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29 novembre - 2 dicembre

INVECCHIAMENTO:  
SCENARIO 2.0



**La cardiopatia ischemica nell'anziano e nel grande anziano: diversi i percorsi diagnostico-terapeutici ed i rapporti ospedale-territorio?**

**Alberto Ferrari** : Past-President Nazionale SIGOT (Società Italiana di Geriatria Ospedale e Territorio)

# **LA SCALETTA**

**LA RIVOLUZIONE DEMOGRAFICA**

**IL PAZIENTE ANZIANO : UN PAZIENTE DIVERSO**

**DIVERSITA' DI PAZIENTE DIVERSITA' DI OBIETTIVI**

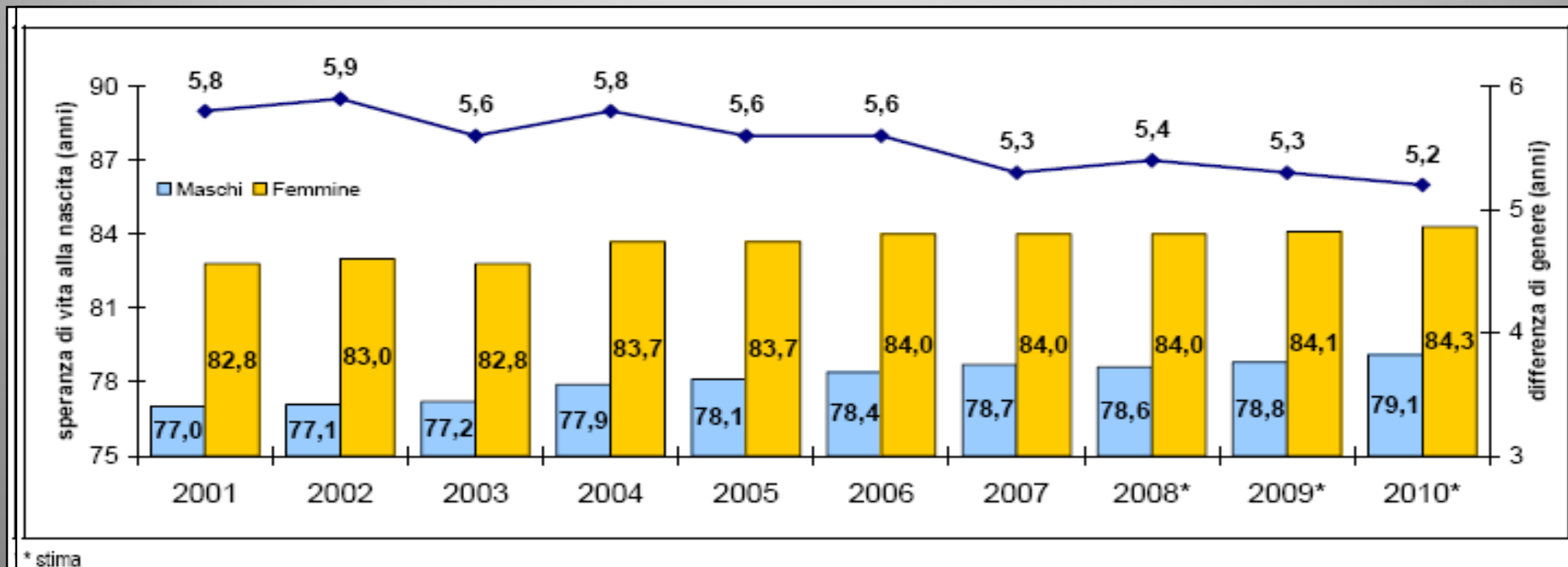
**ASSESSMENT E MANAGEMENT DEDICATI : C.G.A**

**CONCLUSIONI**

# LA RIVOLUZIONE DEMOGRAFICA

In Italia, come nella maggior parte dei paesi sviluppati, la durata media della vita ha raggiunto livelli inimmaginabili fino a pochi decenni or sono.

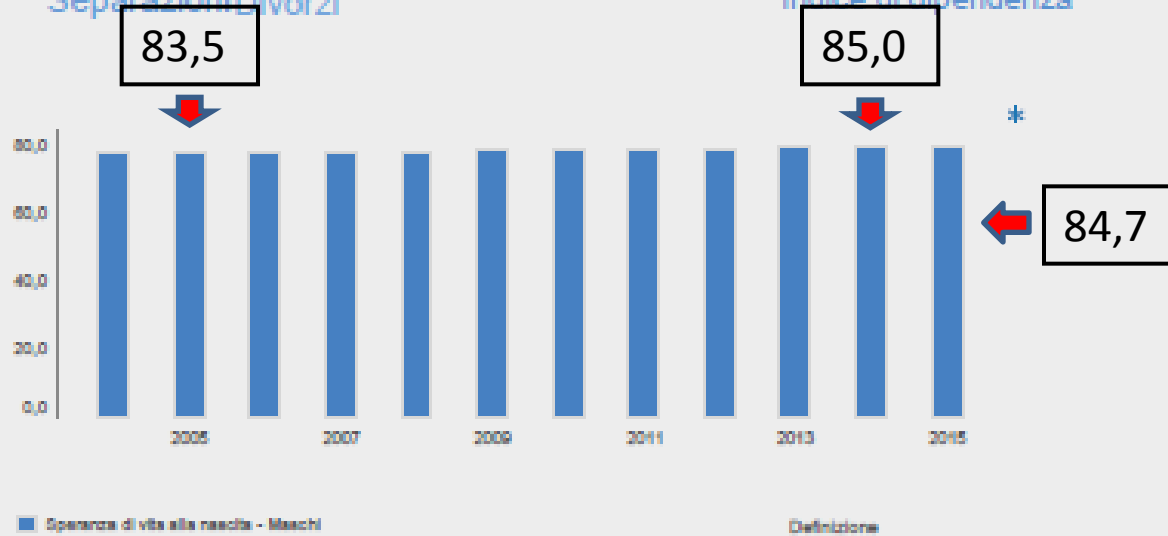
Negli ultimi due decenni l'invecchiamento della popolazione ha registrato un'accelerazione senza precedenti: in soli 17 anni, dal 1991 al 2008, l'indice di vecchiaia è incrementato con la stessa intensità del trentennio 1961-1991



# ISTAT 2015 : una inversione di tendenza ?

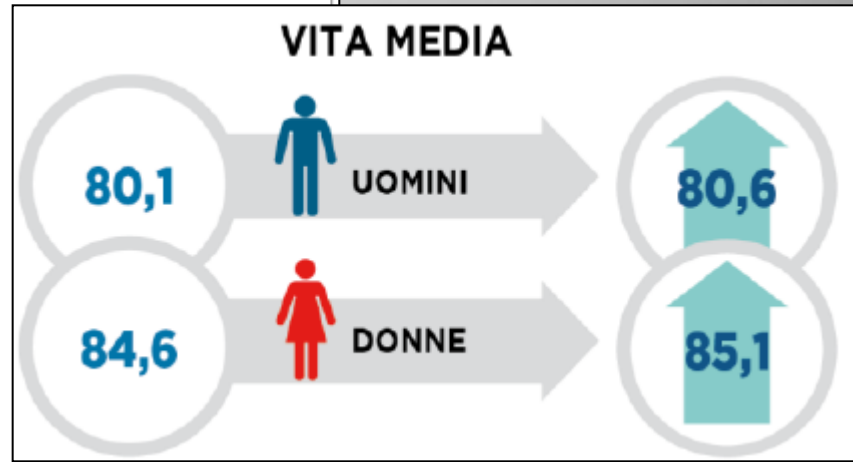
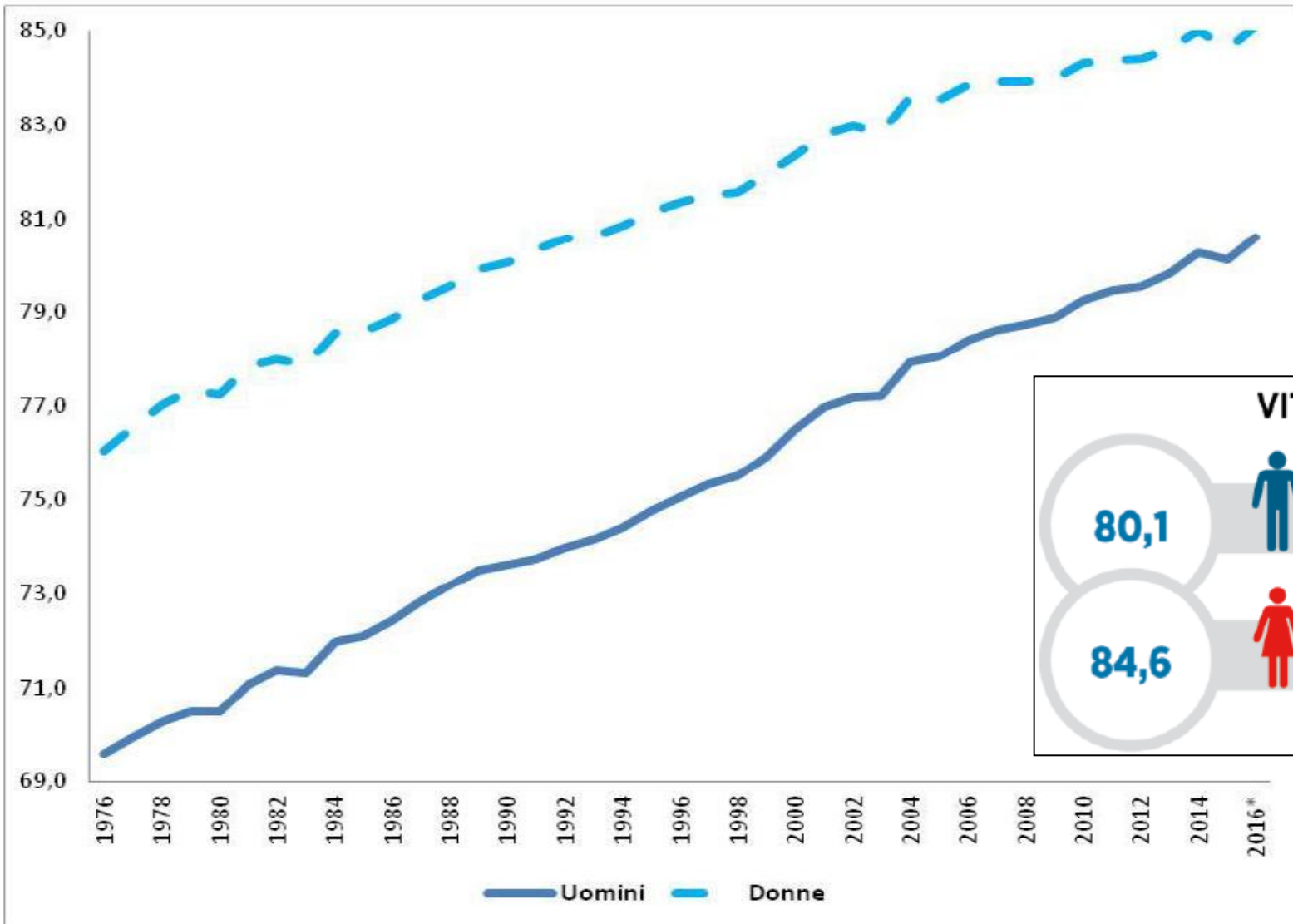
Italia      Regioni      Europa

Quoziente di nuzialità      Indice di vecchiaia  
Tasso di crescita naturale      Speranza di vita alla nascita - Femmine  
**Dinamica della popolazione**  
Tasso di fecondità      Speranza di vita alla nascita - Maschi  
Separazioni      Divorzi      Indice di dipendenza



# ISTAT 2016: La speranza di vita alla nascita riprende a salire

FIGURA 6. SPERANZA DI VITA ALLA NASCITA. Anni 1976-2016\*



ISTAT : 6 marzo 2017  
indicatori Demografici  
stime per l'anno 2016

(\*) 2016 stima.

# LA RIVOLUZIONE DEMOGRAFICA

Alcuni economisti tuttavia , in questo articolo pubblicato nel 2010 sulla prestigiosa rivista science, hanno fatto notare che queste preoccupazioni sono legate ad una concezione statica ( legata all'età ) del modello di invecchiamento **che non considera** le modificazioni qualitative intervenute nell'ambito della longevità nel corso degli ultimi decenni.



1. Warren C. Sanderson and Sergei Scherbov -  
"Remeasuring Aging " - Science 10  
September 2010 : Vol 329 no 5997 pp 1287-  
1288

Se si considera, infatti, l'apporto di queste modificazioni qualitative, in particolare in termini di riduzione delle disabilità, **le previsioni** economiche e sociali **possono cambiare**.



## Physical and cognitive functioning of people older than 90 years: a comparison of two Danish cohorts born 10 years apart

Kare Christensen, Mikkel Thinggaard, Arno Oksuzyan, Troels E. Leemdrup, Finn Andersen-Rønbjerg, Bernard Jeune, Matt McGuire, James W Vaupel

### Summary

**Background** A rapidly increasing proportion of people in high-income countries are surviving into their tenth decade. Concern is widespread that the basis for this development is the survival of frail and disabled elderly people into very old age. To investigate this issue, we compared the cognitive and physical functioning of two cohorts of Danish nonagenarians, born 10 years apart.

**Methods** People in the first cohort were born in 1905 and assessed at age 93 years ( $n=2262$ ); those in the second cohort were born in 1915 and assessed at age 95 years ( $n=1584$ ). All cohort members were eligible irrespective of type of residence. Both cohorts were assessed by surveys that used the same design and assessment instrument, and had almost identical response rates (63%). Cognitive functioning was assessed by mini-mental state examination and a composite of five cognitive tests that are sensitive to age-related changes. Physical functioning was assessed by an activities of daily living score and by physical performance tests (grip strength, chair stand, and gait speed).

**Findings** The chance of surviving from birth to age 93 years was 28% higher in the 1915 cohort than in the 1905 cohort (6–50% vs 5–06%), and the chance of reaching 95 years was 32% higher in 1915 cohort (3–93% vs 2–98%). The 1915 cohort scored significantly better on the mini-mental state examination than did the 1905 cohort (22.8 [SD 5.4] vs 21.4 [6.0];  $p<0.0001$ ), with a substantially higher proportion of participants obtaining maximum scores (28–30 points; 277 [23%] vs 235 [13%];  $p<0.0001$ ). Similarly, the cognitive composite score was significantly better in the 1915 than in the 1905 cohort (0.49 [SD 3.4] vs 0.01 [SD 3.6];  $p<0.0003$ ). The cohorts did not differ consistently in the physical performance tests, but the 1915 cohort had significantly better activities of daily living scores than did the 1905 cohort (2.0 [SD 0.3] vs 1.8 [0.7];  $p<0.0001$ ).

**Interpretation** Despite being 2 years older at assessment, the 1915 cohort scored significantly better than the 1905 cohort on both the cognitive tests and the activities of daily living score, which suggests that more people are living to older ages with better overall functioning.

**Funding** Danish National Research Foundation; US National Institutes of Health—National Institute on Aging; Danish Agency for Science, Technology and Innovation; VELUX Foundation.

### Introduction

A 2011 report<sup>1</sup> from the US Census Bureau, commissioned by the US National Institute on Aging, concluded that the population of people aged 90 years and older will continue to grow in the USA, both in absolute terms and as a proportion of elderly people. The 720 000 people aged 90 years and older in 1980 in the USA had more than doubled to 1.5 million by 2010. A similar development has been seen in other high-income countries. Even in Denmark, which has one of the lowest life expectancies in western Europe,<sup>2</sup> the chance of surviving into the tenth decade of life has gone up by roughly 30% per decade for people born in 1895, 1905, and 1915.<sup>3</sup> This increase is based both on a decrease in early-life mortality at the beginning of the 20th century and a reduction in mortality for elderly people in the second half of the century.<sup>4</sup>

Serious concern has emerged about the substantial and increasing number of individuals in each birth cohort who can be expected to survive into their 90s.<sup>5</sup> Life extension might provide only increased chances of being

frail or existing in a vegetative state, with huge personal and societal costs. Research in the mid-1990s looked into this so-called failure-of-success hypothesis, that increased longevity (due to falling mortality from chronic diseases) meant that the health of elderly people was declining. However, as can be noted from a 2011 review by Crimmins and Beltrán-Sánchez,<sup>6</sup> very few data exist on this topic for very elderly people or for people living in residential care, for whom the issue is most relevant.

In younger elderly people (ages 65–85 years) mixed results have been reported, but generally more recent birth cohorts have more diseases (partly because of improved diagnostics), possibly better physical functioning, and consistently better cognitive functioning than do earlier birth cohorts—designated as the Flynn effect.<sup>6,7</sup> As such, more recent cohorts of younger elderly people could be expected to reach their tenth decade in better health than earlier cohorts. However, some researchers have suggested that cohort differences that exist in younger elderly people could be eliminated at older ages

Lancet 2013; 382: 1507–13

Published online

July 21, 2013

http://dx.doi.org/10.1016/S0140-6736(13)60777-1

See comment page 1473

See online for a poster

Interview with team co-leader

Centre for Aging Research Center

Medical Research Council

Health Research Council

Health Research Council

Health Research Council

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**E che la qualità dell'invecchiamento sia effettivamente cambiata è ben dimostrato, almeno in Danimarca, da questo studio di coorte pubblicato su Lancet nel novembre 2013.**

**Nello studio gli autori hanno messo a confronto due corti di ultranovantenni nati a distanza di 10 anni (1905 e 1915).**

**La corte dei novantenni nati 10 anni dopo ha realizzato migliori performances sia cognitive che funzionali.**

**Christensen K, Thinggaard m, Oksuzyan A. et al. - Physical and cognitive functioning of people older than 90 years : a comparison of two Danish cohorts born 10 years apart. – Lancet 2013 Nov 2 ;382(9903):1507-13**

# QUALI GLI OBIETTIVI IN QUESTO CONTESTO ?

Ma quali sono **gli obiettivi prioritari** per una società che invecchia ?

Appare del tutto evidente che in questo contesto **L'obiettivo importante, strategico** diventa quello di favorire in tutti i modi l'invecchiamento di qualità preservando l'autonomia della persona .

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# L'INVECCHIAMENTO DAL PUNTO DI VISTA BIOLOGICO

L'invecchiamento è un processo che interessa tutti gli organismi viventi e che comporta modificazioni biologiche .

Nell'uomo modificazioni del corpo e delle sue funzioni, seguite da un processo di adattamento psicofisico , si evidenziano già dopo i trent'anni .

E' un fenomeno graduale e progressivo anche se variabile per ogni individuo.

# LA PERSONA CHE INVECCHIA

**Invecchiamento** quindi **significa:** modificazioni dell'organismo con conseguenti adattamenti a variabilità individuale

Un Anziano diverso dall'altro anche solo dal punto di vista **Fisiologico**

Una "Fragilita" che varia da anziano ad anziano

Un Paziente anziano diverso dall'altro

# MODIFICAZIONI FISILOGICHE IN CORSO D'INVECCHIAMENTO – ALCUNI ESEMPI

La clearance della creatinina *decrementa in funzione dell'età*

Il metabolismo epatico *si modifica* .



Foto di Angelo Farese

Il letto vascolare del distretto splacnico *si riduce*

Il ph gastrico *aumenta*

La massa grassa *si incrementa (+ 5 kg circa nei > di 80 aa.)*

La massa magra *si riduce (- 6 kg circa nei > di 80 aa.)*

L'acqua corporea totale *si riduce (- 12% circa nei > di 80 aa.)*

Il legame proteico *si riduce ( - 20% della concentrazione plasmatica di albumina )*

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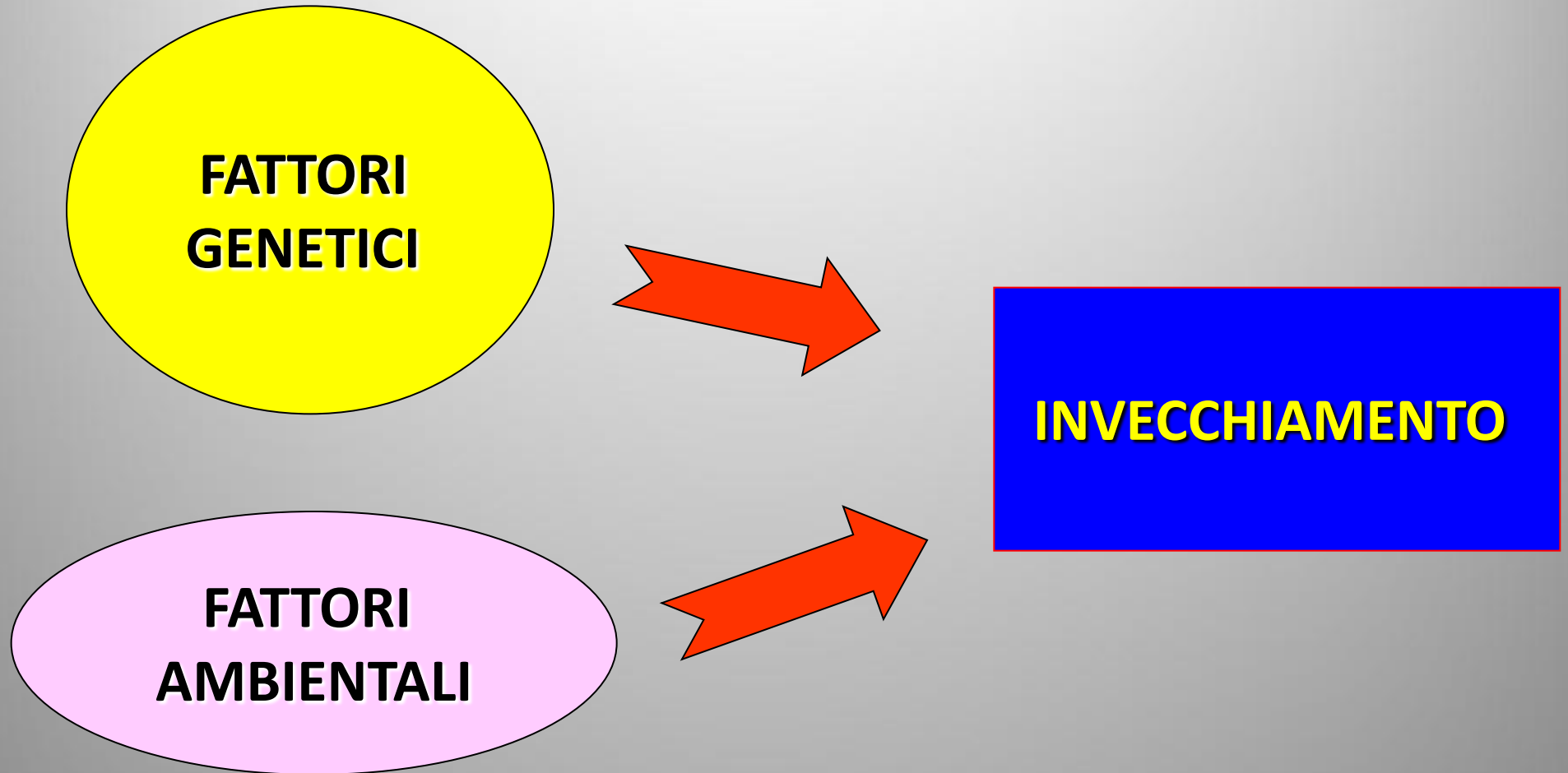
# UN PAZIENTE DIVERSO CON OBIETTIVI DIVERSI

## FRAGILITA'

La posta in gioco in queste persone è molto alta , molto più alta della semplice guarigione da un *processo morboso*.

Il lavoro di tutti noi : medici , Infermieri , operatori socio-sanitari , volontari, famigliari , può fare la differenza tra il continuare in una vita attiva in rapporto con gli altri ed il precipitare nell'abisso della disabilità e della dipendenza dagli altri.

# L'INVECCHIAMENTO



# UN PAZIENTE DIVERSO CON OBIETTIVI DIVERSI

Numerose altre variabili influiscono sulla qualità dell'invecchiamento. La figura sottostante ne fornisce un sintetico elenco.



# **LA SCALETTA**

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**CONCLUSIONI**

Comprehensive geriatric assessment for older adults  
admitted to hospital (Review)

Ellis G, Whitehead MA, O'Neill D, Langhorne P, Robinson D



This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2011, Issue 7

<http://www.thecochranelibrary.com>



Comprehensive geriatric assessment for older adults admitted to hospital (Review)  
Copyright © 2011 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

## E' NECESSARIO UN APPROCCIO DEDICATO: II C.G.A

- 28.843 → titoli visionati
- 22 → R.C.T selezionati
- 10.315 → Pazienti Anziani
- 6 → Nazioni

“ More older patients are likely to survive and return home if they receive Comprehensive Geriatric Assessment (C.G.A) whilst an inpatient.”

“Comparisons of different forms of C.G.A with each other seems reasonable **but comparisons with usual care seem difficult to justify**”

## RESEARCH

## Comprehensive geriatric assessment for older adults admitted to hospital: meta-analysis of randomised controlled trials

 OPEN ACCESS

Graham Ellis *consultant geriatrician and honorary senior clinical lecturer*<sup>1</sup>, Martin A Whitehead *consultant geriatrician*<sup>2</sup>, David Robinson *consultant geriatrician*<sup>3</sup>, Desmond O'Neill *associate professor of gerontology*<sup>4</sup>, Peter Langhorne *professor of stroke care*<sup>5</sup>

<sup>1</sup>Medicine for the Elderly, Monklands Hospital, Airdrie, North Lanarkshire, Scotland, UK; <sup>2</sup>Medicine for the Elderly, Wishaw General Hospital, Wishaw, North Lanarkshire; <sup>3</sup>Mercer's Institute for Research on Ageing, St James' Hospital, Dublin, Republic of Ireland; <sup>4</sup>Department of Medical Gerontology, Trinity Centre for Health Sciences, Adelaide and Meath Hospital, Tallaght, Dublin 24, Dublin; <sup>5</sup>Academic Section of Geriatric Medicine, University of Glasgow, Glasgow, Scotland

### Abstract

**Objective** To evaluate the effectiveness of comprehensive geriatric assessment in hospital for older adults admitted as an emergency.

**Search strategy** We searched the EPOC Register, Cochrane's Controlled Trials Register, the Database of Abstracts of Reviews of Effects (DARE), Medline, Embase, CINAHL, AARP AgeLine, and handsearched high yield journals.

**Selection criteria** Randomised controlled trials of comprehensive geriatric assessment (whether by mobile teams or in designated wards) compared with usual care. Comprehensive geriatric assessment is a multidimensional interdisciplinary diagnostic process used to determine the medical, psychological, and functional capabilities of a frail elderly person to develop a coordinated and integrated plan for treatment and long term follow-up.

**Data collection and analysis** Three independent reviewers assessed eligibility and trial quality and extracted published data. Two additional reviewers moderated.

**Results** Twenty two trials evaluating 10 315 participants in six countries were identified. For the primary outcome "living at home," patients who underwent comprehensive geriatric assessment were more likely to be alive and in their own homes at the end of scheduled follow-up (odds ratio 1.16 [95% confidence interval 1.05 to 1.28; P=0.003; number needed to treat 33] at a median follow-up of 12 months versus 1.25 (1.11 to 1.42; P<0.001; number needed to treat 17) at a median follow-up of six months) compared with patients who received general medical care. In addition, patients were less likely to be living in residential care (0.78, 0.69 to 0.88; P<0.001). Subgroup interaction suggested differences

between the subgroups "wards" and "teams" in favour of wards. Patients were also less likely to die or experience deterioration (0.76, 0.64 to 0.90; P=0.001) and were more likely to experience improved cognition (standardised mean difference 0.06, 0.01 to 0.15; P=0.02) in the comprehensive geriatric assessment group.

**Conclusions** Comprehensive geriatric assessment increases patients' likelihood of being alive and in their own homes after an emergency admission to hospital. This seems to be especially true for trials of wards designated for comprehensive geriatric assessment and is associated with a potential cost reduction compared with general medical care.

### Introduction

Older people represent the fastest growing sector of society and account for the largest increase in hospital admissions.<sup>1 2</sup> They are at highest risk of acquired disability, cognitive decline, or admission to residential care, either as a consequence of illness or as an unfortunate consequence of treatment.<sup>3 4</sup> Older people's needs are more complex with potentially coexistent medical, functional, psychological, and social needs.<sup>5</sup> This can lead to an atypical presentation that can often be misunderstood and requires a different approach to care.

One of the cornerstones of modern geriatric care is comprehensive geriatric assessment (CGA). This is defined as a "multidimensional interdisciplinary diagnostic process focused on determining a frail older person's medical, psychological and functional capability in order to develop a coordinated and integrated plan for treatment and long term follow up."<sup>6</sup>

# E' NECESSARIO UN APPROCCIO DEDICATO: IL C.G.A

## Conclusions

Significantly more older patients are likely to survive admission to hospital and return home if they undergo comprehensive geriatric assessment while they are inpatients. Fewer will die or experience deterioration and more will have improved cognitive functioning. These effects of acute geriatric medicine programmes are consistently shown in trials of geriatric wards but are not replicated in trials of geriatric consultation teams on general wards. These benefits might be cost effective.

## NNT (morte o istituzionalizzazione)

- a sei mesi.... **13**
- ad un anno...**20**

Correspondence to: G Ellis [Graham.ellis@lanarkshire.soot.nhs.uk](mailto:Graham.ellis@lanarkshire.soot.nhs.uk)

Extra material supplied by the author (see <http://www.bmj.com/content/343/bmj.d6553/suppl/DC1>)

Appendix 1: Search strategy for Medline  
Appendix 2: Full details of all included trials

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Ellis G , Whitehead MA , Robinson D , O'Neil D , Langhorne P. – *Comprehensive geriatric assessment for older adults admitted to hospital: meta-analysis of randomised trials.* – BMJ 2011 Oct 27 ; 343:d6553. doi:10.1136/bmj.d6553

**Comprehensive geriatric assessment for older adults  
admitted to hospital (Review)**

Ellis G, Gardner M, Tsiachristas A, Langhorne P, Burke O, Harwood RH, Conroy SP, Kircher T, Somme D, Saltvedt I, Wald H, O'Neill D, Robinson D, Shepperd S

Ellis G, Gardner M, Tsiachristas A, Langhorne P, Burke O, Harwood RH, Conroy SP, Kircher T, Somme D, Saltvedt I, Wald H, O'Neill D, Robinson D, Shepperd S.

Comprehensive geriatric assessment for older adults admitted to hospital.

Cochrane Database of Systematic Reviews 2017, Issue 9. Art. No.: CD006211.

DOI: 10.1002/14651858.CD006211.pub3.

[www.cochranelibrary.com](http://www.cochranelibrary.com)

**E' di recentissima pubblicazione , on  
line, quest'altra **Revisione  
Sistematica Cochrane sul C.G.A  
focalizzata sull'analisi dei costi .****

- **29 → R.C.T selezionati**
- **13.766 → Pazienti Anziani**
- **9 → Nazioni**

**Authors ' conclusion : *“Older patients are more likely to be alive and in their own homes at follow-up if they received CGA on admission to hospital.*”**

**Are di incertezza per scarsita' di dati :**

- **Ward verso team**
- **Costo Efficacia**

## SPECIAL ARTICLE

### EFFECTIVENESS OF A GERIATRIC EVALUATION UNIT

#### A Randomized Clinical Trial

LAURENCE Z. RUBENSTEIN, M.D., M.P.H., KAREN R. JOSEPHSON, M.P.H., G. DARRYL WIELAND, PH.D., M.P.H.,  
PATRICIA A. ENGLISH, M.S., JAMES A. SAYRE, DR.P.H., AND ROBERT L. KANE, M.D.

**Abstract** We randomly assigned frail elderly inpatients with a high probability of nursing-home placement to an innovative geriatric evaluation unit intended to provide improved diagnostic assessment, therapy, rehabilitation, and placement. Patients randomly assigned to the experimental (n = 63) and control (n = 60) groups were equivalent at entry.

At one year, patients who had been assigned to the geriatric unit had much lower mortality than controls (23.8 vs. 48.3 per cent,  $P < 0.005$ ) and were less likely to have initially been discharged to a nursing home (12.7 vs. 30.0 per cent,  $P < 0.05$ ) or to have spent any time in a nursing

**I**NCREASED attention has been directed to the plight of disabled elderly patients being discharged from hospitals. One response has been the

From the Department of Medicine and the Geriatric Research, Education, and Clinical Center, Sepulveda Veterans Administration Medical Center, Sepulveda, Calif., and the Multicampus Division of Geriatric Medicine, University of California at Los Angeles School of Medicine, Los Angeles. Address reprint requests to Dr. Rubenstein at the Geriatric Research, Education, and Clinical Center (11E), Sepulveda Veterans Administration Medical Center, Sepulveda, CA 91343.

Supported by the Health Services Research and Development Service of the Veterans Administration.

home during the follow-up period (26.9 vs. 46.7 per cent,  $P < 0.05$ ). The control-group patients had substantially more acute-care hospital days, nursing-home days, and acute-care hospital readmissions. Patients in the geriatric unit were significantly more likely to have improvement in functional status and morale than controls ( $P < 0.05$ ). Direct costs for institutional care were lower for the experimental group, especially after adjustment for survival.

We conclude that geriatric evaluation units can provide substantial benefits at minimal cost for appropriate groups of elderly patients, over and above the benefits of traditional hospital approaches. (N Engl J Med 1984; 311:1664-70.)

development of specialized geriatric evaluation and treatment programs. Initially patterned after models developed in the United Kingdom,<sup>1,2</sup> such programs usually have several goals, which include increasing the patient's level of functioning, improving diagnosis and treatment, achieving more appropriate placement, reducing the use of institutional services, and generally increasing the overall quality of care delivered to elderly patients. Although descriptive and semicontrolled studies of the programs suggest that they have positive effects,<sup>3</sup> none has been subjected to

Reprinted from *The New England Journal of Medicine*  
311:1664-1670 (December 27), 1984

# Comprehensive Geriatric Assessment C.G.A

Rubenstein LZ et al. - *Effectiveness of a geriatric evaluation unit. A randomized clinical trial.* - N Engl J Med 1984; 311:1664-70.

“ a patient’s medical , psychosocial and functional status assessment that is used to finalize a specific treatment plan including: drug therapy, rehabilitation and discharge ”

# CONCLUSIONI

**E' in atto una profonda rivoluzione demografica.**

**In questo scenario l'obiettivo strategico diventa il sostenere l'invecchiamento di qualità ed il mantenimento dell'autonomia.**

**L'invecchiamento comporta modificazioni del nostro organismo cui conseguono adattamenti . **E' un processo che varia da individuo a individuo e rende ragione del diverso grado di fragilità.****

**La malattia , in rapporto alla tipologia ed all'efficacia delle cure , interferisce in modo importante sulla qualità dell'invecchiamento.**

**Oltre 30 anni di ricerca geriatrica ci hanno messo a disposizione uno strumento di lavoro (il C.G.A) che , **attraverso l'assessment ed il management tarati sulla fragilità individuale** , ci consentono di affrontare la malattia con migliori risultati in termini di sopravvivenza e di autonomia funzionale.**

**Le evidenze a favore del CGA sono fortissime e tali da rendere non più etico trattare il paziente anziano con il metodo tradizionale.**

A black and white photograph of an elderly couple walking away from the camera, holding hands. The man on the left has short, white hair and is wearing a dark suit jacket. The woman on the right has curly, light-colored hair and is wearing a dark jacket. The background is dark and out of focus, suggesting an indoor setting like a train station or a public space. A white rectangular box with a thin border is centered horizontally across the middle of the image, containing the text 'GRAZIE PER L'ATTENZIONE' in bold, white, uppercase letters.

**GRAZIE PER L'ATTENZIONE**