Seminari del Venerdì
9 settembre 2005

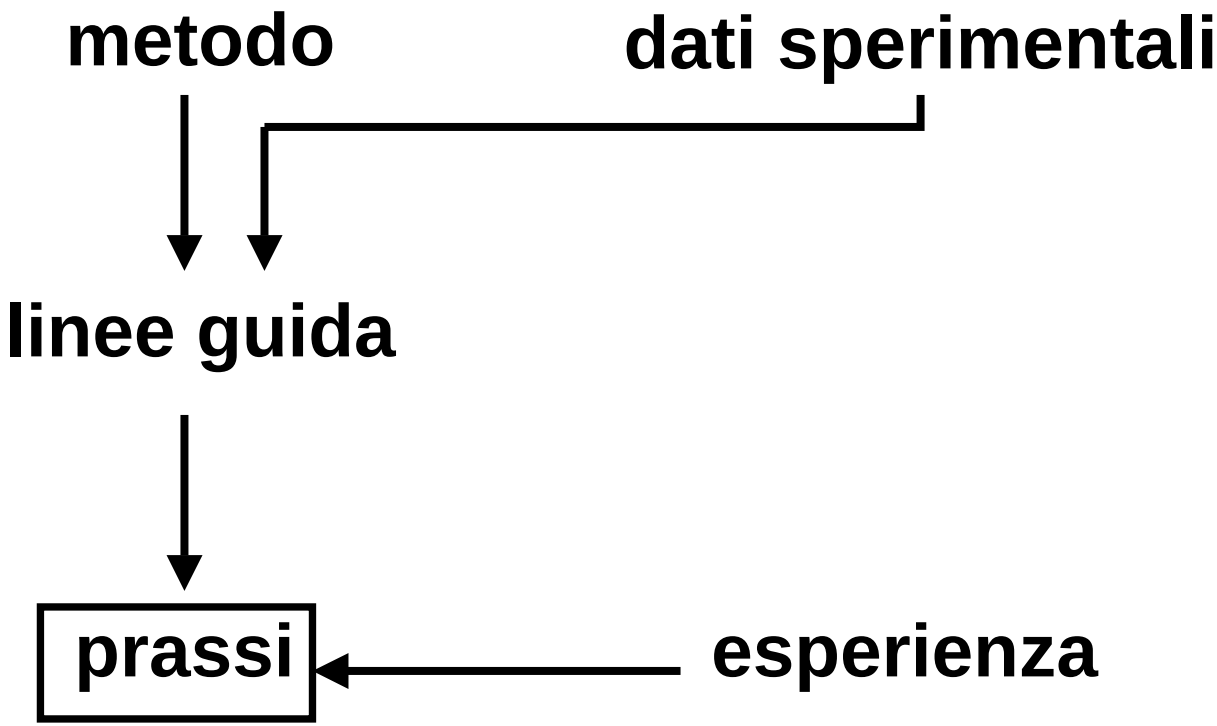
La clinica dei novantenni

Renzo ROZZINI

Ask the doctors

My mother in her early 90s has been diagnosed with atherosclerosis, had a successful angioplasty a year ago for severe chest pain, takes clopidogrel and aspirin, and in general eats a low-fat diet, although she really likes melted ice cream. But she doesn't like to walk. What else should she be taking, and what can I say when she says she's too old to exercise?

Heart Advis. 2005 May;8:8.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The Old-Old-Old

Knight Steel, MD

Geriatricians have long distinguished aging from disease. Yet the separation of these two processes and these in turn from the effects of the environment is most difficult. Therefore, as the possibility of manipulating the aging process is considered, what the elder of tomorrow will look like can only be speculated about. Might it be possible to alter the effect of aging on one organ system and not others? Should we be stating that disease appears a certain number of years before the end of life rather than noting its onset from the moment of birth? If the phenomenon of aging can be manipulated, the distinction between aging and disease may become increasingly difficult except for conditions clearly caused by an infectious agent or an environmental toxin.
J Am Geriatr Soc 2005.

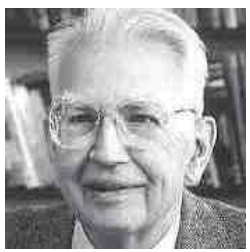
Key words: aging; disease; environment

NOTED NONAGENARIANS AND CENTENARIANS

Albert Rosellini (1/21/1910-)
American politician, Washington governor (1957-1965)
(NN&C FunFact: Rosellini is the oldest living former United States governor.)

Edmund N. Bacon (5/2/1910-)
American architect, city planner, and author

Giulietta Simionato (5/12/1910-)
Italian opera singer



Ronald Coase (12/29/1910-)
British-born American Nobel Prize-winning economist

IN MEMORIAM

For those individuals who once graced this site, but who have now passed on

Sir Joseph Rotblat
11/4/1908 - 8/31/2005
Polish-born British Nobel Prize-winning physicist

Hendrikje van Andel-Schipper
6/29/1890 - 8/30/2005
Dutch
Oldest recognized person in the world

The Conflict Between Biogerontology and Antiaging Medicine—Do Geriatricians Have a Dog in This Fight?

William R. Hazzard, MD

we as geriatricians will remain solidly in the trenches caring for our patients, the most aged, complex, frail, and vulnerable—far removed from the fantasies of eternal life, much less the Fountain of Youth.

JAGS 53:1434–1435, 2005

MULATES
MULATES

L’epidemiologia: dove è importante il fenomeno?

	n	%
<70	78	11,1
70-74	107	15,3
75-79	139	19,8
80-84	216	30,8
85-89	129	18,4
90+	32	4,6
Total	*701*	

(GERU, pre 1997)

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Older people's use of Accident and Emergency services

AMY DOWNING[1], RICHARD WILSON[2]

[1]Public Health and Epidemiology, University of Birmingham, Edgbaston, Birmingham B15 2TT, UK
[2]South Birmingham PCT, Moseley Hall Hospital, Alcester Road, Birmingham B13 8JL, UK

Address correspondence to: A. Downing, Public Health and Epidemiology, University of Birmingham, Edgbaston, Birmingham B15 2TT, UK. Fax: (+44) 121 414 7878. Email: a.downing@bham.ac.uk

Abstract

Introduction: it has previously been reported that patients aged over 65 years account for 15% of Accident and Emergency (A&E) attendances. Despite this, there have been few studies looking at older people's use of A&E. This study describes the A&E attendance patterns of older people, defined as those aged 65 years and over, using data from an NHS region over a number of years. Their attendances are also compared with those of the rest of the population.

Data and methods: A&E attendance data were collected for 14 Acute Trusts in the West Midlands for the period from 1 April 1999 to 31 March 2002 via the West Midlands Accident and Emergency Surveillance Centre.

Results: patients aged 65 years and over accounted for 18% of all attendances. Attendance rates were highest in those aged over 80 years. Older patients were significantly more likely to attend during the morning and early afternoon, during the winter months, arrive by ambulance and require admission to hospital. Older patients were significantly more likely to attend with non-injury, particularly cardiac-related conditions. Injuries accounted for 33.1% of attendances in the over-65s compared with 59.9% in the 0–64s.

Conclusions: this study is the first in England to look at the A&E attendance patterns of all older people in an NHS region. It has demonstrated the continued high level use of A&E by those aged over 65 years. This highlights the need for continued systemic monitoring of A&E attendance patterns to enable planners to accommodate the impact of the increasingly ageing population.

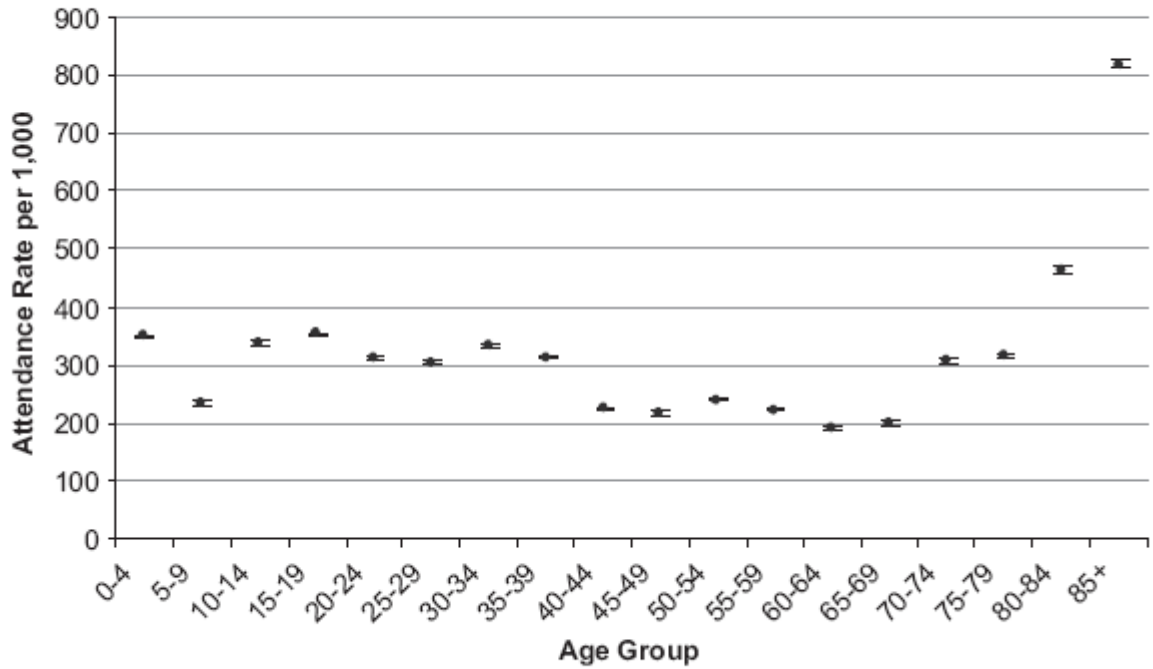

Figure 1. Age-specific rates of new A&E attendances with 95% confidence intervals.

Nonagenarian's use of emergency departments

Table 1. Comparison between the nonagenarian and control groups

	Patients > 89 years old 1,652 (1.5%)	Patients <89 years old 111,319 (98.5%)	*P*
Gender (male/female)	555 (34%)/1,097 (66%)	58,604 (53%)/53,270 (47%)	<0.001
Mean stay in the ED	7 hours	4 hours and 15 minutes	0.002
Staying more than 24 hours in the ED	43 patients (2.6%)	1,975 patients (1.8%)	0.001
Hospital admissions	420 patients (25%)	15,375 patients (14%)	<0.0001
Deaths at the ED	35 patients (2%)	281 patients (0.25%)	0.001
ED recurrences <4 days	60 out of 1,197 (5%)	4,432 out of 95,663 (4.6%)	0.6

Francesc Formiga[1]*, Antonio Vidaller[1], Albert Salazar[2], Ramón Pujol[1]

[1]*Geriatric Unit, Internal Medicine Service, Hospital Universitari de Bellvitge, L'Hospitalet de Llobregat 08907, Barcelona, Spain*

Fax: 93 260 74 20

Email: fformiga@csub.scs.es

[2]*Emergency Department, Hospital Universitari de Bellvitge, L'Hospitalet de Llobregat 08907, Barcelona, Spain*

Table 1. Distribution of the Main Diagnoses at Admission of the 182 Nonagenarian Patients Included in the Study

Diagnoses	Number of cases	Percent
Exacerbation of chronic pulmonary disease	40	22
Acute congestive heart disease.	36	20
Orthopedic admission (especially hip fracture)	49	27
Surgical admission	25	14
Stroke	11	6
Acute myocardial infarction	6	3
Other	15	8

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NATURAL HISTORY OF FUNCTIONAL DECLINE 1 YEAR AFTER HOSPITAL DISCHARGE IN NONAGENARIAN PATIENTS

Characteristics of nonagenarian patients admitted to a Geriatric Ward: a lesson for hospitals?

People live longer than before and the rapidly growing part of the population of the oldest-old is increasingly user of health care services. In western hospitals medical patients over 90 are more than 5% and in geriatric wards more than 10%.
One of the most important challenge in medicine is to identify those elderly persons who need geriatric interventions and to make accurate treatment decisions; it is important to be able to understand which kind of care produces the best outcomes for a specific person, and the place of care more appropriate for that person.
In very old age an acute disease produces a derangement of vital parameters that make patients formally appropriate for hospital admissions.
However the problem is to understand if a very old persons may gain advantages from a hospital admission in acute setting or if these advantages are overwhelmed by adverse effects due to the hospitalization itself.

The study describes the characteristics and the outcomes following the hospitalization of a population aged 90+ admitted to a Geriatric ward.
The aim is to understand the goals of hospital medicine in treating old-old patients and, as a consequence, to define the best clinical procedures to be adopted.

Chief reasons for admission of nonagenarians patients were: cardiovascular (chest pain, congestive heart failure, arrhythmias) (24%), respiratory (pneumonia, acute dyspnea, other infections) (19%), CNS (change in mental status or other neurological abnormalities) (16%), and GE (bleeding, emesis) (11%).

No significant differences were found among age groups of patients regarding chief reasons for admission.

Characteristics of 1250 hospitalized elderly patients according to age stratification.

	Total N=1250 N (%)/M±sd	<70 N=194 N (%)/M±sd	70-74 N=196 N (%)/M±sd	75-79 N=265 N (%)/M±sd	80-84 N=312 N (%)/M±sd	85-89 N=142 N (%)/M±sd	90+ N=141 N (%)/M±sd
Age	79.1±8.2	65.5±3.9	72.2±1.4	78.0±1.4	83.1±1.4	86.8±0.8	91.4±2.5
Gender (male)	405 (32.4)	94 (48.5)	67 (34.2)	87 (32.8)	83 (26.8)	38 (26.8)	35 (24.8)
Living alone	376 (30.2)	36 (18.7)	61 (31.6)	81 (31.3)	110 (35.4)	36 (25.5)	50 (35.0)
Geriatric Depression Scale-GDS*	5.2.±3.6	4.3.±3.6	4.8±3.6	5.8±3.7	5.4±3.4	5.2±3.7	5.3±3.6
Depressed (GDS 5+)	410 (40.4)	44 (28.4)	65 (36.1)	106 (46.5)	113 (44.3)	44 (41.5)	38 (41.3)
Mini Mental State Examination-MMSE	22.8±7.6	25.8±5.7	24.5±6.2	23.2±7.2	22.1±7.1	19.9±7.9	17.4±9.3
Dementia (MMSE <18)	263 (22.2)	19 (11.1)	23 (11.9)	46 (17.8)	70 (23.5)	47 (34.3)	58 (45.3)
IADL functions lost (2 wks pre adm.)	3.3±2.9	1.6±2.5	2.7±2.8	2.9±2.7	3.8±2.8	4.3±2.8	5.2±2.6
Barthel Index (2 wks before adm.)	83.2±24.4	92.9±17.0	88.4±19.7	86.0±22.1	81.1±24.1	75.8±27.6	69.4±30.4
Barthel Index (<85) (2 wks before adm.)	381 (30.5)	26 (13.4)	47 (24.1)	67 (25.4)	108 (34.5)	60 (42.3)	73 (51.8)
Barthel Index (on admission)	74.1±31.0	86.6±25.4	83.3±25.4	78.4±28.1	70.2±30.3	62.1±32.9	55.2±32.1
Funct. status change (before and on adm.)							
No change in Barthel index score	(70.3)	(84.0)	(82.6)	(71.9)	(64.2)	(58.5)	(56.7)
Change 5-25 points in Barthel index score	(14.5)	(8.8)	(9.2)	(14.8)	(16.6)	(18.3)	(20.6)
Change 30+ points Barthel index score	(15.2)	(7.2)	(8.2)	(13.3)	(19.2)	(23.2)	(22.7)
Barthel Index (on discharge)	76.3±29.9	89.3±23.2	84.9±24.1	79.7±27.9	73.5±28.8	66.1±32.2	56.9±34.4
Chronic diseases (n)	5.4±2.0	4.6±1.7	4.8±1.7	5.4±2.0	5.8±1.9	5.8±2.2	5.9±2.4
Charlson score	7.1±2.9	5.4±2.7	6.5±2.4	6.7±2.4	7.9±2.3	8.0±2.2	8.4±2.1
APACHE II score	8.3±4.8	6.2±3.4	7.1±4.4	8.4±4.9	8.8±4.4	9.8±6.1	9.8±4.9
Acute Physiology Score-APS	1.9±2.9	1.3±2.2	1.6±2.6	1.9±3.1	2.0±2.6	2.6±4.1	2.5±2.9
APS (4+)	253 (20.5)	24 (12.4)	35 (17.9)	49 (19.1)	68 (21.9)	34 (24.3)	43 (30.5)
Serum albumin	4.0±0.7	4.2±0.6	4.1±0.6	4.0±0.8	3.9±0.6	3.9±0.6	3.8±0.6
Serum albumin (< 3.5g/dl)	266 (21.5)	32 (16.7)	26 (13.4)	56 (21.5)	74 (23.7)	33 (23.4)	45 (32.4)
Drugs (n)	4.2±1.9	4.3±1.9	4.2±1.7	4.4±1.9	4.2±1.8	4.2±1.7	3.9±2.1
Major procedures (n)**	3.2±3.0	3.1±3.0	3.3±2.9	3.2±2.7	3.2±3.2	3.2±3.0	3.0±3.5
Length of stay (days)	6.9±3.3	6.8±3.6	6.3±2.8	7.2±3.5	7.2±3.4	7.0±3.3	6.4±3.0
In hospital mortality	55 (4.5)	3 (1.6)	9 (4.6)	8 (3.1)	10 (3.3)	18 (8.7)	13 (9.6)
Six months mortality	209 (16.7)	23 (11.9)	27 (13.8)	35 (13.2)	54 (17.3)	32 (22.5)	38 (27.0)
Six months hospital readmission (1+)	496 (41.5)	73 (38.0)	73 (38.8)	127 (49.5)	131 (43.5)	52 (42.0)	45 (35.2)

*On 1062 patients with MMSE>14; ** Major procedure considered are: endoscopy, CT or MRI, ultrasound (abdomen, heart, peripheral vascular); EMG, EEG.

Factors associated to six months mortality in a group of 1250 hospitalized elderly patients.

	N/events	*Crude RR (95% C.I.)*	*Adjusted RR (95% C.I.)*
Age stratification			
<70	**194/23**	**1.0 (ref.)**	**1.0 (ref.)**
70-74	**196/27**	**1.1 (0.5-2.1)**	**0.8 (0.4-1.6)**
75-79	**265/35**	**1.1 (0.6-2.0)**	**0.7 (0.3-1.5)**
80-84	**312/54**	**1.4 (0.8-2.5)**	**0.9 (0.4-1.7)**
85-90	**142/32**	**1.5 (0.7-3.0)**	**1.0 (0.5-2.2)**
90+	**141/38**	**2.0 (1.0-3.8)**	**1.3 (0.6-2.9)**
Gender (male)	**405/89**	**1.7 (1.3-2.3)**	**1.5 (1.0-2.3)**
Barthel Index (<85) (2 wks before adm.)	**381/110**	**3.1 (2.3-4.2)**	**1.5 (1.1-2.3)**
Cancer	**197/81**	**5.1 (3.6-5.2)**	**4.1 (2.7-6.1)**
Dementia (MMSE<18)	**263/79**	**3.4 (2.4-4.8)**	**1.7 (1.1-2.7)**
Heart diseases of ischemic or organic pathogenesis (NYHA III-IV)	**140/40**	**2.2 (1.5-3.3)**	**1.7 (1.1-2.8)**
Congestive heart failure of pathogenesis other than ischemic or organic (NYHA III-IV)	**58/23**	**3.5 (2.1-6.1)**	**1.2 (0.6-2.7)**
COPD	**270/77**	**2.5 (1.8-3.5)**	**0.6 (0.4-1.1)**
Anemia (Hb<8 g/dl)	**144/55**	**3.8 (2.6-5.6)**	**1.1 (0.6-1.8)**
Chronic renal failure (creatinine > 2.5mg/dl)	**199/53**	**2.1 (1.5-3.9)**	**1.2 (0.7-1.9)**
Stroke	**159/41**	**1.9 (2.3-1.8)**	**1.2 (0.8-2.0)**
Serum albumin (<3.5g/dl)	**266/92**	**4.1 (3.0-5.7)**	**1.6 (1.1-2.5)**
APS-Acute Physiol Score (4+)	**253/96**	**4.9 (3.5-6.8)**	**2.3 (1.5-3.5)**

Data of this study show that very old patients (90+) are admitted to hospital as a consequence of an acute disease (cardiovascular, respiratory, change in mental status, bleeding, emesis, etc.), and have the worst health status in comparison with younger patients. In fact the oldest olds have the higher number of chronic diseases and a highly impaired mental and functional condition.

Due to the acute disease nonagenarians develop a high degree of homeostasis breakdown: acute physiology parameters and functional impairment have the greatest derangement. In hospital and six month mortality were also the highest in 90+ elderly patients as compared with younger ones. However in a multivariate analysis increasing age was not independently related to poor outcomes.

In this context some considerations can be done.
From the geriatric point of view, hospitalization is necessary only when the elderly patients cannot receive appropriate treatment in other environments.

Since hospital setting is the best available place to face clinical problems, elderly persons and their caregiver directly refer to an Emergency Department for every relevant clinical problems.

We are unable to define if hospitalization and related procedures are clinically useful for all nonagenarians, and if the hospital organization gives more chances to survive or to maintain the functional status in comparison with alternative ways of care. In fact the outcomes of hospitalization have been shown to be poorer with increasing age and the perils of hospitalization (due to human medical errors, adverse drug events, the risk of infections, the harms related to use of indwelling devices, jatrogenic malnutrition, risk of falls) are known.

In particular more than one third of persons >90, functionally independent on hospitals admission (30/73) were functionally dependent when discharged (data not shown).

Lower are hospital readmissions.
Is this a consequence of the worries by the general practitioners for the risks of hospitalization?

Do these points mean that hospital isn’t a good place for very old and frail patients?

As most of the hospitalized nonagenarian patients die as a consequence of treatable diseases, data allow to infer that good clinical procedures given in dedicated hospital setting may preserve most of them from death. To obtain these results models of acute care geriatric units have been implemented over the past decades; each one differs in patient mix, physical characteristics and targeting.

In our ward the successful model of the Acute Care for the Elderly (ACE) intervention, a program of patient-centered care designed to prevent dysfunction, has been implemented since its starting. The hospital environment and procedures have been designed to reduce harms of hospitalization and the consequent significant functional decline.

However after adopting the ACE model we still have some questions regarding the most effective procedures to be implemented in the process of care of very old patients. In fact the life expectancy of those aged 90 years and over is 3.6 years for robust males and 4.5 years for females, but 1 year for frail males and 1.5 year for females. Due to their short life expectancy, should the clinical approach (diagnostic and therapeutical work up) in hospital be different for very old patients?

In many ways, care of an elder "robust" patient is not different from that of other adults, but in very old and frail patients the diseases affect individuals in different ways and prognosis is often difficult to estimate.

What are the best clinical procedure: life-saving oriented, palliative or both?

Analyses done do not allow to know the kind of care elderly patients received after discharge; this is an important limit of the study. Most of the mortality events were observed outside the hospital and conclusions about the efficacy of a specific hospital intervention need to take into account the available care on discharge.

Dobbiamo occuparci dei novantenni

È un fenomeno rilevante dal punto di vista epidemiologico: ↑↑↑ER; >10% dei ricoveri in ACE.
Il punto più critico è la perdita dell'omeostasi.
L'ospedale è un punto nevralgico per il novantenne: è il luogo dove si osserva il cambio di funzione (disabilità); è il luogo dove il novantenne muore.
La prevenzione della disabilità è l'outcome primario cui tendere. Come?
E' possibile prevenire la mortalità? Come?

Conosciamo a sufficienza l'epidemiologia, le fenomenologia della malattie (i quadri clinici, la specificità del paziente geriatrico), i meccanismi patogenetici, gli outcome da perseguire.
Abbiamo molti strumenti terapeutici a disposizione (i più fortunati li hanno tutti!).
Siamo in grado di formalizzare il loro impiego in modo utile?

Characteristics and 6-Month Mortality Rate of 1297 Inpatients According to Their Dementia and Disability Status*

Characteristic	Patients With Pneumonia†			Patients With Acute Noninfectious Conditions†		
	A (n = 100)	B (n = 26)	C (n = 15)	A (n = 1033)	B (n = 90)	C (n = 33)
Age, y	81.5 ± 6.6	83.3 ± 6.9	83.9 ± 7.8	79.4 ± 4.9	84.3 ± 7.1	85.6 ± 6.0
MMSE score	23.5 ± 4.5	8.3 ± 7.6	ND	24.5 ± 4.4	8.5 ± 5.4	ND
Barthel Index‡	84.1 ± 18.0	49.0 ± 26.1	5.5 ± 6.9	88.9 ± 15.3	57.9 ± 30.2	5.0 ± 6.2
APACHE II score§	14.0 ± 5.9	14.9 ± 5.6	17.4 ± 6.8	7.3 ± 3.8	9.4 ± 5.2	11.6 ± 6.6
Diseases, No.	6.0 ± 2.0	6.6 ± 1.6	7.5 ± 4.1	5.3 ± 1.9	6.1 ± 2.3	5.6 ± 2.3
Drugs, No.	4.4 ± 2.2	4.5 ± 1.7	3.3 ± 1.6	4.2 ± 1.8	4.1 ± 1.9	4.3 ± 1.8
Length of stay, d	8.5 ± 4.0	9.1 ± 4.2	5.9 ± 6.0	6.8 ± 3.4	5.9 ± 2.3	6.4 ± 4.9
6-mo mortality, % (No.)	21 (21)	31 (8)	80 (12)	15 (152)	34 (31)	64 (21)

Abbreviations: APACHE, Acute Physiology and Chronic Health Evaluation; MMSE, Mini-Mental State Examination; ND, nondetectable.

*Data are mean ± SD unless otherwise specified.

†A, Patients with absent to moderate cognitive impairment (MMSE score >12); B, not bedridden patients with severe dementia (MMSE score ≤12); C, bedridden demented patients.

‡Barthel Index establishes the degree of disability (the lower the score, the higher the degree of functional impairment).

§APACHE II is a severity disease classification that quantifies the degree of abnormality of multiple physiologic variables (the higher the score, the higher the severity).

Arch Int Med, 2003; 163:496-497

Influence of age, previous health status, and severity of acute illness on outcome from intensive care

Le Gall JR, Brun-Buisson C, Trunet P, Latournerie J, Chantereau S, Rapin M

Age, previous health status (HS), and severity of acute illness were assessed prospectively on 228 unselected patients admitted over 1 yr to the multidisciplinary ICU, to determine their influence on outcome. One hundred and fifty patients (66%) were discharged from the ICU, but the survival rate fell to 50% at 6 months, and was similar after 1 yr (49%). Over a 6-month period, there was improved HS in survivors which gradually leveled off. Compared to prior HS, the final HS was worsened in 37% of survivors. Three factors were important predictors of late survival: age under 50, good previous HS, and less than two visceral failures. We conclude that evaluation of ICU outcome should provide information on 6-month survival and HS and include important variables as age, previous HS, and severity of acute illness.

Crit Care Med. 1982;10:575-7.

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Rapid Communication

Patients Aged 90 Years or Older in the Intensive Care Unit

Alexandre Demoule,[1] Christophe Cracco,[1] Yannick Lefort,[1] Patrick Ray,[2] Jean-Philippe Derenne,[1] and Thomas Similowski[1]

[1]Unité de Réanimation, Service de Pneumologie, and
[2]Service d'Accueil des Urgences, Groupe Hospitalier Pitié-Salpêtrière, Assistance Publique-Hôpitaux de Paris, France.

Background. Age is an important prognostic factor in patients admitted to intensive care units (ICUs), but it is not as important as illness severity. However, age seems to remain an important independent triage criterion for ICU admission, and 90 years of age seems to represent a psychological barrier for many ICU physicians. The aim of this preliminary study is to compare the management and outcome of patients aged 90 years or older admitted to a respiratory ICU with those of patients aged 70 years or younger.

Methods. In our matched case–control study over a 6-year period, 36 patients aged 90 years or older (case patients) were selected and matched according to sex with 72 controls chosen in the 20- to 69-year age range. The Simplified Acute Physiology Score (SAPS) II was then computed without using age as a variable.

Results. Pre-existing comorbidities were significantly less frequent in cases than in controls (5.1% vs 30.5%, $p < .01$). Compared to controls, cases were more frequently admitted for cardiac failure (22% vs 7%, $p < .05$) and less frequently for neurological diseases (0% vs 11%, $p < .05$). The use of advanced life-support measures in the ICU such as mechanical ventilation, central venous or arterial catheterization, and vasoactive and/or inotropic drugs was not significantly different between case patients and controls. This was also the case for ICU mortality and for the mean duration of ICU and hospital stay. Although there was a trend toward a higher hospital mortality among case patients than among controls, it did not reach statistical significance (47% vs 27%, $p = .07$).

Conclusion. Our results reinforce the idea that age alone is not a relevant criterion for ICU admission.

Risk Assessment for Inpatient Survival in the Long-term Acute Care Setting After Prolonged Critical Illness*

Jane E. Dematte D'Amico, MD, FCCP; Helen K. Donnelly, RN; Gökhan M. Mutlu, MD, FCCP; Joseph Feinglass, PhD; Borko D. Jovanovic, PhD; and Ikeadi Maurice Ndukwu, MD, MPH, FCCP

Objective: **The past decade has witnessed growth in the long-term acute care (LTAC) hospital industry. There are no reliable risk assessment models that can adjust outcomes across such facilities with different criteria for admitting patients. Variation in reported outcomes makes it difficult to determine whether a patient, or group of patients, may benefit from such care. This study sought to determine the extent to which survival in the LTAC setting is associated with age, race, residual organ system failures (OSFs), or APACHE (acute physiology and chronic health evaluation) III scores at the time of admission to LTAC.**
Design: **Retrospective medical record review.**
Setting: **Four freestanding facilities of a LTAC hospital.**
Patients: **A sample of 300 hospital admissions weighted to represent the study hospital population.**
Measurements: **Inpatient survival modeled as a function of age, APACHE III score calculated within 72 h prior to LTAC admission, and residual OSFs present on admission to LTAC.**
Results: **Logistic regression analysis shows age and OSF were most predictive of inpatient survival (receiver operating characteristic curve area = 0.81). APACHE III score was not predictive of survival in the multivariate model.**
Conclusions: **Survival in LTAC is primarily associated with age and OSFs, which should be used to adjust for patient populations among LTAC settings when comparing outcomes. Our model identifies a group of patients with the poorest likelihood of survival in the LTAC setting, and may be used to facilitate dialogue with patients and family in cases where continued aggressive care is least effective.** ***(CHEST 2003; 124:1039–1045)***

Key words: acute physiology and chronic health evaluation; long-term acute care; multiple organ failure; risk assessment

Abbreviations: APACHE = acute physiology and chronic health evaluation; APS = acute physiology score; CI = confidence interval; LTAC = long-term acute care; OSF = organ system failure

SUPPORT: Study to Understand Prognoses and Preferences for Outcomes and Risk Treatment

HELP: Hospitalized Elderly Longitudinal Project

Prediction of Survival for Older Hospitalized Patients: The HELP Survival Model

J.M.Teno, F.E. Harrell Jr., W.Knaus, R.S. Phillips, A.W. Wu, A.Connors, Jr., N.S. Wenger, D.Wagner, A.Galanos, N.A. Desbiens, J.Lynn.

Accurate estimation of length of life for older hospitalized persons may be calculated using a limited amount of clinical information available from the medical chart (APACHE II collected on the third hospital day, Glasgow Coma Score, major diagnosis - CHF, cancer, orthopedic-, age, ADL, exercise capacity, weight loss, global quality of life) plus a brief interview with the patient or surrogate.

J Am Geriatr Soc, 2000; 48:S16-S24

The Effect of Nutritional Supplementation on Survival in Seriously Ill Hospitalized Adults: An Evaluation of the SUPPORT Data

M.L. Borum, J.Lynn, Z.Zhong, K.Roth, A.F. Connors Jr., N.A. Desbiens, R.S. Phillips, N.V. Dawson.

Nutritional support was associated with improved survival in coma. Enteral feeding and hyperalimentation was associated with decreased survival in ARF or MOSF with sepsis. Tube feeding was associated with decreased survival in cirrhosis and COPD. Except for patients in coma, artificial nutrition was not associated with survival advantage.

J Am Geriatr Soc 2000, 48:S33-S38

Blood Transfusion Administration in Seriously Ill Patients: An Evaluation of SUPPORT Data

M.L. Borum, J.Lynn, Z.Zhong

J Am Geriatr Soc 48:S39-S43, 2000

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Older Age, Aggressiveness of Care, and Survival for Seriously Ill, Hospitalized Adults

Mary Beth Hamel, MD, MPH; Roger B. Davis, ScD; Joan M. Teno, MD, MS; William A. Knaus, MD; Joanne Lynn, MD; Frank Harrell Jr., PhD; Anthony N. Galanos, MD; Albert W. Wu, MD, MPH; and Russell S. Phillips, MD, for the SUPPORT Investigators

Background: Older age is associated with less aggressive treatment and higher short-term mortality due to serious illness. It is not known whether less aggressive care contributes to this survival disadvantage in elderly persons.

Objective: To determine the effect of age on short-term survival, independent of baseline patient characteristics and aggressiveness of care.

Design: Secondary analysis of data from a prospective cohort study.

Setting: Five academic medical centers participating in SUPPORT (Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments).

Patients: 9105 adults hospitalized with one of nine serious illnesses associated with an average 6-month mortality rate of 50%.

Measurements: Survival through 180 days of follow-up. In Cox proportional hazards modeling, adjustment was made for patient sex; ethnicity; income; baseline physical function; severity of illness; intensity of hospital resource use; presence of do-not-resuscitate orders on study day 1; and presence and timing of decisions to withhold transfer to the intensive care unit, major surgery, dialysis, blood transfusion, vasopressors, and tube feeding.

Results: The mean (± SD) patient age was 63 ± 16 years, 44% of patients were female, and 16% were black. Overall survival to 6 months was 53%. In analyses that adjusted for sex, ethnicity, income, baseline functional status, severity of illness, and aggressiveness of care, each additional year of age increased the hazard of death by 1.0% (hazard ratio, 1.010 [95% CI, 1.007 to 1.013]) for patients 18 to 70 years of age and by 2.6% (hazard ratio, 1.026 [CI, 1.013 to 1.026]) for patients older than 70 years of age. Adjusted estimates of age-specific 6-month mortality rates were 44% for 55-year-old patients, 48% for 65-year-old patients, 53% for 75-year-old patients, and 60% for 85-year-old patients. Similar results were obtained in analyses that did not adjust for aggressiveness of care. Acute physiology and diagnosis had much larger relative contributions to prognosis than age.

Conclusions: We found a modest independent association between patient age and short-term survival of serious illness. This age effect was not explained by the current practice of providing less aggressive care to elderly patients.

Ann Intern Med. 1999;131:721-728.

For author affiliations and current addresses, see end of text.

Compared with younger patients with illness of similar severity, seriously ill elderly patients receive fewer procedures, fewer life-sustaining treatments, and hospital care that is less costly (1, 2). Numerous investigations have found that older patients tend to have poorer outcomes of serious illness and invasive procedures (3–6). None of these studies, however, has considered age-related differences in treatment strategies as a potential contributor to better outcomes for younger patients.

We hypothesized that less aggressive treatment of seriously ill elderly patients may contribute to higher mortality and that adjustment for treatment intensity and decisions about withholding life-sustaining treatments would diminish and potentially eliminate the short-term survival disadvantage associated with older age. We studied 9105 seriously ill patients enrolled in the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT) to evaluate the independent effect of patient age on short-term survival and to examine whether the shorter survival associated with older age can be explained in part by lower treatment intensity.

Methods

Study Design

This paper describes secondary analyses of data from SUPPORT, a prospective study of preferences

See editorial comment on pp 780-782.

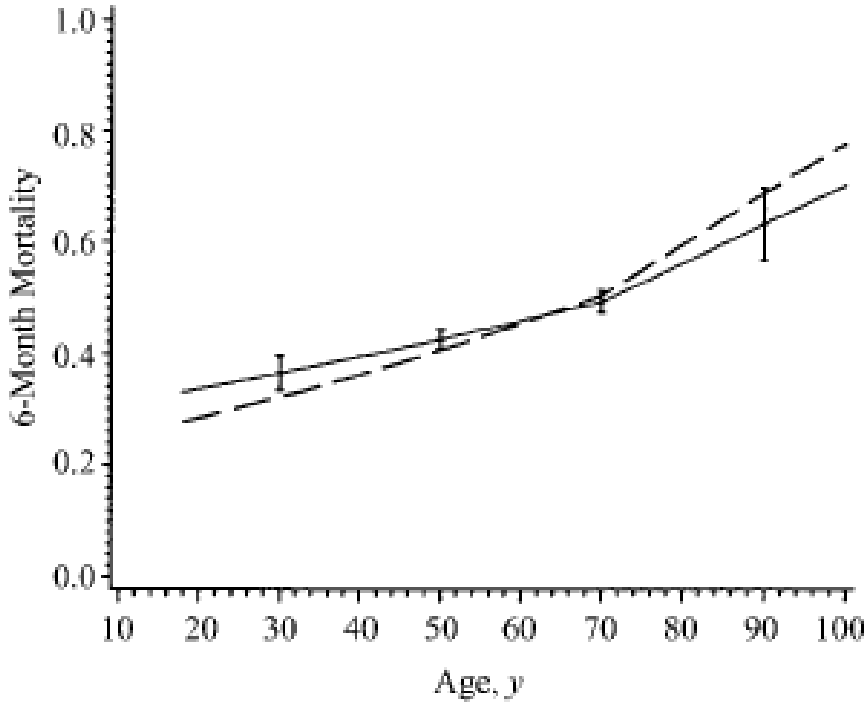

Figure. Adjusted 6-month mortality according to patient age. The dashed line represents mortality estimates adjusted for sex, ethnicity, income, severity of illness, and baseline functional status. The solid line represents mortality estimates adjusted for sex; ethnicity; income; severity of illness; baseline functional status; treatment intensity; do-not-resuscitate orders on study day 1; and decisions to withhold transfer to intensive care unit, major surgery, dialysis, blood transfusion, vasopressor therapy, and tube feeding. The curves are anchored at the cohort's 6-month mortality rate (47%) for a patient of the cohort's mean age (63 years). The bars at ages 30, 50, 70, and 90 years represent 95% CIs for the mortality estimates adjusted for both severity and treatment (*solid line*).

Age-related differences in care preferences, treatment decisions, and clinical outcomes of seriously ill hospitalized adults: lessons from SUPPORT.

Hamel MB, Lynn J, Teno JM, Covinsky KE, Wu AW, Galanos A, Desbiens NA, Phillips RS.

OBJECTIVES: To review previously published findings about how patient age influenced patterns of care for seriously ill patients enrolled in the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT).

PARTICIPANTS: A total of 9105 seriously ill patients enrolled in SUPPORT.

MEASUREMENTS: The outcomes examined included patients' preferences for aggressive care, decision making regarding cardiopulmonary resuscitation and use of other life-sustaining treatments, hospital costs, intensity of resource use, and survival.

RESULTS: Although older patients preferred less aggressive care than younger patients, many older patients wanted cardiopulmonary resuscitation and care focused on life extension. Patients' families and healthcare providers underestimated older patients' desire for aggressive care. After adjustment for illness severity, comorbidity, baseline function, and patients' preferences for aggressive care, older age was associated with lower hospital costs and resource intensity and higher rates of decisions to withhold life-sustaining treatments. In adjusted analyses, older age was associated with a slight survival disadvantage. This survival disadvantage persisted, even after adjustment for aggressiveness of care, suggesting that the relation between age and survival is not accounted for by less aggressive treatment of older patients.

J Am Geriatr Soc. 2000;48:S176-82.

CONCLUSIONS: **Even after adjustment for patients' prognoses and care preferences, seriously ill hospitalized older patients were treated less aggressively than younger patients. SUPPORT cannot fully identify whether the relationship between older age and less aggressive treatment is better explained by the withholding of potentially beneficial treatments from older patients, or by the excessive provision of ineffective treatment to younger patients. However, the latter explanation is favored by the SUPPORT finding that less aggressive treatment for older patients does not contribute to the modest survival disadvantage associated with older age.**

J Am Geriatr Soc. 2000 May;48(5 Suppl):S176-82.

La medicina di sempre, con un occhio nuovo!

Una medicina convenzionale mirata ai fattori causali
Una medicina della profilassi:
-Medica (eparina, inibitori di pompa, antibiotico? antipsicotici? insulina? ossigeno? antipiretici? steroide?)
-Infermieristica (idratazione, alvo, no catetere vescicale, mobilizzazione, cute)
Una medicina palliativa (sintomi, QoL)
Una medicina del counseling