

AMERICAN COLLEGE OF SURGEONS

# Optimal Resources for Geriatric Surgery

2025 STANDARDS | GSV  
(AGE-FRIENDLY) LEVEL

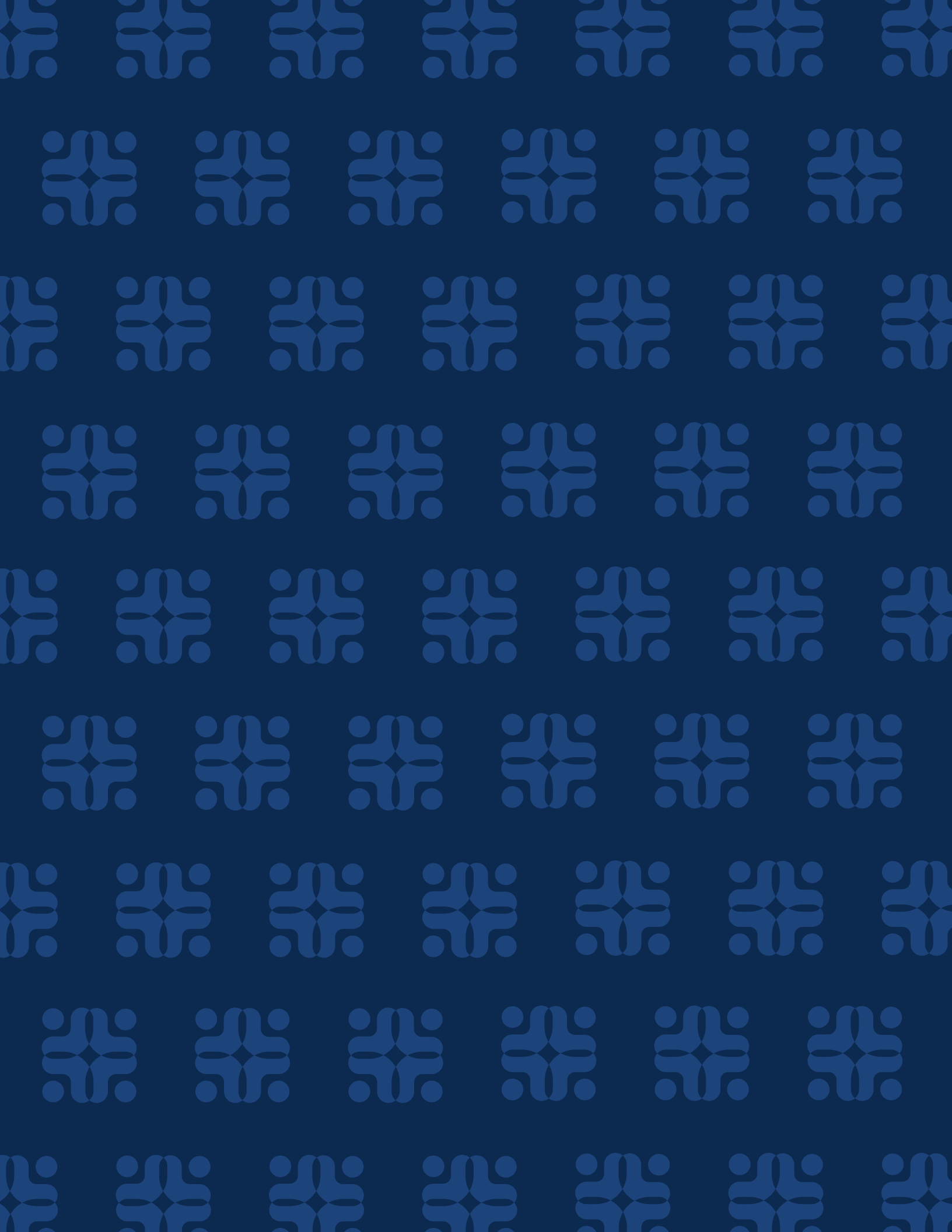
Effective January 2025

**ACS**  
AMERICAN COLLEGE OF SURGEONS  
**SURGICAL  
QUALITY  
PARTNER**

**ACS**  
**GSV**  
Geriatric Surgery  
Verification

[facs.org/gsv](https://facs.org/gsv)







AMERICAN COLLEGE OF SURGEONS

# Optimal Resources for Geriatric Surgery

2025 Standards | GSV (Age-Friendly) Level

Effective January 2025

Copyright © 2024 by the American College of Surgeons (ACS), Chicago, IL 60611-3295. All rights reserved. The contents of this publication may be cited in academic publications, but otherwise may not be reproduced or transmitted in any form by any means without the express written permission of the ACS. These materials may not be resold nor used to create revenue-generating content by any entity other than the ACS without the express written permission of the ACS. For permission, contact [gsv@facs.org](mailto:gsv@facs.org).

**RESTRICTED USE:** Contents of this publication are strictly prohibited from being uploaded, shared, or incorporated in any third-party applications, platforms, software, or websites without prior written authorization from the ACS. This restriction explicitly includes, but is not limited to, the integration of ACS content into tools leveraging artificial intelligence (AI), machine learning, large language models, or generative AI technologies and infrastructures. Violation of this policy may result in immediate revocation of access, termination of user accounts, or legal action as deemed appropriate by the ACS.

# Table of Contents

|                                                                              |           |
|------------------------------------------------------------------------------|-----------|
| <b>Disclaimer</b>                                                            | <b>iv</b> |
| <b>Executive Summary</b>                                                     | <b>iv</b> |
| <b>The Geriatric Surgery Verification Program</b>                            | <b>v</b>  |
| <b>Acknowledgments</b>                                                       | <b>v</b>  |
| <br>                                                                         |           |
| <b>Program Scope and Governance</b>                                          | <b>1</b>  |
| 1 Age-Friendly Care Leadership                                               | 3         |
| <b>Patient Care: Expectations and Protocols</b>                              | <b>5</b>  |
| 2 Treatment and Overall Health Goals                                         | 7         |
| 3 Geriatric Vulnerability Screens                                            | 8         |
| 4 Management Plan for Patients with Positive Geriatric Vulnerability Screens | 9         |
| 5 Age-Friendly Postoperative Protocol                                        | 10        |
| <b>Data Surveillance and Systems</b>                                         | <b>13</b> |
| 6 Data Review                                                                | 15        |
| <b>Appendix: Rationales and References</b>                                   | <b>17</b> |

---

## Disclaimer

These Standards are intended solely as qualification criteria for GSV verification. They do not constitute a standard for care and are not intended to replace the medical judgment of the surgeon or healthcare professional in individual circumstances.

In order for a hospital to be found compliant with the GSV (Age-Friendly) Level Standards, the hospital must be able to demonstrate compliance with the entire Standard as outlined in the Definition and Requirements. The Documentation section under each Standard is intended to provide summary guidance on how compliance must be demonstrated but is not intended to stand alone or supersede the Definition and Requirements.

In addition to verifying compliance with the Standards as written in this manual, the GSV may consider other factors not stated herein when reviewing a hospital for verification and reserves the right to withhold verification on this basis.

---

## Executive Summary

### **The American College of Surgeons Quality Improvement Programs**

The American College of Surgeons (ACS), established in 1913 on the principle of “doing what’s right for the patient,” has spent over 100 years improving surgical care quality. Its longest standing initiatives, in cancer and trauma, began in the 1920s and 1950s.

ACS programs follow a four-part framework used to evaluate and improve the quality of care, consisting of (1) program-specific standards, (2) necessary infrastructure, (3) data collection and use, and (4) verification site visits to ensure proper implementation of components one through three. This model has been shown to improve both care and outcomes across various specialties.

Over the past several years, ACS’ focus has expanded to include pediatric patients and older adults. In 2018, the ACS released the Children’s Surgery Verification (CSV) Quality Improvement Program, followed closely in 2019 by the Geriatric Surgery Verification (GSV) Quality Improvement Program.

---

## The Geriatric Surgery Verification Program

Americans aged 65 years and older are the fastest-growing population segment, expected to double from 48 million to 88 million by 2050. This aging group presents hospitals with a unique clinical profile, marked by greater physiological and social complexity, as well as a higher likelihood of disproportionate surgical care. The surge in vulnerable older adults poses significant healthcare challenges, which the surgical community is actively addressing.

The ACS developed the GSV Program with the generous support of The John A. Hartford Foundation to optimize surgical care for older adult patients. Through a program that is grounded in evidence-based standards, hospitals can confidently address the most important aspects of care and create plans to help patients achieve their care goals and hospitals to use their limited resources more effectively and efficiently.

The GSV Program's GSV (Age-Friendly) Level targets adults aged 65 years and older undergoing inpatient surgery with six standards tailored to address the five domains of The Centers for Medicare & Medicaid Services (CMS) Age Friendly Hospital Measure, effective January 2025. These standards address key aspects of geriatric surgical care within the ACS framework of quality improvement, focusing on eliciting patient health care goals, responsible medication management, frailty screening and intervention, social vulnerability, and age-friendly care leadership through standardized protocols.

The GSV Program, supported by ACS' successful history in other specialties, aims to enhance care and outcomes for older adults. Achievements of other programs include improved clinical outcomes, increased patient satisfaction, operationalization of evidence-based standards, strengthened interdisciplinary care and communication, improved implementation of protocolized care, and better results with payment/incentive programs.

---

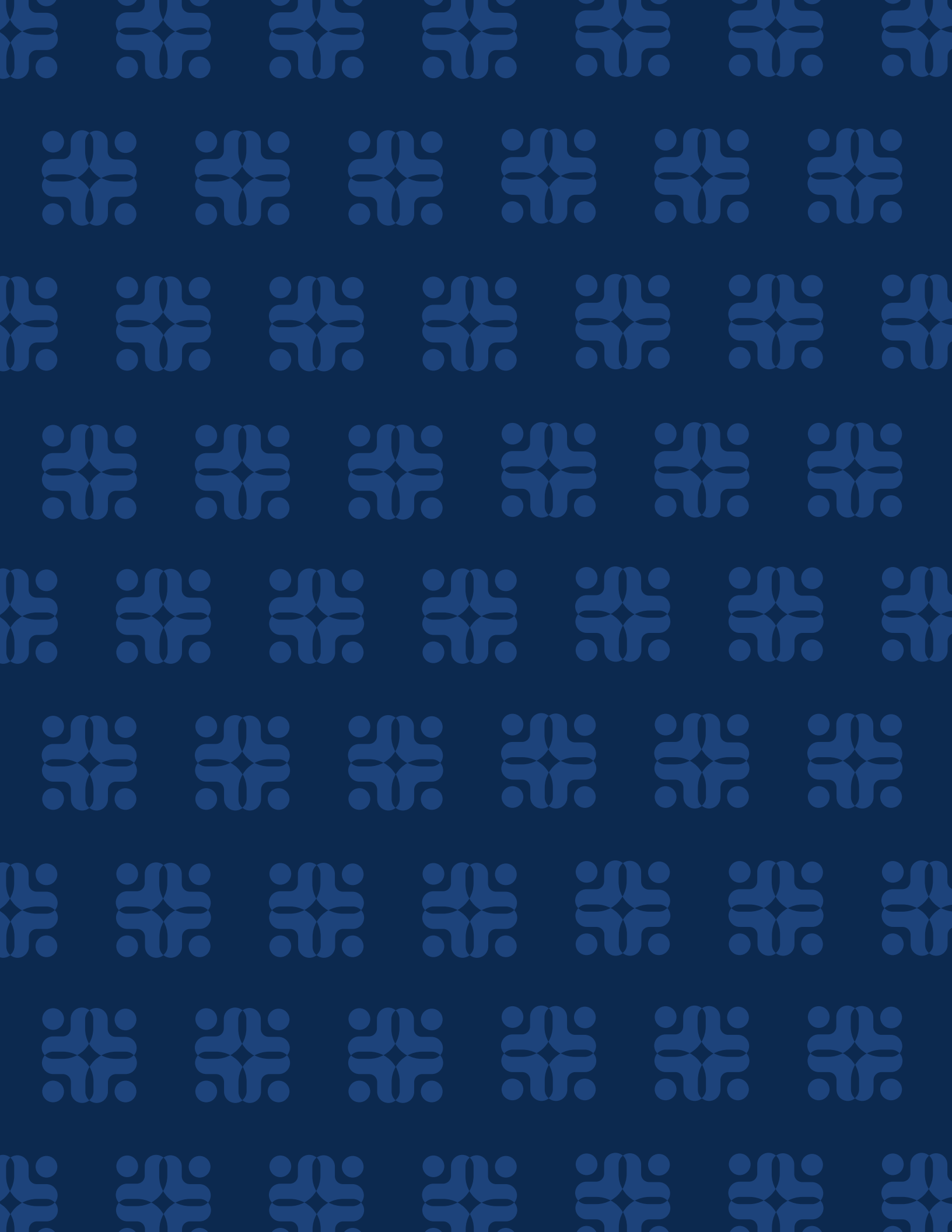
## Acknowledgments

We would like to thank the members of the Committee of Geriatric Surgery Verification who were vital to the completion of this standards manual.

Julia Berian, MD, MS, FACS  
JoAnn Coleman, DNP, ACNP-BC, AOCN, GCN  
Emily Finlayson, MD, MS, FACS  
Kellie Flood, MD  
Mark Katlic, MD, MMM, FACS  
Sandhya Lagoo-Deenadayalan, MD, PhD, FACS  
Marcia McGory Russell, MD, FACS  
Thomas Robinson, MD, MS, FACS  
Ronnie Rosenthal, MD, MS, FACS  
Victoria Tang, MD, MAS

### **American College of Surgeons Staff Contributors**

Clifford Y. Ko, MD, MS, MSHS, FACS, *Director, Division of Research and Optimal Patient Care*  
Sameera Ali, MPH, *Administrative Director, Continuous Quality Improvement*  
Kataryna Christensen, *Manager, Geriatric Surgery Verification*  
Michael Bencur, MLIS, *Project Manager, Geriatric Surgery Verification*  
Guadalupe Barragan, *Program Coordinator, Geriatric Surgery Verification*  
Bianca Gomez, *Program Coordinator, Geriatric Surgery Verification*  
Xane Peters, MD, MS, *ACS Clinical Scholar 2022–2024*  
Sarah Remer, MD, *ACS Clinical Scholar 2024–2026*





---

# Program Scope and Governance



# 1 Age-Friendly Care Leadership

## Definition and Requirements

To prioritize age-friendly care, the hospital should appoint a dedicated person as the Age-Friendly Surgery Director. This individual can either act independently or lead an interprofessional committee to oversee the quality of surgical care for older adults. Whether a committee is needed, rather than a single individual, will depend on factors such as the facility's size, complexity, and other site-specific characteristics. Ideally, the person chosen should be a physician, and preferably a surgeon, if available. The Age-Friendly Surgery Director is responsible for ensuring that the outcomes of their efforts (or the committee's) to enhance surgical care for older adults are consistently communicated within the hospital's overall quality management framework.

### Age-Friendly Surgery Director / Interprofessional Committee Responsibilities

- Ensure consistent adherence to and execution of the standards processes established for improving the care of the older adult patient (e.g., goals of care, performing geriatric vulnerability screens, establishing management plans for patients identified as vulnerable).
- Identify opportunities to provide education about age-friendly care to staff.
- Collect and review quality data to drive improvement. These data are stratified by sex, gender, race, age, and ethnicity (see Standard #6).
- Regularly report progress of quality and compliance efforts up through the hospital's reporting structure.

### Interprofessional Committee Membership

#### Recommended core members:

- Age-Friendly Surgery Director
- Representatives from relevant surgical specialties
- Nonsurgical healthcare provider(s) with geriatric expertise\*
- Nursing representative(s)
- Case management representative(s)

*\*The role of the "nonsurgical healthcare provider with geriatric expertise," should be filled by a provider with geriatric expertise as demonstrated by specific training, certification, or equivalent.*

#### Additional suggested members:

- Executive administration
- Anesthesia
- Emergency medicine
- Critical care
- Hematology-oncology
- Nutrition
- Physical therapy
- Occupational therapy
- Palliative care
- Patient navigator
- Patient-family representative
- Pharmacy
- Hospital-level quality management

## Documentation

### Evidence Required in Pre-Review Questionnaire (PRQ)

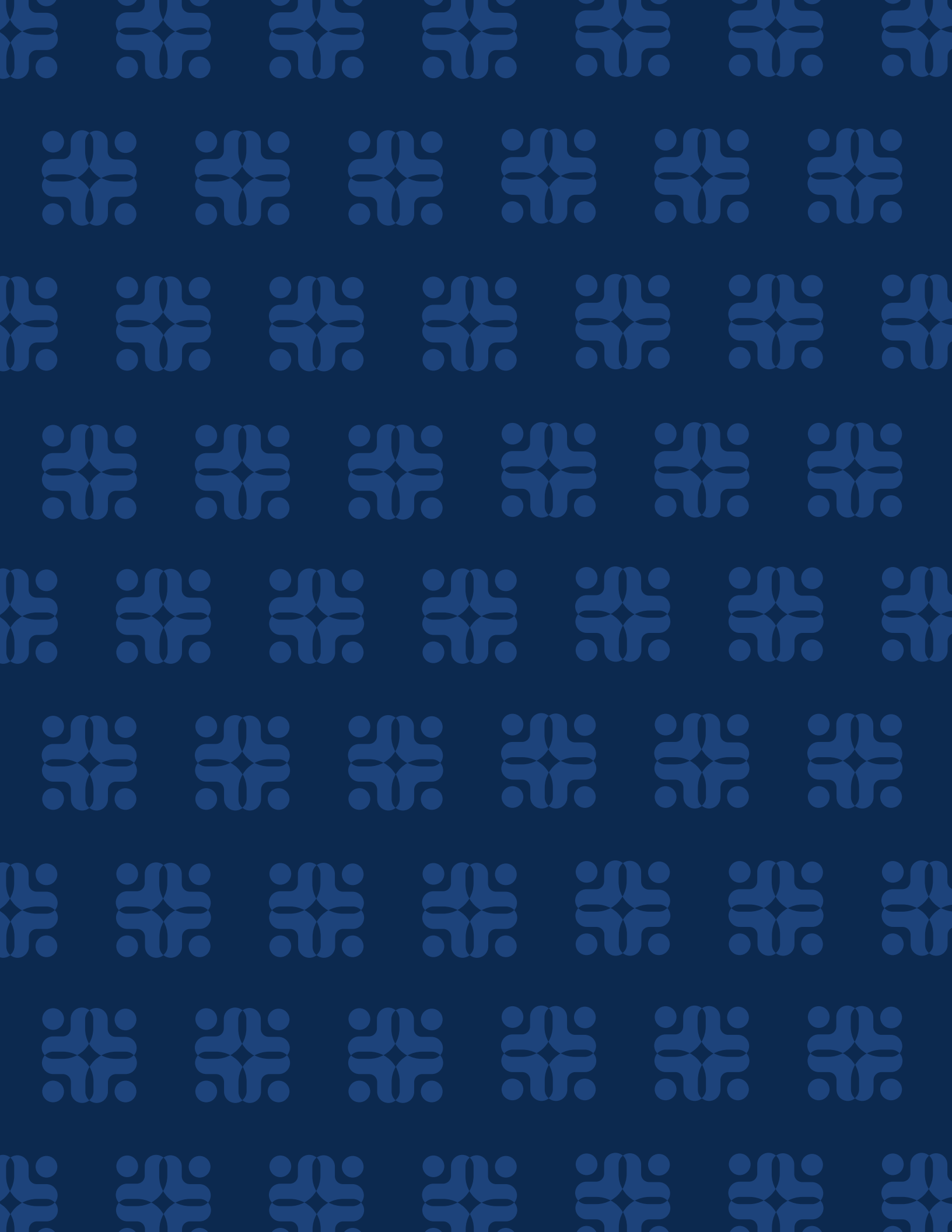
- Name of the Age-Friendly Surgery Director
- Documentation of the committee charter, reporting structure, and membership

### Evidence in the Medical Record

- None

## Resources

- [Committee Charter Template](#)





---

# Patient Care: Expectations and Protocols



## 2 Treatment and Overall Health Goals

### Definition and Requirements

#### Eliciting Patient Goals (i.e., What Matters Most)

The patient goals must be elicited during the surgical decision-making process, and it must allow older adults the opportunity to discuss what matters most to them with a member of the surgical interdisciplinary team, including:

- Overall health goals (not limited to the current condition or treatment options)
- Treatment goals (specific to the current condition)

This discussion may be accomplished by an in-person visit, telephone call, or a telehealth visit with surgical staff or a designated representative. After discussion, a member of the interdisciplinary team must document the treatment plan and how it has been informed by shared discussion of the patient's goals. These goals are updated before major procedures and upon significant changes in clinical status.

#### Code Status, Advance Directives, and Medical Proxy

- Code status and any existing advance directive (e.g., Medical Orders for Life-Sustaining Treatment/ Portable Medical Orders) must be reviewed preoperatively by a member of the interdisciplinary team. Patients without a defined code status or advance care plan must be offered educational resources and the opportunity to establish these.
- All patients should have or strongly consider a healthcare representative, surrogate, or proxy with name and contact information clearly documented. Educational materials must be provided to facilitate discussion between the patient and their surrogate about the patient's overall health and treatment goals. For those patients without a proxy, there must be documentation of an effort to identify one.

### Documentation

#### Evidence Required in PRQ

- Process, protocol, or policy for attaining patient goals, code status, advance directives, and identifying a health care representative, surrogate, or proxy for patients without one (Note: this should include how your team updates the relevant items prior to major procedures and upon significant changes in clinical status.)
- Educational materials that are provided to patients to facilitate discussion between the patient and their surrogate about what matters most to the patient regarding overall health goals and goals for treatment

#### Evidence in the Medical Record

- What matters most to the patient regarding their overall health and treatment goals
- Code status and any existing advance directive or documentation of unsuccessful attempts to establish these should be present and easily available to the healthcare team
- Patient's healthcare representative, surrogate, or proxy with name and contact information or documentation of an unsuccessful attempt to establish a healthcare representative, surrogate, or proxy

### Resources

- Two potential questions to consider when discussing goals with patients and/or their family/caregiver:
  - “What matters to you, and what do you want to achieve from this surgery?”
  - “What are three things you would like to be able to do after surgery?”
- [H&P Template](#)
- [GSV Patient Checklist](#)

## 3 Geriatric Vulnerability Screens

### Definition and Requirements

Patients must be screened for the following high-risk characteristics using validated instruments to identify potential areas of vulnerability (ideally upon admission, before major procedures, and/or upon significant changes in clinical status):

- Impaired cognition (i.e., brain health) and delirium risk
- Impaired functional status and impaired mobility
- Malnutrition and difficulty swallowing
- Palliative care needs (*if appropriate resources are available*)
- Social Determinants of Health (SDOH), (i.e., social isolation, economic insecurity, limited access to healthcare, caregiver stress, and elder abuse)

A positive screen in any category will designate the patient as “high-risk.”

In elective settings, the screening should be conducted prior to the operation to allow for time to address identified positive screens.

In non-elective settings, the screening should be conducted prior to the operation\*, if possible. If not possible, screening should be done within the first 48 hours following surgery, or as soon as is clinically appropriate.

*\*Often, the clinical situation will not allow for the completion of some or all preoperative vulnerability screens (e.g., the patient cannot perform a mobility screen because they are immobilized due to a hip fracture). In these situations, information should be gathered from the patient, their family, or caregiver as appropriate.*

### Documentation

#### Evidence Required in PRQ

- Process, protocol, or policy for conducting vulnerability screens
- Screening tools implemented to flag patients as high-risk in the categories above

#### Evidence in the Medical Record

- Results of geriatric vulnerability screens should be easily accessible for all members of the healthcare team.

### Resources

- [Examples of Validated Screening Tools](#)

## 4 Management Plan for Patients with Positive Geriatric Vulnerability Screens

### Definition and Requirements

For all patients with positive geriatric vulnerability screens (from Standard #3), there should be a documented management plan directed at positive findings. The management plan should consider all phases of the episode of care (e.g., pre-, intra-, postoperative, postdischarge).

The management plans may be guided by established protocols and/or an evaluation by a healthcare provider with training appropriate for the individual patient's needs. These plans should be started preoperatively when possible, or on admission as indicated. They should also be included in discharge instructions and communicated to postdischarge facilities.

In elective settings, management plans for positive screens should be implemented preoperatively if indicated and time allows.

In non-elective and emergency department (ED) settings, management plans for positive screens must be addressed within the 48-hour postoperative window, or as soon as is clinically appropriate. In the ED, there should be protocols in place to reduce the risk of ED delirium by reducing length of ED stay with a goal of transferring a targeted percentage of older patients out of the ED within 8 hours of arrival and/or within 3 hours of the decision to admit.

### Documentation

#### Evidence Required in PRQ

- Upload the process, protocol, or policy for establishing management plans for geriatric vulnerabilities identified during screening, including components related to ED boarding.

#### Evidence in the Medical Record

- Focused management plans directed at positive geriatric vulnerability screens should be easily accessible for all members of the health care team.

### Resources

- [Examples of Management Plans for Patients with Positive Geriatric Vulnerability Screens](#)

## 5 Age-Friendly Postoperative Protocol

### Definition and Requirements

In conjunction with routine postoperative care (e.g., proactive nutritional support and early mobilization), specific attention should be paid to standardizing care pathways to ensure age-friendly postoperative care:

#### **Delirium: Prevention, Recognition, and Treatment**

**Prevention:** *Primary delirium prevention should focus on non-pharmacologic interventions.*

- Design patient rooms to accommodate the needs of the older adult:
  - There must be space for family and caregiver visitation. If rooms cannot accommodate visiting family members and caregivers, communal visiting areas must be established.
  - Rooms must include directed elements for patient reorientation (e.g., large clock or other display of date, day, and time; daily planned activity goals; any anticipated medical tests or procedures; names of care team).
- Engage with patient at bedside and provide cognitive stimulation.
- Encourage family to be present and bring familiar items from home.
- Identify and collect personal sensory equipment (e.g., glasses, hearing aids, dentures, or any other devices essential to routine function) preoperatively from patients with a plan to return these items immediately postoperatively and also ensure routine daily use.
- Ensure ambulation or nonambulatory mobilization by postoperative day one and routine mobilization thereafter.
- Minimize nighttime disruptions and encourage regular sleep pattern.
- Initiate fall prevention, including daily evaluation of need for tethering devices.
- Conduct daily pressure ulcer risk assessment and initiate prevention measures.

#### **Recognition**

- Recognize delirium by screening daily, or each shift, with validated tool (e.g., confusion assessment method [CAM]).

#### **Treatment**

- Emphasize non-pharmacologic treatment options.
- Identify precipitating factors (e.g., inappropriate medication, infection, hypoxemia, other complications among others). (For full list of precipitating factors for delirium, see Resources.)
- Pharmacologic management of postoperative delirium should be reserved for when patients are at risk for harm to self or others. (Note: dosing of these medications may be different in older adults.) For list of suggested medications and dosing, see Resources.

The above issues may be addressed through pathways, bundles, order sets, protocols, or a combination thereof.

#### **Responsible Medication Management**

- Review and reconcile medications to identify potentially inappropriate medications for older adults as defined by standard evidence-based guidelines, criteria, or protocol (e.g., Beers Criteria) upon admission, at discharge, and during any major change in condition.
- Review existing templated order sets to identify potentially inappropriate medications (e.g., diphenhydramine) and consider discontinuation, and/or dose adjustments as indicated.
- Educate providers regarding surgically relevant medications that may be inappropriate, along with alternatives available within institutional formulary.
- Titrate medications for the increased sensitivity and altered physiology that accompanies aging.

#### **Opioid-Sparing, Multimodal Pain Management**

- Consider opioid-sparing, multimodal pain management consistent with standard evidence-based protocols for older adult postoperative patients.
- Provide standardized multimodal pain control regimen order sets.

#### **Nutrition and Hydration**

- Provide adequate postoperative nutrition and hydration, preferably by enteral route.
- Initiate a bowel regimen, especially for those requiring opioid pain medications.
- Promote aspiration precautions (e.g., screen for swallowing dysfunction, elevated head-of-bed, position upright post-prandially).

---

## Documentation

### Evidence Required in PRQ

- Process, protocol, or policy in place to address delirium, nutrition, and hydration postoperatively
- Process, protocol, or policy in place that ensures avoidance of potentially inappropriate medications as defined by the AGS Beers Criteria, particularly those commonly used in the perioperative period (e.g., antiemetics, analgesics, and antihistamines)
- Education materials given to providers regarding potentially inappropriate medications
- Process, protocol, or policy in place outlining opioid-sparing, multimodal pain management strategies employed in the postoperative setting
- Process, protocol, or policy in place demonstrating that surgical inpatients are guaranteed the safe storage and prompt return of personal equipment during and after surgery, respectively

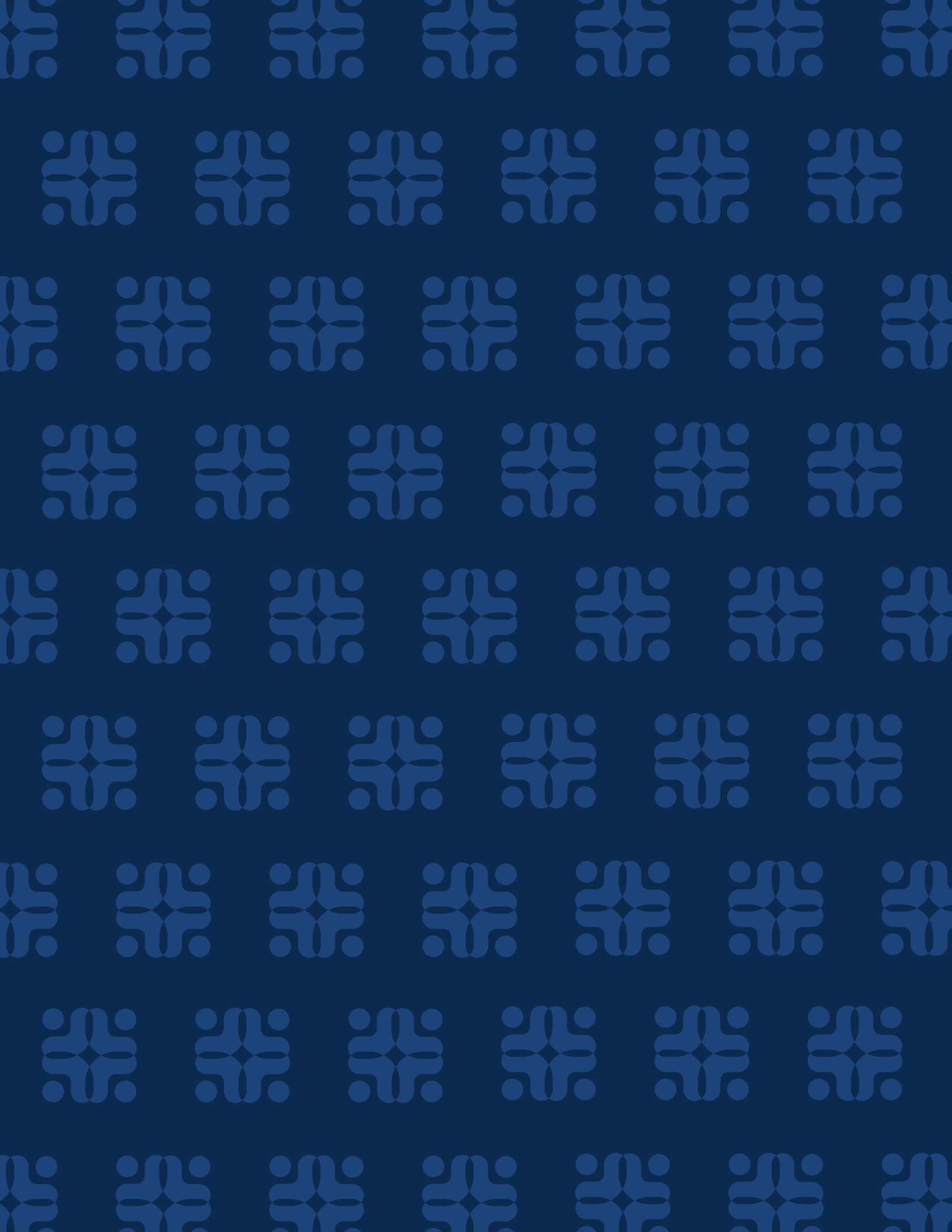
### Evidence in the Medical Record

- Documentation of delirium screening and subsequent management plans for patients with postoperative delirium screens
- Evidence of avoiding inappropriate medications and justification of use of high-risk medications when appropriate
- Evidence of multimodal pain management

---

## Resources

- [Postoperative Protocol](#)
- [Beers Medications Commonly Used in Surgical Care and Safer Alternative Medications](#)
- [Beers Medications Pocketcard](#)





---

# Data Surveillance and Systems



## 6 Data Review

---

### Definition and Requirements

The institution should collect and review data for all patients included within the scope of the GSV Program. Data must be reviewed at least quarterly to identify, trend, and address issues specific to geriatric surgical care. Metrics to review include, but are not limited to:

- Data required by regulatory bodies such as the Centers for Medicare & Medicaid Services and The Joint Commission:
  - Inpatient falls
  - Healthcare-acquired infections (e.g., catheter-associated urinary tract infection, central line-associated blood stream infection, ventilator-associated pneumonia, Clostridium difficile infection)
  - Pressure injury
  - Restraint use
  - Unplanned readmissions, including those from post-acute care facilities
  - Mortality
- Additional data points to consider collecting:
  - Rates of postoperative delirium
  - Rates of unplanned discharge to non-home setting
  - Data identified by the Age-Friendly Care Leadership\*

These data should be stratified by demographic and/or social factors (e.g., sex, gender, race, age, ethnicity) and be used to drive quality improvement cycles.

*\*These are data identified as affecting older adult patients and can be used to improve geriatric care at the local level.*

---

### Documentation

#### Evidence Required in PRQ

- Data dashboard or other documentation of data collection
- Evidence of data review
- Evidence of data-driven quality improvement efforts

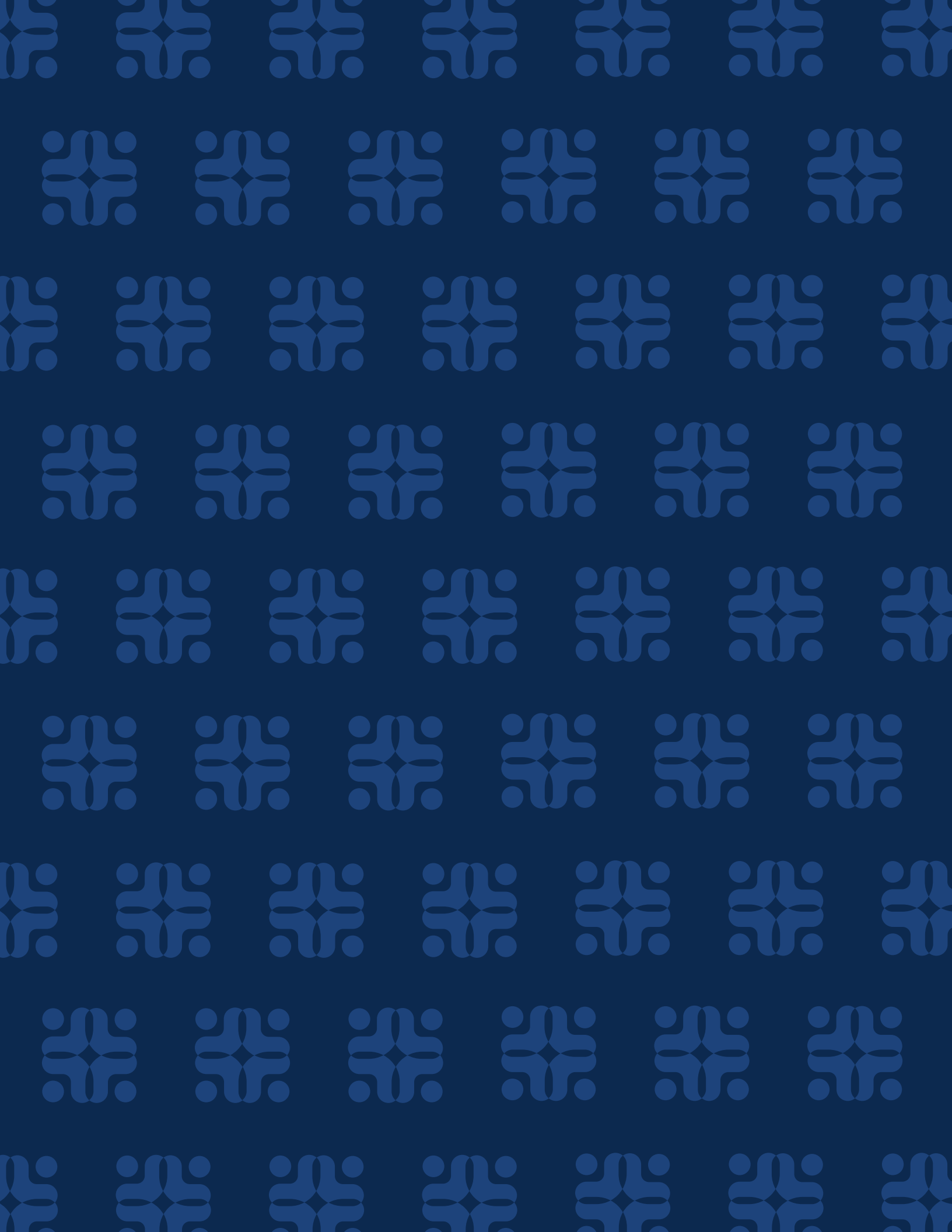
#### Evidence in the Medical Record

- None

---

### Resources

- [ACS Quality Framework](#)
- [ACS NSQIP Geriatric Variables](#)



---

## **Appendix**

### Rationales and References

## 1 Age-Friendly Care Leadership

### Rationale

Strong clinical leadership, a necessity for the success of any health care quality improvement initiative,<sup>1,2</sup> is an essential element of all ACS quality programs. Clinical leaders help establish a clear and meaningful vision, align and motivate the team, advocate for the program with hospital leadership, and drive the initiative forward. To underscore the importance of leadership in quality improvement, the Centers for Medicare and Medicaid Services (CMS) has identified “Age-friendly care leadership” as one of the five domains in the 2024 Age Friendly Hospital Measure for the Inpatient Quality Reporting program.<sup>3</sup> The ACS quality program leaders oversee the implementation of the program’s processes, help overcome barriers and navigate challenges, and review outcomes data to target continuous quality improvement efforts. Experience gained from ACS quality programs shows that organized, structured approaches to surgical care led by “surgeon champions” results in better, data driven outcomes.<sup>4,5</sup> In a national evaluation of trauma outcomes, adjusted mortality rates were lower for patients treated at hospitals with a formal trauma program compared to hospitals without.<sup>6</sup> In the post COVID era of limited resources, staffing challenges, and many competing priorities, having a designated Geriatric Surgery Quality program with a strong clinical leader is more critical than ever before.<sup>7</sup>

### References

1. McSherry R, Pearce P. What are the effective ways to translate clinical leadership into health care quality improvement? *Journal of Healthcare Leadership*. 2016;8:11–17.
2. Moffatt-Bruce S, Clark S, DiMaio M, Fann J. Leadership oversight for patient safety programs: An essential element. *Ann Thorac Surg*. 2018;105:351–6.
3. 32024-07567.pdf (federalregister.gov).
4. Raval MV, Bentrem DJ, Eskandari MK, et al. The role of surgical champions in the American College of Surgeons National Surgical Quality Improvement Program – A National Survey. *J Surg Res*. 2011;166:e15.
5. Cohen ME, Liu Y, Ko CY, Hall BL. Improved surgical outcomes for ACS NSQIP hospitals over time. *Ann Surg*. 2016;263(2):267–273.
6. Mackenzie EJ, Rivara FP, Jurkovich GJ, et al. A national evaluation of the effect of trauma-center care on mortality. *N Engl J Med*. 2006;354(4):366–378.
7. Jones TS, Jones EL, Richardson V, Finley JB, Franklin JL, Gore DL, Horney CP, Kovar A, Morin TL, Robinson TN. Preliminary data demonstrate the Geriatric Surgery Verification program reduces postoperative length of stay. *J Am Geriatr Soc*. 2021 Jul;69(7):1993–1999. doi: 10.1111/jgs.17154. Epub 2021 Apr 7. PMID: 33826150.

## 2 Treatment and Overall Health Goals

### Rationale

Shared decision-making with older adults contemplating surgery is important to ensure that the surgical care provided is concordant with the patient’s goals.<sup>1</sup> First, it is critical that we understand ‘what matters most’ to an older adult in the context of their overall health as well as the treatment for this surgical problem. An example of an overall health goal stated by the patient may be “I want to be able to play with my grandchildren.” An example of a treatment goal stated by the patient may be “I want to live as long as possible.” Patient goals relative to the surgical condition can be categorized broadly into: 1) prolonging life, 2) maintaining function or independence, 3) relieving symptoms (e.g., pain), 4) curing a condition (e.g., cancer), and 5) establishing a diagnosis.<sup>2</sup> These treatment goals may have tradeoffs such that prolonging life may ultimately limit a patient’s independence. Second, we must evaluate the older adult’s care preferences in the context of surgery with regards to code status and advance care planning (e.g., advance directive, medical proxy). Previous research has not only demonstrated low rates of advance care planning prior to elective surgery<sup>3</sup> but also disparities in goals of care discussion and advance care planning.<sup>4,5</sup> Research shows most patients would not want life-sustaining treatments (e.g., ventilation) for an indefinite period of time and would also not want treatments to sustain life in the setting of permanent physical or cognitive disability or daily severe pain.<sup>6</sup> Preoperative discussions with older adults that include goals of care and ensure we understand their preferences for code status, advance care planning, and medical proxy will ensure that we provide patient-centered and goal concordant care to older adults undergoing surgery.

### References

1. Schwarze ML, Kruser JM, Clapp JT. Innovations in Surgical Communication 2-Focus on the Goals of Surgery. *JAMA Surg*. 2023 Oct 1;158(10):994–996.
2. Schwarze ML, Arnold RM, Clapp JT, Kruser JM. Better Conversations for Better Informed Consent: Talking with Surgical Patients. *Hastings Cent Rep*. 2024 May;54(3):11–14.
3. Kalbfell E, Kata A, Buffington AS, Marka N, Brasel KJ, Mosenthal AC, Cooper Z, Finlayson E, Schwarze ML. Frequency of Preoperative Advance Care Planning for Older Adults Undergoing High-risk Surgery: A Secondary Analysis of a Randomized Clinical Trial. *JAMA Surg*. 2021 Jul 1;156(7):e211521.
4. Wu A, Giannitrapani KF, Garcia A, Bozkurt S, Boothroyd D, Adams AS, Kim KM, Zhang S, McCaa MD, Morris AM, Shreve S, Lorenz KA. Disparities in Preoperative Goals of Care Documentation in Veterans. *JAMA Netw Open*. 2023 Dec 1;6(12):e2348235.
5. Colley A, Lin JA, Pierce L, Finlayson E, Sudore RL, Wick E. Missed Opportunities and Health Disparities for Advance Care Planning Before Elective Surgery in Older Adults. *JAMA Surg*. 2022 Oct 1;157(10):e223687.
6. Udelsman BV, Govea N, Cooper Z, Chang DC, Bader A, Meyer MJ. Variation in Patient-Reported Advance Care Preferences in the Preoperative Setting. *Anesth Analg*. 2021 Jan;132(1):210–216.

### 3 Geriatric Vulnerability Screens

#### Rationale

Geriatric-specific factors increase risk in older adult surgical patients but are often overlooked in standard preoperative workup.<sup>1,2</sup> Preoperative screening can identify modifiable vulnerabilities that may influence surgical outcomes and inform surgical decision-making. The physiologic state of “frailty” reflects decreased physiologic reserve and, while definitions vary, its major components often include comorbidities, cognitive impairment, functional impairment, mobility limitations, malnutrition, and social vulnerabilities.<sup>3</sup> When present, frailty consistently increases the risk for poor postoperative outcomes. By screening for the major components of frailty (cognition, function/mobility, malnutrition, social determinants of health), hospitals can establish an accurate baseline for their patients, improve risk prediction and identify targets to reduce risk and improve outcomes. For example, 30% of postoperative delirium occurrences are preventable.<sup>4</sup> By identifying preoperative cognitive impairment, hospitals can concentrate resources for increased delirium prevention efforts on the highest risk patients. Increased prevention, recognition, and treatment of this important geriatric syndrome will improve patient-centered outcomes.

#### References

1. Oresanya, L. B., Lyons, W. L. & Finlayson, E. Preoperative assessment of the older patient: a narrative review. *JAMA*. 311, 2110-2120, doi:10.1001/jama.2014.4573 (2014).
2. Watt, J., Tricco, A. C., Talbot-Hamon, C. et al. Identifying older adults at risk of harm following elective surgery: a systematic review and meta-analysis. *BMC Med* 16, 2, doi:10.1186/s12916-017-0986-2 (2018).
3. Robinson, T. N., Walston, J. D., Brummel, N. E. et al. Frailty for Surgeons: Review of a National Institute on Aging Conference on Frailty for Specialists. *J Am Coll Surg* 221, 1083-1092, doi:10.1016/j.jamcollsurg.2015.08.428 (2015).
4. Siddiqi, N., Harrison, J. K., Clegg, A. et al. Interventions for preventing delirium in hospitalised non-ICU patients. *Cochrane Database Syst Rev* 3, CD005563, doi:10.1002/14651858.CD005563.pub3 (2016).

### 4 Management Plan for Patients with Positive Geriatric Vulnerability Screens

#### Rationale

Deficits identified on geriatric vulnerability screens should be used to develop personalized perioperative management plans for older adults undergoing surgery, with the goal of minimizing potential postoperative complications (e.g., postoperative delirium, functional decline, and others).<sup>1</sup> A key word here is *personalized*: a patient who only screens positive for the palliative care assessment may only require preoperative referral to palliative care, while a 90-year-old patient with impaired cognition, mobility, and nutrition could benefit from formal evaluation by a healthcare provider with geriatric expertise or individual evaluations by neurology, physical therapy, and dietary experts, for example.<sup>2,3</sup> All identified vulnerabilities should be addressed with a management plan that spans the perioperative phases of care.

#### References

1. Wilson S, Sutherland E, Razak A, O'Brien M, Ding C, Nguyen T, Rosenkranz P, Sanchez SE. Implementation of a Frailty Assessment and Targeted Care Interventions and Its Association with Reduced Postoperative Complications in Elderly Surgical Patients. *J Am Coll Surg*. 2021 Dec;233(6):764-775.e1. doi: 10.1016/j.jamcollsurg.2021.08.677. Epub 2021 Aug 23. PMID: 34438081.
2. Kim DH, Rockwood K. Frailty in Older Adults. *N Engl J Med*. 2024 Aug 8;391(6):538-548. doi: 10.1056/NEJMr2301292. PMID: 39115063.
3. Allison R 2nd, Assadzandi S, Adelman M. Frailty: Evaluation and Management. *Am Fam Physician*. 2021 Feb 15;103(4):219-226. PMID: 33587574.

## 5 Age-Friendly Postoperative Protocol

### Rationale

Standardized postoperative care pathways are necessary to provide optimal age-friendly postoperative inpatient care. Learning from the prior enhanced recovery experience, standardizing care processes to include checklist-based care, templated order sets, and routine care protocols are vital components to ensure consistent delivery of age-friendly postoperative care to older adults.<sup>1</sup> The first key component of an age-friendly postoperative protocol is delirium recognition, prevention, and management, and it is a cornerstone of any age-friendly inpatient care program. Necessary components of delirium programs include screening for delirium with a validated tool, engaging with patients for cognitive stimulation, mobilizing patients for early and routine ambulation, enhancing overnight sleep quality, choosing medications to avoid promoting delirium, returning personal sensory aids, and designing rooms to accommodate older adults.<sup>2,3</sup> Second, routine function and mobility preservation efforts are also an important part of the inpatient care plan for older adults.<sup>1</sup> Often the physical and occupational therapy teams participate in the preservation of physical function and avoidance of deconditioning, however routine protocols for mobilization should include nursing and other frontline team members as well.<sup>1,3</sup> Third, responsible medication management to identify and avoid prescription of potentially inappropriate medications for older adults is also part of age-friendly inpatient care. Educating surgical team providers regarding commonly used medications in the postoperative period which may be inappropriate for older adults and involving pharmacy team members to review postoperative medication use in older adults are commonly used strategies to optimize postoperative medication use in older adults.<sup>4</sup> Fourth, opioid-sparing multimodal pain management pathways should be available to surgical providers as part of templated postoperative order sets.<sup>3</sup> Finally, proactive nutrition and hydration support with attention to both bowel regimens and swallowing dysfunction are important for older adults in whom malnutrition and dehydration can negatively impact their postoperative recovery.<sup>3</sup>

### References

1. Landefeld C.S., Palmer R.M., Kresevic D., Fortinsky R.H., Kowal J. A randomized trial of care in a hospital medical unit especially designed to improve the functional outcomes of acutely ill older patients. *Ne. Engl. J. Med.* 1995;332:1338–1344.
2. American Geriatrics Society abstracted clinical practice guideline for postoperative delirium in older adults. American Geriatrics Society Expert Panel on Postoperative Delirium in Older Adults. *J Am Geriatr Soc.* 2015 Jan;63(1):142-50.
3. Sanjay Mohanty 1, Ronnie A Rosenthal 2, Marcia M Russell 3, Mark D Neuman 4, Clifford Y Ko 5, Nestor F Esnaola Optimal Perioperative Management of the Geriatric Patient: A Best Practices Guideline from the American College of Surgeons NSQIP and the American Geriatrics Society. *J Am Coll Surg.* 2016 May;222(5):930-47.
4. American Geriatrics Society 2023 updated AGS Beers Criteria for potentially inappropriate medication use in older adults. By the 2023 American Geriatrics Society Beers Criteria® Update Expert Panel. *J Am Geriatr Soc.* 2023 Jul;71(7):2052-2081.

## 6 Data Review

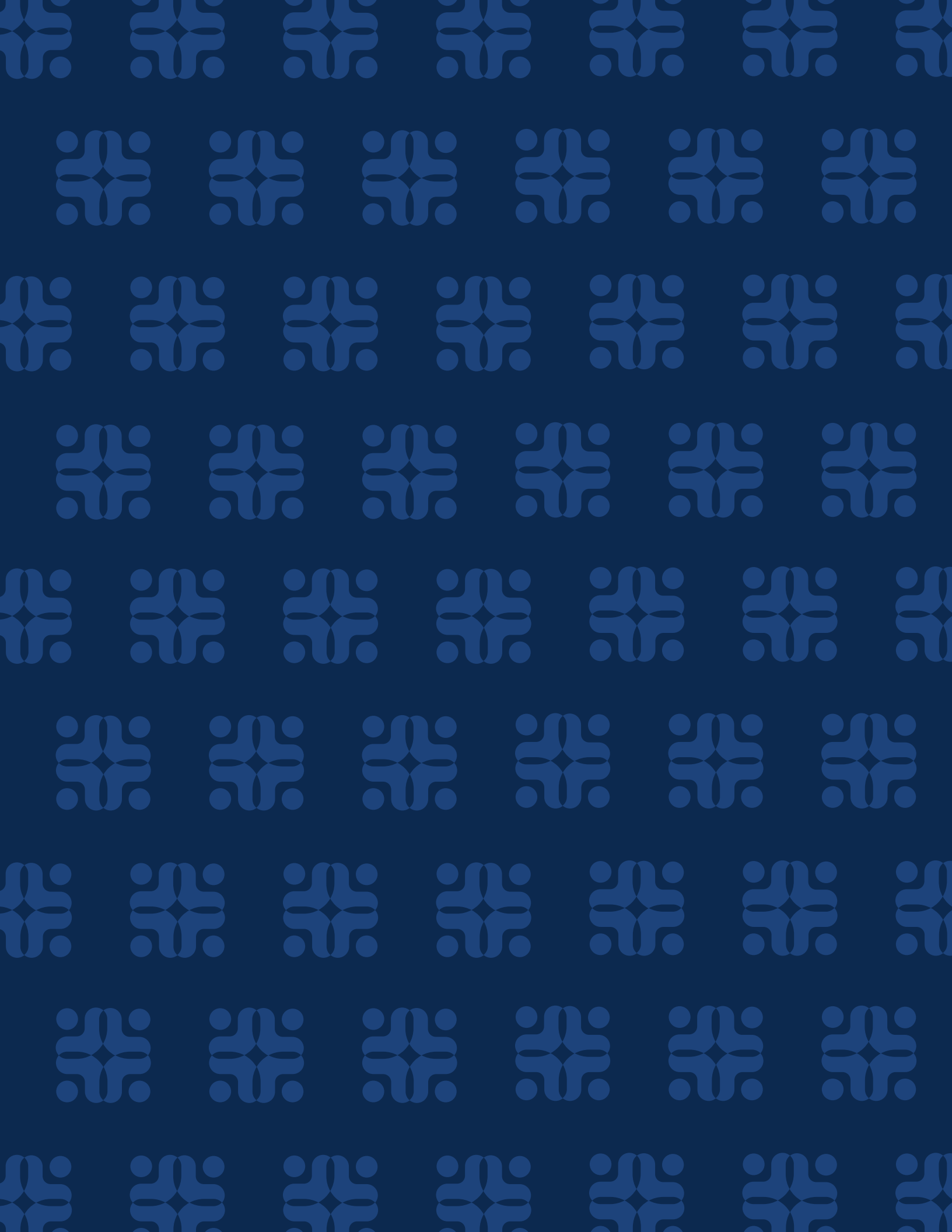
### ***Rationale***

The ability to collect, analyze, and interpret data is a critical component of high-quality healthcare. For any institution that is interested in addressing areas of weakness and improving patient outcomes, the first step must be to accurately characterize performance through robust and reliable data measurement.<sup>1</sup> There are different strategies for obtaining such data. Billing claims often serve as a source of information on medical utilization and healthcare outcomes.<sup>2</sup> Some institutions participate in programs, such as the ACS NSQIP, which use trained clinical data abstractors to gather data from the medical record.<sup>3</sup> More recently, the use of artificial intelligence has emerged as a new method for data review. Forms of artificial intelligence, such as machine learning, simulate human intelligence and understanding but with the processing power of a computer to allow for analysis of substantial amounts of data.<sup>4</sup> These methods are all valid ways for institutions to develop a means for fair data collection. Reviewing institution-specific data to accurately identify a need for change is essential for hospitals to effectively engage in continuous quality improvement. Furthermore, as healthcare financing models transition from quantity to quality of care, data measurement remains a major player in value-based reimbursements. For these reasons, the GSV program requires that institutions have a process in place that allows for accurate clinical data collection relevant to the surgical care of older adults.

### **References**

1. Shah A. Using data for improvement. *BMJ*. 2019;189.
2. Karve S, Cleves MA, Helm M, Hudson TJ, West DS, Martin BC. Good and poor adherence: Optimal cut-point for adherence measures using administrative claims data. *Curr Med Res Opin*. 2009;25(9):2303-2310.
3. Cohen ME, Liu Y, Ko CY, Hall BL. Improved surgical outcomes for ACS NSQIP hospitals over time. *Ann Surg*. 2016;263(2):267-273.
4. Elfanagely O, Toyoda Y, Othman S, et al. Machine Learning and Surgical Outcomes Prediction: A Systematic Review. *J Surg Res*. 2021;264:346-361. doi:10.1016/j.jss.2021.02.045







**American College of Surgeons**  
633 N Saint Clair St  
Chicago, IL 60611-3295  
*facs.org*