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# Frailty In Vascular Surgery Population and VQI

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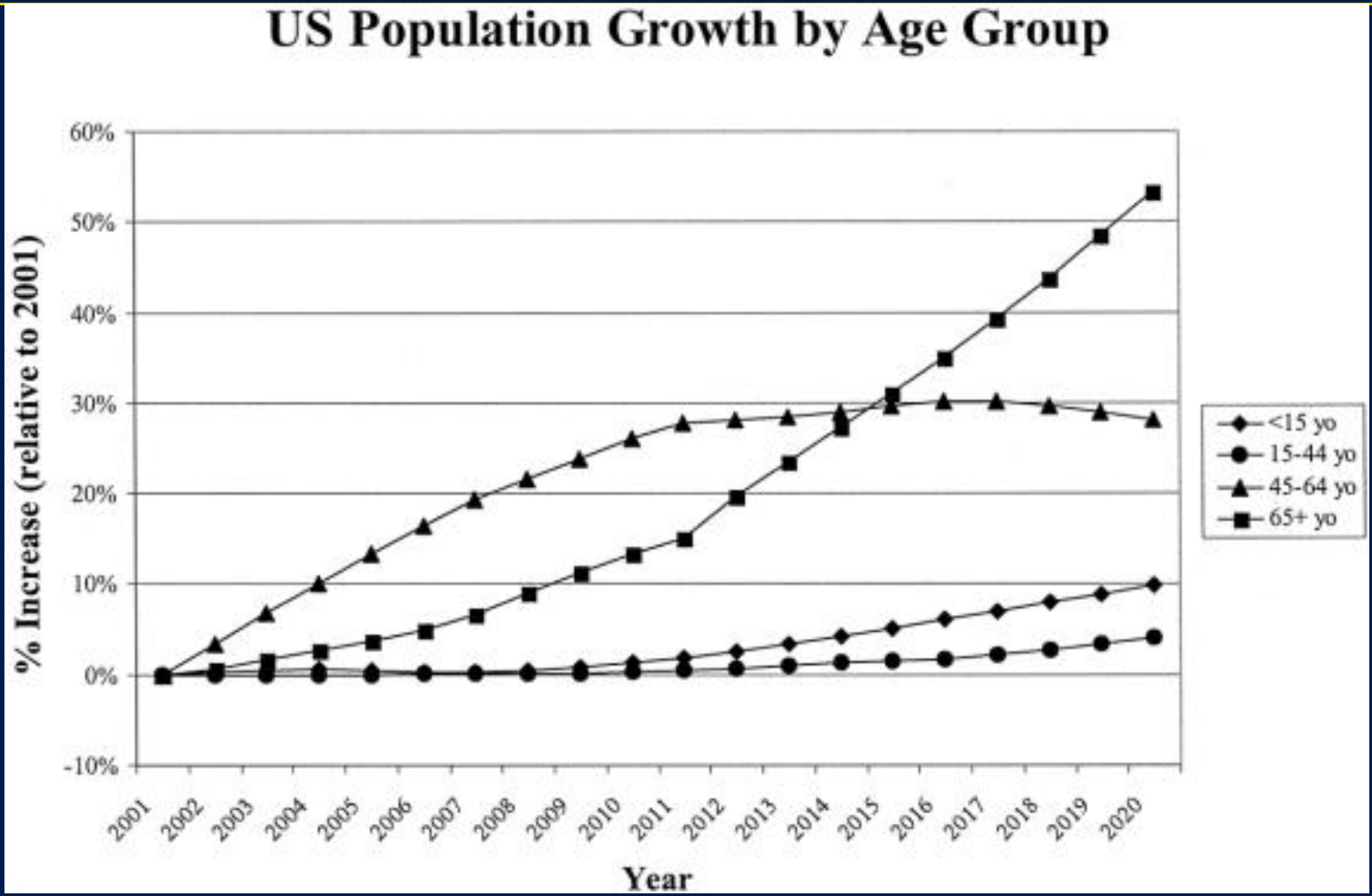
No pertinent financial disclosures

# 65+ are the fasting growing group




Etzioni et al. Ann Surg 2003; 238:170-177

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# Proportion of Surgeries by Age

**TABLE 4.** Proportion of Work Within Surgical Specialty by Age Group

| Specialty | <15 y | 15–44 y | 45–64 y | 65+ y | Total |
|---|---|---|---|---|---|
| Cardiothoracic* | 0% | 0.3% | 29.4% | 70.3% | 100% |
| General surgery† | 2.6% | 12.3% | 25.5% | 59.6% | 100% |
| Neurosurgery | 2.8% | 12.9% | 39.1% | 45.2% | 100% |
| Ophthalmology | 0.6% | 0.7% | 10.8% | 88.0% | 100% |
| Orthopedic surgery | 0.6% | 16.1% | 31.8% | 51.4% | 100% |
| Otolaryngology | 39.6% | 22.1% | 29.9% | 8.4% | 100% |
| Urology | 4.0% | 6.3% | 24.9% | 64.8% | 100% |

Source: NHDS and NSAS 1996.

*In the 1996 NHDS sample, the incidence rate for specific cardiothoracic procedures in pediatric patients was too small to allow an accurate incidence rate to be reported.

†Category includes vascular, breast, hernia, abdominal, gastrointestinal, and pediatric procedures.

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# Frailty

- Diminished strength, endurance, and reduced physiologic function
- Increases an individual's vulnerability for developing increased dependency and/or death **in the presence of a stressor**



J.E. Morley et al. / JAMDA 14 (2013) 392e397
Rodrigues-Manaz et al; J Gerontol A Biol Sci Med Sci. 01/2013

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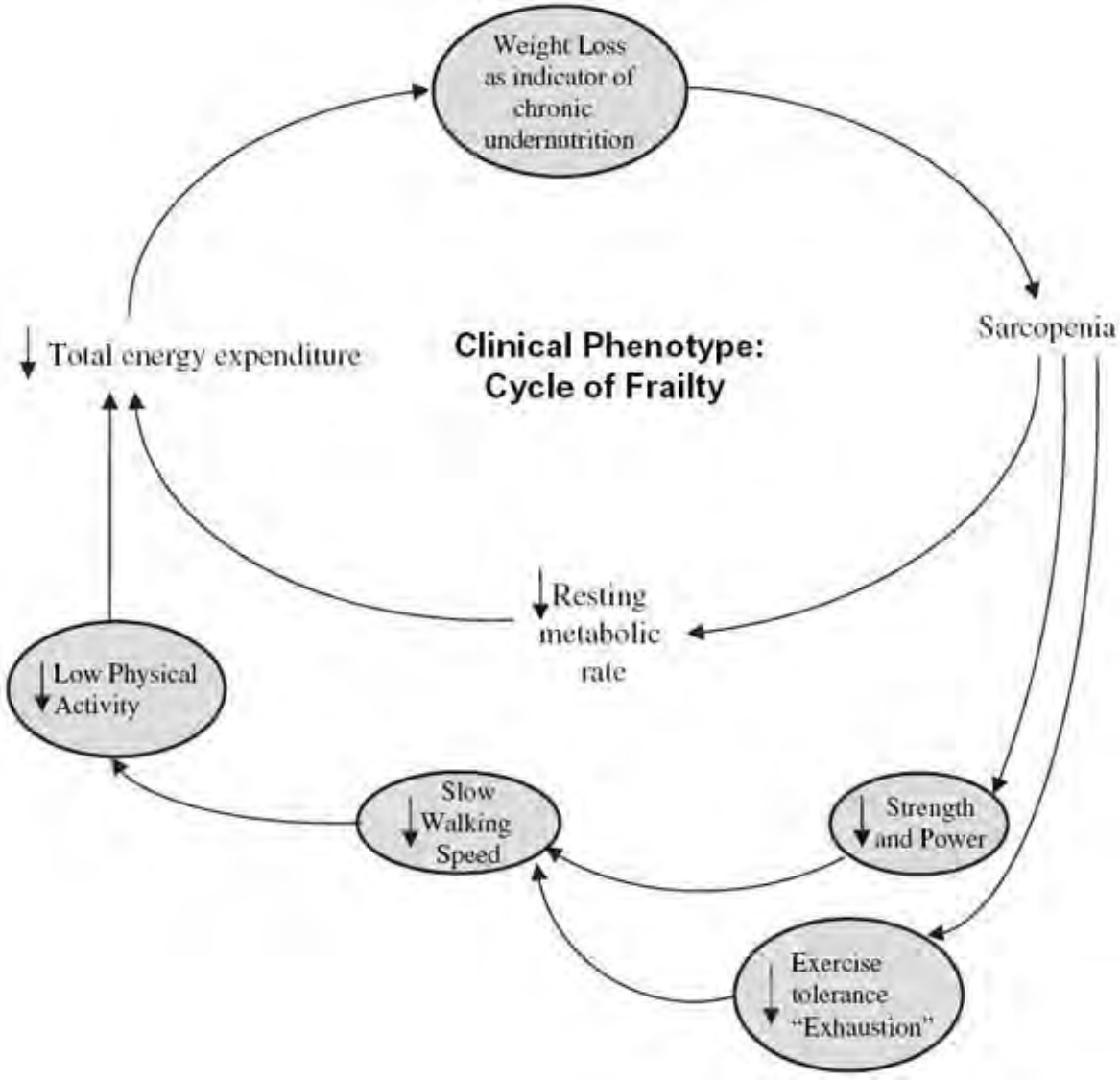
# Fried Frailty Phenotype



**Appendix 1: List of variables used by the Canadian Study of Health and Aging to construct the 70-item CSHA Frailty Index**

- Changes in everyday activities
- Head and neck problems
- Poor muscle tone in neck
- Bradykinesia, facial
- Problems getting dressed
- Problems with bathing
- Problems carrying out personal grooming
- Urinary incontinence
- Toileting problems
- Bulk difficulties
- Rectal problems
- Gastrointestinal problems
- Problems cooking
- Sucking problems
- Problems going out alone
- Impaired mobility
- Musculoskeletal problems
- Bradykinesia of the limbs
- Poor muscle tone in limbs
- Poor limb coordination
- Poor coordination, trunk
- Poor standing posture
- Irregular gait pattern
- Falls
- Mood problems
- Feeling sad, blue, depressed
- History of depressed mood
- Tiredness all the time
- Depression (clinical impression)
- Sleep changes
- Restlessness
- Memory changes
- Short-term memory impairment
- Long-term memory impairment
- Changes in general mental functioning
- Onset of cognitive symptoms
- Clouding or delirium
- Paranoid features
- History relevant to cognitive impairment or loss
- Family history relevant to cognitive impairment or loss
- Impaired vibration
- Tremor at rest
- Postural tremor
- Intention tremor
- History of Parkinson's disease
- Family history of degenerative disease
- Seizures, partial complex
- Seizures, generalized
- Syncope or blackouts
- Headache
- Cerebrovascular problems
- History of stroke
- History of diabetes mellitus
- Arterial hypertension
- Peripheral pulses
- Cardiac problems
- Myocardial infarction
- Arrhythmia
- Congestive heart failure
- Lung problems
- Respiratory problems
- History of thyroid disease
- Thyroid problems
- Skin problems
- Malignant disease
- Breast problems
- Abdominal problems
- Presence of snout reflex
- Presence of the palmomental reflex
- Other medical history

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ortality,
elective
lependent

## Gender and frailty predict poor outcomes in infrainguinal vascular surgery

Reshma Brahmbhatt, MD,[a] Luke P. Brewster, MD, PhD,[a,b]
Susan Shafii, MD,[a] Ravi R. Rajani, MD,[a] Ravi Veeraswamy, MD,[a]
Atef Salam, MD,[a,b] Thomas F. Dodson, MD,[a] and Shipra Arya, MD, SM[a,b,*]

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Brewster, MD, PhD,[a,b]
Atlanta and Decatur, Ga

## 23. Preop
## Risk
## After
## Hom

Shipra Arya,
Susan Shafii,
Theodore M.

[1] Emory Unive
Medical Center

## Assessing Preoperative Frailty Utilizing Validated Geriatric Mortality Calculators and Their Association With Postoperative Hip Fracture Mortality Risk

Jennifer G. Dwyer, MD[1], Jason F. Reynoso, MD[1], Georgia A. Seevers, RN
Kendra K. Schmid, PhD[3], Padmashri Muralidhar, MS[1],
Beau Konigsberg, MD[4], Thomas G. Lynch, MD[2],
and Jason M. Johanning, MD[2]

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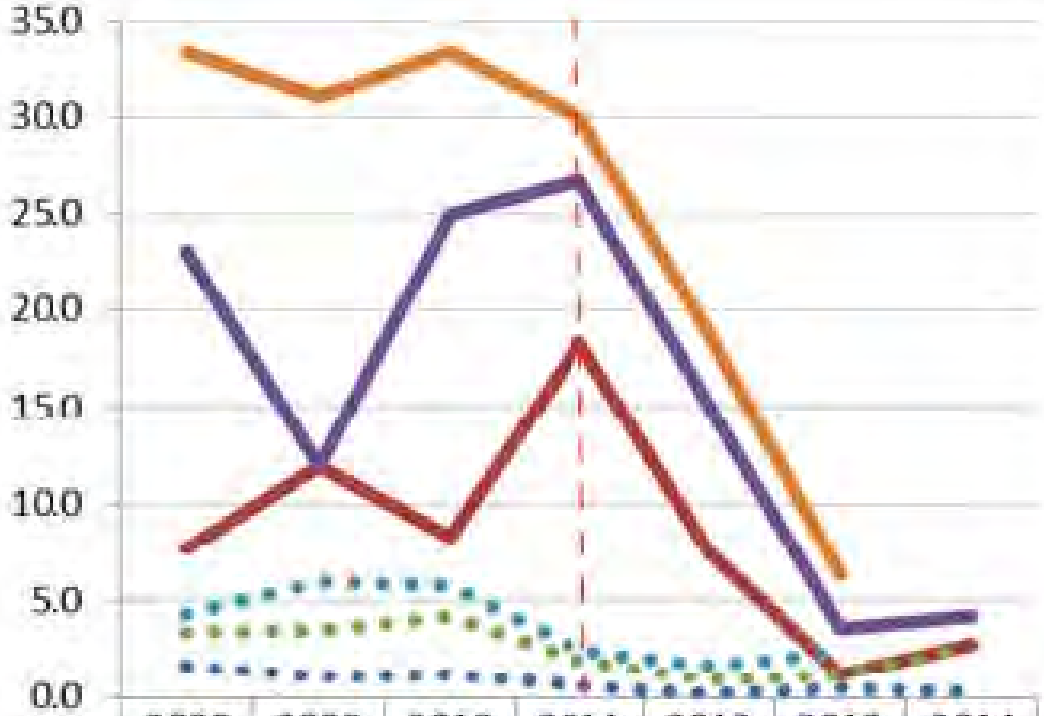
# SIGNIFICANCE

- ✓ Draw attention to pre-operative risk
- ✓ Stimulate decision-making
- ✓ Optimize care
- ✓ Reductions in mortality




| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|---|
| 30 day mortality (%) Robust | 1.6 | 1.1 | 1.2 | 0.6 | 0.2 | 0.5 | 0.3 |
| 30 day mortality (%) Frail | 7.7 | 11.9 | 8.3 | 18.3 | 7.5 | 1.2 | 2.8 |
| 180 day mortality (%) Robust | 3.4 | 3.5 | 4.2 | 1.9 | 0.9 | 1.2 | 2.7 |
| 180 day mortality (%) Frail | 23.1 | 11.9 | 25.0 | 26.7 | 15.0 | 3.6 | 4.2 |
| 365 day mortality (%) Robust | 4.3 | 6.0 | 5.8 | 2.5 | 1.6 | 2.3 | |
| 365 day mortality (%) Frail | 33.3 | 31.0 | 33.3 | 30.0 | 18.8 | 6.4 | |

30 day mortality (%) Robust — 30 day mortality (%) Frail

180 day mortality (%) Robust — 180 day mortality (%) Frail

365 day mortality (%) Robust — 365 day mortality (%) Frail

## RAI

Editing existing Record ID **01**

| | |
|---|---|
| **Record ID** | 01 |
| **Age** | |
| **Age Group** | 85-89 |
| **Gender** | Female |
| **Any intentional weight loss of 10 pounds or more in the past 3 months?** | ○ No ● Yes reset |
| **Any history of renal failure, renal insufficiency, or seeing a nephrologist?** | ● No ○ Yes reset |
| **Any history of chronic congestive heart failure?** | ● No ○ Yes reset |
| **Is the patient's appetite currently poor?** | ○ No ● Yes reset |
| **Does the patient currently have shortness of breath at rest?** | ● No ○ Yes reset |
| **Any history of memory loss, functional deficits or cognitive skills in the past 3 months?** | ● No ○ Yes reset |
| **Does the patient reside in a setting other than independent living?** | ● No ○ Yes reset |
| **Cancer** | |
| **Is the procedure being done to diagnose cancer?** | ● No ○ Yes reset |
| **Any disseminated, unresectable mets?** | ● No ○ Yes |

reset

**Activities of Daily Living**

Independent: No help or oversight - or - help or oversight provided only 1-2 times in the past 7 days.
Supervised: Oversight, supervision or cuing provided 3 or more times during the past 7 days.
Limited assistance: Patient highly involved in activity but received physical help in guided maneuvering of limbs or other none weight bearing assistance 3 or more times in the last 7 days.
Extensive assistance: Patient performed part of activity in the past 7 days but received help for the following: Weight bearing support - or - full staff performance during the past 7 days.
Total dependence: Full staff performance during the past 7 days.

| | Independent | Supervised | Limited assistance | Extensive Assistance | Total Dependence | |
|---|---|---|---|---|---|---|
| Requiring any assistance with mobility? | ○ | ● | ○ | ○ | ○ | reset |
| Requiring any assistance to eat? | ● | ○ | ○ | ○ | ○ | reset |
| Requiring any assistance with the toilet? | ○ | ● | ○ | ○ | ○ | reset |
| Requiring any assistance with personal hygiene? | ● | ○ | ○ | ○ | ○ | reset |

**Scoring**

| | | |
|---|---|---|
| ADL Score | 2 | View equation Disclaimer |
| Adjusted ADL Score | 2 | View equation Disclaimer |
| Age Score | 16 | View equation Disclaimer |
| RAI Total | 27 | View equation Disclaimer |

**Form Status**

Complete? Incomplete

Save Record

Save and Continue

-- Cancel --

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# RAI Frailty Consortium

Atlanta VA Medical Center

Patient Centered Care...Second to None...One Veteran at a Time

- Implementing RAI frailty screening in VAs across the country- Omaha, Atlanta, Pittsburgh, Nashville, Phoenix
- UPMC and UNMC implementation

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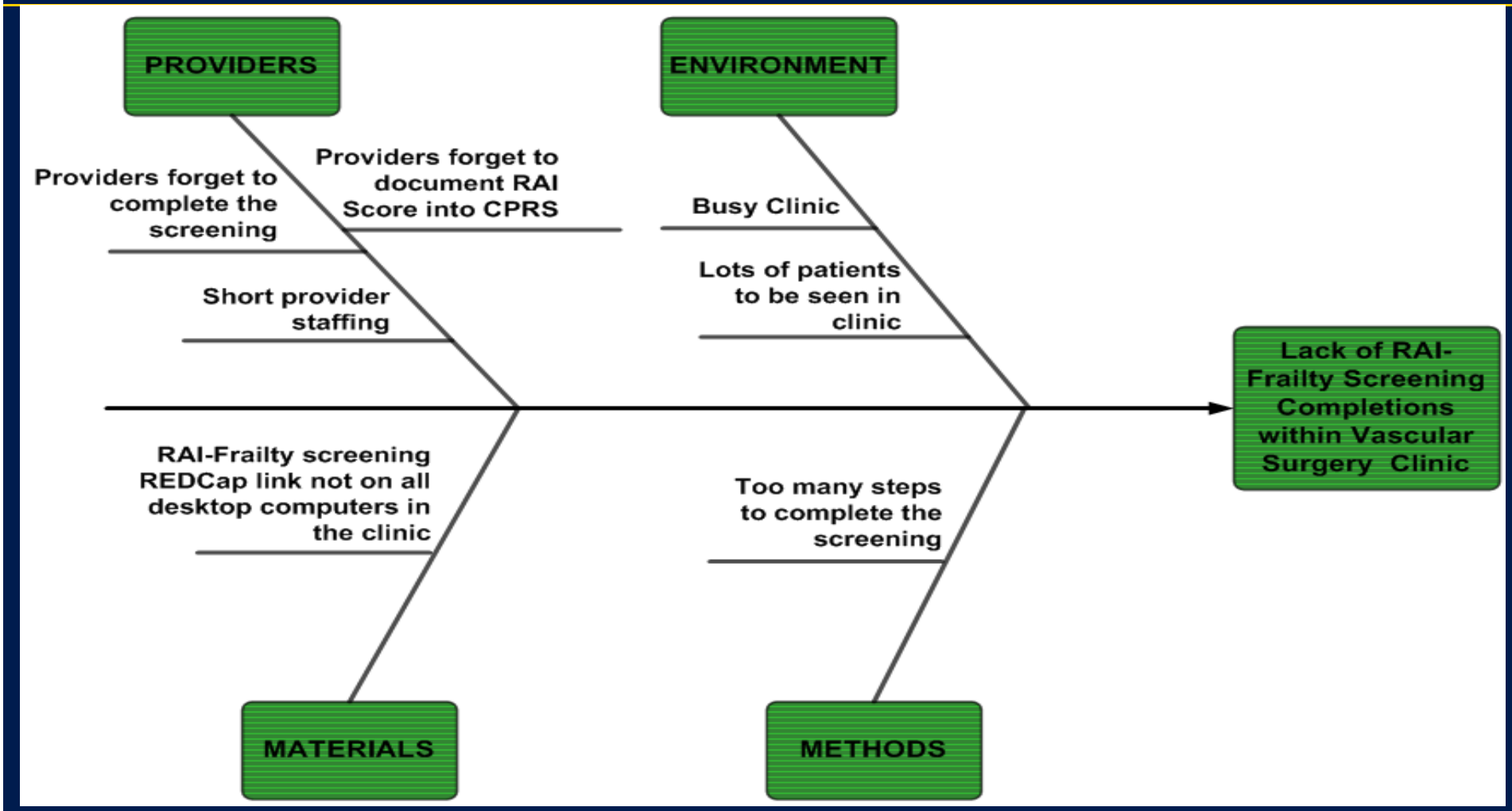
# CAUSE-AND-EFFECT DIAGRAM



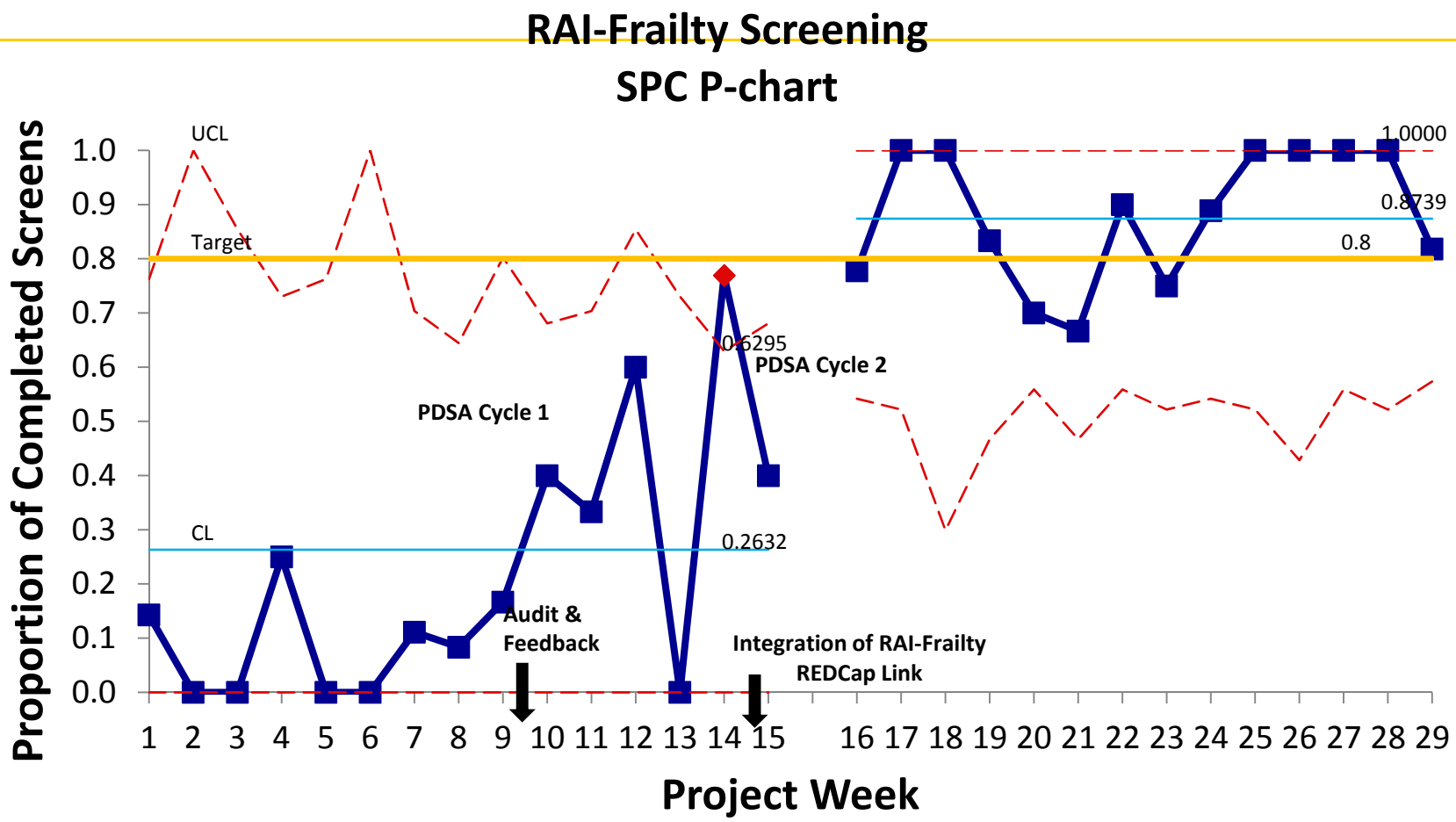

RAI-Frailty Screening
SPC P-chart
Proportion of Completed Screens
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
UCL
Target
CL
0.6295
0.2632
1.0000
0.8739
0.8
PDSA Cycle 1
PDSA Cycle 2
Audit &
Feedback
Integration of RAI-Frailty
REDCap Link
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
Project Week

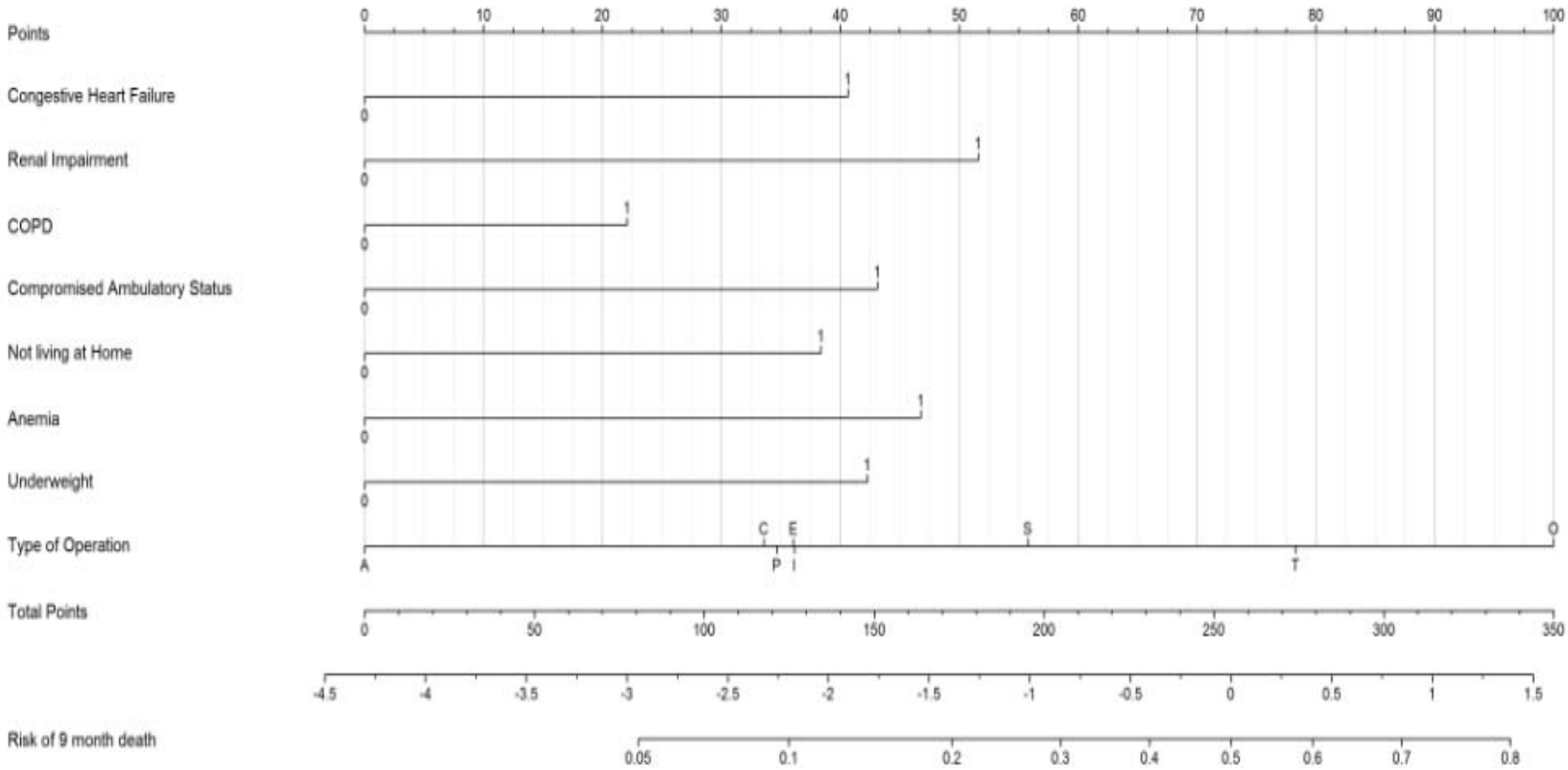
**Table.** Vascular Quality Initiative (*VQI*) variables mapped to frailty categories

| *Frailty category (n = 10)* | *VQI variable (n = 15)* |
|---|---|
| Hypertension | Hypertension |
| Congestive heart failure | Congestive heart failure |
| Myocardial infarction | • History of coronary artery disease (angina, MI)<br>• Prior CABG/PCI<br>• Positive cardiac stress test |
| Peripheral vascular disease | • Any ankle-brachial index <0.7<br>• Prior arterial vascular operation[a] |
| Renal impairment | • Creatinine >1.78 mg/dL<br>• Dialysis |
| Diabetes mellitus | Diabetes mellitus |
| Lung or respiratory problem | Chronic obstructive pulmonary disease |
| Functional dependence | • Preadmission living (home/nursing home)<br>• Preadmission ambulation[b] |
| Other medical problem | Anemia[c] (hemoglobin <13 g/dL, male; <12 g/dL, female) |
| Underweight | Body mass index <19 kg/m$^2$ |

*CABG*, Coronary artery bypass grafting; *MI*, myocardial infarction; *PCI*, percutaneous coronary intervention.

[a]Bypass, carotid endarterectomy, aneurysm repair, peripheral vascular intervention, major amputation.

[b]Ambulatory, ambulatory with assist, wheelchair, bedridden




Type of Operation: (A=CEA, C=CAS, E=EVAR, I=INFRA, O=OPEN, P=PVI, S=SUPRA, T=TEVAR)

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# Next steps

- Impact of frailty on outcomes
- Pilot to include functional frailty assessment and other geriatric specific variables

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