

# Having Surgery after 65?

What to know, what to consider, what to ask

Ruben J. Azocar, MD, MHCM, FASA, FCCM

Professor and Chair

Department of Anesthesiology &

Perioperative Medicine

Tufts University School of Medicine

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Thinking  
Ahead.™

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**Tufts** Medical Center

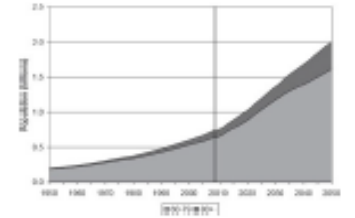
Floating Hospital  
for Children  
at **Tufts** Medical Center

# Disclosures

**Financial: None**  
**SAGA President**



# SAGA



*SOCIETY FOR THE ADVANCEMENT OF  
GERIATRIC ANESTHESIA*

<http://www.sagahq.org>

[razocar@tuftsmedicalcenter.org](mailto:razocar@tuftsmedicalcenter.org)

# Objectives

Review the demographics of growing population over 65 years of age and its impact on healthcare

Review the outcomes of the patients over 65 years of age and the factors influencing them

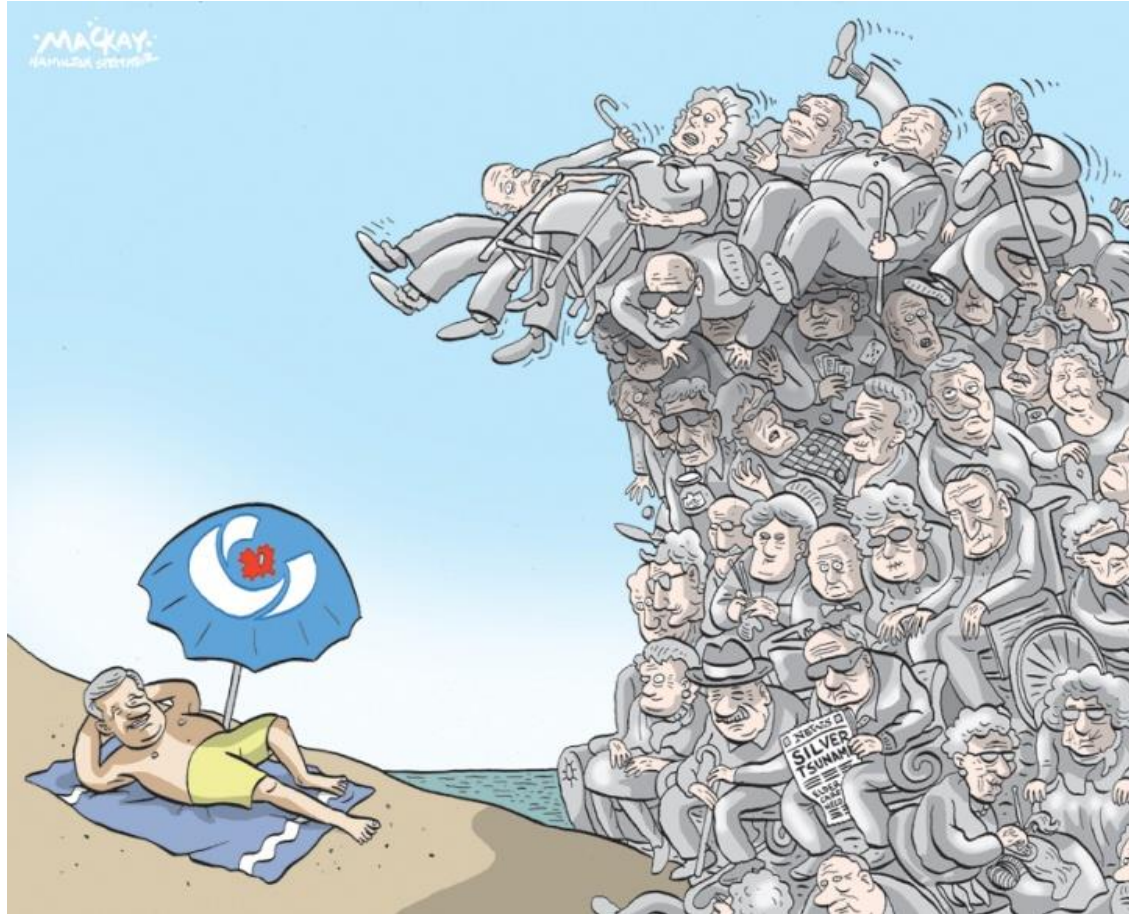
How can we do to improve those outcomes?

# Questions

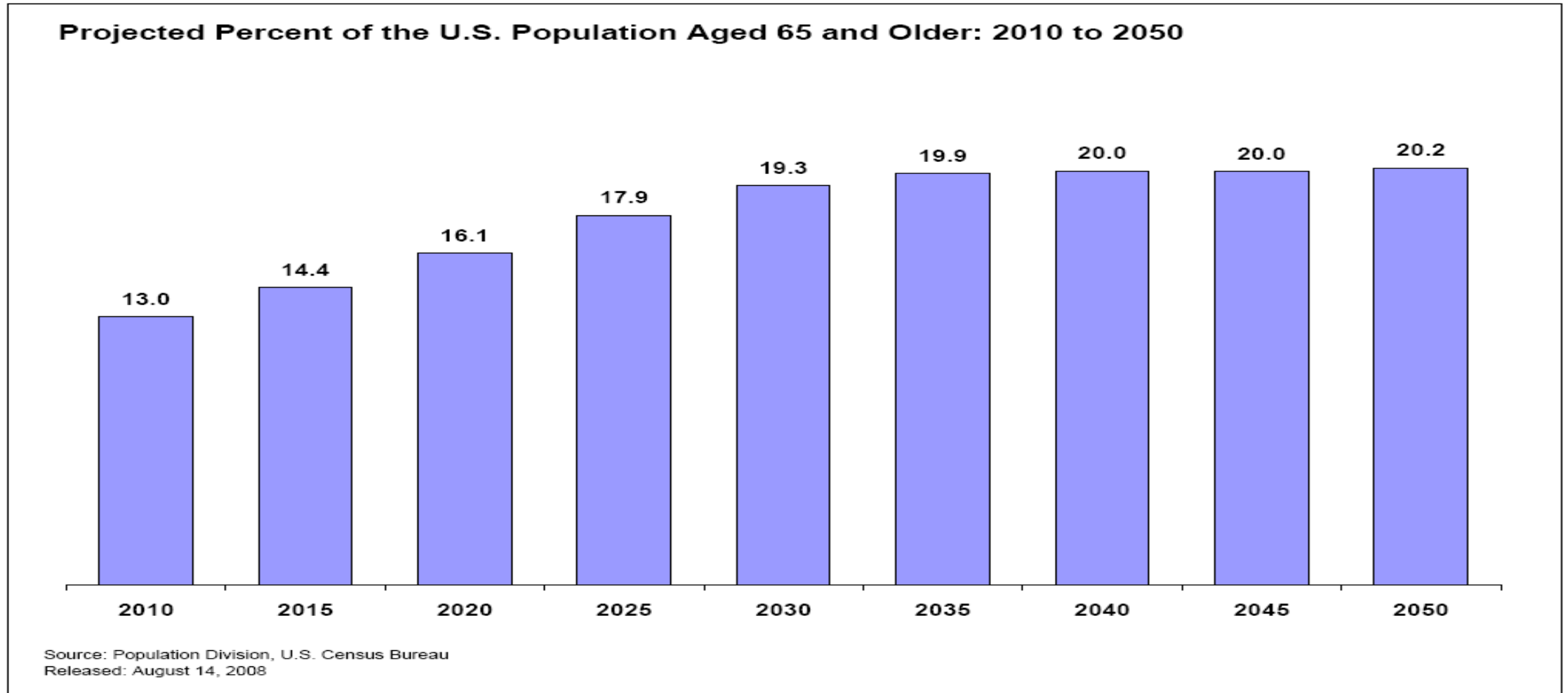
- Are you worried about surgery and anesthesia?
- What worries you the most about surgery and anesthesia?
- Have you heard the term The Gray Tsunami?



# Have you heard about the Gray tsunami?

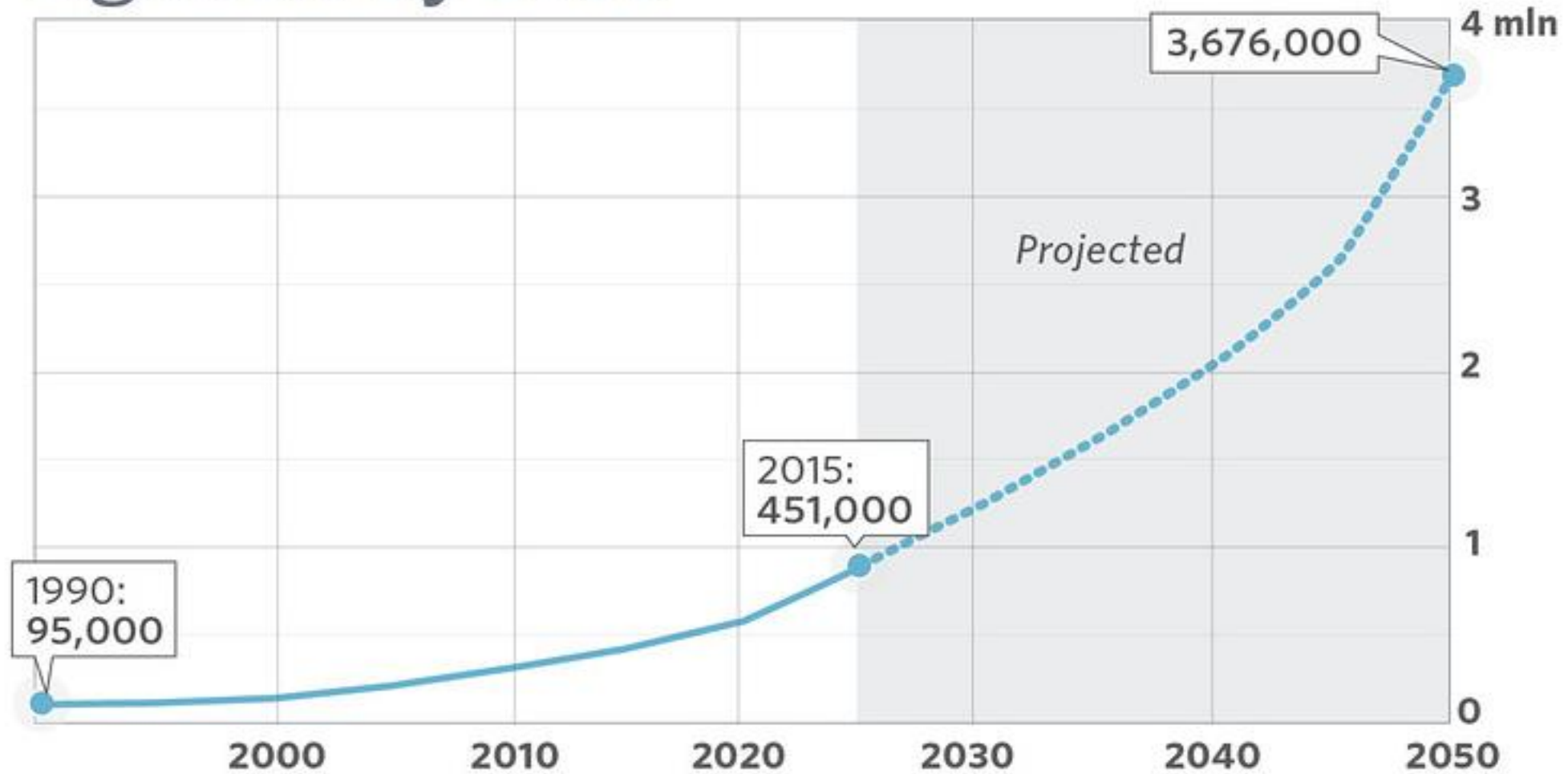


# The older adults as a [%] of the US population

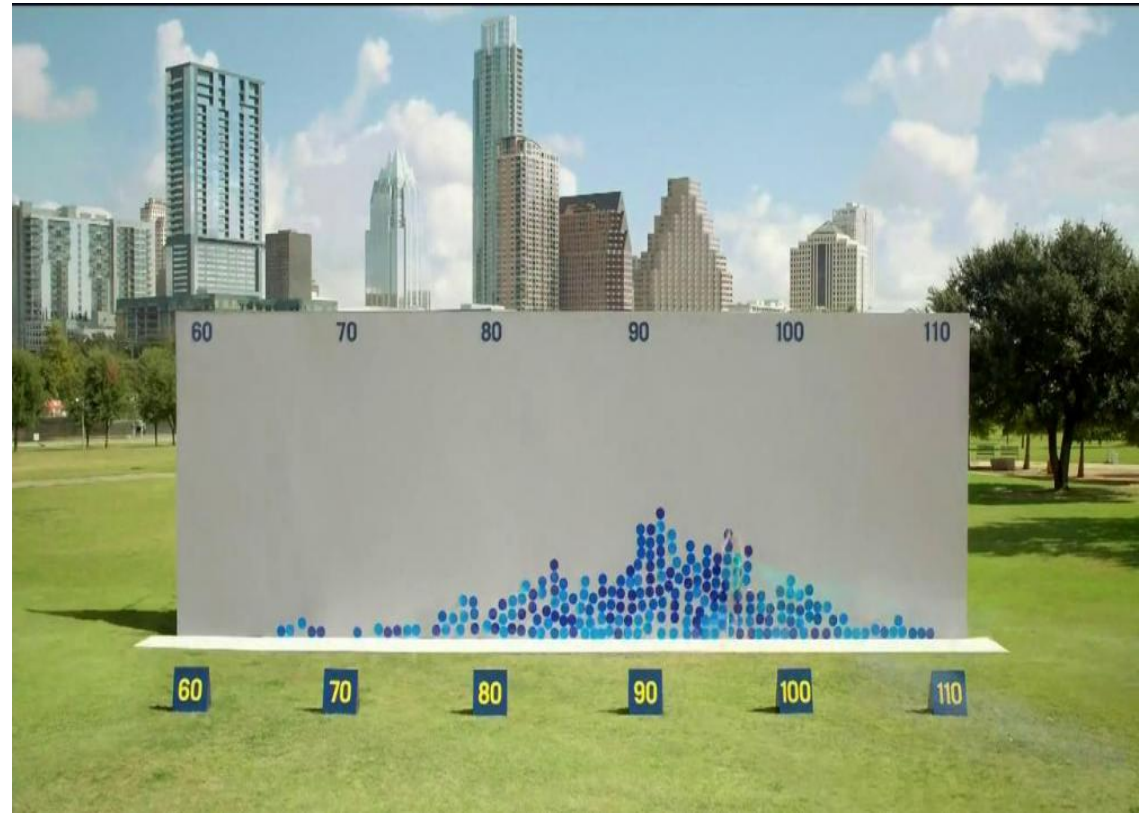


Population Division U.S Census Bureau 2008

# Number of 100-year-olds to grow eightfold by 2050



Source: Pew Research Center



**EXPERTS RECOMMEND SAVING ENOUGH TO LIVE TO 105.**  
Let's get ready for a longer retirement.



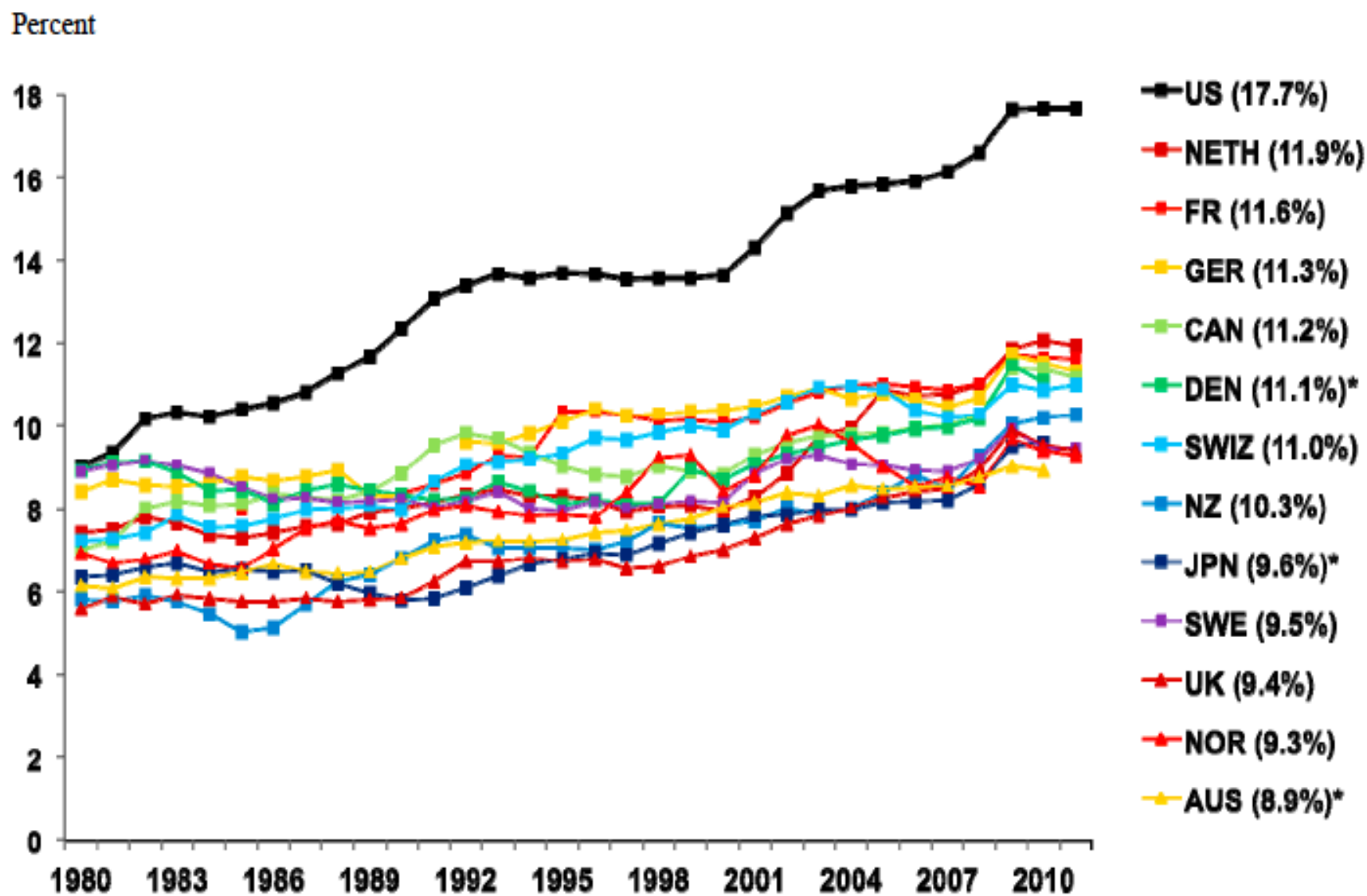
**Prudential**  
Being Your Challenge





*"I told you this sign  
would come in handy again."*

## Health Care Spending as a Percentage of GDP, 1980–2011





**USA  
TODAY™  
06.10.15**

A GANNETT COMPANY



Stars of 'Me and  
likely have you

**HEALTH CARE**



David Preston talks to his wife, Patti, in the New Jersey home for Alzheimer's patients where she lives.

ROBERT DEUTCH, USA TODAY

**HOW 15% OF SENIORS  
ACCOUNT FOR NEARLY HALF  
OF MEDICARE SPENDING**

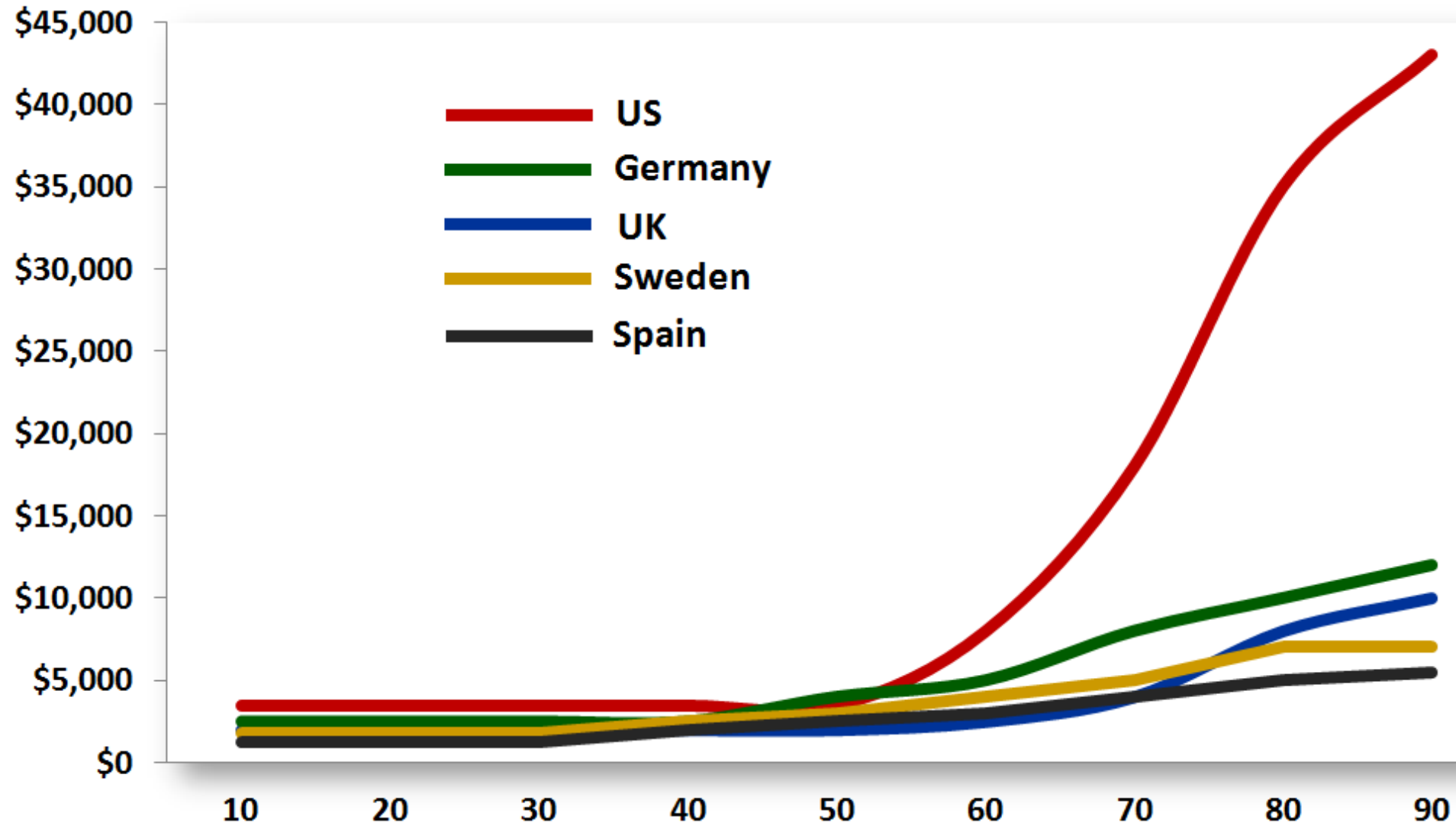
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# Annual Per Capita Healthcare Costs by Age



<http://www.forbes.com/sites/danmunro/2012/12/30/2012-the-year-in-healthcare-charts/>

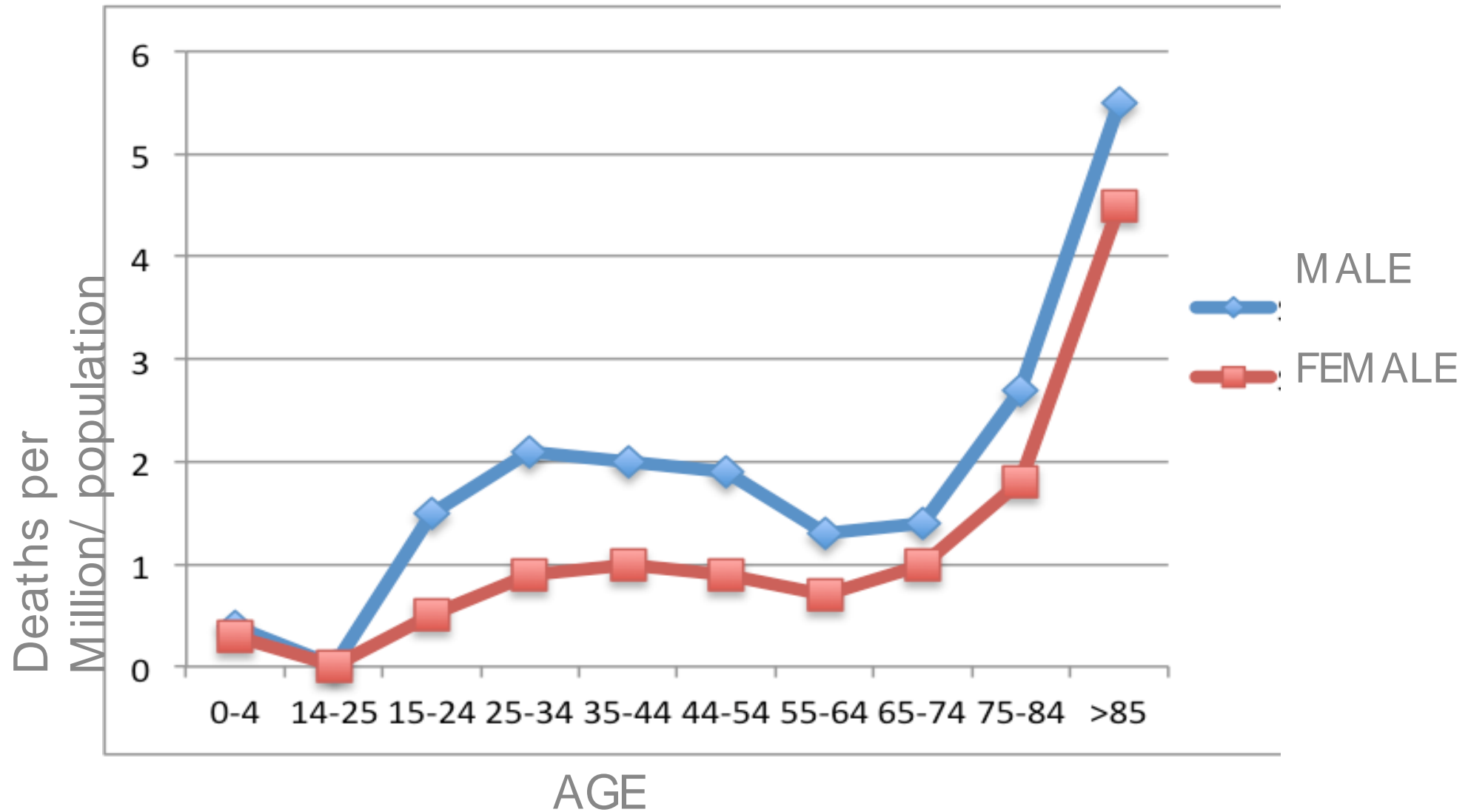


# Procedures in the older adult

From 1994–2005 the average number of inpatient procedures per year in patients >65 years old increased from 6,500,000 to 7,353,000

Currently 35% of all surgical procedures are performed in elderly patients

More than half of the elderly population will have at least one procedure done before they die

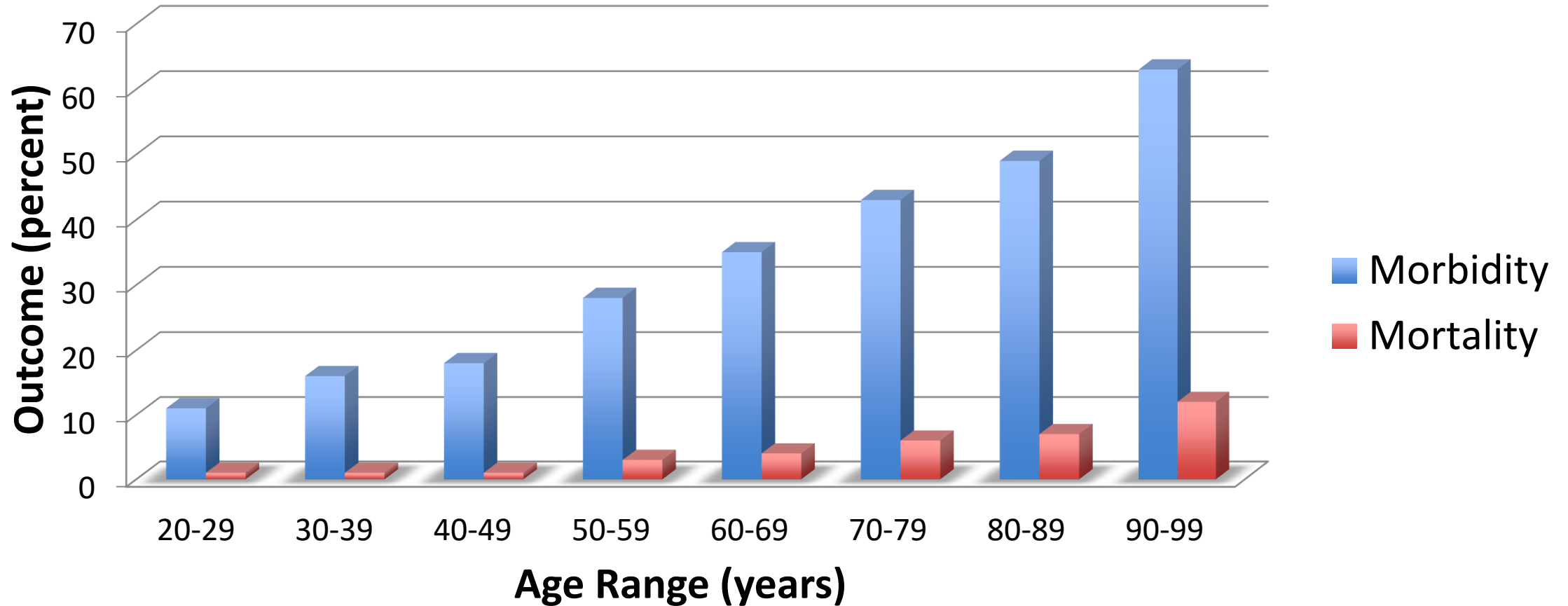


US, 1999–2005, per million population

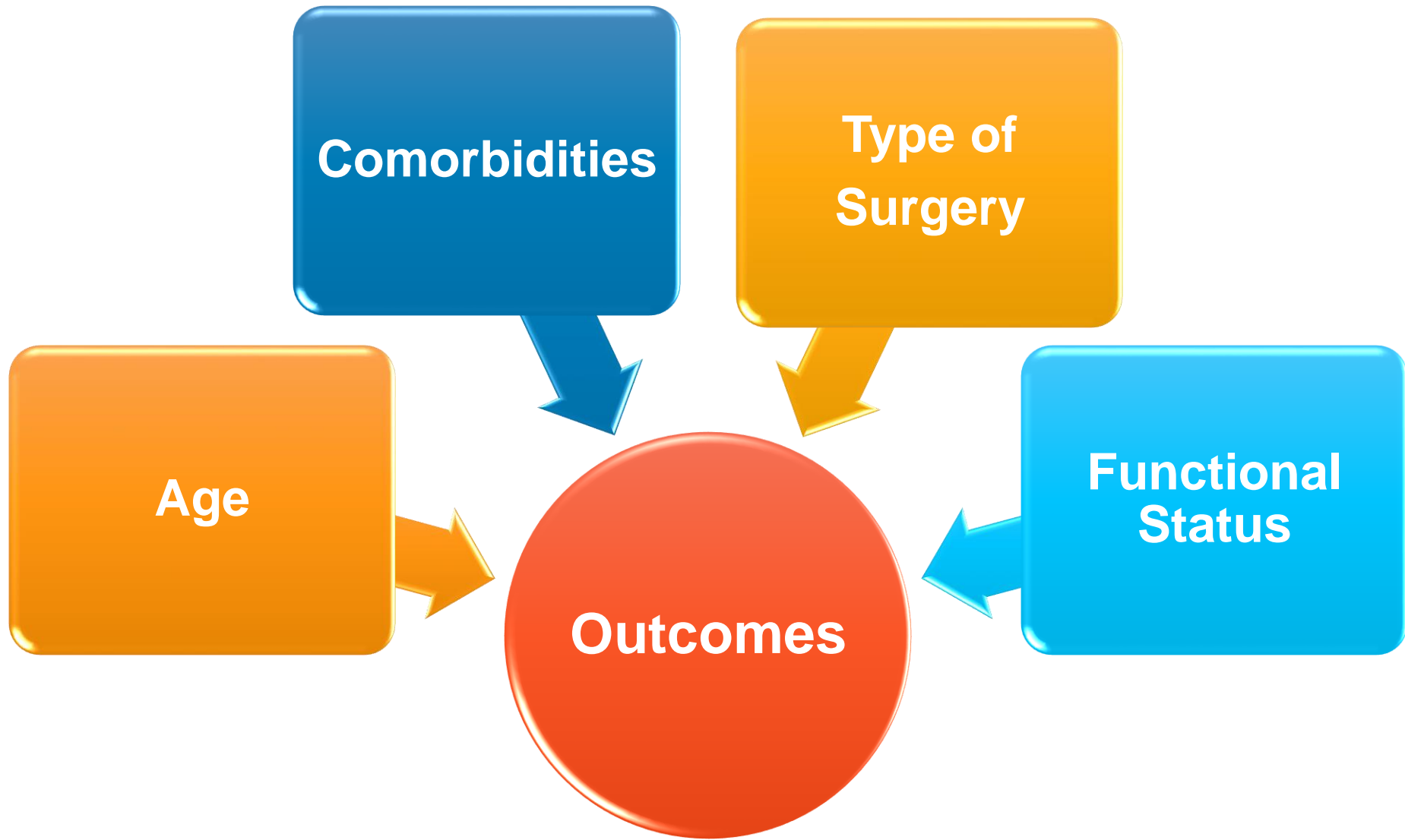
Adaptation from: Anesthesiology. 2009;110:759-65

# Morbidity and Mortality after Major Surgery by Age

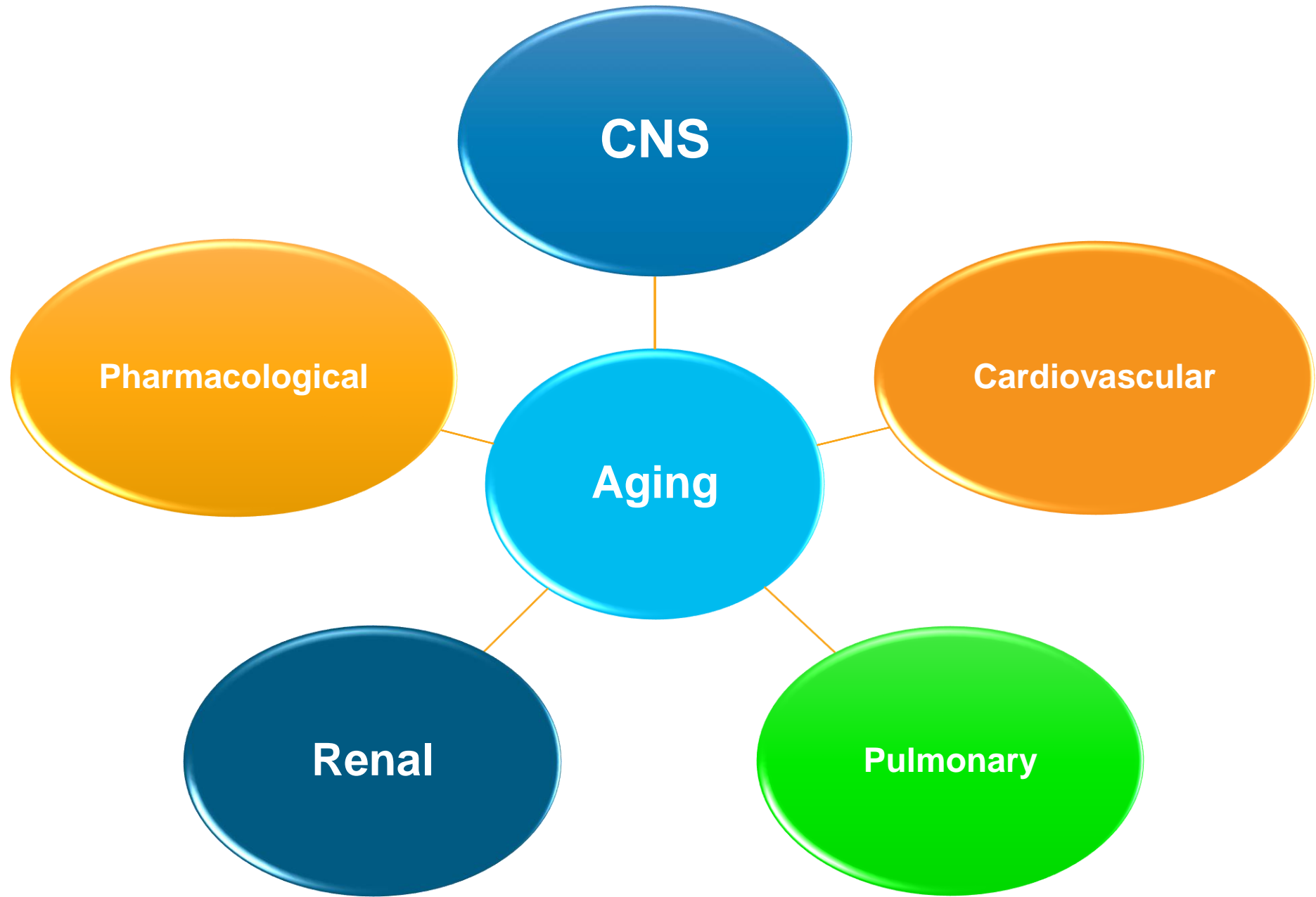
Grossman et al. Mortality rate increase of 6.8% for each year above 65



Modified from J Am Coll Surg 2006;203:865







**CNS**

**Pharmacological**

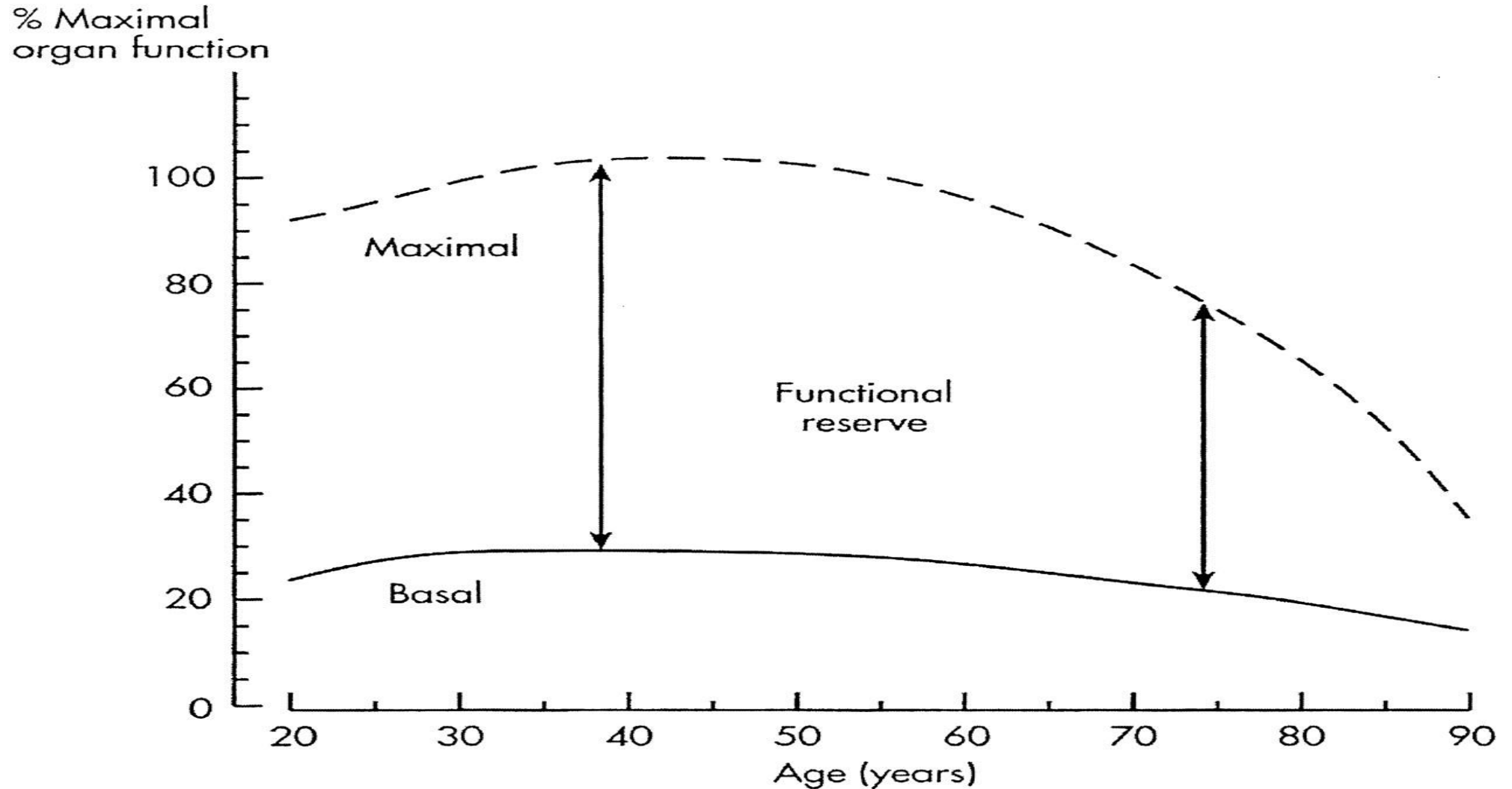
**Cardiovascular**

**Aging**

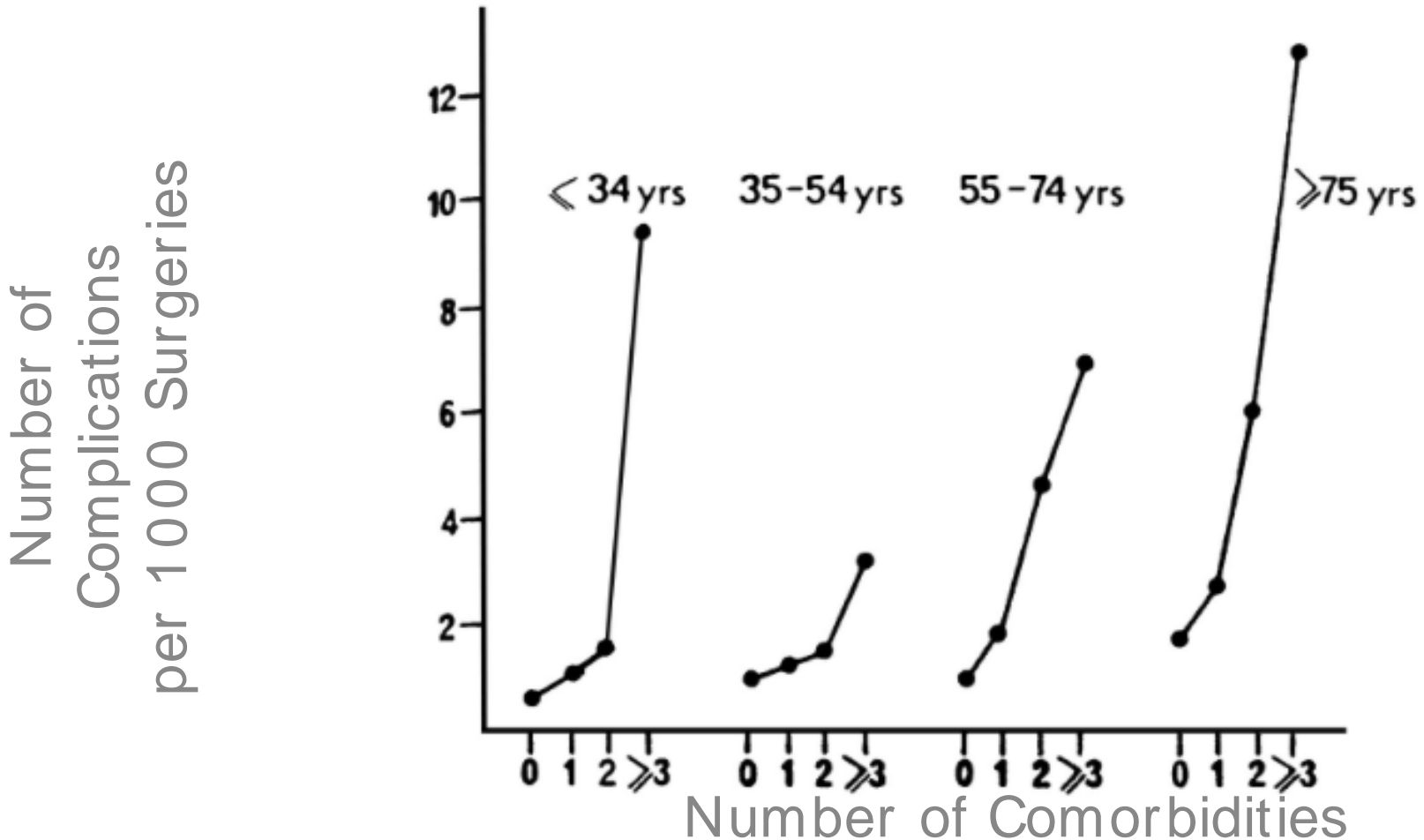
**Renal**

**Pulmonary**

# Physiological impact of aging



# Effect of comorbidities



# Preoperative Evaluation



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*Inspiring Quality  
Highest Standards, Better Outcomes*



J Am Coll Surg. 2012  
Oct;215(4):453-66





# Surgical Risk Calculator



AMERICAN COLLEGE OF SURGEONS  
*Inspiring Quality: Highest Standards, Better Outcomes*

[Risk Calculator Home Page](#) [About](#) [FAQ](#) [ACS Website](#) [ACS NSQIP Website](#)

## Welcome to the ACS NSQIP Surgical Risk Calculator

With this tool you can enter preoperative information about your patient to provide estimates regarding your patient's risk of postoperative complications.

I have read the disclaimer below

Continue

**Disclaimer:** The ACS Surgical Risk Calculator estimates the chance of an unfavorable outcome (such as a complication or death) after surgery. The risk is estimated based upon information the patient gives to the healthcare provider about prior health history. The estimates are calculated using data from a large number of patients who had a surgical procedure similar to the one the patient may have.

Please note the risk percentages provided to you by the Surgical Risk Calculator are only estimates. The risk estimate only takes certain information into account. There may be other factors that are not included in the estimate which may increase or decrease the risk of a

## Enter Patient and Surgical Information



Procedure

27442 - Arthroplasty, femoral condyles or tibial plateau(s), knee;

Clear

Begin by entering the procedure name or CPT code. One or more procedures will appear below the procedure box. You will need to click on the desired procedure to properly select it. You may also search using two words (or two partial words) by placing a '+' in between, for example: "cholecystectomy + cholangiography"

Reset All Selections



Are there other potential appropriate treatment options?  Other Surgical Options  Other Non-operative options  None

Please enter as much of the following information as you can to receive the best risk estimates.  
A rough estimate will still be generated if you cannot provide all of the information below.

## Age Group

Under 65 years

## Sex

Female

## Functional Status

Partially Dependent

## Emergency Case

No

## ASA Class

Mild systemic disease

## Steroid use for chronic condition

No

## Ascites within 30 days prior to surgery

No

## Systemic Sepsis within 48 hours prior to surgery

None

## Ventilator Dependent

No

## Disseminated Cancer

No

## Diabetes

Insulin

## Hypertension requiring medication

Yes

## Congestive Heart Failure in 30 days prior to surgery

No

## Dyspnea

No

## Current Smoker within 1 Year

Yes

## History of Severe COPD

No

## Dialysis

No

## Acute Renal Failure

No

## BMI Calculation:

Height: 59 in / 150 cm

Weight: 189 lb / 85 kg

Back

Continue

Step 2 of 4

Procedure: 27442 - Arthroplasty, femoral condyles or tibial plateau(s), knee;

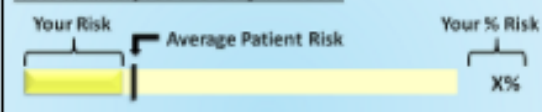
Risk: Partially dependent functional status, Diabetes (Insulin), HTN,  
Factors: Smoker, Class2 Obese

[Change Patient Risk Factors](#)

Outcomes ⓘ	Your Risk	Average Risk	Chance of Outcome
Serious Complication	6.0%	3.6%	Above Average
Any Complication	8.2%	4.6%	Above Average
Pneumonia	0.8%	0.5%	Above Average
Cardiac Complication	0.2%	0.1%	Average
Surgical Site Infection	2.8%	1.4%	Above Average
Urinary Tract Infection	2.2%	1.3%	Above Average
Venous Thromboembolism	0.5%	0.6%	Below Average
Renal Failure	0.2%	0.1%	Above Average
Readmission	4.1%	2.3%	Above Average
Return to OR	0.7%	0.4%	Above Average
Death	0.1%	0.1%	Average
Discharge to Nursing or Rehab Facility	32.9%	18.0%	Above Average

Predicted Length of Hospital Stay: 3 days

#### How to Interpret the Graph Above:



#### Surgeon Adjustment of Risks ⓘ

This will need to be used infrequently, but surgeons may adjust the estimated risks if they feel the calculated risks are underestimated. This should only be done if the reason for the increased risks was NOT already entered into the risk calculator.

1 - No adjustment necessary

[Back](#)
[Continue](#)

Step 3 of 4

**Create a report to keep:** Select how you would like to get the report.

**I would like my report:**

(You may select both options)

- E-mailed to me
- Save or Print Report (PDF)

The report will take a few seconds to create.  
Please be patient.

Finish

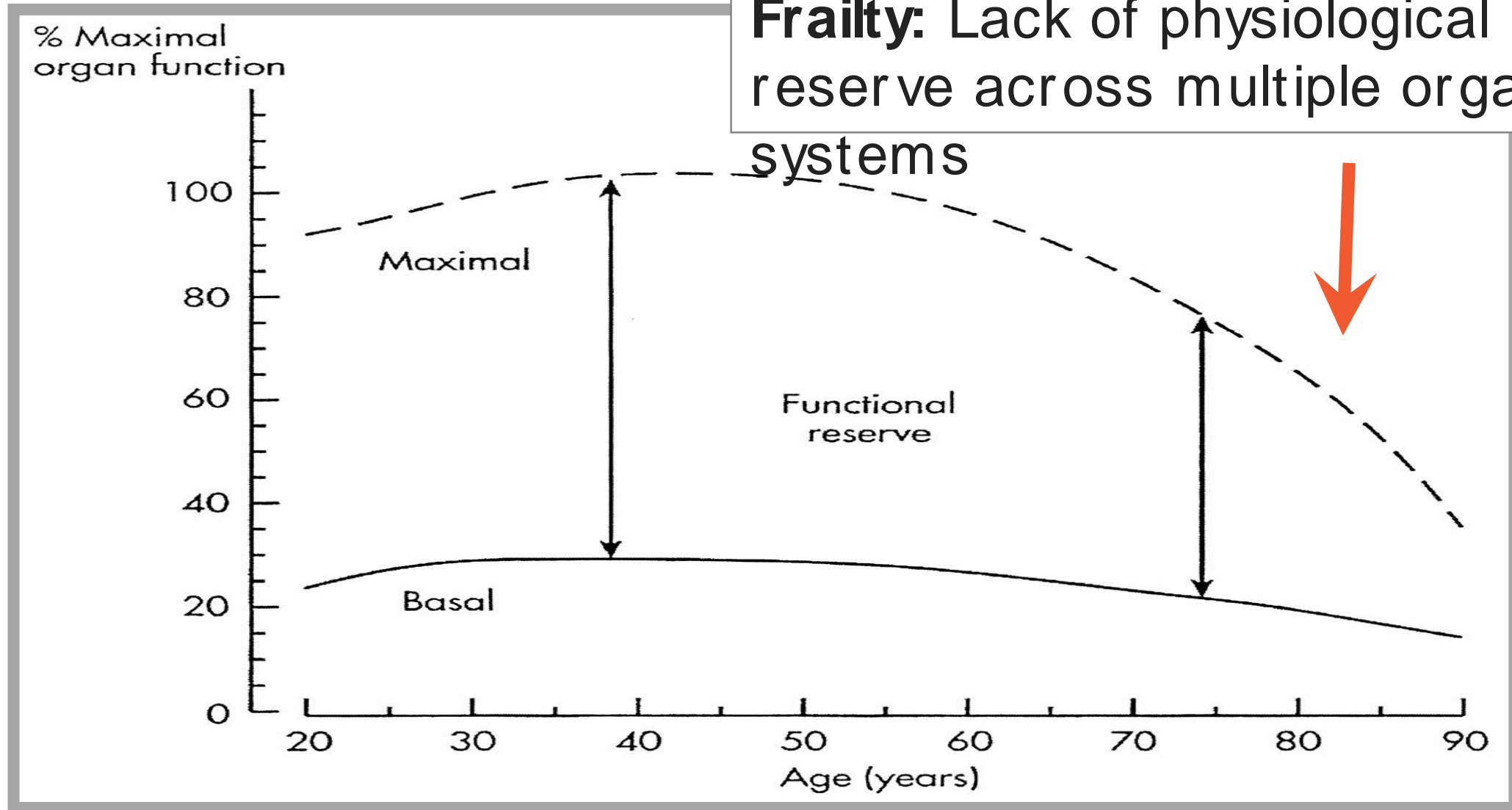
Disclaimer:

<https://riskcalculator.facs.org/RiskCalculator/>

The information contained in this report is privileged patient health information, and may be subject to protection under the law, including the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The ACS is not responsible for ensuring that this information is transmitted or stored in a secure environment.

# Functional Status: Frailty

**Frailty:** Lack of physiological reserve across multiple organ systems





**Not everyone over sixty five looks the same**

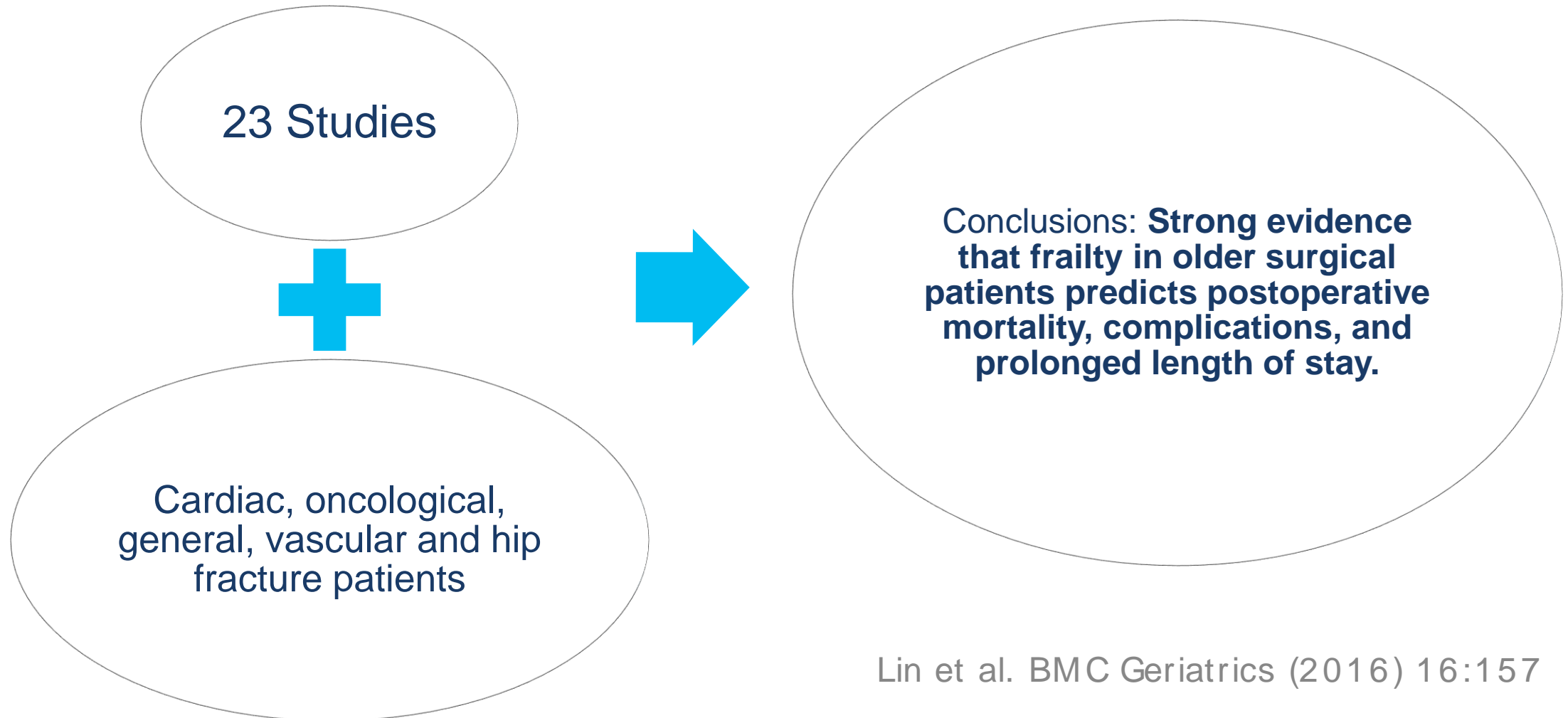




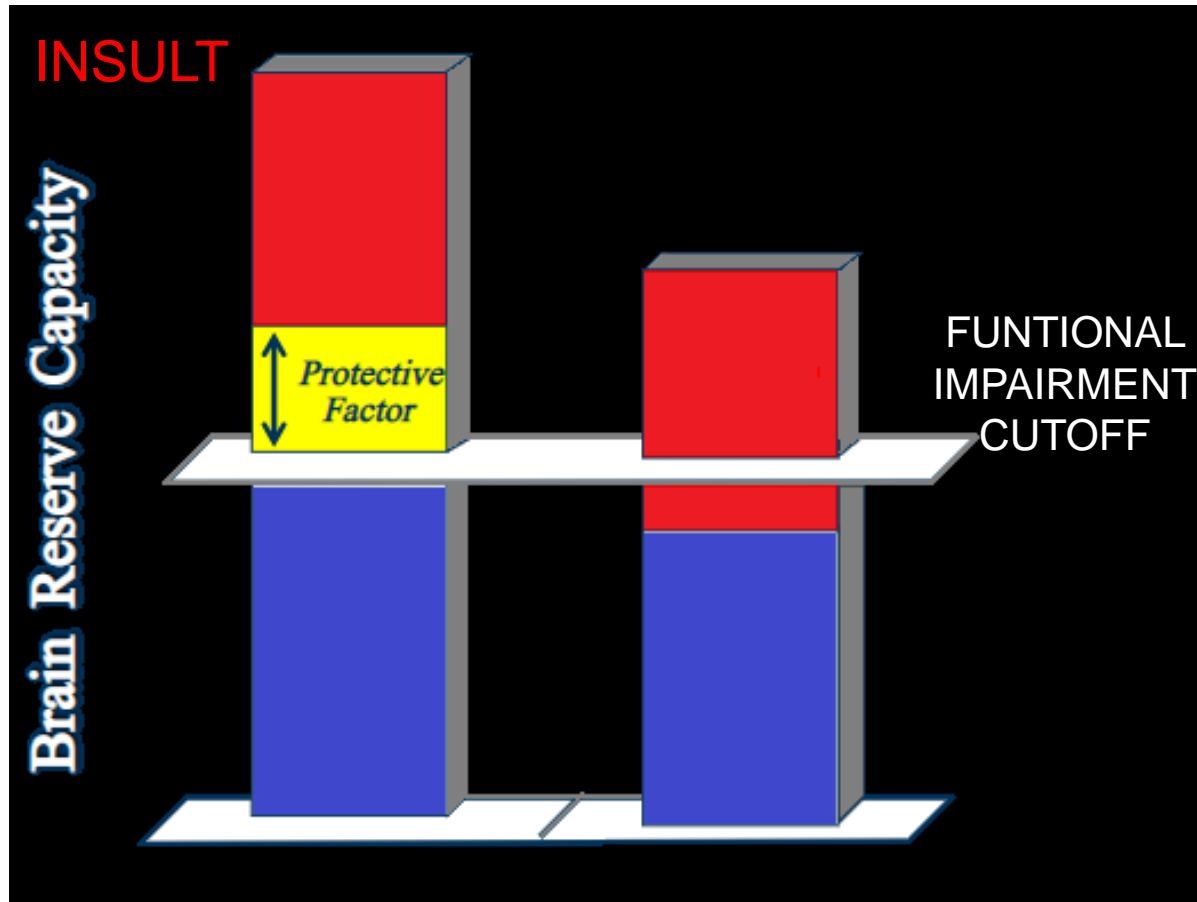
	Intermediately frail	Frail
Postoperative complications	OR = 2.06	OR = 2.54
Increased length of stay	Incidence RR 1.49	Incidence RR 1.69
Discharge to a skilled or assisted-living facility after previously living at home	OR = 3.16	OR = 20.48

# Frailty and post-operative outcomes in older surgical patients: a systematic review

Lin, H et al.



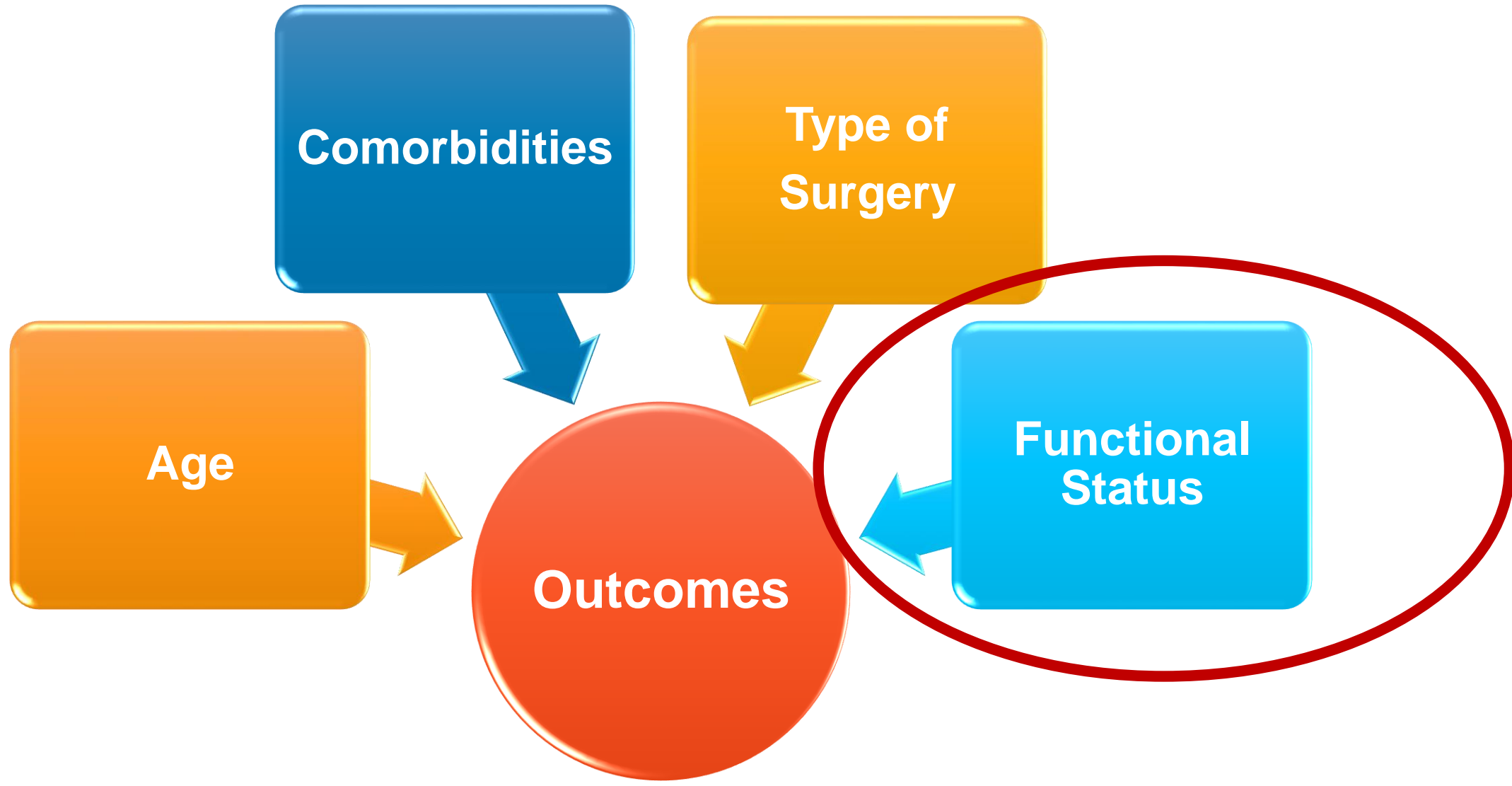
# Cognitive Reserve Threshold Theory for Cognitive Decline



A: Protective factor (greater brain Reserve Capacity) no impairment

B: Vulnerability factor (less brain reserve capacity), impairment

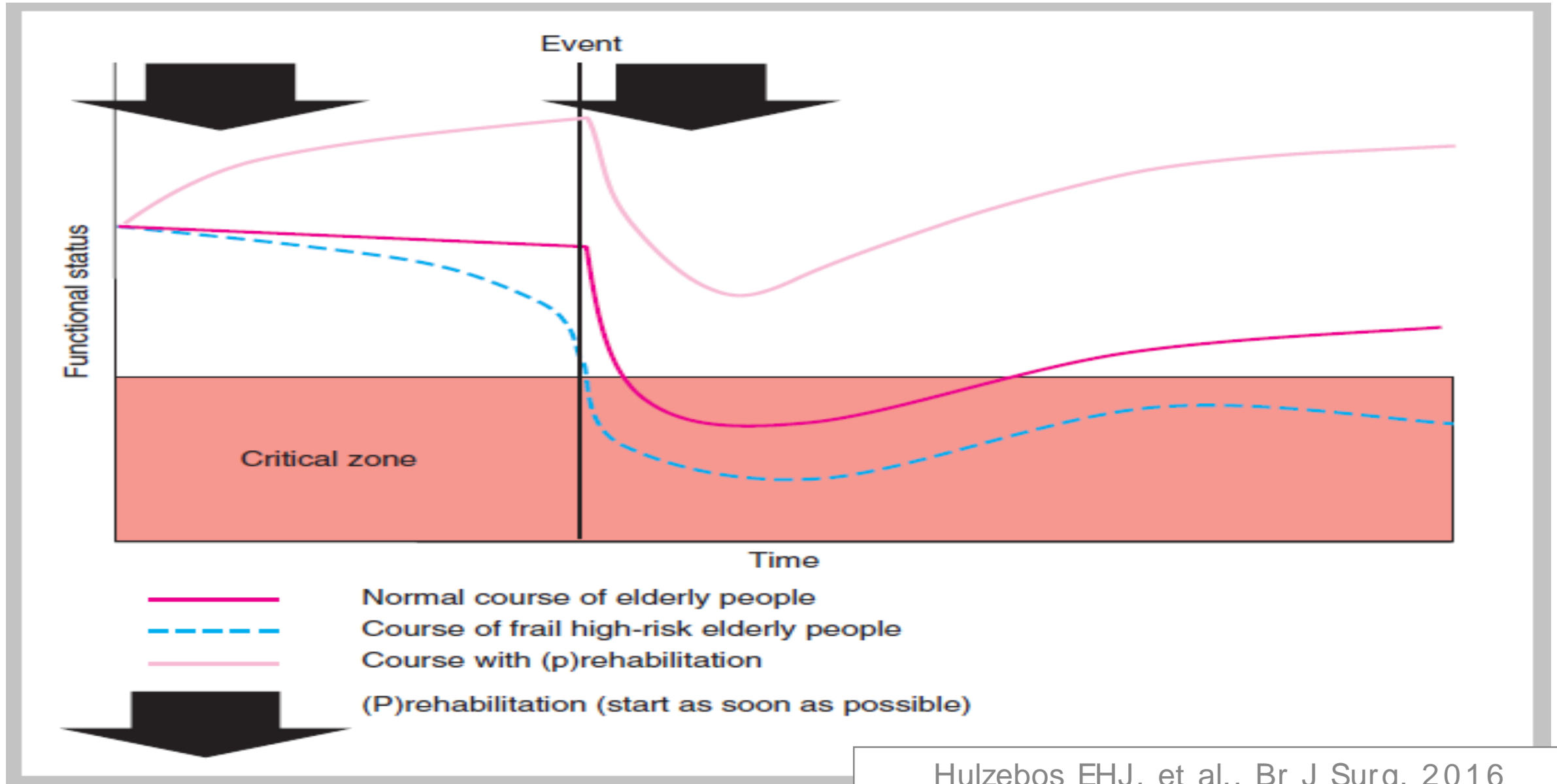
# Which One Of the Four Can Be Modified?



**Having surgery is not that much different than running a race: Are you fit for the race? Are you fit for surgery?**

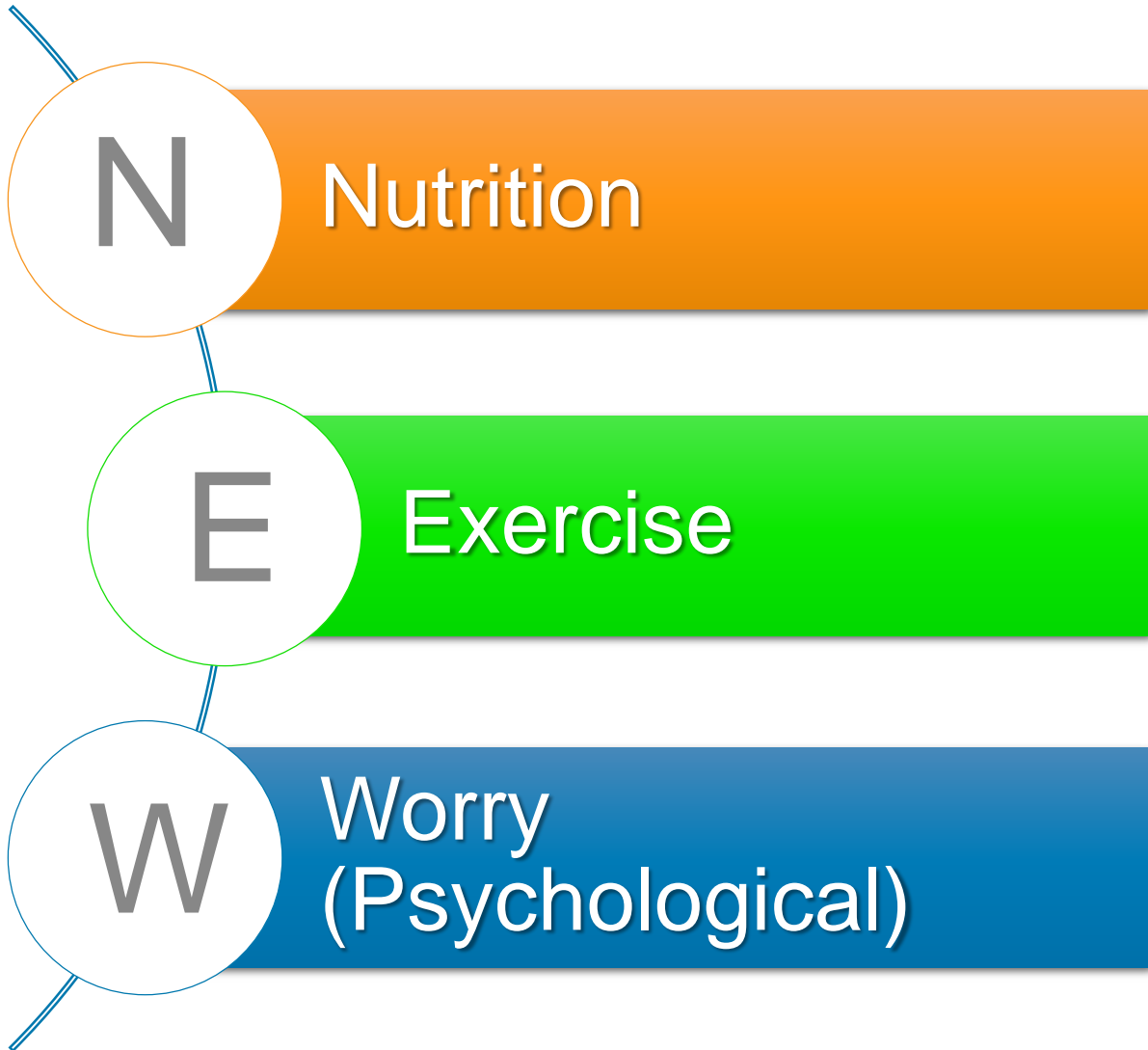


# Why pre-habilitation?



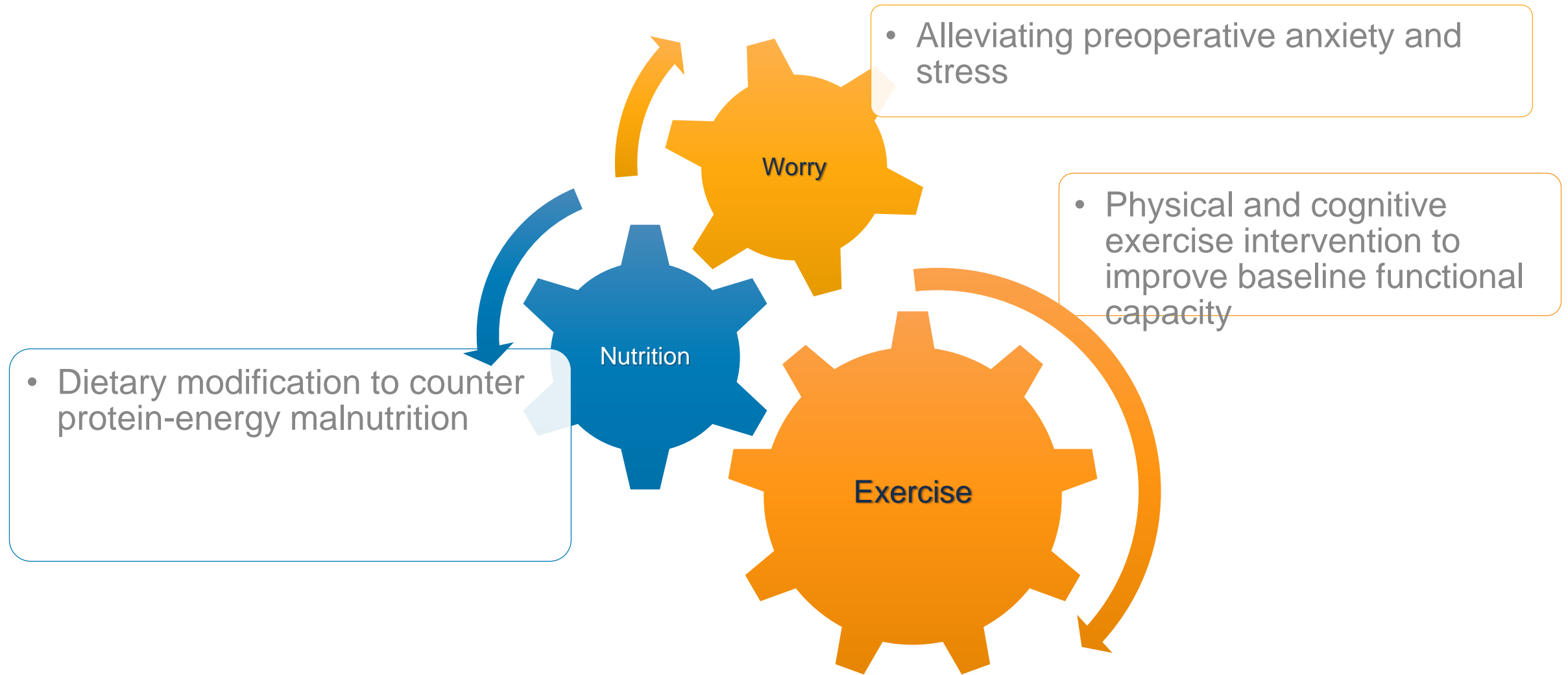


# NEW Pre-habilitation



- Physical (Cardiovascular, Respiratory, Musculoskeletal)
- Cognitive

# Interaction of the NEW Pre-habilitation components



# Resources American Society of Anesthesiology: PSH



What's new?

PSH Learning Collaborative allows board certified physicians to earn MOC Part IV credit

[Learn more >](#)

**PERIOPERATIVE  
SURGICAL HOME™**  
**in the news**

## Perioperative Surgical Home

*is a patient-centric, team-based model of care created by leaders within the American Society of Anesthesiologists to help meet the demands of a rapidly approaching health care paradigm that will emphasize gratified providers, improved population health, reduced care costs and satisfied patients.*

<https://www.asahq.org/psh>

# Resources ASA: Perioperative Brain Health Brain



American Society of Anesthesiologists® | [Contact ASA](#)

[About](#) [For Providers](#) [For Patients](#) [Research](#) [News](#)

American Society of Anesthesiologists®

## Perioperative Brain Health Initiative

*Promoting brain health for older adults around the time of surgery*

More



<https://www.asahq.org/brainhealthinitiative#news>

# ACS: Strong for Surgery

The screenshot shows the ACS website header with the logo, navigation menu, and search bar. The main content area features a sidebar with navigation links and a central image of two surgeons in a clinical setting. Below the image is a thank-you message and a paragraph of text.

**AMERICAN COLLEGE OF SURGEONS**  
*Inspiring Quality: Highest Standards, Better Outcomes*  
100+years

Become a Member > Member Login >

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American College of Surgeons > Quality Programs > Strong for Surgery

**STRONG**  
for SURGERY

Strong for Surgery

- About
- Access Toolkit
- For Clinicians
- For Patients
- News
- Frequently Asked Questions
- Inquiry Form

**Strong for Surgery**

**Thank you for your interest in Strong for Surgery.**

The American College of Surgeons (ACS) is now the new home for Strong for Surgery, and will administer and promote it as a quality initiative aimed at identifying and evaluating evidence-based practices to optimize the health of patients before surgery.

<https://www.facs.org/quality-programs/strong-for-surgery>

# Conclusions

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The Gray Tsunami is here and more procedures in older adults come with it

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Surgical Outcomes in the older adult are not good and worse in the frail

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Multifactorial – but functional capacity could be modified

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Pre-habilitation might improve outcomes

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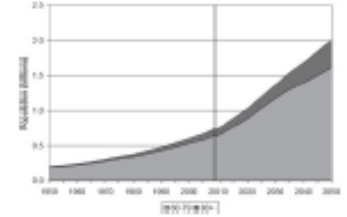
Ask your surgeon and anesthesiologist: Am I ready for surgery? Risk/Benefit?



# Questions?



# SAGGA



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