

Patient-centered care - *Goal- oriented patient care*



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1867

IRCCS Ca' Granda Foundation
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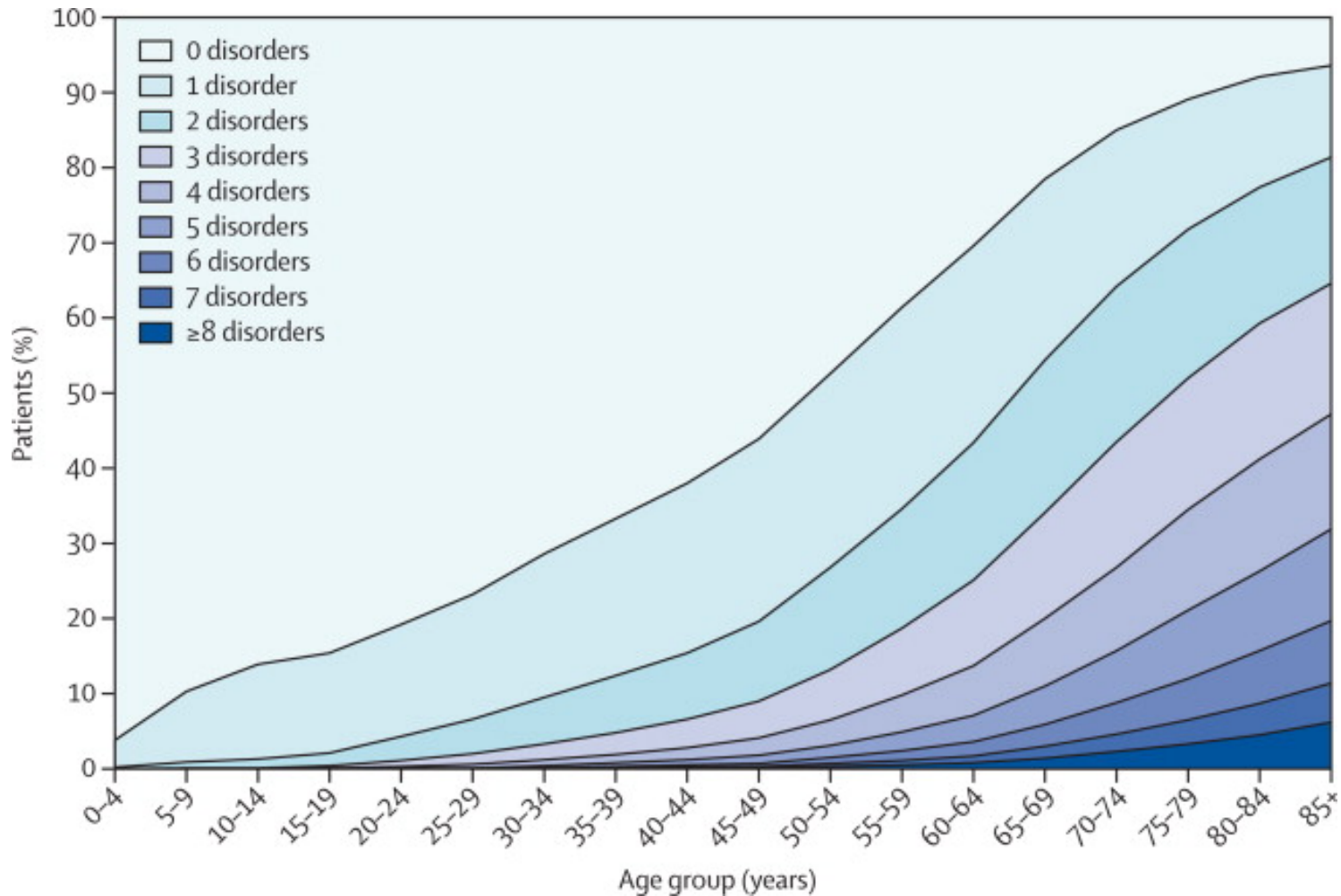
Italian Society of Internal Medicine, Rome

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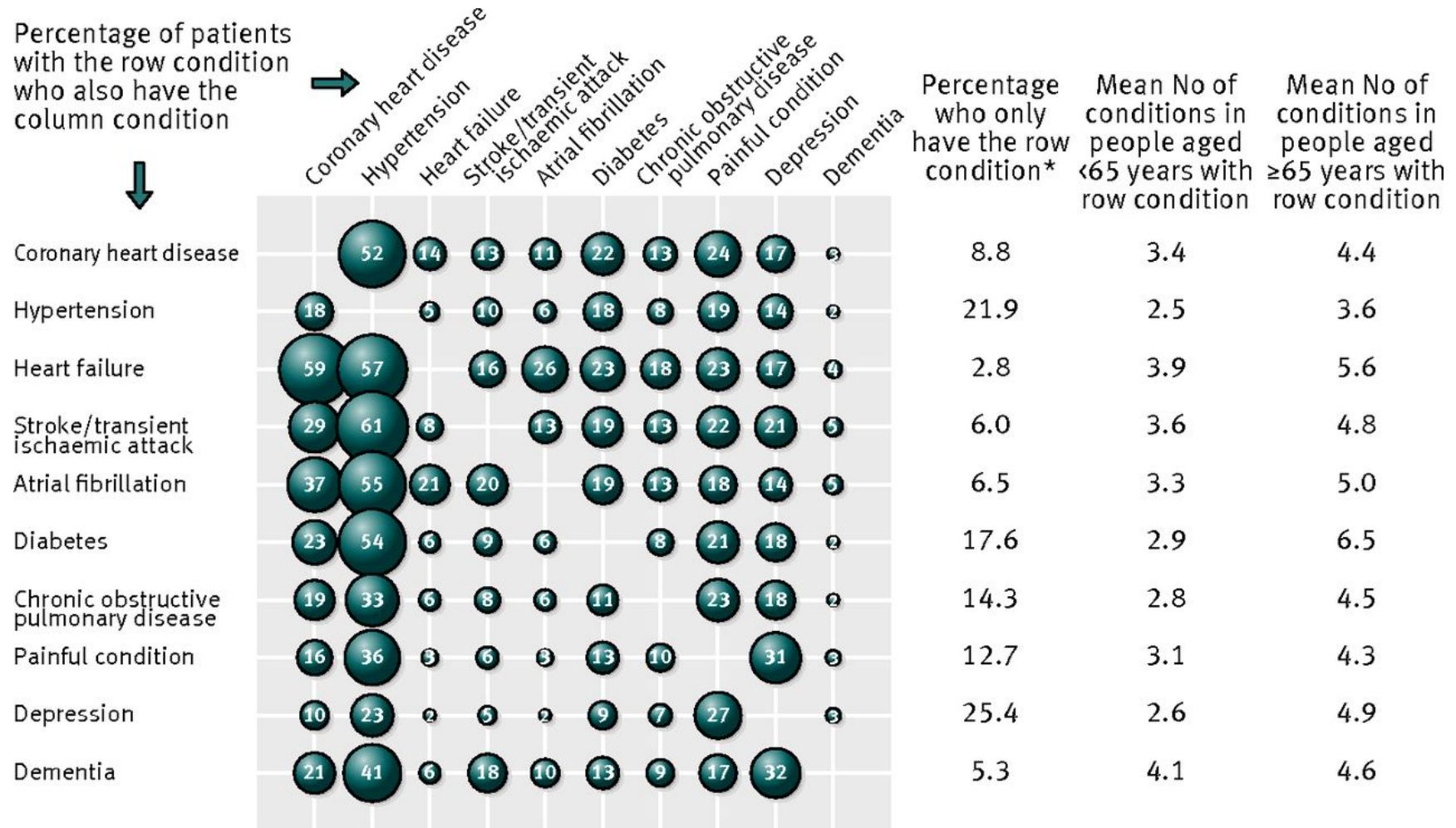
**Aging, multimorbidity
and polypharmacy:**
which strategies for
the Third Millennium

25-26 September, 2013 - Milan, Italy
IRCCS Ca' Granda Foundation Polyclinic Hospital,
Mangiagalli Clinic, Via della Commenda 12

Number of chronic disorders by age-group



Comorbidity of 10 common conditions



* Percentage who do not have one of 39 other conditions in the full count

Comorbidity and social factors predicted hospitalization in frail elderly patients

Francesco Landi^{a,*}, Graziano Onder^{a,b}, Matteo Cesari^{a,b}, Christian Barillaro^a,
 Fabrizia Lattanzio^c, Pier Ugo Carbonin^a, Roberto Bernabei^a, on behalf of the
 SILVERNET-HC Study Group¹



2004;57:832-836

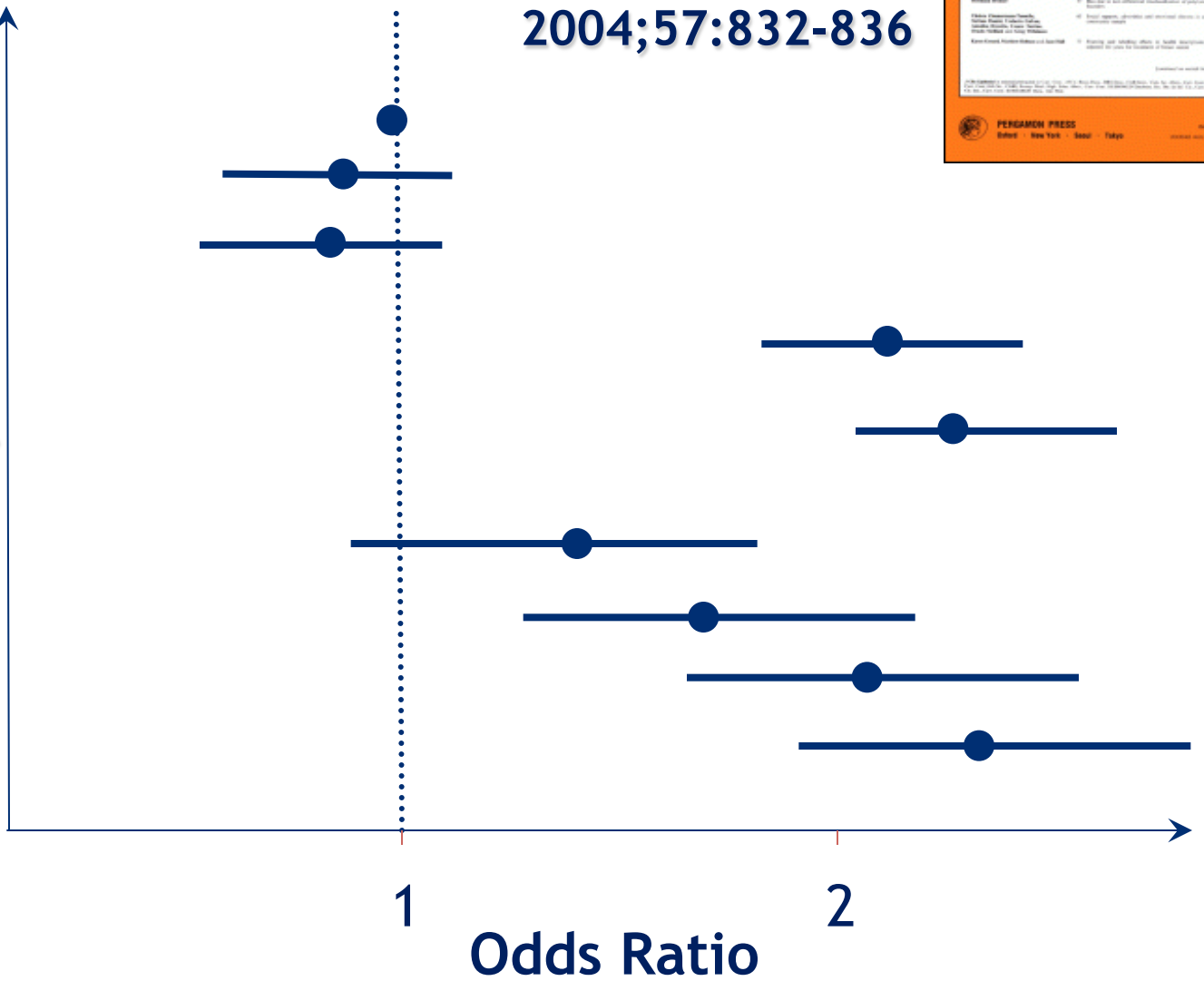
Age, y
 65-74
 75-84
 85+

Loneliness

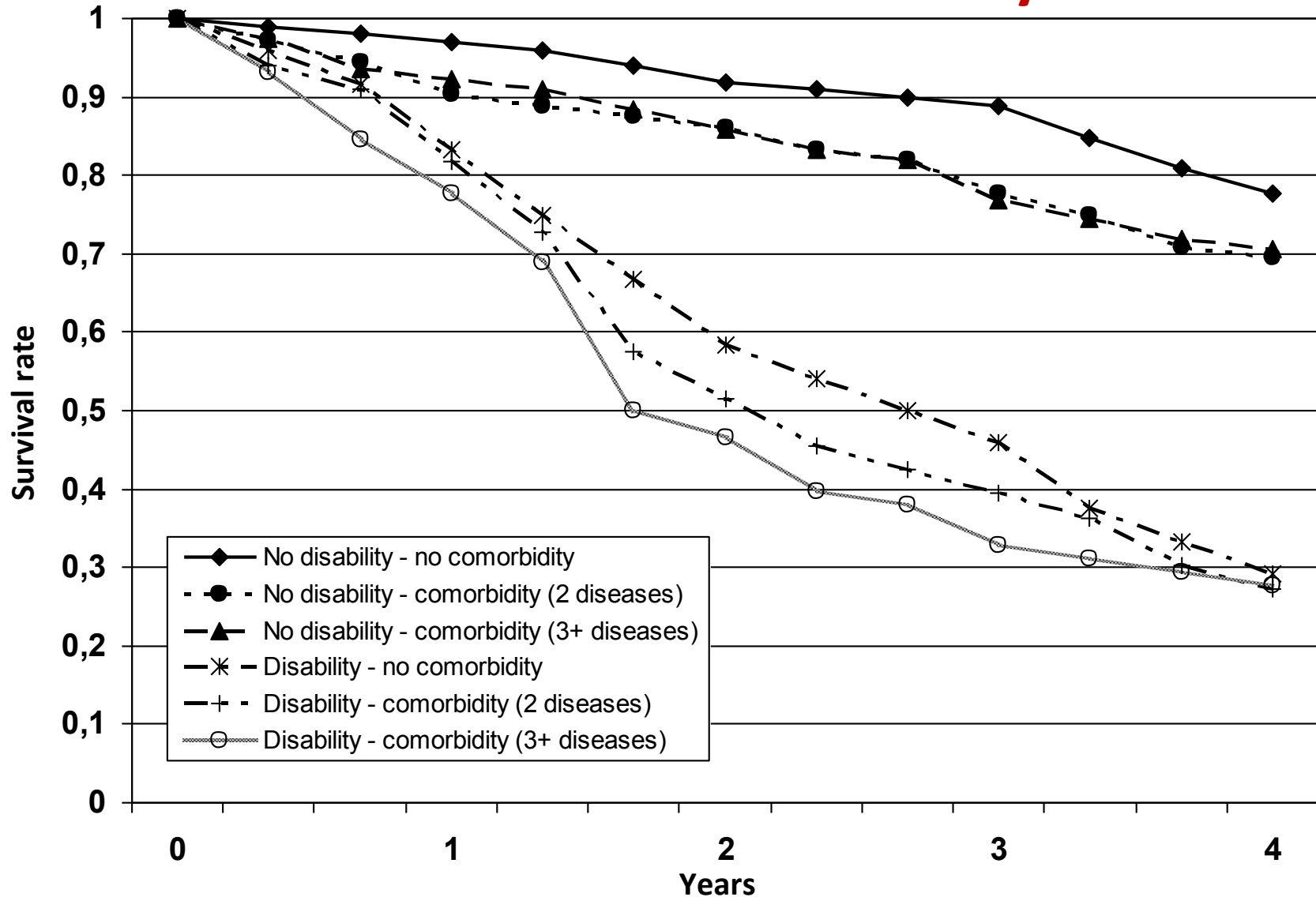
Economic prob.

Diseases
 1-2
 3-4
 5+

Previous hosp.



Survival curves for subjects affected by different numbers of chronic diseases with or without disability



Ideal or real patient?

COMPLEXITY

- **Comorbidity**
- **Multiple drugs**
- **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.

Drug use in Italy: polypharmacy

	All age groups (≥ 65 y) n=12.301.537	65-74 y n=6.154.421	75-84 y n=4.474.887	≥85 y n= 1.672.229
Polypharmacy				
5-9 drugs	6.024.383 (49.0%)	2.681.639 (43.6%)	2.462.378 (55.0%)	880.366 (52.6%)
≥10 drugs	1.389.591 (11.3%)	529.506 (8.6%)	629.043 (14.1%)	231.042 (13.8%)

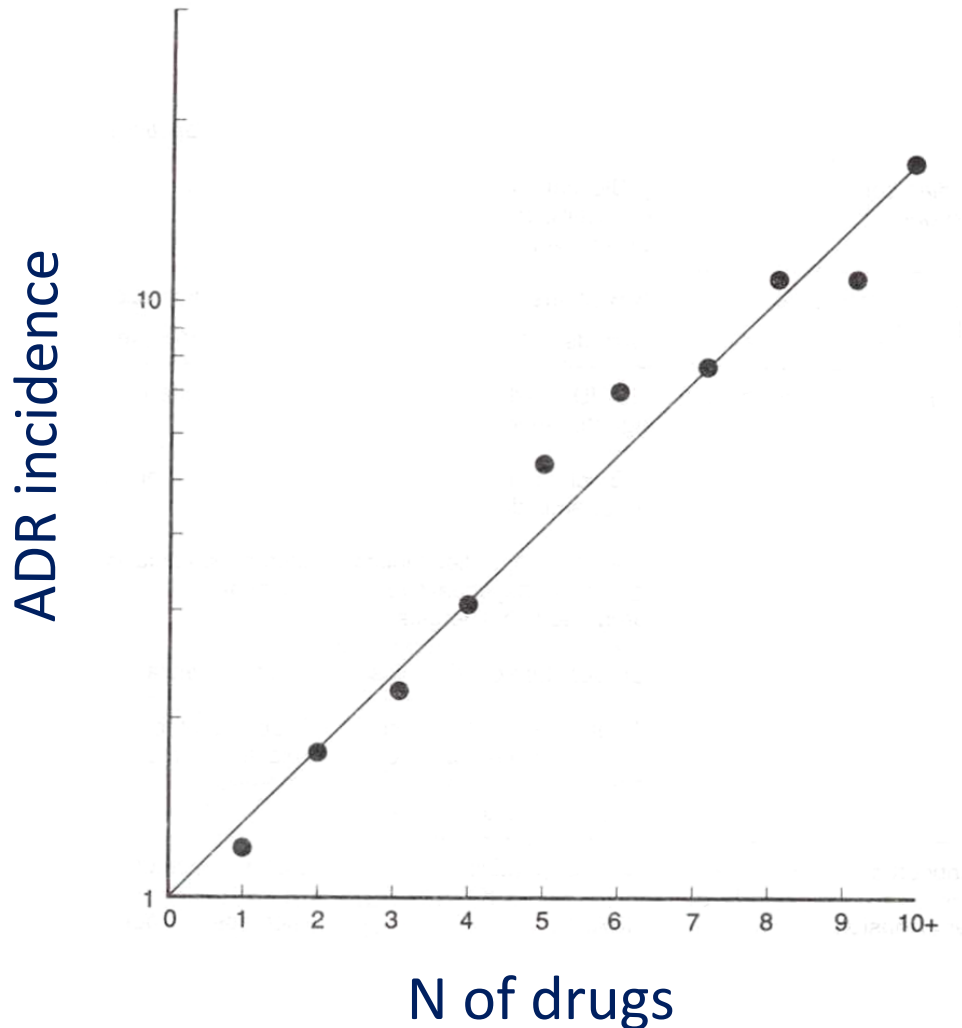


"Your numerous prescriptions really have improved my love life. I'm dating my pharmacist."

Drug use in Italy: adherence and interactions

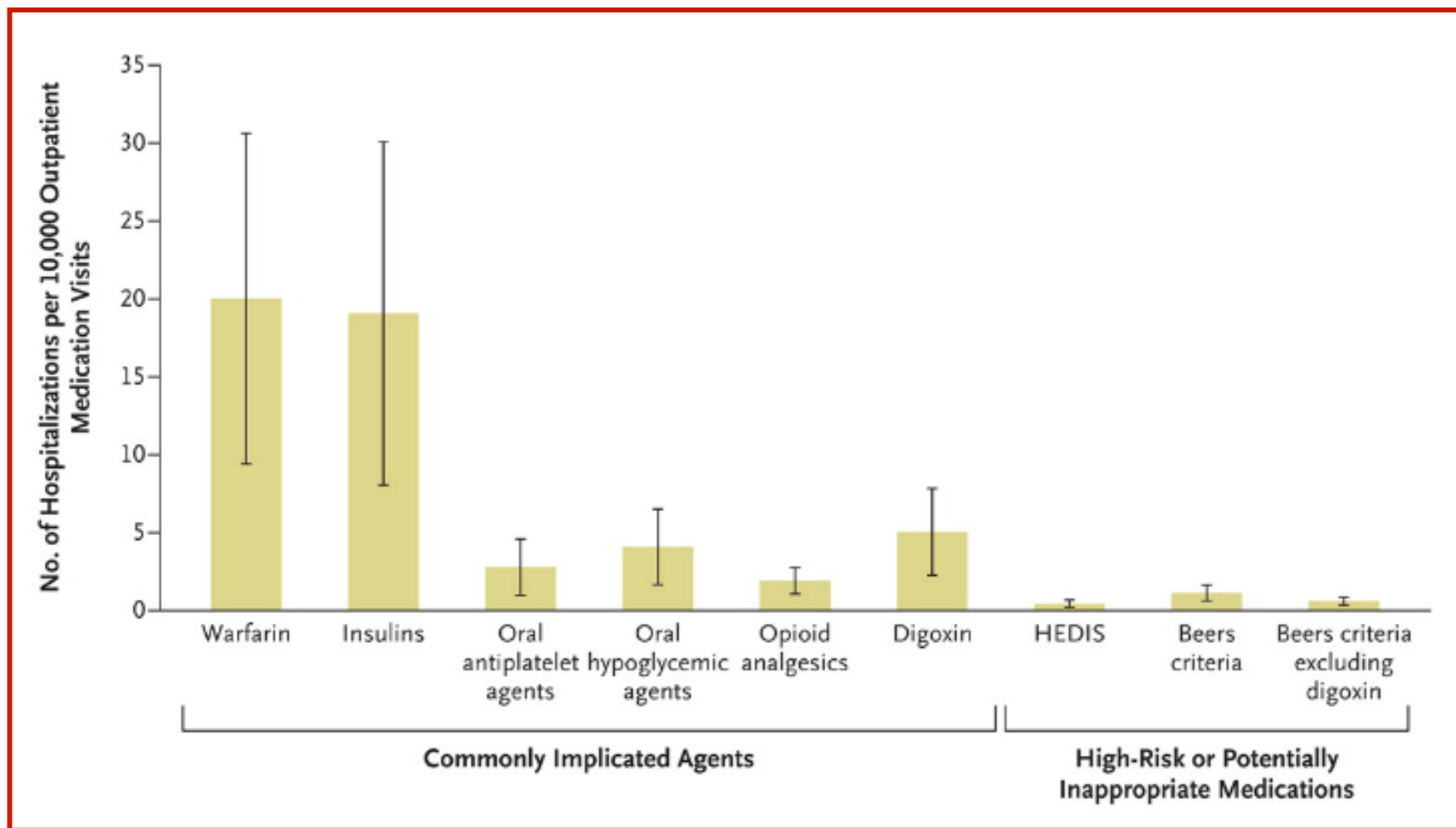
	All age groups (≥ 65 y)	65-74 y	75-84 y	≥85 y
↓ adherence to antidepressants	201.290 (63%)	83.110 (62%)	82.623 (63%)	35.557 (69%)
↓ adherence to antihypertensives	179.975 (46%)	84.983 (43%)	65.450 (47%)	29.542 (56%)
↓ adherence to antidiabetics	92.017 (63%)	44.227 (63%)	35.497 (64%)	12.293 (70%)
↓ adherence to antiosteoporotics	56.621 (52%)	24.424 (48%)	24.351 (53%)	7.846 (64%)
Use of Warfarin + NSAIDs/COX-2 inh. + ASA/antiplatelets	22.174 (0.2%)	8.574 (0.1%)	11.135(0.2%)	2.465 (0.1%)
Use of ACE inhibitors/ARB + Aldosterone antagonists + NSAIDs/ COX-2 inhibitors	85.412 (0.7%)	28.860(0.5%)	40.665(0.9%)	15.887(1.0%)
Use of ≥ 2 drugs that induce QT prolongation	36.359 (0.3%)	13.580(0.2%)	15.903(0.4%)	6.876 (0.4%)

N of drugs and ADR



N of drugs used increased the risk of experiencing an Adverse Drug Reaction

Rates of Emergency Hospitalizations for ADE in Older U.S. Adults.



SOUNDING BOARD

Potential Pitfalls of Disease-Specific Guidelines for Patients with Multiple Conditions

Mary E. Tinetti, M.D., Sidney T. Bogardus, Jr., M.D., and Joseph V. Agostini, M.D.



Comment

www.thelancet.com Vol 367 February 18, 2006

Comorbidity and guidelines: conflicting interests

Treatment Regimen for a 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	



Potential treatment interactions

Type of Disease	Medications With Potential Interactions	Type of Interaction		
		Medication and Other Disease	Medications for Different Diseases	Medication and Food
Hypertension	Hydrochlorothiazide, lisinopril	Diabetes: diuretics increase serum glucose and lipids*	Diabetes medications: hydrochlorothiazide may decrease effectiveness of glyburide	NA
Diabetes	Glyburide, metformin, aspirin, and atorvastatin	NA	Osteoarthritis medications: NSAIDs plus aspirin increase risk of bleeding Diabetes medications: glyburide plus aspirin may increase the risk of hypoglycemia; aspirin may decrease effectiveness of lisinopril	Aspirin plus alcohol: increased risk of gastrointestinal tract bleeding Atorvastatin plus grapefruit juice: muscle pain, weakness Glyburide plus alcohol: low blood sugar, flushing, rapid breathing, tachycardia Metformin plus alcohol: extreme weakness and heavy breathing Metformin plus any type of food: medication absorption decreased
Osteoarthritis	NSAIDs	Hypertension: NSAIDs: raise blood pressure†; NSAIDs plus hypertension increase risk of renal failure	Diabetes medications: NSAIDs in combination with aspirin increase risk of bleeding Hypertension medications: NSAIDs decrease efficacy of diuretics	NA
Osteoporosis	Calcium, alendronate	NA	Diabetes medications: calcium may decrease efficacy of aspirin; aspirin plus alendronate can cause upset stomach Osteoporosis medications: calcium may lower serum alendronate level	Alendronate plus calcium: take on empty stomach (>2 h from last meal) Alendronate: avoid orange juice Calcium plus oxalic acid (spinach and rhubarb) or phytic (bran and whole cereals): eating these foods may decrease amount of calcium absorbed (>2 h from last meal)
Chronic obstructive pulmonary disease	Short-acting β-agonists	NA	NA	NA

Clinical Practice Guidelines and Quality of Care for Older Patients With Multiple Diseases

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As needed	Albuterol metered dose inhaler	

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Primary care clinicians' experiences with treatment decision-making for older persons with multiple conditions

... clinicians would benefit from a number of **tools to assist them in decision making** for older persons with multiple conditions... the concept of **tailoring therapy** based on a consideration of patients' ability to adhere has not received much attention in the medical literature...

SPECIAL ARTICLES

Patient-Centered Care for Older Adults with Multiple Chronic Conditions: A Stepwise Approach from the American Geriatrics Society

American Geriatrics Society Expert Panel on the Care of Older Adults with Multimorbidity*

Guiding Principles:

1. Elicit and incorporate **patient preferences** into medical decision-making for older adults with multimorbidity.



The NEW ENGLAND JOURNAL *of* MEDICINE

Goal-Oriented Patient Care — An Alternative Health Outcomes Paradigm

David B. Reuben, M.D., and Mary E. Tinetti, M.D.

... focus on a patient's **individual health goals** within or across a variety of dimensions (e.g., symptoms; physical functional status, including mobility; and social and role functions) and determine how well these goals are being met...

Goal oriented care

Comparison of Traditional Disease-Specific and Goal-Oriented Outcomes.*

Measurement Domain	Examples of Diseases	Traditional Outcomes	Goal-Oriented Outcomes
Survival	Cancer, heart failure	Overall, disease-specific, and disease-free survival	None if survival not a high-priority goal; survival until personal milestones are met (e.g., grandchild's wedding)
Biomarkers	Diabetes, COPD	Change in indicators of disease activity (e.g., glycated hemoglobin level, CRP level, and pulmonary-function tests)	None (not a meaningful outcome observed or felt by patient)
Signs and symptoms	Heart failure, COPD, arthritis	Inventory of disease-specific signs and symptoms (e.g., dyspnea, edema, and back pain)	Symptoms that have been identified as important by the patient (e.g., control of dyspnea or pain sufficient to perform an activity such as bowling or walking grandchild to school)
Functional status, including mobility	Cancer, heart failure, COPD	Usually none or disease-specific (e.g., Karnofsky score, NYHA functional classification, and 6-minute walk test)	Ability to complete or compensate for inability to complete specific tasks identified as important by the patient (e.g., ability to get dressed without help)

Research - Outcomes

Efficacy research

Disease oriented

(occurrence of a single disease or exacerbation of a single chronic condition)

Rating scales/test measures

Effectiveness research

Universal health

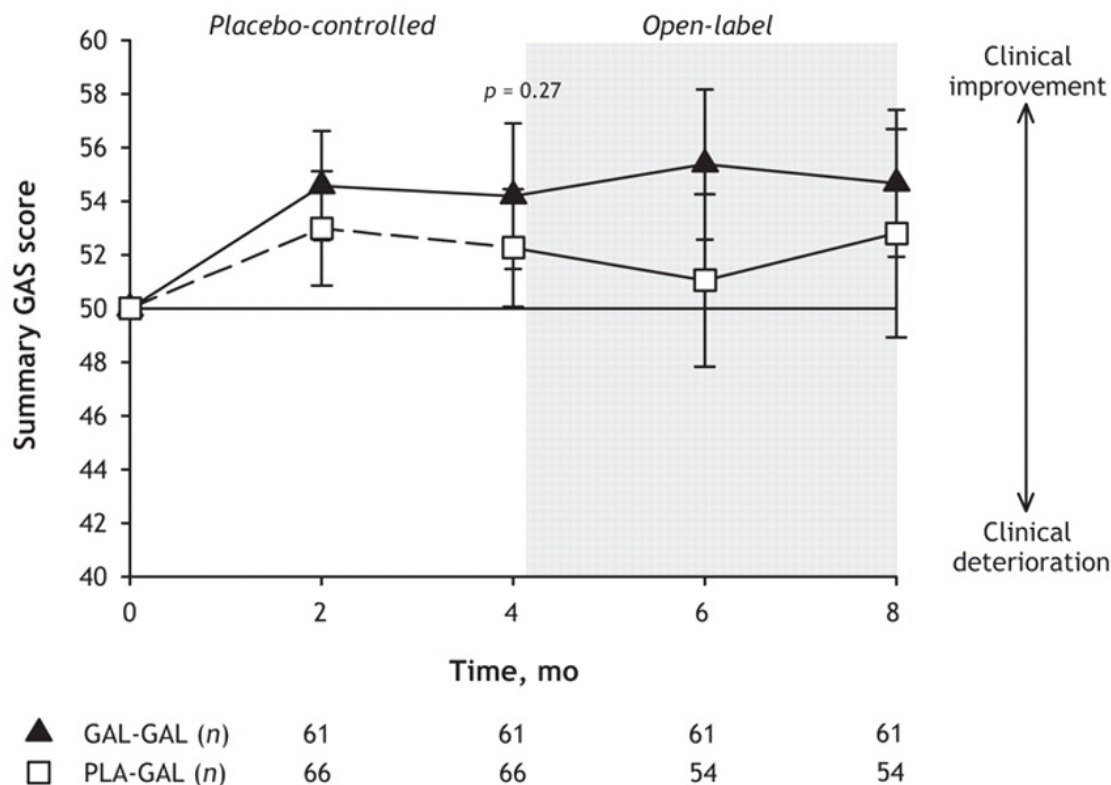
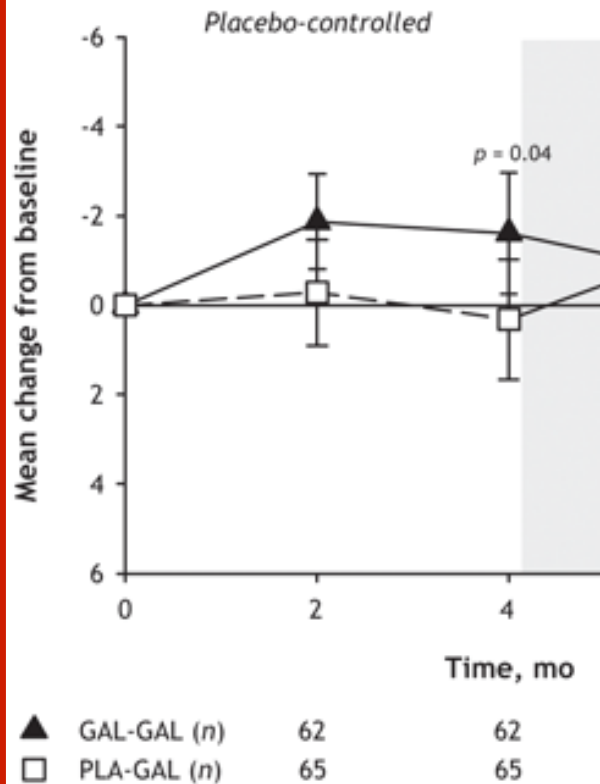
outcomes (symptoms burden, function, health related quality of life, active life expectancy)

Real-world measure of clinical practice

Goal attainment

Attainment of treatment goals by people with Alzheimer's disease receiving galantamine: a randomized controlled trial

Change in patient-caregiver Goal Attainment Scaling



Change in AdasCOG

Outcomes

Efficacy research

Disease oriented

(occurrence of a single disease or exacerbation of a single chronic condition)

Rating scales/test measures

- + Good for homogeneous populations
- People at risk for multiple adverse outcomes

Effectiveness research

Universal health outcomes

Real-world measure of clinical practice

Goal attainment

- + Informative
- Harder to collect

Goal oriented care

1. Individually desired rather than universally applied health states;
2. It simplifies decision making for patients with multiple conditions by focusing on outcomes that span conditions and aligning treatments toward common goals
3. It prompts patients to articulate which health states are important to them and their relative priority

Goal oriented care

... not all patient goals may be realistic or attainable

... the most important barrier to goal-oriented care is that medicine is deeply rooted in a **disease-outcome-based paradigm**. Rather than asking what patients want, the culture has valued managing each disease as well as possible according to guidelines and population goals

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Guiding Principles:

1. Elicit and incorporate patient preferences into medical decision-making for older adults with multimorbidity.
2. Recognizing the **limitations of the evidence base**, interpret and apply the medical literature specifically to older adults with multimorbidity.

Exclusion Criterion	Frequency, No. (%)
Upper age limit	64 (25.5)
Reduced life expectancy	91 (36.3)
Total comorbidity	201 (80.1)
Generic	26 (10.4)
Specific	190 (75.7)
Specific disease exclusions	
Renal	100 (39.8)
Liver	54 (21.5)
Neurologic	73 (29.1)
Lung	61 (24.3)
Cancer	42 (16.7)
Psychiatric	22 (8.8)
Other	85 (33.9)
Cognitive impairment	32 (12.7)
Physical disability	35 (13.9)
Exclusion by drug treatment	47 (18.7)
Polypharmacy ^a	14 (5.6)
Specific drug treatment	46 (18.3)
Inability to attend follow-up meeting	24 (9.6)
Hearing or visual deficits	11 (4.4)
Communication barriers	5 (2.0)

The persistent exclusion of older patients from ongoing clinical trials regarding heart failure.

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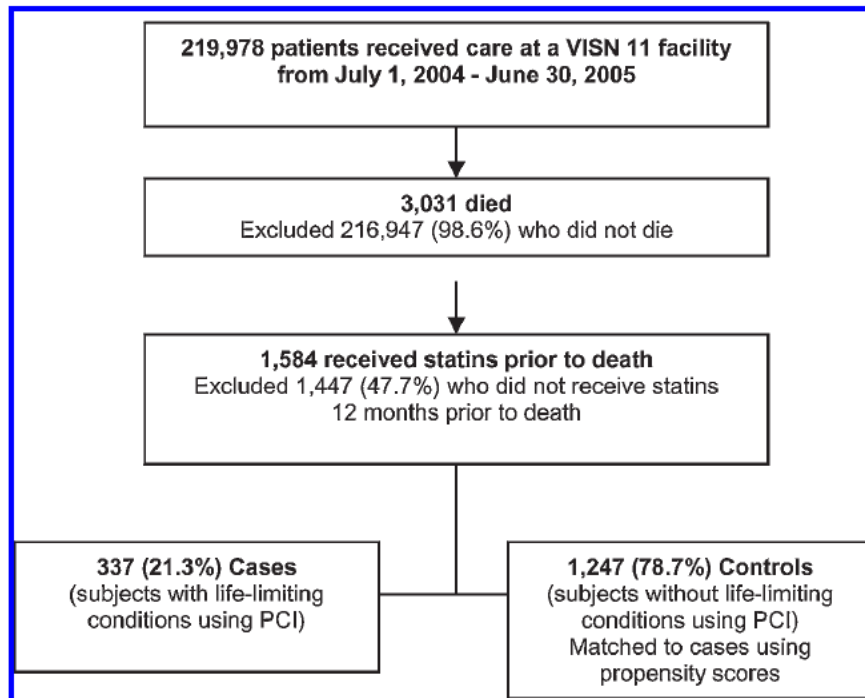
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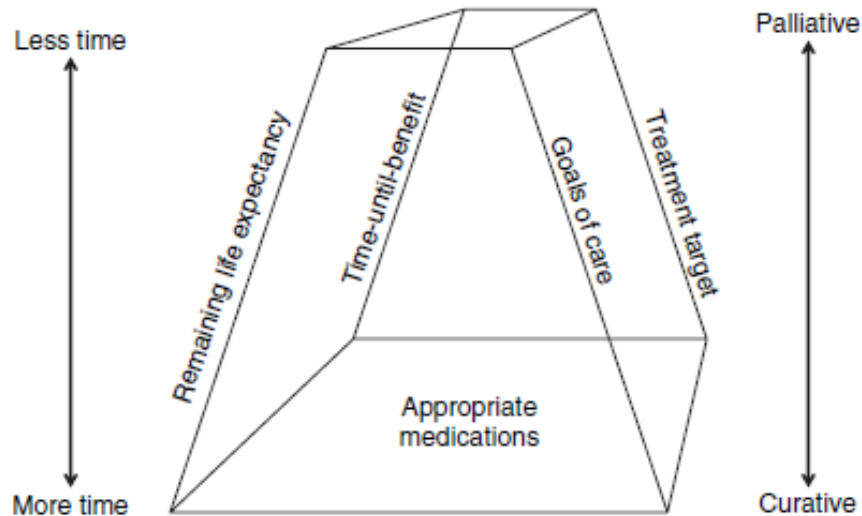
1. Elicit and incorporate patient preferences into medical decision-making for older adults with multimorbidity.
2. Recognizing the limitations of the evidence base, interpret and apply the medical literature specifically to older adults with multimorbidity.
3. Frame clinical management decisions within the context of risks, burdens, benefits, and **prognosis** for older adults with multimorbidity.

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



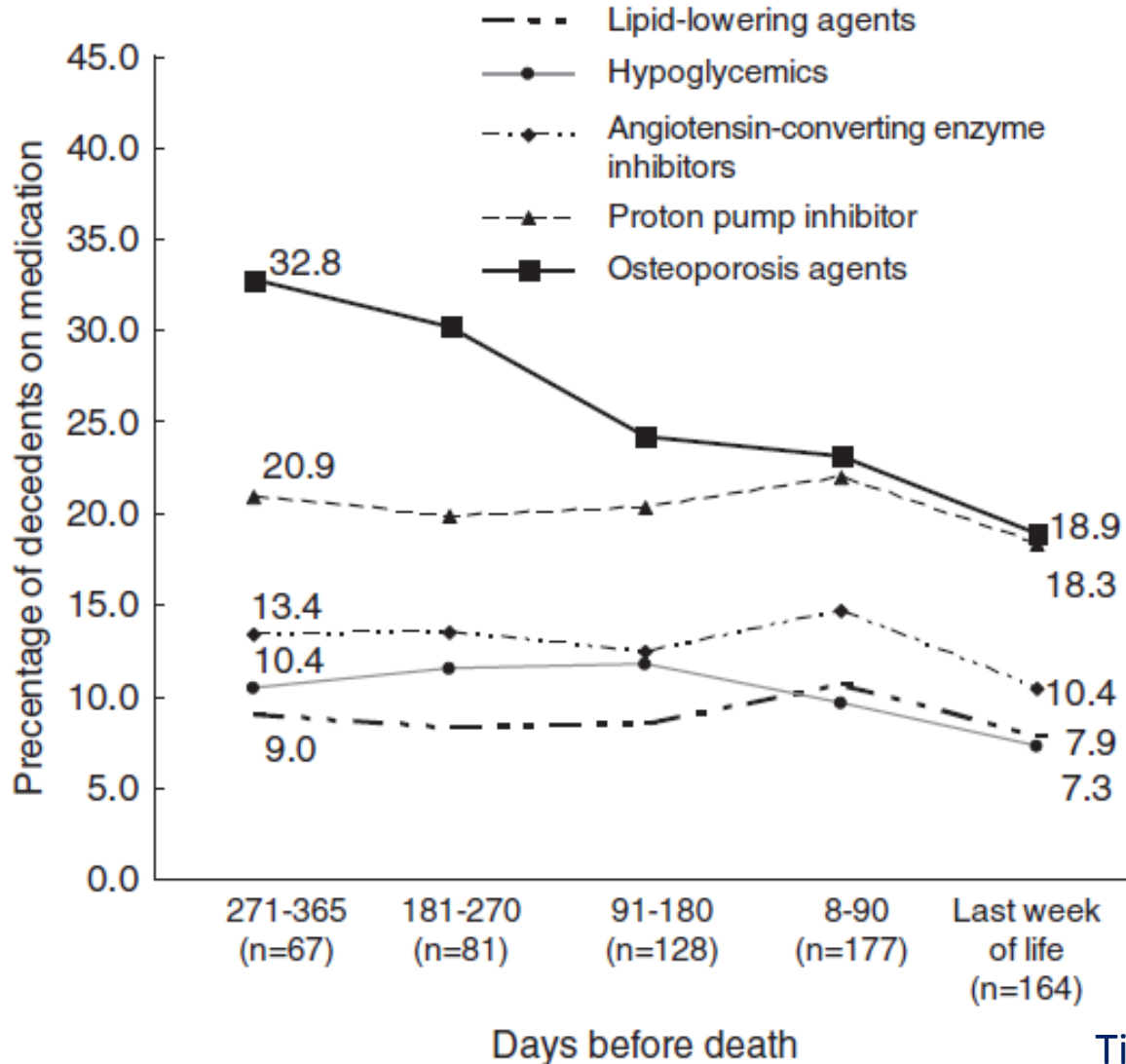
In conclusion, we find that statins are prescribed frequently in the last year of life for patients carrying recognizable, life-limiting conditions and that the patient's diagnosis does not appear to affect prescribing patterns. The small amount of discontinuation we did observe in the last 6 months 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.



Holmes, Clin Pharmacol Ther 2009



Medication Use in Nursing Home Residents with Advanced Dementia



SPECIAL ARTICLES

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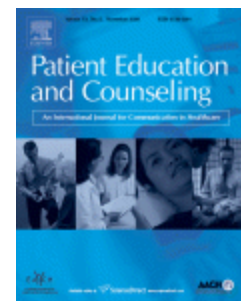
4. Consider **patients complexity** and **treatment feasibility** when making clinical management decisions for older adults with multimorbidity.

Medication management by age

	Age groups		
	77-79	80-84	85+
Tests			
<u>Open bottle</u> (<i>n</i> = 487)	<u>8.3</u>	<u>10.9</u>	<u>24.8</u>
<u>Read instructions</u> (<i>n</i> = 489)	<u>0.8</u>	<u>6.9</u>	<u>20.1</u>
<u>Understand instructions</u> (<i>n</i> = 423)	<u>23.6</u>	<u>31.5</u>	<u>38.4</u>
Calculate number of days (<i>n</i> = 441)	43.0	44.5	56.6
Calculate change (<i>n</i> = 491)	13.6	26.2	39.4
Did not pass all tests	57.6	61.4	79.9



Beckmen A Patient Educ Couns. 2005



Treatment of non dementia illness in patients with dementia

Problems	Consequences	Responses
Cognition and language	Decreased decision-making capacity Increased caregiver burden Increased risk of diagnostic procedures Adherence problems Difficulty reporting adverse effects Difficulty titrating medicines based on reporting by patient	Consider altered risk-benefit ratio balancing safety and autonomy Adjust communication strategies
Decreased life expectancy	Decreased potential benefit	Consider altered risk-benefit ratio Reserve therapy/screening for those with sufficient life expectancy to realize benefit
Exclusion from studies	Increased uncertainty about effects of therapy in this group	Policy changes to include patients with dementia in appropriate studies

Concerns about older persons' ability to adhere to complex medication regimens

Concern	Representative Quotation
Historical evidence of inability to adhere	Also I factor in adherence to even a basic treatment. If they cannot manage a basic treatment, the one I am giving them, <u>I am not going to complicate it further by adding something to get to the goal range.</u>
Difficulty understanding medications	<u>Whenever [patients] are confused about what medications they are on that suggests a problem.</u> When they can not tell you what the medications either by name or description, and they are confused about when they are supposed to take them
Availability of social support	Often what you are doing is assessing someone's personality and their abilities to integrate complicated information and goals and <u>if you have a patient who is limited you are obviously not going to push the meds nearly as hard unless there is somebody else in the picture who can administer them.</u> I look at their functioning as a whole and also whether or not they live alone, their support system, have help.

SPECIAL ARTICLES

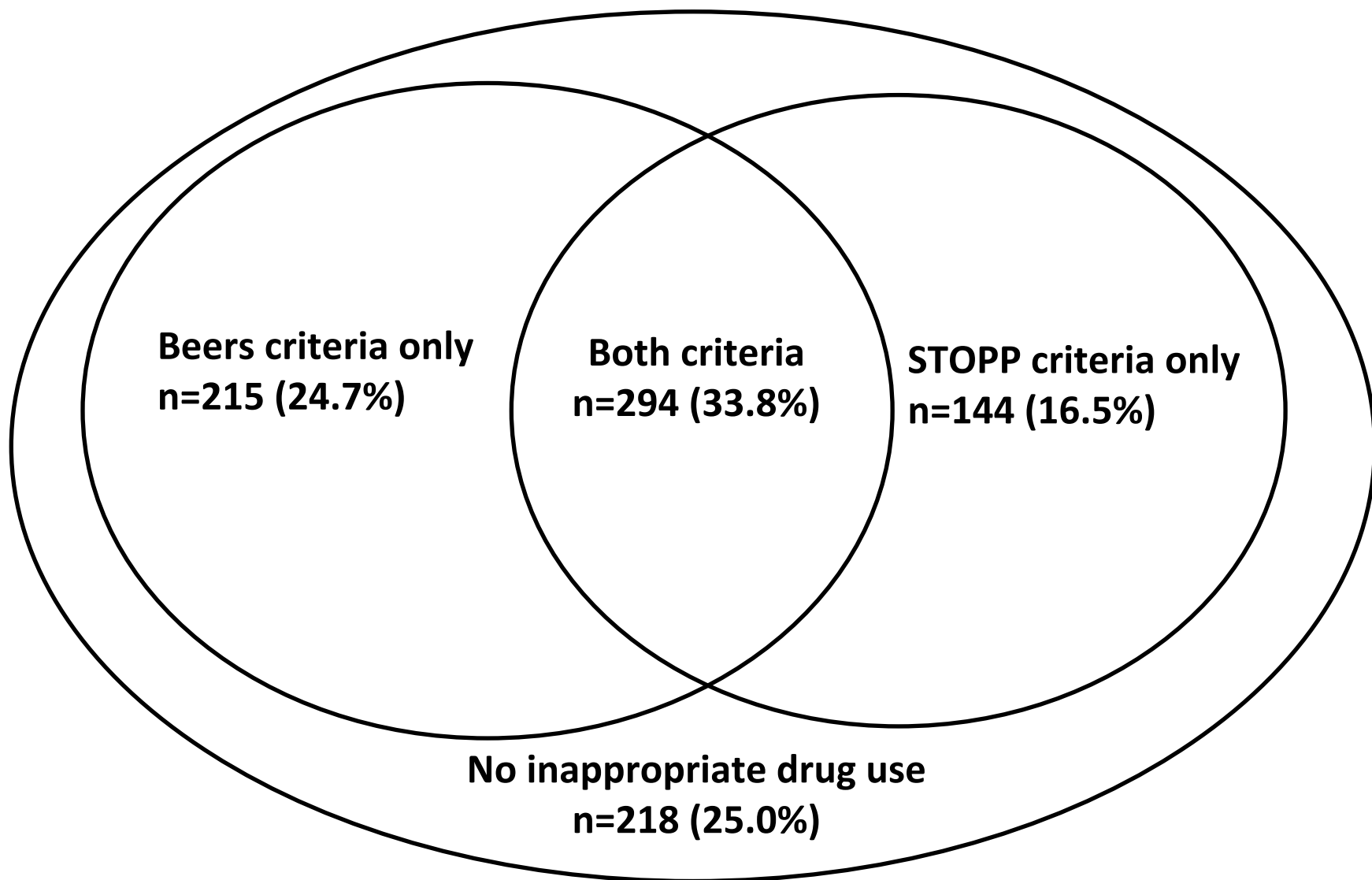
Patient-Centered Care for Older Adults with Multiple Chronic Conditions: A Stepwise Approach from the American Geriatrics Society

American Geriatrics Society Expert Panel on the Care of Older Adults with Multimorbidity*

Guiding Principles:

4. Consider treatment complexity and feasibility when making clinical management decisions for older adults with multimorbidity.
5. Use strategies for choosing therapies that **optimize benefit, minimize harm**, and enhance quality of life for older adults with multimorbidity.

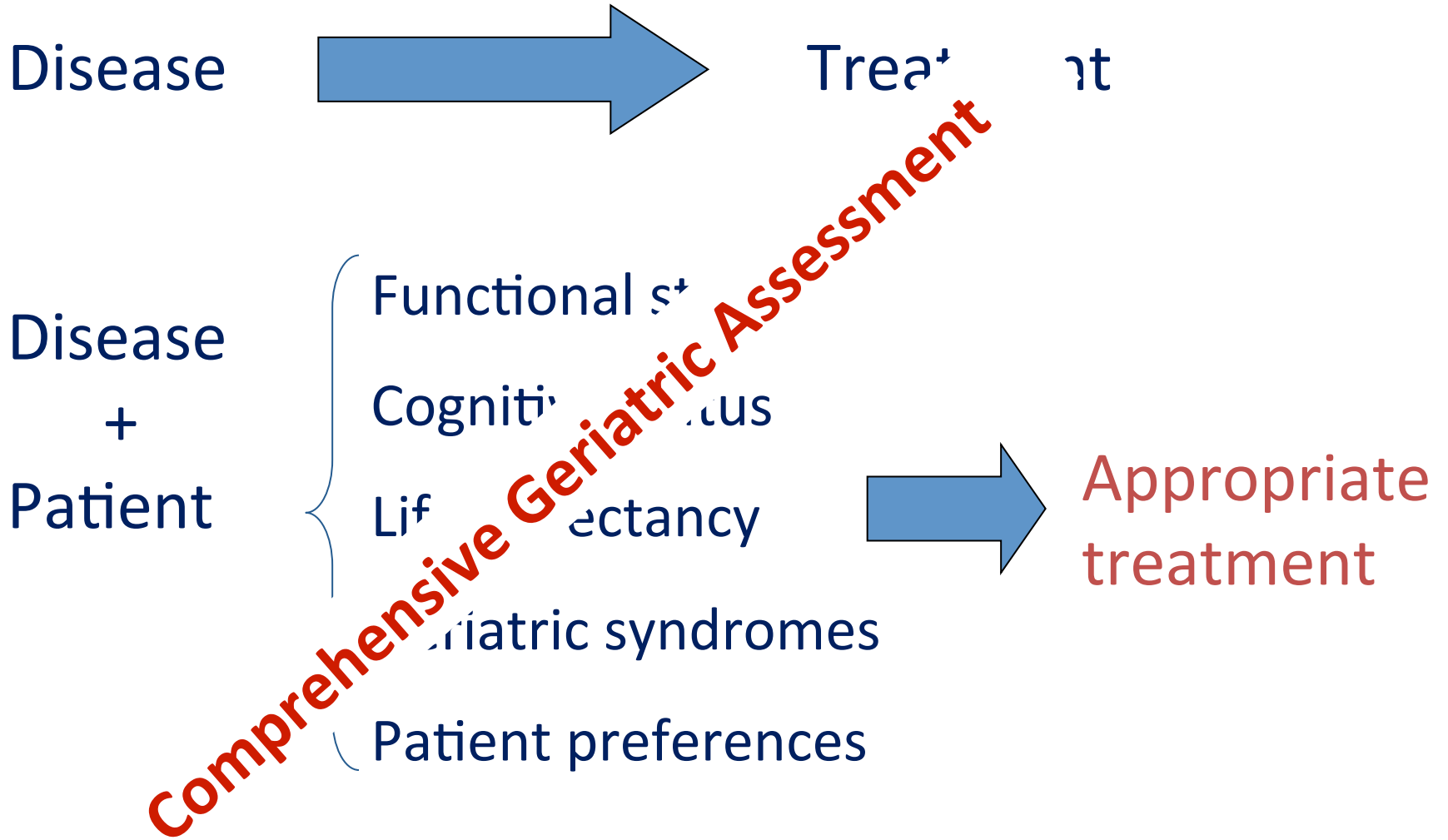
Inappropriate drug use among in-hospital patients: CRIME study



Polypharmacy and hospitalization

	Rate (%)	Unadjusted OR (95% CI)	Fully adjusted OR (95% CI)
Hospitalization			
No polypharmacy (n=242)	65 (26.9%)	1	1
Polypharmacy (n=238)	93 (39.1%)	1.75 (1.18 – 2.56)	1.81 (1.18 – 2.75)

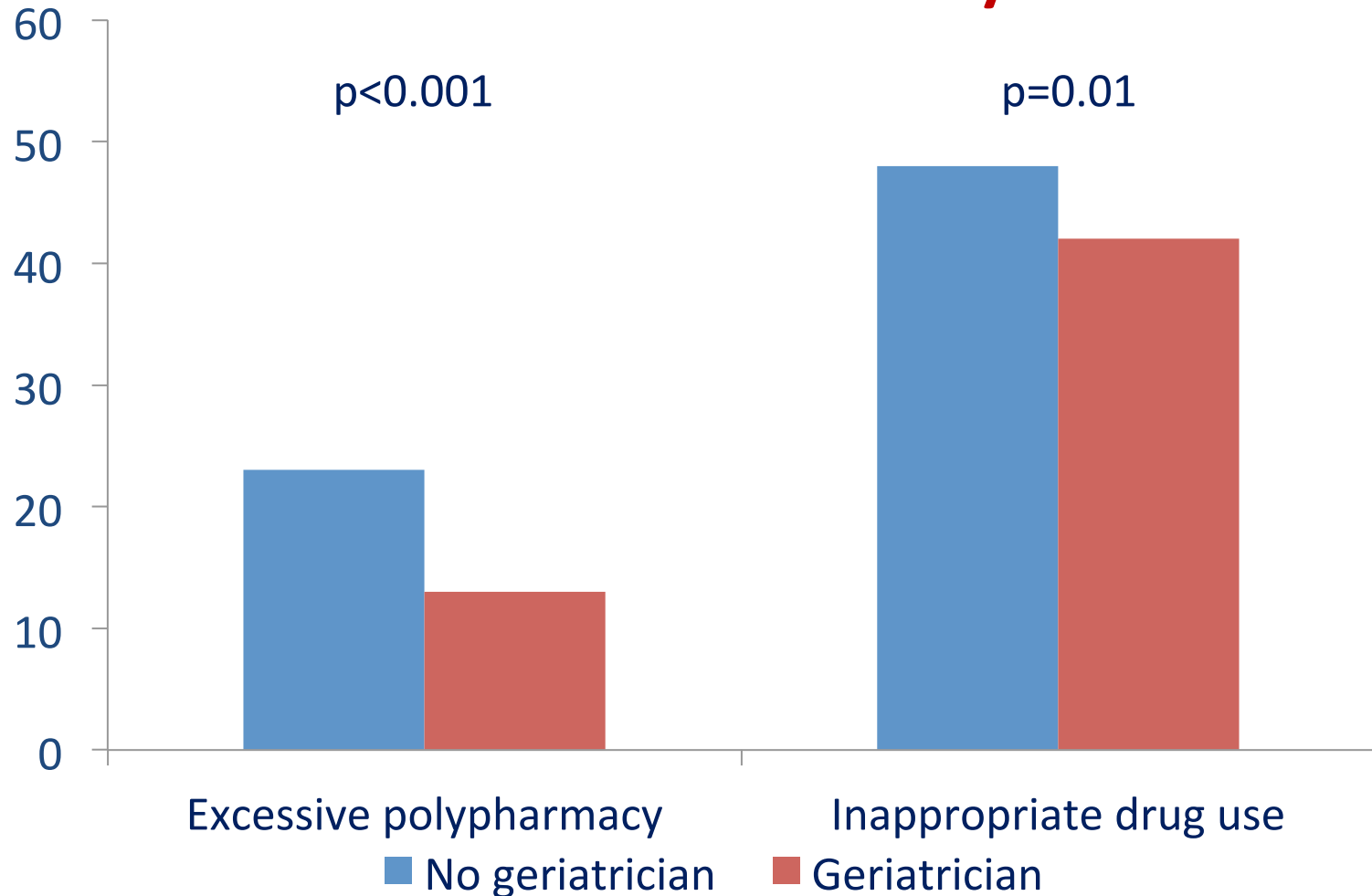
Treatment



CGA and appropriate medication use

Author	Population	Intervention	Results
Owens (1990)	436 hospitalized older adults	Multidisciplinary team approach	Patients in the intervention group took fewer medications than controls (5.3 vs. 5.9) and fewer inappropriate medications (20% vs. 37%).
Schmader (2004)	834 frail hospitalized patients	CGA and management	35% reduction in the risk of a serious adverse drug reaction compared with usual care. Inpatient geriatric unit care reduced unnecessary and inappropriate drug use and underuse significantly.
Crotty (2004)	154 nursing home residents	Multidisciplinary case conferences	Medication appropriateness improved in the intervention group compared with the control group.
Saltvedt (2005)	254 hospitalized patients	Geriatric evaluation and management	Fewer intervention than control group patients had potential drug-drug interactions
Lampela (2010)	644 older adults living in the community	Comprehensive geriatric assessment and management	Reduction in the prescription of CNS active drugs and inappropriate drugs in the intervention group.

Geriatric care and prescribing in NH: SHELTER study



Conclusions

1. Prescribing in complex older adults is a challenging task
2. Lack of rules on treatment of complex older adults
3. Patient preferences must be included into medical decision-making process
4. Evaluation of complexity (CGA) is necessary in the clinical management



<u>AGE 0-4</u>	<u>4-12</u>	<u>12-18</u>	<u>18-24</u>	<u>24-38</u>	<u>38-65</u>	<u>65 —</u>
AMOXICILLIN	RITALIN	APPETITE SUPPRESSANTS	NO-DOZ	PROZAC	ZANTAC	EVERYTHING ELSE

DAVID MILKINSON, Philadelphia Daily News