rete oncologica

CONVEGNO DI ONCOGERIATRIA

AC Hotel Via Bisalta, 11 - Torino
Venerdì 18 gennaio 2019

9.20 La complessità e la fragilità del paziente anziano. *Mario Bo.*

RESPONSABILI SCIENTIFICI:
Daniela Marenco e Renata Marinello

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

Approaches that are based on **mortality patterns** and **disease** prevalence reveal only part of what might make up so-called «**health**» in older age. The **presence of a health disorder says nothing about the effect it might have**

The multifacetd **dynamics between underlying physiological change, chronic disease, and multimorbidity** can also result in **health states in older age that are not captured at all by traditional disease classifications**…these are commonly known as «geriatric syndromes», although there is still some debate as to what disorders they include

(*Circ Res*. 2018;123:740-744.

Time and the Metrics of Aging

Luigi Ferrucci, Morgan E. Levine, Pei-Lun Kuo, Eleanor M. Simonsick

The Metrics of Aging

Functional Aging (impact on daily life)

- Cognitive Function
- Physical Function
- Mood
- Mental Health

Phenotypic Aging (phenotypes that change)

- Body Composition
- Energetics
- Homeostatic Mechanisms
- Brain health

Biological Aging (root mechanisms)

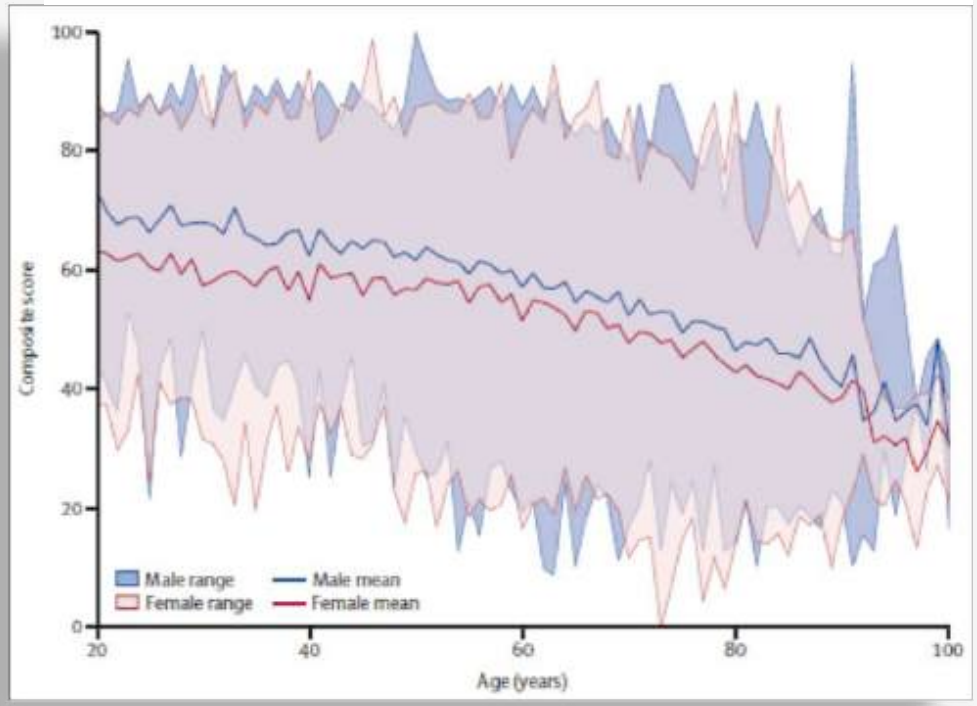
- Molecular Damage
- Defective Repair
- Energy Exhaustion
- Signal/Noise Reduction

DISEASE BURDEN

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

Figure 3: Range and mean intrinsic capacity of men and women in countries in the Study on global AGEing and adult health 2007–2010 (wave 1)[42]



La **capacità intrinseca** di una persona è la sommatoria delle **capacità o potenzialità fisiche e mentali** di un individuo in ogni momento della sua vita


Alta capacità intrinseca
Cattive
Condizioni di salute
Ottime
Deteriorato
Status psico-mentale
Integro
Compromessa
Integrità fisica
Conservata
Bassa capacità intrinseca

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

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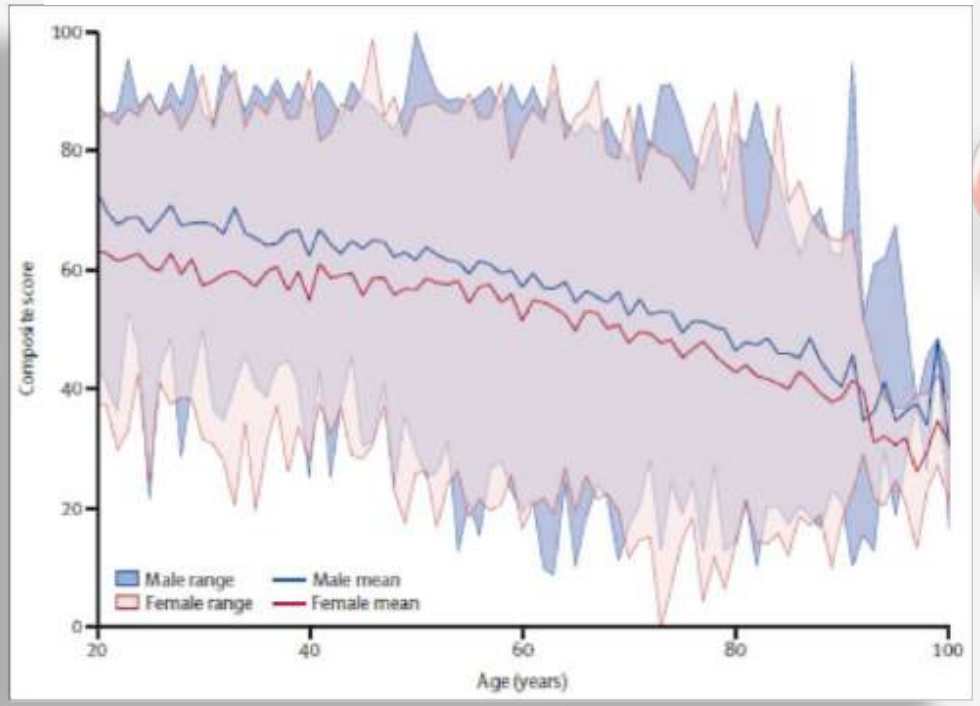

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Capacità intrinseca individuale

Fattori socio-ambientali

↓

Autonomia funzionale individuale

↓

Salute o Benessere dell'anziano

Dimettiamo quindi il/la sig XY, di anni 87, con diagnosi di cardiopatia ischemico-ipertensiva-valvolare (stenosi aortica severa), scompensata, in occasione di FA rapida di primo riscontro; BPCO lieve; MGUS; DM2 non insulino-trattato; IRC lieve.

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MMSE 30/30
(cognitivamente integro)
ADL: indipendente
IADL: autonomo
MPI: 0.18
GDS: 1

MMSE 25/30
(impairment cognitivo lieve)
ADL: parzialmente indipendente
IADL: parziale autonomia
MPI: 0.45
GDS: 2

MMSE 18/30
(impairment cognitivo severo)
ADL: dipendente
IADL: non autonomo
MPI: 0.71
GDS: 1

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

This complexity of health states in older age means that **disease-based conceptualizations are inadequate proxies for health in older persons**. Rather than the presence or absence of disease, **the most important consideration for an older person is likely to be their functioning**. **Comprehensive assessment of functioning in older age are also much better predictors of survival and other outcomes** than the presence of diseases or even the extent of comorbidities.

1. Aspetti biomedici:

CGA

- Diagnosi clinica (impatto funzionale, reversibilità/modificabilità)
- Farmaci (appropriatezza terapeutica e interazioni)
- Stato nutrizionale (MNA)
- Funzioni sensoriali percettive
- Polipatologia e comorbilità (Charlson, CIRS, APACHE)

2. Aspetti psico-cognitivi:

- Funzioni cognitive (MMSE, SPMSQ)
- Stato emotivo (GDS)
- Rischio Delirium
- Alterazioni comportamentali

3. Aspetti funzionali:

- Autonomia basale/strumentale/spostamenti (ADL, IADL, Barthel)
- Mobilità (SPPB, 6minWDT)
- Sarcopenia (hand-grip, bioimpenenziometria, SPPB, stand-up)
- Fragilità (Frailty phenotype, Green, ecc)

3. Aspetti sociali: supporto familiare-assistenziale
4. Qualità della vita: NPH, SIP, QUALYS
5. Stress dei familiari: RSS, CBI
6. Indicatori Prognostici: MPI





Che cosa è la «fragilità» e chi è l'anziano «fragile»?








Da un punto di vista geriatrico, la **FRAGILITA'** è una sindrome tra i molteplici domains esplorati nella **Valutazione Geriatrica Multidimensionale** dell'anziano, sulla base della quale è possibile effettuare un'adeguata stratificazione prognostica dell'anziano e definire i percorsi terapeutici medici e procedurali più appropriati.

Di contro, nel lessico comune, il termine **ANZIANO FRAGILE** viene solitamente utilizzato in modo soggettivo per identificare un paziente che in ragione di comorbilità, precario stato di salute generale, ridotta o marginale autonomia funzionale, impairment cognitivo, presenta una prognosi precaria e incerti benefici da procedure interventistiche o terapie mediche




Journal of Gerontology: MEDICAL SCIENCES
2001, Vol. 56A, No. 3, M146-M156

Frailty in Older Adults: Evidence for a Phenotype

Linda P. Fried,[1] Catherine M. Tangen,[2] Jeremy Walston,[1] Anne B. Newman,[3] Calvin Hirsch,[4] John Gottdiener,[5] Teresa Seeman,[6] Russell Tracy,[7] Willem J. Kop,[8] Gregory Burke,[9] and Mary Ann McBurnie[2] for the Cardiovascular Health Study Collaborative Research Group

Increasingly, geriatricians define frailty as a biologic syndrome of decreased reserve and resistance to stressors, resulting from cumulative declines across multiple physiologic systems, and causing vulnerability to adverse outcomes (9–13). This concept distinguishes frailty from disability (9,10,14,15). There is a growing consensus that markers of frailty include age-associated declines in lean body mass, strength, endurance, balance, walking performance, and low activity (9,10,14–17), and that multiple components must be present clinically to constitute frailty

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Table 1. Operationalizing a Phenotype of Frailty

A. *Characteristics of Frailty*	B. *Cardiovascular Health Study Measure**
Shrinking: Weight loss (unintentional) Sarcopenia (loss of muscle mass)	Baseline: >10 lbs lost unintentionally in prior year
Weakness	Grip strength: lowest 20% (by gender, body mass index)
Poor endurance; Exhaustion	"Exhaustion" (self-report)
Slowness	Walking time/15 feet: slowest 20% (by gender, height)
Low activity	Kcals/week: lowest 20% males: <383 Kcals/week females: <270 Kcals/week
	C. *Presence of Frailty*
	Positive for frailty phenotype: ≥3 criteria present
	Intermediate or prefrail: 1 or 2 criteria present

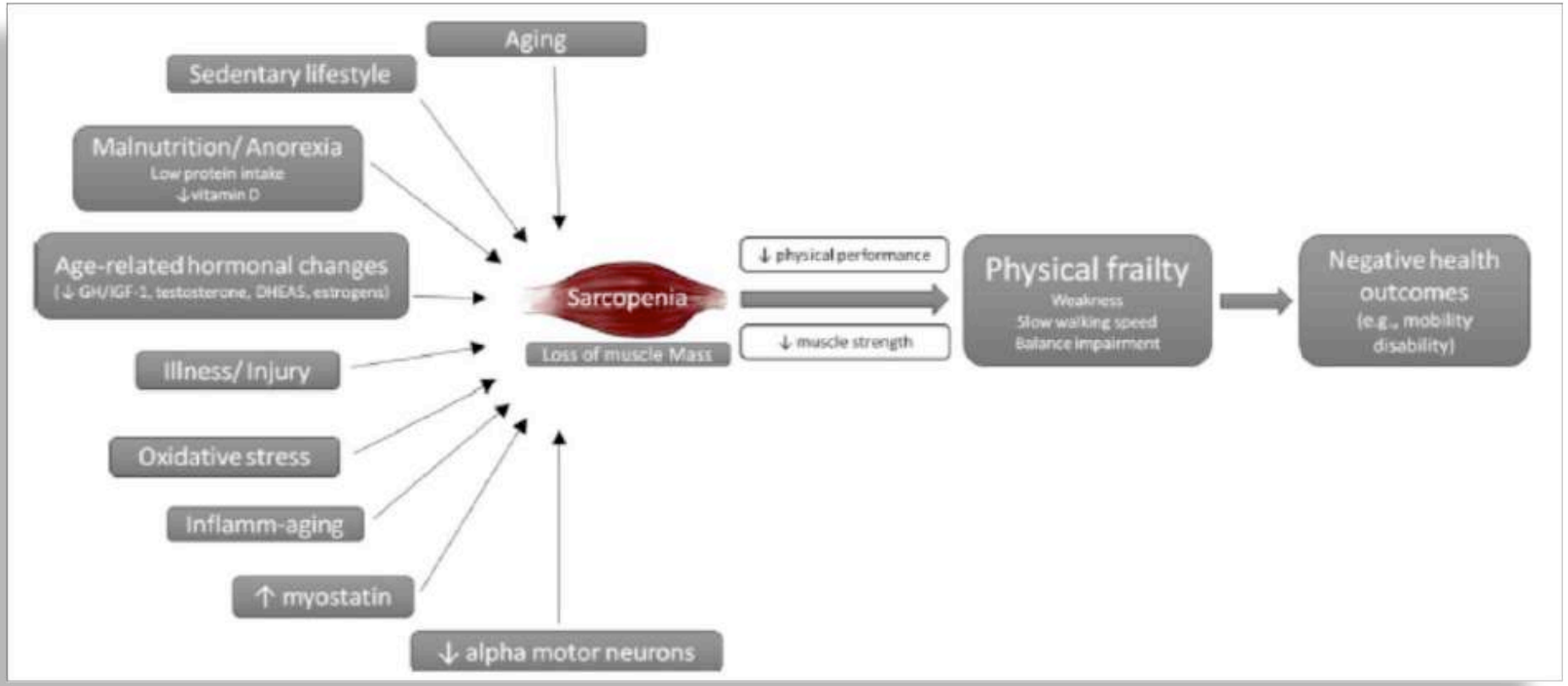
*See Appendix.

CHS

Sarcopenia and frailty: From theoretical approach into clinical practice

F. Landi [a,*], A. Cherubini [b], M. Cesari [c], R. Calvani [a], M. Tosato [a], A. Sisto [a], A.M. Martone [a], R. Bernabei [a], E. Marzetti [a]

European Geriatric Medicine 7 (2016) 197–200



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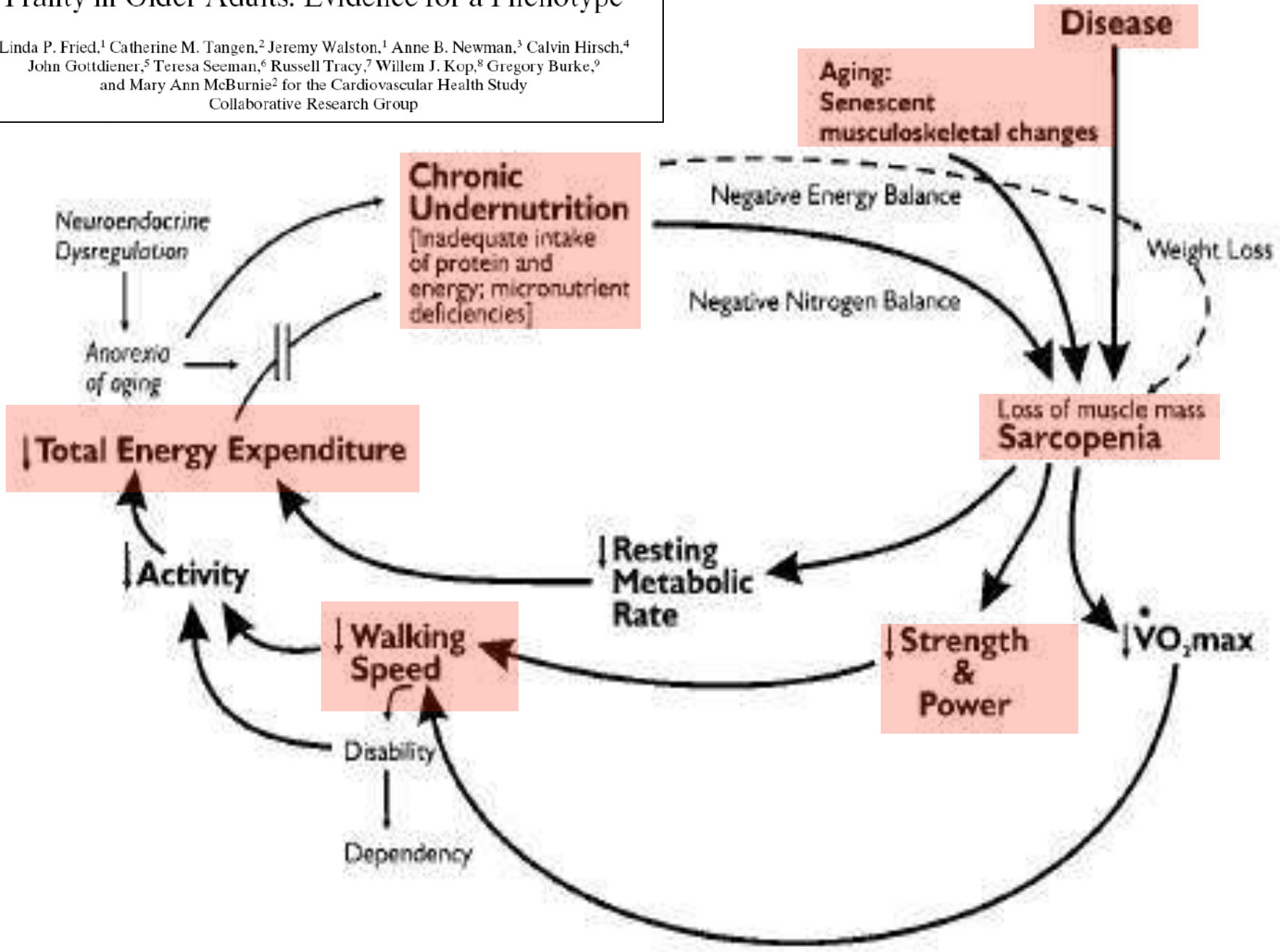

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>65 anni: 5-10%
>75 anni: 20-30%
>85 anni: 30-60%

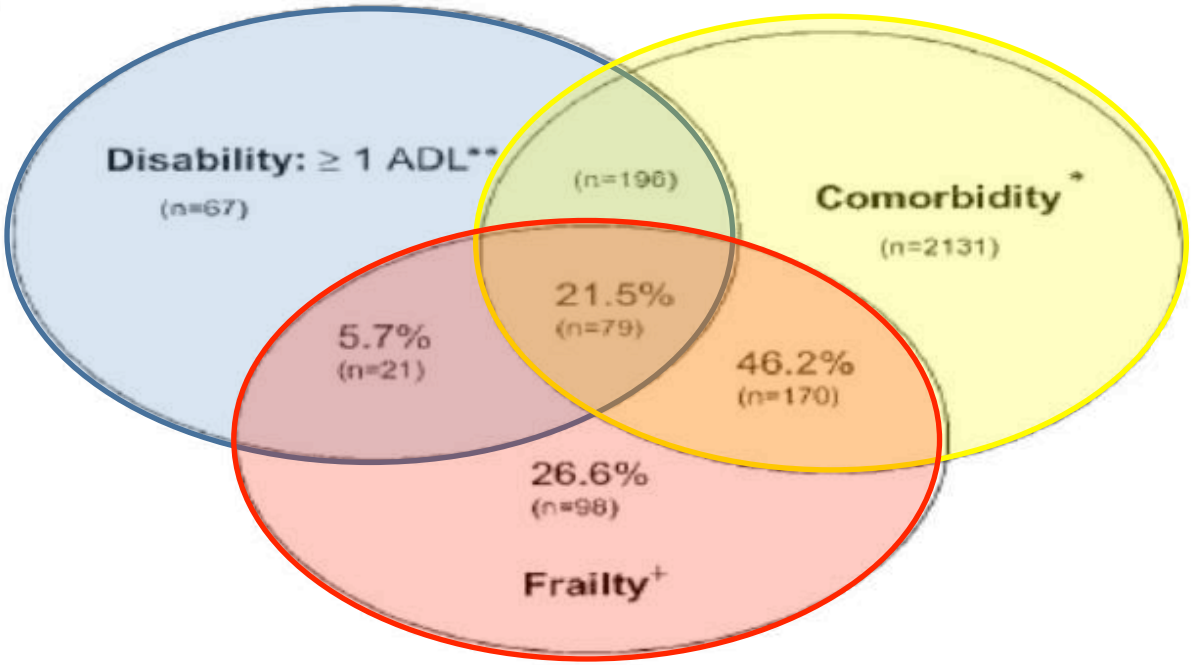

Figure 3. Venn diagram displaying extent of overlap of frailty with ADL disability and comorbidity (≥2 diseases). Total represented: 2,762 subjects who had comorbidity and/or disability and/or frailty. *n* of each subgroup indicated in parentheses. + Frail: overall $n = 368$ frail subjects (both cohorts). *Comorbidity: overall $n = 2,576$ with 2 or more out of the following 9 diseases: myocardial infarction, angina, congestive heart failure, claudication, arthritis, cancer, diabetes, hypertension, COPD. Of these, 249 were also frail. **Disabled: overall $n = 363$ with an ADL disability; of these, 100 were frail.

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Table 6. Incidence of Adverse Outcomes Associated With Frailty: Kaplan-Meier Estimates at 3 Years and 7 Years* After Study Entry for Both of the Cohorts† ($N = 5317$)

		Died		First Hospitalization		First Fall		Worsening ADL Disability		Worsening Mobility Disability	
Frailty Status at Baseline	(*n*)	3 yr %	7 yr %	3 yr %	7 yr %	3 yr %	7 yr %	3 yr %	7 yr %	3 yr %	7 yr %
Not Frail	(2469)	3	12	33	79	15	27	8	23	23	41
Intermediate	(2480)	7	23	43	83	19	33	20	41	40	58
Frail	(368)	18	43	59	96	28	41	39	63	51	71
p‡		<.0001		<.0001		<.0001		<.0001		<.0001	

18%

*7-year estimates are only available for the first cohort.
†Only those evaluable for frailty are included.
‡*p* value is based on the 2 degree of freedom log rank test using all available follow-up.

FRAILTY

Survival curve estimates according to **FRAILTY** status

J. Gerontol: Med Sci 2001;56 A: M146-M156

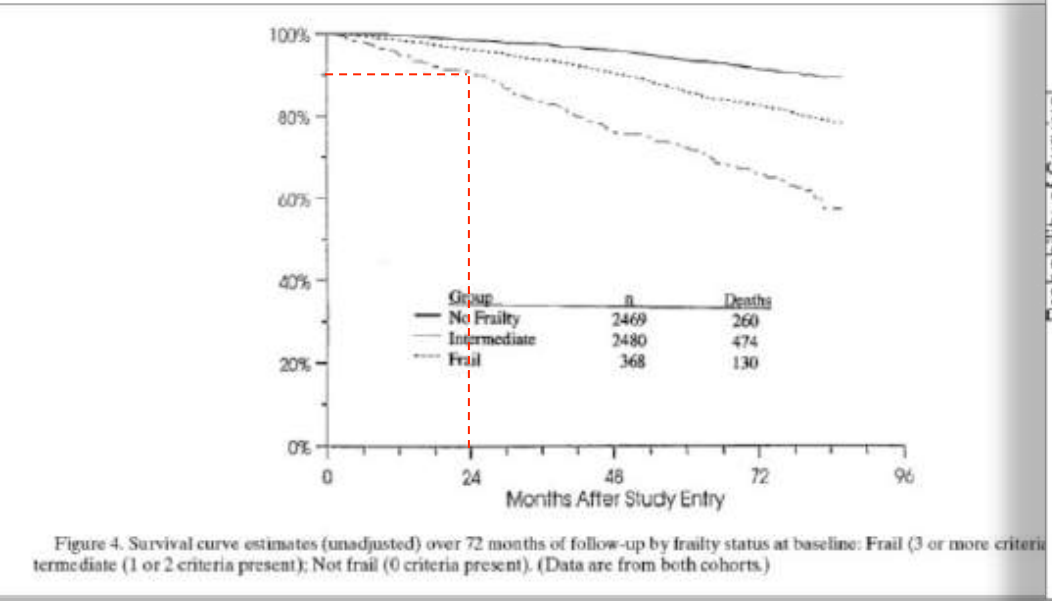
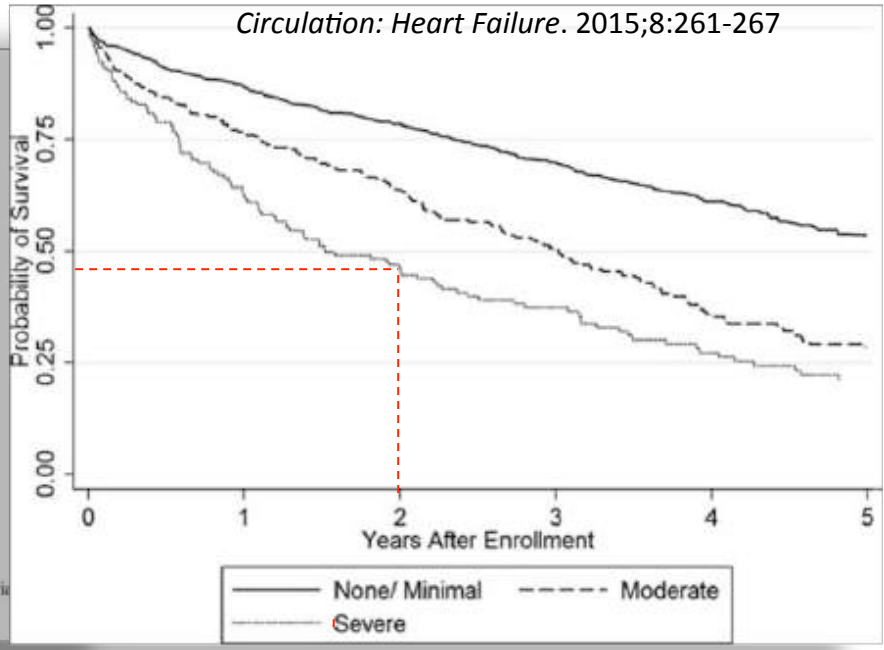


Figure 4. Survival curve estimates (unadjusted) over 72 months of follow-up by frailty status at baseline: Frail (3 or more criteria termediate (1 or 2 criteria present); Not frail (0 criteria present). (Data are from both cohorts.)

DISABILITY

Time to death in **patients with HF** according to their level of difficulty with **ADLs** (none/minimal, moderate, severe)

Circulation: Heart Failure. 2015;8:261-267



Fragilità: nel linguaggio medico, facilità a rompersi, o diminuita resistenza a traumi

Treccani

Fragile: Che oppone scarsa resistenza al male fisico e morale, quindi debole, gracile

Treccani

SCALE e SCORE di FRAGILITA'

CHS frailty scale
SOF frailty scale
SPPB & gait speed

→ Sindrome «FRAGILITA'»

GREEN score
FRAIL scale
Vulnerable Elders Survey-13
Groningen Frailty Indicator (GFI)

→ Scale «ibride» (con aspetti funzionali o di comorbilità)

Clinical Frailty Scale
Frailty Index (Rockwood)

→ Paziente FRAGILE, VULNERABILE, COMPROMESSO, in cattivo stato di salute generale

J Am Geriatr Soc 49:1691–1699, 2001.

The Vulnerable Elders Survey: A Tool for Identifying Vulnerable Older People in the Community

Debra Saliba, MD,†‡ Marc Elliott, PhD,* Laurence Z. Rubenstein, MD,*†‡ David H. Solomon, MD,*‡ Roy T. Young, MD,*‡ Caren J. Kamberg, MSPH,* Carol Roth RN, MPH,* Catherine H. MacLean, MD,*‡ Paul G. Shekelle, MD,*‡ Elizabeth M. Sloss, PhD,* and Neil S. Wenger, MD*‡*

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Table 1. Prevalence of Baseline Score and Incidence of 2-Year Decline or Death

Score	Percentage of Population with Score	Percentage with Score who Decline or Die
Function-based scoring system		
0	33.6	6.1
1	23.7	14.2
2	10.5	24.3
3	9.2	36.9
4+	23.1	54.9
Function + expanded diagnosis scoring system		
0	17.6	4.7
1	22.3	9.5
2	17.1	13.8
3	10.8	23.5
4	7.5	36.5
5	4.2	45.3
6–9	13.9	51.4
10+	6.5	67.2

A global clinical measure of fitness and frailty in elderly people

Kenneth Rockwood, Xiaowei Song, Chris MacKnight, Howard Bergman, David B. Hogan, Ian McDowell, Arnold Mitnitski

FRAILTY INDEX
(INDICE PROGNOSTICO)

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

Canadian Journal of Cardiology 32 (2016) 169–176

Clinical Research

The Effect of Bleeding Risk and Frailty Status on Anticoagulation Patterns in Octogenarians With Atrial Fibrillation: The FRAIL-AF Study

Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail**.

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

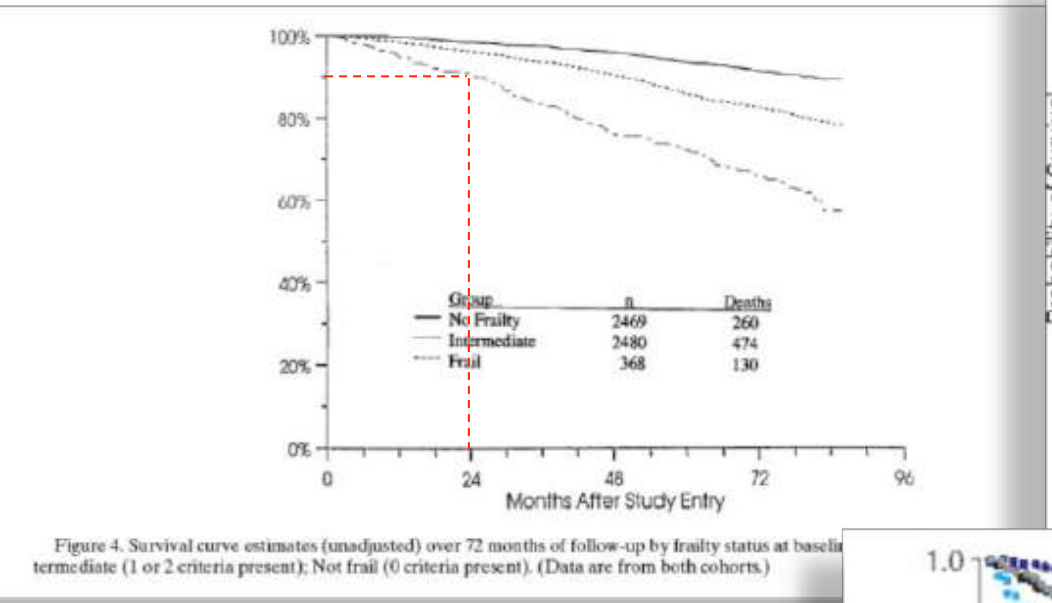
* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

DALHOUSIE UNIVERSITY
Inspiring Minds

FRAILTY

Survival curve estimates according to **FRAILTY** status

J. Gerontol: Med Sci 2001;56 A: M146-M156



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Time to death in patients with HF according to their level of difficulty with **ADLs** (none/minimal, moderate, severe)

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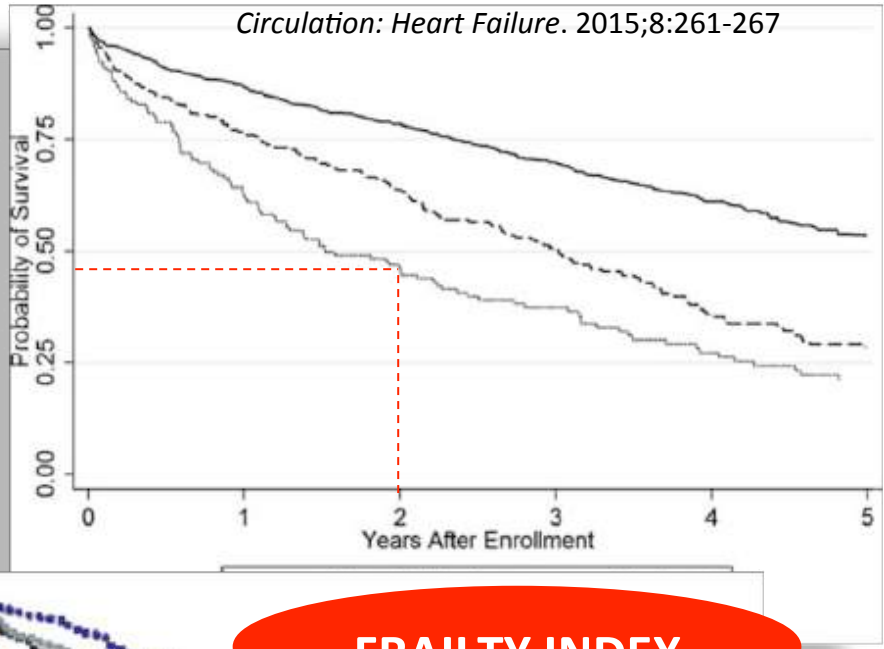
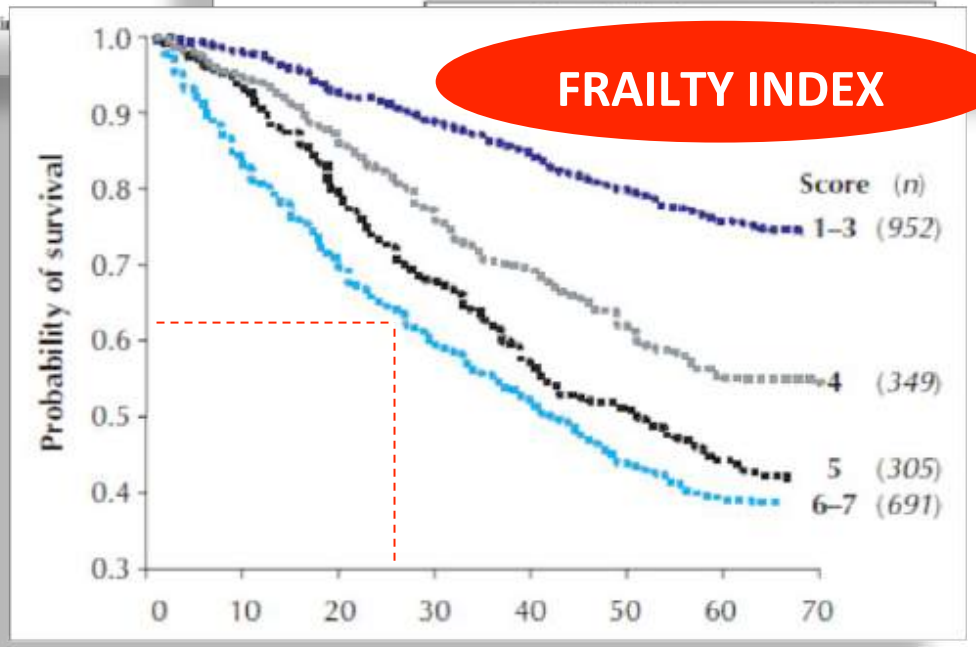


FRAILTY INDEX



SCORE PROGNOSTICO di mortalità ad 1 anno

Table 1. MPI Score Assigned to Each Domain Based on the Severity of the Problems

	Problems		
	No	Minor	Severe
Assessment	(Value=0)	(Value=0.5)	(Value=1)
ADL*	6–5	4–3	2–0
Instrumental ADL*	8–6	5–4	3–0
Short portable mental status questionnaire†	0–3	4–7	8–10
Comorbidity index (cumulative illness rating scale-CI)‡	0	1–2	≥3
Mini nutritional assessment§	≥24	17–23.5	<17
Exton-smith scale¶	16–20	10–15	5–9
No. of medications	0–3	4–6	≥7
Social support network	Living with family	Institutionalized	Living alone

*No. of active functional activities.
†No. of errors.
‡No. of diseases.
§Mini Nutritional Assessment score: ≥24, satisfactory nutritional status; 17–23.5, at risk of malnutrition; <17, malnutrition.
¶Exton-Smith Scale score: 16–20, minimum risk; 10–15, moderate risk; 5–9 high risk of developing scores.

Basso rischio

(≤ 0,33)

Medio rischio

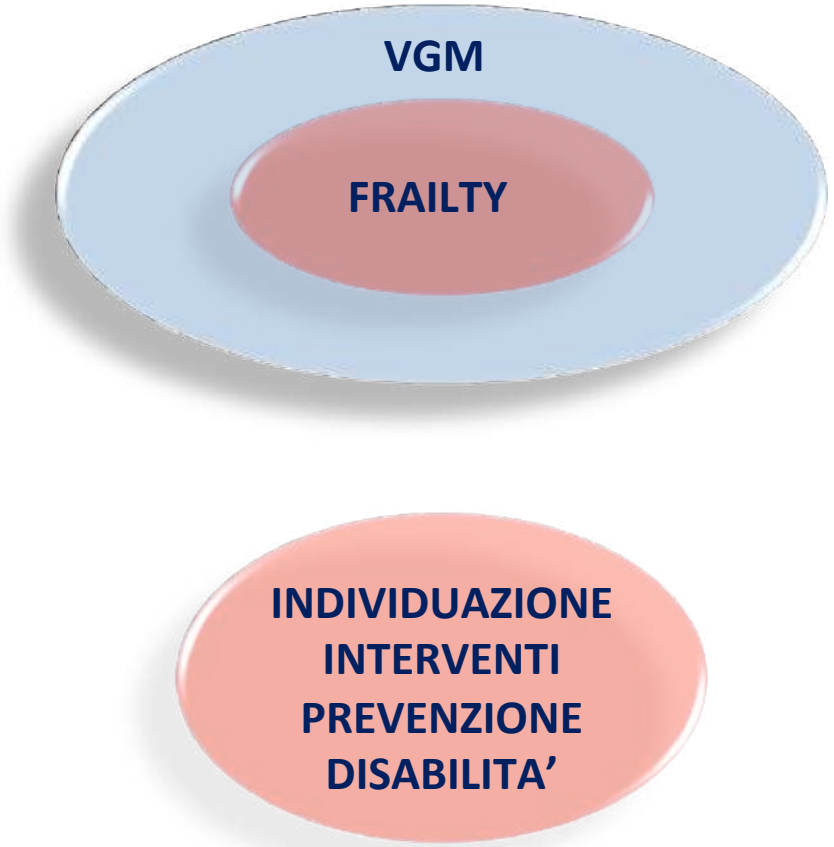
(≥ 0,33 ≤ 0,66)

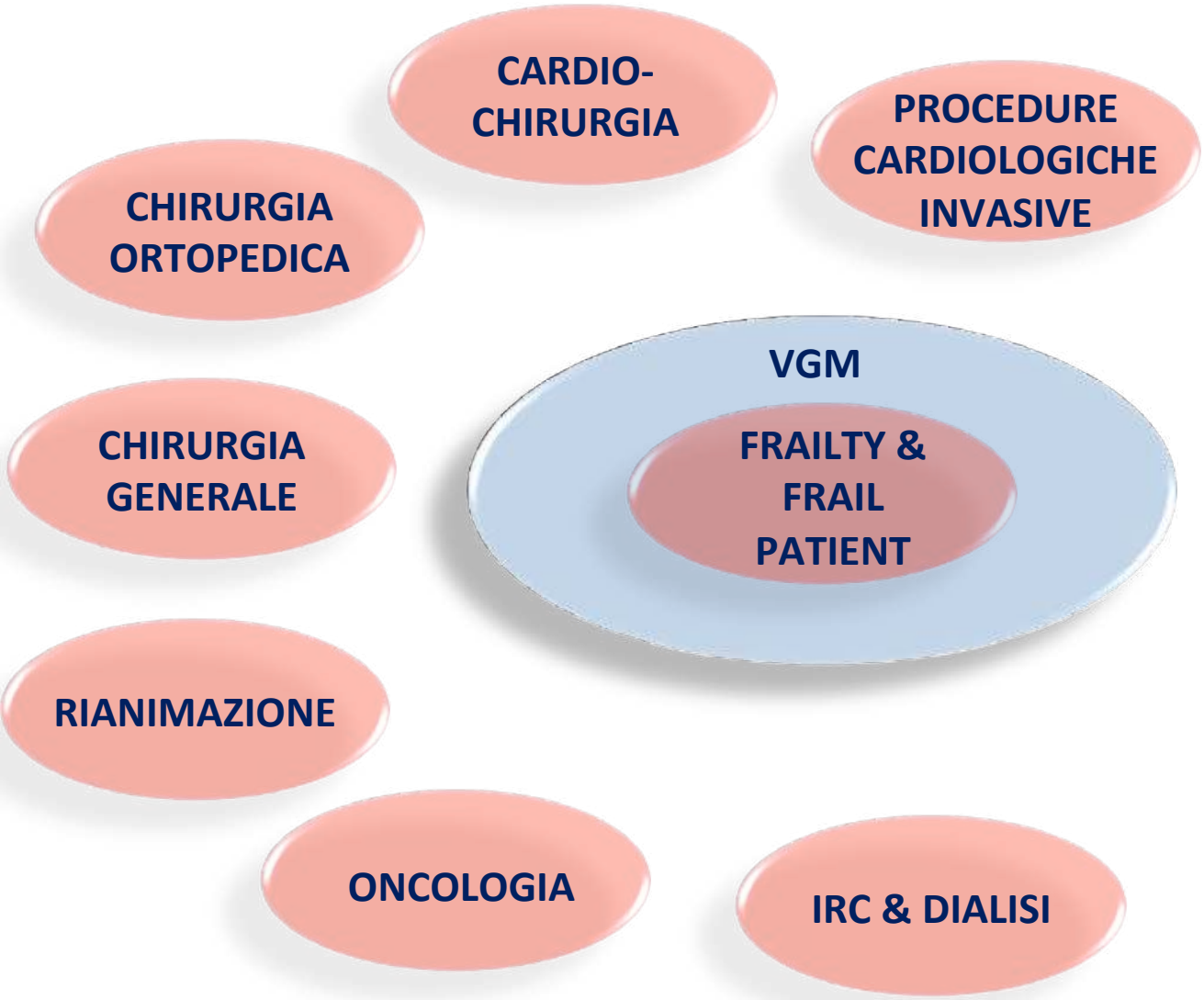
Alto rischio

(≥ 0,67)

Pilotto A. et Al. Circ.Heart Fail.2010;3.14-20

IDENTIFICAZIONE DEL FENOTIPO FRAGILE PER LA PREVENZIONE DELLE DISABILITA’





Al netto degli **indicatori prognostici «specifici»** di ogni specialità, la **Valutazione Geriatrica Multidimensionale**, ivi compresa l'identificazione della **fragilità** e del **paziente fragile**, fornisce importanti informazioni aggiuntive che aiutano a definire meglio la **prognosi individuale** e a selezionare gli **interventi più adeguati per ogni paziente anziano, a ottimizzare l'allocazione delle risorse, a ridurre la futilità terapeutica e la iatrogenesi**

Journal of Geriatric Oncology 8 (2017) 374–386

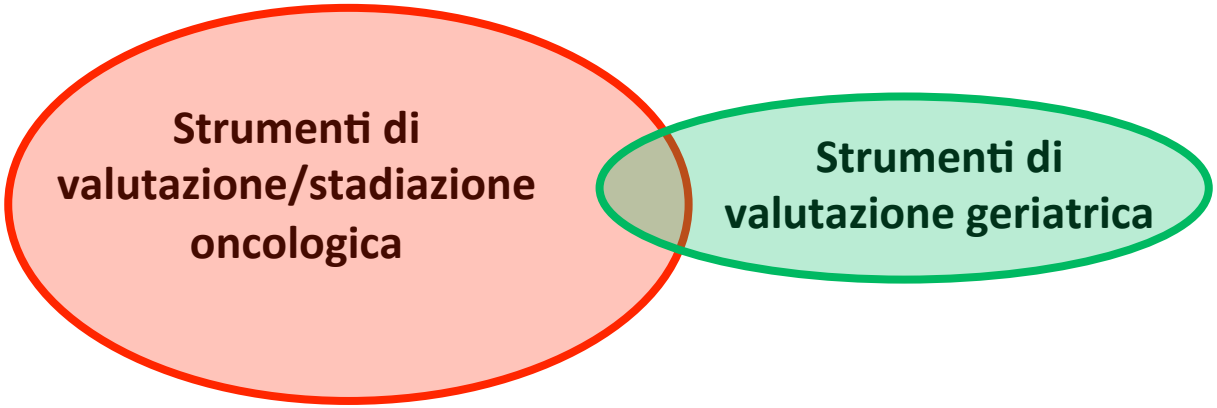
Global geriatric oncology: Achievements and challenges

Summary of ASCO/ESMO global curriculum for geriatric oncology

Awareness	• Understanding the importance of the geriatric assessment and its domains
	• Recognizing competing causes of mortality
	• Understanding differences in tumor biology and pharmacology in older adults
Knowledge	• Understanding that abnormalities in the geriatric assessment should lead to interventions and impact treatment decisions
	• Familiarizing with international guidelines
	• Utilizing the geriatric assessment to predict chemotherapy toxicity
Skills	• Performing and interpreting a geriatric assessment
	• Collaborating with other healthcare workers, geriatricians and caregivers
	• Integrating the geriatric assessment into treatment decision-making and therapeutic choices

La **Fragilità** e la **Complessità** dell'anziano in ambito **oncologico**:

- Stima della **spettanza di vita**
- Scelta dell'**intento** (curativo vs palliativo)
- **Sostenibilità** individuale dell'intervento (CT, chirurgia, RT)
- **Impatto** dell'intervento scelto su **quantità/qualità della vita**
- **Condivisione delle decisioni** con il paziente, alla luce del background culturale e delle eventuali limitazioni cognitive dell'anziano, e delle limitazioni in materia dell'attuale giurisdizione italiana sul consenso da parte dei familiari



- **Accessibilità** alle cure per l'anziano

	SPETTANZA DI VITA	
	Maschi	Femmine
Alla nascita	76.7	84.1
A 60 anni	17.5	22.4
A 65 anni	14.2	18.5
A 70 anni	11.3	14.8
A 75 anni	**8.8**	**11.5**
A 80 anni	**6.7**	**8.6**
A 85 anni	**5.0**	**6.3**

Autonomia funzionale

Integrità cognitiva

Comorbilità

Fragilità – Sarcopenia – Stato nutrizionale

tic index
ents

Zafferri[1] · Francesco Panza[2,3] ·
o Copetti[2] · Sara Lonardi[1] ·
Alberto Cella[6] · Alberto Pilotto[6,7]

Table 3 Estimated do
tidimensional prognos
within 1 year of follov

Domains (D_i)		
Age (years)		
Sex		
BMI		
ADL		
IADL		
ECOG Performance Sta		
N° of severe comorbidi		
Cancer stage		
Tumour site		
MMSE		
N°of drugs		
Caregiver		
Raw onco-MPI		
Normalization formula t onco-MPI		
Cut-offs (RECPAM)	Low	
	Medium	
	High	
Survival c-index (95% CI)*		
0.869 (0.841-0.897)		

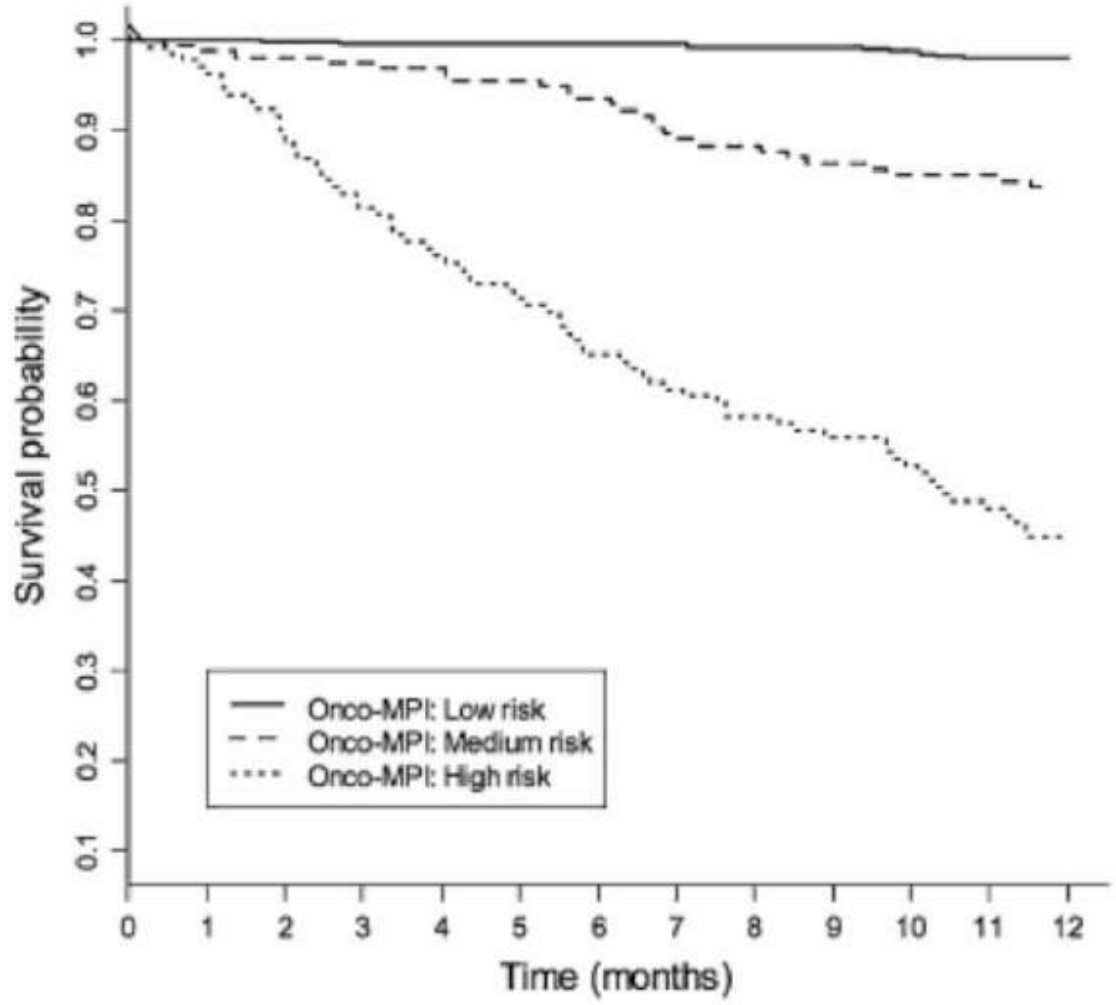


Fig. 1 Kaplan-Meier survival curves, within 1 year of follow-up, according to the three Onco-MPI risk score categories (low risk, medium risk and high risk)

tion of the Onco-MPI score within 1 year of follow-up

Journal of Geriatric Oncology xxx (xxxx) xxx–xxx

Performance of the Vulnerable Elders Survey 13 screening tool in identifying cancer treatment modification after geriatric assessment in pre-treatment patients: A retrospective analysis

Methods: Patients attending a geriatric oncology clinic between July 2015 and June 2017 who completed a VES-13 and underwent subsequent GA were included. Clinical information was extracted from a prospectively maintained database. G6 scores were assigned retrospectively. Patients were stratified into those who were "VES-13 positive" (score ≥ 3) and "VES-13 negative" (score < 3). Logistic regression was used to explore the relationship between VES-13 score, G6 score, and treatment modification.

Results: Ninety-nine patients were seen prior to initiating cancer treatment. The median VES-13 score was 7; with 81.8% of patients scoring ≥3. The treatment plan was modified in 47.5% of patients after GA. VES-13 score was predictive of treatment plan modification (63.0% among VES-13 positive versus 16.7% among VES-13 negative patients; $p = 0.001$). G6 performed similarly to the VES-13. The only statistically significant predictor of treatment change in multivariable analysis was performance status.

Conclusion: VES-13 positive patients are more likely to undergo treatment modification to reduce treatment intensity or supportive care only. The VES-13 may provide oncologists with a rapid, reliable way of identifying vulnerability in older adults with cancer who may need further GA prior to commencing cancer treatment.

Performance Status

Grade	ECOG	Karnofsky	Analgesic Code
0	Fully active, able to carry on all pre-disease performance without restriction	100—Normal, no complaints; no evidence of disease 90—Able to carry on normal activity; minor signs or symptoms of disease	1—None 2—Mild, e.g., aspirin 3—Occasional oral narcotics 4—Regular oral narcotics 5—Parenteral narcotics 6—Uncontrollable
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work	80—Normal actiity with effort, some signs or symptoms of disease 70—Cares for self but unable to carry on normal activity or to do active work	
2	Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours	60—Requires occasional assistance but is able to care for most of personal needs 50—Requires considerable assistance and frequent medical care	
3	Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours	40—Disabled; requires special care and assistance 30—Severely disabled; hospitalization is indicated although death not imminent	
4	Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair	20—Very ill; hospitalization and active supportive care necessary 10—Moribund	
5	Dead	0—Dead	

The G8 s
value to
cancer p
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sessed fo **G8**
etween G8
all patients

Group	No. of patients	Median OS, months (95% CI)
High G8 score (>14)	45	25.6 (16.4–NR)
Intermediate G8 score (11–14)	103	16.1 (11.7–18.8)
Low G8 score (<11)	67	9.5 (7.0–14.0)

Hazard ratio for death
Low vs. High: 3.02 (95% CI, 1.66–5.88), p < 0.0005
Low vs. Intermediate: 1.68 (95% CI, 1.10–2.57), p < 0.05
Intermediate vs. High: 1.97 (95% CI, 1.10–3.83), p < 0.05

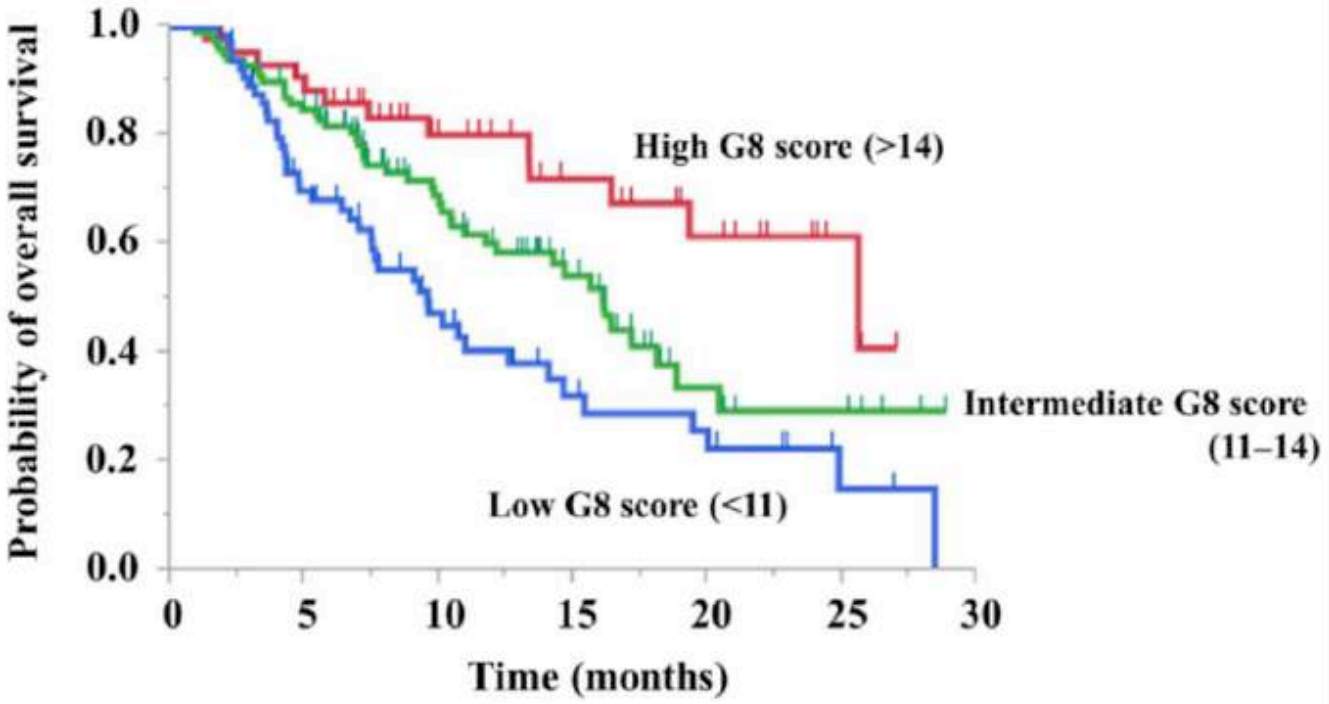


Fig 2. Overall survival according to the G8 score in elderly cancer patients categorized as an ECOG-PS of 0 or 1. Kaplan–Meier analyses for overall survival in patients with high G8 scores (>14), intermediate G8 scores (11–14), or low G8 scores (<11). NR, not reached. ECOG-PS, Eastern Cooperative Oncology Group performance status.

VOLUME 34 · NUMBER 20 · JULY 10, 2016

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Validation of a Prediction Tool for Chemotherapy Toxicity in Older Adults With Cancer

Patients and Metho

Patients age ≥ 65 ere scheduled to re-
ceive a new chemo Risk of chemotherapy
toxicity was calcula diction model before
the start of chemo ade 3 [hospitalization
indicated], grade 4 h]). Validation of the
prediction model w perating characteristic
curve.

Results

The study sample andard deviation, 5.8]).
More than one half toxicity increased with
increasing risk sco 1). The area under the
curve of the receiv o 0.71), which was not
statistically differer 77; $P = .09$). There was
no association bet toxicity ($P = .25$).

Table 1. Prediction Model and Scoring Algorithm for Chemotherapy Toxicity

Variable	Value/Response	Score
Age of patient	≥ 72 years	2
	< 72 years	0
Cancer type	GI or GU cancer	2
	Other cancer types	0
Planned chemotherapy dose	Standard dose	2
	Dose reduced upfront	0
Planned No. of chemotherapy drugs	Polychemotherapy	2
	Monochemotherapy	0
Hemoglobin	< 11 g/dL (male), < 10 g/dL (female)	3
	≥ 11 g/dL (male), ≥ 10 g/dL (female)	0
Creatinine clearance (Jeliffe, ideal weight)	< 34 mL/min	3
	≥ 34 mL/min	0
How is your hearing (with a hearing aid, if needed)?	Fair, poor, or totally deaf	2
	Excellent or good	0
No. of falls in the past 6 months	≥ 1	3
	None	0
Can you take your own medicine?	With some help/unable	1
	Without help	0
Does your health limit you in walking one block?	Somewhat limited/limited a lot	2
	Not limited at all	0
During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc)?	Limited some of the time, most of the time, or all of the time	1
	Limited none of the time or a little of the time	0

Journal of Geriatric Oncology 10 (2019) 48–54

Frailty assessment predicts toxicity during first cycle chemotherapy for advanced lung cancer regardless of chronologic age

Multivariate models evaluating the association between patient characteristics and treatment-related grade 3–5 toxicity during first cycle chemotherapy.

Predictor variable	Odds ratio (OR)	95% confidence interval (CI)
Model 1 (AIC = 55.1, c = 0.84)		
Frail (FFI ≥ 3)	7.03	1.11–44.55
Age (per year)	1.14	1.03–1.27
BSA (per SD)	3.87	1.49–10.07
Comorbidty score (per unit)	1.48	0.93–2.36
Model 2 (AIC = 62.9, c = 0.77)		
GA toxicity risk score (>7)	4.26	1.03–17.65
Comorbidity Score (per unit)	1.53	1.01–2.32
BSA (per SD)	2.25	1.13–4.47
Model 3 (AIC = 60.1, c = 0.81)		
Frail (FFI ≥ 3)	5.82	1.06–31.81
GA toxicity risk score > 7	3.75	0.85–16.53
Comorbidity Score (per unit)	1.57	1.01–2.45
BSA (per SD)	2.52	1.21–5.28










*perché la **CURA della malattia** dovrebbe significare*
PRENDERSI CURA DEL MALATO

Group	No. of patients	Median OS, months (95% CI)
High G8 score (>14)	45	25.6 (16.4–NR)
Intermediate G8 score (11–14)	103	16.1 (11.7–18.8)
Low G8 score (<11)	67	9.5 (7.0–14.0)

Hazard ratio for death

Low vs. High: 3.02 (95% CI, 1.66–5.88), $p < 0.0005$

Low vs. Intermediate: 1.68 (95% CI, 1.10–2.57), $p < 0.05$

Intermediate vs. High: 1.97 (95% CI, 1.10–3.83), $p < 0.05$

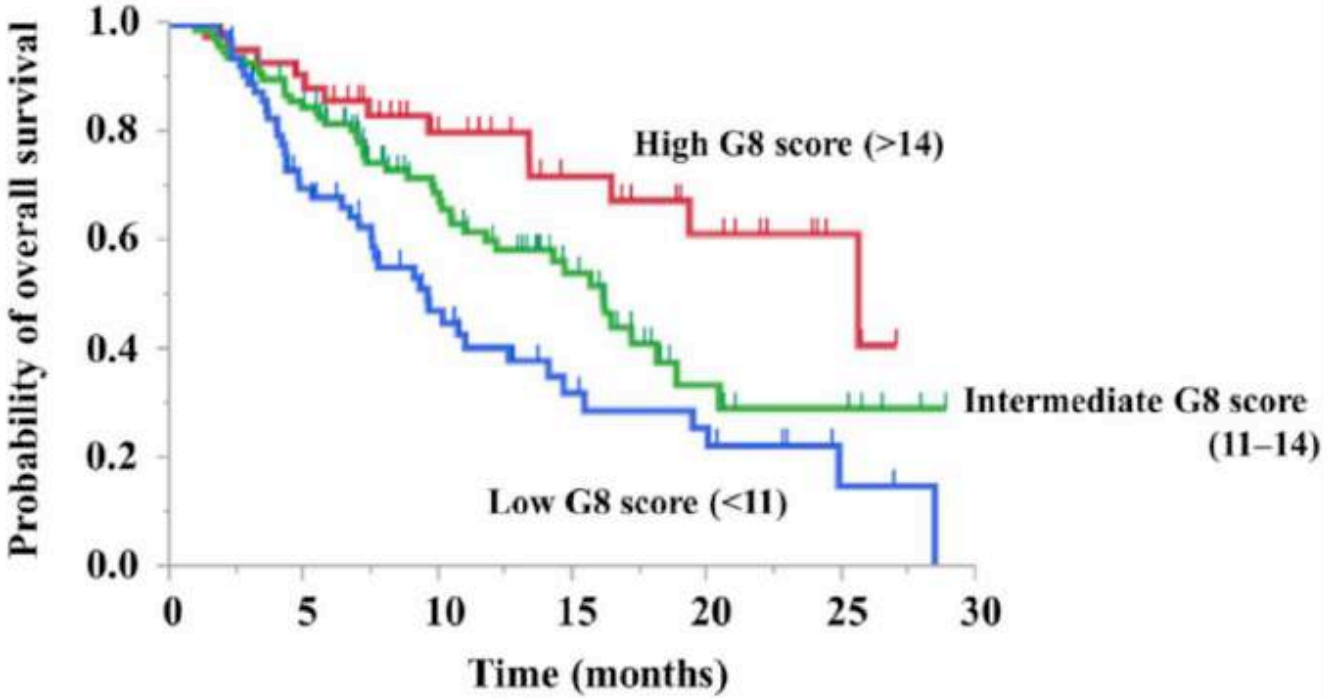
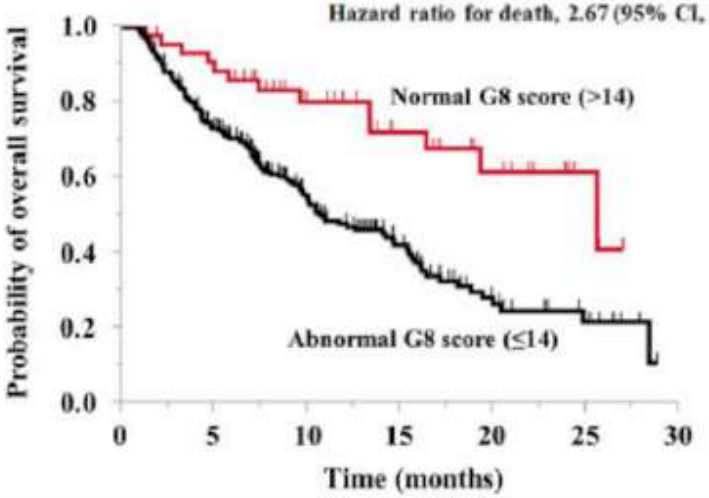


Fig 2. Overall survival according to the G8 score in elderly cancer patients categorized as an ECOG-PS of 0 or 1. Kaplan–Meier analyses for overall survival in patients with high G8 scores (>14), intermediate G8 scores (11–14), or low G8 scores (<11). NR, not reached. ECOG-PS, Eastern Cooperative Oncology Group performance status.

a

Group	No. of patients	Median OS, months (95% CI)
Normal G8 score (>14)	45	25.6 (16.4–NR)
Abnormal G8 score (≤14)	219	10.7 (9.6–14.6)

Hazard ratio for death, 2.67 (95% CI, 1.56–4.98), p < 0.001



b

Group	No. of patients	Median OS, months (95% CI)
High G8 score (>14)	45	25.6 (16.4–NR)
Intermediate G8 score (11–14)	115	15.6 (10.4–18.1)
Low G8 score (<11)	104	7.7 (5.5–10.7)

Hazard ratio for death
Low vs. High: 3.48 (95% CI, 1.97–6.63), p < 0.0001
Low vs. Intermediate: 1.83 (95% CI, 1.28–2.65), p < 0.001
Intermediate vs. High: 2.09 (95% CI, 1.17–4.02), p < 0.05

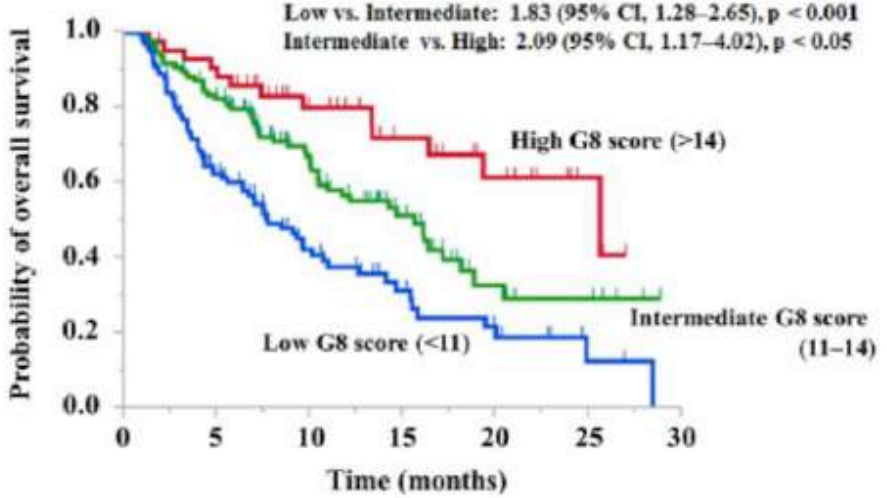


Fig 1. Overall survival according to the G8 score in elderly cancer patients. (a) Kaplan–Meier analyses for overall survival in patients with a normal G8 score (>14) or an abnormal G8 score (≤14). (b) Kaplan–Meier analyses for overall survival in patients with high G8 scores (>14), intermediate G8 scores (11–14), or low G8 scores (<11). NR, not reached.

La **Fragilità** e la **Complessità** dell'anziano in ambito **oncologico**:

- Stima della **spettanza di vita**
- Scelta dell'**intento** (curativo vs palliativo)
- **Sostenibilità** individuale dell'intervento (CT, chirurgia, RT)
- **Impatto** dell'intervento scelto su **quantità/qualità della vita**

- **Condivisione delle decisioni** con il paziente, alla luce del background culturale e delle eventuali limitazioni cognitive dell'anziano, e delle limitazioni in materia dell'attuale giurisdizione italiana sul consenso da parte dei familiari

- **Accessibilità** alle cure per l'anziano

«shared decision making» and «informed consent»

INFORMED CONSENT IN OLDER MEDICAL INPATIENTS: ASSESSMENT OF DECISION-MAKING CAPACITY

JAGS NOVEMBER 2015–VOL. 63, NO. 11

expression of choice. One hundred fourteen participants (78.2%) said that they understood the informed consent document, 20 (13.6%) said that they did not understood it, and 12 (8.2%) expressed some doubt. After individual interviews, 42 participants (28.6%) were found to have really understood, and 104 (71,4%) were found not to have understood the document completely. Participants who did not really understand the document were older, more cognitively impaired, more depressed, and less likely to be functionally independent; had worse awareness of their health status; and were less able to reason about different treatments than those who understood. No signifi-

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	TITOLO DI STUDIO							
	Nessuno	**3ª El.**	**Licenza El.**	**Licenza Media Inf.**	**Sc. Prof.**	**Sc. Media Sup.**	**Univ.**	**Titolo ignoto**
MASCHI								
65-69	7,6	11,1	37,7	12,1	2,7	15,3	12,3	1,2
70-74	5,4	13,7	42,3	11,8	3,2	12,5	10,0	1,1
75-79	14,0	25,4	30,1	10,8	1,9	10,6	6,1	1,1
80-84	18,9	23,6	28,7	8,7	2,1	11,3	5,7	1,0
Tutti i maschi	11,3	18,3	34,8	10,9	2,5	12,5	8,6	1,1
FEMMINE								
65-69	11,6	21,9	35,5	12,7	1,6	11,4	4,4	0,9
70-74	15,1	25,8	37,8	9,4	1,6	6,7	2,8	0,8
75-79	18,7	28,5	32,7	9,9	1,3	6,8	1,3	0,8
80-84	26,1	26,8	29,0	9,2	2,0	4,1	1,3	1,5
Tutte le femmine	17,8	25,7	33,8	10,3	1,6	7,3	2,5	1,0
Maschi e Femmine	14,5	22,0	34,3	10,6	2,0	9,9	5,6	1,1

Aging Clin Exp Res (2017) 29:833–845

Table 1 Summary about legislation in different country for incompetent patients

	Incompetent patients	Advance directive of treatment
Austria	Decisional power of a relative	Validity of living will and power of attorney
Belgium	Decisional power of a relative	Validity of living will and power of attorney
Bulgaria	Decisional power of the closest relative	No legal availability of living will and power of attorney
Denmark	Decisional power of the closest relative or friend	Validity of living will and power of attorney
Finland	Consultative role of relatives	Still debating
France	Consultative role of relatives	Consultative role
Germany	Validity of designed surrogate. In lack of this consultative role of relatives	Validity of living will and power of attorney
Hungary	Decisional power to proxy	Validity of living will and power of attorney
Italy	No possibility for patients to appoint a surrogate. Only a judge may appoint a support administrator	No legal availability of living will and power of attorney
The Netherland	Consultative role of relatives	Validity of living will and power of attorney
Norway	Consultative role of proxy	Still debating
Spain	Decisional power of a relative	Validity of living will and power of attorney
Switzerland	Decisional power of a surrogate	Validity of living will and power of attorney
Turkey	Still debating	Still debating
UK	Decisional power of a surrogate	Validity of living will and power of attorney
USA	Decisional power of a surrogate	Validity of living will and power of attorney

In Italia, non vi sono norme giuridiche specifiche sulla validità delle «**disposizioni anticipate di trattamento**» in ambito medico, così come sul diritto di una persona di nominare una persona «surrogata» per le decisioni mediche. La legge italiana (9 gennaio 2004, n 6) infatti **sancisce che anche i familiari non hanno alcun diritto decisionale se non sono riconosciuti legali surrogati del paziente (tutori o amministratori di sostegno)**

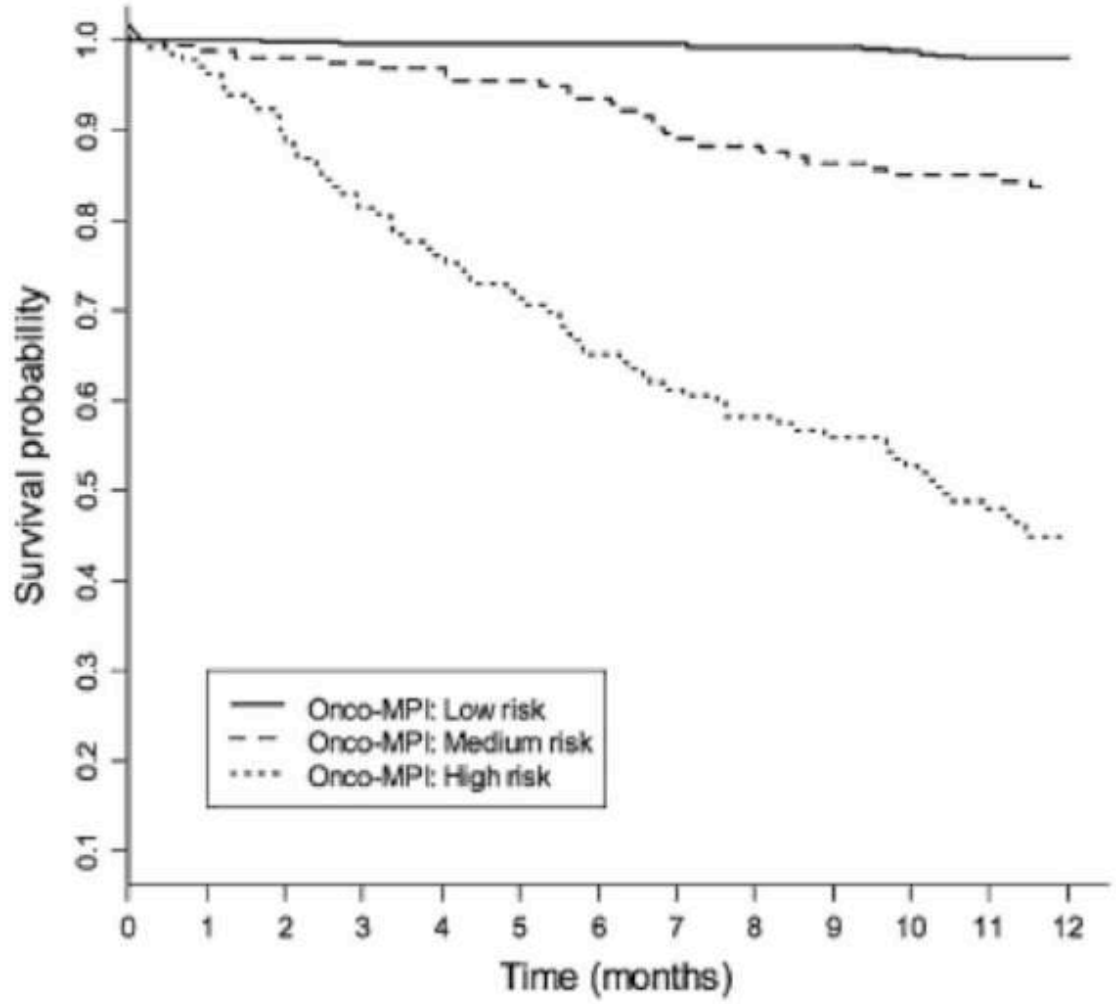

Fig. 1 Kaplan-Meier survival curves, within 1 year of follow-up, according to the three Onco-MPI risk score categories (low risk, medium risk and high risk)

Frailty syndrome: an overview

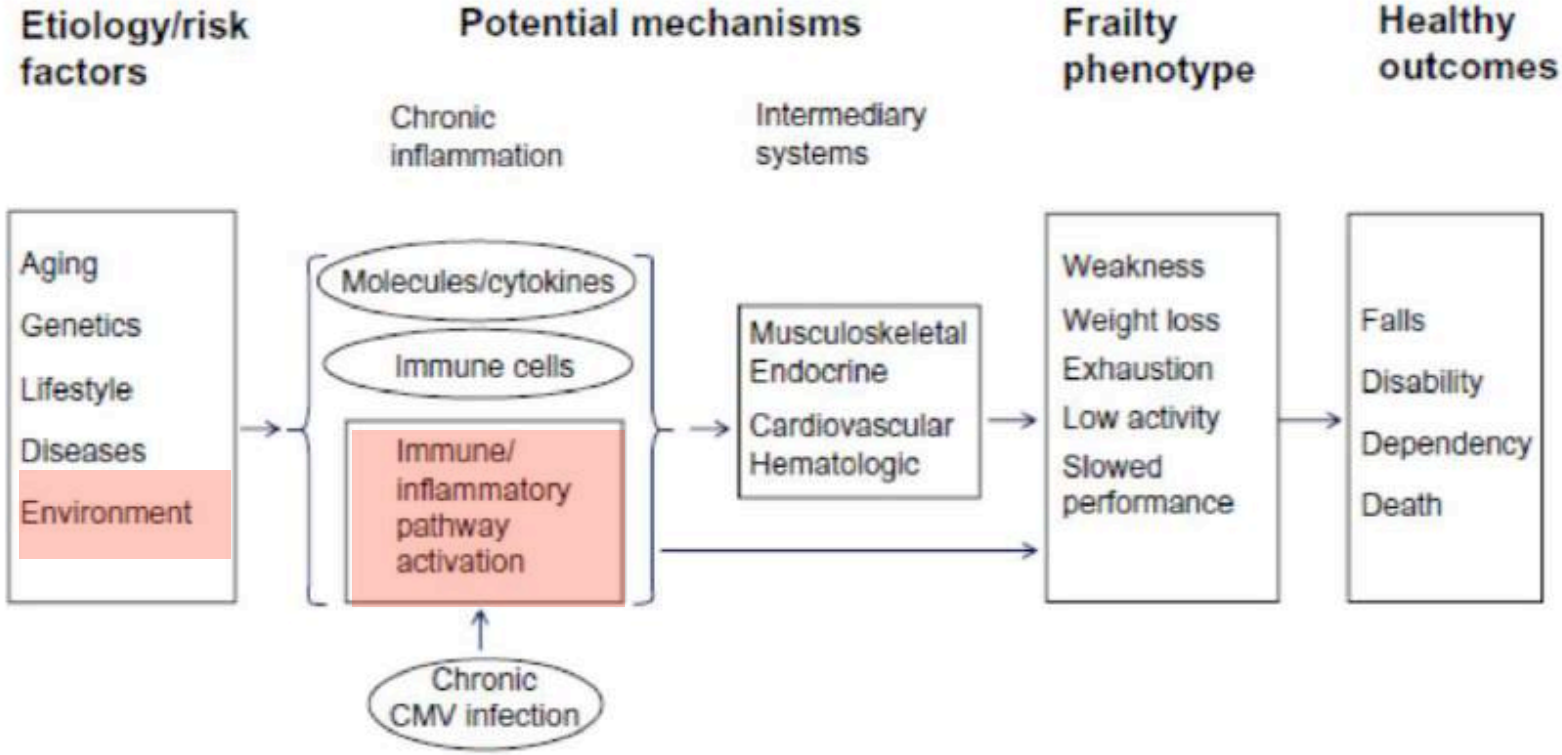

Figure 2 Pathogenesis of the frailty syndrome: current understanding of potential underlying mechanisms and hypothetical modal pathways leading to frailty.
Abbreviation: CMV, *Cytomegalovirus*.

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- **Accessibilità** alle cure per l'anziano

Social isolation and loneliness as risk factors for the progression of frailty: the English Longitudinal Study of Ageing

Age and Ageing 2018; **47:** 392–397

participants were 2,817 people aged ≥60 from the English Longitudinal Study of Ageing.

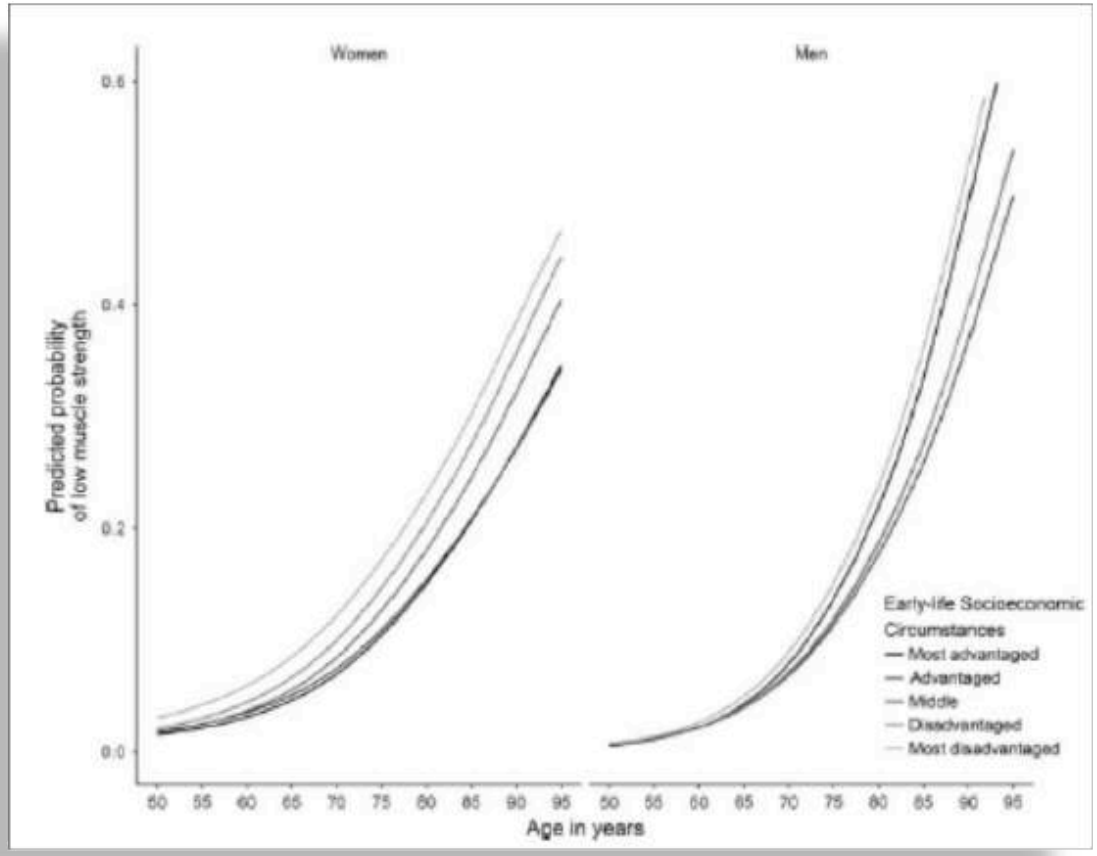
Table 2: Relative risk ratios (95% confidence intervals) of pre-frailty or frailty at Wave 4 according to social isolation or loneliness at baseline (n = 2,346)

	RRR (95% CI), adjusted for age, sex & number of components of frailty present at baseline		RRR (95% CI), further adjusted for education, household wealth, depressive symptoms, chronic physical illness & smoking status at baseline	
	Pre-frail	Frail	Pre-frail	Frail
Loneliness				
Low (n = 1,312)	Reference	Reference	Reference	Reference
Average (n = 647)	1.11 (0.90, 1.36)	1.42 (0.98, 2.06)	1.05 (0.84, 1.32)	1.19 (0.79, 1.78)
High (n = 387)	1.91 (1.45, 2.51)***	2.95 (1.95, 4.47)***	1.74 (1.29, 2.34)***	1.85 (1.14, 2.99)*

Association of early- and adult-life socioeconomic circumstances with muscle strength in older age

Age and Ageing 2018; **47:** 398–407

socioeconomic circumstances (SEC) during a person's lifespan influence a wide range of health outcomes. data from the Survey of Health Ageing and Retirement in Europe, a 12-year population-based cohort



Predicted probability of low muscle strength across age by early-life socioeconomic circumstances (SEC).

Complessità 1. L'esser complesso: *c. di una questione*, *di un ragionamento*, *di una costruzione teorica*; *c. di un atto giuridico*; ***esaminare una situazione in tutta la sua complessità***; *solo il discorso chiaro può essere di una c. inesauribile* (Giuseppe Pontiggia). **2.** ***Caratteristica qualitativa di un sistema, cioè di un aggregato organico e strutturato di parti tra loro interagenti***, che gli fa assumere proprietà che non derivano dalla semplice giustapposizione delle parti. È la proprietà specifica dei *sistemi complessi*, rappresentata in varia forma da quell'insieme di teorizzazioni matematiche, informatiche e scientifiche che taluni caratterizzano con la locuz. *scienza della c.*, per indicare una nuova metodica di indagine che si contrappone alla tradizionale tendenza a ridurre il complesso al semplice.

Complèsso[1] agg. [dal lat. *complexus*, part. pass. di *complecti* «stringere, comprendere, abbracciare»]. – **1. a.** Che risulta dall'unione di più parti o elementi (contr. di *semplice*): *una questione c.*, *un ragionamento c.*; **che ha diversi aspetti sotto cui si può o si deve considerare e di cui bisogna tener conto**: *è un problema c.*; multiforme, complicato: *l'uomo è creatura c.* (Lambruschini); *commedia con intreccio assai c.*; o eccessivamente elaborato, e quindi involuto, non facile, di comprensione non immediata: *un periodare complesso*. **b.** Nella logica formale, *termine c.*, un termine che designa due o più idee.

Treccani

Health status, geriatric syndromes and prescription of oral anticoagulant therapy in elderly medical inpatients with atrial fibrillation

Geriatr Gerontol Int 2017; **17:** *416–423*

Mario Bo,[1] Irene Sciarrillo,[1] Guido Maggiani,[1] Yolanda Falcone,[1] Marina Iacovino,[1] Enrica Grisoglio,[1] Gianfranco Fonte,[1] Simon Grosjean[1] and Fiorenzo Gaita[2]

Studio retrospettico su **1078** pazienti con FA dimessi 2010-2013 (**83.4** anni, 60.3% femmine):

26.8% dipendenti ADL

37.3% dipendenti IADL

cognitive impairment in **56.2%**

CHA_2DS_2-VASC medio 4.8

HAS-BLED medio 2.1

Effects of oral anticoagulant therapy in older medical in-patients with atrial fibrillation: a prospective cohort observational study

Aging Clin Exp Res (2017) 29:491–497

Mario Bo[1] · Federica Li Puma[1] · Marco Badinella Martini[1] · Yolanda Falcone[1] · Marina Iacovino[1] · Enrica Grisoglio[1] · Elena Menditto[1] · Gianfranco Fonte[1] · Enrico Brunetti[1] · Giovanni Carlo Isaia[1] · Fabrizio D'Ascenzo[2] · Fiorenzo Gaita[2]

Age, years, m ± sd	81.6 ± 6.6
Age ≥75 years, *n* (%)	384 (85)
ADL, m ± sd	1.8 ± 2.2
ADL dependent, *n* (%)	157 (34.7)
IADL, median (25°–75°)	7 (3–12)
IADL dependent, *n* (%)	288 (63.7)
SPMSQ, m ± sd	3.2 ± 3.4
Moderate–severe cognitive impairment, *n* (%)	133 (29.4)
Dementia, *n* (%)	66 (14.6)
GDS, median (25°–75°)	4 (1–8)
Depression, *n* (%)	164 (36.3)
Groningen frailty index, median (25°–75°)	7 (4–9)
Frailty, *n* (%)	341 (75.4)
CHA2DS2-VASc, m ± sd	4.6 ± 1.4
HAS-BLED, m ± sd	2.8 ± 1.0
HAS-BLED ≥3, *n* (%)	273 (60.4)
CHARLSON, m ± sd	3.3 ± 2.2
CHARLSON >5, *n* (%)	79 (17.5)

PLOS ONE | DOI:10.1371/journal.pone.0115060 December 11, 2014

Screening for Vulnerability in Older Cancer Patients: The ONCODAGE Prospective Multicenter Cohort Study

Results: Patient median age was 78.2 years (70-98) with a majority of females (69.8%), various types of cancer including 53.9% breast, and 75.8% Performance Status 0-1. Impaired MGA, G8, and VES-13 were 80.2%, 68.4%, and 60.2%, respectively. Mean time to complete G8 or VES-13 was about five minutes. Reproducibility of the two questionnaires was good. G8 appeared more sensitive (76.5% versus 68.7%, $P= 0.0046$) whereas VES-13 was more specific (74.3% versus 64.4%, $P<0.0001$). Abnormal G8 score (HR=2.72), advanced stage (HR=3.30), male sex (HR=2.69) and poor Performance Status (HR=3.28) were independent prognostic factors of 1-year survival.

Conclusion: With good sensitivity and independent prognostic value on 1-year survival, the G8 questionnaire is currently one of the best screening tools available to identify older cancer patients requiring geriatric assessment, and we believe it should be implemented broadly in daily practice. Continuous research efforts should be pursued to refine the selection process of older cancer patients before potentially life-threatening therapy.

Ageing 2

Lancet 2015; 385: 549–62

The burden of disease in older people and implications for health policy and practice

Key messages

- 23% the global burden of disease arises in older people (nearly half the burden in high-income countries and a fifth in low-income and middle-income countries)
- Chronic non-communicable diseases account for most of the burden; leading contributors are cardiovascular diseases, cancer, chronic respiratory diseases, musculoskeletal diseases, and mental and neurological disorders
- Population ageing will be the major driver of projected increases in disease burden in older people, most evident in low-income and middle-income countries and for strongly age-dependent disorders (dementia, stroke, chronic obstructive pulmonary disease, and diabetes). These are also the disorders for which chronic disability makes a substantial contribution to burden

La possibilità di interventi efficaci negli anziani è resa difficoltosa da **ageismo**, **complessità clinica** e **polipatologia**, mancanza o **difficoltà di accesso a cure appropriate** per l'età, ed è aggravata dai **costi** per l'utenza, e da **inadeguate coperture assicurative e protezioni sociali**. Valutazione e trattamento dell'anziano dovrebbero essere **olistiche**, **coordinate** e **centrate sul paziente**….

PLOS ONE | DOI:10.1371/journal.pone.0115060 December 11, 2014

Screening for Vulnerability in Older Cancer Patients: The ONCODAGE Prospective Multicenter Cohort Study

Results: Patient median age was 78.2 years (70-98) with a majority of females (69.8%), various types of cancer including 53.9% breast, and 75.8% Performance Status 0-1. Impaired MGA, G8, and VES-13 were 80.2%, 68.4%, and 60.2%, respectively. Mean time to complete G8 or VES-13 was about five minutes. Reproducibility of the two questionnaires was good. G8 appeared more sensitive (76.5% versus 68.7%, $P = 0.0046$) whereas VES-13 was more specific (74.3% versus 64.4%, $P<0.0001$). Abnormal G8 score (HR=2.72), advanced stage (HR=3.30), male sex (HR=2.69) and poor Performance Status (HR=3.28) were independent prognostic factors of 1-year survival.

Conclusion: With good sensitivity and independent prognostic value on 1-year survival, the G8 questionnaire is currently one of the best screening tools available to identify older cancer patients requiring geriatric assessment, and we believe it should be implemented broadly in daily practice. Continuous research efforts should be pursued to refine the selection process of older cancer patients before potentially life-threatening therapy.

Journal of Geriatric Oncology 10 (2019) 4–30

Clinical pharmacology of oncology agents in older adults: A comprehensive review of how chronologic and functional age can influence treatment-related effects

Additionally, our article integrates how functional age, determined by the geriatric assessment (GA), can also influence treatment-related effects and health outcomes. Broadening cancer therapy trials to capture not only chronologic age but also functional age would allow clinicians to better identify subsets of older adults who benefit from treatment versus those most vulnerable to morbidity and/or mortality.

Predictive Factors of In-Hospital Mortality in Older Patients Admitted to a Medical Intensive Care Unit

J Am Geriatr Soc 51:529–533, 2003.

Mario Bo, MD, Massimiliano Massaia, MD, Silvio Raspo, MD, Francesca Bosco, MD, Paola Cena, MD, Mario Molaschi, MD, AP, and Fabrizio Fabris, MD, FP

Table 3. Variables Independently Predictive of In-Hospital Mortality by Logistic Regression

Variable	Odds Ratio	95% Confidence Interval
Absence of Sarcopenia/Frailty	0.93	0.88–0.99
Activities of daily living (dependence)	2.84	1.71–4.74
Short Portable Mental Status Questionnaire (moderate to severe impairment)	3.98	2.41–6.58
Acute Physiology and Chronic Health Evaluation II score	1.07	1.03–1.12

Journal of Geriatric Oncology 10 (2019) 48–54

Frailty assessment predicts toxicity during first cycle chemotherapy for advanced lung cancer regardless of chronologic age

Methods: We conducted a multi-site pilot study of 50 patients with newly diagnosed advanced NSCLC, age ≥ 18 years. All participants received carboplatin AUC 6, paclitaxel 200 mg/m^2 every 3 weeks. FFI and the GA were administered prior to chemotherapy. A GA toxicity risk score was calculated. Grade 3–5 toxicity was assessed during 1st two cycles of chemotherapy. OS was measured from chemotherapy initiation. Logistic regression and Cox proportional hazards models were fit to estimate the association between baseline characteristics and toxicity and OS respectively.

Results: Among 50 participants, 48 received chemotherapy and were evaluable. The mean age was 68.5 y (range 42–86), 79% male, 85% KPS ≥80. The median OS was 8 months. Many (27%) met FFI criteria for frailty with ≥3 impairments. Impairments detected by the GA were common. In multivariable analyses both FFI ≥ 3 and GA toxicity risk score > 7 were independently associated with higher odds of toxicity (Odds ratio [OR] 7.0; 95% confidence interval [CI] 1.1–44.6 and OR 4.3; 95% CI 1.0–17.7, respectively) in first cycle chemotherapy. Neither score was associated with OS.

In addition to evaluating each component of the GA individually, a modified GA toxicity risk score was also calculated using published cut offs for the following variables: age (≥72 years), hemoglobin (<11 g/dL for men, <10 g/dL for women), creatinine clearance (<34 mL/min per Jeliffe caculation), hearing impairment (fair or worse), number of falls in last 6 months (1 or more), assistance with medications, limitation in walking one block, and decreased social activity because of physical/emotional health [10, 11, 14].

Prognostic Significance of Potential Frailty Criteria

Marc D. Rothman, MD, Linda Leo-Summers, MPH,† and Thomas M. Gill, MD**

CONCLUSION: The results of this study provide strong evidence to support the use of slow gait speed, low physical activity, weight loss, and cognitive impairment as key indicators of frailty while raising concerns about the value of self-reported exhaustion and muscle weakness. **J Am Geriatr Soc 56:2211–2216, 2008.**

Open Access Full Text Article

Frailty syndrome: an overview

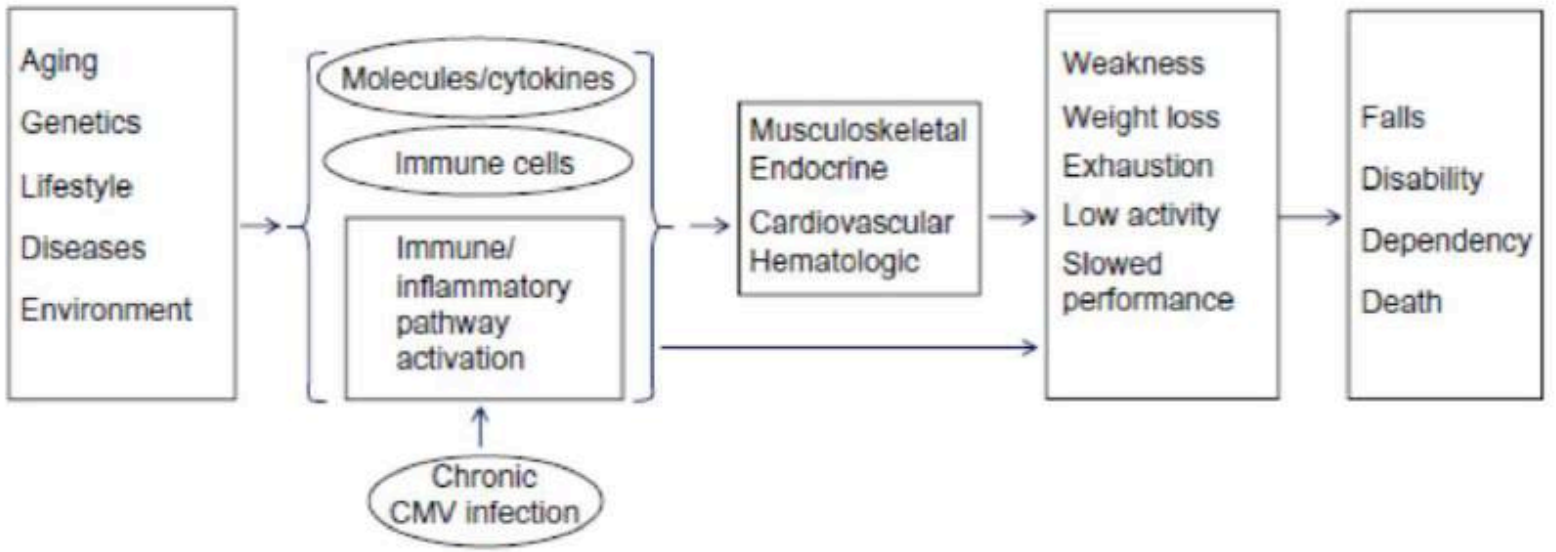
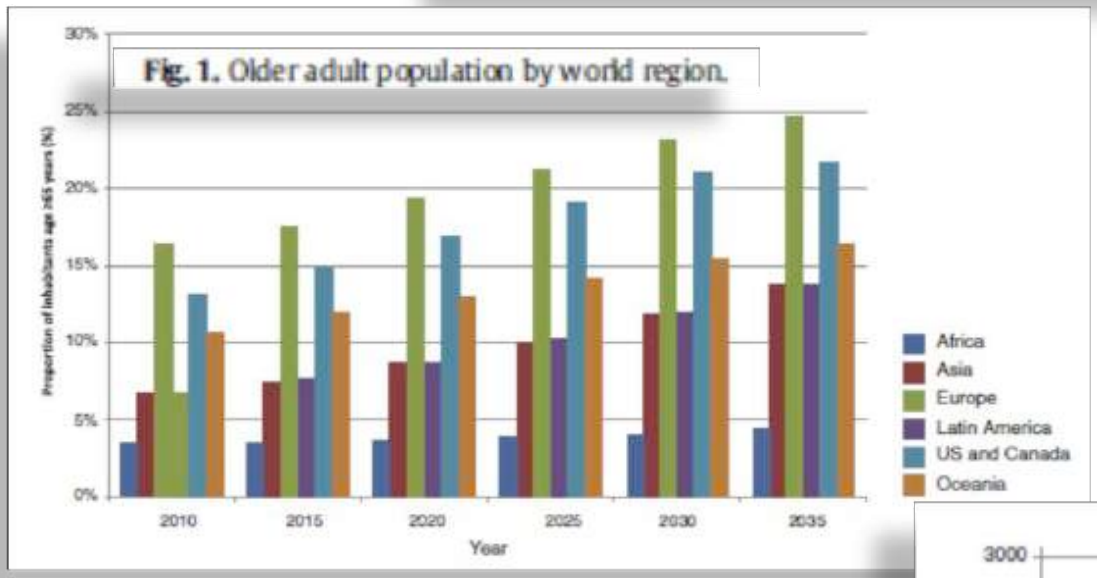
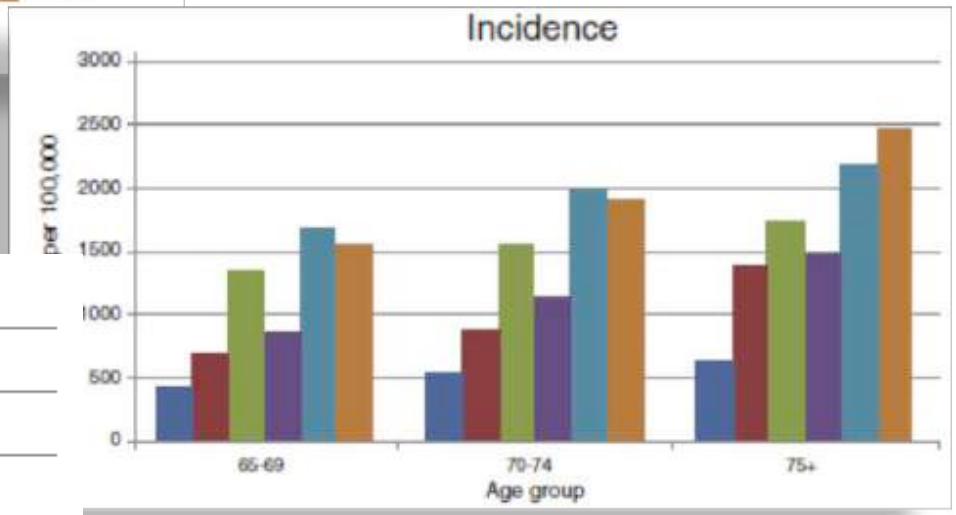


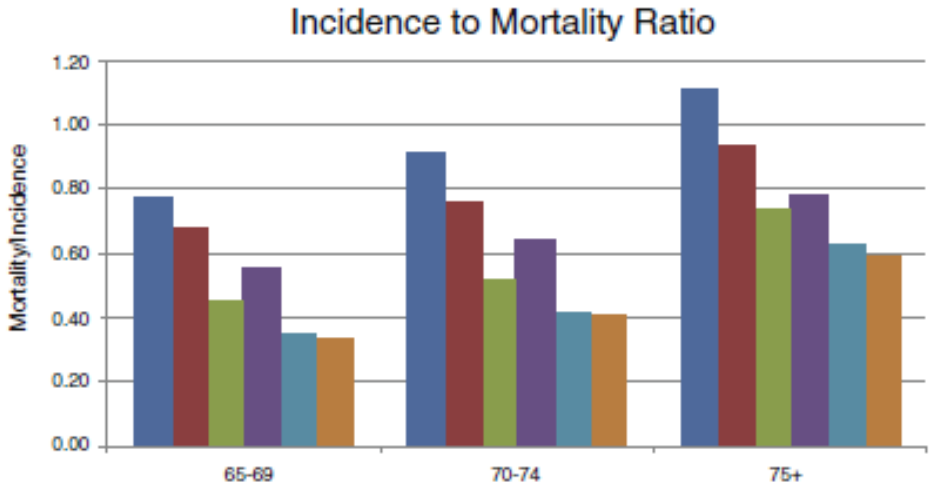
Figure 2 Pathogenesis of the frailty syndrome: current understanding of potential underlying mechanisms and hypothetical modal pathways leading to frailty.
Abbreviation: CMV, Cytomegalovirus.

Journal of Geriatric Oncology 8 (2017) 374–386

Global geriatric oncology: Achievements and challenges







Journal of Geriatric Oncology 8 (2017) 374–386

Global geriatric oncology: Achievements and challenges

Summary of ASCO/ESMO global curriculum for geriatric oncology [21].

Awareness	• Understanding the importance of the geriatric assessment and its domains
	• Recognizing competing causes of mortality
	• Understanding differences in tumor biology and pharmacology in older adults
Knowledge	• Understanding that abnormalities in the geriatric assessment should lead to interventions and impact treatment decisions
	• Familiarizing with international guidelines
	• Utilizing the geriatric assessment to predict chemotherapy toxicity
Skills	• Performing and interpreting a geriatric assessment
	• Collaborating with other healthcare workers, geriatricians and caregivers
	• Integrating the geriatric assessment into treatment decision-making and therapeutic choices

BMJ

What is health?

RESEARCH

Fiona Godlee ***editor, BMJ***

stato di completo benessere fisico, mentale e sociale e non semplice assenza di malattia *(OMS, 1948)*

La salute è anche autopercezione del singolo soggetto nei vari momenti della sua vita. Occorre quindi superare il riduzionismo organicista e recuperare la **dimensione soggettiva** (**autopercettiva**) di salute, rendendo lo stato di salute potenzialmente raggiungibile da chiunque (come abbiamo visto invece l'attuale definizione lo rende inaccessibile a chiunque), inclusi gli anziani
La salute è un processo dinamico ed in continuo divenire, ed una buona condizione di salute può comprendere sia stati di benessere che di malessere. E' importante centrarsi sul rapporto tra l'individuo e l'ambiente, sull'idea di fronteggiare nel modo massimamente adattivo gli eventi della vita

What is health?

Fiona Godlee *editor, BMJ*

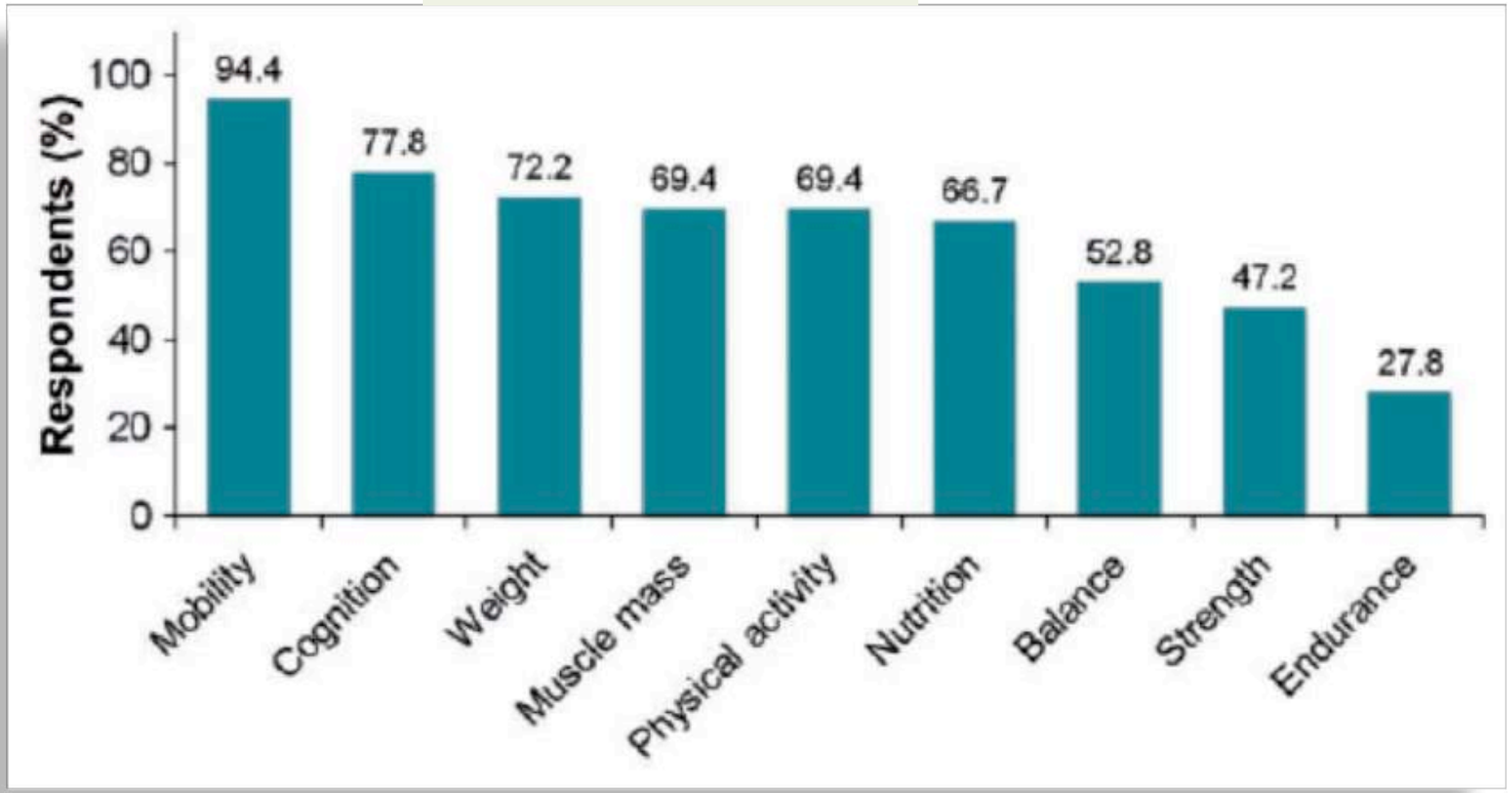
“the ability to adapt and self-manage” in the face of social, physical, and emotional challenges

Frailty syndrome: an emerging clinical problem in the everyday management of clinical arrhythmias. The results of the European Heart Rhythm Association survey

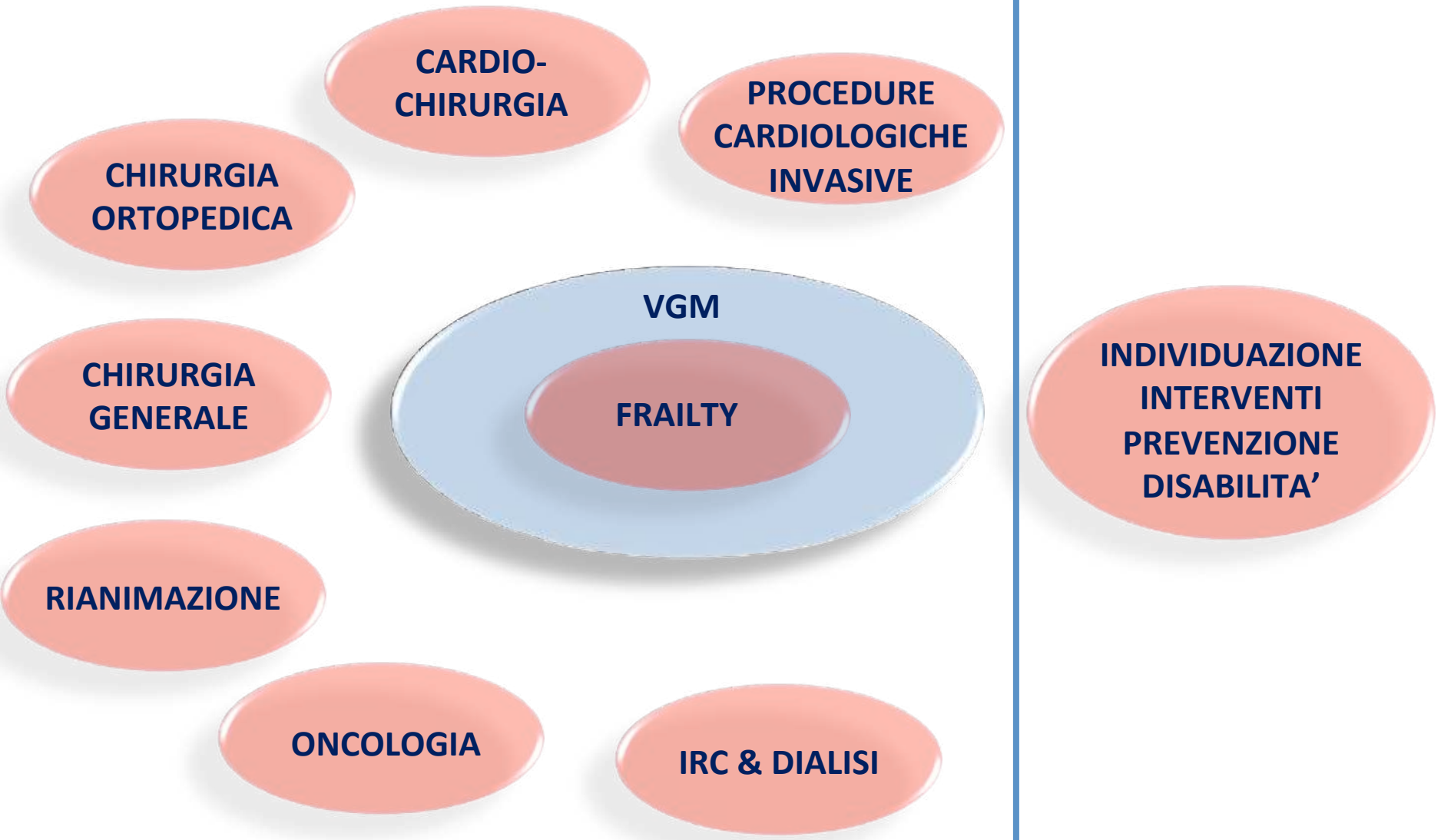
Europace (2017) **19**, 1896–1902

Stefano Fumagalli[1]*, Tatjana S. Potpara[2], Torben Bjerregaard Larsen[3], Kristina H. Haugaa[4], Dan Dobreanu[5], Alessandro Proclemer[6], and Nikolaos Dagres[7]

Features that characte frailty syndrome ling to the participants' opinion.



SELEZIONE PREPROCEDURALE, OTTIMIZZAZIONE INTERVENTI E ALLOCAZIONE RISORSE, RIDUZIONE FUTILITA' TERAPEUTICA E IATROGENESI



Do geriatricians need guidelines?

PERSONAL VIEW **Virginia Aylett**

What does a geriatrician do? It is easy for most specialists to define themselves: a cardiologist looks after the heart, a respiratory physician the chest. But for a geriatrician it can be surprisingly difficult. Are we simply general physicians for older people, or do we have a more specialist skill?

We are now in an evidence free zone, and there are problems with using experience as a guide, which sometimes gets it wrong


vs


Quale può essere la **specificità** di una disciplina che non contempla atti chirurgici o procedure invasive, e che tradizionalmente prevede poca manualità e scarse procedure strumentali?

La specificità dovrebbe consistere nel **conoscere e nel curare meglio il paziente anziano** con le sue molteplici affezioni e problematiche.

La super-specificità dovrebbe essere il divenire uno **specialista di settore nell'anziano** (es: neuro-geriatra, onco-geriatra, cardio-geriatra, orto-geriatra, ecc)

LA SPECIFICITA' GERIATRICA nelle DISCIPLINE MEDICHE

Le **sindromi geriatriche**

- Il delirium
- I disturbi del tono dell'umore
- Il declino funzionale
- L'impairment cognitivo
- Le alterazioni sensoriali
- L'omeostenosi e le ridotte riserve funzionali dell'anziano

L' impatto multidisciplinare nella medicina clinica: l'importanza del riconoscimento precoce, il significato prognostico e le misure di prevenzione e trattamento

LA SPECIFICITA' GERIATRICA nelle DISCIPLINE MEDICHE

La **terapia farmacologica** nell'anziano

- Le modificazioni fisiopatologiche dell'anziano e l'impatto sulla sicurezza e sull'efficacia dei farmaci
- Le interazioni farmacologiche, la politerapia e gli eventi avversi
- Incoerenze e pitfalls della medicina «preventiva» nel vecchio
- Dalle raccomandazioni cliniche disease-oriented alla cura dell'anziano polipatologico
- La conoscenza di criteri prescrittivi specifici per l'anziano (Beer, STOP, ecc)

Le norme per la **buona** «**prescrizione clinica**» nell'anziano
La prevenzione del danno iatrogeno da farmaci

Table 3. Treatment Regimen Based on Clinical Practice Guidelines for a Hypothetical 79-Year-Old Woman With Hypertension, Diabetes Mellitus, Osteoporosis, Osteoarthritis, and COPD*

Time	Medications†	Other
7:00 AM	Ipratropium metered dose inhaler 70 mg/wk of alendronate	Check feet Sit upright for 30 min on day when alendronate is taken Check blood sugar
8:00 AM	500 mg of calcium and 200 IU of vitamin D 12.5 mg of hydrochlorothiazide 40 mg of lisinopril 10 mg of glyburide 81 mg of aspirin 850 mg of metformin 250 mg of naproxen 20 mg of omeprazole	Eat breakfast 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
12:00 PM		Eat lunch 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
1:00 PM	Ipratropium metered dose inhaler 500 mg of calcium and 200 IU of vitamin D	
7:00 PM	Ipratropium metered dose inhaler 850 mg of metformin 500 mg of calcium and 200 IU of vitamin D 40 mg of lovastatin 250 mg of naproxen	Eat dinner 2.4 g/d of sodium 90 mmol/d of potassium Low intake of dietary saturated fat and cholesterol Adequate intake of magnesium and calcium Medical nutrition therapy for diabetes‡ DASH‡
11:00 PM	Ipratropium metered dose inhaler	
As needed	Albuterol metered dose inhaler	

Abbreviations: ADA, American Diabetes Association; COPD, chronic obstructive pulmonary disease; DASH, Dietary Approaches to Stop Hypertension.

*Clinical practice guidelines used: (1) Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure VII.[33] (2) ADA[32-36]; glycemic control is recommended; however, specific medicines are not described. (3) American College of Rheumatology[37-39]; recent evidence about the safety and appropriateness of cyclooxygenase inhibitors, particularly in individuals with comorbid cardiovascular disease, led us to omit them from the list of medication options, although they are discussed in the reviewed clinical practice guidelines. (4) National Osteoporosis Foundation[40]; this regimen assumes dietary intake of 200 IU of vitamin D. (5) National Heart, Lung, and Blood Institute and World Health Organization.[27,30]

†Taken orally unless otherwise indicated. The medication complexity score of the regimen for this hypothetical woman is 14, with 19 doses of medications per day, assuming 2 as needed doses of albuterol metered dose inhaler plus 70 mg/wk of alendronate.

‡DASH and ADA dietary guidelines may be synthesized, but the help of a registered dietitian is specifically recommended. Eat foods containing carbohydrate from whole grains, fruits, vegetables, and low-fat milk. Avoid protein intake of more than 20% of total daily energy; lower protein intake to about 10% of daily calories if overt nephropathy is present. Limit intake of saturated fat (<10% of total daily energy) and dietary cholesterol (<200-300 mg). Limit intake of *trans*unsaturated fatty acids. Eat 2 to 3 servings of fish per week. Intake of polyunsaturated fat should be about 10% of total daily energy.

"This review suggests that adhering to current CPGs in caring for an older person with several comorbidities may have undesirable effects. Basing standards for quality of care and pay for performance on existing CPGs could lead to inappropriate judgment of the care provided to older individuals with complex comorbidities and could create perverse incentives that emphasize the wrong aspects of care for this population and diminish the quality of their care. Developing measures of the quality of the care needed by older patients with complex comorbidities is critical to improving their care."

JAMA 2005

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

SEPTEMBER 8, 2016

Caring for High-Need, High-Cost Patients — An Urgent Priority

Improving the performance of America's health system will require improving care for the patients who use it most: people with multiple chronic conditions that are often complicated by patients' limited ability to care for themselves independently and by their complex social needs. Focusing on this population makes sense for humanitarian, demographic, and financial reasons.

One frequently cited statistic is that they compose the 5% of our population that accounts for 50% of the country's annual health care spending.

At least three steps are essential to meeting the needs of these patients: developing a deep understanding of this diverse population; identifying evidence-based programs that offer them higher-quality, integrated care at lower cost; and accelerating the adoption of these programs on a national level.

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

Today, for the first time in history, most people can expect to live into their 60s and beyond.[1] In less developed countries, this longevity is largely the result of much reduced mortality at younger ages.[2] In high-income countries, continuing increases in longevity are now mainly due to rising life expectancy among those who are 60 years or older, although these general trends might not be sustainable and mask substantial inequalities within countries.[3,4] When combined with falling fertility rates, these increases in life expectancy are leading to the rapid ageing of populations around the world.

Research reported in 2014 by WHO suggests that although severe disability in older people (that necessitates help from another person for basic activities such as eating and washing) might be decreasing slightly, no substantial change in less severe disability has been noted in the past 30 years.[18]

However, although 70 does not yet appear to be the new 60, there is no reason why this cannot become reality in the future. But it will need a coherent and focused response across multiple sectors and stakeholders. To

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

Approaches that are based on mortality patterns and disease prevalence reval only part of what might make up so-called «**health**» in older age. The presence of a health disorder says nothing about the effect it might have

The multifacetd dynamics between underlying physiological change, chronic disease, and multimorbidity can also result in health states in older age that are not captured at all by traditional disease classifications…these are commonly known as «geriatric syndromes», although there is still some debate as to what disorders they include

Multimorbidity can lead to interactions between disorders, between one disorder and treatment recommendations for another, and between drugs prescribed for different disorders. As a result, the effect of multimorbidity on functioning, quality of life and mortality risk might be much greater than the individual effects that might be expected from these disorders

This complexity of health states in older age means that **disease-based conceptualizations are inadequate proxies for health in older persons**. Rather than the presence or absence of disease, **the most important consideration for an older person is likely to be their functioning**. **Comprehensive assessments of functioning in older age are also much better predictors of survival and other outcomes** than the presence of diseases or even the extent of comorbidities.

The World report on ageing and health: a policy framework for healthy ageing

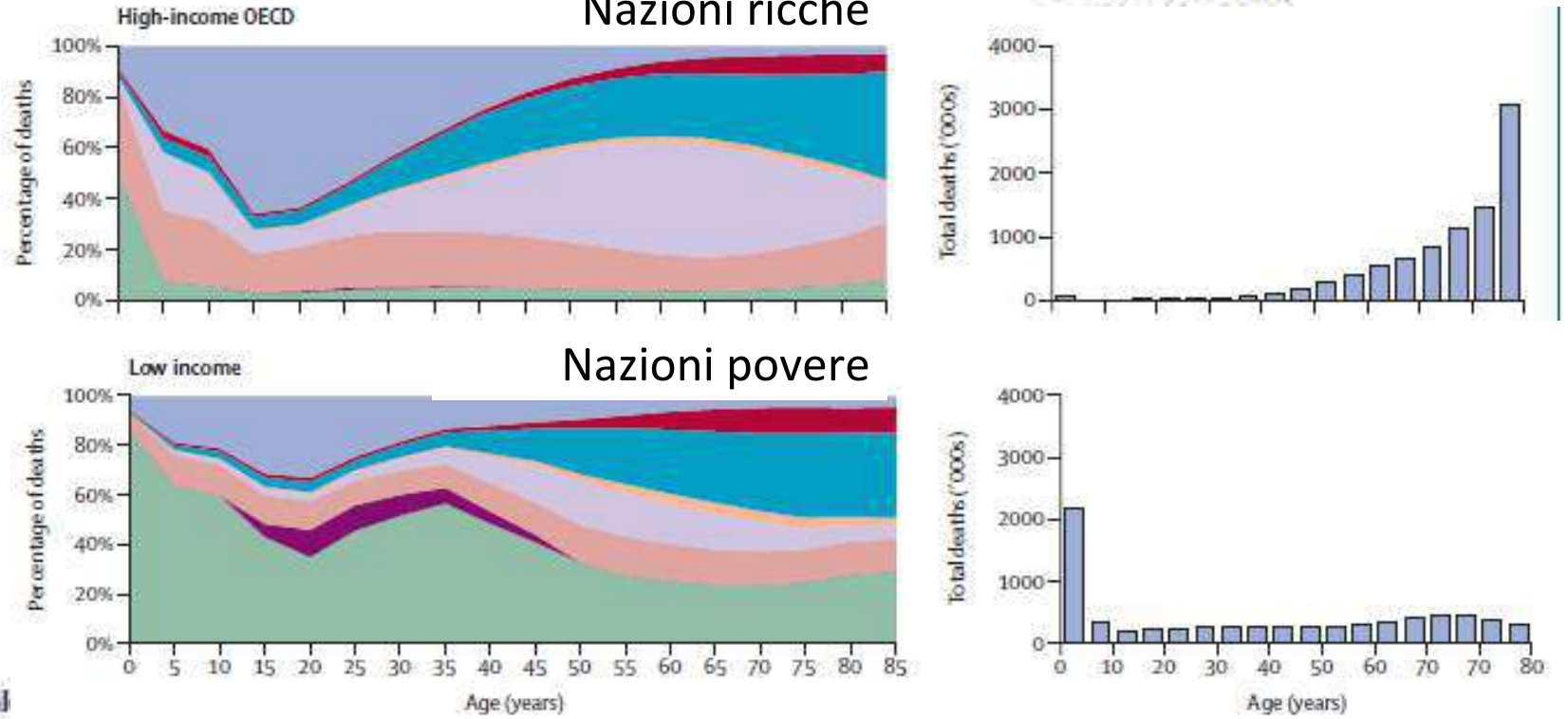
Lancet 2016; 387: 2145-54

The epidemiology of population ageing

The increases in life expectancy observed globally during the past 50 years have been accompanied by substantial changes in cause of death. Figure 1 shows mortality patterns across the life course for countries at different stages of socioeconomic development.

Figure 1: Mortality at different ages for countries of low, middle, and high income, 2012

Nazioni ricche



Nazioni povere

GI

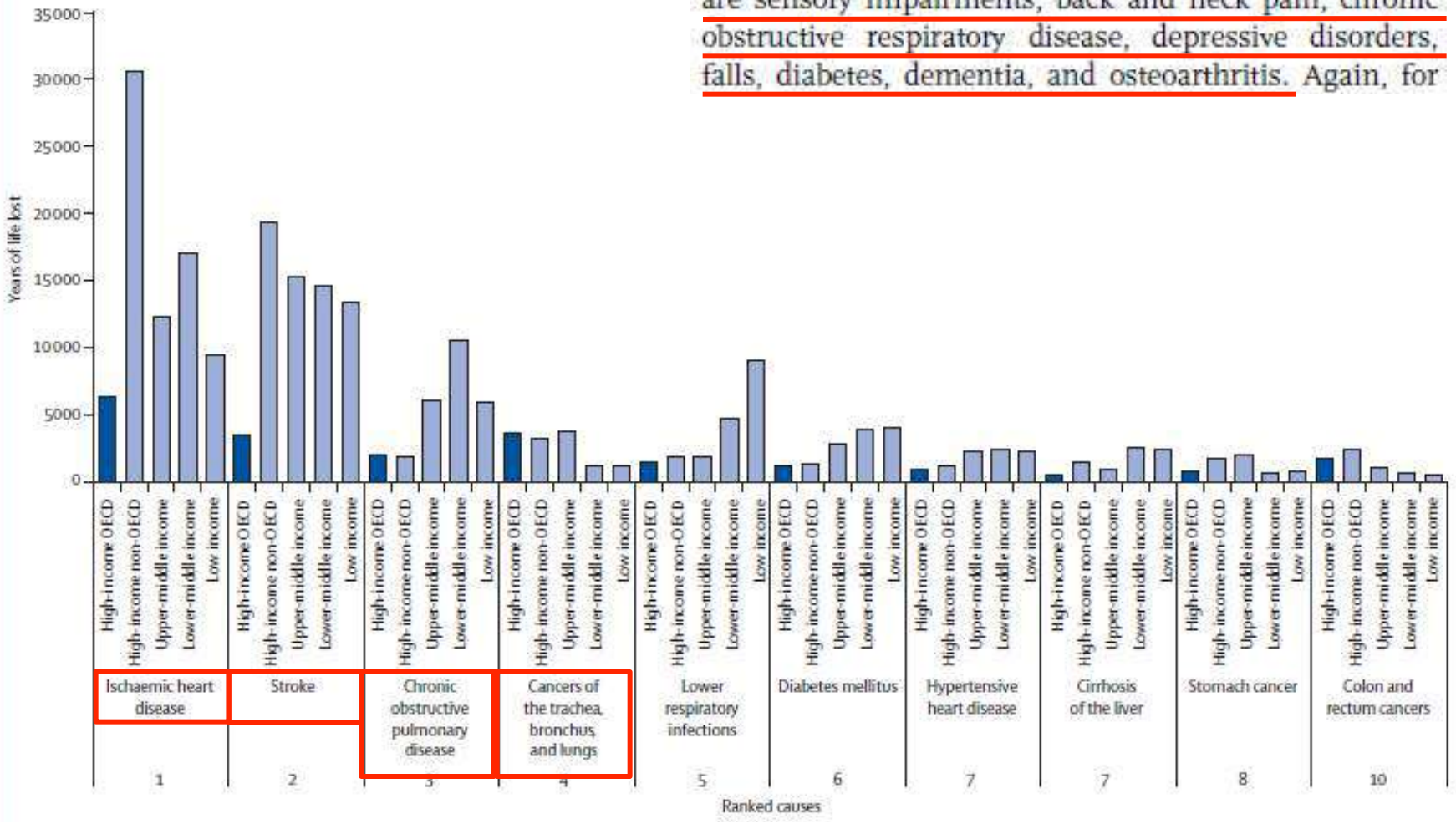
Injuries | Chronic respiratory diseases | Cardiovascular diseases
Diabetes | Cancers | Other non-communicable diseases | Maternal causes
Maternal causes | Communicable diseases, neonatal conditions, and nutritional deficiencies

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

To explore which of these causes of death result in the greatest burden on older people, figure 2 shows years of life lost for people older than 60 years using from data from the WHO Global Health Estimates (GHE).[21]

The report also uses WHO GHE data[21] to identify the greatest causes of years living with disability in people older than 60 years. In order of decreasing burden, these are sensory impairments, back and neck pain, chronic obstructive respiratory disease, depressive disorders, falls, diabetes, dementia, and osteoarthritis. Again, for



The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

However, approaches such as GHE that are based on mortality patterns and disease prevalence reveal only part of what might make up so-called health in older age. The presence of a health disorder says nothing about the effect it might have. Moreover, older people's self-perceptions of health can be greatly affected by other factors, including their attitudes toward their own ageing.[31] Nor do these approaches take account of the differing environments or differential access to services between countries that might mitigate the effects on functioning of different disorders.

The multifaceted dynamics between underlying physiological change, chronic disease, and multimorbidity can also result in health states in older age that are not captured at all by traditional disease classifications and that are therefore often missing in disease-based assessments of health. These are commonly known as geriatric syndromes, although there is still some debate as to what disorders these include.[36]

Furthermore, ageing is also associated with an increased risk of a person having more than one disorder at the same time (multimorbidity). Although no consensus exists about which disorders should be considered, more than half of older people are likely to experience multimorbidity, even in low-income and middle-income countries.[32,33] Multimorbidity can lead to interactions between disorders; between one disorder and treatment recommendations for another; and between drugs prescribed for different disorders. As a result, the effect of multimorbidity on functioning, quality of life, and mortality risk might be much greater than the individual effects that might be expected from these disorders.[32]

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

Foremost among the geriatric syndromes is frailty, which can be regarded as a progressive age-related deterioration in physiological systems that results in extreme vulnerability to stressors and increases the risk of a range of adverse outcomes including care dependence and death.[37,38] This condition is very common with a prevalence in high-income countries at age 50–64 years of around 4%, increasing to 17% in people older than 65 years.[39]

This complexity of health states in older age means that disease-based conceptualisations are inadequate proxies for health in an older person. Rather than the presence or absence of disease, the most important consideration for an older person is likely to be their functioning. Comprehensive assessments of functioning in older age are also much better predictors of survival and other outcomes than the presence of diseases or even the extent of comorbidities.[41]

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

Healthy ageing

In framing a public health response to population ageing, the World report therefore considers the multitude of health characteristics we have described as well as underlying physiological changes and psychosocial changes associated with ageing as interacting to determine an older person's intrinsic capacity. This capacity is defined as the composite of all the physical and mental (including psychosocial) capacities that an individual can draw on at any point in time.

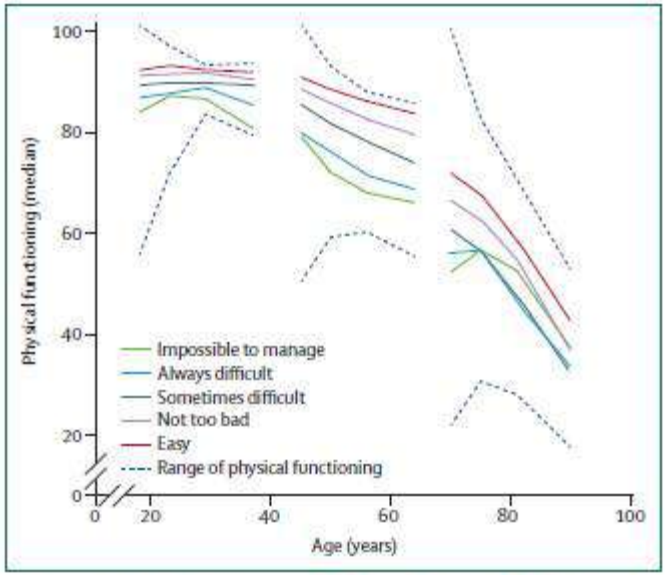
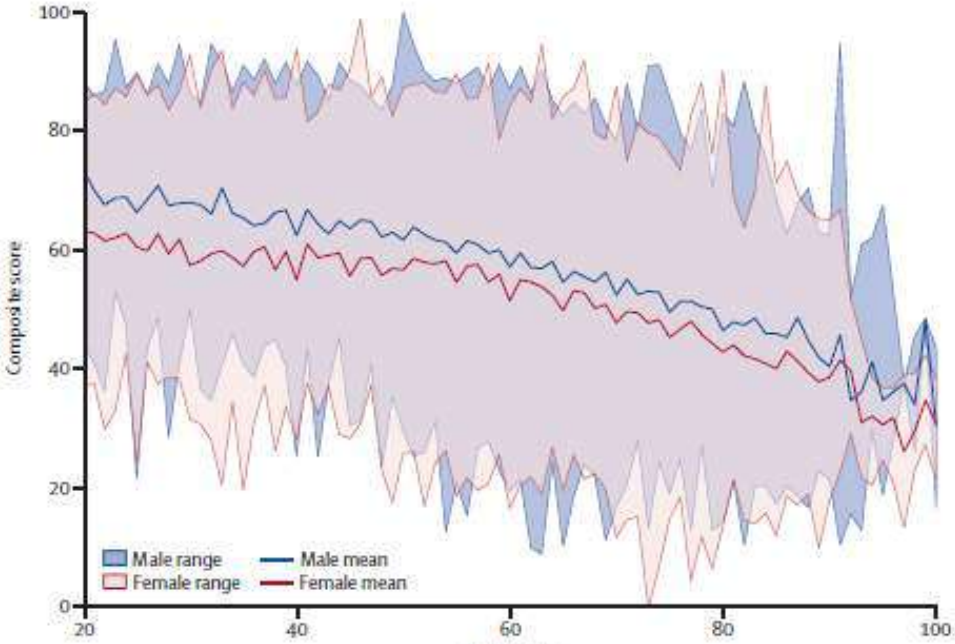


Figure 4: **Physical functioning across the life course, stratified by ability to manage on current income**
Dashed lines show range between the median of top and bottom quintiles of physical functioning.

Figure 3: **Range and mean intrinsic capacity of men and women in countries in the Study on global AGEing and adult health 2007–2010 (wave 1)[e]**

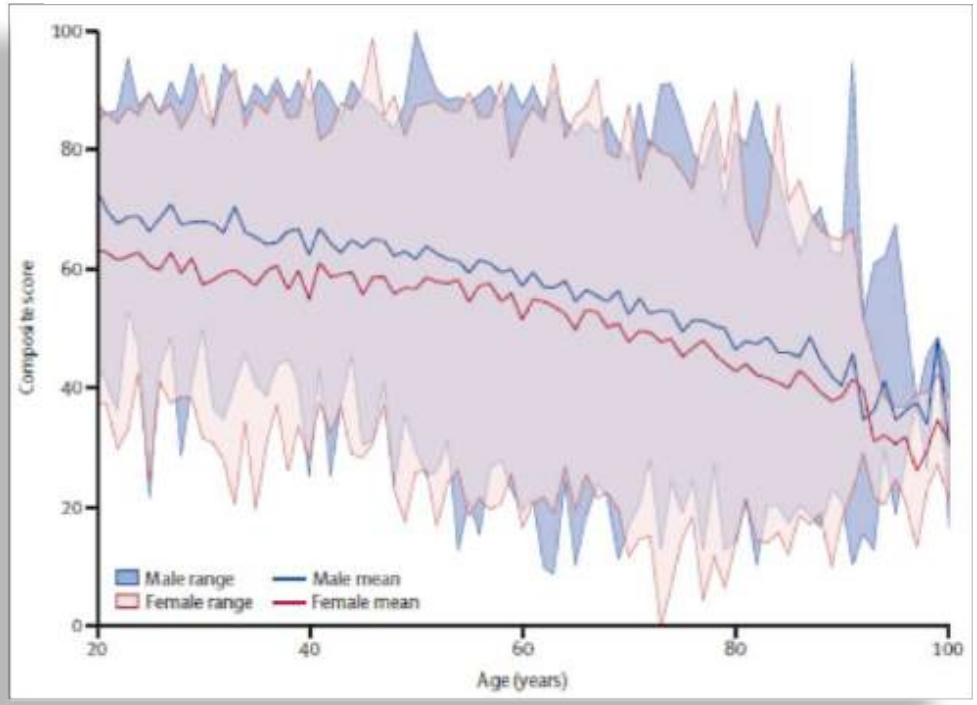


This wide distribution of intrinsic capacity observed across the life course is not random. Figure 4 shows analysis of trends in physical functioning from the Australian Longitudinal Study on Women's Health.[25] The figure divides the cohort into categories of income adequacy. The higher the income adequacy, the higher the early-life peak in average physical functioning and this disparity tends to persist across the whole life course (see appendix for details).

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

Figure 3: Range and mean intrinsic capacity of men and women in countries in the Study on global AGEing and adult health 2007–2010 (wave 1)[42]



La **capacità intrinseca** di una persona è la sommatoria delle **capacità o potenzialità fisiche e mentali** di un individuo in ogni momento della sua vita

Alta capacità intrinseca

Cattive — Condizioni di salute — Ottime

Deteriorato — Stato psico-cognitivo — Integro

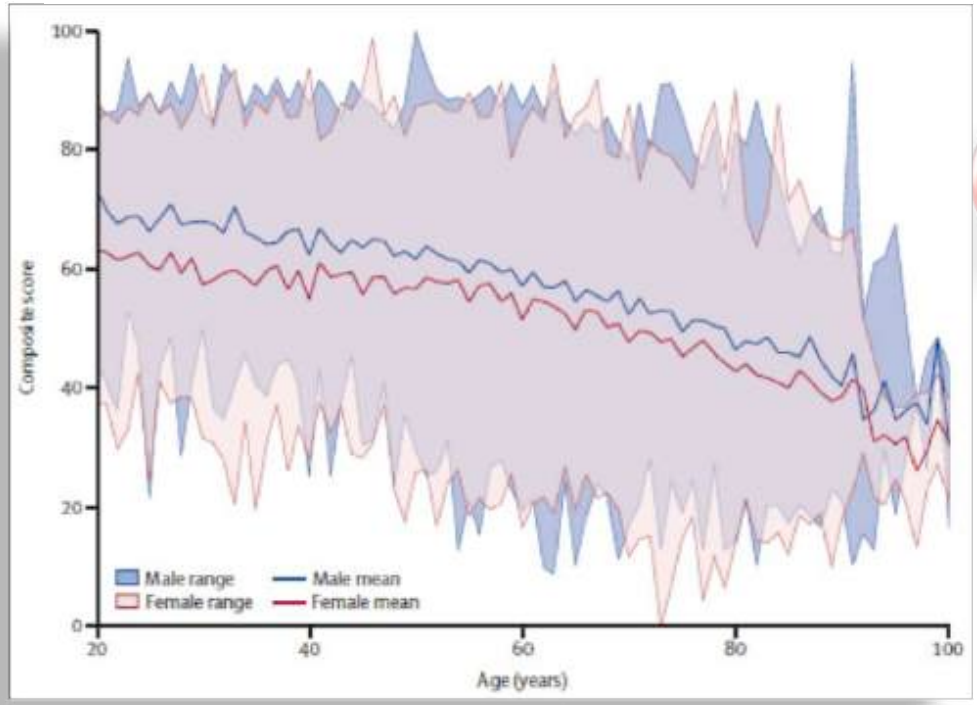
Compromessa — Integrità fisica — Conservata

Bassa capacità intrinseca

The World report on ageing and health: a policy framework for healthy ageing

Lancet 2016; 387: 2145–54

Figure 3: Range and mean intrinsic capacity of men and women in countries in the Study on global AGEing and adult health 2007–2010 (wave 1)[42]



La **capacità intrinseca** di una persona è la sommatoria delle **capacità o potenzialità fisiche e mentali** di un individuo in ogni momento della sua vita

Capacità intrinseca individuale

Fattori socio-ambientali

↓

Autonomia funzionale individuale

↓

Salute o Benessere dell'anziano

Ageing 2

Lancet 2015; 385: 549–62

The burden of disease in older people and implications for health policy and practice

Key messages

50% nei Paesi occidentali

- 23% the global burden of disease arises in older people (nearly half the burden in high-income countries and a fifth in low-income and middle-income countries)
- Chronic non-communicable diseases account for most of the burden; leading contributors are cardiovascular diseases, cancer, chronic respiratory diseases, musculoskeletal diseases, and mental and neurological disorders
- Population ageing will be the major driver of projected increases in disease burden in older people, most evident in low-income and middle-income countries and for strongly age-dependent disorders (dementia, stroke, chronic obstructive pulmonary disease, and diabetes). These are also the disorders for which chronic disability makes a substantial contribution to burden
- Primary and secondary prevention for cardiometabolic disorders is probably as effective in older people as it is in younger people, and the benefit is increased in view raised levels of absolute risk of adverse outcomes. Nevertheless, access and coverage is especially poor in older people
- Effective intervention in older people is complicated by ageism, complex multimorbidity, and no access to age-appropriate care, and is exacerbated by user fees, inadequate income security and social protection. Assessment and treatment needs to be holistic, coordinated and person-centred. Home-based outreach, and multidimensional assessment of frailties that might be treated or mitigated might help to reduce individual and societal effects on disability and dependence

ELDERLY PATIENTS CENTERED CARE
(Cura «centrata» sul paziente anziano)

- ***TARGETED INDIVIDUALIZED APPROACH, where MORE sometimes may be LESS and LESS is often MORE***
- ***Approccio diagnostico-terapeutico individualizzato, dove fare DI PIU' talora può far più MALE che BENE, e spesso fare DI MENO fa meglio che far DI PIU'***

- ***GLOBAL HEALTH OUTCOMES, prioritizing functional and qualitative subjective outcomes over target organ measures***
- ***Obiettivi di salute «globale», che tengano conto a questa età di aspetti qualitativi, funzionali e soggettivi almeno quanto di quelli convenzionali organo specifici***

- ***UNCERTAIN BENEFIT OF unproved medical therapies in these patients***
- ***Incerto beneficio clinico netto a livello individuale di molte terapie in pazienti di questa età***

L'appropriatezza del ricovero ospedaliero* nell'anziano dovrebbe essere decisa al domicilio o, comunque, al più tardi al PS. Il ricovero ospedaliero in un anziano è appropriato quando, in presenza di esigenze diagnostico-terapeutiche che solo in ospedale possono essere soddisfatte, vi sono ragionevoli evidenze che i benefici dell'ospedalizzazione superino i possibili inconvenienti. Quindi, un ricovero su base clinica con prospettive di beneficio e non, come spesso avviene, un ricovero inappropriato o per mancanza di alternative.

Idonee tempistiche e strategie di "ospitalità" dei PS, con successiva allocazione nel setting di cura più idoneo:

- ***ACUTE CARE (critical intensive care, general medical ward care)***
- ***SUBACUTE CARE (postacute care, transitional care)***
- ***DAY-HOSPITAL CARE***
- ***HOME-HOSPITAL CARE***
- ***REHABILITATIVE CARE***
- ***LONG-TERM CARE (nursing home)***
- ***COMMUNITY-BASED LONG-TERM and HOME-CARE***

ELDERLY PATIENTS CENTERED CARE
(Cura «centrata» sul paziente anziano)

- *TARGETED INDIVIDUALIZED APPROACH, where MORE sometimes may be LESS and LESS is often MORE*
- *Approccio diagnostico-terapeutico individualizzato, dove fare DI PIU' talora può far più danno che bene, e spesso fare DI MENO fa meglio che far DI PIU'*

- ***GLOBAL HEALTH OUTCOMES, prioritizing functional and qualitative subjective outcomes over target organ measures***
- ***Obiettivi di salute «globale», che tengano conto a questa età di aspetti qualitativi, funzionali e soggettivi almeno quanto di quelli convenzionali organo specifici***

- *UNCERTAIN BENEFIT OF unproved medical therapies in these patients*
- *Incerto beneficio clinico netto a livello individuale di molte terapie in pazienti di questa età*

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JAMA October 1, 2014 Volume 312, Number 13

VIEWPOINT

Evidence-Based Practice Is Not Synonymous With Delivery of Uniform Health Care

We are now in an evidence free zone, and there are problems with using experience as a guide, which sometimes gets it wrong

…one size does not fit all…

ETA' e AGEISMO

Gerontologist, 2017, Vol. 00, No. 00, 1–11

Ageism in Health Care: A Systematic Review of Operational Definitions and Inductive Conceptualizations

L'**AGEISMO** è definito come un insieme di **stereotipi** (positivi o negativi), **pregiudizi** e/o **atteggiamenti discriminatori sulla base dell'età anagrafica** o sulla base di una percezione individuale che un individuo sia "anziano" o "troppo vecchio"…

Stereotipi mentali
Pregiudizi affettivi/emotivi
Discriminazioni comportamentali

Auto- vs etero-ageismo

Ageismo implicito vs esplicito

Ageismo positivo (benevolo) vs negativo (malevolo)

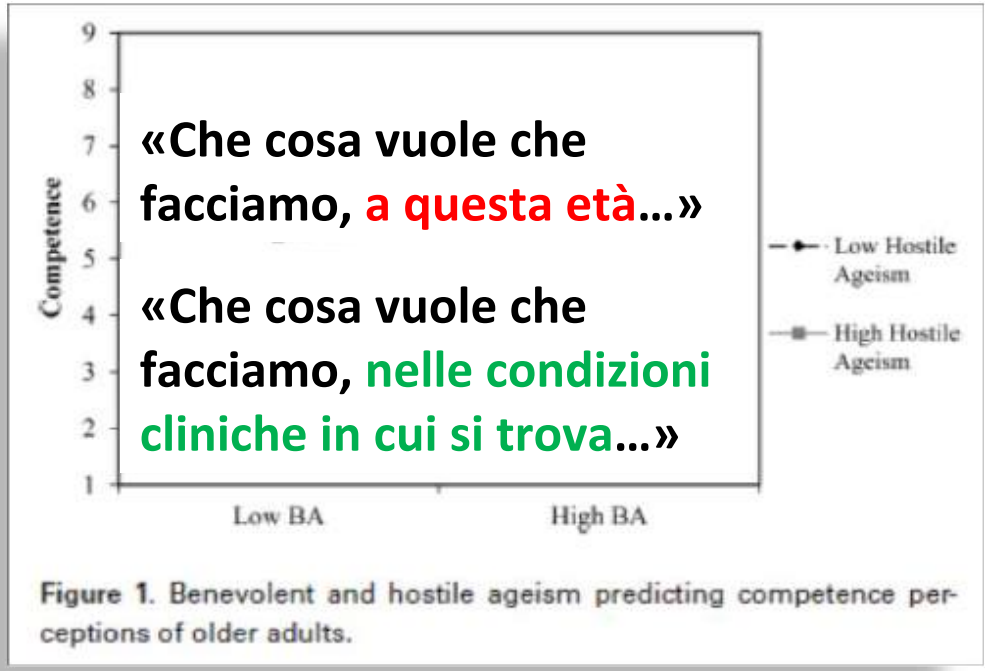

Figure 1. Benevolent and hostile ageism predicting competence perceptions of older adults.

Gerontology & Geriatrics Education

GERONTOLOGY & GERIATRICS EDUCATION
2017, VOL. 38, NO. 2, 219–231

The influence of ageism, experience, and relationships with older adults on physical therapy students' perception of geriatrics

Conclusioni: *per soddisfare il fabbisogno di professionisti preparati nella gestione clinica degli anziani, gli studenti dovrebbero poter accedere a* ***maggiori esperienze pratiche formative in ambito geriatrico nel corso di laurea e ad esperienze professionali post-laurea all'interno di cliniche geriatriche multidisciplinari****.*

Geriatr Gerontol Int 2016

Factors associated with ageist attitudes among college students

Matthew Lee Smith,[1,2] Caroline D Bergeron,[3] Clay Cowart,[1] SangNam Ahn,[2,4] Samuel D Towne Jr.,[2] Marcia G Ory,[2] Mindy A Menn[5] and JD Chaney[6]

Conclusioni: *i dati di questo studio indicano che una* ***maggior interazione con i pazienti anziani può sensibilmente ridurre l'attitudine all'ageismo tra gli studenti*** *del corso di laurea……*

Age Differences in Cancer Treatment Decision Making and Social Support

Journal of Aging and Health
2017, Vol. 29(2) 187–205

Objective: The aim of this study was to examine the decision-making (DM) styles of younger (18-39 years), middle-aged (40-59 years), and older (≥60 years) cancer survivors, the type and role of social support, and patient satisfaction with cancer treatment DM. **Method:** Adult cancer survivors (N = 604) were surveyed using Qualtrics online software. **Results:** Older adults reported significantly lower influence of support on DM than younger adults. The most common DM style for the age groups was collaborative DM with their doctors. Younger age was a significant predictor of independent ($p < .05$), collaborative with family ($p < .001$), delegated to doctor ($p < .01$), delegated to family ($p < .001$), and demanding ($p < .001$) DM styles. **Discussion:** Despite having lower received social support in cancer treatment DM, older adults were more satisfied with their DM than younger and middle-aged adults. Health care workers should be aware of different DM styles and influence of social networks to help facilitate optimal patient DM and satisfaction.

BMJ 2016;354:i4514 doi: 10.1136/bmj.i4514

Institutional ageism in global health policy

Peter G Lloyd-Sherlock and colleagues *argue that a focus on premature mortality is discriminating against the needs of a growing older population*

Institutional ageism

I fautori di una politica di riduzione delle cure mediche per pazienti anziani affermano che[5]:

- l'anziano ha l'obbligo verso il giovane di rinunciare ad una assistenza sanitaria troppo onerosa alla fine della vita;
- la società in generale dovrebbe impiegare minori risorse per gli anziani, per poterne invece impiegare di più per il benessere dei bambini;
- gli anziani possono trovare un significato per la loro età accettando la morte, come era in epoche precedenti;
- la non somministrazione di cure all'anziano è giustificabile poiché la morte non è prematura, infatti l'anziano ha avuto la possibilità di vivere un naturale ciclo di vita;
- se le cure sanitarie devono essere razionate, è più giusto razionarle sulla base dell'età, poiché l'età è un criterio equo.

BMJ 2016;354:i4514 doi: 10.1136/bmj.i4514

Institutional ageism in global health policy

Peter G Lloyd-Sherlock and colleagues *argue that a focus on premature mortality is discriminating against the needs of a growing older population*

- gli anziani sono un gruppo eterogeneo, tanto che anche alcuni anziani di 80-85 anni con malattie gravi potrebbero vivere ancora un periodo di vita relativamente autonomo, se curati adeguatamente. Di conseguenza l'età cronologica è un criterio arbitrario e inadeguato per l'allocazione delle risorse sanitarie per l'assistenza;
- le decisioni circa la terapia - compresa la terapia intensiva - dovrebbero essere adottate esclusivamente sulla base del giudizio del medico curante insieme al paziente e alla sua famiglia, piuttosto che sulla base di criteri governativi emessi per ragioni economiche;
- le persone anziane hanno maggiori necessità di cure mediche, poiché sono a maggior rischio di malattia e la disabilità e il fabbisogno assistenziale rappresentano il criterio migliore per l'erogazione dell'assistenza sanitaria;
- il criterio di accesso alle cure mediche sulla base dell'età cronologica non è un criterio etico poiché discrimina fortemente la popolazione anziana femminile generalmente più longeva;
- non vi è nessuna garanzia sul fatto che sospendere le cure intensive alle persone anziane significhi, come si afferma, migliorare il benessere e lo stato di salute della popolazione adulta più giovane e dei bambini;
- un società è civile se si occupa delle popolazioni più indifese e deboli: i bambini, i diversamente abili e gli anziani.

È ampiamente e scientificamente documentato che il

CARICO ASSISTENZIALE di un FAMILIARE che si occupa di un parente con DEMENZA determina nel FAMILIARE un maggior rischio di

- **DEPRESSIONE**
- **ISOLAMENTO SOCIALE**
- **IMPOVERIMENTO ECONOMICO & DECLASSAMENTO SOCIALE**

«shared decision making» and «informed consent»

INFORMED CONSENT IN OLDER MEDICAL INPATIENTS: ASSESSMENT OF DECISION-MAKING CAPACITY

JAGS NOVEMBER 2015–VOL. 63, NO. 11

expression of choice. One hundred fourteen participants (78.2%) said that they understood the informed consent document, 20 (13.6%) said that they did not understood it, and 12 (8.2%) expressed some doubt. After individual interviews, 42 participants (28.6%) were found to have really understood, and 104 (71,4%) were found not to have understood the document completely. Participants who did not really understand the document were older, more cognitively impaired, more depressed, and less likely to be functionally independent; had worse awareness of their health status; and were less able to reason about different treatments than those who understood. No signifi-

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	TITOLO DI STUDIO							
	Nessuno	**3ª El.**	**Licenza El.**	**Licenza Media Inf.**	**Sc. Prof.**	**Sc. Media Sup.**	**Univ.**	**Titolo ignoto**
MASCHI								
65-69	7,6	11,1	37,7	12,1	2,7	15,3	12,3	1,2
70-74	5,4	13,7	42,3	11,8	3,2	12,5	10,0	1,1
75-79	14,0	25,4	30,1	10,8	1,9	10,6	6,1	1,1
80-84	18,9	23,6	28,7	8,7	2,1	11,3	5,7	1,0
Tutti i maschi	11,3	18,3	34,8	10,9	2,5	12,5	8,6	1,1
FEMMINE								
65-69	11,6	21,9	35,5	12,7	1,6	11,4	4,4	0,9
70-74	15,1	25,8	37,8	9,4	1,6	6,7	2,8	0,8
75-79	18,7	28,5	32,7	9,9	1,3	6,8	1,3	0,8
80-84	26,1	26,8	29,0	9,2	2,0	4,1	1,3	1,5
Tutte le femmine	17,8	25,7	33,8	10,3	1,6	7,3	2,5	1,0
Maschi e Femmine	14,5	22,0	34,3	10,6	2,0	9,9	5,6	1,1

Aging Clin Exp Res (2017) 29:833–845

Table 1 Summary about legislation in different country for incompetent patients

	Incompetent patients	Advance directive of treatment
Austria	Decisional power of a relative	Validity of living will and power of attorney
Belgium	Decisional power of a relative	Validity of living will and power of attorney
Bulgaria	Decisional power of the closest relative	No legal availability of living will and power of attorney
Denmark	Decisional power of the closest relative or friend	Validity of living will and power of attorney
Finland	Consultative role of relatives	Still debating
France	Consultative role of relatives	Consultative role
Germany	Validity of designed surrogate. In lack of this consultative role of relatives	Validity of living will and power of attorney
Hungary	Decisional power to proxy	Validity of living will and power of attorney
Italy	No possibility for patients to appoint a surrogate. Only a judge may appoint a support administrator	No legal availability of living will and power of attorney
The Netherland	Consultative role of relatives	Validity of living will and power of attorney
Norway	Consultative role of proxy	Still debating
Spain	Decisional power of a relative	Validity of living will and power of attorney
Switzerland	Decisional power of a surrogate	Validity of living will and power of attorney
Turkey	Still debating	Still debating
UK	Decisional power of a surrogate	Validity of living will and power of attorney
USA	Decisional power of a surrogate	Validity of living will and power of attorney

In Italia, non vi sono norme giuridiche specifiche sulla validità delle «**disposizioni anticipate di trattamento**» in ambito medico, così come sul diritto di una persona di nominare una persona «surrogata» per le decisioni mediche. La legge italiana (9 gennaio 2004, n 6) infatti **sancisce che anche i familiari non hanno alcun diritto decisionale se non sono riconosciuti legali surrogati del paziente (tutori o amministratori di sostegno)**

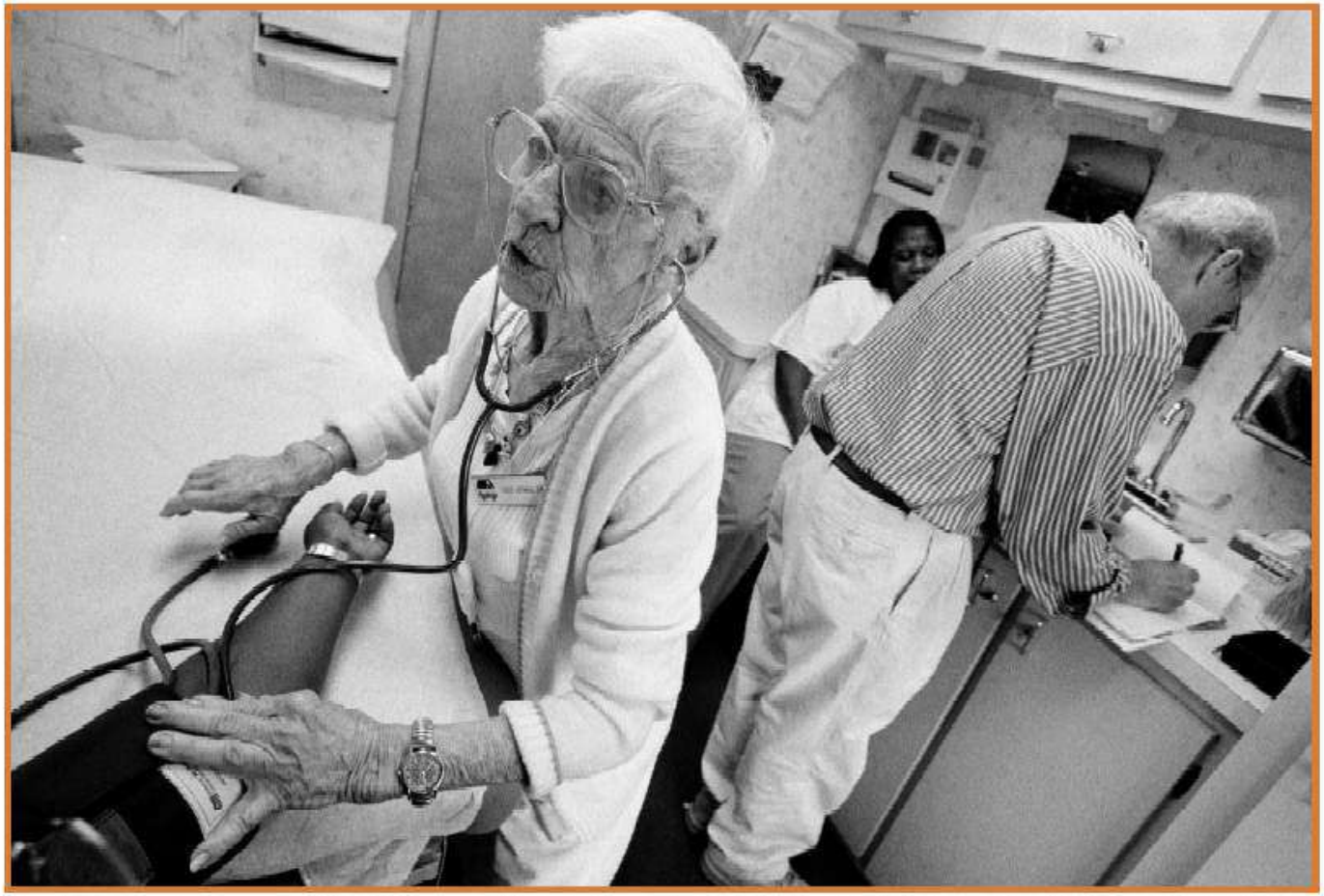
Tessa Richards is assistant editor, *BMJ* trichards@bmj.com

Cite this as: *BMJ* 2010;341:c5341

Who will care for us when we are old?

Europe joins the global debate on who should deliver tomorrow's health care

> **The EU may have had success in harmonising the shape of vegetables in the past, but it can't do the same with the performance of health professionals, although it can support convergence on training**



Rose Herman, a retired nurse, and Henry Friedman, a retired physician, volunteer for the MediVan Project, a mobile clinic that provides health care to the indigent in Fort Lauderdale, Florida. Taken from *Aging in America: The Years Ahead*, by photographer Ed Kashi and writer Julie Winokur.

VALUTAZIONE GERIATRICA MULTIDIMENSIONALE

COMORBILITA' & FARMACI

CONDIZIONI PSICHICHE E MENTALI
(MMSE-SPMSQ, GDS, 4AT-CAM, ecc)

STATO FUNZIONALE
(ADL-IADL, BARTHEL INDEX)

STATO NUTRIZIONALE (MNA)
MOBILITA' & RISCHIO CADUTE (BARTHEL MOBILITA', SPPB, TINETTI)
SARCOPENIA & FRAGILITA' (EWGS, CHS, SOF, FRAIL, GREEN)

STRATIFICAZIONE PROGNOSTICA (MPI)
OTTIMIZZAZIONE DEGLI INTERVENTI TERAPEUTICI, SELEZIONE PREPROCEDURALE E DEFINIZIONE PERCORSI DI CURA
INTERVENTI RIABILITATIVI/RIATTIVATIVI
IDENTIFICAZIONE DEI SETTING DI CURA

SCORE PROGNOSTICO di mortalità ad 1 anno

Table 1. MPI Score Assigned to Each Domain Based on the Severity of the Problems

	Problems		
	No	Minor	Severe
Assessment	(Value=0)	(Value=0.5)	(Value=1)
ADL*	6–5	4–3	2–0
Instrumental ADL*	8–6	5–4	3–0
Short portable mental status questionnaire†	0–3	4–7	8–10
Comorbidity index (cumulative illness rating scale-CI)‡	0	1–2	≥3
Mini nutritional assessment§	≥24	17–23.5	<17
Exton-smith scale¶	16–20	10–15	5–9
No. of medications	0–3	4–6	≥7
Social support network	Living with family	Institutionalized	Living alone

*No. of active functional activities.
†No. of errors.
‡No. of diseases.
§Mini Nutritional Assessment score: ≥24, satisfactory nutritional status; 17–23.5, at risk of malnutrition; <17, malnutrition.
¶Exton-Smith Scale score: 16–20, minimum risk; 10–15, moderate risk; 5–9 high risk of developing scores.

Basso rischio

(≤ 0,33)

Medio rischio

(≥ 0,33 ≤ 0,66)

Alto rischio

(≥ 0,67)

Pilotto A. et Al. Circ.Heart Fail.2010;3.14-20

Fragilità: nel linguaggio medico, facilità a rompersi, o diminuita resistenza a traumi *Treccani*

Fragile: Che oppone scarsa resistenza al male fisico e morale, quindi debole, gracile *Treccani*

CHS frailty scale
SOF frailty scale
SPPB & gait speed

→ **Sindrome «FRAGILITA'»**

GREEN score
FRAIL scale
Vulnerable Elders Survey-13
Groningen Frailty Indicator (GFI)

→ **Scale «ibride»** (con aspetti funzionali o di comorbilità)

Clinical Frailty Scale
Frailty Index (Rockwood)

→ **Paziente VULNERABILE, COMPROMESSO, in cattivo stato di salute generale**

A global clinical measure of fitness and frailty in elderly people

Kenneth Rockwood, Xiaowei Song, Chris MacKnight, Howard Bergman, David B. Hogan, Ian McDowell, Arnold Mitnitski

FRAILTY INDEX
(INDICE PROGNOSTICO)

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

Canadian Journal of Cardiology 32 (2016) 169–176

Clinical Research

The Effect of Bleeding Risk and Frailty Status on Anticoagulation Patterns in Octogenarians With Atrial Fibrillation: The FRAIL-AF Study

Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail**.

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

DALHOUSIE UNIVERSITY
Inspiring Minds

FRAILTY

Survival curve estimates according to **FRAILTY** status

J. Gerontol: Med Sci 2001;56 A: M146-M156

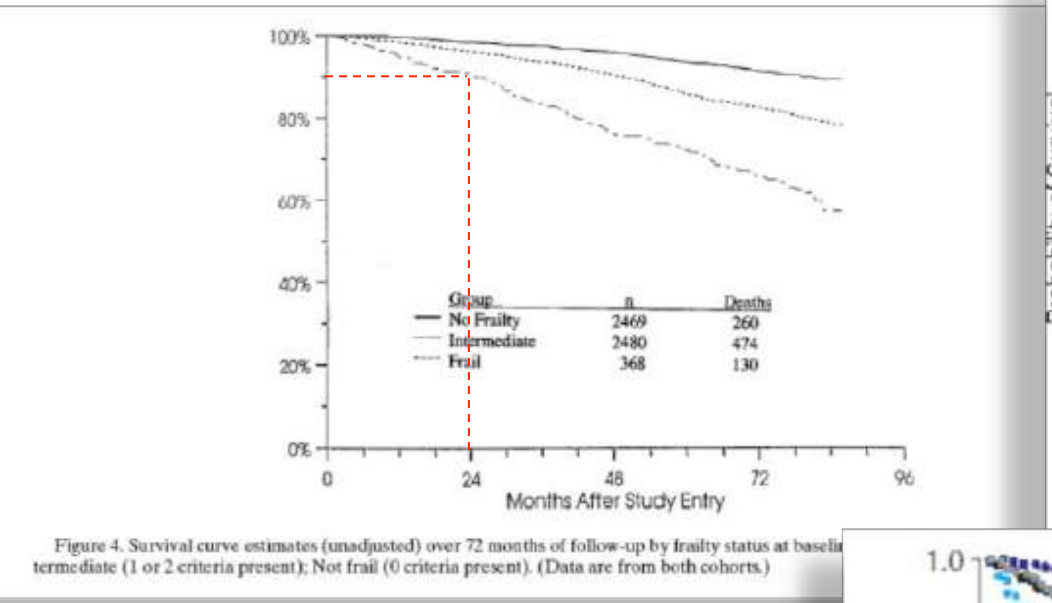
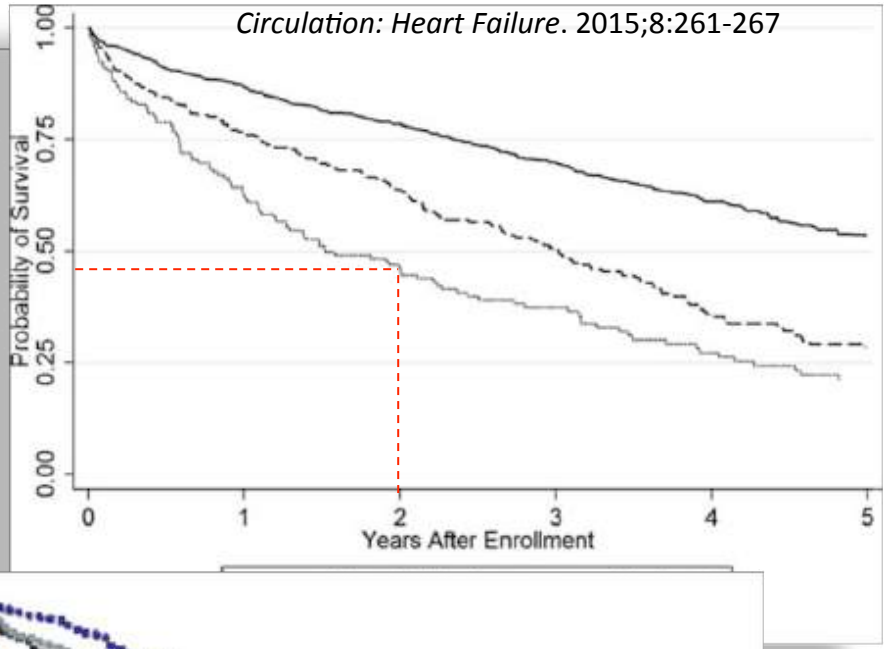


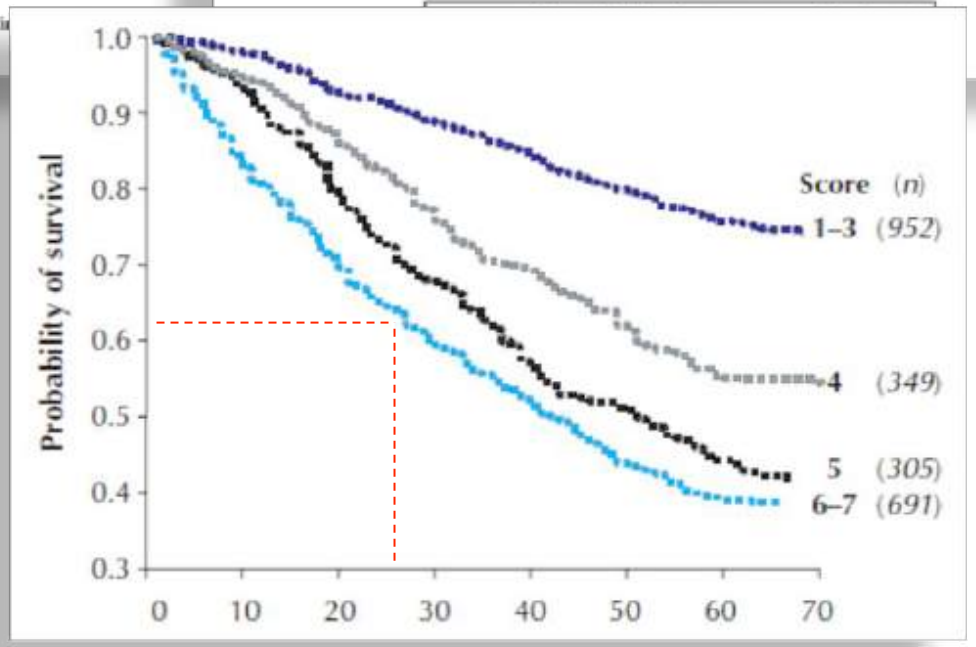
Figure 4. Survival curve estimates (unadjusted) over 72 months of follow-up by frailty status at baseli
termediate (1 or 2 criteria present); Not frail (0 criteria present). (Data are from both cohorts.)

DISABILITY

Time to death in patients with HF according to their level of difficulty with **ADLs** (none/minimal, moderate, severe)

Circulation: Heart Failure. 2015;8:261-267









Quali sono le cause della «fragilità»?








A cosa serve identificare e valutare la «fragilità»?




Journal of Gerontology: MEDICAL SCIENCES
2001, Vol. 56A, No. 3, M146–M156

Frailty in Older Adults: Evidence for a Phenotype

Linda P. Fried,[1] Catherine M. Tangen,[2] Jeremy Walston,[1] Anne B. Newman,[3] Calvin Hirsch,[4] John Gottdiener,[5] Teresa Seeman,[6] Russell Tracy,[7] Willem J. Kop,[8] Gregory Burke,[9] and Mary Ann McBurnie[2] for the Cardiovascular Health Study Collaborative Research Group

>65 anni: 5-10%
>75 anni: 20-30%
>85 anni: 30-60%

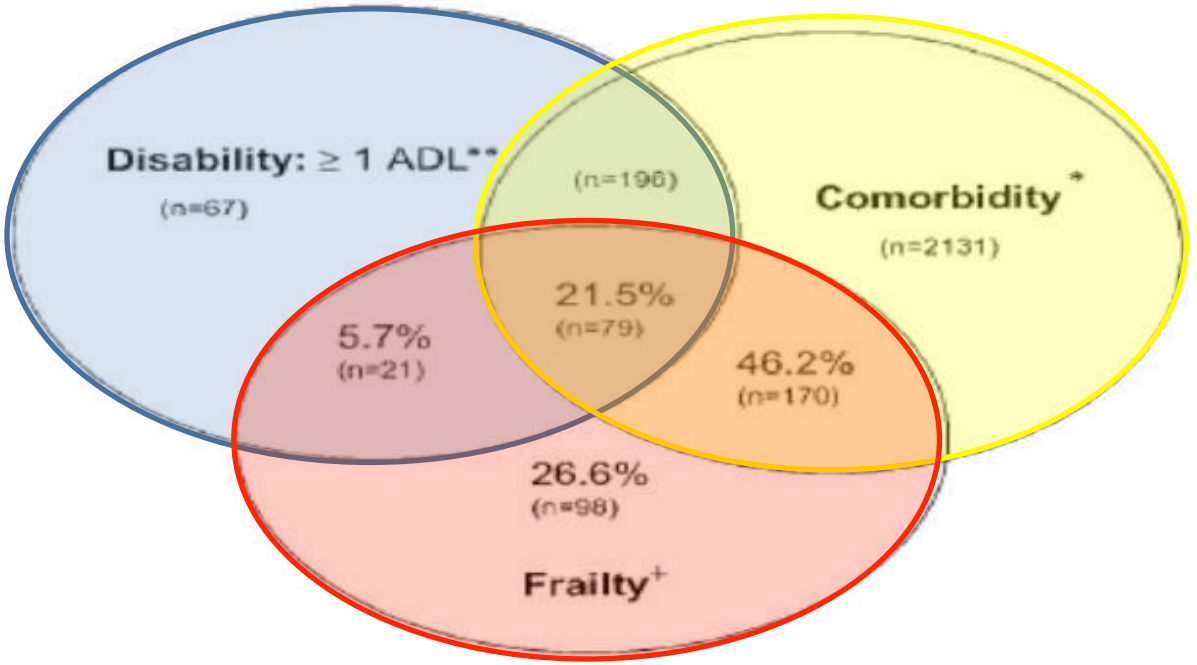
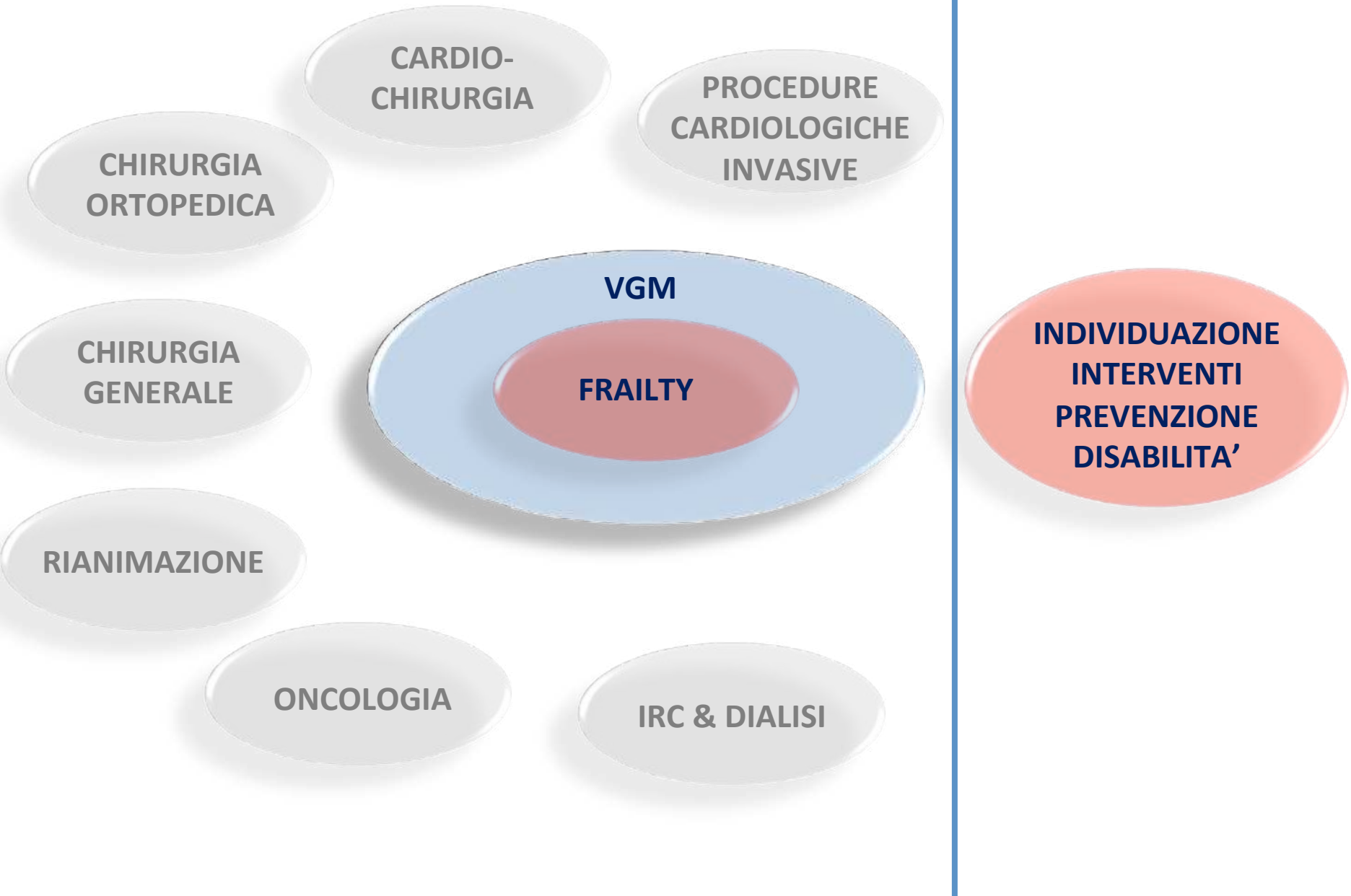
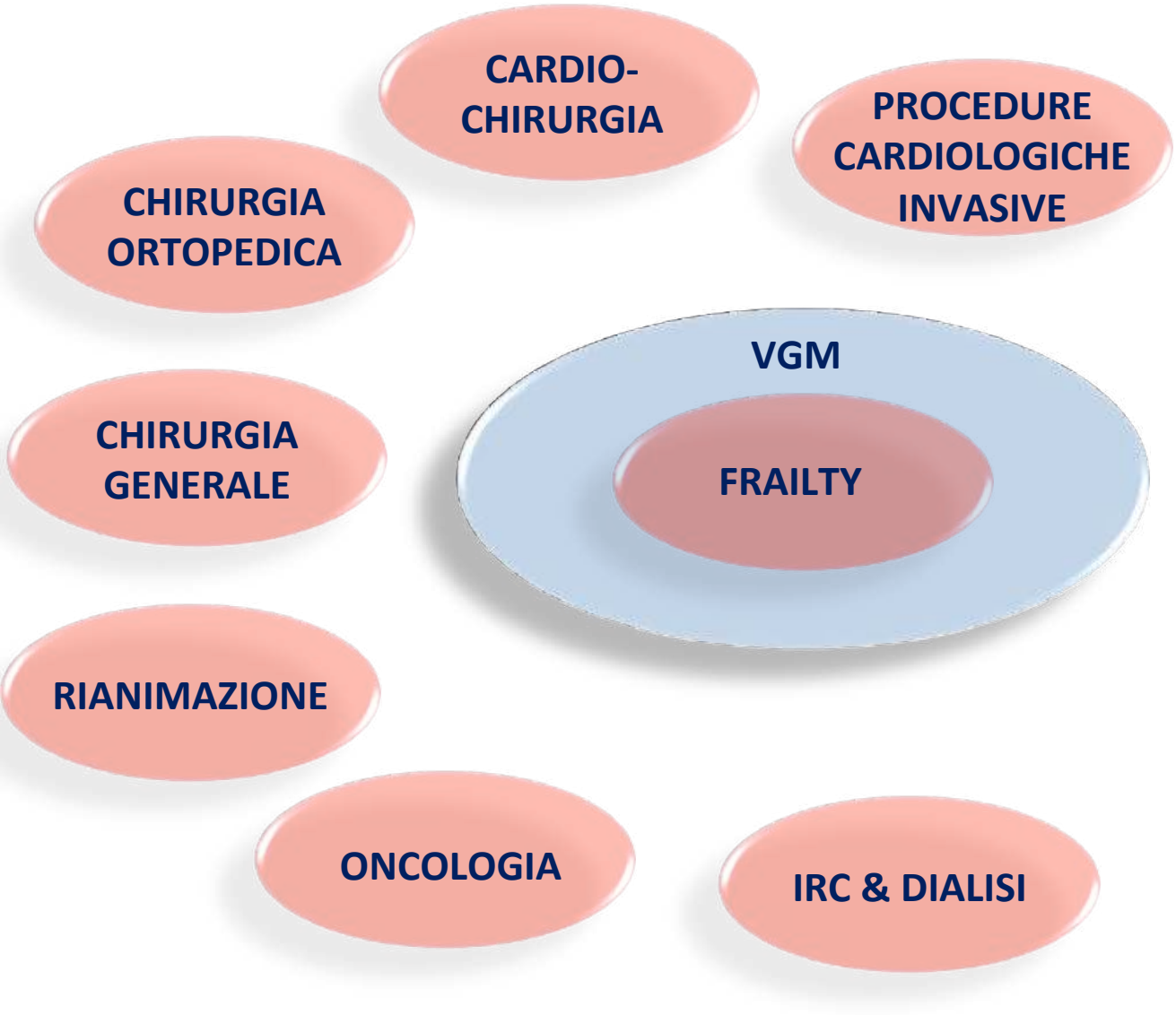


Figure 3. Venn diagram displaying extent of overlap of frailty with ADL disability and comorbidity (≥2 diseases). Total represented: 2,762 subjects who had comorbidity and/or disability and/or frailty. *n* of each subgroup indicated in parentheses. + Frail: overall $n = 368$ frail subjects (both cohorts). *Comorbidity: overall $n = 2,576$ with 2 or more out of the following 9 diseases: myocardial infarction, angina, congestive heart failure, claudication, arthritis, cancer, diabetes, hypertension, COPD. Of these, 249 were also frail. **Disabled: overall $n = 363$ with an ADL disability; of these, 100 were frail.


CARDIO-
CHIRURGIA
PROCEDURE
CARDIOLOGICHE
INVASIVE
CHIRURGIA
ORTOPEDICA
VGM
FRAILTY
CHIRURGIA
GENERALE
INDIVIDUAZIONE
INTERVENTI
PREVENZIONE
DISABILITA’
RIANIMAZIONE
ONCOLOGIA
IRC & DIALISI

SELEZIONE PREPROCEDURALE, OTTIMIZZAZIONE INTERVENTI E ALLOCAZIONE RISORSE, RIDUZIONE FUTILITA' TERAPEUTICA E IATROGENESI



Al netto degli **indicatori prognostici «specifici»** di ogni specialità, la **Valutazione Geriatrica Multidimensionale**, ivi compresa la **fragilità**, fornisce importanti informazioni aggiuntive che aiutano a definire meglio la **prognosi individuale** e a selezionare gli **interventi più adeguati per ogni paziente anziano**

Predictive Factors of In-Hospital Mortality in Older Patients Admitted to a Medical Intensive Care Unit

J Am Geriatr Soc 51:529–533, 2003.

Mario Bo, MD, Massimiliano Massaia, MD, Silvio Raspo, MD, Francesca Bosco, MD, Paola Cena, MD, Mario Molaschi, MD, AP, and Fabrizio Fabris, MD, FP

Table 3. Variables Independently Predictive of In-Hospital Mortality by Logistic Regression

Variable	Odds Ratio	95% Confidence Interval
Absence of Sarcopenia/Frailty	0.93	0.88–0.99
Activities of daily living (dependence)	2.84	1.71–4.74
Short Portable Mental Status Questionnaire (moderate to severe impairment)	3.98	2.41–6.58
Acute Physiology and Chronic Health Evaluation II score	1.07	1.03–1.12

RESEARCH ARTICLE Open Access

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

Lin *et al. BMC Geriatrics* (2016) 16:157

Conclusion

Frailty is consistently found is to be associated with adverse outcomes after surgery. In the 23 articles reviewed, the strongest evidence lies in the association with increased 30 day, 90 day and 1 year mortality, post-operative complications and length of stay. This highlights the importance of detecting frailty in peri-operative assessment. The possibility that different frailty tools may be best suited for different acuity and type of surgical patients is worth exploring. The association between frailty and return to pre-morbid function, discharge destination, and quality of life after surgery warrants further research.

Cite this article as: BMJ, doi:10.1136/bmj.38790.468519.55 (published 22 March 2006)

Research

Mortality associated with delay in operation after hip fracture: observational study

Alex Bottle, Paul Aylin

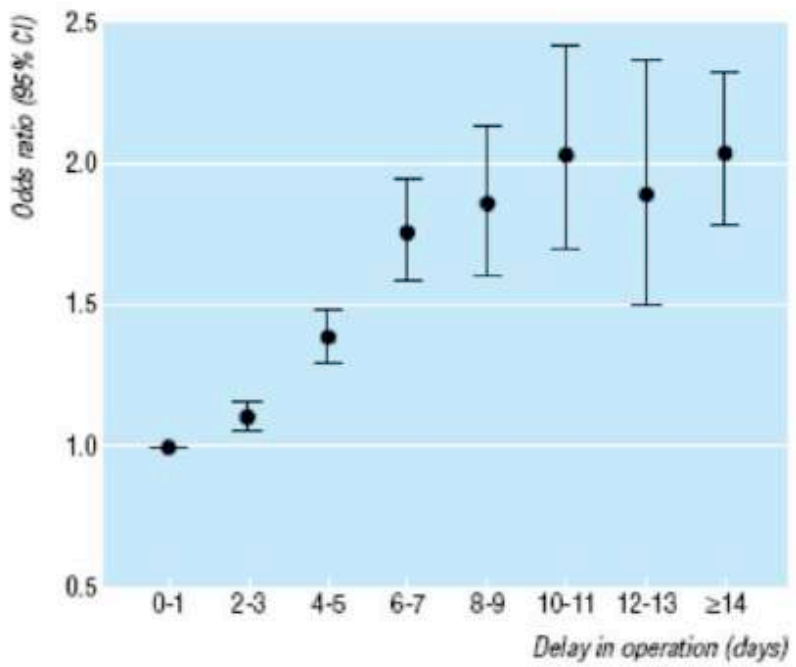


Fig 1 Odds ratios of death within hospital by operative delay relative to at most one day's delay, after adjustment for age, sex, deprivation, type of procedure (fixation and replacement only), and selected comorbidities

Abstract

Objective To estimate the number of deaths and readmissions associated with delay in operation after femoral fracture.
Design Analysis of inpatient hospital episode statistics.
Setting NHS hospital trusts in England with at least 100 admissions for fractured neck of femur during the study period.
Patients People aged ≥ 65 admitted from home with fractured neck of femur and discharged between April 2001 and March 2004.
Main outcome measures In hospital mortality and emergency readmission within 28 days.

What is already known on this topic

Over 60 000 hip fractures occur every year in the UK

There is conflicting evidence from fairly small studies for the association between delay in operation and mortality, though Royal College of Physicians' guidelines recommend that patients be operated on within 24 hours of admission

Operation may be delayed to stabilise concomitant medical conditions

What this study adds

In England, 40% of procedures were performed more than one day after admission

Proportions of patients waiting for more than one day or more than two days for their operation varies widely between trusts

Delay is associated with increased mortality: the association still exists but is reduced after adjustment for confounders

Importance of frailty in patients with cardiovascular disease

European Heart Journal (2014) 35, 1726–1731
doi:10.1093/eurheartj/ehu197

Mandeep Singh[1*], Ralph Stewart[2], and Harvey White[2]

Table 5 Reasons for evaluating whether frailty is present in patients with cardiovascular diseases

1	Population ageing is increasing the number of frail patients with CVD
2	Eye ball or end of the bed assessments of frailty may not be reliable
3	Frailty increases the risks of cardiac surgery and other cardiovascular interventions
4	Frailty increases the risk of cardiovascular and non-cardiovascular mortality and the need for future institutional care
5	Frail patients may have more complications from medical treatments
6	The benefits of some cardiac interventions may be less in frail elderly patients because of competing risks. Non-cardiac deaths dominate following TAVR, PCI, and CABG

Health status, geriatric syndromes and prescription of oral anticoagulant therapy in elderly medical inpatients with atrial fibrillation

Geriatr Gerontol Int 2017; **17:** *416–423*

Mario Bo,[1] Irene Sciarrillo,[1] Guido Maggiani,[1] Yolanda Falcone,[1] Marina Iacovino,[1] Enrica Grisoglio,[1] Gianfranco Fonte,[1] Simon Grosjean[1] and Fiorenzo Gaita[2]

Studio retrospettico su **1078** pazienti con FA dimessi 2010-2013 (**83.4** anni, 60.3% femmine):

26.8% dipendenti ADL

37.3% dipendenti IADL

cognitive impairment in **56.2%**

CHA_2DS_2-VASC medio 4.8

HAS-BLED medio 2.1

Effects of oral anticoagulant therapy in older medical in-patients with atrial fibrillation: a prospective cohort observational study

Aging Clin Exp Res (2017) 29:491–497

Mario Bo[1] · Federica Li Puma[1] · Marco Badinella Martini[1] · Yolanda Falcone[1] · Marina Iacovino[1] · Enrica Grisoglio[1] · Elena Menditto[1] · Gianfranco Fonte[1] · Enrico Brunetti[1] · Giovanni Carlo Isaia[1] · Fabrizio D'Ascenzo[2] · Fiorenzo Gaita[2]

Age, years, m ± sd	81.6 ± 6.6
Age ≥75 years, *n* (%)	384 (85)
ADL, m ± sd	1.8 ± 2.2
ADL dependent, *n* (%)	157 (34.7)
IADL, median (25°–75°)	7 (3–12)
IADL dependent, *n* (%)	288 (63.7)
SPMSQ, m ± sd	3.2 ± 3.4
Moderate–severe cognitive impairment, *n* (%)	133 (29.4)
Dementia, *n* (%)	66 (14.6)
GDS, median (25°–75°)	4 (1–8)
Depression, *n* (%)	164 (36.3)
Groningen frailty index, median (25°–75°)	7 (4–9)
Frailty, *n* (%)	341 (75.4)
CHA2DS2-VASc, m ± sd	4.6 ± 1.4
HAS-BLED, m ± sd	2.8 ± 1.0
HAS-BLED ≥3, *n* (%)	273 (60.4)
CHARLSON, m ± sd	3.3 ± 2.2
CHARLSON >5, *n* (%)	79 (17.5)

Health status, geriatric syndromes and prescription of oral anticoagulant therapy in elderly medical inpatients with atrial fibrillation

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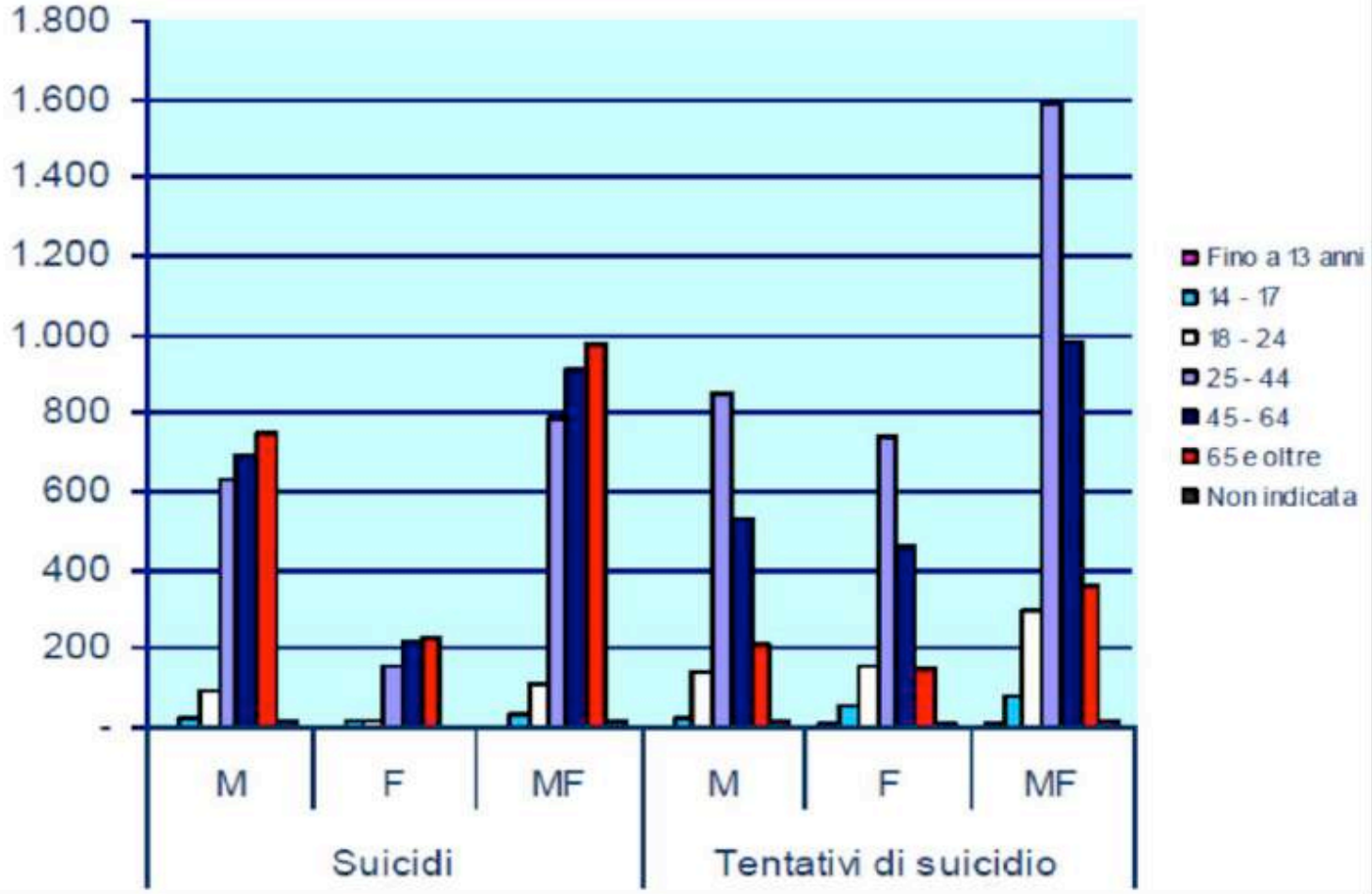
Patients without contraindications to VKA	OR	95% CI
Discharge in medium-/long-term facilities	0.4181	0.20–0.87
Permanent/persistent AF	7.1269	4.02–12.63
Hemoglobin	1.2229	1.08–1.39
ADL score	1.6603	1.18–2.33
Age	0.9223	0.89–0.96
No. drugs at discharge	1.1824	1.07–1.31
CHA_2DS_2-VASc score	1.7966	1.47–2.20

Table 4 Variables associated with prescription of oral anticoagulants (vitamin K antagonists) at discharge: multivariate analysis

Suicidi e Tentati Suicidi per classe di età



Adulti 1 suicidio portato a termine su 200 tentativi

Anziani 1 suicidio portato a termine su 4 tentativi

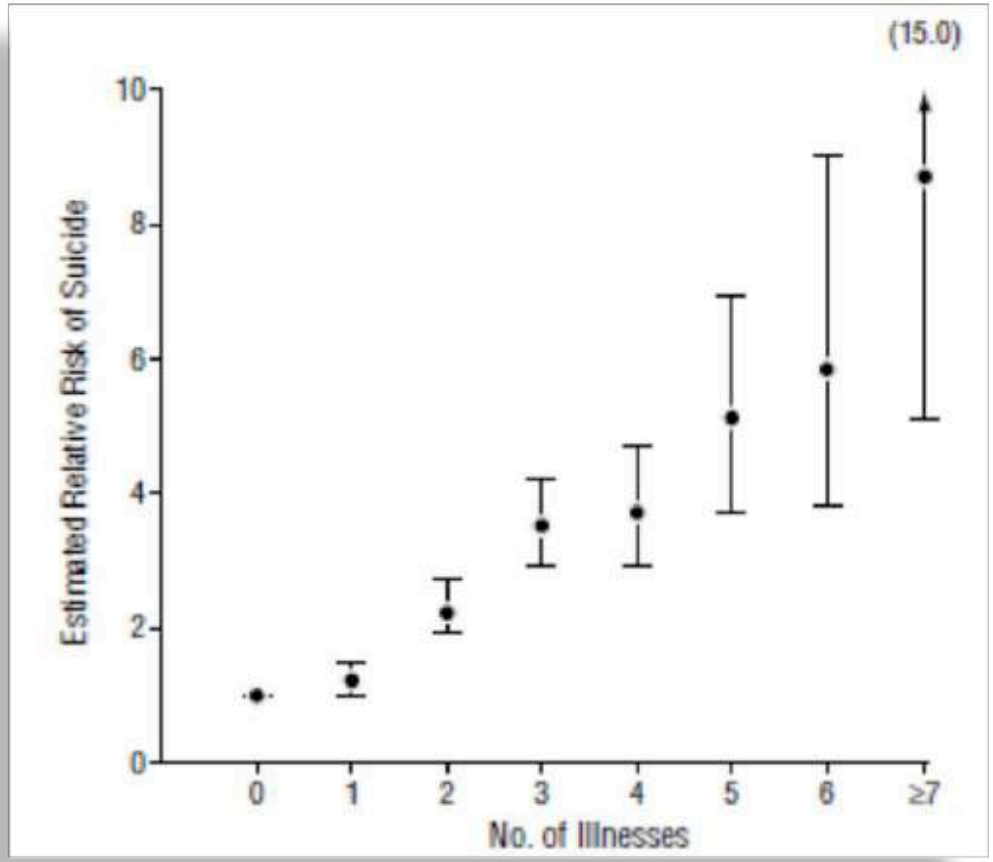
ORIGINAL INVESTIGATION

Arch Intern Med. 2004;164:1179-1184

Medical Illness and the Risk of Suicide in the Elderly

Table 4. Association Between Illnesses and Suicide*

Chronic Illness	Multivariate†
Study illnesses	
Ischemic heart disease	NI
Congestive heart failure	1.36 (1.00-1.85)
Chronic lung disease	1.30 (1.06-1.58)
Hyperacidity syndromes	0.81 (0.68-0.97)
Seizure disorder	2.41 (1.42-4.07)
Parkinson disease	1.11 (0.65-1.90)
Diabetes mellitus	NI
Rheumatoid arthritis	NI
Urinary incontinence	1.11 (0.65-1.89)
Psychoses and agitation	2.60 (1.93-3.50)
Depression	3.94 (3.27-4.75)
Anxiety and sleep disorders	3.22 (3.27-4.75)
Bipolar disorder	3.58 (1.57-8.18)
Breast cancer	NI
Prostate cancer	NI
Moderate pain	1.24 (1.04-1.47)
Severe pain	4.07 (2.51-6.59)
Control illnesses	
Dyslipidemia	0.44 (0.32-0.60)
Hypothyroidism (treated)	NI
Glaucoma	NI
Gout	NI



Conclusions: Many common illnesses are independently associated with an increased risk of suicide in the elderly. The risk is greatly increased among patients with multiple illnesses.

YALE JOURNAL OF BIOLOGY AND MEDICINE 89 (2016), pp.105-108.

Palliative Care and the Humanities: Centralizing the Patient at the End of Life

YJBM

THE JOURNEY AND THE TERROR

Today, swift catastrophic illness is the exception. For most, death comes after a long medical struggle with an unstoppable condition or with the march of old age. In all cases, death is certain — but the timing is not.

Too often, our elderly are left with a controlled and supervised institutional experience, a medically diagnosed answer to unfixable problems, a life designed to be safe but empty of anything they care about. In its worst form, it is a life of boredom, loneliness, and helplessness.

YALE JOURNAL OF BIOLOGY AND MEDICINE 89 (2016), pp.105-108.

Palliative Care and the Humanities: Centralizing the Patient at the End of Life

YJBM

The fear of sickness and old age is not merely the terror of the losses one is forced to endure, but the terror of isolation. It is not riches and more power that people desire in their final days: In their isolation in the last chapter of their lives, human beings ask only to be permitted to keep shaping the story of their lives — in the world — to make choices and sustain connections to others according to their own prerogatives.

Atul Gawande has observed that, the "only way death is not meaningless is to see yourself as part of something greater: family, community, society. If you do not, mortality is only a horror. If you do, it is not" [3].

VIEWPOINT

A Policy Prescription for Hospice Care

JAMA January 19, 2016 Volume 315, Number 3 257

Oreofe O. Odejide, MD, MPH
Division of Population Sciences, Department of Medical Oncology, Dana-Farber Cancer Institute, Boston, Massachusetts.

Current **poor availability of hospice care**, particularly for older patients with non-oncologic terminal diseases: heart failure, respiratory failure, terminal renal failure, neurodegenerative disorders (including dementia)

Poor availability of integrated (medical, nursing and social) home care services for end of life

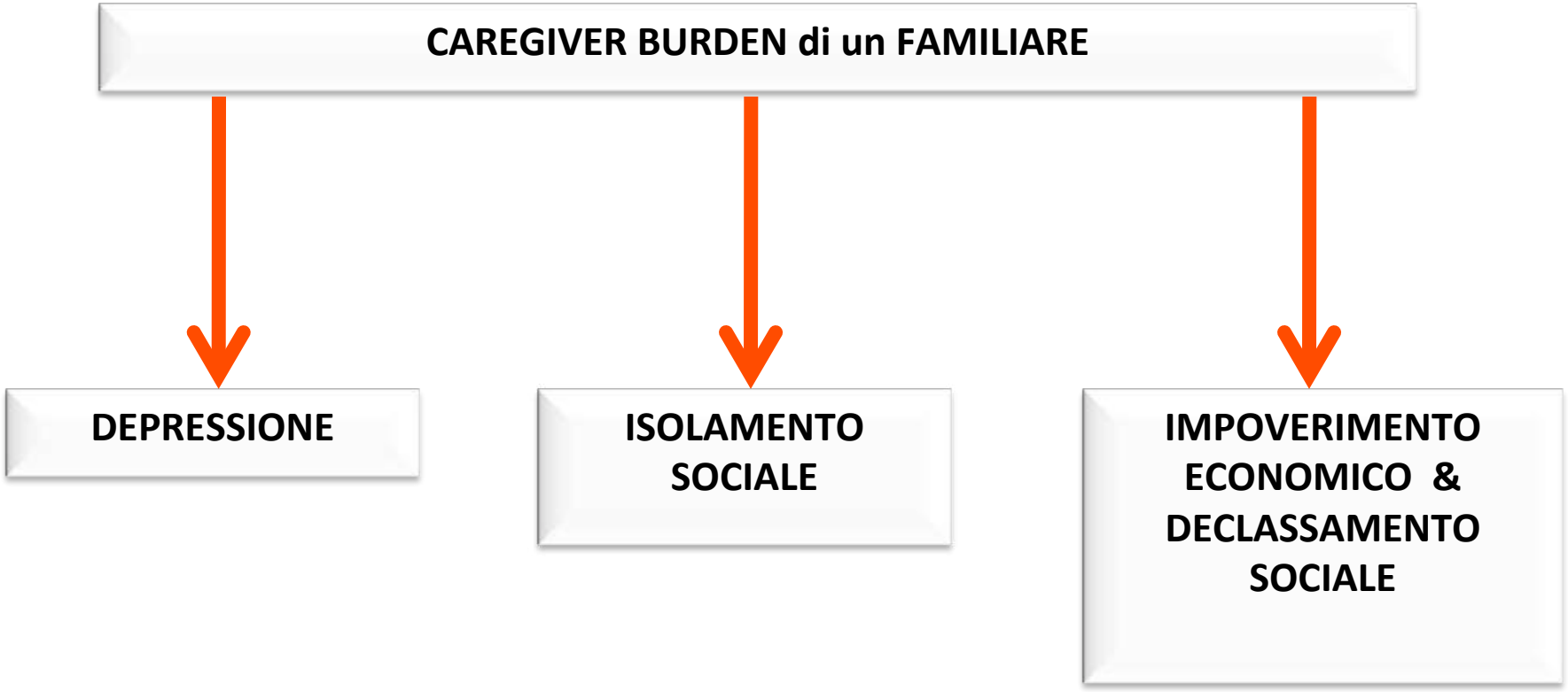
Late enrollment in hospice, with very advanced disease, implying an **heavy burden for caregivers**

Providing Palliative Care, and Beyond…

Susan C. Miller, PhD, Associate Editor

Palliative care can enable persons with advanced serious illness and their families to experience enjoyment even as they and their family anticipate death or struggle with the unfairness of the situation. However, as suggested by Campbell[2] and consistent with Maslow's hierarchy of needs,[3] enabling enjoyment first requires management of distressing physical and psychological symptoms; hospice care or palliative care consults three days or even seven days before death are unlikely to achieve this management.

JOURNAL OF PALLIATIVE MEDICINE
Volume 19, Number 10, 2016


CAREGIVER BURDEN di un FAMILIARE
DEPRESSIONE
ISOLAMENTO SOCIALE
IMPOVERIMENTO ECONOMICO & DECLASSAMENTO SOCIALE

VIEWPOINT

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Poor availability of integrated (medical, nursing and social) home care services for end of life

In un'epoca di ristrettezze economiche è possibile che queste perduranti carenze assistenziali creino **condizioni critiche nelle fasce più deboli della popolazione e nel periodo di maggior vulnerabilità individuale**…è verosimile che un'implementazione di questi sistemi possa significativamente migliorare la qualità della fase terminale della vita in molti pazienti…

Assessing the learning needs of the multidisciplinary team on geriatric oncology and frailty

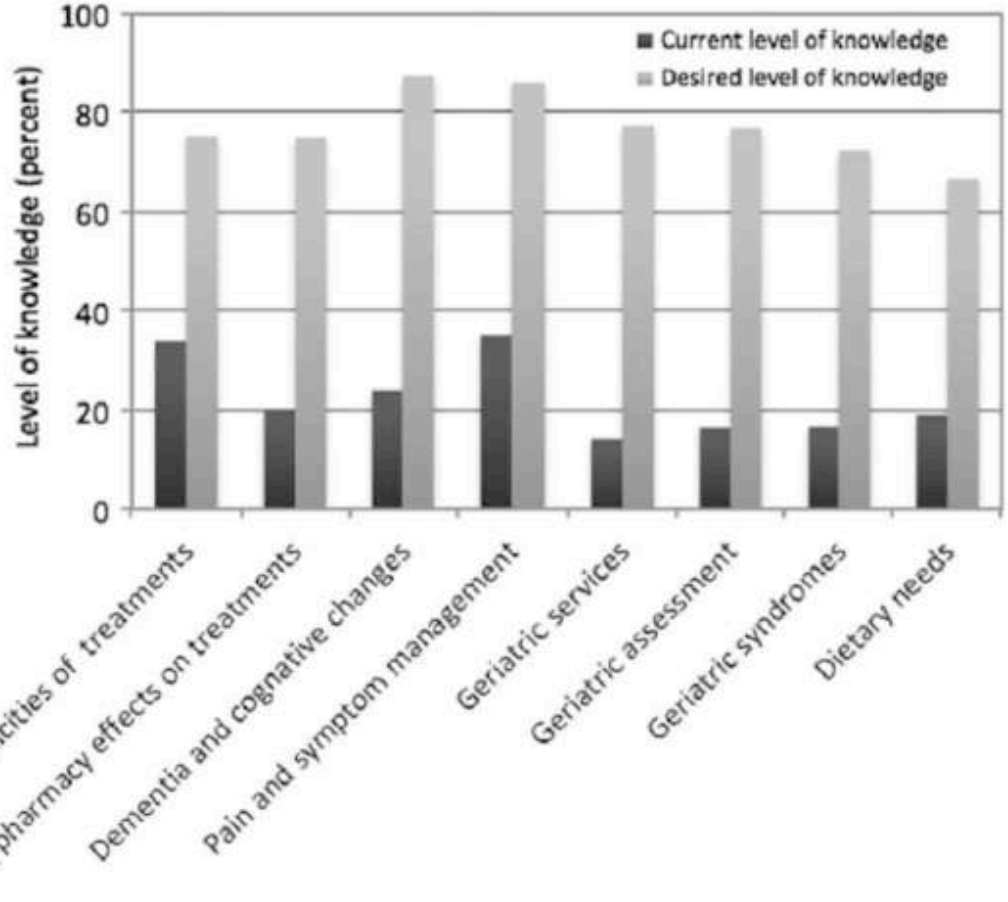

Fig. 1. Current and desired level of knowledge in areas affecting care of older frail patients, expressed as percentage.

Assessing the learning needs of the multidisciplinary team on geriatric oncology and frailty

Factors identified as the most detrimental to the cancer journey and largest challenge when providing care to older patients with cancer, ranked 1 to 5(or6) with 1 = most significant to 5(or 6) = least significant.

Most detrimental to the cancer journey	Largest challenges when providing care
1. Lack of support for the patient in the community	1. Lack of resources in community (e.g., access to geriatrician)
2. Mobility/falls	2. Lack of time available for assessment
3. Poor nutrition	3. Lack of resources at CancerCare Manitoba (CCMB)
4. Cognitive function	4. Lack of knowledge of evaluation tools and their use
5. Polypharmacy	5. Lack of evidence for treatment in older patients
6. Weight loss	

J Am Geriatr Soc 49:1691–1699, 2001.

The Vulnerable Elders Survey: A Tool for Identifying Vulnerable Older People in the Community

Debra Saliba, MD,†‡ Marc Elliott, PhD,* Laurence Z. Rubenstein, MD,*†‡ David H. Solomon, MD,*‡ Roy T. Young, MD,*‡ Caren J. Kamberg, MSPH,* Carol Roth RN, MPH,* Catherine H. MacLean, MD,*‡ Paul G. Shekelle, MD,*‡ Elizabeth M. Sloss, PhD,* and Neil S. Wenger, MD*‡*

We translated the three selected models into scoring systems. Because we wanted a simple scoring system that could be calculated during brief interviews and because condition counts were as predictive as differential weights, we assigned whole number values to each included variable. The *function-based scoring system* considers age, SRH, six physical function limitations, and five IADL/ADL items. The resulting survey and approach to scoring are shown in Appendix 1 (Vulnerable Elders Survey (VES-13)). The *function + diagnosis-based scoring system* adds to the function-based score one point for each of four self-reported diagnoses: stroke history, diabetes mellitus, psychiatric history, and dementia diagnosis. The *function + expanded diagnosis–based scoring system* adds one point to the latter model for each of three items: limited vision, tobacco use, and cancer history.

Table 1. Prevalence of Baseline Score and Incidence of 2-Year Decline or Death

Score	Percentage of Population with Score	Percentage with Score who Decline or Die
Function-based scoring system		
0	33.6	6.1
1	23.7	14.2
2	10.5	24.3
3	9.2	36.9
4+	23.1	54.9
Function + expanded diagnosis scoring system		
0	17.6	4.7
1	22.3	9.5
2	17.1	13.8
3	10.8	23.5
4	7.5	36.5
5	4.2	45.3
6–9	13.9	51.4
10+	6.5	67.2

J Am Geriatr Soc 49:1691–1699, 2001.

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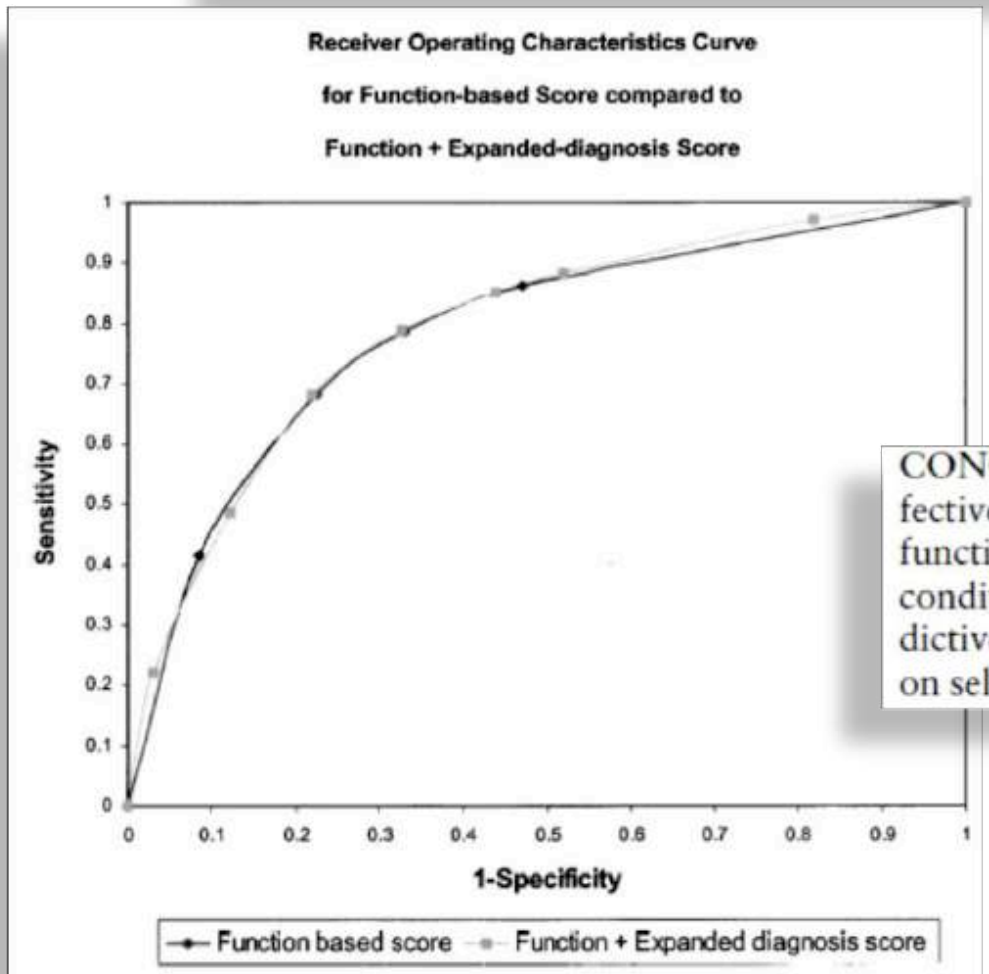

Figure 1. Receiver operating characteristics curve for function-based score compared with function + expanded-diagnosis score.

CONCLUSIONS: A function-based targeting system effectively and efficiently identifies older people at risk of functional decline and death. Self-reported diagnoses and conditions, when added to the system, do not enhance predictive ability. The function-based targeting system relies on self-report and is easily transported across care settings.

Journal of Geriatric Oncology xxx (xxxx) xxx–xxx

Performance of the Vulnerable Elders Survey 13 screening tool in identifying cancer treatment modification after geriatric assessment in pre-treatment patients: A retrospective analysis

Methods: Patients attending a geriatric oncology clinic between July 2015 and June 2017 who completed a VES-13 and underwent subsequent GA were included. Clinical information was extracted from a prospectively maintained database. G6 scores were assigned retrospectively. Patients were stratified into those who were "VES-13 positive" (score ≥ 3) and "VES-13 negative" (score < 3). Logistic regression was used to explore the relationship between VES-13 score, G6 score, and treatment modification.

Results: Ninety-nine patients were seen prior to initiating cancer treatment. The median VES-13 score was 7; with 81.8% of patients scoring ≥3. The treatment plan was modified in 47.5% of patients after GA. VES-13 score was predictive of treatment plan modification (63.0% among VES-13 positive versus 16.7% among VES-13 negative patients; $p = 0.001$). G6 performed similarly to the VES-13. The only statistically significant predictor of treatment change in multivariable analysis was performance status.

Conclusion: VES-13 positive patients are more likely to undergo treatment modification to reduce treatment intensity or supportive care only. The VES-13 may provide oncologists with a rapid, reliable way of identifying vulnerability in older adults with cancer who may need further GA prior to commencing cancer treatment.

Performance Status

Grade	ECOG	Karnofsky	Analgesic Code
0	Fully active, able to carry on all pre-disease performance without restriction	100—Normal, no complaints; no evidence of disease 90—Able to carry on normal activity; minor signs or symptoms of disease	1—None 2—Mild, e.g., aspirin 3—Occasional oral narcotics 4—Regular oral narcotics 5—Parenteral narcotics 6—Uncontrollable
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work	80—Normal actiity with effort, some signs or symptoms of disease 70—Cares for self but unable to carry on normal activity or to do active work	
2	Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours	60—Requires occasional assistance but is able to care for most of personal needs 50—Requires considerable assistance and frequent medical care	
3	Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours	40—Disabled; requires special care and assistance 30—Severely disabled; hospitalization is indicated although death not imminent	
4	Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair	20—Very ill; hospitalization and active supportive care necessary 10—Moribund	
5	Dead	0—Dead	

Performance of the Vulnerable Elders Survey 13 screening tool in identifying cancer treatment modification after geriatric assessment in pre-treatment patients: A retrospective analysis

Modified G8 variables and operational definitions for retrospective application.

Item	Operational Definition
Weight loss during past 3 months	• >3 kg/patient does not know (10pts) • 1-3 kg (2pts) • No weight loss (0pts)
Neuropsychological Problems	PHQ-9 Score & Mini-Cog • Mild/severe dementia or depression (3pts) o PHQ-9 ≥ 5 o Mini-Cog ≤3 (out of 5) • No neuropsychological problems (0pts) o PHQ-9 ≤ 4 o Mini-Cog 4 or 5 (out of 5)
Polypharmacy Takes at least 6 drugs per day	Medication List • ≥6 (2pts) • <6 (0pts)
Self-Rated Health Status Compared to other people of the same age, how does the patient rate his or health status?	Obtained from VES-13 • Poor/fair (3pts) • Good/Very good/Excellent (0pts)
Performance Status	ECOG PS • PS 2/3/4 (12pts) • PS 1 (4pts) • PS 0 (0pts)
Past history of heart failure or coronary artery disease	GA comorbidity/past medical history • Congestive heart failure, stroke, or myocardial infarction (5pts)
Score	**/35** ** **Abnormal > 6** **

ECOG PS = Eastern Cooperative Oncology Group Performance Status; GA = Geriatric Assessment; PHQ = Patient Health Questionnaire.

Performance of the Vulnerable Elders Survey 13 screening tool in identifying cancer treatment modification after geriatric assessment in pre-treatment patients: A retrospective analysis

		Total (n = 99)	VES-13NEG (n = 18)	VES-13POS (n = 81)	P value
Age (year)	Mean (SD)	80.8 (6.8)	76.1 (4.6)	81.9 (6.8)	**<0.001**
	Range	(65–96)	(69–86)	(65–96)	
Gender, n (%)	Male	63 (63.6%)	10 (55.6%)	53 (65.4%)	0.43
BMI	Mean (SD)	25.2 (4.6)	25.9 (4.6)	25.1 (4.6)	0.47
ECOG PS, n (%)	0	26 (26.3%)	13 (72.2)	13 (16.1)	**<0.001**
	1	33 (33.3%)	5 (27.8)	28 (34.6)	
	≥2	40 (40.4)	0	40 (49.4)	
Comorbidities, n (%)	Low	46 (46.5)	12 (66.7)	34 (41.9)	0.067
	Medium	38 (38.4)	6 (33.3)	32 (39.5)	
	High	15 (15.2)	0	15 (18.5)	
Primary cancer site, n (%)	Genitourinary	33 (33.3%)	10 (55.6%)	23 (28.4%)	0.25
	Gastrointestinal	33 (33.3%)	6 (33.3%)	27 (33.3%)	
	Head & Neck	11 (11.1%)	0	11 (13.6%)	
	GYNE	4 (4.0%)	0	4 (5.0%)	
	Lymphoma	4(4.0%)	0	4(4.9%)	
	Thoracic	3 (3.0%)	0	3 (3.7%)	
	Skin (Not melanoma)	3 (3.0%)	0	3 (3.7%)	
	Myeloma	2(2.0%)	1 (5.6%)	1 1.2	
	Other	6 (6.1%)	1 (5.6%)	5 (6.2%)	
Treatment Intent[a], n (%)	Curative	55 (55.6%)	12 (66.7%)	43 (53.1%)	0.56
	Palliative	38 (38.4%)	5 (27.8%)	33 (40.7%)	
	Other	6 (6.1%)	1 (5.6%)	5 (6.2%)	
Disease Stage, n (%)	Localized	31 (31.3%)	7 (38.9%)	24 (29.6%)	0.82
	Locally Advanced	28 (28.3%)	5 (27.8%)	23 (28.4%)	
	Metastatic	30 (30.3%)	4 (22.2%)	26 (35.5%)	
	Other	10 (10.1%)	2 (11.1%)	8 (9.9%)	
VES-13	Median, IQR	7 (3–8)	1 (1–2)	8 (6–8)	**<0.001**
	Range	(0—10)	(0–2)	(3— 10)	
G6 Total score	Mean (SD)	16.7 (9.7)	7.2 (4.5)	18.8 (9.3)	**0.001**
SPPB	Mean (SD)	7.1 (3.5)	10.7 (1.6)	6.3 (3.3)	**<0.001**
Grip strength	Mean (SD)	22.7 (8.3)	28.5 (11.4)	21.5 (6.8)	**<0.001**
PHQ-9	Mean (SD)	5.3 (4.8)	4.4 (1.0)	5.6 (4.9)	0.36
Cognitive impairment (Mini-Cog Score)	Median (IQR)	3 (2–4)	4 (3–5)	3 (1–4)	**0.001**

BMI, body mass index; ECOG PS, Eastern Cooperative Oncology Group Performance Status; PHQ-9, Personal Health Questionnaire —9; SPPB, Short Performance Physical Battery; VES-13, Vulnerable Elders Survey-13.

Performance of the Vulnerable Elders Survey 13 screening tool in identifying cancer treatment modification after geriatric assessment in pre-treatment patients: A retrospective analysis

Predictors of change to treatment plan after geriatric assessment from logistic regression analyses.

		Univariable			Multivariable	
		OR (95%CI)	p-value	C-statistic	OR (95%CI)	p-value
Age		1.02 (0.96–1.08)	0.47	0.542	0.98 (0.91, 1.06)	0.56
BMI		0.97 (0.89–1.07)	0.61	0.546	n/a	
Sex		2.07 (0.89–4.81)	0.089	0.582	1.92 (0.68–5.43)	0.22
ECOG PS	0	Reference		0.732	Reference	
	1	8.15 (2.04–32.5)	**0.003**		4.68 (0.95–23.1)	**0.059**
	≥2	15.9 (4.03–62.9)	**<0.001**		7.23 (1.27–41.2)	**0.026**
Treatment intent		0.65 (0.28–1.49)	0.17	0.570	n/a	
Disease stage	Localized	Reference		0.528	n/a	
	Locally advanced	0.92 (0.33–2.57)	0.88			
	Metastatic	1.07 (0.39–2.91)	0.89			
	Others	0.71 (0.17–3.03)	0.64			
GA Domains						
Comorbidities	Low	Reference		0.597	n/a	
	Medium	1.56 (0.65–3.71)	0.31			
	High	3.11 (0.91–10.6)	0.069			
Functional status, abnormal vs. normal		6.18 (1.92–19.9)	**0.002**	0.640	1.67 (0.31–9.16)	0.55
Falls Risk, abnormal vs. normal		3.70 (1.53–8.97)	**0.004**	0.644	0.99 (0.27–3.70)	0.99
Medication optimization, abnormal vs. normal		1.79 (0.73–4.45)	0.21	0.557	n/a	
Social supports, abnormal vs. normal		1.53 (0.66–3.54)	0.32	0.547	n/a	
Nutrition, abnormal vs. normal		1.67 (0.75–3.71)	0.21	0.563	n/a	
Mood, abnormal vs. normal		1.28 (0.49–3.67)	0.61	0.521	n/a	
Cognition, abnormal vs. normal		1.98 (0.89–4.41)	0.095	0.582	0.89 (0.30–2.63)	0.83
VES-13 continuous, per unit		1.28 (1.10–1.48)	**0.001**	0.674	n/a[a]	
VES-13 categorical, 4+ vs <4		6.16 (2.10, 18.1)	**0.001**	0.658	n/a[a]	
VES-13 categorical, 3+ vs <3		10.0 (2.16, 46.3)	**0.003**	0.633	3.76 (0.56, 25.1)	0.17
G6 categorical, abnormal vs. normal		2.88 (0.85–9.76)	0.089	0.563	5.35 (0.47–62.5)	0.18
G6, continuous, per unit		1.08 (1.03–1.13)	**0.002**	0.702	n/a[b]	
Grip Strength, per unit		0.96 (0.92–1.01)	0.15	0.583	n/a	
SPPB, per unit		0.81 (0.71–0.93)	**0.002**	0.686	0.98 (0.82–1.17)	0.83
C-statistic[c]						0.776
Hosmer-Lemeshow goodness of fit test[c]						0.036

Am J Clin Oncol (CCT) 5: 649-655, 1982.

Toxicity and response criter the Eastern Cooperative Oncology Group

ECOG Toxicity Criteria

		0	1	2	3	4
Leuko-penia	WBC × 10^3 Neut × 10^3	≥4.5 ≥1.9	3.0–<4.5 1.5–<1.9	2.0–<3.0 1.0–<1.5	1.0–<2.0 0.5–<1.0	<1.0 <0.5
Thrombo-cytopenia	Plt × 10^3	≥130	90–<130	50–<90	25–<50	<25
Anemia	Hgb gm% Hct % Clinical	≥11 ≥32	9.5–10.9 28–31.9	<9.5 <28 Sx of anemia	Req transfusions	
Hemorrhage		None	Minimal	Mod—Not debilitating	Debilitating	Life threatening
Infection		None	No active Rx	Requires active Rx	Debilitating	Life threatening
GU	BUN mg% Creatinine Proteinuria Hematuria	≤20 ≤1.2 Neg Neg	21–40 1.3–2.0 1+ Micro-Cult–positive	41–60 2.1–4.0 2+–3+ Gross-Cult–positive	>60 >4.0 4+ Gross+Clots	Symptomatic uremia c̄ obst uropathy
	Urinary tract infection should be graded under infection, not GU. *Hematuria resulting from thrombocytopenia is graded under hemorrhage.*					
Hepatic	SGOT Alk Phos Bilirubin Clinical	<1.5 × nl <1.5 × nl <1.5 × nl	1.5–2 × normal 1.5–2 × normal 1.5–2 × normal	2.1–5 × normal 2.1–5 × normal 2.1–5 × normal	>5 × normal >5 × normal >5 × normal Precoma	 Hepatic coma
	Viral hepatitis should be recorded as infection rather than liver toxicity.					
N & V		None	Nausea	N & V controllable	Vomiting intractable	
Diarrhea		None	No dehydration	Dehydration	Grossly bloody	
Pulm	PFT Clinical	Nl	25–50% decrease in Dco or VC Mild Sx	>50% decrease in Dco or VC Moderate Sx	 Severe Sx-Inter-mittent O_2	 Assisted vent or continuous O_2
	Pneumonia is considered infection and not graded as pulmonary toxicity unless felt to be resultant from pulmonary changes directly induced by treatment.					
Cardiac		Nl Nl	ST—T changes Sinus tachy >110 at rest	Atrial arrhythmias Unifocal PVC's	Mild CHF Multifocal PVC's Pericarditis	Severe or refract CHF Ventric tachy Tamponade
Neuro	PN	None	Decr DTR's Mild paresthesias Mild constipation	Absent DTR's Severe paresthesias Severe constipation Mild weakness	Disabling sens loss Severe PN pain Obstipation Severe weakness Bladder dysfunct	Resp dysfunction 2° to weakness Obstipation req surg Paralysis—confining pt to bed/wheelchair
	CNS	None	Mild anxiety Mild depression Mild headache Lethargy	Severe anxiety Mod depression Mod headache Somnolence Tremor Mild hyperactivity	Confused or manic Severe depression Severe headache Cord dysfunction Confined to bed due to CNS dysfunct	Seizures Suicidal Coma
Skin & Mucosa		Nl	Transient erythema Pigmentation, atrophy	Vesiculation Subepidermal fibrosis	Ulceration Necrosis	
	Stomatitis	None	Soreness	Ulcers—can eat	Ulcers—cannot eat	
Alopecia		None	Alopecia—mild	Alopecia—severe		
Allergy		None	Transient rash Drug fever ≤38°C (≤100.4°F)	Urticaria Drug fever >38°C (>100.4°F) Mild bronchospasm	Serum sickness Bronchospasm–req parenteral meds	Anaphylaxis
Fever		≤37.5°C	≤38°C (≤100.4°F)	>38°C (>100.4°F)	Severe c̄ chills (>40°C)	Fever c̄ hypotension
	Fever felt to be caused by drug allergy should be graded as allergy. *Fever due to infection is graded under infection only.*					
Local Tox		None	Pain	Pain + Phlebitis	Ulceration	

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Development of an oncological-multidimensional prognostic index (Onco-MPI) for mortality prediction in older cancer patients

Antonella Brunello[1] · Andrea Fontana[2] · Valeria Zafferri[1] · Francesco Panza[2,3] · Pasquale Fiduccia[1] · Umberto Basso[1] · Massimiliano Copetti[2] · Sara Lonardi[1] · Anna Roma[1] · Cristina Falci[4] · Silvio Monfardini[5] · Alberto Cella[6] · Alberto Pilotto[6,7] · Vittorina Zagonel[1]

For all patients, the following variables were collected: age, gender, Eastern Cooperative Oncology Group (ECOG) performance status (Oken et al. 1982), associated diseases and their severity graded according to Cumulative Illness Rating Scale (CIRS) (Linn et al. 1968), present medications, the presence of pain, body mass index (BMI), site and stage of primary cancer, cancer treatment planned and/or received, living status/the presence of caregiver, basal and instrumental activities of daily living (ADL, IADL) (Katz et al. 1970; Lawton and Brody. 1969), mini-mental state examination (MMSE) (Folstein et al. 1975) and the 15-item Geriatric Depression Scale (GDS) (Satin et al. 2009).

To build the Onco-MPI, a weighted sum of the following domains was computed (raw formula): age, sex, ADL, IADL, ECOG performance status, MMSE, BMI, CIRS, number of drugs, the presence of caregiver, cancer sites and cancer stages. Weights were estimated from a multivariable Cox proportional hazard model, within 1 year of follow-up. Each weighted sum was then normalized into a range that varies from 0 (lowest risk) to 1 (highest risk), subtracting the observed raw minimum value (i.e., −2.371) and then dividing such difference by the observed range (minimum to maximum span, i.e., 8.034). Three grades of Onco-MPI severity were estimated using RECursive Partition and AMalgamation (RECPAM) algorithm. At each partitioning step, the method chooses the best binary split (cutoff) to maximize the difference in the outcome of interest. Discriminatory power was assessed by estimating survival C-indices, along with 95 % confidence interval (CI) (Pencina and D'Agostino 2004), and the survival-based Hosmer–Lemeshow (HL) measure of calibration (D'Agostino and Nam 2004) was also assessed.

Table 3 Estimated domains weights used to compute the onco-multidimensional prognostic index (MPI), for mortality risk prediction within 1 year of follow-up

Domains (D_i)		**Category**	**Weights for onco-MPI (S_i)**
Age (years)		Cont. Var.	0.04730
Sex		Female (ref) Male	0 0.01706
BMI		Cont. Var.	-0.09782
ADL		Cont. Var.	-0.07717
IADL		Cont. Var.	0.04983
ECOG Performance Status		Cont. Var.	0.70607
N° of severe comorbidites CIRS		Cont. Var.	-0.12960
Cancer stage		I (ref) II III IV	0 1.11712 0.74957 1.80828
Tumour site		Other (ref) Breast Colorectal Lung Prostate Other genitourinary	0 -1.93081 -1.03025 0.36265 -1.57998 0.19956
MMSE		Cont. Var.	-0.06270
N°of drugs		Cont. Var.	-0.01218
Caregiver		No (ref) Yes	0 0.21035
Raw onco-MPI		$R = \sum (S_i D_i)$	
Normalization formula for onco-MPI		$\frac{(R + 2.371)}{8.034}$	
Cut-offs (RECPAM)	Low	0 - 0.46	
	Medium	0.47 - 0.63	
	High	0.64 - 1.00	
Survival c-index (95% CI)*		HL test (p-value)*	
0.869 (0.841-0.897)		0.854	

Defined using: age, sex, *BMI* body mass index, *ADL* activities of daily living, *IADL* instrumental activities of daily living, *ECOG* Eastern Cooperative Oncology Group performance status, *CIRS* Cumulative Illness Rating Scale, *MMSE* mini-mental state examination, number of drugs, the presence of a caregiver, cancer stage and tumor size

Cont. Var. continuous variable

* Survival C-index, along with 95 % confidence intervals (CI), and *p* value from Hosmer–Lemeshow (HL) goodness-of-fit test for calibration of the Onco-MPI score within 1 year of follow-up

Table 4 Results from multivariable Cox regressions for mortality risk prediction, within 1 year of follow-up in older cancer patients

Variable	Category	HR (95 % CI)	*p* value
Age	Cont. Var.	1.040 (0.996–1.086)	0.075
Sex	Male versus female	1.018 (0.647–1.600)	0.939
BMI	Cont. Var.	0.912 (0.859–0.968)	0.002
ADL	Cont. Var.	0.920 (0.751–1.128)	0.423
IADL	Cont. Var.	1.008 (0.870–1.167)	0.92
Comorbidity index CIRS	Cont. Var.	0.914 (0.749–1.114)	0.372
MMSE	<24 versus ≥24	0.971 (0.595–1.584)	0.906
Psychiatric diseases	Yes versus no	0.498 (0.198–1.251)	0.138
Cancer stage	IV versus I	6.689 (2.950–15.166)	<0.001
	III versus I	2.129 (0.854–5.306)	0.105
	II versus I	3.335 (1.389–8.009)	0.007
Cancer treatment	Yes versus no	0.984 (0.618–1.567)	0.945
No of drugs	Cont. Var.	1.023 (0.923–1.133)	0.668
ECOG performance status	≥3 versus 0	7.747 (1.744–34.411)	0.007
	2 versus 0	3.827 (1.777–8.244)	<0.001
	1 versus 0	3.122 (1.877–5.191)	<0.001
Caregiver	Yes versus no	1.193 (0.708–2.010)	0.508
15-item Geriatric Depression Scale	>5 versus ≤5	0.947 (0.574–1.564)	0.833
Syndromes	Yes versus no	1.050 (0.494–2.234)	0.898
Tumor site	Breast versus other	0.164 (0.068–0.396)	<0.001
	Colorectal versus other	0.379 (0.214–0.671)	<0.001
	Lung versus other	1.407 (0.767–2.579)	0.270
	Prostate versus other	0.209 (0.073–0.599)	0.004
	Other genitourinary versus other	1.260 (0.652–2.433)	0.492

BMI body mass index, *ADL* activities of daily living, *IADL* instrumental activities of daily living, *CIRS* Cumulative Illness Rating Scale, *MMSE* mini-mental state examination, *ECOG* Eastern Cooperative Oncology Group, *Cont. Var.* continuous variable

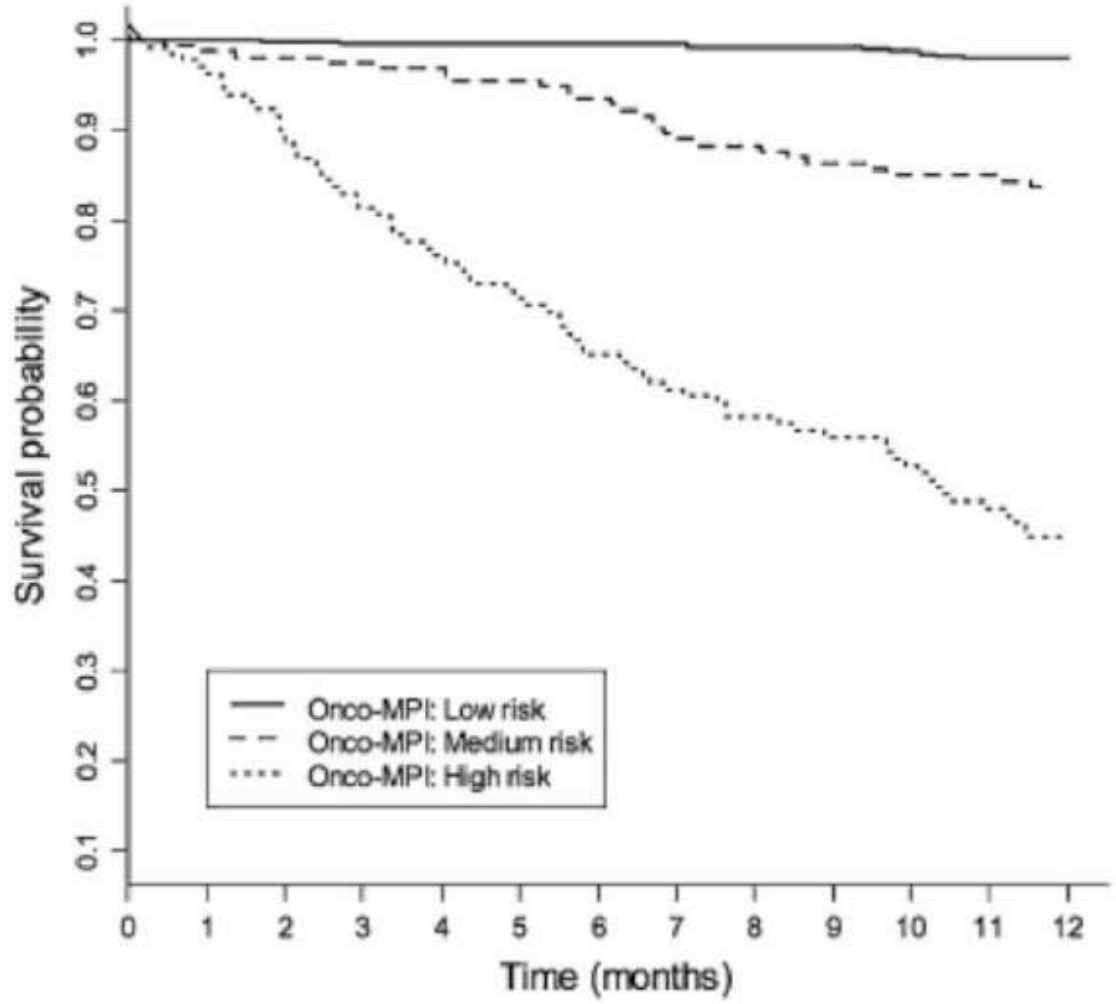

Fig. 1 Kaplan-Meier survival curves, within 1 year of follow-up, according to the three Onco-MPI risk score categories (low risk, medium risk and high risk)

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The G8 screening tool enhances prognostic value to ECOG performance status in elderly cancer patients: A retrospective, single institutional study

Background

Some elderly cancer patients, even with good Eastern Cooperative Oncology Group performance status (ECOG-PS), have poor survival outcomes and cannot tolerate standard therapy. Few studies have detailed the associations between the G8 screening tool, ECOG-PS, and overall survival (OS) in such patients.

Methods

Cancer patients, aged 70 years or older, were assessed for G8 and classified into three groups according to their G8 score: <11 as the low score group, 11–14 as the intermediate score group, and >14 as the high score group. We retrospectively analyzed the association between G8 score and OS in all patients and for each ECOG-PS-categorized group.

Results

Out of 264 enrolled patients, most patients (87%) with solid tumor were categorized as TNM stage IV. ECOG-PS was 0 or 1 in 215 patients and ≥2 in 48; there was missing data for one patient. Among all patients, the low score group with a median OS of 7.7 months survived significantly less than both the high score group with a median OS of 25.6 months [Hazard ratio (HR) 3.48; 95% confidence interval (CI), 1.96–6.63; $p < 0.0001$] and the intermediate score group with a median of 15.6 months (HR 1.83; 95% CI, 1.28–2.65; $p < 0.001$). In the multivariate analysis, TNM stage and G8 score were independent prognostic factors for OS. When patients with an ECOG-PS of 0 or 1 were analyzed, patients with a lower G8 score showed significantly shorter OS than patients with a higher score when any two groups were compared.

Conclusion

This novel classification of the G8 score contributes to prompt identification of patients with poor prognosis and improved the prognostic value of ECOG-PS. Using G8 with ECOG-PS may be helpful in deciding treatment for elderly patients with advanced cancer.

Modified G8 variables and operational definitions for retrospective application.

Item	Operational Definition
Weight loss during past 3 months	• >3 kg/patient does not know (10pts) • 1-3 kg (2pts) • No weight loss (0pts)
Neuropsychological Problems	PHQ-9 Score & Mini-Cog • Mild/severe dementia or depression (3pts) o PHQ-9 ≥ 5 o Mini-Cog ≤3 (out of 5) • No neuropsychological problems (0pts) o PHQ-9 ≤ 4 o Mini-Cog 4 or 5 (out of 5)
Polypharmacy Takes at least 6 drugs per day	Medication List • ≥6 (2pts) • <6 (0pts)
Self-Rated Health Status Compared to other people of the same age, how does the patient rate his or health status?	Obtained from VES-13 • Poor/fair (3pts) • Good/Very good/Excellent (0pts)
Performance Status	ECOG PS • PS 2/3/4 (12pts) • PS 1 (4pts) • PS 0 (0pts)
Past history of heart failure or coronary artery disease	GA comorbidity/past medical history • Congestive heart failure, stroke, or myocardial infarction (5pts)
Score	**/35** **** Abnormal > 6 ****

ECOG PS = Eastern Cooperative Oncology Group Performance Status; GA = Geriatric Assessment; PHQ = Patient Health Questionnaire.

Table 3. Association between G8 scores and patient characteristics.

Characteristic	Total No. of patients (n = 264)	Normal G8 score (>14) No. of patients (n = 45)	Abnormal G8 score (≤14) No. of patients (n = 219)	p value
Age, n = 264				
<80	207	42	165	
≥80	57	3	54	< 0.01
Sex, n = 264				
Male	174	31	143	
Female	90	14	76	0.73
ECOG-PS, n = 263				
0/1	215	45	170	
2/3/4	48	0	48	< 0.001
CCI, n = 264				
0	186	30	156	
≥1	78	15	63	0.59
TNM stage of solid tumor, n = 258				
II/III	32	5	27	
IV	226	40	186	1.00

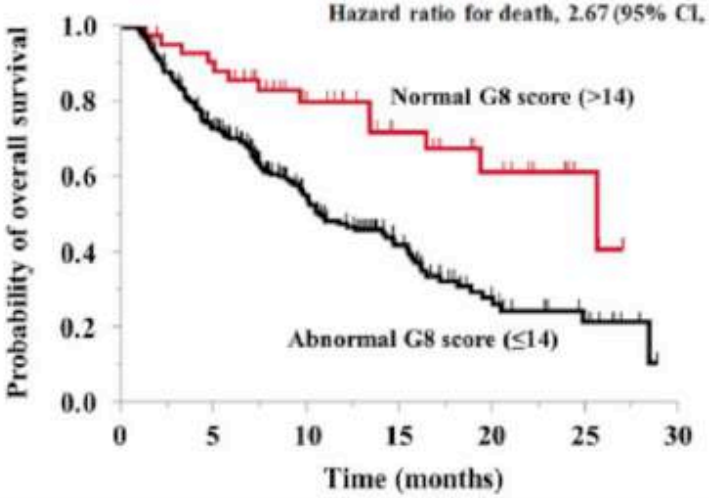
ECOG-PS denotes Eastern Cooperative Oncology Group performance status.

CCI denotes Charlson comorbidity index.

a

Group	No. of patients	Median OS, months (95% CI)
Normal G8 score (>14)	45	25.6 (16.4–NR)
Abnormal G8 score (≤14)	219	10.7 (9.6–14.6)

Hazard ratio for death, 2.67 (95% CI, 1.56–4.98), p < 0.001



b

Group	No. of patients	Median OS, months (95% CI)
High G8 score (>14)	45	25.6 (16.4–NR)
Intermediate G8 score (11–14)	115	15.6 (10.4–18.1)
Low G8 score (<11)	104	7.7 (5.5–10.7)

Hazard ratio for death
Low vs. High: 3.48 (95% CI, 1.97–6.63), p < 0.0001
Low vs. Intermediate: 1.83 (95% CI, 1.28–2.65), p < 0.001
Intermediate vs. High: 2.09 (95% CI, 1.17–4.02), p < 0.05

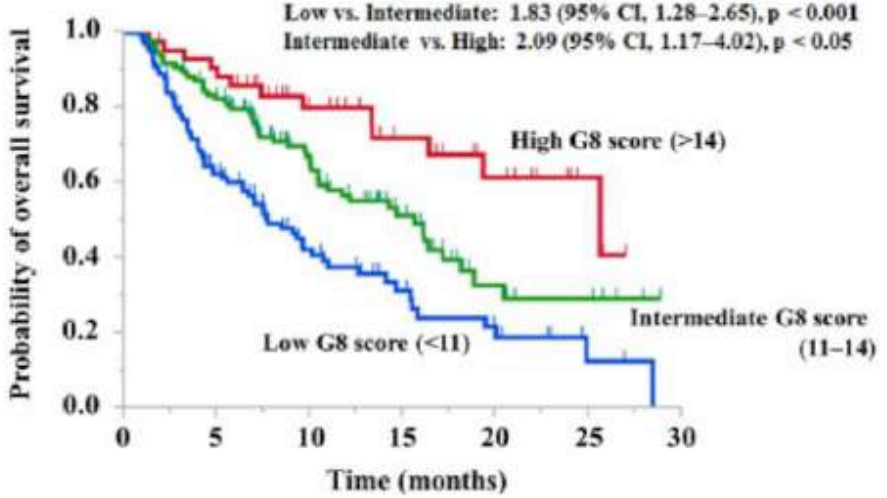


Fig 1. Overall survival according to the G8 score in elderly cancer patients. (a) Kaplan–Meier analyses for overall survival in patients with a normal G8 score (>14) or an abnormal G8 score (≤14). (b) Kaplan–Meier analyses for overall survival in patients with high G8 scores (>14), intermediate G8 scores (11–14), or low G8 scores (<11). NR, not reached.

Table 4. Univariate and multivariate analyses for overall survival.

Factor	No. of patients	Univariate		Multivariate	
		HR (95% CI)	p value	HR (95% CI)	p value
Age					
<80	207	1		1	
≥80	57	1.44 (0.94–2.14)	0.08	1.34 (0.85–2.06)	0.20
Sex					
Male	174	1			
Female	90	1.12 (0.77–1.59)	0.55		
CCI					
0	186	1			
≥1	78	1.33 (0.92–1.90)	0.12		
TNM stage of solid tumor					
II/III	32	1		1	
IV	226	3.29 (1.65–7.80)	< 0.005	3.59 (1.80–8.52)	< 0.0001
ECOG-PS					
0/1	215	1		1	
2/3/4	48	2.53 (1.64–3.77)	< 0.0001	1.58 (0.98–2.49)	0.06
G8 [a]					
High score	45	1		1	
Intermediate score	115	2.09 (1.17–4.02)	< 0.05	1.81 (1.00–3.52)	< 0.05
Low score	104	3.48 (1.97–6.63)	< 0.0001	3.34 (1.85–6.47)	< 0.0001

Abbreviations: CI, confidential interval; CCI, Charlson comorbidity index; ECOG-PS, Eastern Cooperative Oncology Group performance status.

[a]: High score, intermediate score, and low score group had a G8 score of 14.5–17, 11–14, and 0–10.5, respectively.

Group	No. of patients	Median OS, months (95% CI)
High G8 score (>14)	45	25.6 (16.4–NR)
Intermediate G8 score (11–14)	103	16.1 (11.7–18.8)
Low G8 score (<11)	67	9.5 (7.0–14.0)

Hazard ratio for death

Low vs. High: 3.02 (95% CI, 1.66–5.88), $p < 0.0005$

Low vs. Intermediate: 1.68 (95% CI, 1.10–2.57), $p < 0.05$

Intermediate vs. High: 1.97 (95% CI, 1.10–3.83), $p < 0.05$

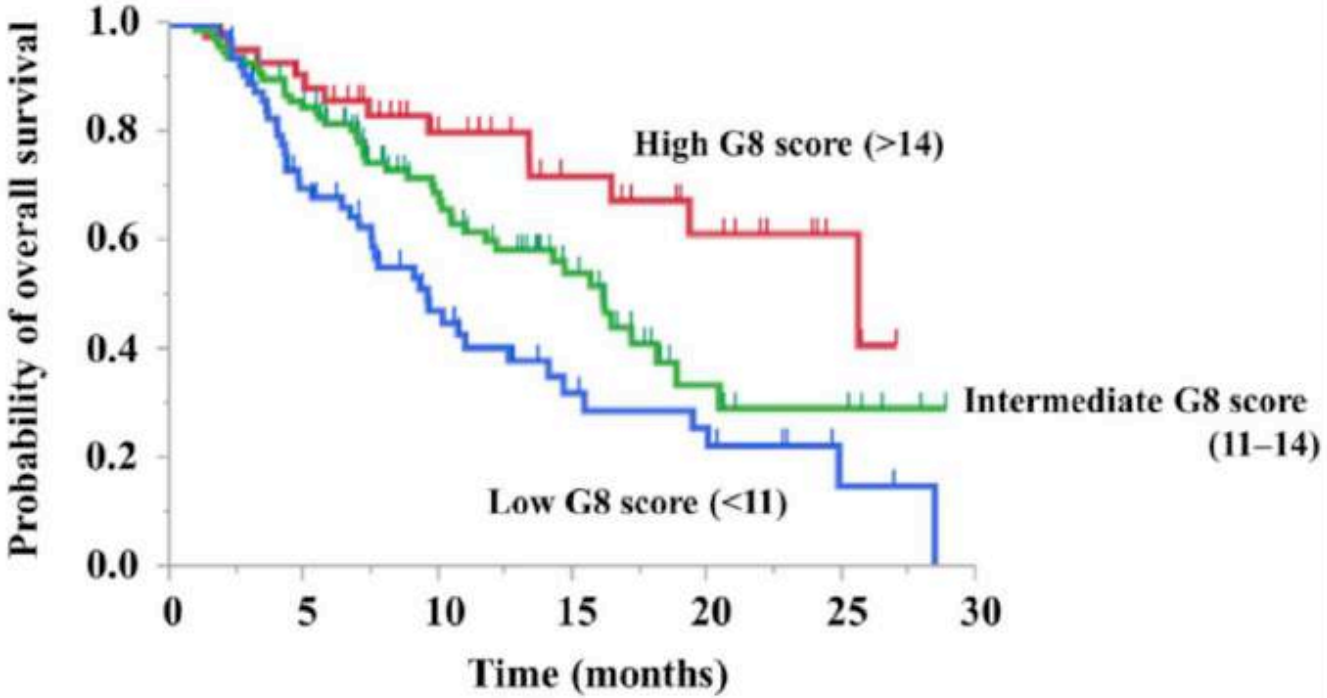


Fig 2. Overall survival according to the G8 score in elderly cancer patients categorized as an ECOG-PS of 0 or 1. Kaplan–Meier analyses for overall survival in patients with high G8 scores (>14), intermediate G8 scores (11–14), or low G8 scores (<11). NR, not reached. ECOG-PS, Eastern Cooperative Oncology Group performance status.

The G8 screening tool.

Impaired <=14/17

Item	Score
1: 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 1 = moderate decrease in food intake 2 = no decrease in food intake
2: Weight loss during the last 3 months	0 = weight loss greater than 3 kg 1 = does not know 2 = weight loss between 1 and 3 kg 3 = no weight loss
3: Mobility	0 = bed or chair bound 1 = able to get out of bed/chair but does not go out 2 = goes out
4: Neuropsychological problems	0 = severe dementia or depression 1 = mild dementia 2 = no psychological problems
5: BMI = weight in kg/(height in m)^2	0 = BMI less than 19 1 = BMI 19 to less than 21 2 = BMI 21 to less than 23 3 = BMI 23 or greater
6: Takes more than 3 prescription drugs per day	0 = yes 1 = no
7: In comparison with other people of the same age, how does the patient consider his/her health status?	0 = not as good 0.5 = does not know 1 = as good 2 = better
8: Age	0 = >85 years 1 = 80–85 years 2 = <80 years

Abbreviation: BMI, body mass index.

Table 3. Association between G8 scores and patient characteristics.

Characteristic	Total No. of patients (n = 264)	Normal G8 score (>14) No. of patients (n = 45)	Abnormal G8 score (≤14) No. of patients (n = 219)	p value
Age, n = 264				
<80	207	42	165	
≥80	57	3	54	< 0.01
Sex, n = 264				
Male	174	31	143	
Female	90	14	76	0.73
ECOG-PS, n = 263				
0/1	215	45	170	
2/3/4	48	0	48	< 0.001
CCI, n = 264				
0	186	30	156	
≥1	78	15	63	0.59
TNM stage of solid tumor, n = 258				
II/III	32	5	27	
IV	226	40	186	1.00

ECOG-PS denotes Eastern Cooperative Oncology Group performance status.

CCI denotes Charlson comorbidity index.

Table 4. Univariate and multivariate analyses for overall survival.

Factor	No. of patients	Univariate		Multivariate	
		HR (95% CI)	p value	HR (95% CI)	p value
Age					
<80	207	1		1	
≥80	57	1.44 (0.94–2.14)	0.08	1.34 (0.85–2.06)	0.20
Sex					
Male	174	1			
Female	90	1.12 (0.77–1.59)	0.55		
CCI					
0	186	1			
≥1	78	1.33 (0.92–1.90)	0.12		
TNM stage of solid tumor					
II/III	32	1		1	
IV	226	3.29 (1.65–7.80)	< 0.005	3.59 (1.80–8.52)	< 0.0001
ECOG-PS					
0/1	215	1		1	
2/3/4	48	2.53 (1.64–3.77)	< 0.0001	1.58 (0.98–2.49)	0.06
G8 [a]					
High score	45	1		1	
Intermediate score	115	2.09 (1.17–4.02)	< 0.05	1.81 (1.00–3.52)	< 0.05
Low score	104	3.48 (1.97–6.63)	< 0.0001	3.34 (1.85–6.47)	< 0.0001

Abbreviations: CI, confidential interval; CCI, Charlson comorbidity index; ECOG-PS, Eastern Cooperative Oncology Group performance status.

[a]: High score, intermediate score, and low score group had a G8 score of 14.5–17, 11–14, and 0–10.5, respectively.

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Screening for Vulnerability in Older Cancer Patients: The ONCODAGE Prospective Multicenter Cohort Study

Background: Geriatric Assessment is an appropriate method for identifying older cancer patients at risk of life-threatening events during therapy. Yet, it is underused in practice, mainly because it is time- and resource-consuming. This study aims to identify the best screening tool to identify older cancer patients requiring geriatric assessment by comparing the performance of two short assessment tools the G8 and the Vulnerable Elders Survey (VES-13).

Patients and Methods: The diagnostic accuracy of the G8 and the (VES-13) were evaluated in a prospective cohort study of 1674 cancer patients accrued before treatment in 23 health care facilities. 1435 were eligible and evaluable. Outcome measures were multidimensional geriatric assessment (MGA), sensitivity (primary), specificity, negative and positive predictive values and likelihood ratios of the G8 and VES-13, and predictive factors of 1-year survival rate.

Results: Patient median age was 78.2 years (70-98) with a majority of females (69.8%), various types of cancer including 53.9% breast, and 75.8% Performance Status 0-1. Impaired MGA, G8, and VES-13 were 80.2%, 68.4%, and 60.2%, respectively. Mean time to complete G8 or VES-13 was about five minutes. Reproducibility of the two questionnaires was good. G8 appeared more sensitive (76.5% versus 68.7%, $P= 0.0046$) whereas VES-13 was more specific (74.3% versus 64.4%, $P<0.0001$). Abnormal G8 score (HR=2.72), advanced stage (HR=3.30), male sex (HR=2.69) and poor Performance Status (HR=3.28) were independent prognostic factors of 1-year survival.

Conclusion: With good sensitivity and independent prognostic value on 1-year survival, the G8 questionnaire is currently one of the best screening tools available to identify older cancer patients requiring geriatric assessment, and we believe it should be implemented broadly in daily practice. Continuous research efforts should be pursued to refine the selection process of older cancer patients before potentially life-threatening therapy.

The G8 index test

At the first visit after enrollment, patients received a full clinical examination and completed the G8 test with a nurse, a clinical research assistant (CRA), or a physician. The G8 consists of eight items: patient age (>85, 80-85, <80), and seven items from the original 18-item MNA (appetite changes, weight loss, mobility, neuropsychological problems, body mass index, medication, and self-rated health). The total score ranges from 0 to 17, with lower scores indicating a higher risk of impairments.[18] The cut-off value for an 'impaired' reference test score was ≤14 and the time taken to complete the test was recorded. The G8 questionnaire is provided in S1 Appendix.

The VES-13 questionnaire

VES-13 is a self-administered questionnaire that was completed during the first visit after enrollment. For three pre-identified centers, patients also filled in the questionnaire at the following geriatric visit. VES-13 consisted of four groups of questions: age, self-perceived health, difficulties to perform six specific activities, and difficulties to perform daily living tasks due to health concerns. The score ranged from 0 to 10 and a score ≥3 was considered to show impairment.

Multidimensional geriatric assessment (MGA) reference test

Patients underwent a geriatric evaluation in the month following the completion of G8 and VES-13 (+/- seven days) before treatment began. The nurse completed six of the seven instruments of the MGA as already described [18] (MNA, Timed Get up and Go (TUG), Activities of Daily Living (ADL), Instrumental ADL (IADL), Mini Mental State Examination (MMSE), and Geriatric Depression Scale (GDS-15)), and the geriatrician rated comorbidity on the Cumulative Illness Rating Scale (CIRS-G), recorded the time required for the consultation, identified

The G8 screening tool.

Impaired <=14/17

Item	Score
1: 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 1 = moderate decrease in food intake 2 = no decrease in food intake
2: Weight loss during the last 3 months	0 = weight loss greater than 3 kg 1 = does not know 2 = weight loss between 1 and 3 kg 3 = no weight loss
3: Mobility	0 = bed or chair bound 1 = able to get out of bed/chair but does not go out 2 = goes out
4: Neuropsychological problems	0 = severe dementia or depression 1 = mild dementia 2 = no psychological problems
5: BMI = weight in kg/(height in m)^2	0 = BMI less than 19 1 = BMI 19 to less than 21 2 = BMI 21 to less than 23 3 = BMI 23 or greater
6: Takes more than 3 prescription drugs per day	0 = yes 1 = no
7: In comparison with other people of the same age, how does the patient consider his/her health status?	0 = not as good 0.5 = does not know 1 = as good 2 = better
8: Age	0 = >85 years 1 = 80–85 years 2 = <80 years

Abbreviation: BMI, body mass index.

Modified G8 variables and operational definitions for retrospective application.

Item	Operational Definition
Weight loss during past 3 months	• >3 kg/patient does not know (10pts) • 1-3 kg (2pts) • No weight loss (0pts)
Neuropsychological Problems	PHQ-9 Score & Mini-Cog • Mild/severe dementia or depression (3pts) o PHQ-9 ≥ 5 o Mini-Cog ≤3 (out of 5) • No neuropsychological problems (0pts) o PHQ-9 ≤ 4 o Mini-Cog 4 or 5 (out of 5)
Polypharmacy Takes at least 6 drugs per day	Medication List • ≥6 (2pts) • <6 (0pts)
Self-Rated Health Status Compared to other people of the same age, how does the patient rate his or health status?	Obtained from VES-13 • Poor/fair (3pts) • Good/Very good/Excellent (0pts)
Performance Status	ECOG PS • PS 2/3/4 (12pts) • PS 1 (4pts) • PS 0 (0pts)
Past history of heart failure or coronary artery disease	GA comorbidity/past medical history • Congestive heart failure, stroke, or myocardial infarction (5pts)
Score	**/35** **** Abnormal > 6 ****

ECOG PS = Eastern Cooperative Oncology Group Performance Status; GA = Geriatric Assessment; PHQ = Patient Health Questionnaire.