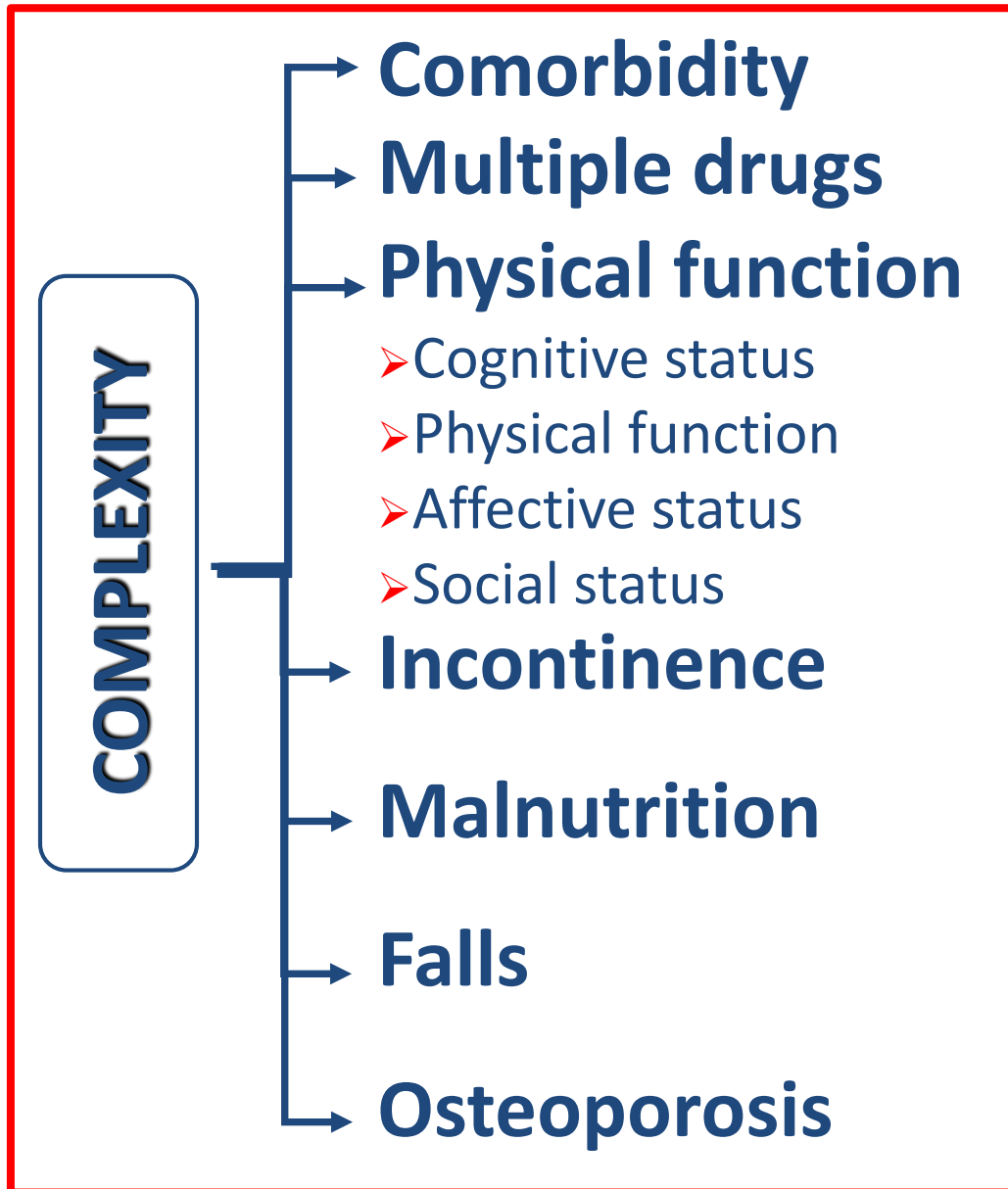# IL COMPREHENSIVE GERIATRIC ASSESSMENT QUALE STRUMENTO DI STRATIFICAZIONE DEL RISCHIO

La VMD nell'assessment prognostico

Graziano Onder
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Università Cattolica del Sacro Cuore
Rome - Italy

The «up-to-date» patient

COMPLEXITY

→ **Comorbidity**
→ **Multiple drugs**
→ **Physical function**
  ➤ Cognitive status
  ➤ Physical function
  ➤ Affective status
  ➤ Social status
→ **Incontinence**
→ **Malnutrition**
→ **Falls**
→ **Osteoporosis**

Researchers have largely shied away from the complexity of multiple chronic conditions — avoidance that results in expensive, potentially harmful care of unclear benefit.

NEJM FREE FULL TEXT Tinetti M. NEJM2011

Scopi della valutazione multidimensionale

- Identificazione dei bisogni e delle problematiche assistenziali
- Guida all'identificazione degli obiettivi assistenziali ("problem solving process")
- Programmazione dell'intervento assistenziale (prevenzione, cura, riabilitazione)
- Migliorare la funzione e la qualità di vita
- Ottimizzare l'allocazione e ridurre l'utilizzo dei servizi non necessari
- Controllo qualità
- Ricerca (realizzazione banca dati)
- Valutazione carico assistenziale - rimborsi

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Prognostic indexes

Unfortunately, although these indices hold the promise of improving the targeting of interventions in older adults, **there is insufficient evidence at this time to recommend the widespread use of prognostic indices in clinical practice.**

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JAMA. 2012;307(2):182-192

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2 based on **InterRAI** MDS - The MDS has been updated to a new version (3.0) since the development of indices for nursing home patients, and some variables in indices by Porock et al and Flacker and Kiely have been changed or are no longer present.

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Quality of Prognostic Indexes

Term	Explanation	Measurement/Example
Bias	Systematic variation (nonrandom error) in the development or validation of a prognostic index	13% of participants in the Flacker and Kiely[36] development cohort were lost to follow-up (unknown mortality at 1 y) and may have systematically differed
Accuracy	The degree to which predicted outcomes match observed outcomes	
Calibration	How close each level of prediction is to what is observed for that risk group	Compares predicted vs observed mortality rate; Hosmer-Lemeshow[b]
Discrimination	How well those who die are distinguished from those who do not die	C statistic[c]
Generalizability	Ability of a prognostic index to provide accurate predictions in a new sample of patients	
Reproducibility	The index is accurate in patients who were not included in the development cohort but who are from the same underlying population; a measure of overfitting (matching the predictive model to random noise in the data)	Data resampling (also called bootstrapping)[d]
Transportability	The index is accurate in patients drawn from a different but related population or in data collected by using methods that differ from those used in development; a measure of both overfitting and underfitting (the omission of important predictors of mortality)	Nonrandomly split sample[e] or independent validation
Methodological	Accuracy is maintained when the index is tested in data collected using different methods; independent validation tests the accuracy of the index by investigators not involved in the development of the index	Porock et al[37] developed index and Kruse et al[38] independently validated it
Historical	Accuracy is maintained when the index is tested in data from a different calendar time	Inouye et al[39] development sample was from 1989-1991; validation sample was from 1995-1996[40]
Geographic	Accuracy is maintained when the index is tested in data from different locations	Lee et al[39] developed in eastern, western, and central US and validated in southern US
Spectrum	Accuracy is maintained in a patient sample that is, on average, more or less advanced in disease process or that has a somewhat different disease process or trajectory	Walter et al[41] developed in tertiary care hospital and validated in community hospital
Follow-up interval	Accuracy is maintained when the index is tested over a longer or shorter period	Pilotto et al[42] developed for 1-y and San Carlo et al[43] validated for 1-mo mortality

La VMD nell'assessment prognostico

- Utilizzo clinico

- Stratificazione del rischio e percorsi assistenziali

La VMD nell'assessment prognostico

- Utilizzo clinico
  - Scelte terapeutiche

Clinical Decisions Influenced by Life Expectancy

Life Expectancy	Sample Clinical Decision	Guideline
Short-term (<2 y)		
<6 mo	Discontinuation of statins[5,6]	None
<6 mo	Referral to hospice	Medicare regulations
<1-2 y	Nonoperative management of asymptomatic abdominal aortic aneurysm[7-10]	None
Mid-term (2-3 y)		
<2-3 y	Blood pressure/lipid control in diabetes mellitus unlikely to prevent macrovascular complications	California Healthcare Foundation and AGS[11]
<2-3 y	Lowering blood pressure to <140/80 mm Hg unlikely to improve cardiovascular outcomes[5,12]	None
Long-term (>3 y)		
<5 y or <7 y	Discontinuation of colon cancer screening[13,14]	AGS[15] or USPSTF[16]
<5 y or "limited"	Discontinuation of breast cancer screening[13,17]	AGS[18] or USPSTF[19]
<5 y	Stented bioprosthetic heart valve may be preferable to metallic valve[20]	None
<5 y	Limited benefit to lowering hemoglobin A_{1c} therapeutic target to <8%[5]	California Healthcare Foundation and AGS[11]
<8 y	Tight glycemic control in diabetes mellitus unlikely to prevent microvascular complications[5,21,22]	California Healthcare Foundation and AGS[11]
<10 y	Discontinuation of prostate cancer screening[23]	ACS[24] and AUA[25]
<15 y	Irradiation therapy to ipsilateral breast may not have mortality benefit if life expectancy <15 y (for patients with T1, T2 ER+ breast cancer status after breast-conserving surgery and hormonal therapy)[26,27]	None

Using a multidimensional prognostic index (MPI) based on comprehensive geriatric assessment (CGA) to predict mortality in elderly undergoing transcatheter aortic valve implantation

Marie-Laure Bureau [a,*], Evelyne Liuu [a], Luc Christiaens [b], Alberto Pilotto [c], Jean Mergy [b], Fabienne Bellarbre [a], Pierre Ingrand [d,e], Marc Paccalin [a,e], on behalf of the MPI_AGE Project Investigators:

Selection of the elderly patients unsuitable for SAVR who will benefit the most from TAVI is a challenge. MPI tool appears to be useful to select the most appropriate candidate as MPI-1 patients had a
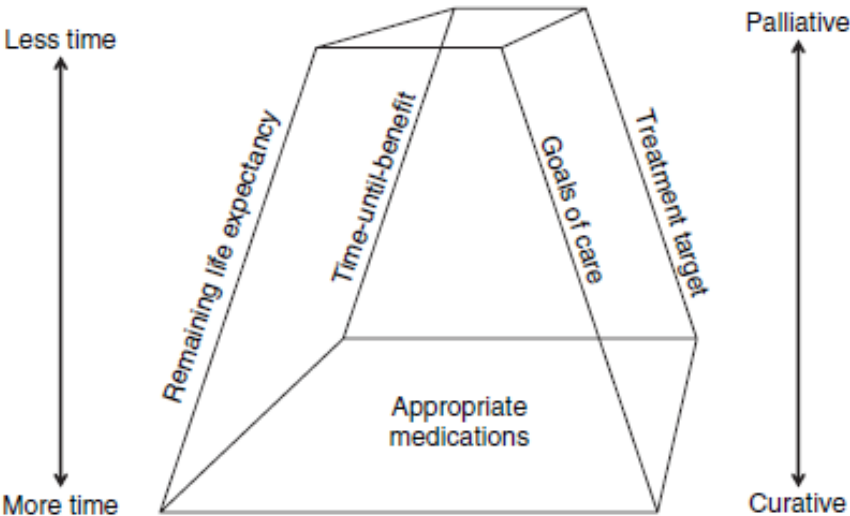

Percent survival vs months

MPI 2-3
MPI 1

univariate logrank $p=.0046$
HR=2.83 95%CI [1.38 ; 5.82]
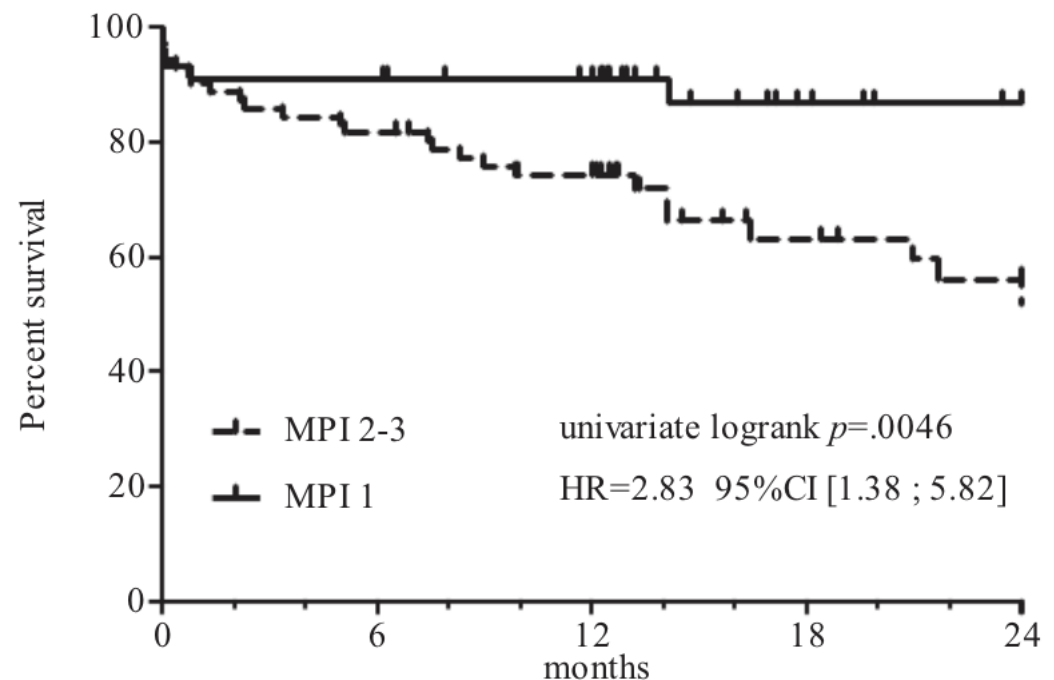
Brief Reports

Statins in the Last Six Months of Life: A Recognizable, Life-Limiting Condition Does Not Decrease their Use

MARIA J. SILVEIRA, M.D., M.A., M.P.H.,[1,2] ANAMARIA SEGNINI KAZANIS, M.A., M.A.,[1] and MATTHEW P. SHEVRIN, B.A.[1]
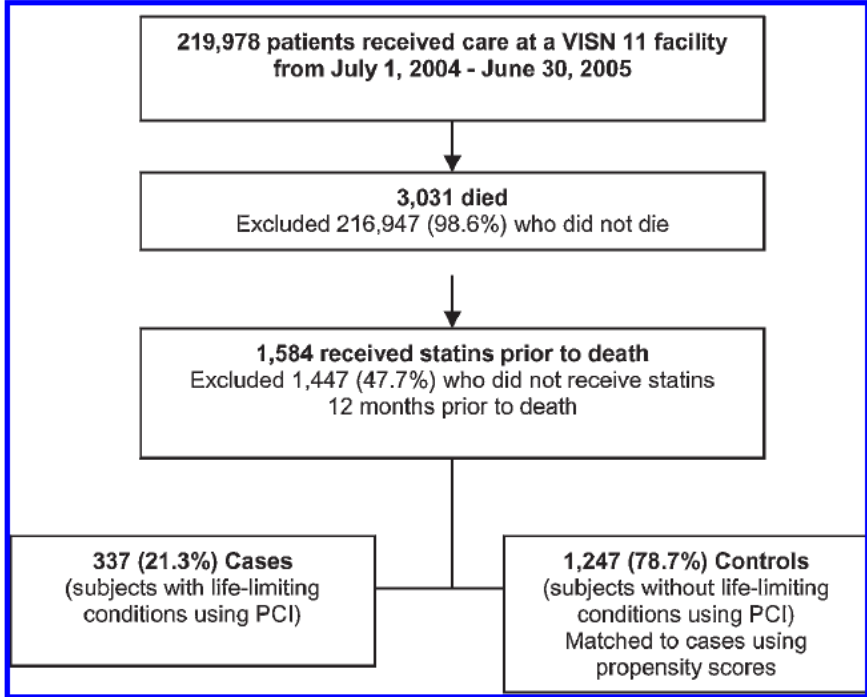
In conclusion, we find that statins are prescribed frequently in the last year of life for patients carrying recognizable, life-limiting conditions and that the patient's diagnosis does not appear to affect prescribing patterns. The small amount of discontinuation we did observe in the last 6 months of life occurs for reasons we have yet to understand. Still, our findings highlight an area for discussion as a specialty and potential intervention in the future.

219,978 patients received care at a VISN 11 facility from July 1, 2004 - June 30, 2005

3,031 died
Excluded 216,947 (98.6%) who did not die

1,584 received statins prior to death
Excluded 1,447 (47.7%) who did not receive statins 12 months prior to death

337 (21.3%) Cases (subjects with life-limiting conditions using PCI)

1,247 (78.7%) Controls (subjects without life-limiting conditions using PCI) Matched to cases using propensity scores

Holmes, Clin Pharmacol Ther 2009

La VMD nell'assessment prognostico

- Utilizzo clinico
  - Scelte terapeutiche
  - Comunicazione con il paziente

Develop a common model for multimorbidity management

Delivery system design
- Comprehensive assessment
- Coordinated team
- Individualized care plans
- Case manager

Decision support
- Implementation of EBM
- Team training
- Consultation system

Self management
- Tailor Self-management
- Options for self management
- **Shared decision making**

Clinical information system
- Electronic patients records
- Exchange patients infos
- Uniform coding
- Patient operated technology

Community resources
- Access community resources
- Involvement of social network

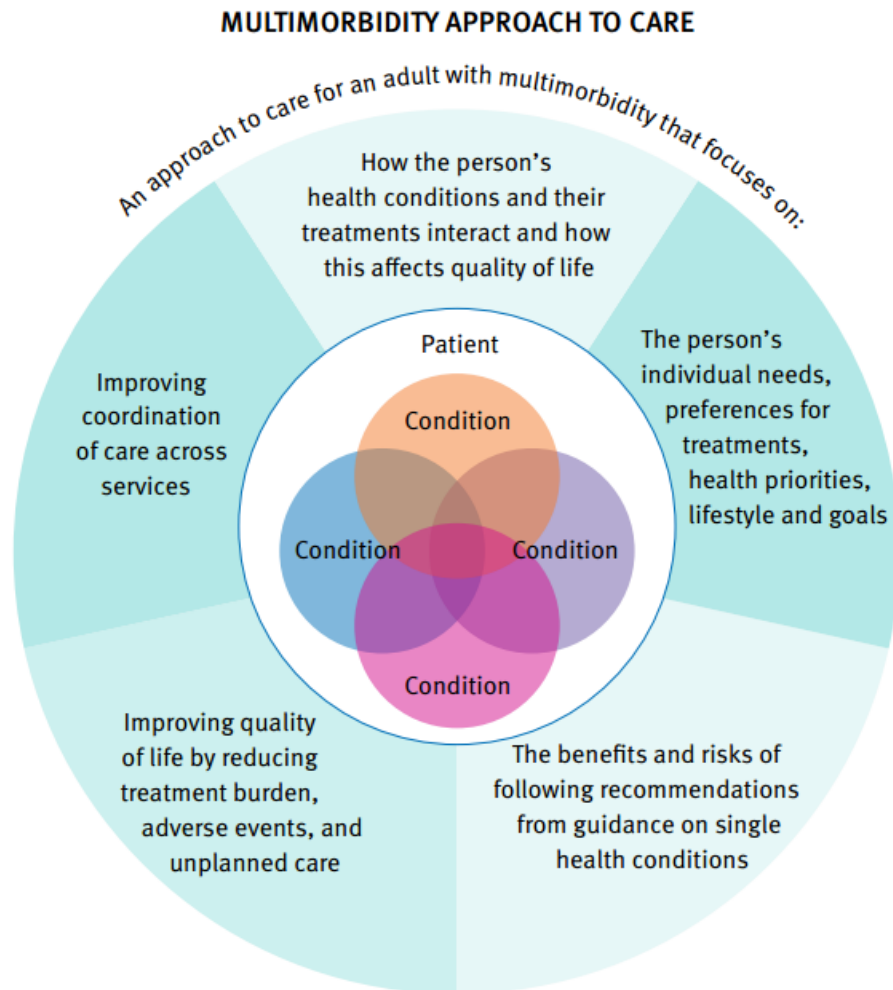*Palmer K et al. Health Policy 2018*

Shared decision making

… Health care professionals should include the patient (and, where relevant, their family) in making decisions about their care and treatment, including identifying their **individual needs as well as deciding on future goals and outcomes to aim for**.

…**Individualized care plans should be constructed that represent these shared desires and decisions** …

This is relevant to **multimorbidity patients** as they often have complex care needs that need careful consideration of potential negative outcomes, including loss of physical functioning, depression, and reduced quality of life.

Palmer K et al. Health Policy 2018

NICE guideline - Multimorbidity

MULTIMORBIDITY APPROACH TO CARE

An approach to care for an adult with multimorbidity that focuses on:

- How the person's health conditions and their treatments interact and how this affects quality of life
- The person's individual needs, preferences for treatments, health priorities, lifestyle and goals
- The benefits and risks of following recommendations from guidance on single health conditions
- Improving quality of life by reducing treatment burden, adverse events, and unplanned care
- Improving coordination of care across services

Patient
Condition / Condition / Condition / Condition

1.5.1 - Focus on the person's **individual needs, preferences for treatments, health priorities, lifestyle and goals**

1.6.3 - Establish disease burden by **talking to people** about how their health problems affect their day-to-day life.

1.6.4 - Establish treatment burden by **talking to people** about how treatments for their health problems affect their day-to-day life

1.6.7 - **Encourage people with multimorbidity to clarify what is important to them, including their personal goals, values and priorities**.

Proportion of NH residents accurately prognosticated and informed about their prognosis: SHELTER study.

ten Koppel M et al.
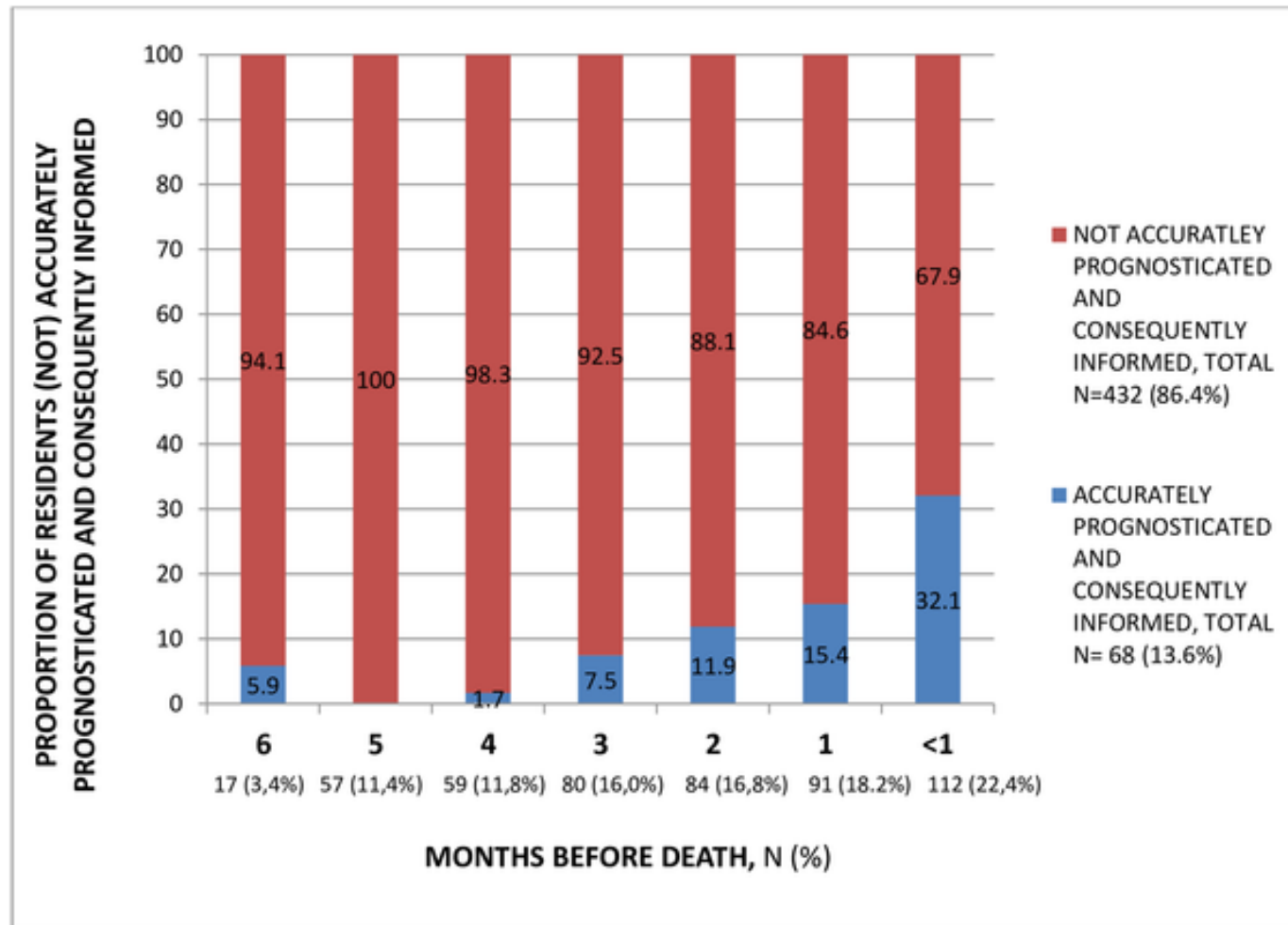
Factors related to residents being accurately prognosticated and informed: SHELTER

		Multivariate OR (95% CI)[a]	P-value
Country	UK		
	NL	0.25 (0.11–0.58)	.001
	IT	0.18 (0.05–0.66)	.009
	CZ	0.47 (0.17–1.28)	.138
	GE	0.06 (0.01–0.34)	.001
Cancer	No		<.001
	Yes	11.04 (5.34–22.83)	
Mode of nutritional intake[b]	Normal		
	Impaired	2.02 (0.94–4.33)	.073
	Artificial feeding	6.80 (2.17–21.36)	.001
Fatigue	No		.002
	Yes	2.73 (1.45–5.14)	
Dehydrated	No		<.001
	Yes	8.16 (2.52–26.48)	
Diagnosis other	No		.024
	Yes	0.52 (0.29–0.92)	
Initiates interactions	No		.022
	Yes	0.44 (0.22–0.89)	

[a] Multivariate logistic regression analyses using Generalised Estimating Equations. A forward selection approach was used, entering only variables with p <0.1 in univariate analyses and using p<0.05 as a cut-off point in the multivariate model. N = 492. Dependent variable: 0 –not correctly classified as having 6 months or less to live, 1 –correctly classified as having 6 months or less to live. Adjusted for time till death.

ten Koppel M et al. PLOS ONE

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- Stratificazione del rischio e percorsi assistenziali

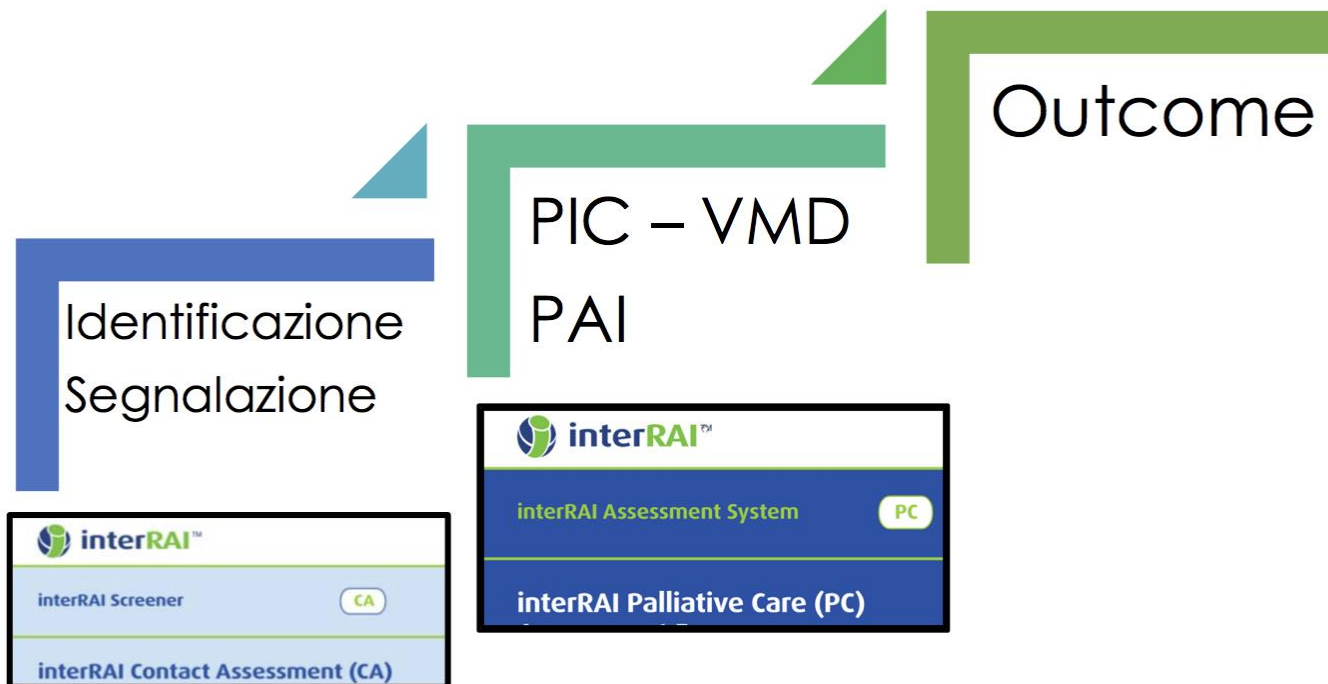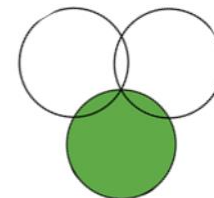# Care pathway for patients with multimorbidity or frailty

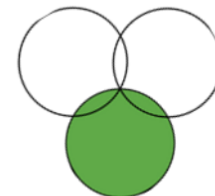|	First contact	Clinical assessment	Intervention
Definition	Screening for multimorbidity and frailty	Clinical assessment	Care of frailty or multimorbidity
How	Diseases count and frailty screening	Clinical judgement and risk stratification tools (for those with multimorbidity)	Multimorbidity care model or chronic care model
Who	GP or train healthcare p onal	GP	Clinical practice
When	Every contact the person may have with public health services	Once multimorbidity or frailty are identified	Once screened positively and the GP has certified the complexity of unmet clinical and non clinical needs

Onder G et al.
Eur J Intern Med 2017

INTERNAL MEDICINE

CHRODIS+
IMPLEMENTING GOOD PRACTICES FOR CHRONIC DISEASES

METODOLOGIA – Fasi dello studio

PROGETTO DEMETRA

Outcome

PIC – VMD

PAI

Identificazione
Segnalazione

interRAI™

interRAI Screener   CA

interRAI Contact Assessment (CA)

ICO
Institut Català d'Oncologia
NECPAL

interRAI™

interRAI Assessment System   PC

interRAI Palliative Care (PC)

Presentazione Dott. GL Scaccabarozzi

METODOLOGIA – Aree di monitoraggio

- **Unità di Ricerca - RLCP**

		FILTRO ORIENTATIVO	VMD	Percorso RETE
STRUMENTI	*Id.precoce Y/N (ex-post)*	CA+NECPAL	INTERRAI PC	INTERRAI PC

FASE PERCORSO   *IDENTIFICAZIONE PRECOCE*

- *MMG*
- *Reparti extra Demetra*
- *RSA extra Demetra*
- *Setting CP extra Rete (Hospice)*
- *UCP*

- *Accesso diretto alla Rete*

VALUTAZIONE ed eventuale PIC

- UCP
- HOSPICE
- OSPEDALE

→

PIC
+
PERCORSO

USCITA EXITUS O FINE STUDIO

FASE MONITORATA DALLO STUDIO

Presentazione Dott. GL Scaccabarozzi

Conclusioni

- La VMD è importante per stratificare il rischio prognostico
- Questo approccio è importante da un punto di vista
  - clinico per indirizzare scelte terapeutiche e comunicazione con il paziente
  - assistenziale per identificare i pazienti da inserire in specifici percorsi terapeutici