Cronicità, comorbosità, complessità ed interdisciplinarietà

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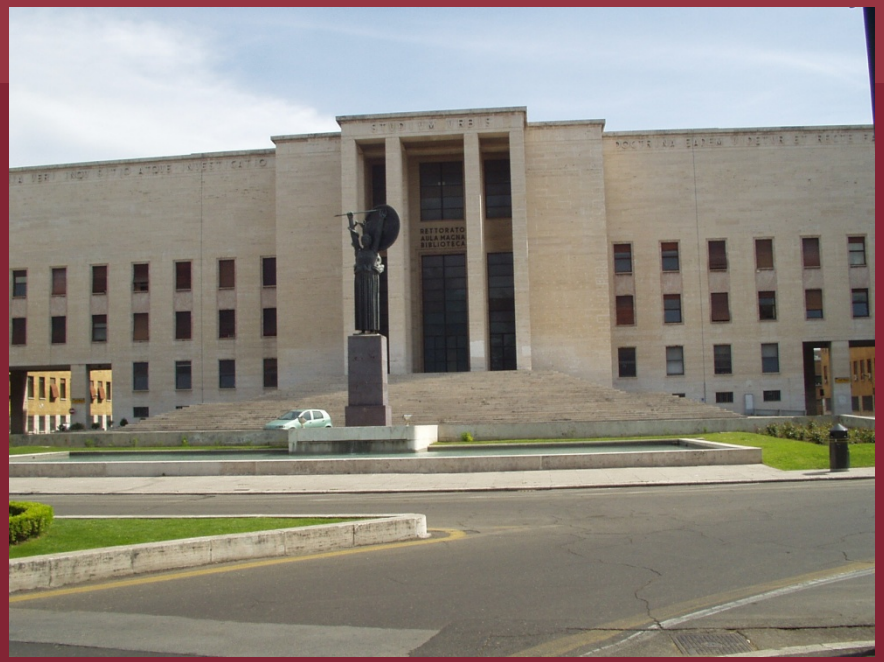

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The challenge of complexity in health care

Paul E Plsek, Trisha Greenhalgh

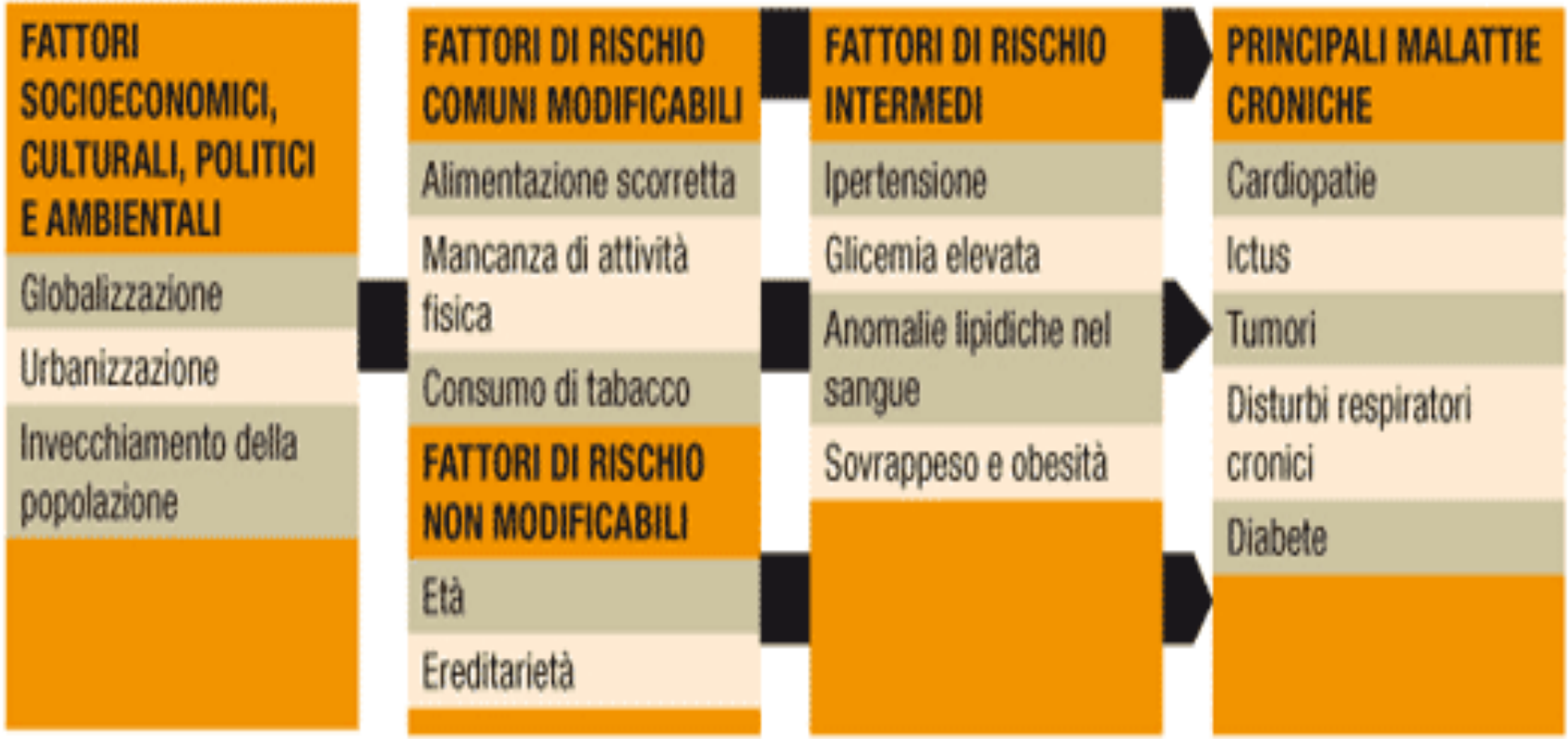
Across all disciplines, at all levels, and throughout the world, health care is becoming more complex. Just 30 years ago the typical general practitioner in the United Kingdom practised from privately owned premises with a minimum of support staff, subscribed to a single journal, phoned up a specialist whenever he or she needed advice, and did around an hour's paperwork per week. The specialist worked in a hospital, focused explicitly on a particular system of the body, was undisputed leader of his or her "firm," and generally left administration to the administrators. These individuals often worked long hours, but most of their problems could be described in biomedical terms and tackled using the knowledge and skills they had acquired at medical school.

- **Medicina scienza epidemiologica** *(" Anche le code fanno parte della popolazione")*
  - Campioni di studio spesso orfani di pazienti anziani

- **Comorbosità e cronicità raramente studiate**
  - Claim farmaceutici difficili da proporre
  - Studi longitudinali di anni/decenni difficilmente proponibili
  - Cocktail di farmaci mai studiati

Malattie croniche

Cause delle malattie croniche



Fonte: Oms

Mal croniche vs mal acute

Caratteristiche

- Lungo decorso
- Opportunità di prevenzione
- Alto tasso di mortalità
- Alto rischio di invalidità (DALY - Disability Adj Life Years)
- Ricerca della guarigione o della QdV ??

Aspetti legati alle cure

- Frammentazione delle cure (⇐ comorbosità)
- I pazienti hanno un ruolo essenziale nella gestione (somministrazione delle cure, monitoraggio dei parametri clinici e dei cambiamenti nello stato di salute, ..)
- Problemi non specificatamente medici (interazione con le famiglie, con il lavoro, con l'ambiente sociale)
- Difficoltà sia per i pazienti che per le famiglie nel cambiare lo stile di vita
- Educazione/informazione sui benefici legati alle cure e sui rischi legati ad una scarsa aderenza al percorso di trattamento
- Necessità di un approccio motivazionale

Chronic Disease—The Need for a New Clinical Education

Halsted Holman, MD

JAMA, September 1, 2004—Vol 292, No. 9

Le malattie croniche:

- **hanno sostituito quelle acute** come problema dominante per la salute, essendo diventate la principale causa di disabilità e di utilizzo dei servizi, consumando il 78% dell'intera spesa sanitaria.
- **hanno cambiato il ruolo del medico** che, da "unico" protagonista della cura, diventa membro di un team multiprofessionale in grado di elaborare il piano di cura che tenga conto della molteplicità dei bisogni, così come di garantire la continuità dell'assistenza.
- **hanno cambiato il ruolo del paziente** che, da soggetto passivo diventa protagonista attivo della gestione del proprio stato di salute, assumendo comportamenti e stili di vita adeguati.

Is Diabetes Treated as an Acute or Chronic Illness in Community Family Practice?

Barbara Yawn, MD, MSc[1]
Stephen J. Zyzanski, PHD[2,3,5,6]
Meredith A. Goodwin, MS[2,3,6]
Robin S. Gotler, MA[2,6]
Kurt C. Stange, MD, PHD[2,3,4,5,6]

Diabetes Care, volume 24, number 8, August 2001

Malattie acute

- Visite più brevi dedicate prevalentemente
  - diagnosi
  - gestione della malattia
  - accelerare la guarigione

Malattie croniche

- Visite più lunghe
- Maggior parte del tempo dedicata agli aspetti educazionali (counseling dietetico, promozione della salute, attività fisica), alla ricerca della compliance, alla negoziazione

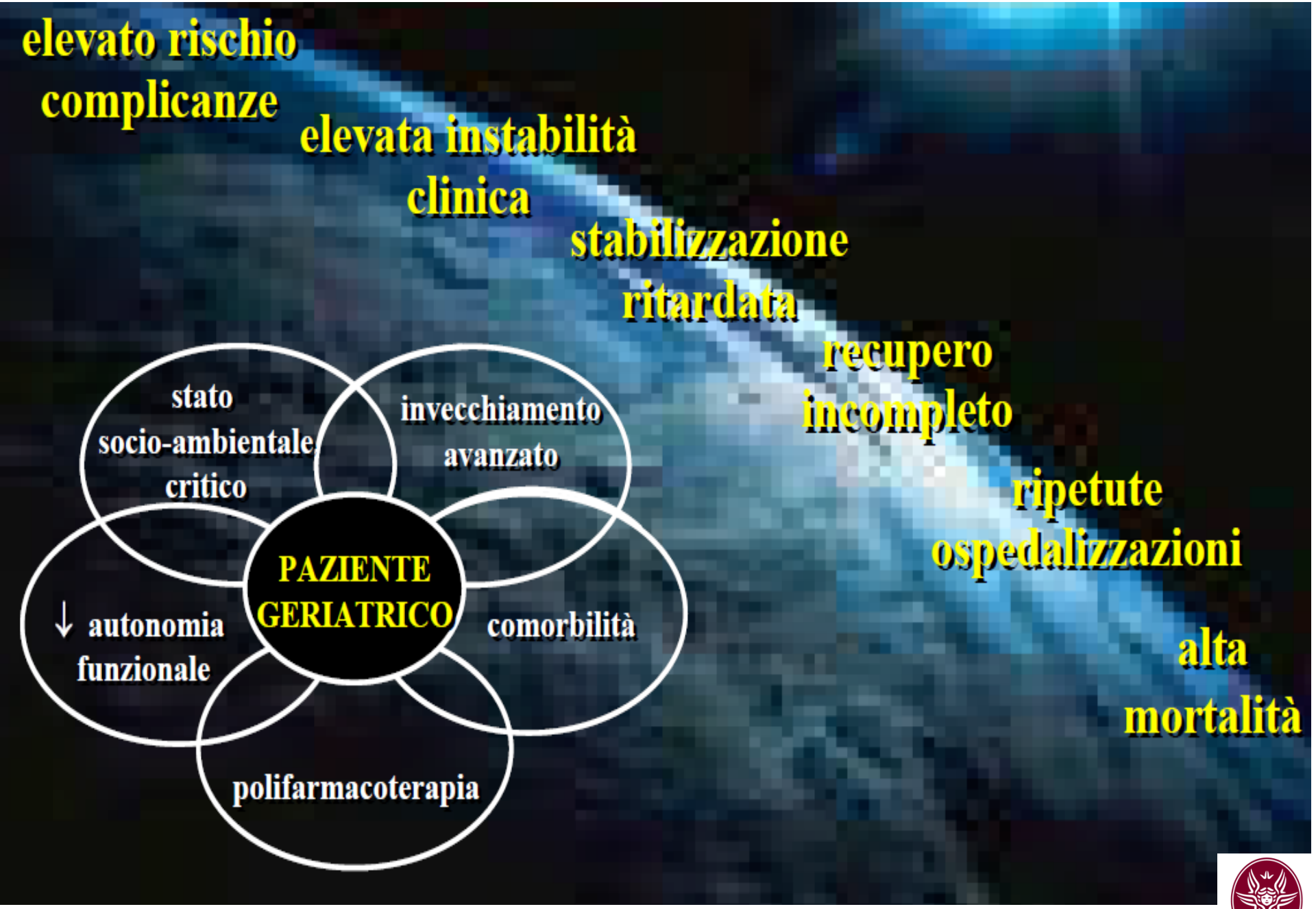
I Am a Geriatrician

William R. Hazzard, JAGS, 2004

….. Una tremenda sfida perché nella popolazione anziana la coesistenza di molteplici malattie croniche a carattere progressivo rappresenta la regola mentre le problematiche che richiedono risposte semplici la eccezione.

….Queste malattie comunemente interagiscono, manifestandosi in maniera atipica o non specifica, rendendo difficile la formulazione di una diagnosi precisa.

…. Le limitate riserve funzionali, la minore capacità di recupero, la scarsa tolleranza ai farmaci….. la complessa ragnatela di diversi fattori….. sono frequentemente responsabili di sindrome geriatriche quali: delirium, cadute e/o fratture, incontinenza urinaria, depressione, demenza, per ricordarne solo alcune.


elevato rischio
complicanze
elevata instabilità
clinica
stabilizzazione
ritardata
recupero
incompleto
ripetute
ospedalizzazioni
alta
mortalità
stato
socio-ambientale
critico
invecchiamento
avanzato
PAZIENTE
GERIATRICO
↓ autonomia
funzionale
comorbilità
polifarmacoterapia

Comorbosità

Adapting clinical guidelines to take account of multimorbidity

Care of patients with multimorbidity could be improved if new technology is used to bring together guidelines on individual conditions and tailor advice to each patient's circumstances, say **Bruce Guthrie and colleagues**

BMJ 2012;345:e6341

Bruce Guthrie *professor of primary care medicine*[1], Katherine Payne *professor of health economics*[2], Phil Alderson *associate director*[3], Marion E T McMurdo *professor of ageing and health*[1], Stewart W Mercer *professor of primary care research*[4]

Percentage of patients with the row condition who also have the column condition

	Coronary heart disease	Hypertension	Heart failure	Stroke/transient ischaemic attack	Atrial fibrillation	Diabetes	Chronic obstructive pulmonary disease	Painful condition	Depression	Dementia	Percentage who only have the row condition*	Mean No of conditions in people aged <65 years with row condition	Mean No of conditions in people aged ≥65 years with row condition
Coronary heart disease	52	14	13	11	22	13	24	17	9		8.8	3.4	4.4
Hypertension	18		5	10	6	18	8	19	14	2	21.9	2.5	3.6
Heart failure	59	57		16	26	23	18	23	17	4	2.8	3.9	5.6
Stroke/transient ischaemic attack	29	61	8		13	19	13	22	21	5	6.0	3.6	4.8
Atrial fibrillation	37	55	21	20		19	13	18	14	5	6.5	3.3	5.0
Diabetes	23	54	6	9	6		8	21	18	2	17.6	2.9	6.5
Chronic obstructive pulmonary disease	19	33	6	8	6	11		23	18	2	14.3	2.8	4.5
Painful condition	16	36	3	6	3	13	10		31	3	12.7	3.1	4.3
Depression	10	23	2	5	2	9	7	27		3	25.4	2.6	4.9
Dementia	21	41	6	18	10	13	9	17	32		5.3	4.1	4.6

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

Comorbidity of 10 common conditions among UK primary care patients[2]

Comorbidity and guidelines: conflicting interests

Chris van Weel, François G Schellevis www.thelancet.com Vol 367 February 18, 2006

four categories of comorbidity

- **Causal diseases with a common pathophysiology**
- **Complicating** (disease-specific complicating morbidity)
- **Concurrent** (co-existing chronic morbidity without any known causal relation to the index disease)
- **Intercurrent** (referring to interacting acute illness, usually limited in time)

- disease-specific guidelines can be used to direct management only for causal **diseases with a common pathophysiology**
  - guidelines must include information on the full spectrum of health risks associated with the index condition
  - ⇒ proactive management of illness (⇐ development requiring patients with a mix of comorbid conditions to be included in RCT)
- **Comorbid conditions** need more complex and individualised care than simply the sum of separate guideline components.

  ⇒ holistic patient-centred approach, ensuring continuity of care and integrating the patients' biopsychosocial domains
- **Intercurrent diseases** were presented more frequently to the general practitioner by patients with comorbidity than by patients with a single disease (Schellevis FG et al: Br J Gen Pract 1994)

Age and Ageing 2013; **42:** 62–69
doi: 10.1093/ageing/afs100
Published electronically 21 August 2012

Guidelines for people not for diseases: the challenges of applying UK clinical guidelines to people with multimorbidity

LLOYD D. HUGHES[1], MARION E. T. MCMURDO[2], BRUCE GUTHRIE[3]

	Type 2 diabetes [16]	COPD [18]	Osteoarthritis [19]
Does guideline address treatment in over 75s?	Minimal focused on oral hypoglycaemic drug choice	Moderate across multiple areas including smoking cessation, inhaler use, use of theophyllines, referral for surgery	Moderate across several areas including exercise (a core treatment for all ages), avoiding NSAIDs in older people, referral for surgery
Does guideline address comorbidity? (either in terms of comorbid disease or drug treatment recommended for comorbid conditions)	Moderate discussion of oral hypoglycaemic choice in relation to physical comorbidity, and considering the psychological impact of painful neuropathy	Moderate discussion of theophylline use in relation to comorbidity and interacting antibiotics, and comorbidity contra-indications to pulmonary rehabilitation	Extensive discussion as part of holistic assessment (fitness for surgery, drug choice, falls, comorbidities compounding osteoarthritis) and role of exercise irrespective of comorbidity
	Cross-referenced to depression guideline	Cross-referenced to depression guideline	Recommendation to screen for depression
Does guideline explicitly discuss patient choice and preferences?	Generic introduction emphasising self-care, with some later discussion about patient preference with regard to hypoglycaemic agents	Generic introduction only	Generic introduction, with some later discussion of clearly communicating risks and benefits of treatment to patients
Does guideline explicitly discuss potential challenges to patient adherence to recommended treatments?	None	Moderate discussion focused on regular assessment of inhaler technique, and actively promoting attendance at pulmonary rehabilitation and tailoring components to individual needs	Minimal discussion focused on clinicians taking individual circumstances into account to promote exercise

Chronicity and complexity

Is what's good for the diseases always good for the patients?

Ross E.G. Upshur MD MSc CCFP FRCPC Shawn Tracy
VOL 54: DECEMBER • DÉCEMBRE 2008 *Canadian Family Physician • Le Médecin de famille canadien*

- Studies in primary care have shown that primary care providers have **insufficient time** to adhere to clinical practice guidelines for the 10 most common chronic conditions when the conditions are stable.
- When the conditions are modeled as poorly controlled, the problems become almost **intractable** (Ostbye T et al: *Ann Fam Med 2005)*
- When **several diseases coexist** in the same patient, management becomes substantially more complex due to:
  - **time required** to evaluate and treat health care conditions (patient behaviour and self regulation, involvement of family in care, office visits to physicians, visits for diagnostic tests, appointments to allied health care professionals, and filling prescriptions)
  - **increased information** that must be mastered in order to understand how to manage these conditions (Martin CM et al: *Med J Aust 2005)*
- To further complicate matters, as care management becomes more complex, the **ability to adhere to clinical practice guidelines** decreases while the **risk of iatrogenesis** increases greatly.

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Lloyd D. Hughes[1], Marion E. T. McMurdo[2], Bruce Guthrie[3]

Key points

- The use of clinical guidelines in health-care services has helped to reduce practice variation, deaths and hospitalisations
- Clinical guidelines are known to be limited in their focus on single diseases and the evidence which these guidelines are based upon apply only to subsets of the population
- This study showed that explicitly following clinical guidelines for two hypothetical patients with physical and mental health comorbidities produced complex treatment regimes with a significant risk of adverse drug reactions.
- To make clinical guidelines more applicable to patients with comorbidity, future clinical guidelines should provide practical examples of how patient-centred care can be achieved for a disease process. Attempts should be made to integrate guidelines for similar disease processes.

Adapting clinical guidelines to take account of multimorbidity

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- Polypharmacy is an important consequence of following guidelines in people with multimorbidity (Boyd CM et al: *JAMA 2005; H*ughes L et al: *Age and Ageing 2012)*

- Polypharmacy can be appropriate, but it is associated with **riskier prescribing** and is often particularly problematic in people who are physically frail or have cognitive impairment (Guthrie B et al: *BMJ 2011)*

Adherence to Clinical Practice Guidelines for 7 Chronic Conditions in Long-term-Care Patients Who Received Pharmacist Disease Management Services Versus Traditional Drug Regimen Review

J Manag Care Pharm. 2007;13(1):28-36

KRISTIN K. HORNING, PharmD; JAMES D. HOEHNS, PharmD, BCPS; and WILLIAM R. DOUCETTE, PhD

TABLE 2 Patient Characteristics

Patient Characteristics	DSM (N = 107)
Age, years, mean [SD]	82.0 [11.7]
Male sex (%)	31.8
Weight, kg, mean [SD]	164.0 [44.9]
Months since admission mean [SD]	32.7 [28.5]
Functional status (%)	
Poorest mobility†	51.4
Current diagnoses (%)	
Diabetes	27.1
CAD	15.9
Stroke	16.8†
HF	31.1
Hypertension	70.1
Hyperlipidemia	28.3
Osteoporosis	20.6
No. of diagnoses, mean [SD]	7.1 [2.8]
≥1 psychiatric diagnosis (%)	66.4
No. of scheduled medications, mean [SD]‡	10.5 [3.5]
No. of PRN medications, mean [SD]	3.7 [1.9]
No. of total medications, mean [SD]	14.2 [4.196]
Monthly medication cost ($),§ mean [SD]	357 [216]
Use of antidepressants (%)	57.0
Use of antipsychotics (%)	25.2
No. of antihypertensives, mean [SD]	2.1 [1.3]

Adherence to Clinical Practice Guidelines

Characteristics	HDC Benchmark	DSM
Diabetic patients		N = 29
Antiplatelet use†	>80%	89.7%
BP <130/80 mm Hg	>40%	55.2%
Last A1c <7%		86.2%
A1c, mean [SD]		6.2 [0.7]
Last LDL-C <100 mg/dL	>70%	80.0%
CAD patients		N = 17
ASA or clopidogrel	>90%	88.2%
Beta-blocker	>70%	64.7%
ACEI or ARB	>70%	82.4%
Statin		41.2%
Stroke patients		N = 18
ASA, clopidogrel or anticoagulation†		88.9%
HF patients		N = 33
ACEI or ARB		73.3%
Beta-blocker		60.6%
Hypertensive patients		N = 75
BP ≤140/90 mm Hg	>50%	77.3%
Hyperlipidemia patients		N = 12
LDL-C ≤100 mg/dL‡	>60%	75.0%
Osteoporosis patients		N = 20
Calcium supplementation§		85.0%
Osteoporosis medication		50.0%

Available online at www.sciencedirect.com
ScienceDirect
International Journal of Nursing Studies 45 (2008) 1550–1561
INTERNATIONAL JOURNAL OF NURSING STUDIES
www.elsevier.com/ijns

Older people and adherence with medication: A review of the literature

Maggi Banning *

- Older people frequently administer three or more medicines concurrently to manage comorbidity and as a result of polypharmacy, older people are increasingly likely to **mismanage their medicines** (Corlett, 1996).

- Medication mismanagement is a significant problem as it can lead to **poor control** of chronic conditions such as hypertension (Mancia et al., 1997; Benson and Britten, 2002), heart failure (Cline et al., 1999; Struthers et al., 1999) and cholesterol management (Senior et al., 2004) and **adverse drug reactions.**

N ENGL J MED 351;27 WWW.NEJM.ORG DECEMBER 30, 2004

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.

- 70-year-old woman who has the common combination of hypertension, myocardial infarction, depression, T2DM, and osteoporosis.
- Adherence to disease guidelines might require this patient to take an aspirin, an ACE inhibitor, a betablocker, a bisphosphonate, Ca, a diuretic, a selective serotonin-reuptake inhibitor, a statin, a sulfonylurea drug, perhaps a thiazolidinedione, and Vit D.
- These guideline-driven medications are taken in addition to prescription and OTC drugs for conditions such as allergies, pain, dyspepsia, and insomnia.

Viewing disease-specific medication guidelines from this perspective raises the question of whether what is good for the disease is always best for the patient.

N ENGL J MED 351;27 WWW.NEJM.ORG DECEMBER 30, 2004

SOUNDING BOARD

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

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- How is the **adherence to drug regimens** affected by the need to follow guidelines for the treatment of multiple coexisting conditions?
  - We know that patients take only about half of their medications as prescribed and that adherence decreases as the number of medications increases (Haynes RB et al: Lancet, 1996)
- What type of **benefit can be expected from various combinations of drugs** with what risk of various adverse effects? Over what period of time?
- How is the **benefit-to-harm ratio** altered in the face of multiple coexisting conditions and medications?
- How are **individual patients' preferences** incorporated into the prescribing of guideline-driven medications in clinical practice?
- What **added benefit** (without added harm) does the 7th , 8th or 9th medication provide over the 2nd or 3rd ?
  - What additional benefits, over what expected time period, will accrue, for example, for a 75-year-old man with depression, insomnia, hypertension, chronic pain from arthritis, and diabetes, when a TZD is added to 10 preexisting medications? **What is the additional risk of adverse effects?**

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Table 4. Recommendations for improving clinical guidelines

- Providing summarised and comparable information about the relative benefits and risks of different recommended treatments would help inform prioritisation in multimorbid patients
- Existing guidelines should explicitly cross-reference each other when recommendations are synergistic or contradictory, and identify high-risk interactions between recommended treatments and other commonly prescribed drugs. *This may be done in an internet-based format*
- Clinical guidelines should include a small number of specific patient case examples for common combinations of comorbidity seen in clinical practice
- Guidelines should note some specific advice for practitioners when treating older patients (e.g. drug doses or class)
- Concerted action is needed to increase the participation of older people in clinical trials

Caprarola (VT) Palazzo Farnese - Cupola