



# Incorporating the Geriatric Assessment into Clinical Practice and Clinical Trials

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4<sup>TH</sup> ANNUAL CANCER DISPARITIES SYMPOSIUM:  
DISPARITIES IN CANCER CARE FOR OLDER ADULTS

KATHRYN BYLOW, MD

## Learning Objectives

To have a better understanding of:

- The predictive and therapeutic benefits of geriatric assessment in oncology patients
- Strategies for incorporating geriatric assessments in the oncology clinic
- Importance of incorporating geriatric assessments in clinical trials

# Geriatric Assessment (GA) in the Care of Older Patients

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PREDICTIVE AND THERAPEUTIC BENEFITS



# The Cancer and Aging Crisis

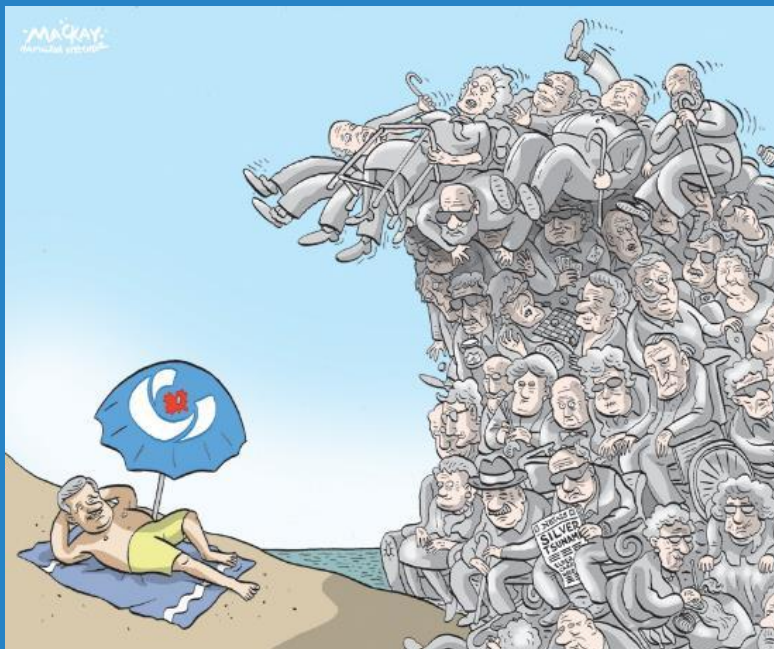
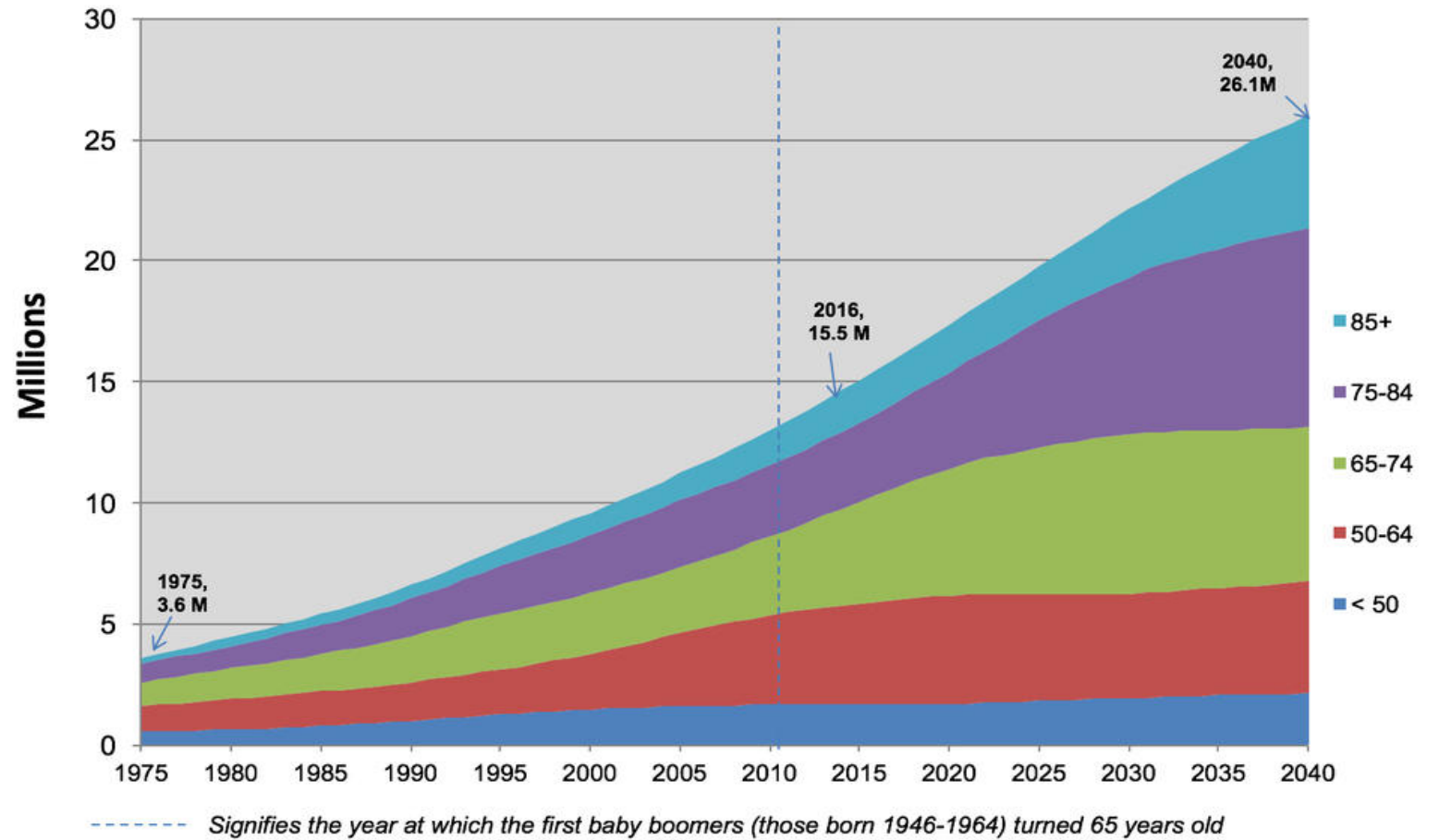
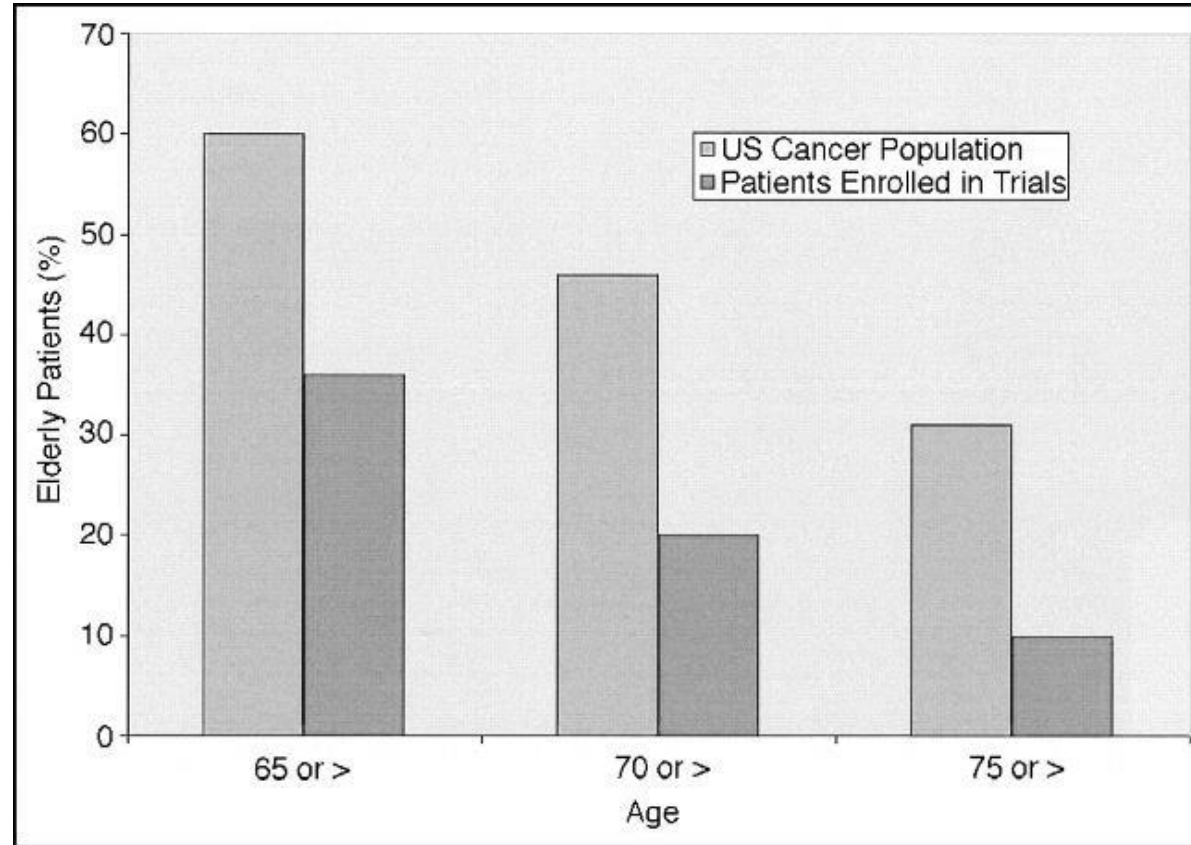


Figure 1: Estimated cancer prevalence by age in the US population from 1975 (216 M) to 2040 (380 M)



# Older patients are underrepresented in clinical trials





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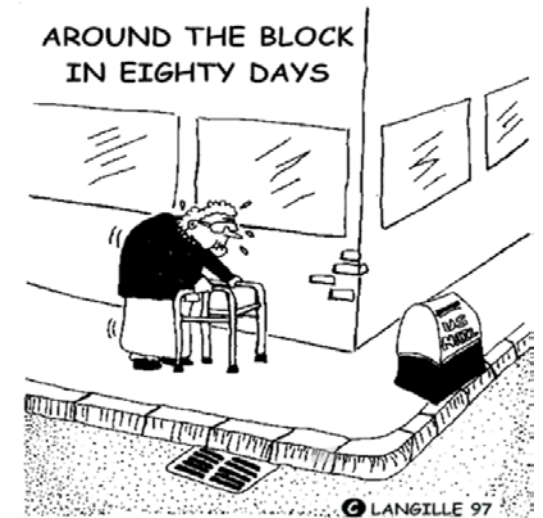
“We have an ethical obligation to improve evidence development for older adults with cancer. Our society must deliver the best possible care for all patients, and a key requirement for this is to eliminate health disparities across all groups, including those defined by age, gender, race, and socioeconomic status. One of the most glaring disparities in the field of oncology is the lack of data to guide care for older adults.”



Monica Bertagnolli, MD  
NCI Director

# Why Does Age Matter?

Physiologic change with age	Result
↓ Glomerular filtration rate	↑ Drug half life
↓ Cardiac reserve	↑ Cardiac toxicity
↓ Mucosal protective mechanism	↑ Mucositis
↓ GI motility/blood flow/absorption	↑ GI toxicity
↓ Vital capacity of lung/impaired gas exchange	↑ Toxicity from radiation
↑ Time to recovery of bone marrow	↑ Myelosuppression
↑ Dementia/MCI	↑ Delirium/AMS





# Older Patients Have Unique Issues

**There are many factors which add significant complexity when caring for the older adult with cancer**

Comorbidity

Physical Function

Mental Health

Social Support

Nutrition

Polypharmacy



At 105 years of age, Mabel was an inspiration to smokers everywhere.



# Geriatric Assessment Domains

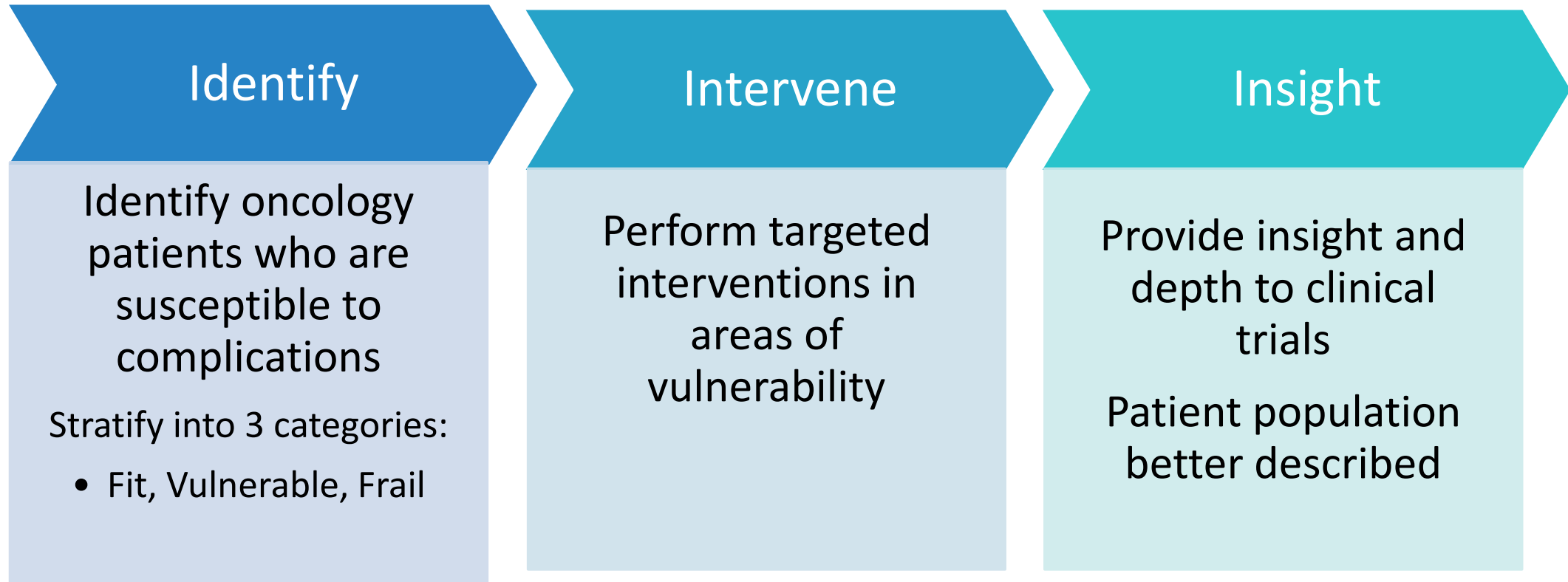


“Last one to the top is a geriatric”

Domain	Instrument
Health	Comorbidity: Charlson, CIRS-G
Function	Performance Status, IADL, ADL, Falls, SPPB, TUG, Vision, Hearing
Cognition	MMSE, MoCA, Mini-Cog
Psych	Depression: GDS, PHQ-9 Anxiety: HADS, GAD-7
Social	Living conditions, caregiver status, income, transportation
Nutrition	MNA, BMI, unintentional weight loss
Pharmacy	Drug list and interaction

# Goals of Geriatric Assessment: The 3 I's

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# Geriatric Assessment: The Concept

## Stage the Age

- Chronological age  $\neq$  Functional age
- Life expectancy should be estimated, taking into account comorbidities, disability, geriatric syndromes

## Intervene based on GA-identified vulnerabilities

## Precision Medicine for Aging

# Not the Problem

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VS



# The Problem

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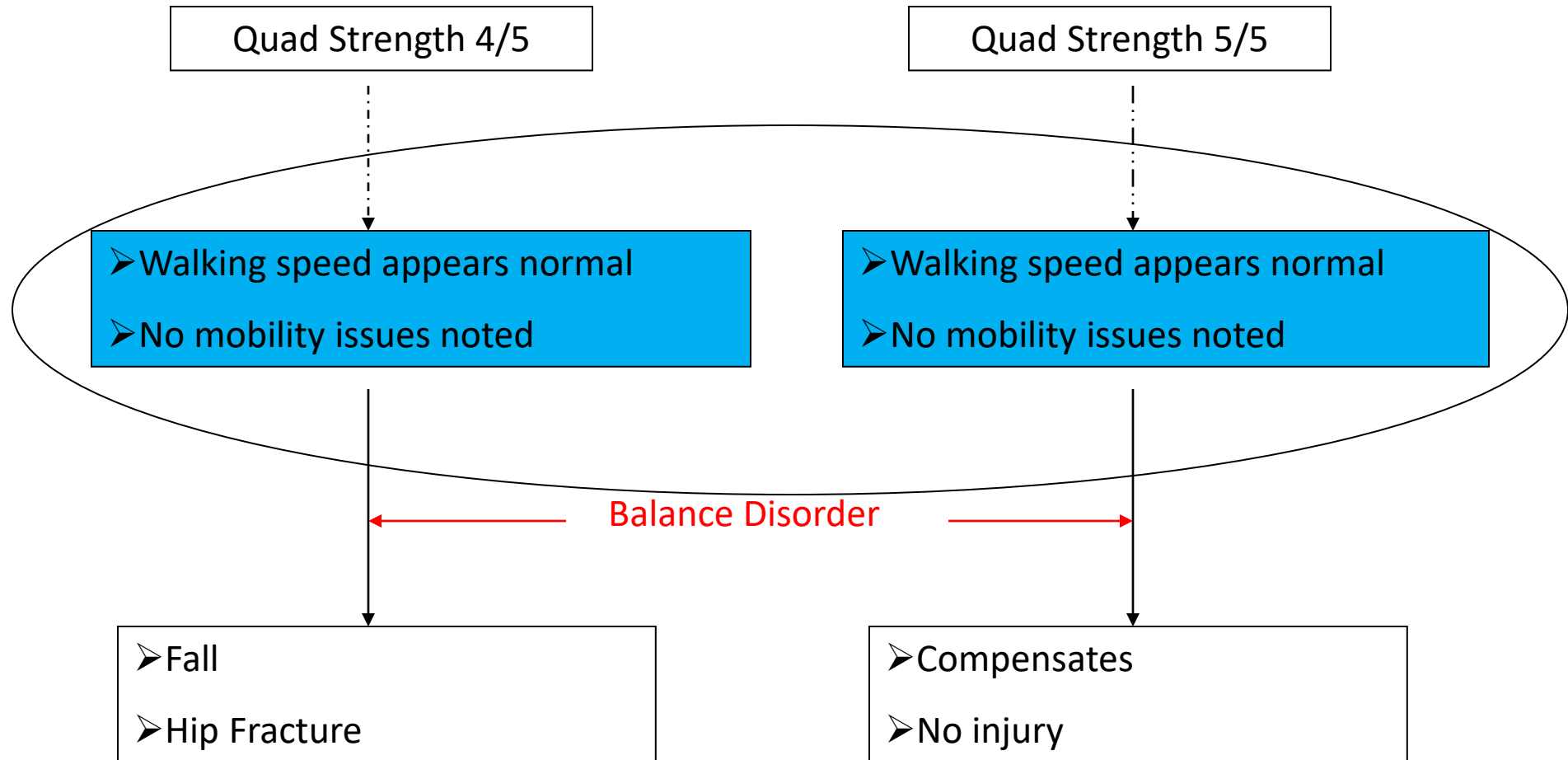
**VS**



# GA-Based Intervention and Outcome

Patient A

Patient B



# GA-Based Intervention and Outcome

Patient A

Patient B

Quad Strength 4/5  
PT → Strength maintained

Quad Strength 5/5

➤ Walking speed appears normal  
➤ No mobility issues noted

➤ Walking speed appears normal  
➤ No mobility issues noted

CGA

← Balance Disorder →

➤ Fall  
➤ Hip Fracture

➤ Compensates  
➤ No injury

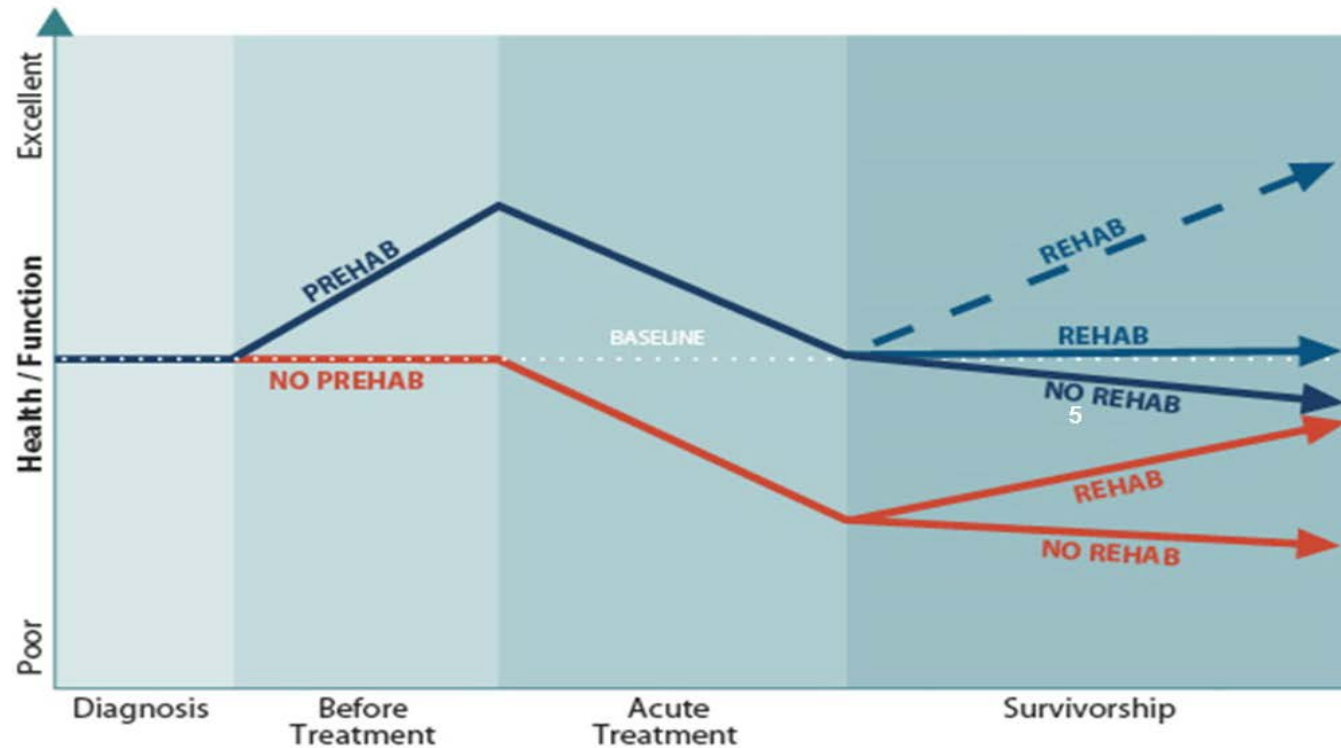




# Potential Interventions for GA-Identified Impairments

Domain of Concern/Impairment	Potential Interventions
Physical Function/Mobility	<i>Physical Medicine &amp; Rehabilitation, PT/OT, Exercise Regimen, Home Safety Evaluation</i>
Co-Morbidities	<i>Coordination w/ Specialists to Optimize Medical Conditions, Evaluation of Life Expectancy</i>
Social Function/Support	<i>Transportation Resources, SW Involvement, Support Groups, Co-Pay Assistance Programs, Caregiver Support</i>
Cognition	<i>Involve Family/Caregiver, Delirium Prevention, Identify Healthcare Proxy, Referral to Neuropsychology</i>
Psychological	<i>Complementary/Integrative Medicine, Referral to Psychiatry/Psychology, Treat Anxiety/Depression, Spiritual Care</i>
Nutrition	<i>Dietary Recommendations, Supplemental Nutrition, Identify Local Resources</i>
Polypharmacy	<i>Medication Reconciliation, De-Prescribing, Evaluate for Potential DDI</i>

# Early Intervention is Key: Be Proactive



# The Data: GA Predicts Outcomes and Affects Decisions

Predicts treatment tolerance and overall survival (BRCA)

- Clough-Gorr, et al. JCO 2010, 28(3):380

Predicts grade 3-5 toxicity

- Hurria, et al. JCO 2011, 29(25):3457

Predicts overall survival (nomogram)

- Kanavarar et al. JCO 2011, 29(27):3620

Predicts early death

- Soubeyran, et al. JCO 2012, 30(15):1829

Changes treatment decisions

- Caillet et al. JCO 2011, 29(27):3636

# The Data: GA-based Interventions Improve Outcomes

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GAP70+: GA Intervention to Reduce Treatment Toxicity in Older Patients with Advanced Cancer<sup>1</sup>

- GA summary/recommendations vs usual care
- ↓Grade 3-5 toxicity, ↓falls, ↑medications stopped

GAIN: GA Intervention on Chemo-Related Toxic Effects in Older Adults with Cancer<sup>2</sup>

- GA + multidisciplinary input vs GA + usual care
- ↓Grade 3-5 toxicity, ↑advanced directive completion

INTEGRATE: Integrated GA and Treatment in Older People with Cancer Planned for Systemic Anti-Cancer Therapy<sup>3</sup>

- GA-driven integrated oncogeriatric care vs usual care
- ↑HRQOL, ↓hospitalizations, ↓treatment discontinuation

<sup>1</sup> Mohile et al. Lancet 2021. DOI: 10.1200/JCO.22.00738

<sup>2</sup> Li et al, JAMA Oncol 2021. DOI:10.1001/jamaoncol.2021.4158

<sup>3</sup> Soo et al. JCO 2022. DOI:10.1016/S2666-7568(22)00169-6

### International Society of Geriatric Oncology Consensus on Geriatric Assessment in Older Patients With Cancer

Hans Wildiers, Pieter Heeren, Martine Puts, Eva Tapinkova, Maryska L.G. Janssen-Heijnen, Martine Extermann, Claire Falandry, Andrew Artz, Etienne Brain, Giuseppe Colloca, Johan Flamaing, Theodora Katrakis, Cindy Keris, Riccardo A. Audisio, Supriya Mohile, Lazzaro Repetto, Barbara Van Leeuwen, Koen Milisen, and Arti Hurria

Hans Wildiers, Pieter Heeren, Johan Flamaing, Cindy Keris, and Koen Milisen, University Hospitals Leuven, KU Leuven, Leuven, Leuven, Belgium;

### Older Adult Oncology, Version 1.2021 Featured Updates to the NCCN Guidelines

Efrat Dotan, MD<sup>1</sup>; Louise C. Walter, MD<sup>2</sup>; Ilene S. Browner, MD<sup>3</sup>; Katherine Clifton, MD<sup>4</sup>; Harvey Jay Cohen, MD<sup>5</sup>; Martine Extermann, MD, PhD<sup>6</sup>; Cary Gross, MD<sup>7</sup>; Sumati Gupta, MD<sup>8</sup>; Genevieve Hollis, MSN, CRNP<sup>9</sup>; Joleen Hubbard, MD<sup>10</sup>; Reshma Jaggi, MD, DPhil<sup>11</sup>; Nancy L. Keating, MD, MPH<sup>12</sup>; Elizabeth Kessler, MD<sup>13</sup>; Thuy Koll, MD<sup>14</sup>; Beatriz Kore-Grodzicki, MD, PhD<sup>15</sup>; June M. McKoy, MD, MBA, JD, MPH<sup>16</sup>; Sumi Misra, MD<sup>17</sup>; Dominic Moon, MD<sup>18</sup>; Tracey O'Connor, MD<sup>19</sup>; Cynthia Owusu, MD, MS<sup>20</sup>; Ashley Rosko, MD<sup>21</sup>; Marcia Russell, MD<sup>22</sup>; Mina Sedrak, MD, MS<sup>23</sup>; Fareeha Siddiqui, MD<sup>24</sup>; Amy Stella, MD<sup>25</sup>; Derek L. Stirewalt, MD<sup>26</sup>; Ishwaria M. Subbiah, MD, MS<sup>27</sup>; William P. Tew, MD<sup>28</sup>; Grant R. Williams, MD<sup>29</sup>; Liz Hollinger, BSN, RN<sup>30</sup>; Giby V. George, MD<sup>31</sup>; and Hema Sundar, PhD<sup>32</sup>

### Practical Assessment and Management of Vulnerabilities in Older Patients Receiving Systemic Cancer Therapy: ASCO Guideline Update

William Dale, MD, PhD<sup>1</sup>; Heidi D. Klepin, MD, MS<sup>2</sup>; Grant R. Williams, MD, MSPH<sup>3</sup>; Shabbir M.H. Alibhai, MD<sup>4</sup>; Cristiane Bergerot, PhD<sup>5</sup>; Karlynn Brintzenhofszoc, PhD, MSW<sup>6</sup>; Judith O. Hopkins, MD<sup>7</sup>; Minaxi P. Jhaver, MD<sup>8</sup>; Vani Katheria, MS<sup>9</sup>; Kah Poh Loh, MBBCh BAO, MS<sup>10</sup>; Lisa M. Lowenstein, PhD<sup>11</sup>; June M. McKoy, MD, MPH, JD, MBA<sup>12</sup>; Vanita Noronha, MD<sup>13</sup>; Tanyanika Phillips, MD<sup>14</sup>; Ashley E. Rosko, MD<sup>15</sup>; Tracy Ruegg, PhD, ANP<sup>16</sup>; Melody K. Schiaffino, PhD<sup>17</sup>; John F. Simmons Jr, MD<sup>18</sup>; Ishwaria Subbiah, MD<sup>19</sup>; William P. Tew, MD<sup>20</sup>; Tracy L. Webb, PA-C<sup>21</sup>; Mary Whitehead, BFA<sup>22</sup>; Mark R. Somerfield, PhD<sup>23</sup>; and Supriya G. Mohile, MD, MS<sup>24</sup>

DOI: <https://doi.org/10.1200/JCO.23.00933>

# GA is recommended by ASCO, NCCN, SIOG



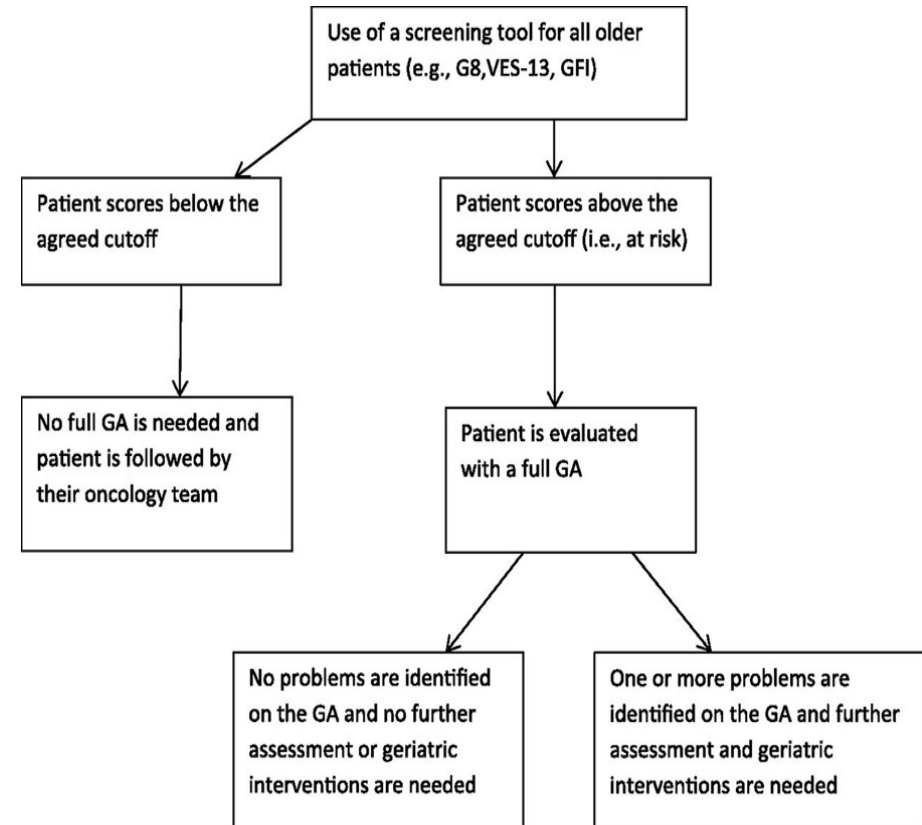
## Incorporating Geriatric Assessment in the Clinic

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# Geriatric Assessment: The Challenge

## How do you fit GA in a very busy oncology clinic?

- Identify those at highest risk with screening tool
  - VES-13, G8
- Use EMR to screen if possible





# Geriatric Assessment: The Challenge

## What if you are in an area with limited resources?

- Maximize use of patient completed assessments
  - Use EMR when possible
- Use virtual visits to access subspecialty care when needed
  - Set up room with VV capability for those without computer/wifi access

Item	Score
Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing, or swallowing difficulties?	0
Severe decrease in food intake	0
Moderate decrease in food intake	-1
No decrease in food intake	+2
Weight loss during the last 3 months, kg	0
>3 kg (>6.6 lb)	0
Does not know	+1
1-3 kg (2.2 - 6.6 lb)	-2
No weight loss	+3
Mobility	0
Bed or chair bound	0
Able to get out of bed/ chair but does not go out	+1
Goes out	+2
Neuropsychological conditions	0
Severe dementia or depression	0
Mild dementia	-1
No psychological conditions	+2

Body mass index (BMI), kg/m<sup>2</sup>

<19 kg/m <sup>2</sup>	0
19 to <21 kg/m <sup>2</sup>	+1
21 to <23 kg/m <sup>2</sup>	+2
>23 kg/m <sup>2</sup>	+3

Takes more than three prescription drugs per day

Yes	0
No	+1

In comparison with other people of the same age, how does the patient consider their health status?

Not as good	0
Does not know	+0.5
As good	+1
Better	+2

Age, years

>85	0
80-85	+1
<80	+2

**17 points**  
Full geriatric evaluation not necessary

Copy Results | Next Steps

Next Steps | Evidence | Creator Insights

2023 ASCO ANNUAL MEETING #ASCO23 PRESENTED BY: Elizabeth R Kessler, MD  
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Rostoft et al J Clin Oncol 2021  
Momota et al Int J Urol 2020  
MDCalc accessed 5/21/2023

AMERICAN SOCIETY OF  
CLINICAL ONCOLOGY  
KNOWLEDGE CONQUERS CANCER

<https://www.mdcalc.com/calc/10426/g8-geriatric-screening-tool>

# Implementing GA in a busy clinic

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## DONE BEFORE VISIT

Patient completes before visit
ADLs, IADLs
Fall risk (Have you fallen in the past 6 mo)
Physical function assessment
Depression/Anxiety
Unintentional Weight loss
Comorbidity assessment
Social Support assessment
Updates medications

## DONE DURING VISIT

Staff does during visit	
CARG chemotherapy toxicity	Online form
Life expectancy	Online form
Cognitive assessment	In person eval (5 min)
Physical Assessment	In person eval (2-5 min)
Pharmacy Review	Pharmacist review pre or during visit

# Online Resources

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Screening for  
vulnerability/need for GA:  
G8

- <https://www.mdcalc.com/calc/10426/g8-geriatric-screening-tool>

Life expectancy:  
Lee Schonberg Index

- <https://eprognosis.ucsf.edu/leeschonberg.php>

Risk of chemotherapy  
toxicity: CARG chemo-  
toxicity calculator

- [https://www.mycarg.org/?page\\_id=2405](https://www.mycarg.org/?page_id=2405)

# Online Resources

## CARG CHEMO-TOXICITY CALCULATOR

The screenshot shows the CARG Chemo-Toxicity Calculator interface. It features a series of input fields on the left and corresponding output values on the right. The inputs include Gender (Male), Patient's Age (81), Patient's Height (1.8m), Patient's Weight (92kg), Cancer Type (GI), Dosage (Standard vs. reduced), Number of chemotherapy agents (Mono vs. poly), Hemoglobin (>11), Hearing status (Good), Falls (1 or more), Medication management (Without help), Health limitation (Limited a little), Interference (Some of the time), Serum Creatinine (0.8), and Creatinine Clearance (G3-5 AEs). The final output shows a Toxicity Score of 72% (standard, poly), 59% (reduced, poly), 59% (standard, mono), and 44% (reduced, mono). A 'Submit' button and a link 'What does this mean?' are also visible.

## LEE SCHONBERG INDEX (LIFE EXPECTANCY)

The screenshot shows the Lee Schonberg Index (Life Expectancy) calculator interface. It includes a 'Risk Calculator' section with 15 questions and a 'Calculate Risk' button. The questions are:

- How old is your patient? (80-84)
- What is the sex of your patient? (Female, Male)
- What is your patient's BMI? (> 25)
- Which best describes your patient's health in general? (Fair or Poor)
- Does your patient have chronic lung disease, such as emphysema or chronic bronchitis? (Yes, No)
- Does the lung disease limit usual activities (such as household chores or work) or require home oxygen? (Yes, No)
- Has your patient ever had cancer (excluding minor skin cancers)? (Yes, No)
- Does your patient have congestive heart failure? (Yes, No)
- Does your patient have diabetes or high blood sugar? (Yes, No)
- Which best describes your patient's cigarette use? (Former Smoker)
- Does your patient have difficulty walking 1/4 mile (several city blocks) without help from other people or special equipment? (Yes, No)
- During the past 12 months, how many times was your patient hospitalized overnight? (Once)
- Because of a physical, mental or emotional problem, does your patient need the help of others in handling routine needs such as everyday household chores, doing necessary business, shopping, or getting around for other purposes? (Yes, No)
- Because of a health or memory problem, does your patient have difficulty managing money - such as paying bills and keeping track of expenses? (Yes, No)
- Because of a health or memory problem, does your patient have difficulty with bathing or showering? (Yes, No)
- Because of a health problem, does your patient have difficulty pushing or pulling large objects like a living room chair? (Yes, No)

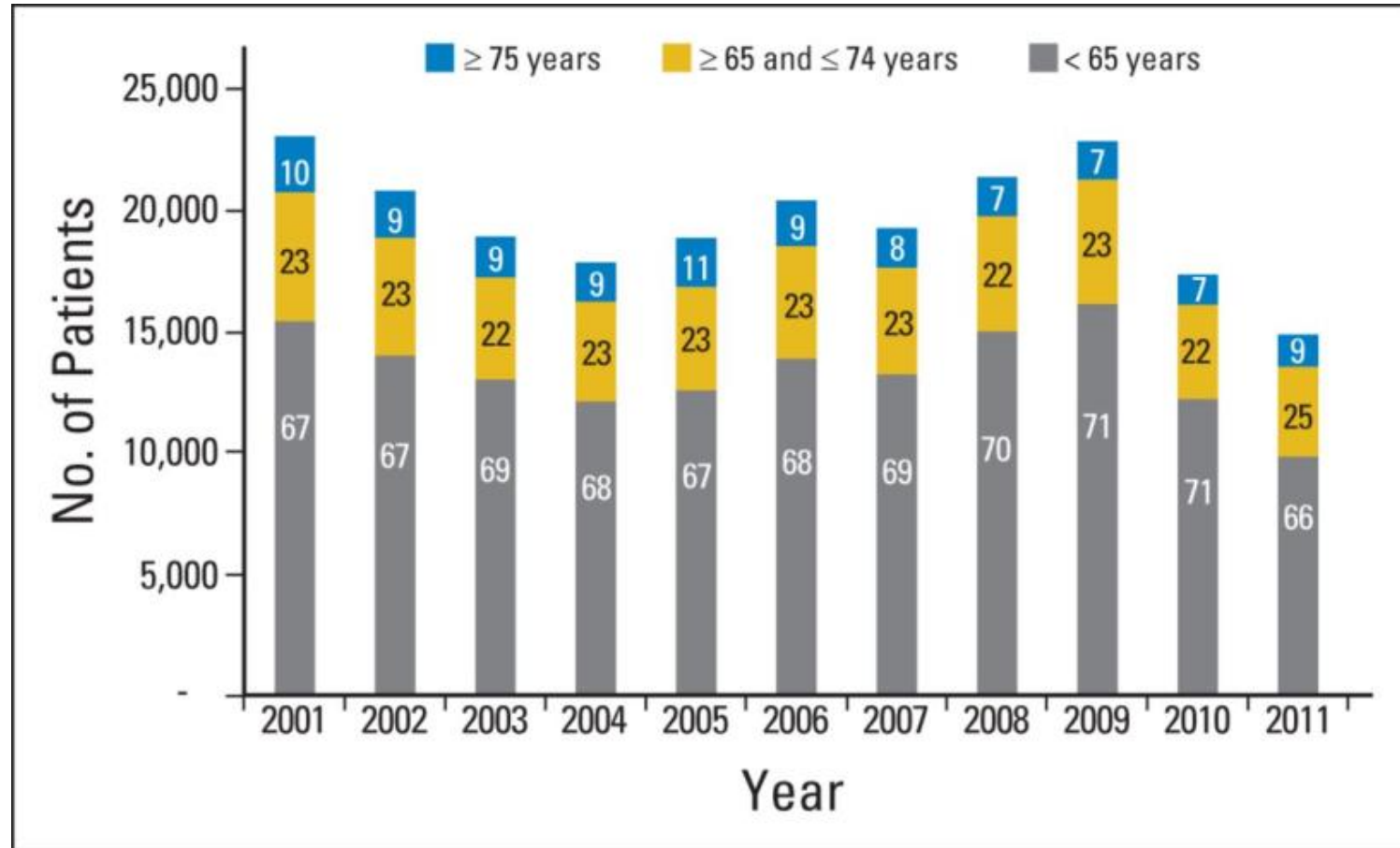
The calculator also displays 'Total Lee Index Points: 11' and 'Total Schonberg Index Points: 18'. A 'Your best guess at 10 year mortality risk' is shown as 70-82%.

# Incorporating Geriatric Assessment in Research

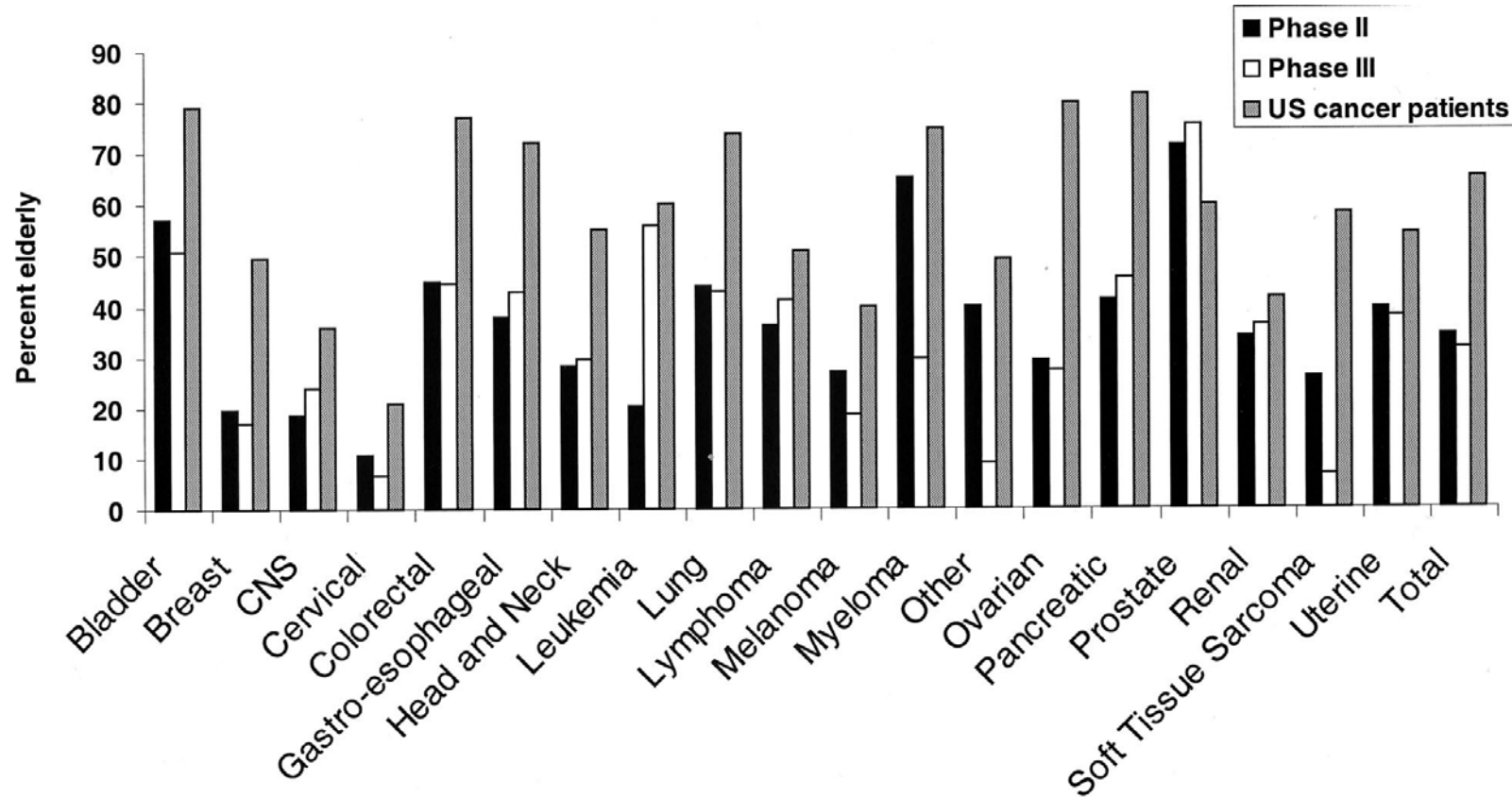
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WE MUST DO BETTER

# Older Patients 75+ on Clinical Trials

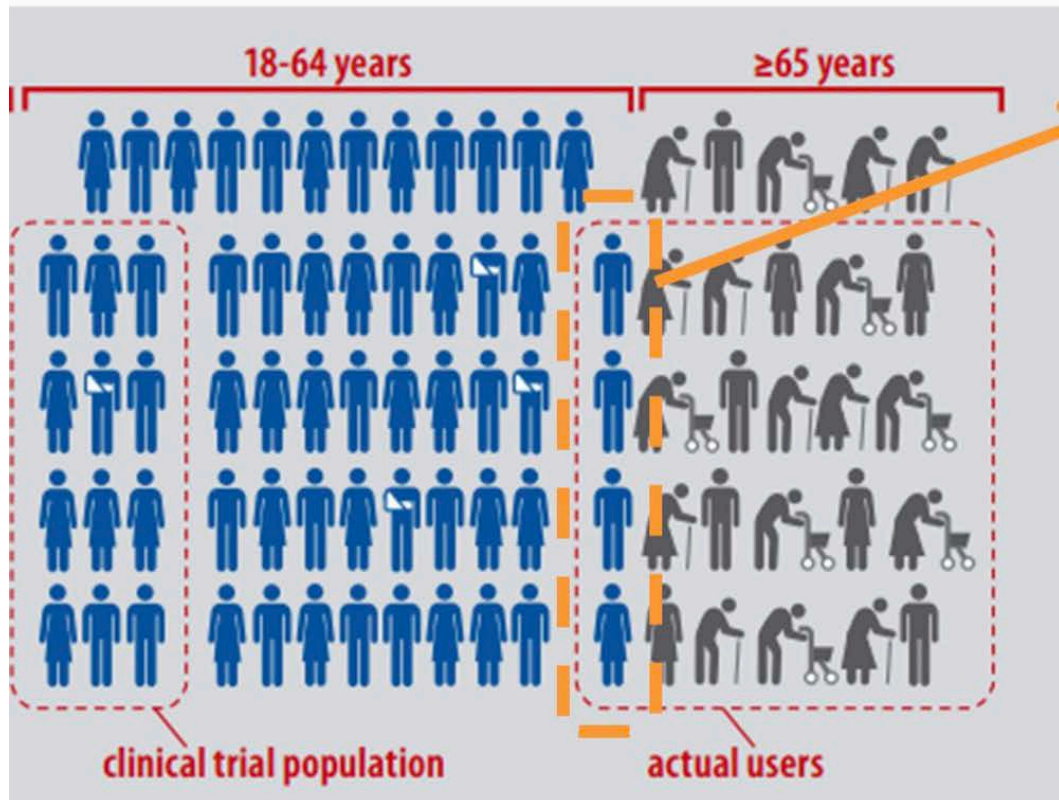


# Older patients are underrepresented across tumor types





# Older patients on trials are not representative of the general population



Older patients on trials are NOT representative of general population:

- Younger
- More fit
- Fewer comorbidities
- Less organ dysfunction

# We don't know how to treat older patients with cancer

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- Institute of Medicine (IOM) developed a committee to address the many issues facing the future of cancer care
  - Delivering High-Quality Cancer Care: Charting a New Course for a System in Crisis ([www.iom.edu/qualitycancercare](http://www.iom.edu/qualitycancercare))
- One of the issues identified by this group was the need for evidence-based guidelines for the growing geriatric population who have cancer

# 01

Goal 1: *Expand the breadth of data collected on cancer interventions for older adults and individuals with multiple comorbid conditions*

- Bottom Line: Increase older patients on trial, especially 75 and older

# 02

Goal 2: *Expand the depth of data available for assessing interventions*

- Bottom line: Collect detailed information about comorbidity, functional status and QOL

## IOM Goals and Recommendations



# Strategies To Improve Data Collection in Clinical Trials

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Use standardized GA measures and enhance data collection and reporting requirements to reflect endpoints relevant to older adults (QOL)



Assess frailty, comorbidities, meds for clinical trial participants (CGA)



Expand FDA authority to require submission of data for representative patient population



Expand FDA authority to require and enforce post-marketing commitments for studies of older adults

# Strategies to incorporate GA in research

Develop	Develop trials specifically designed to enroll older adults
Include	Include a cohort of older patients in trials <ul style="list-style-type: none"><li>• Parallel, stratified, embedded</li></ul>
Use	Use pragmatic design elements <ul style="list-style-type: none"><li>• Inclusion/exclusion criteria, minimize visits needed</li></ul>
Increase	Increase number of trials in the community

# Multidisciplinary Team Plays a Role

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ISSUE	PROVIDER NEEDED
Cancer Care	Oncologist/APP/Nurse/MA
Comorbidity	Geriatrician/PCP/APP
Physical Function	Physical and Occupational Therapist/PMR
Mental Health	Psychiatrist/Psychologist
Social Situation	Social Worker
Nutrition	Dietician
Polypharmacy	Pharmacist
End of Life	Palliative Care/Spiritual Workers

# Shortage of Providers for Older Patients with Cancer

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- Potential shortfall of 1,500 oncologists in 2025
- It is estimated that approximately 30,000 geriatricians will be needed by 2030
  - Currently ~ 7500 geriatricians
- Less than 1% of RNs, pharmacists, and physician assistants and about 2.6% of APNPs are certified in geriatrics
- Approximately 4% of social workers specialize in geriatrics

**WE NEED TO LEARN HOW TO DO THIS IN CLINIC WITHOUT SUBSPECIALTY HELP**



# Summary

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- GA plays a key role in optimal care of older patients
- We need to incorporate GA in oncology clinics without the help of subspecialists
- We know shockingly little about how older patients with cancer tolerate systemic therapy
- Urgent need to increase breadth and depth of data for older patients with cancer
  - Incorporating GA in trials is critical

**The time to act is NOW**

*“As older patients become the majority of the patients we evaluate and treat, they need to become the focus of our endeavors. Our elders deserve nothing less.”*

*—Stuart M. Lichtman, MD*



Always remember...

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