



Journal Club
8 gennaio 2016
Aggiornamenti in geriatria

Quale medicina per gli anziani nel 2016

Marco Trabucchi




“We are living toward incredible times where the only constant is change, and the rate of change is increasing”.

(Anonymous)



**“Sed fugit, interea, fugit irreparabile tempus”
(Georgiche, Virgilio)**



Pensare al futuro della medicina comporta un forte equilibrio tra il pessimismo di chi legge solo le difficoltà e le crisi del presente e l'ottimismo acritico di chi invece vede solo le “sorti progressive e luminose” di un sistema semplificato.

L'esigenza della cultura come elemento di mediazione.

Uno sguardo al 2015

Un anno di notizie in medicina da DoctorNews

1. Linee guida Ada per diabete, versione abbreviata per i fornitori di cure primarie
2. Cancro, otto segni clinici per stimare la morte imminente
3. La Fda fa il punto sull'acido folico in gravidanza
4. Scopenso cardiaco, mancata comprensione delle informazioni sanitarie aumenta la mortalità
5. Il vaccino anti Hpv oltre alle donne protegge anche gli uomini
6. Epatite C, pubblicate le linee guida sugli antivirali ad azione diretta
7. Linee guida Acc/Aha, due studi confermano i criteri di uso delle statine
8. L'Asco aggiorna il documento sui test genetici e genomici per i tumori
9. Ipertensione, dai risultati preliminari dello studio Sprint controllo più aggressivo
10. Sicurezza anziani, la principale minaccia sono gli eventi avversi dei farmaci
11. Pubblicato l'aggiornamento delle linee guida Aha sulla rianimazione cardiopolmonare
12. Ipertensione, Uspstf raccomanda il monitoraggio ambulatoriale come screening
13. Lotta all'antibioticoresistenza, il punto di Lancet: servono nuove strategie
14. L'uso eccessivo del computer in ambulatorio nuoce al rapporto tra medico e paziente


(quelle più lette su 200 inviti)

Tutte le innovazioni che nel 2016 cambieranno (almeno un po') il mondo:
(La Repubblica, 27.12.15)

1. la nuova stampante Carbon 3D
2. mini reattore per la fusione nucleare
3. vaccino anti-Ebola
4. una lente applicata al cell
5. l'auto volante
6. un casco ad elettrodi per il Parkinson
7. chip ultradenso
8. capacità costruttive inedite degli edifici
9. internet city
10. oculus rift
11. smatphone modulare
12. hyperloop transportation technology
13. microbioma e salute
14. realtà virtuale per studiare storia, geografia, ecc.
15. moon express

ECRI 2016 Watch List for Healthcare Innovations

1. Mobile stroke units
2. Medical device cybersecurity
3. Wireless wearable sensors
4. Miniature leadless pacemakers
5. Blue-violet LED light fixtures
6. New high-cost cardiovascular drugs (PCSK9 inhibitors and angiotensin receptor-neprilysin inhibitors)
7. Changing landscape of robotic surgery
8. Spectral computed tomography
9. Injectable bioabsorbable hydrogel (SpaceOAR)
10. Warm donor organ perfusion systems




**... esempi della vastità e della poliedricità delle problematiche che caratterizzano la società e la medicina contemporanea.
Vi è un indirizzo dell'evoluzione o il tutto segue logiche segmentate?**



L'eccesso di informazione generato dalla ICT e l'eccesso di tecnologia biologica e chimico-fisica produrranno una torre di Babele?


Il risultato potrebbe essere l'incomprensione dei linguaggi, soprattutto da parte delle persone più fragili, meno dotate di strumenti interpretativi. Ma anche gli operatori potrebbero trovarsi in difficoltà.



La complessità delle determinanti di salute impone una continua rianalisi dei singoli “pezzi di progresso”, all'interno di un sistema che tiene in considerazione tutti gli aspetti della vita umana.

Una prospettiva che potrebbe indurre una certa vertigine: l'hubris di chi vuole controllare il futuro nel suo insieme, senza temere la vendetta degli dei!

Però è un rischio da correre, seppure con grande prudenza, perché così si evitano gli errori di una medicina segmentata. La misericordia verso noi stessi è anche accettare senza angosce i rischi di un impegno di cura in equilibrio tra il controllo del sintomo e la difesa della salute.



But while universal health care, higher minimum wages, aid to education, and so on would do a lot to help Americans in trouble, I'm not sure whether they're enough to cure existential despair.

Paul Krugman, 2015



... ancora sullo scenario



La fine della medicina del “secolo breve”

(ha però apportato cambiamenti radicali a favore della salute umana, il vero secolo del progresso...).

Però non risponde più ai bisogni del nostro tempo...
bisogna cambiare!

Dove andrà **la medicina dei prossimi 20 anni** e, quindi, qual'è il percorso che si inizia oggi (gennaio 2016) per arrivare al 2035?

Existing healthcare institutions will be crushed as new business models with better and more efficient care emerge. Thousands of startups, as well as today's data giants (Google, Apple, Microsoft, SAP, IBM, etc.) will all enter this lucrative \$3.8 trillion healthcare industry with new business models that dematerialize, demonetize and democratize today's bureaucratic and inefficient system.

Biometric sensing (wearables) and AI will make each of us the CEOs of our own health. Large-scale genomic sequencing and machine learning will allow us to understand the root cause of cancer, heart disease and neurodegenerative disease and what to do about it. Robotic surgeons can carry out an autonomous surgical procedure perfectly (every time) for pennies on the dollar. Each of us will be able to regrow a heart, liver, lung or kidney when we need it, instead of waiting for the donor to die.

<http://singularityhub.com/2015/05/11/the-world-in-2025-8-predictions-for-the-next-10-years/>

Systems biology will underlie the biology of most future medical advances in the next 20 years. Systems biology is a discipline focused on an integrated understanding of cell biology, physiology, genetics, chemistry, and a wide range of other individual medical and scientific disciplines. It represents an implicit recognition of an organism as an embodiment of multiple, interdependent organ systems and its processes, such that both pathology and wellness are understood from the perspective of the sum total of both the problem and the impact of possible solutions. This orientation will be intrinsic to the development of medical technologies, and will increasingly be represented by clinical trials that throw a much wider and longer-term net around relevant data, staff expertise encompassing more medical/scientific disciplines, and unforeseen solutions that present themselves as a result of this approach.



Non è questa la sede per discutere **il problema dei costi**, anche se sarà certamente al centro di molta dialettica.

Chi potrà finanziare l'enorme aumento del prezzo dei servizi? Lo stato, le municipalità, le assicurazioni profit e non profit, il privato, le famiglie?

Non è questa la sede per discutere **il problema della democrazia** all'interno dei sistemi di protezione della salute.


Chi decide l'allocazione dei finanziamenti per aree geografiche, per malattie, per età, ecc.?

Il potere delle grandi centrali tecnologiche come potrà essere controllato? (l'esempio triste della tassazione quasi inesistente di Google e al.)


We're heading towards a world of perfect knowledge. With a trillion sensors gathering data everywhere (autonomous cars, satellite systems, drones, wearables, cameras), you'll be able to know anything you want, anytime, anywhere, and query that data for answers and insights.

Facebook (Internet.org), SpaceX, Google (Project Loon), Qualcomm and Virgin (OneWeb) are planning to provide global connectivity to every human on Earth at speeds exceeding one megabit per second.

We will grow from three to eight billion connected humans, adding five billion new consumers into the global economy. They represent tens of trillions of new dollars flowing into the global economy. And they are not coming online like we did 20 years ago with a 9600 modem on AOL. They're coming online with a 1 Mbps connection and access to the world's information on Google, cloud 3D printing, Amazon Web Services, artificial intelligence with Watson, crowdfunding, crowdsourcing, and more.



Non è questa la sede per discutere **i problemi etici**, perché il medico deve essere colto, e quindi in grado di costruire un'alleanza con il paziente, rispettosa della sua libertà e dignità, sempre, indipendentemente da controlli formali esterni (le regole a-umane dell'etica istituzionalizzata).



Questa sarebbe invece la sede per discutere **il problema della formazione**, drammaticamente rilevante, perché non vi è sincronia tra la velocità del progresso e le modalità formative.

Se i medici e gli altri operatori sanitari non sono adeguati al loro compito di mediatori tra la tecnologia e l'uomo malato, questi diventa dipendente da scelte che non considerano la personalizzazione nel mondo reale, ma solo quella biologica.

L'esigenza di una visione critica: più avanza la scienza, più aumentano i bivii, le incertezze, e quindi il ruolo del medico in grado di decisioni autonome.



**... verso una nuova medicina,
pur tra molte incertezze**

MAURO CERUTI

LA FINE DELL'ONNISCENZA




Prefazione di Giulio Giorello

cultura

STUDIUM

2015



Le incertezze della cultura medica devono lasciare spazio anche ad altre letture della realtà clinica (umana).

PERSPECTIVE

LESS IS MORE

When Knowing More About a Patient Enables Us to Do Less

Jennifer DeVoe

JAMA Internal Medicine October 2015 Volume 175, Number 10 **1605**

PER UNA REVISIONE CRITICA DI ALCUNE INDICAZIONI RECENTI IN AMBITO DIAGNOSTICO E TERAPEUTICO AL FINE DI OTTIMIZZARE GLI ATTI DI CURA

- la proposta di nuovi farmaci tra indubbia innovazione farmacologica e ancora incerto beneficio clinico. L'esempio dei nuovi farmaci per l'ipercolesterolemia
- la proposta di innovazioni indiscutibili. L'esempio dei farmaci per l'epatite C
- nuovi valori target di parametri biologici che implicano adattamenti della terapia. L'esempio dell'ipertensione e del diabete
- aree di "stagnazione terapeutica". L'esempio della terapia del dolore
- "chi lascia la via vecchia per la nuova, sa quel che perde, non sa quel che trova". L'esempio della discussione sulle vaccinazioni
- innovazione diagnostica per una migliore prevenzione. Misura del PSA ed esecuzione della mammografia

Improving Diagnosis in Health Care--The Next Imperative for Patient Safety.

Singh H, Graber ML

N Engl J Med. 2015 Dec 24;373(26):2493-5.

For the past 15 years, the patient-safety movement has focused on treatment-related harms. But interactions that are too brief to permit clinicians to listen to patients, productivity pressures, and reimbursement systems that don't adequately support clinicians' cognitive work are high-lighting additional safety issues. *Improving Diagnosis in Health Care* restores balance to the patient-safety quest by calling attention to diagnosis, the other half of medicine. We are optimistic that the report will spark a renaissance of interest in improving diagnosis and reducing patient harm from diagnostic error.



... nemmeno l'epidemiologia è in grado di offrire supporti definitivi alla clinica

Rising morbidity and mortality in midlife among white non-Hispanic Americans in the 21st century

Anne Case¹ and Angus Deaton¹

This paper documents a marked increase in the all-cause mortality of middle-aged white non-Hispanic men and women in the United States between 1999 and 2013. This change reversed decades of progress in mortality and was unique to the United States; no other rich country saw a similar turnaround. The midlife mortality reversal was confined to white non-Hispanics; black non-Hispanics and Hispanics at midlife, and those aged 65 and above in every racial and ethnic group, continued to see mortality rates fall. This increase for whites was largely accounted for by increasing death rates from drug and alcohol poisonings, suicide, and chronic liver diseases and cirrhosis. Although all education groups saw increases in mortality from suicide and poisonings, and an overall increase in external cause mortality, those with less education saw the most marked increases. Rising midlife mortality rates of white non-Hispanics were paralleled by increases in midlife morbidity. Self-reported declines in health, mental health, and ability to conduct activities of daily living, and increases in chronic pain and inability to work, as well as clinically measured deteriorations in liver function, all point to growing distress in this population. We comment on potential economic causes and consequences of this deterioration.

A comparison of health expectancies over two decades in England: results of the Cognitive Function and Ageing Study I and II

*Carol Jagger, Fiona E Matthews, Pia Wohland, Tony Fouweather, Blossom CM Stephan, Louise Robinson, Antony Arthur, Carol Brayne, on behalf of the Medical Research Council Cognitive Function and Ageing Collaboration**

Summary

Background Whether rises in life expectancy are increases in good-quality years is of profound importance worldwide, with population ageing. We investigate how various health expectancies have changed in England between 1991 and 2011, with identical study design and methods in each decade.

Methods Baseline data from the Cognitive Function and Ageing Studies in populations aged 65 years or older in three geographically defined centres in England (Cambridgeshire, Newcastle, and Nottingham) provided prevalence estimates for three health measures: self-perceived health (defined as excellent–good, fair, or poor); cognitive impairment (defined as moderate–severe, mild, or none, as assessed by Mini-Mental State Examination score); and disability in activities of daily living (defined as none, mild, or moderate–severe). Health expectancies for the three regions combined were calculated by the Sullivan method, which applies the age-specific and sex-specific prevalence of the health measure to a standard life table for the same period.

Findings Between 1991 and 2011, gains in life expectancy at age 65 years (4·5 years for men and 3·6 years for women) were accompanied by equivalent gains in years free of any cognitive impairment (4·2 years [95% CI 4·2–4·3] for men and 4·4 years [4·3–4·5] for women) and decreased years with mild or moderate–severe cognitive impairment. Gains were also identified in years in excellent or good self-perceived health (3·8 years [95% CI 3·5–4·1] for men and 3·1 years [2·7–3·4] for women). Gains in disability-free years were much smaller than those in excellent–good self-perceived health or those free from cognitive impairment, especially for women (0·5 years [0·2–0·9] compared with 2·6 years [2·3–2·9] for men), mostly because of increased mild disability.

Interpretation During the past two decades in England, we report an absolute compression (ie, reduction) of cognitive impairment, a relative compression of self-perceived health (ie, proportion of life spent healthy is increasing), and dynamic equilibrium of disability (ie, less severe disability is increasing but more severe disability is not). Reasons for these patterns are unknown but might include increasing obesity during previous decades. Our findings have wide-ranging implications for health services and for extension of working life.

Table 2: Life expectancy, cognitive-impairment-free life expectancy (CIFLE), and proportion of life free of cognitive impairment at age 65 years in 1991 and 2011

	1991		2011		Difference (2011-1991)	
	Men	Women	Men	Women	Men	Women
Life expectancy (years)	13.0	16.7	17.5	20.3	4.5	3.6
CIFLE (MMSE 26-30) (95% CI)	9.4 (9.2 to 9.6)	10.1 (9.8 to 10.4)	13.6 (13.4 to 13.9)	14.5 (14.1 to 14.8)	4.2 (4.2 to 4.3)	4.4 (4.3 to 4.5)
Proportion of life free of cognitive impairment (95% CI)	72.4% (70.6 to 74.3)	60.5% (58.6 to 62.3)	78.2% (76.6 to 79.8)	71.2% (69.5 to 72.9)	5.8% (3.3 to 8.2)	10.7% (8.2 to 13.2)
CILE (MMSE 0-25) (95% CI)	3.6 (3.4 to 3.8)	6.6 (6.4 to 6.8)	3.8 (3.5 to 4.1)	5.9 (5.5 to 6.2)	0.2 (-0.3 to 0.8)	-0.7 (-1.3 to -0.2)
mildCILE (MMSE 18-25) (95% CI)	3.1 (2.7 to 3.6)	5.6 (5.2 to 6.0)	3.4 (2.8 to 3.9)	5.1 (4.5 to 5.6)	0.3 (0.0 to 0.4)	-0.5 (-0.8 to -0.3)
Proportion of life with mild cognitive impairment (95% CI)	24.3% (21.1 to 27.5)	33.5% (31.1 to 36.0)	19.3% (16.3 to 22.3)	25.0% (22.3 to 27.6)	-5.0% (-9.4 to -0.6)	-8.5% (-12.2 to -5.0)
sevCILE (MMSE 0-17) (95% CI)	0.4 (0.3 to 0.5)	1.0 (0.9 to 1.1)	0.4 (0.3 to 0.5)	0.8 (0.7 to 0.9)	0.0 (-0.1 to 0.1)	-0.2 (-0.4 to -0.1)
Proportion of life with severe cognitive impairment (95% CI)	3.2% (-0.3 to 6.8)	6.0% (3.1 to 8.9)	2.5% (-1.0 to 6.1)	3.9% (0.7 to 7.0)	-0.7% (-5.7 to 4.3)	-2.1% (-6.4 to 2.1)

CILE=years with cognitive impairment. mildCILE=years with mild cognitive impairment. sevCILE=years with moderate-severe cognitive impairment.


Table 4: Life expectancy, disability-free life expectancy (DFLE), and proportion of life free of disability at age 65 years in 1991 and 2011

	1991		2011		Difference (2011-1991)	
	Men	Women	Men	Women	Men	Women
Life expectancy (years)	13.0	16.7	17.5	20.3	4.5	3.6
DFLE (95% CI)	10.3 (10.2 to 10.5)	11.0 (10.8 to 11.2)	12.9 (12.7 to 13.2)	11.5 (11.3 to 11.8)	2.6 (2.3 to 2.9)	0.5 (0.2 to 0.9)
Proportion of life disability free (95% CI)	79.7% (78.3 to 81.0)	66.1% (64.9 to 67.4)	74.4% (73.0 to 75.8)	56.8% (55.5 to 58.2)	-5.3% (-7.2 to -3.4)	-9.3% (-11.1 to -7.5)
DLE (95% CI)	2.6 (2.5 to 2.8)	5.7 (5.4 to 5.9)	4.5 (4.3 to 4.8)	8.8 (8.5 to 9.0)	1.9 (1.6 to 2.2)	3.1 (2.8 to 3.5)
mildDLE (95% CI)	1.1 (0.9 to 1.2)	2.7 (2.6 to 2.9)	2.4 (2.2 to 2.6)	5.2 (5.0 to 5.6)	1.3 (1.1 to 1.6)	2.5 (2.2 to 2.8)
Proportion of life with mild disability (95% CI)	8.2% (7.3 to 9.2)	16.4% (15.4 to 17.5)	13.8% (12.6 to 15.0)	25.8% (24.5 to 27.2)	5.6% (4.1 to 7.1)	9.4% (7.7 to 11.1)
sevDLE (95% CI)	1.6 (1.4 to 1.7)	2.9 (2.7 to 3.1)	2.1 (1.9 to 2.2)	3.5 (3.2 to 3.7)	0.5 (0.3 to 0.8)	0.6 (0.3 to 0.9)
Proportion of life with moderate-severe disability (95% CI)	12.0% (10.9 to 13.1)	17.4% (16.5 to 18.4)	11.8% (10.7 to 12.9)	17.3% (16.2 to 18.4)	-0.2% (-1.8 to 1.3)	-0.1% (-1.6 to 1.3)

DLE=years with any disability. mildDLE=years with mild disability. sevDLE=years with moderate-severe disability.



**Le scelte diagnostico-terapeutiche
ed i loro costi: il peso sul progresso.
Alla ricerca di un rapporto equilibrato.**




New Math on Drug Cost-Effectiveness

Peter B. Bach, M.D., M.A.P.P.

N ENGL J MED 373;19 NEJM.ORG NOVEMBER 5, 2015

1797



The rate of introduction of new and expensive drugs has accelerated; the pace of conversion to generics is slowing; the prices of many generics are rising; and expensive drugs are now being introduced for conditions that affect millions of people rather than thousands.

Peter B. Bach,

N ENGL J MED 373;19 NEJM.ORG NOVEMBER 5, 2015

Hand clapping for science is now inextricably linked to hand wringing over affordability. Drug prices are increasing more rapidly than their benefits, and the growth in spending on drugs has started to outstrip growth in other areas of health care. Addressing this problem requires realizing that cost-effectiveness assessment — a step that we are not even ready for in the United States — has limitations when one considers the price of the comparator and the impact on overall budgets.

Peter B. Bach,
N ENGL J MED 373;19 NEJM.ORG NOVEMBER 5, 2015

Determine the cost-effectiveness of the new drugs by assessing how much they improve the lives of patients measured by quality-adjusted life years (QALY). This is certainly an important measure for patients. The controversy centers on how much we should pay for each additional year of life. Is it \$50,000? \$100,000? More? In England they have a flexible target, wherein above \$45,000 per QALY drugs require an increasingly stronger case for coverage. But even if we use a much higher target in the United States — say, \$150,000, which is about three times the median household income — it turns out these PCSK9 inhibitors still fail the value test. The drugs would cost patients as much as \$300,000 for every quality-adjusted life year they add. Their price would have to shrink by more than half, to roughly \$5,000 per patient per year, to make the \$150,000 level.

(Ezekiel J. Emanuel, 2015)

Hepatitis C: cost of lost opportunities



“What is a cynic? A man who knows the price of everything and the value of nothing.” Oscar Wilde’s words provided the perfect framing quote in the 2015 pipeline report released by the Treatment Action Group to raise awareness of the barriers (many related to cost) to accessing treatment for hepatitis C virus (HCV) infection globally.



Alcuni spunti conclusivi per ... iniziare il futuro



Art–Science Collaborations — Avenues toward Medical Innovation

Caroline Wellbery, M.D., Ph.D.

N ENGL J MED 373;26 NEJM.ORG DECEMBER 24, 2015

2495

Health care delivery is in a period of historic transition. The pressure for major improvements in quality and efficiency exists everywhere — and thus is not driven by the Affordable Care Act alone. The real driver is the medical progress of recent decades, which has dramatically enhanced what medicine can do but has also increased its potential for creating waste, disappointing quality, and chaos for patients. Even if costs were not an issue, the need to reorganize health care would be compelling. Given economic realities, that need is an imperative. To support the decision makers and clinical leaders in our health care institutions during this time of change, the NEJM Group, which also includes the *Journal*, has launched a new resource, NEJM Catalyst. NEJM Catalyst will use a range of formats to provide these leaders with information that can help them redesign patient care, change the structure of their institutions, contemplate new relationships with outside organizations, and reconsider the ways in which incentives are being used. In short, NEJM Catalyst expects to improve the management and strategy of health care — offering a trusted source of needed information just as the *Journal* offers a trusted source of information on the art and of science of medicine.

- **“New Marketplace”**
- **“Care Redesign”**
- **“Patient Engagement: Behavioral Strategies for Better Health”**
- **“Leadership”**



The Long View of Long-Term Care: Our Personal Take on Progress, Pitfalls, and Possibilities.

Kane RL, Kane RA

J Am Geriatr Soc. 2015 Nov;63(11):2400-6.


As the two of us reach an age at which the chances of our needing LTC are real, we selfishly hope that the work we have done will make things better for all of us. We have come a long way since the year of our graduation, but the task remains unfinished.



La scienza medica è in continuo progresso, al pari dei molti altri ambiti delle conoscenze che discendono dal progresso scientifico e tecnologico.

A questo avanzamento deve corrispondere un miglioramento della capacità di relazione e di vita condivisa tra le persone. Le conoscenze si accumulano e le capacità operative aumentano in modo esponenziale: di conseguenza aumenta il bisogno di collaborazione, di condivisione, di supporto ai più fragili. Solo così si evita che il futuro sia un deserto popolato di macchine.

Più la società (e la medicina) si sviluppano, più è necessaria la coesione, che si fonda sull'attenzione, l'ascolto, l'accoglienza ed una sapienza cumulativa che deve essere trasmessa tra le generazioni.



“Non è quello che non sapete che vi mette nei pasticci. E' quello che siete sicuri di sapere, ma che poi si rivela non vero”

Mark Twain