILL PLACE A **NON-SUSTAINABLE COST BURDEN** ON THE CURRENT U.S. HEALTHCARE SYSTEM

HEALTHCARE SPENDING IS PROJECTED TO INCREASE TO NEARLY **20%** OF THE U.S. GROSS DOMESTIC PRODUCT (GDP) BY 2024[8]



The ED can serve an important role in improving care of older adults while reducing stresses on the U.S. healthcare system. However, the contemporary emergency medicine management model may not be adequate for effectively addressing the special needs of older adults who often present with numerous co-morbidities, multiple medications and complex physiologic changes. Programs specifically designed to address these unique challenges create an optimal environment for improved care delivery. The expertise that a trained ED staff can bring to an encounter with a senior patient can markedly influence patient outcomes that, in turn, positively impact hospitals, providers, family members and even the local community.

What is a GED?

A GED is a culture of care tailored to the specific needs of older adults in the ED with an eye toward improving healthcare outcomes and reducing unnecessary hospitalizations and readmissions. While there is no "one-size-fits-all" approach, common characteristics of a GED include senior-specific workflows and screenings, an interdisciplinary team, specialized equipment and supplies, and physical plant modifications.

FOR OUR PURPOSES, THE SECU DESIGNATED AGE 65 AS ITS BASELINE AGE.

The American College of Emergency Physicians Geriatric Emergency Department Accreditation (ACEP GEDA) program, which began accrediting GEDs in 2018, stipulates specific minimum criteria for accredited GEDs at three distinct levels, though there is some flexibility in how certain criteria may be met (see Chapter 3, Module 7 for more information on achieving accreditation). Accreditation status is quickly becoming the standard for designating what constitutes a GED.

First Steps: Making a Traditional ED More Senior-friendly

The entry level of accreditation, Level 3, is designed to be achievable by any ED committed to improving senior-specific care. This level of accreditation emphasizes demonstration of basic geriatric emergency medicine (GEM) training, and the resources required to achieve this level of accreditation are minimal. Yet while some EDs may not presently be in a position to pursue GED accreditation, any ED can—and should—become a geriatric-friendly ED. The following are steps you can take in the short-term to achieve a more senior-friendly environment within your existing ED:

1. TRAIN:
Educate emergency nurse staff via online and in-person training resources to facilitate transitions of care for older adults (see Chapter 3, Module 2 for more details on such educational resources).

2. ENHANCE:
Implement applicable facility enhancements that promote improvements in safety, comfort, mobility, memory cues and sensorial perception (both with vision and hearing) for older patients.

3. IDENTIFY:
Customize the patient assessment and evaluation process for functional and cognitive impairment, physical frailty and medical complexities common in older adults.

4. COMMUNICATE:
Establish discharge protocols that facilitate the communication of clinically relevant information to the patient, family and outpatient care providers, including long-term care facilities.

EDs interested in accreditation may find that taking these first steps can create early successes and build staff and administrator buy-in to support launch of a full-fledged GED in the future. Even if accreditation seems unlikely, enacting these initial steps can yield immediate improvements to clinical care and health outcomes of older adults visiting your ED.

CHAPTER 2

PRE-LAUNCH STRATEGY

Regardless of primary motivation, successful implementation of a Geriatric Emergency Department (GED) can be time-consuming and challenging; yet, every milestone brings your hospital closer to ensuring that senior patients receive the quality of care they need and deserve.

Table 1: Primary Motivation – Perspective from Four Hospitals

Common motivating factors from a hospital perspective include:

GERIATRIC PERSPECTIVE:
Precipitated by clinical observations of geriatrician who saw older adults struggling in the Emergency Department (ED).

CEO INITIATIVE:
Former CEO's personal experience prompted broad effort across ED physicians and nurses to consider what could be done for seniors in the ED.

LEADERSHIP'S DESIRE FOR A CENTER OF EXCELLENCE:
Systemwide focus on an inpatient geriatric program driven by geriatrician response to community providers commenting on subpar ED care for seniors.

MULTIPLE PRECIPITATING FACTORS:
General sense that seniors' needs are not being met and that community support is inadequate.

UC San Diego Health / West Health SECU Journey

The UC San Diego Health / West Health Senior Emergency Care Unit (SECU) journey followed a four-phase process that covered 1) observation and exploration, 2) identification of institutional needs, 3) buy-in from health system leadership and 4) development of a launch plan.

Figure 1:

SECU Program Design Sequence

OBSERVATION
6 MONTHS

- Establish planning team
- Study other GEDs (site visits)
- Identify GED resources (e.g., training, technology builds)

INSTITUTIONAL NEEDS
6 MONTHS

- Query site's data to determine need
- Identify ED priority areas
- Discuss needs with ED staff
- Determine what model of GED is most appropriate and feasible

PRE-LAUNCH
9 MONTHS
CONCURRENT WITH INSTITUTIONAL NEEDS

- Establish governance structure
- Secure available resources (e..g. staffing, equipment, technology)
- Determine sustainability plan
- Confirm administrative support

LAUNCH
5 MONTHS

- Identify local "champions"
- Establish launch strategy including announcement rollout, trainings, and timelines

PHYSICAL BUILD OF NEW SPACE **APPROXIMATELY 2 YEARS**

MODULE 1: Observation of Established GEDs

To inform the SECU development, a planning team comprised of clinicians, executive sponsors and community partners was established. Given the variety of GEDs currently in operation, the planning team started their work by conducting site visits to several well-established GEDs to observe and gather information about operational models and their distinguishing characteristics (e.g., structure, workflows, resources, etc.). Based on our experience, before considering goals for your own ED, we recommend visiting at least three GEDs in different markets to understand the different ways GEDs have been operationalized. This will provide you with valuable insights that will help in determining the best fit for your community needs. If you plan to seek accreditation, if possible, aim to visit GEDs accredited at the level your institution plans to seek. If you are not sure what level of accreditation to pursue, visiting GEDs accredited at different levels can also be helpful.

MODULE 2: Institutional Needs Assessment

Just as there is no one-size-fits-all version of a GED, there is not a single means of assessing need across an institution. However, there are some common starting points that all systems can follow to begin their assessment.

We began by conducting a demographic assessment of the local senior population age 65 years and older. We looked at total population in this age range, related growth trends from recent years, overall population growth trajectory, number of EDs in the treatment radius and growth of ED visits across senior patients in the targeted area. With knowledge of this data, we understood that development of a GED, with its interdisciplinary approach toward patients, would help to fill the gaps in acute care that previously existed in this area and we were able to better gauge resourcing needs.

Next, we determined the GED model that fit our individual health system needs based on readiness and available resources. Figure 2 provides a high-level overview of key focus areas that went into the SECU. While the SECU was designed from the start to have a comprehensive approach, it is not necessary that a GED incorporate all of these components to be considered a senior-friendly facility. Additionally, institutions may choose to add components over time as resources and planning allows. What is most important is that those driving the prospective GED identify and develop a plan relevant to their unique vision.

Figure 2:

Key Components of a GED

Self-Assessment

To help determine the model of GED most feasible for your institution, we recommend assessing readiness for becoming a GED using, for example, the 4M Model Self-Assessment Survey designed by the Institute for Healthcare Improvement and The John A. Hartford Foundation. The survey aims to further project leaders' understanding of the health system's progress toward being an senior-friendly facility. The assessment, available at **www.ihi.org/Engage/Initiatives/Age-Friendly-Health-Systems**, covers important, specific interventions to improve care for older adults and categorizes those into four elements known as the **4Ms:** What **M**atters, **M**obility, **M**edications, and **M**entation.

Results from the 4M assessment will provide you with relevant information necessary to determine the applicable model and strategy for your hospital. Additionally, conducting interviews with current ED staff will provide valuable insight into staffing needs and alignment with facility priorities. After you determine what staffing, supplies, education and training, and physical modifications that you are considering implementing in your GED, evaluate the estimated cost and adjust as resources allow.

To aid in this exercise, estimates for potential line items to consider for a Level 1 GED are outlined in Table 2. Remember that these are merely options and GEDs will vary in their staffing structure, training requirements, capacity to make physical modifications and accreditation goals. Once an estimated budget is in hand, GED planning teams will be well on their way to having completed the "Observation" and "Institutional Needs" elements of the Program Design Sequence.

CREATING YOUR GED:

There is no one-size-fits-all GED model. Customize your GED based on your organization's goals and available resources.

While hiring new staff for a GED may not be financially viable, not all GED positions have to be full-time employees (FTEs). For greater budget flexibility, consider team members who can split their time across departments.

Table 2: Estimates for Additional ED Resources to Consider for a Level 1 GED

Category	Line Item	Annual Units - Lower Range & Upper Range
Staff (FTE)	Medical Director/ Site Champion	(0.20 - 0.25)
	Geriatrician	(0* - 0.15)
	GED Nurse	(1.40 - 2.00)
	Triage Nurse	(0 - 1.00)
	RN Manager	(0 - 0.20)
	Case Manager	(0 - 0.50)
	Social Worker	(0* - 0.50)
	Physical/Occupational Therapist	(0* - 0.50)
	Pharmacist	(0* - 1.00)
	Pharmacist Tech	(0 - 1.00)
	ED Tech	(0 - 2.00)
	Executive Support	(0* - 0.25)
	Data Support / EHR Modification Programming	(0 - 0.15)
	Department Business/Administrative Manager	(0 - 0.10)

** While it isn't necessary to allocate FTE for these roles, at a minimum, these interdisciplinary resources should be available to the ED*

Category	Line Item	Unit Cost (Est.)	Unit Metric	Annual Units - Lower Range & Upper Range	
Supplies	GED-specific Patient Supplies*	$2	Average cost of supplies per eligible patient	8,000 patients	Will vary by site
Travel	Conferences for Medical Director	$2,450	Person-trip (airfare & 3 days per diem, conference registration)	2	0
	Conference/NICHE course travel for GED Nurses	$2,450	Person-trip (airfare, 5 days per diem)	2	0
Other Costs	Level 1 Accreditation (ACEP's GEDA program)	$10,000	3-year accreditation period	0	0
	GED Staff Training Course Fees	$11,225	(NICHE training, GEDC boot camp fees)	2	1
	NICHE Member Fees (Institutional)	$5,500	Annual membership fee	1	0
	AGS Member Fees (for Medical Director)	$423	Annual Physician Membership Fee	1	0
GED Modifications to Physical Space	Construction	Varies	Remodeling of existing space into Level 1 GED	1	0
	Medical Equipment	Varies	Medical Equipment	1†	0
	Furniture	Varies	Furniture	1†	0
	IT	Varies	IT	1†	0

** e.g., reading glasses, hearing devices, large print discharge instructions, office supplies*

† Reflects start-up year requirement; subsequent years may require significantly less resources in this area

MODULE 3: Gaining Health System Buy-in

As with many aspects of creating and implementing a GED, governance will vary based on individual health system structure, staffing and specific factors relating to each health system. This guide outlines the governance approach applied to the SECU.

Oversight of the SECU from both a clinical and operational perspective is managed by an interdisciplinary SECU task force. The task force includes the SECU medical director, ED nurse manager, SECU nurse champion (e.g., Geriatric Emergency Nurse Initiative Expert (GENIE)), and one representative from both social work and case management. This group meets monthly and reports to the chair of UC San Diego Health's Department of Emergency Medicine regarding progress of the SECU, review of the clinical workflow and exploration of viable solutions to any operational challenges that may arise. This group also manages staff adjustments and determines equipment and capital resources based on review of trends, operational metrics and feedback from the clinical staff on areas for potential improvement or anticipated needs.

CREATING YOUR GED:

Consider your GED governance structure. The SECU has monthly meetings to review GED operations challenges, human resource and equipment needs and outcome metrics. This task force includes the medical director, GENIE, ED nurse manager, and a representative from social work and case management.

From inception of the SECU, we understood the importance of ensuring members of the health system's C-suite leadership team were poised to serve as champions for the program. We found success using the following fundamental approaches that could help you to build an effective case with your hospital's leadership. The most impactful ideas should be presented to the C-suite in a quick and simple format that highlights the sources of return on investment (ROI) and how that directly links to the top priorities of the hospital. This can be a concise "elevator pitch" or a visual depiction.

Start by understanding the priorities and pain points on which your particular C-suite group is focused. Those areas most likely touch on some, if not all, of the most common topics of concerns for hospital administrators, according to the American College of Healthcare Executives: financial challenges, governmental mandates, patient safety and quality, personnel shortages, patient satisfaction, access to care, physician/hospital relations, population health management, technology, and reorganization.

Linking your GED and the potential impact back to these driving factors – especially as it relates to incentivization from a payment and quality perspective – is integral to getting the time, attention and support of leadership.

The SECU planning team highlighted findings from the institutional needs assessment to justify development of the program. We also presented industry data regarding acute care of senior patients and the need for a paradigm shift in this area given the growing senior population (see Table 3).

Table 3: Example: Reducing Readmission Penalties in Geriatric Patients

Component	Emergency Department	Hospital
Model	GED	Acute Care at Home option from the ED
Goal	Provide senior-focused emergency care to prevent avoidable hospitalizations; improve patient outcomes and satisfaction; and reduce iatrogenic complications	Prevent hospital admissions when and where appropriate
Target Population	Seniors experiencing a medical emergency	Seniors with acute conditions for which treatment at home is feasible
Source of Hospital ROI	Reduce ED revisits and readmissions; reduce readmission penalties; reduce penalties for preventable errors; increase patient satisfaction scores	Reduce readmission penalties; backfill beds with high-margin admissions; increase patient satisfaction scores; reduce the cost to treat; reduce low or negative margin Medicare admissions
Source of Societal ROI	Reduce ED crowding and time on divert status; improve patient outcomes and reduce iatrogenic complications	Improve patient outcomes and reduce iatrogenic complications; reduce the cost of care; allow seniors to receive care where they prefer to be treated

After you've secured leadership interest, follow-up with a more detailed business case to address some of the questions that will likely come up.

Elements of a Business Case:

- **Executive summary** describing the key points of the project, including the need.
- **Introduction** and rationale describing objectives, predicted outcomes and benefits tied to hospital priorities.
- **Description** of how outcomes will be measured and reported as well as how often.
- **Overview** of cost details around expenses associated with setting up, assessing, maintaining and ultimately sustaining the program (costs can be in the form of estimated financial cost or FTEs). This section should also describe the expected financial ROI of the program.
- **Timeline** and resources needed for implementing the program.

ADMINISTRATOR TIP:

Leverage your own hospital data to identify your business case for addressing the need for a GED. Consider the long-term financial benefits of improving health outcomes and reducing readmissions, improving market share and community perception among the growing senior demographic and family caregivers.

MODULE 4: Planning a Launch Strategy

Once health system leadership buy-in is established, developing a launch strategy complete with resourcing, timeline and rollout plan is critical. The SECU launch strategy focused on three distinct areas.

First, we honed-in on staffing an interdisciplinary team (see Chapter 3, Module 1 for a more detailed description of staffing). We focused on identifying a nurse champion for the SECU, known as the GENIE nurse lead, and several nurses specializing in geriatrics to undergo specific educational, simulation and practical initiatives (see Chapter 3, Module 2 for more information on education and training). Additionally, we identified a medical director with primary responsibility for SECU operations. Lastly, we required physicians staffing the SECU to complete geriatric focused continuing medical education (CME) and attend one of two annual simulation case scenario sessions dedicated specifically to geriatric chief complaints, such as medication management, elder abuse, and cognitive and behavior disorders. Once the medical director and nurse champion were in place, the interdisciplinary team was identified.

Second, we developed plans for tracking the initial SECU launch via a newly created dashboard embedded into the electronic health record (EHR) system (see Chapter 3, Module 5 for more information on technology). The dashboard allows us to identify trends as well as determine areas for improvement. We report these results monthly to the SECU Interdisciplinary Task Force.

Finally, we developed a dissemination strategy to share our experiences with providers in the community. Specifically, we focused on:

1. **Community Awareness:** Emergency Medical Services (EMS) providers and members of the local medical community received information about geriatric-specific concerns and specialized care available to elderly patients at the SECU through the UC San Diego Health Division of Emergency Medical Services.
2. **Health System Outreach:** Targeted educational presentations about the specialized geriatric services available in the SECU were offered to specialists within UC San Diego Health departments, including Internal Medicine, Psychiatry, Family Medicine, General Surgery, Orthopedics and Urology.

CHAPTER 3

LAUNCHING A GED

The following seven modules are designed to allow Geriatric Emergency Departments (GEDs) to identify topics based on needs and priorities. Each module can be completed independent of others, or multiple modules can be considered simultaneously for a more comprehensive approach.

> *Our comprehensive, team-based approach is what makes us successful in caring for older adults.*
>
> - Vaishal Tolia, MD, MPH, FACEP, Medical Director of the Emergency Department (ED) at UC San Diego Health and director of the Senior Emergency Care Unit

MODULE 1: Staffing

Core Clinical Team

As health systems consider the structure of their organizational charts, we recommend assessing the available workforce of both current and new hires in terms of the unique skills and interests needed to appropriately staff a senior-focused ED. Staffing structure will vary across GEDs, but some fundamental roles should be considered for all types. Below are position descriptions for key staff roles within the Senior Emergency Care Unit (SECU).

Medical Director: Board-certified emergency physician who serves as operational lead for all aspects of the SECU. This individual works with the quality assurance group as well as the stakeholders involved in daily patient care in the SECU. Responsibilities include serving as chair of the interdisciplinary SECU task force, overseeing performance improvement and quality assurance, working with care partners to ensure that patient needs are met, identifying staff educational needs, and assisting with development of department policy for SECU patients. The medical director is also required to complete eight hours of geriatric-appropriate Continuing Medical Education (CME) every two years.

SECU Registered Nurse (RN) Manager: RN with leadership duties within the Department of Emergency Medicine. This person participates in the development and maintenance of geriatric performance improvement activities; oversees implementation of new or corrective SECU initiatives; monitors department nurses in their use of geriatric assessment tools, delivery of care coordination, and participation in research projects; and manages equipment-related issues in the SECU. Along with the medical director, this person supports the achievement of compliance requirements and is required to complete eight hours of Board of Registered Nursing (BRN)-approved Continuing Education Units (CEU) in geriatric topics every two years.

Geriatric Emergency Nurse Initiative Expert (GENIE): Nurse who is specially trained to play an integral role in the care of SECU patients. A GENIE administers geriatric-specific screening tools and collects clinical information on SECU patients. This person is required to complete eight hours of BRN-approved CEU in geriatric topics every two years.

SECU Technicians: Emergency medicine trauma technicians assist patients and families with their needs while in the SECU and assist the primary nurse with conducting screenings (e.g., ambulation safety) and data collection.

CREATING YOUR GED:

The GED team extends beyond the walls of the ED. Integrating other specialists in areas, such as physical and occupational therapy (PT / OT), nutrition, speech, and social work, into the GED's operations provides the highest quality care to older adult patients and have broad-reaching impact on their clinical outcomes.

Interdisciplinary Team

Geriatrician: Board-certified physician from the Division of Geriatric Medicine who works with the SECU staff, makes rounds when appropriate, and collaborates on policy development, applied research projects and quality improvement activities, as necessary.

Physician Lead for Pharmacy/Toxicology: The physician lead oversees the implementation of the SECU Medication Safety Plan (see Module 4 in this chapter for more information on that program). Responsibilities include data collection, analysis and feedback to SECU physicians, as well as monitoring and research evaluation of the medication safety program. Additionally, the lead is responsible for the development, testing and evaluation of a specific order set for the treatment of agitation and delirium in the SECU.

Informatics Director: Physician or nurse lead with responsibility over all aspects of informatics for the SECU, including information technology-focused research projects. This person works with SECU leadership and stakeholders to develop, implement and evaluate clinical decision support-related interventions. The Informatics Director also oversees Electronic Health Records (EHR) modifications for the SECU with assistance from the programmer analyst.

Research Coordinator: Oversees all active research projects in the SECU, including managing Research Assistants (RA), data collection, data reporting and institutional review board (IRB) submissions or issues.

Case Manager: Helps coordinate medical and non-medical care needs for SECU patients, finds alternatives to hospital admission and assists social work staff with the referral process for hospitalization. This person also assists with research aimed at assessing transitions across the continuum of care.

Social Worker: Helps with patient care planning following GENIE assessments. This person develops discharge plans with the patient and family to address any social, psychological and financial needs of the patient and necessary coordination following ED services to facilitate the transition home.

Pharmacist & Pharmacy Technicians: Responsible for medication safety initiative in the SECU, including reviewing medication prescriptions, data analysis and providing individualized feedback to physicians both at the clinical bedside and retrospectively. Additionally, they are responsible for implementing the agitation and delirium order set, educating staff on Beers Criteria and order sets, as well as data and research evaluation of the impact of these efforts.

GENIE TIP: At the outset of your GED, invite leadership of specialty consults to a meeting to orient them to the mission of the GED and provide a forum to address their concerns and preferences.

MODULE 2: Education & Training

Education and training play a critical role in the success of any new initiative and the launch of a GED is no different. Whether leveraging currently employed health system staff, new hires, or a combination of the two, there are a number of processes, skills and protocols that team members must know to reach optimal efficiency and effectiveness in this new setting.

To begin laying out a plan for education and training to support a new GED, consider establishing the minimum standards around geriatric-specific training that GED clinical staff must attain, determining desired memberships in applicable professional associations that offer targeted training, securing budget to support enrollment in training programs and related associations, and allotting time outside of the clinical setting for team members to complete designated training.

The following offers highlights of some of the core education and training activities the SECU team participated in leading up to the facility opening and are continuing to participate in as a matter of best practice. Additionally, the resources noted in the appendix provide CME opportunities to keep GED teams apprised of the latest and greatest learnings in senior care.

MEDICAL DIRECTOR TIP:
Ensuring you and the attending physicians regularly engage with interdisciplinary staff will have a big impact on uptake of GED interventions among residents and triage nurses.

Physician Training
The SECU physicians completed their required hours of specialty-focused training in geriatric medicine via participation in Grand Rounds, online education, and conferences offered through an array of specialty associations and academic medical centers. (see Appendix: Available Resources for physician-specific training options).

Boot Camps
In 2016, members of the SECU team joined peers from the Geriatric Emergency Department Collaborative (GEDC) to lead an all-day, in-person GED boot camp held on UC San Diego Health's campus. The event was led by experts in geriatric emergency medicine from around the country with 100 participants in attendance from a variety of specialties, including administrators and policy professionals from across UC San Diego Health. Areas of focus included patient experience; ED flow, policies and procedures; senior patient care tools and community resources; quality improvements; and updates around current studies underway in the geriatric emergency medicine arena.

More information on outcomes from the boot camp can be found in a June 2018 paper published in the Journal of Emergency Medicine, titled "An Interdisciplinary Bootcamp as an Educational Launch to a Geriatric Emergency Department" and available at **www.jem-journal.com/article/S0736-4679(18)30116-1/fulltext**. You can also read more about the GEDC and the general bootcamp model in the appendix.

Nurse Training
The SECU utilized the Nurses Improving Care for Healthsystem Elders (NICHE) program, which focuses on providing clinicians with evidence-based best practice models that help assure quality care, successful outcomes and higher satisfaction rates for older adult patients (see Appendix: Available Resources for more details about the NICHE program). In addition to the in-person NICHE training, nurses also participated in the Geriatric Emergency Nursing Education (GENE) training program, which is a comprehensive online course that provides best practices in older adult care, in addition to patient and caregiver education (see Appendix: Available Resources for more details).

GENIE TIP: Remember, many healthcare professionals have received limited formal geriatric education in their training, so what may seem like resistance could instead be lack of awareness. Make sure other members of the interdisciplinary team (e.g., triage nurses, specialists, etc.) understand why specialized screenings and consultations are being completed and how they can benefit older patients.

MODULE 3: Policies, Procedures & Protocols

In this section you will find key take-aways of the SECU team's experience developing standard operating procedures (SOPs), which can serve as baseline guidance for other GEDs. Of course, policies, procedures and protocols will vary across institutions, and formulation of GED SOPs should be an active process that includes all relevant staff in the context of the institution.

CREATING YOUR GED:
Involve an ED Clinical Operations team of physicians *AND* nurses in developing GED policies, procedures and protocols to ensure they integrate well with the overall ED workflow.

Eligibility for GED Services
At the SECU, all patients 65 and older are eligible to be screened for SECU services, which are available on an as-needed basis as determined by an established SECU workflow. The medical director in partnership with an interdisciplinary team developed the SECU workflows to coordinate care across the continuum, and the chair of the ED approved the workflow prior to implementation.

The SECU Patient Workflow focuses on:

1. **Initial assessment:** All seniors are screened by the triage nurse using the Emergency Severity Index (ESI) and Identification of Seniors at Risk (ISAR).
2. **GENIE consult:** All seniors with an ESI level = 3 and an ISAR score > 1 are automatically referred to the GENIE nurse (Note: Providers may still initiate relevant screenings or trigger a GENIE consult based on clinical judgement).
3. **Orders and referrals:** The GENIE nurse administers relevant screenings. All positive screens include an associated order for action.

A patient's eligibility for GED initiatives may vary across intervention type and institution. For example, age, screening tool results and prior ED history are all factors that must be taken into consideration. While a range of patient eligibility definitions may be used, health systems launching a new GED are encouraged to specify and train staff on the individual institution's eligibility criteria to help support adherence and reduce missed opportunities to provide senior-specific care.

The overall workflow of the SECU for an eligible patient and evaluation by the GENIE nurse and interdisciplinary team is illustrated in Figure 3 on the following pages.

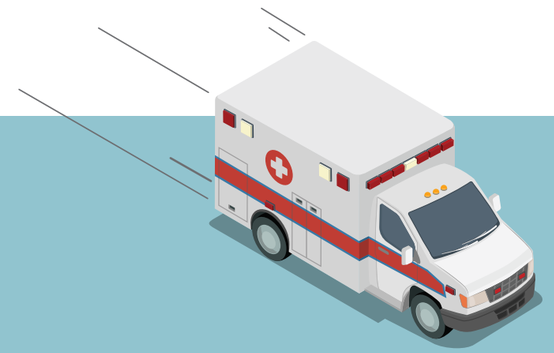
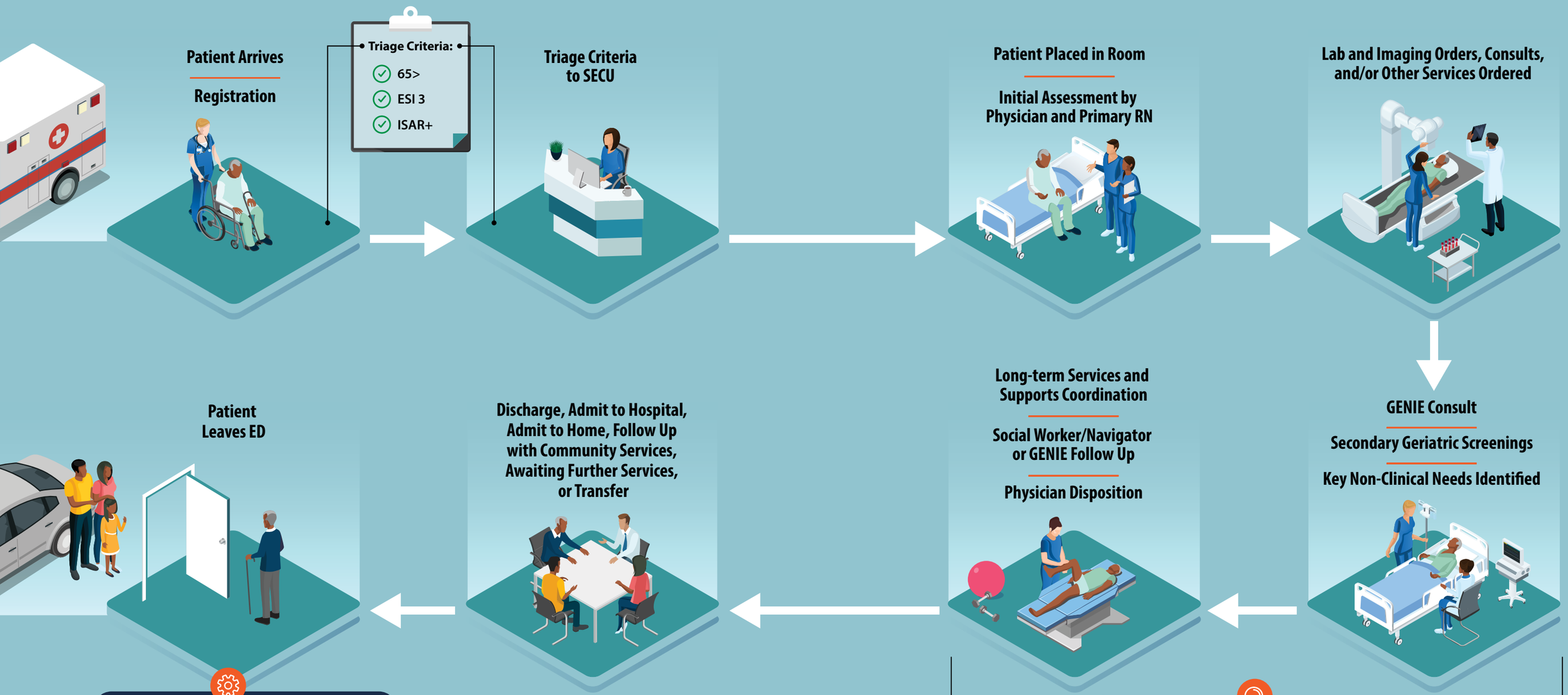


Figure 3:

Patient Flow



Once a patient enters the SECU, his or her clinical and non-clinical needs are addressed through both clinical assessments and social determinants of health to identify needed hospital (e.g., physical therapy, occupational therapy, pharmacy and psychiatric consult) or community-based services (e.g., meal delivery, non-medical transportation, caregiver respite, personal caregiving needs, etc.).

Table 4 summarizes each of the tools administered and available in the SECU by domain and, where applicable, the referral type that is triggered by a positive result. When relevant, also listed are additional or alternate tools used in other GEDs, which may be more appropriate depending on the institution's SOPs, needs and other relevant contextual factors.

Table 4: SECU Workflow for Consultation Referrals

Domain	Tool used in SECU (+ estimated time to administer)	Referral type(s) potentially triggered by a positive result at UCSD SECU	Alternate/additional tools supported by the GED Guidelines
General Risk Screening	ISAR (Identification of Seniors at Risk) (< 5 minutes)	GENIE Consult, Home Health, Physical Therapy / Occupational Therapy	
Mobility	GUG (Get Up and Go) (1-2 minutes)	GENIE consult	TUG (Timed Get Up and Go) (1-2 minutes)
	Hester Davis Fall Risk Assessment Scale (3 minutes)	GENIE consult	
Agitation	RASS (Richmond Agitation and Sedation Scale) (1-2 minutes)	CAM-ICU Screen	
Delirium	CAM-ICU* (Confusion Assessment Method for the ICU) (3 minutes)		UB-2 (Ultra-Brief 2) (1 minute); 3D CAM (3 minutes) bCAM (Brief Confusion Assessment Method) (1-2 minutes); DTS (Delirium Triage Screen) (2 minutes)
Cognition / dementia	MoCA (Montreal Cognitive Assessment) (7-10 minutes)	Refer to UC San Diego Memory Aging and Resilience Clinic or Alzheimer's Disease Resource Center	Mini-Cog (3 minutes), SBT (Short Blessed Test) (5-10 minutes)
Depression	PHQ2 (2 minutes) PHQ9 (if PHQ2 is positive) (5 minutes)	Inpatient psychiatry consult / outpatient psychiatry referral as appropriate	
Nutrition	MNA (Mini Nutritional Assessment) (7 minutes)	UC San Diego Nutrition Consult, UC San Diego ED Social Worker Consult	
Functional	KATZ ADLs (Activities of Daily Living) (5 – 7 minutes)	UC San Diego Social Work consult, UC San Diego Case Management consult.	
Potentially Inappropriate Medications	UC San Diego Abbreviated Beers Criteria	Pharmacist consultation	
Elder Abuse	EAI (Elder Assessment Instrument) (20 minutes)	Referral to UC San Diego Social Work and local authorities.	Elder Abuse Suspicion Index (2-5 minutes)
Caregiver Strain	Modified Caregiver Strain Index (MCSI) (5 minutes)		

CREATING YOUR GED:

- Prioritize screenings for which the GED can readily make a relevant consultation or referral as needed. Expand available screenings as you increase the consultation and referral services accessible through your GED.
- Have a protocol for arranging specialty consults after hours as different departments may require different processes.

GENIE TIPS:

- Obtaining timely consultations from other departments may be challenging at first, but be flexible. Discuss relevant GED protocols with specialists outside of the ED and ask how to better integrate GED protocols into their current workflows and schedules.
- Respect other specialties' areas of expertise. While consult services appreciate being informed when a patient screens positive (e.g., positive MoCA result), ultimately, the specialist will want to make a diagnosis based on his or her own criteria.

MEDICAL DIRECTOR TIP:

- To gain support and engage with potential champions in other disciplines, ensure leadership of other departments are aware of GED operations. Ask how you can best integrate GED operations into their existing processes.

Tips for Establishing Procedures and Protocols for your GED

The SECU maintains specific policies, procedures and protocols for a range of issues related to geriatric care, including initial triage; patient safety; suspected elder / dependent-adult abuse and neglect; assessment and evaluation of delirium and agitation (including restraint policies); sedation in the geriatric patient; genitourinary procedures (including catheter placement guidelines); medication reconciliation; fall risk assessment; wound assessment and care; transitions of care; an order for do not resuscitate (DNR); life-sustaining treatment; and palliative care.

CREATING YOUR GED:

Wherever possible, leverage published guidelines and modify existing procedures and protocols to develop your GED's policies, procedures and protocols.

For example, the SECU's SOP for genitourinary conditions adopts the health system protocol that was modified for the geriatric population with an emphasis on:

- Patient-centered care, which includes evaluating the value and need for procedures and medications on a case-by-case basis, especially when the procedure may be invasive, uncomfortable or disorienting. For example, collecting urine analysis or culture is not recommended unless the patient has subjective symptoms or objective signs of a urinary tract infection (UTI), and inserting an indwelling urinary catheter (IUC) only when specific Centers for Disease Control-recommended criteria are met.
- Provisions in SOPs for patients with dementia or delirium or who appear agitated, confused or combative. For example, do not use external urinary devices for agitated, confused or combative patients.
- Know and apply relevant patient safety principles specifically related to geriatric syndromes. For example, straight catheterization should be used instead of IUC if tolerated by patient and indications for IUC are not met, because straight catheterization has lower rate of infection than IUC.

GEDs are encouraged to use, modify, or integrate local policies, procedures and protocols whenever possible. These policies should be available for reference by staff and followed as part of the routine care of patients.

The SECU has also adopted guidelines based on resources outside of the health system covering common GED topics, including care transitions, mobility, patient and family learning, teaching preparation and encounter, and referrals. New GEDs should adopt a combination of established guidelines and modified versions of their own institutional policies, as appropriate. As with procedures and protocols, the SECU's guidelines take into account considerations specific to the geriatric population. Overarching guiding principles include:

1. Engage patient and family in communication. Assess the patient and family for learning needs and identify barriers to learning, including age-related sensory and cognitive-function changes, primary language and patient preferences for learning new concepts. Assess the co-learner, if applicable. Topics should focus on both safety while patient is in the hospital as well as discharge education needs. Assess risk for readmission to determine barriers to discharge and learning needs related to self-care. When relevant, collaborate with other disciplines to assure that patient and family informational needs are being met. For example, act as an advocate to connect family members with patients' physicians and encourage the support person's presence and involvement in care as much as possible.

2. Assess patients' capacity for mobility and tailor patients' activity, as appropriate. Patient assessment, including pain, skin and fall assessment, will be done prior to activity or mobilization. If necessary, consult with physical therapy / occupational therapy (PT / OT) to determine placement to the appropriate mobility level of activity.

3. Assess for and report suspected elder abuse or neglect. This may include physical abuse, neglect, financial abuse, abandonment, isolation, abduction or other treatment with resulting physical harm, pain or mental suffering. These are likely to vary according to state, so ensure your protocols adhere to state mandates. For example, appropriate documentation and reporting requirements for the state of California are determined by the California Department of Social Services as outlined by the Report of Suspected Dependent Adult / Elder Abuse, Form SOC 341, available at **www.ccfmtc.org**.

4. Ensure patients understand the recommended course of action for follow-up. This includes recognizing and addressing any cognitive dysfunction, visual impairment, health literacy deficits and financial challenges that may pose barriers to compliance. For example, make large-font discharge instructions available to patients with vision impairment. When cognitive impairment is a concern, ensure clear communication of the patient's clinical needs to the caregivers or family members, primary care physicians, and SNFs, as appropriate.

5. Secure appropriate outpatient arrangements prior to discharge whenever possible. For example, primary care providers are notified of potentially inappropriate medications (PIMs) identified through the SECU Medication Safety Plan process. Home health programs are another option to consider facilitating, when appropriate.

6. Consider challenges this population may face following discharge from the ED to the community, and how the SECU can improve transitions of care by linking the patient to community resources, including nutrition assistance programs and community-based organizations offering senior services.

MODULE 4: Quality Improvement (QI)

Implementing an effective QI program with the goal of collecting and monitoring data in a manner conducive to staff education and program success was a high-priority goal of the SECU. Specifically, we focused on implementing an interdisciplinary QI program involving physicians, nurses, pharmacists and pharmacy technicians, with a QI program aimed at refining prescribing protocols for seniors.

QI Example: Improving Medication Safety Administration in the SECU

The main focus of the SECU's QI initiative is to improve prescribing practices for elderly patients by addressing the issue of potentially inappropriate medications prescribed for adults age 65 years and older in the ED. The rate of PIMs increases with age, nearing 25 percent among seniors. Additionally, the use of PIMs with seniors is associated with higher risks of significant morbidity and hospitalization.

EQUiPPED (Enhancing Quality of Prescribing Practices for Older Adults Discharged from the Emergency Department) is an innovative QI initiative designed to reduce PIMs prescribing for adults aged 65 years and older. The initiative is currently underway at several Veterans Affairs (VA) EDs around the country. The UC San Diego Health pharmacy program developed its SECU Medication Safety Plan based on principles from the VA EQUiPPED initiative, including an emphasis on:

1. Provider education via didactic education;
2. Academic detailing, including audit, feedback and peer benchmarking; and
3. Electronic clinical decision support with utilization of Beers Criteria, which is widely used in various settings as a marker of prescribing quality in elderly patients.

CREATING YOUR GED:

To specify the areas of need in geriatric acute care, conduct an initial needs assessment based on published work. Identify the QI topics that your GED either already has or can obtain the appropriate resources to implement. To start, consider prioritizing areas in which one or more of your GED staff already have expertise.

With a specific focus on senior issues, the SECU Medication Safety Plan emphasizes psychotropic medications and those used for agitation, both of which carry a significant potentially inappropriate medication (PIMs) risk for this population. We implemented the SECU Medication Safety Plan in three phases (see Table 5).

Table 5: SECU Medication Safety Plan

PHASE I

Provider Education

Didactic lectures and training focused on Beers Criteria for PIMs in seniors

PHASE II

Project Development

Develop alerts for PIMs and develop order set for agitation and delirium medications for seniors

PHASE III

Implementation

Development and implementation of provider-specific feedback mechanism; followed by monitoring and evaluation of impact of feedback with individual providers and prescribing patterns

MEDICAL DIRECTOR TIP:

Modify your QI protocol to leverage existing reporting and data analytic resources within your health system to make tracking progress on your QI initiative easier.

Incorporating clinical decision support tools will allow the provider access to relevant information, including data from primary screenings, clinical and social risk factors, and existing resources. Once all relevant information has been collected and displayed in a single location, a recommendation or order set (e.g., relevant consults) will be displayed for the provider to initiate. The provider may then initiate the recommended course of action or disregard, if deemed appropriate. Workflow and documentation are outlined during development.

Associated assessment tools include the Beers Criteria, which notes the following as medications to avoid in senior populations regardless of disease or condition:

Table 6: UC San Diego Health Abbreviated Beers Criteria for PIMs Use in Older Adults

Medications	Rationale	Suggested Alternatives/Interventions
Pain Relievers		
Amitriptyline (Elavil) Nortriptyline (Pamelor)	Sedating, can cause orthostatic hypotension, and highly anticholinergic.[1]	• Avoid if possible.[1] • **For neuropathic pain:** SNRI, gabapentin, capsaicin topical, pregabalin, lidocaine patch or lidocaine 5% ointment.[2]
Oral NSAIDs Ketorolac (Toradol)	Increased risk of GI bleeding or peptic ulcer disease.[1] Chronic oral NSAID use increases the risk for acute kidney injury.[2]	• NSAIDS should only be considered rarely, and with extreme caution, in selected individuals.[3] • **For mild or moderate pain:** acetaminophen, nonacetylated salicylate such as salsalate, diclofenac topical (Voltaren), lidocaine patch or lidocaine 5% ointment.[2,3]
Carisoprodol (Soma) Cyclobenzaprine (Flexeril)	Muscle relaxers are poorly tolerated by older adults and may increase risk of sedation and fractures.[1]	• **For mild or moderate pain:** acetaminophen, nonacetylated salicylate such as salsalate, diclofenac topic (Voltaren), lidocaine patch or lidocaine 5% ointment.[2,3]
Sleeping Agents/Antidepressants		
Amitriptyline (Elavil) Nortriptyline (Pamelor) Paroxetine (Paxil) Fluoxetine (Prozac)	Highly anticholinergic and sedating, and can cause orthostatic hypotension.[1] Paroxetine may cause severe hyponatremia.[7]	• Avoid if possible.[1] • **For depression:** SSRI (except paroxetine and fluoxetine), SNRI, mirtazapine.[2,8] • **For sleep:** Nonpharmacologic approaches should be utilized FIRST.[2] If nonpharmacologic approaches are ineffective, pharmacologic options include: mirtazapine, trazodone, gabapentin (if concomitant neuropathic pain or restless leg syndrome).[9]
Lorazepam (Ativan) Clonazepam (Klonopin) Temazepam (Restoril) Zolpidem (Ambien)	Increased sensitivity and decreased metabolism of long-acting agents. Increased risk of cognitive impairment, delirium, falls and fractures.[1]	
Anti-Agitation/Antianxiety/Antipsychotics		
Alprazolam (Xanax) Diazepam (Valium) Lorazepam (Ativan)	Increased sensitivity and decreased metabolism of long-acting agents. Increased risk of cognitive impairment, delirium, falls and fractures.[1]	• **If considering benzodiazepine, consider consulting geriatric psychiatrist first.** • **For anxiety:** SSRI (expect paroxetine and fluoxetine), SNRI, mirtazapine, buspirone, gabapentin.[2,8] • **For agitation:** short-term use of low-dose second-generation antipsychotic (risperidone, olanzapine, quetiapine, aripiprazole).[2] For delirium, may use low-dose haloperidol i.e 0.5 to 1 mg PO (or IM/IV if unable to take PO).[2] Avoid haloperidol in patients with suspected Lewy Body dementia.[10] • Assess for underlying cause of agitation (ex. physical discomfort, need to void, pain).[4] Use nonpharmacological interventions FIRST. Use medications **only** if nonpharmacological interventions have failed **and** the older adult is a danger to self or others. Avoid long term use.[1,2]
Haloperidol (Haldol) Risperidone (Risperdal) Olanzapine (Zyprexa) Quetiapine (Seroquel)	Potential for development of extrapyramidal symptoms, cognitive decline and increased risk for falls, stroke and mortality in patients with dementia.[1]	
Heart Medicines		
Doxazosin (Cardura) Prazosin (Minipress)	High risk of orthostatic hypotension.[1]	• Avoid use as an antihypertensive.[1] • **For hypertension:** ACEI, ARB, long-acting dihydropyridine CCB (amlodipine).[2,5] • Start low and titrate slow. See the Joint National Committee hypertension guidelines for blood pressure control in older adults to reduce the risk of hypotension.[5]
Clonidine (Catapres)	High risk of CNS effects. May cause bradycardia and orthostatic hypotension.[1]	
Digoxin (Lanoxin)	Older adults at risk for digoxin toxicity (which may present atypically) and result in death.[1,4]	• Consider non-digoxin therapies first in older adults.[1] • Max dose 0.125mg[1] Monitor for classic signs of digoxin toxicity (nausea, anorexia, visual disturbances) **as well as atypical signs** in older adults (arrhythmias).[4]
Antihistamines		
Diphenhydramine (Benadryl) Hydroxyzine (Atarax, Vistaril) Promethazine (Phenergan) Meclizine (Verticalm)	Highly anticholinergic. Can cause confusion, delirium, agitation, hallucinations, slowed GI motility, urinary retention and constipation.[1,2]	• Avoid in older adults if possible due to it being highly anticholinergic.[1] • **For allergies:** intranasal normal saline, 2nd-generation antihistamine (loratadine, cetirizine), intranasal steroid.[2] ***Please note:** in acute treatment of a severe allergic reaction, use of medications like diphenhydramine may be appropriate.[1]
Gastrointestinal Medicines		
Proton-pump inhibitors (Prilosec, Protonix, Nexium)	Increases risk of C Diff infection and fractures.[1]	• Avoid scheduled use for >8 weeks unless high-risk ie chronic NSAID use, erosive esophagitis, Barrett's esophagitis, etc.[1]
Metoclopramide (Reglan) Promethazine (Phenergan) Prochlorperazine (Compazine)	Can cause extrapyramidal effects. Promethazine and prochlorperazine are highly anticholinergic.[1]	• Avoid metoclopramide use unless patient has gastroparesis then use sparingly and for short time course <3 months.[1,11] • **For Nausea/Vomiting:** ondansetron
Genitourinary Medicines		
Oxybutynin (Ditropan) Tolerodine (Detrol)	Highly anticholinergic. Can cause confusion, delirium, agitation, hallucinations, slowed GI motility, urinary retention and constipation.[6]	• For overactive bladder: Focus on non-pharmacologic interventions. Prompt voiding every 2 hours while awake, encourage voiding before bed, limit water intake before bed, encourage Kegel exercises.

KEY:

[1] The American Geriatrics Society 2012 Beers Criteria Update Expert Panel. AGS Updated Beers Criteria for potentially inappropriate medication use in older adults. J Am Geriatr Soc. 2012; 60:616–631.

[2] Hanlon, Joseph T., Todd P. Semla, and Kenneth E. Schmader. "Alternative Medications for Medications in the Use of High-Risk Medications in the Elderly and Potentially Harmful Drug–Disease Interactions in the Elderly Quality Measures." Journal of the American Geriatrics Society 63.12 (2015): e8- e18.

[3] American Geriatrics Society Panel on the Pharmacological Management of Persistent Pain in Older Persons. (2009). Pharmacological management of persistent pain in older persons. Pain Medicine, 10(6), 1062-1083.

[4] Boltz, Marie, et al., eds. Evidence-based geriatric nursing protocols for best practice. Springer Publishing Company, 2016.

[5] James, Paul A., et al. "2014 evidence-based guideline for the management of high blood pressure in adults: report from the panel members appointed to the Eighth Joint National Committee (JNC 8)." Jama 311.5 (2014): 507-520.

[6] Gomes, T., Juurlink, D. N., Ho, J. M. W., Schneeweiss, S., & Mamdani, M. M. (2011). Risk of serious falls associated with oxybutynin and tolterodine: a population based study. The Journal of urology, 186(4), 1340-1344.

[7] Fabian, Tanya J., et al. "Paroxetine-induced hyponatremia in older adults: a 12-week prospective study." Archives of Internal Medicine 164.3 (2004): 327-332.

[8] Wiese, Bonnie S. "Geriatric depression: The use of antidepressants in the elderly." BCMJ 53.7 (2011): 341-7.

[9] Morin, Charles M., et al. "Nonpharmacologic treatment of chronic insomnia. An American Academy of Sleep Medicine review." Sleep 22.8 (1999): 1134-1156.

[10] Aarsland, Dag, et al. "Neuroleptic sensitivity in Parkinson's disease and parkinsonian dementias." The Journal of clinical psychiatry 66.5 (2005): 633-637.

[11] Sewell, Daniel D., and Dilip V. Jeste. "Metoclopramide-associated tardive dyskinesia. An analysis of 67 cases." Archives of family medicine 1.2 (1992): 271-278. Pennsylvania Patient Safety Advisory. The Beers Criteria: Screening for Potentially Inappropriate Medications in the Elderly." Patient Safety Advisory, Vol. 2, No. 4- Dec. 2005.

MODULE 5: Technology

The SECU team worked closely with an information technology (IT) designee to incorporate SECU screening tools within the EHR. The focus of the collaboration centered around developing a system that ensures user-friendly access for the GENIE to enter screening results in real time and provide a summary of all relevant screenings to help providers identify appropriate orders. Throughout the development process, SECU representatives met regularly with the IT designee to make changes, as necessary, and modify designs, as appropriate.

GED Dashboard

The primary goal of the SECU's dashboard tool is to identify high-risk seniors as they present in the ED. Although dashboards are commonplace for acute care and chronic conditions, there are currently few, if any, comprehensive electronic tools targeting geriatric patients who present to the ED. Furthermore, while there are many well-established risk screening tools and known risk factors for seniors presenting to the ED, this information is often documented in silos and, as a result, is overlooked or missed by providers when making clinical decisions.

The SECU team set a goal of developing and implementing a comprehensive dashboard that displays clinically relevant information in a single location within the EHR for providers to reference directly at the point of care.

GENIE TIP: Logging an order in the EHR increases accountability and responsiveness of consult services.

Current SECU EHR functionality provides the capability to leverage patient-specific data (e.g., recent lab values, ICD-9 diagnoses, radiologic results and demographics) in real time. Such tools allow clinical team members the ability to call-out relevant information regarding a patient's specific condition and disposition, which is critical in helping inform clinical decisions.

This data management process allows for the aggregation of relevant clinical information and social risk factors that are then displayed within a single location in the EHR. The intent is not to interpret results, but instead to display appropriate information and recommended order sets to help ensure providers are not only aware of all available information, but also provided with a suggested course of action.

GED-specific EHR Build Process

The SECU's EHR dashboard design or "build" focused on capturing data in a structured manner for research and QI purposes. To accomplish this task, the team worked closely with IT counterparts executing the following process:

1. Designate a section within the EHR for GED-relevant information.
2. Incorporate all GED screenings into the EHR allowing for structured electronic entry.
3. Build summary screen with results of all GED screening tests to be easily viewable within a single location in the EHR.
4. Integrate relevant order sets or referrals prompting the GENIE based on screening test results (e.g., GUG score and physical therapy, PHQ-9 and psychiatric consult).
5. Develop a custom GENIE note so that it exists as a template and as a unique note type that is easily identifiable in the EHR with a summary report for the physician.
6. Develop main ED track board with column indicating if GENIE evaluation is in progress.

Figure 4: GENIE Results Summary Screenshot A

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

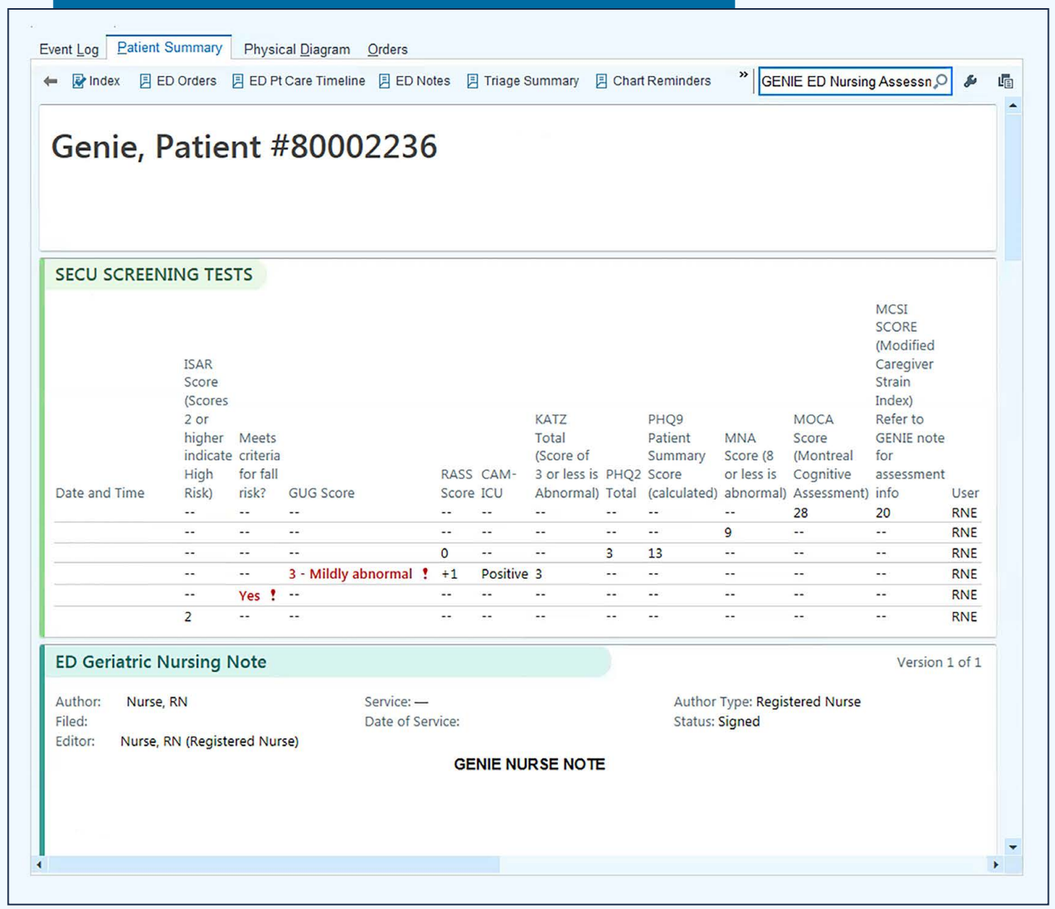


Figure 5: Available Orders Screenshot B

The following orders are available after senior screenings are completed.

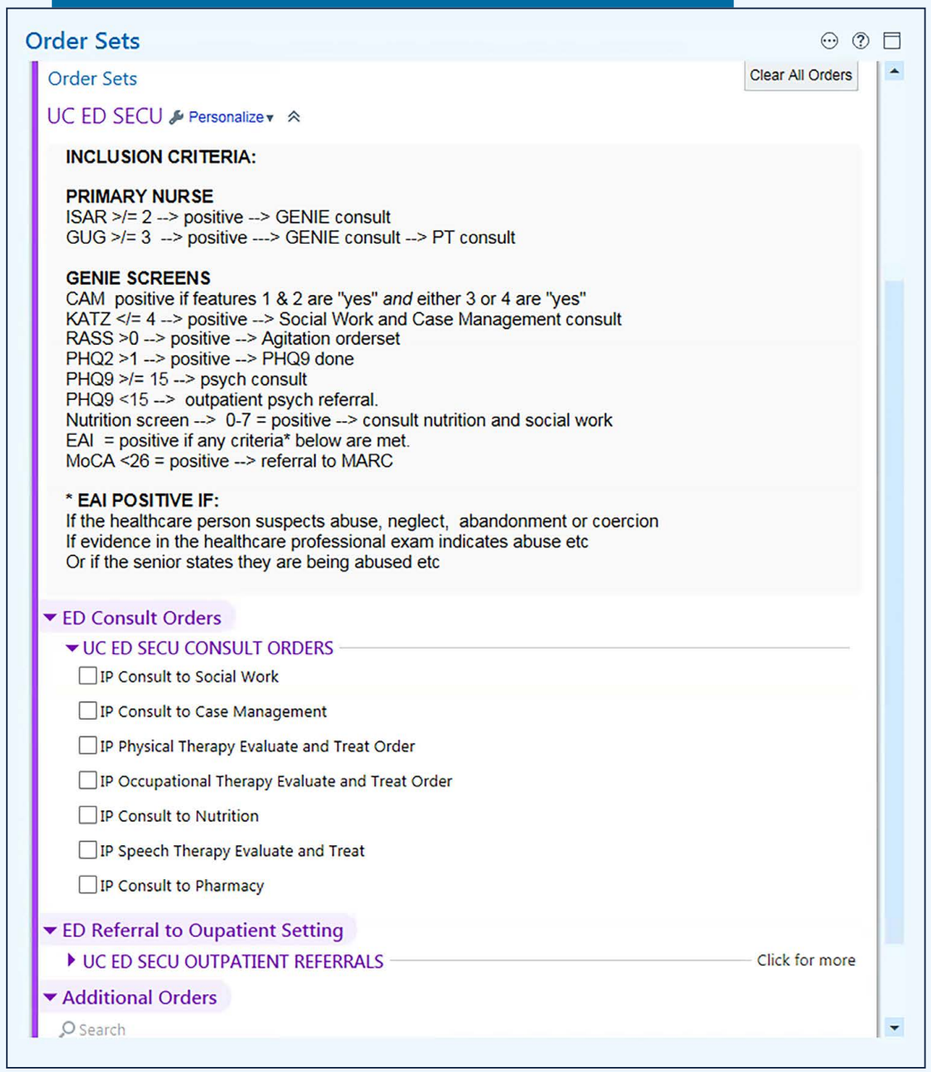


Figure 6: GENIE Summary Note Screenshot C

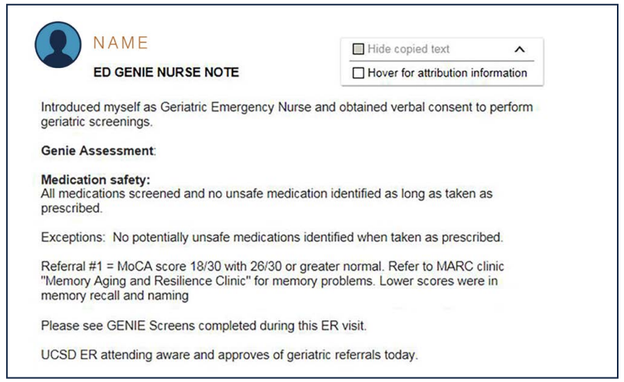


Figure 7: ED Track Board for GENIE Consults Screenshot D

MODULE 6: Physical Environment

Creating a GED does not have to include a new facility or major renovations. In fact, a number of modifications can be implemented within your existing space to effectively address the special needs of the senior population. The key is applying an in-depth understanding of the unique physical, emotional and sociological challenges for the senior population. Commonly accepted guidelines indicate that equipment tailored for evaluation and care of older adults can help address challenges involving mobility, incontinence and behavioral needs, while minimizing iatrogenic complications.

In this regard, the physical environment of a GED should focus on enhancements that promote improvements in safety, comfort, mobility, memory cues and sensorial perception with vision and hearing for elders in the ED. Common key features include:

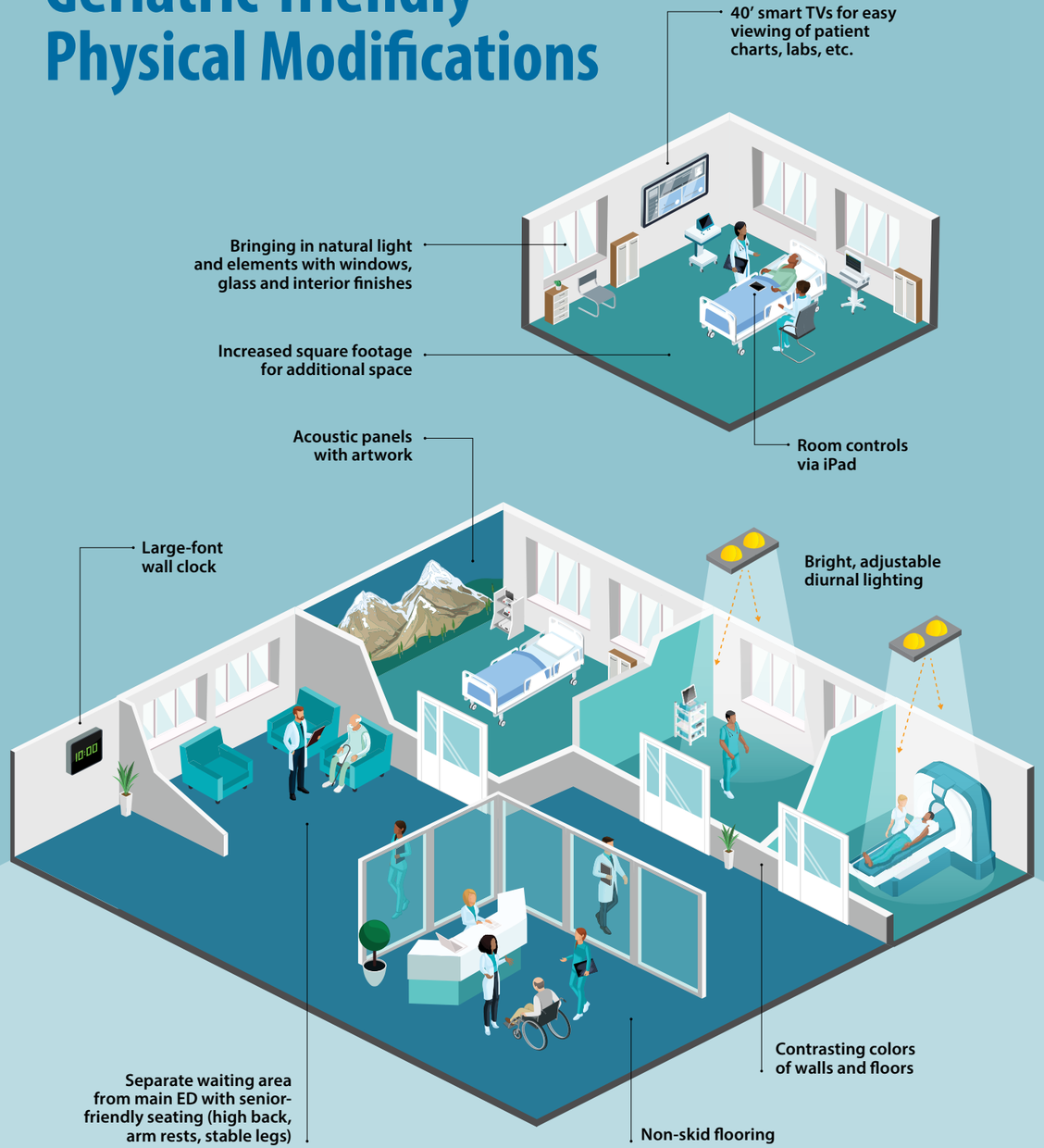
- Enhanced lighting for increased visibility;
- Contrasting patterns and colors to clearly mark floors, hallways, and entrances;
- Enlarged signage and font for easy reading;
- Accommodations to make any ED bed "geriatric-friendly" with availability of applicable equipment and supplies (e.g., reading glasses, hearing aids, canes or walkers); and
- A place to obtain basic food and drink (e.g., vending machine, refreshment cart) in the waiting area.

In the case of the SECU, where construction to expand and modify the existing ED was planned, our steps included:

- Furniture improvements and special equipment identified through meetings with equipment vendors to evaluate stretchers, chairs and mattresses.
- Visual orientation improvements and enhanced signage as determined by meetings with architects, designers, and artists to ensure form and function.
- Orientation improvements designated by meeting with construction leads to review plans for the SECU build and hospital leads responsible for facility licensing.

Figure 8:

Geriatric-friendly Physical Modifications



MODULE 7: Accreditation

While accreditation is not mandatory, the Geriatric Emergency Department Accreditation (GEDA) program (see Appendix: Existing Resources for more information on accreditation) offers an important means of establishing industry-wide expectations that ensure designated sites meet standards to improve care and outcomes for older adults.

The voluntary accreditation includes three levels with specific criteria and goals for clinicians and administrators to factor-in to their decision making. Part of that process should include understanding accreditation requirements and establishing systemwide support for the value that accreditation brings to a GED, and determining which level of accreditation is attainable. In this regard, the GEDA program may serve as a good starting point of how to broadly frame your GED.

CREATING YOUR GED:

The SECU’s preparation for accreditation was a byproduct of the interdisciplinary care being provided through the newly established SECU. Since the accreditation process aligned with the work being done in the SECU, we pursued Level I accreditation. In general, when a health system begins planning for a new GED, members of the launch team may find it beneficial to annotate each aspect of development in correlation with the desired accreditation level criteria so that if the health system pursues accreditation, much of the preparation work is already complete.

CHAPTER 4

POST-LAUNCH STRATEGY

"Applied medical research has the power to fundamentally improve people's lives. As we endeavor to create holistic and sustainable change, the data and evidence generated by our collaborative research is absolutely critical.

- Shelley Lyford, President and Chief Executive Officer, West Health

MODULE 1: Evaluating GED Impact

Evaluation is critical to improving program design and implementation for continued improvement in patient outcomes and strengthening of stakeholder engagement. Assessment and resulting adaptation of activities ensures initiatives reach optimal effectiveness. Evaluation can help identify areas for improvement and, ultimately, help realize goals more efficiently.

Logic Model Framework

One approach commonly used by the Centers for Disease Control (CDC) and the Agency for Healthcare Research and Quality (AHRQ) to evaluate the effectiveness of programs is the logic model framework, which provides a visual approach to designing an evaluation program, such as a Geriatric Emergency Department (GED), for example. The rationale behind the Senior Emergency Care Unit (SECU) Geriatric Emergency Nurse Initiative Expert (GENIE) program is to identify higher-risk older adults and connect them with the care and resources they need. This results in better acute care for the geriatric patient during the SECU visit and improves chronic care management upon discharge. Anticipated results over the long term include better health outcomes and decreased utilization of acute care hospital services (see Table 7).

The logic model also highlights the importance of identifying process evaluation measures along the way (e.g., resources, activities and participation), since these inputs and outputs will potentially dictate the success of outcomes and, ultimately, impact. If outcomes are not as expected, careful assessment of inputs and outputs can illuminate where process and implementation may be falling short and provide insight into where course corrections may be best suited.

Table 7: Example of Logic Model for GENIE Intervention in the SECU

INPUTS >	OUTPUTS >		OUTCOMES > IMPACT		
Resources	Activities	Participation	Short term	Mid term	Long term
Time and resources to train GENIE Time and space to perform patient screens GENIE time and bandwidth to address positive screens Time and obligations of inpatient consultation services (e.g., PT/OT, SW)	GENIE screens high risk older adults for common Geriatrics problems	GENIE, patient, caregiver, inpatient consultants, outpatient consultants	Accurate identification of older adults at high risk for worsening conditions Identification of patients that would qualify for programs providing an alternative to hospital admission	Patient receives appropriates resources and services Decrease repeat ED visits, decrease hospital readmissions Utilization of the Acute Care at Home program (decreased hospital admissions)	Decrease in outcomes related to screening instrument (e.g., depression, functional impairment, malnutrition, elder abuse) Improvement in patient functional independent, health-related quality of life, and well-being Improved hospital revenue Decreased overall healthcare expenditures by preventing bad outcomes

SECU Analysis Strategy

The SECU developed an analysis plan with the overall objective of evaluating impact of the SECU on patient, clinical and operational outcomes of interest. One of the primary outcomes we study in the SECU is the number of visits to the Emergency Department (ED) that result in a hospital inpatient admission across the intervention and control groups. Below we highlight other key metrics being tracked in the SECU to monitor progress and identify areas of improvement.

The following secondary outcomes are also measured in the SECU:

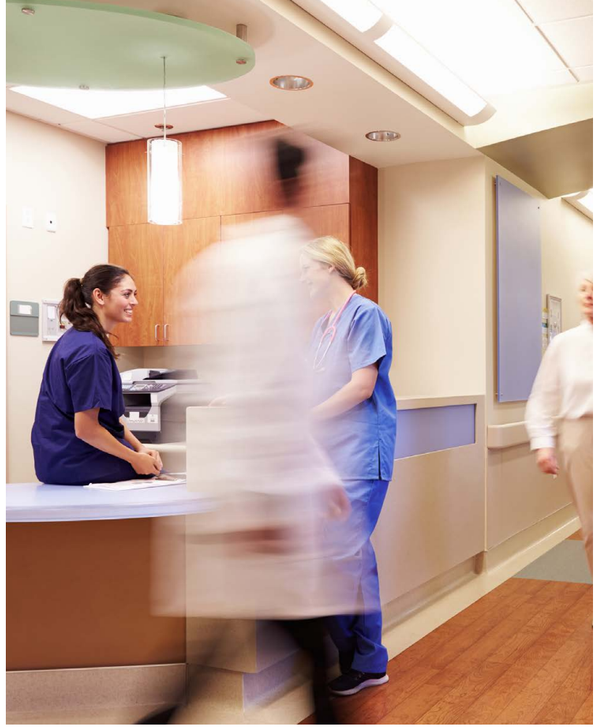
- SECU revisit within 30 days of discharge from an index ED visit.
- Total length of stay (in minutes) in the SECU.

Data also is collected using standard EHR queries to report the following:

- Length of stay (by minutes) in:
  - Observation status
  - Inpatient
- Observation status assignment
  - Number assigned to ED observation status
    - Number of these that were discharged from the SECU
    - Number of these that were admitted as inpatients
- Revisit rates at 3,10 and 30 days for the SECU and ED observation status
- Readmissions rates from the SECU to hospital observation and inpatient status at 3, 10 and 30 days
- Occurrence of patient follow-up activities
- Occurrence of care transition activities among those discharged from the SECU or ED observation:
  - Case management consults scheduled and completed
  - Social work consults scheduled and completed
  - Specialist consults scheduled and completed
  - Discharge to home health setting
  - Discharge to SNFs or long-term facilities that did not originate there
- Cost
  - Billing data via ICD-9 codes

Additional factors to consider when evaluating your GED is to adjust for covariates that may impact your outcomes of interest. Demographic characteristics and covariates to consider when interpreting your results include:

- Age
- Sex
- Time of visit (hour of day)
- Day of visit (weekday or weekend)
- Payer or dual eligibility status
- Comorbidity
- Admitting rate of individual ED physicians
- Initial lab values (e.g., kidney function, blood count)
- Principal clinical impression (primary diagnosis) by clinical classifications software category
- GENIE who conducted the evaluation



"Through leveraging your existing communication resources and understanding your media environment, strategic communications will help amplify your GED's announcement.

- Gabrielle Johnston, MPH, Communications and Media Relations Manager, UC San Diego Health

MODULE 2: Marketing & Communications

As the model of healthcare delivery continues to evolve, today's patient – or in some cases, a patient's caretaker or family member – has assumed the role of healthcare consumer. Patients and caregivers are partnering with providers to form a healthcare team for which the patient is the ultimate decision maker in many cases. That is just one reason that engaging the community in GED planning and implementation is key to building a functional care delivery system for the community being served.

In this regard, some of the fundamentals of communications and marketing offer a strong platform for building community engagement around a new GED. That engagement translates into utilization, which then feeds directly into the broader GED business case.

Developing Awareness in the Community
To begin, we recommend aligning on your health system's definition of community engagement. At its most basic, this could mean the representation of two-way community between your brand and the consumers for whom you seek to raise awareness and drive to action in support of your brand. From there, we recommend grounding yourself in the basics by aligning on some guiding principles for engagement.

Communication Planning
A successful communications strategy is grounded in strong planning efforts. By making communication planning a fundamental part of the GED implementation process, health systems can more efficiently and effectively ensure they are reaching the right target market at the right time through the right channels with the right message. For the new SECU facility, scheduled to open at the end of 2018, the communications strategy is focused on the following objectives:

- Increase awareness of the SECU's unique capabilities.
- Accelerate adoption of the new SECU with key stakeholders.
- Showcase all geriatric services available at UC San Diego Health.
- Drive brand loyalty to UC San Diego Health.
- Support UC San Diego Health's strategic objectives.

Key Communications Strategies

- Create broad consumer awareness through multi-media channels.
- Target key stakeholders to ensure engagement with the hospital and use of the model.
- Capitalize on milestones to raise awareness of the benefit of delivering enhanced care for seniors.

Key metrics for success

- Improved patient satisfaction.
- Increased utilization of other UC San Diego Health services.

Some of the ways we plan to develop awareness within the community for the SECU is through a combination of both earned, owned and paid media opportunities. For example:

- Earning media exposure through press mentions for local events and patient experience stories (e.g., first patient to receive care in the new SECU).
- Leveraging our website and social media channels to promote events, patient experiences and SECU-related research outputs.
- Securing paid advertisements in high visibility outlets (e.g., local TV, radio, print, public venues and signage).

If your health system does not have the communications resources necessary to develop and execute a comprehensive plan and associated campaign, consider whether third-party vendors might be an option. If not, identify a core group of operations team members who can help develop some of the essential tools for communicating the basics about your new GED, including key messages, a frequently asked questions (FAQ) document, website content and a press release.

More than anything, remember that this is a time to share the good news. The more community members are aware of this new level of care for seniors at your hospital, the more likely they will understand, appreciate and utilize the new healthcare resource.

MODULE 3: Scaling & Sustainability

Viable funding sources and payment models for long-term sustainment of GEDs are still being defined. However, in the near term, grant funding and coordination with local Accountable Care Organizations (ACOs) present short-term opportunities to secure start-up and early maintenance funding support. Outreach and engagement with dominant Medicare Advantage payors in your area also can be a good strategy. Early adopters of GEDs are intent on advancing common goals and addressing key questions from a clinical, business and policy perspective – all aimed at scaling and sustaining GEDs across diverse U.S. markets. To this end, we suggest aligning your GED with two drivers of sustainability: population health and patient-centered care.

Figure 9:

Scaling & Sustaining GEDs

CLINICAL

Intervention-specific data collection and analyses

Do GEDs:

- Reduce admissions / readmissions?
- Reduce harm?
- Treat symptoms better?
- Improve outcomes?

BUSINESS

Driving adoption at scale

Different business cases for different hospitals

- Increase market share
- Decrease unneeded admissions
- Decrease readmissions

How do we...

- Determine which business case for which hospitals?
- Prove the financial returns?

POLICY

Removing barriers to adoption

- Differentiated reimbursement for GEDs
- Are some interventions Centers for Medicare and Medicaid's "conditions of participation"?

Operational

Geri IS/Q1 Fellow

Comms

Messaging campaign from ACEP/West Health/JAHF

Standards

Accreditation

Population Health and Value-based Care
Another driver in support of GEDs' role in today's healthcare continuum is the growing trend toward population health as a key element in developing value-based care system. Healthcare providers in the U.S. are no longer being measured (and in turn, reimbursed) based on the number of patients they treat (e.g. volume-based care); rather, success metrics and related reimbursement models are now based on data informed by the value of care delivered to patients. One of the most influential tools health systems can leverage in this new, value-based frontier is population health management. In fact, a survey from the HIMSS Analytics Essentials Brief found that out of 104 hospitals, 75 percent of these healthcare systems were pursuing some sort of population health management initiative in 2016. That's because improved outcomes require integrated solutions – meaning coordinating care across the continuum, including the ED.

Similarly, coordinated care is vital to effectively addressing the often complex, chronic conditions that frequently plague senior populations and, if left unmanaged, negatively impact all aspects of their healthcare outcomes. So, whether it's through patient-centered medical homes, coordinating with ACOs, or adoption of health IT tools designed to manage population health initiatives, the reality of today's healthcare delivery system is that seniors are a unique population who require customized solutions at each care venue.

Patient-centered Care
Patient-centered care is an approach where an individual is treated "not only from a clinical perspective, but also from an emotional, mental, spiritual, social and financial perspective. Patient-centered care requires a shift in the way provider practices and health systems are designed, managed and reimbursed."[9]

Patient-centered care also represents a shift in the traditional roles of patients and their families from one of passive "order taker" to one of active "team member." Leading the way in that transition are GEDs and the teams bringing them to reality.

"We are revolutionizing the emergency department. What's revolutionary about it? We are creating a more friendly and safer environment for geriatric patients. The knowledge that we can pass on to our staff is huge. For example, how to recognize cases of delirium or dementia and what precautions you have to take, and the time that you spend with a patient.

When I was a young nurse, it was not uncommon, especially in a care home, to pass by people that were strapped to their wheelchairs or beds. We didn't know what to do about dementia. We didn't know what to do about delirium. We're turning the page on the past. We're delivering much better care now. It's possible especially with a geriatric nurse doing the screenings.

The SECU patients are very enthusiastic about the geriatric nurse. We're new in their lives. For them to get some special attention and have someone to give them a card, give them a phone number to reach a contact person, to have an advocate in the hospital – they are very appreciative.

Stop. Listen to the older patients. This all happens as you travel the road they travel. But if you can listen, you can learn.

- Tom Crisman, RN, GENIE Nurse, Senior Emergency Care Unit

APPENDIX

EXISTING RESOURCES

While Emergency Departments (ED) – both within hospitals and those that are freestanding – are now commonplace, the concept of a GED is relatively new, with the first opening just a decade ago. Though work remains to improve and standardize emergency care for the nation's older patients, some formalized resources to support the building of GEDs do exist.

Geriatric Emergency Department Guidelines (GEDG): www.acep.org/by-medical-focus/geriatrics/
Released in 2013, the Geriatric Emergency Department Guidelines were jointly produced by American College of Emergency Physicians (ACEP), American Geriatrics Society (AGS), Emergency Nurses Association (ENA), and Society for Academic Emergency Medicine (SAEM). The guidelines were developed to provide a standardized set of parameters that are both feasible for implementation in the ED and supportive of effectively improving the care of the geriatric population. Authors describe the guidelines as a template for staffing, equipment, education, policies and procedures, follow-up care, and performance improvement.

Geriatric Emergency Department Accreditation (GEDA): www.acep.org/geda/GEDA-Home/
Developed in 2017 by ACEP with support from West Health and JAHF, the GEDA program aims to ensure that older patients receive well-coordinated, quality care at the appropriate level at every ED encounter. ACEP's GEDA program serves to validate hospitals' commitment to:

- Providing a more positive and sensitive physical environment;
- Adopting standardized approaches to geriatric care;
- Ensuring optimal transitions of care from the ED to other settings such as inpatient, home, community-based care, rehabilitation or long-term care; and
- Supporting geriatric-focused quality improvement.

The program accredits GEDs at three tiers, designed to provide recognition to varying levels of Geriatric Emergency Medicine (GEM) implementation according to institutions' available resources and GEM implementation experience. The entry level, Level 3, is designed to be achievable by any emergency department committed to improving senior-specific care. This level of accreditation emphasizes demonstration of basic GEM training and the resources required to achieve this level of accreditation are minimal. Level 2 and Level 1 accredited GEDs must demonstrate increasingly advanced implementation of a range of best practices in GEM, (reference the GEDA website for the full list of criteria).

Geriatrics Emergency Department Collaborative (GEDC): www.americangeriatrics.org/programs/geriatrics-emergency-department-collaborative
Established in 2016 with financial support from West Health and JAHF, the GEDC brings together a growing number of hospitals and health systems, including UC San Diego Health, ACEP, AGS, ENA, and SAEM behind a common mission of enhancing emergency department care for older adults. The initiative builds upon decades of research, clinical enhancement programs, and educational initiatives to expand senior-specific care in EDs throughout the country. The GEDC is focused on the dissemination of best practices and building the evidence to evaluate how senior-specific care in the ED can improve the health, independence and safety of older adults. The collaborative advances research initiatives centered around the outcomes and cost effectiveness of GED care and the development of a data infrastructure for ongoing performance monitoring and evaluation.

The GEDC also offers several training opportunities, including professional development courses and boot camps geared to geriatric emergency medicine. Day-long courses include practical and specific interactive training for ED staff to increase their familiarity with GED guidelines and to develop strategies for transforming traditional EDs into more senior-friendly emergency care facilities (e.g., implementation of quality improvement initiatives). Additionally, the GEDC offers an extended period of coaching and mentoring by one or more GEDC faculty as sites works toward reaching their designated goals.

The Portal of Geriatrics Online Education (POGOe): www.POGOe.org
Created in 2004, the POGOe is a free collection of expert-contributed geriatrics educational materials for educators and learners in the fields of geriatrics and gerontology.

Geri-EM – Personalized E-Learning in Geriatric Medicine: www.Geri-EM.com
This e-learning website houses a repository of resource materials, interactive content and group discussion forums for ED physicians, as well as healthcare providers in other settings who want to provide optimal care for their older patients.

Nurses Improving Care for Healthsystem Elders Program (NICHE): www.nicheprogram.org/
NICHE is a nursing education and consultation program designed to train nurses, nurse leaders, or other direct care team professionals on how to improve geriatric care in healthcare organizations. With an online knowledge center, annual national conference, and virtual Leadership Training Program, NICHE serves as a valuable resource for nurses seeking flexible options for attaining their required CME credits and furthering their professional development in the areas of geriatric health.

Additionally, NICHE offers a hospital certification program for systems interested in becoming a NICHE-designated facility. In total there are approximately 300 hospitals throughout North America in the NICHE Network.

The following NICHE tools are available at no cost to healthcare professionals and others interested in pursuing NICHE designation:

- Certification tool kit provides guidance for the promotion of gerontological certification in a healthcare system and strategies for achieving certification for nurses.
- Introduction to Gerontology, which is a set of training modules that provides a foundation for developing geriatric-sensitive care across all hospital departments.

Geriatric Emergency Nursing Education (GENE): www.ena.org/education
GENE is a comprehensive eLearning program administered by the ENA. The online program is designed to provide nurses with the best evidence-based care for older adults, so they can better assess this population's special needs, implement best geriatric practices, and effectively coordinate care from triage to discharge. The easy-to-navigate, interactive program offers 17 evidenced-based modules and 15.21 contact hours.

Geriatric Emergency Medicine Podcast (GEMCAST): https://gempodcast.com/
GEMCAST is a series of lectures on clinical topics to help physicians, trainees, nurses and paramedics who take care of older adults in the acute care setting. GEMCAST grew out of a desire to help share expertise in the fields of geriatrics and emergency medicine and is supported by a grant from the JAHF and the Atlantic Philanthropies through a practice change leaders enhancements award.

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NOTES:

UC San Diego Health

UC San Diego Health, the region's only academic health system, is dedicated to delivering outstanding patient care through commitment to community, groundbreaking research and inspired teaching. Its specialty care for serious and complex conditions is consistently ranked among the nation's best by *U.S. News & World Report* and other organizations. The 808-bed academic health system, the largest in the University of California, includes UC San Diego Medical Center in Hillcrest and Jacobs Medical Center, Sulpizio Cardiovascular Center, Moores Cancer Center, Shiley Eye Institute, Koman Family Outpatient Pavilion and Altman Clinical and Translational Research Institute, all in La Jolla, as well as primary care and same-day services at clinics throughout Southern California.

For more information, visit **health.ucsd.edu.**

westhealth

Solely funded by philanthropists Gary and Mary West, **West Health** is a family of nonprofit and nonpartisan organizations including the **Gary and Mary West Health Institute** and **Gary and Mary West Foundation** in San Diego, and the **Gary and Mary West Health Policy Center** in Washington, D.C. West Health is dedicated to lowering healthcare costs and enabling seniors to **successfully age** in place with access to high-quality, affordable health and support services that preserve and protect their dignity, quality of life and independence.

Learn more at **westhealth.org** and follow **@westhealth.**

To download a copy of the guide, visit **http://www.westhealth.org/resource/ged-implementation-guide.**

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