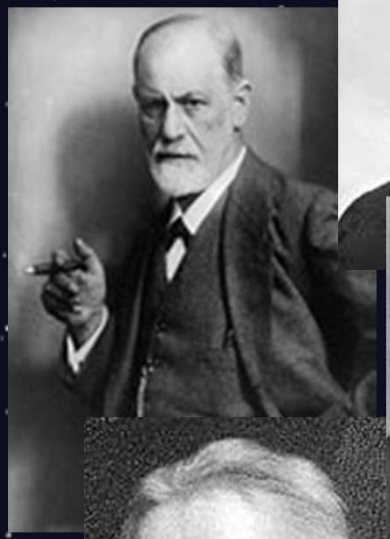
Giornata regionale della sicurezza e qualità delle cure
Udine 20 ottobre 2016

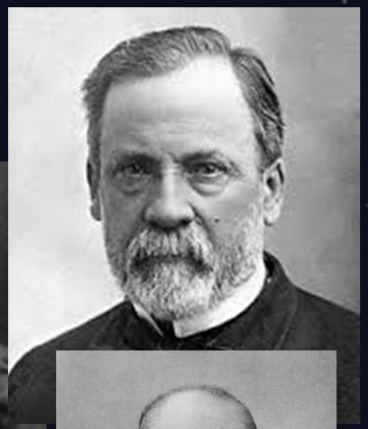
La comunicazione come strumento di miglioramento della compliance

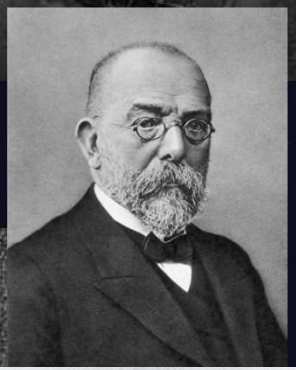
Prof. Umberto Gelatti - Università degli Studi di Brescia

?????

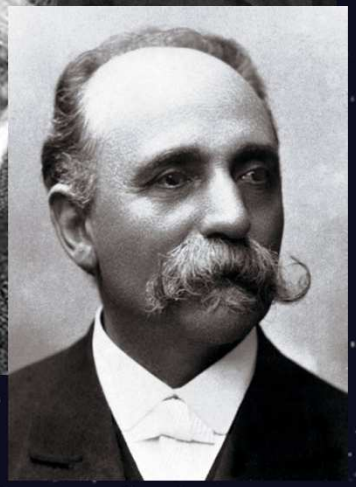

ANATOMY AND PHYSIOLOGY: VOLUME II

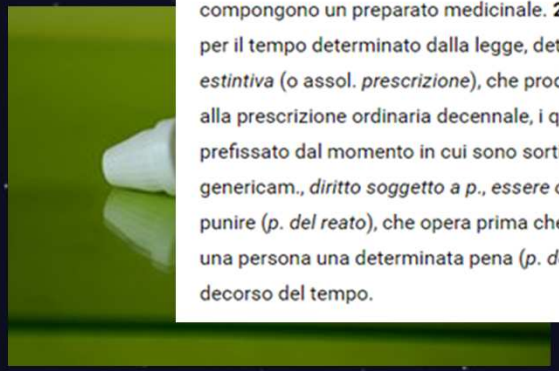







Medical
Record
Name





TRECCANI, LA CULTURA ITALIANA

LA NOSTRA STORIA LA COMUNICAZIONE

.it

VOCABOLARIO ON LINE

Cerca in treccani

prescrizióne

Vocabolario on line

CREA UN EBOOK CON QUESTA VOCE SCARICALO ORA (0)

prescrizióne s. f. [dal lat. *praescriptio -onis*, der. di *praescribĕre*: v. prescrivere]. – **1. a.** Norma data da chi ne ha autorità; ordine, comando: *secondo le p. della legge, del regolamento*; *prescrizione degli ispettori del lavoro*, ordine impartito dagli ispettori del lavoro, diretto a richiamare all'osservanza di una norma di legge violata o ad adottare particolari misure ritenute necessarie per la tutela dei lavoratori; *segnali di prescrizione*, i segnali stradali di forma circolare con bordo rosso che indicano un obbligo o, più spesso, un divieto. **b.** Quanto viene prescritto, come terapia e profilassi, dal medico: *seguire scrupolosamente le p. del medico*. In partic., nelle ricette mediche, l'indicazione dei farmaci prescritti, delle dosi e delle modalità di somministrazione, o anche l'enumerazione delle varie sostanze che compongono un preparato medicinale. **2.** Nel linguaggio giur., l'estinzione di un diritto quando il titolare non lo eserciti per il tempo determinato dalla legge, detto *termine di prescrizione* (quindi, *p. decennale*, *p. quinquennale*, ecc.); *p. estintiva* (o assol. *prescrizione*), che produce l'estinzione del diritto; *p. presuntiva*, relativa a crediti (o debiti) sottoposti alla prescrizione ordinaria decennale, i quali si presumono estinti, salvo prova contraria, dopo trascorso un periodo prefissato dal momento in cui sono sorti; *p. acquisitiva*, denominazione ormai abbandonata della *usucapione*; genericam., *diritto soggetto a p.*, *essere colpito da p.*, *caduto in prescrizione*. Nel diritto penale, estinzione del diritto di punire (*p. del reato*), che opera prima che sia intervenuta una sentenza definitiva di condanna, o del diritto di applicare a una persona una determinata pena (*p. della pena*), inflitta attraverso una sentenza irrevocabile, in conseguenza del decorso del tempo.


World Health Day

NHS


debt


REPUBBLICA ITALIANA
TESSERA SANITARIA
CARTA REGIONALE DEI SERVIZI
Codice Fiscale
Sesso
Cognome
Nome
Luogo di nascita
Provincia
Data di nascita
Data di scadenza


Marketing
Concepts
Success
Plan
Growth
Team
Vision

Patient centered

Empowerment

Health literacy

Health communication

Patient oriented

To cure – To care

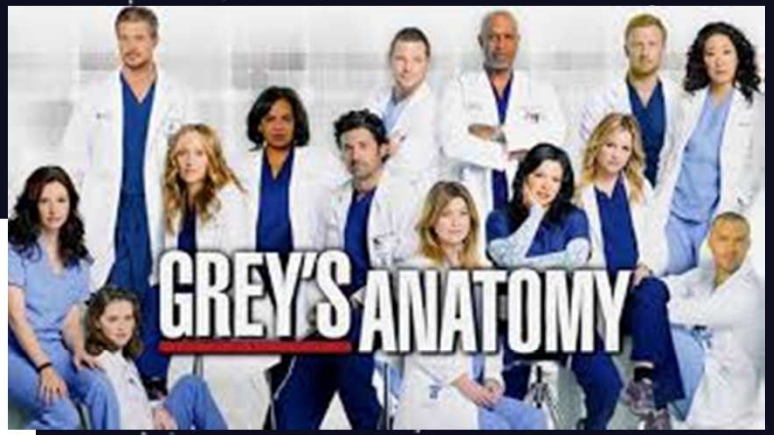
Doctor-patient communication

Compliance

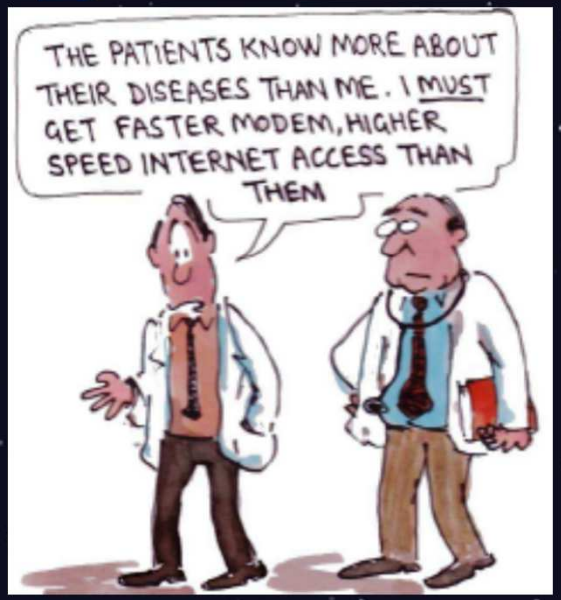
"We have had great success in the [last] five years in controlling outbreaks, but we have only recently come to understand that communications are as critical to outbreak control as laboratory analyses or epidemiology"

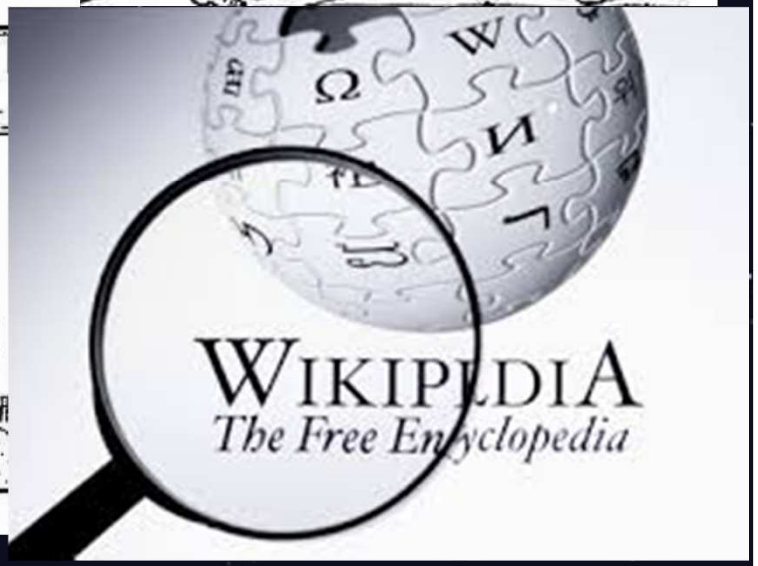
Dr Jong-wook Lee, Director General, WHO, 21 September 2004;
Effective Media Communication during Public Health Emergencies – A WHO handbook, Geneva 2007, pag VIII

Health communication



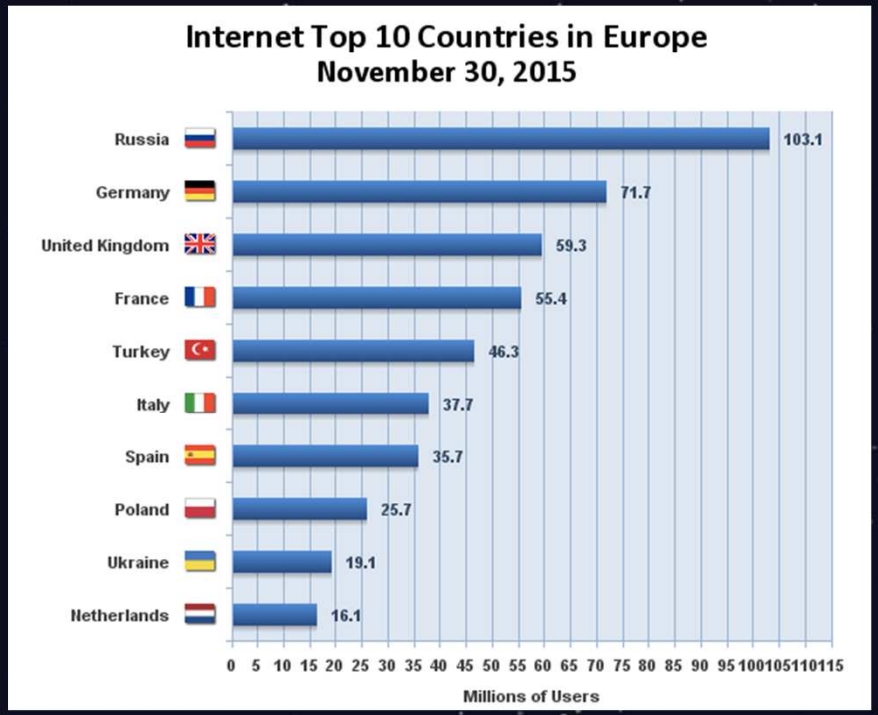
@-Health communication

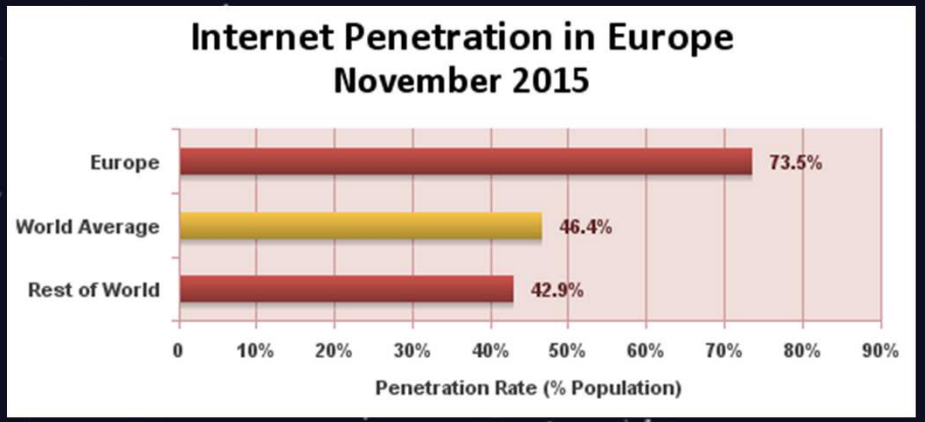




Internet World Stats

Usage and Population Statistics





ITALY

IT - 60,795,612 population (2015) - Country Area: 301,323 sq km

Capital city: Rome - population 2,419,287 (2012)

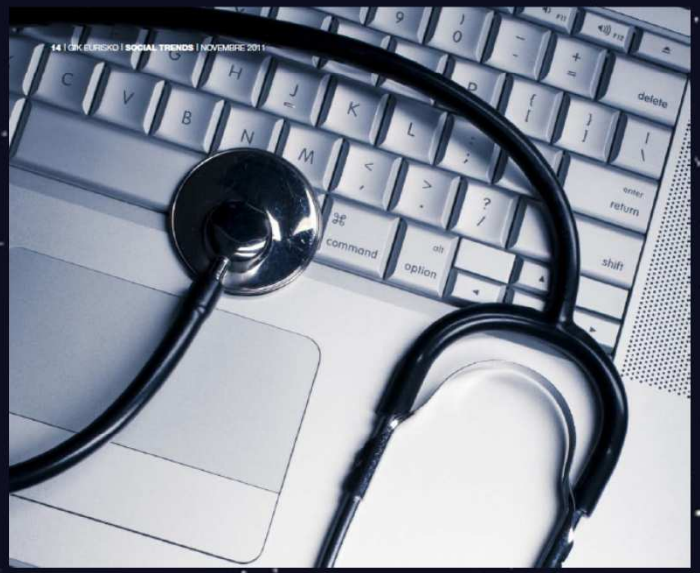
37,668,961 Internet users as of Dec.31, 2014, 62.0% p.r., per IWS.

28,000,000 Facebook subscribers on Nov 15, 2015, 46.1% penetration rate.

SOCIAL TRENDS

IL CAMBIAMENTO SOCIOCULTURALE

GfK EURISKO NOVEMBRE 2011 / NO. 113



COMUNICAZIONE MEDICO-SCIENTIFICA NELL'ERA DI INTERNET

FIGURA 6 LA SALUTE COME AREA DI INTERESSE SU INTERNET

Valori in percentuale

SI SONO COLLEGATI AD INTERNET DA CASA/LAVORO ULTIMI 3 MESI: 51%

Ha utilizzato Internet per...

AVERE INFORMAZIONI SULLA SALUTE (NET)	35
avere informazioni su disturbi/malattie	25
avere informazioni sulle possibilità di cura/sui farmaci	13
avere informazioni sui centri/ospedali/medici	10
discutere con altre persone attraverso blog/forum	2

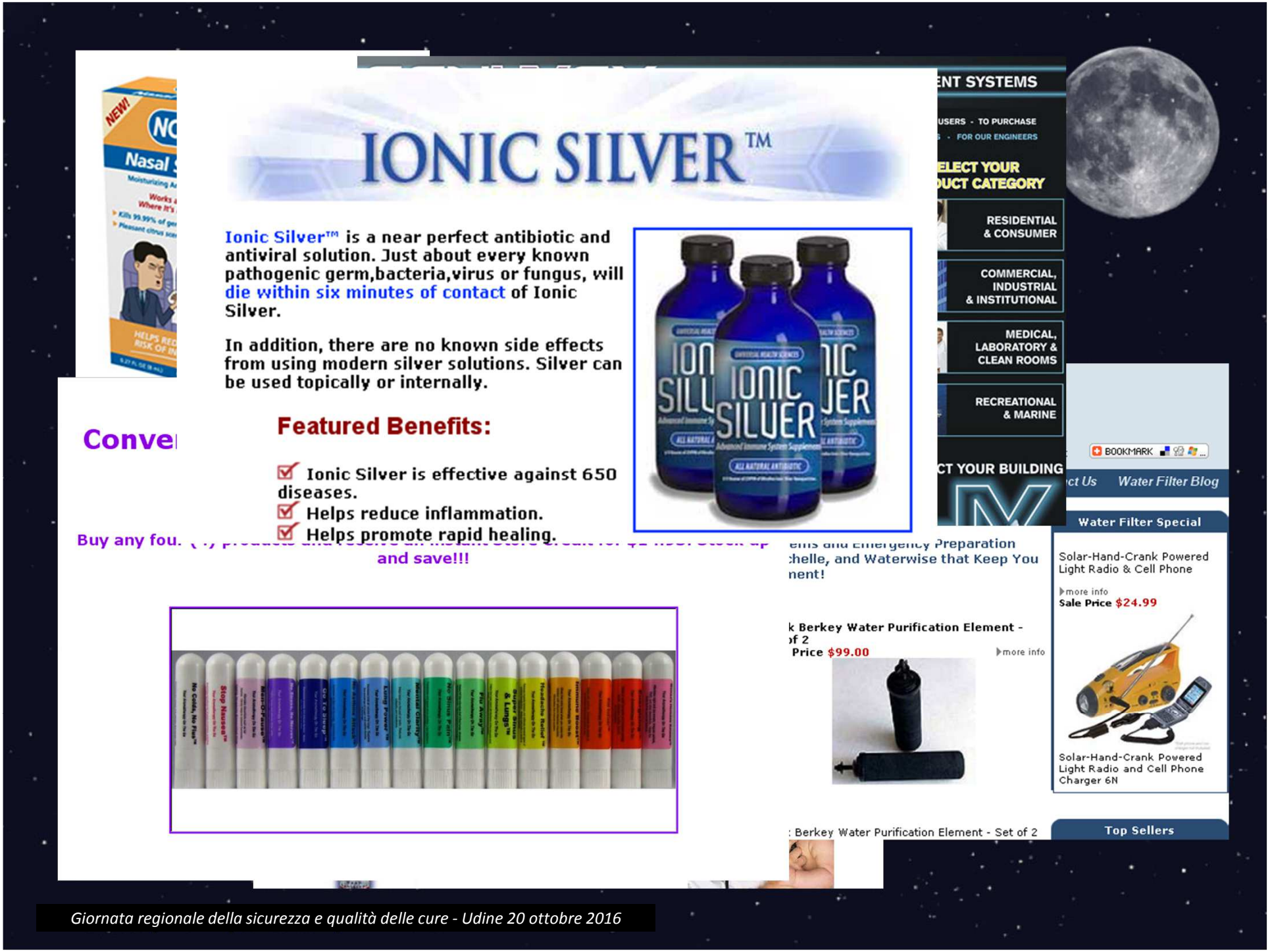
= 100

Utilizza le informazioni per...

... discutere con il medico	54
... discutere con il farmacista	31
... per poter decidere da solo quale farmaco eventualmente acquistare	17

Fonte: New Media GfK Eurisko

Giornata regionale della sicurezza e qualità delle cure - Udine 20 ottobre 2016


IONIC SILVER™
Ionic Silver™ is a near perfect antibiotic and antiviral solution. Just about every known pathogenic germ,bacteria,virus or fungus, will die within six minutes of contact of Ionic Silver.
In addition, there are no known side effects from using modern silver solutions. Silver can be used topically or internally.
Featured Benefits:
Ionic Silver is effective against 650 diseases.
Helps reduce inflammation.
Helps promote rapid healing.
IONIC SILVER
Buy any fou
and save!!!
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COMMERCIAL, INDUSTRIAL & INSTITUTIONAL
MEDICAL, LABORATORY & CLEAN ROOMS
RECREATIONAL & MARINE
BOOKMARK
Water Filter Blog
Water Filter Special
Solar-Hand-Crank Powered Light Radio & Cell Phone
more info
Sale Price $24.99
Solar-Hand-Crank Powered Light Radio and Cell Phone Charger 6N
Price $99.00
more info
Top Sellers

LA SCIENZA MARCIA E LA MENZOGNA GLOBALE

SVELARE LE MENZOGNE DELLA SCIENZA ORTODOSSA, DELLA STORIA UFFICIALE, E DEL POTERE PIÙ IN GENERALE, SERVE ANCHE A PRENDERE COSCIENZA DELL'INCOMBENTE DITTATURA GLOBALE, IL "NUOVO ORDINE MONDIALE".

DOMENICA 2 AGOSTO 2009

12.000 bambini come cavie umane per un vaccino pericolosissimo per tutti

LEGGI E DIFFONDI

Dossier sul venefico vaccino della dottoressa Forcades Vila

dossier sull'INFLUENZA SUINA di Jean Jacques Crèvecoeur

Scarica il dossier da mediafire

RIFIUTA IL VACCINO PER L'INFLUENZA SUINA

Leggi il dossier multimediale di scienzamarcia, scaricalo e diffondilo

BMJ

How Web 2.0 is changing medicine

Dean Giustini

BMJ 2006;333;1283-

mj.3906

patientslikeme

Join now! (It's free)

Already a member? Sign in

Patients Conditions Treatments Symptoms Research

Live better, together!

You have questions. Join a network of 400,000+ patients who can help you find answers.

"You have to have that place you can go where you can share with people, where they can allay some of those fears. PatientsLikeMe has been that for me."

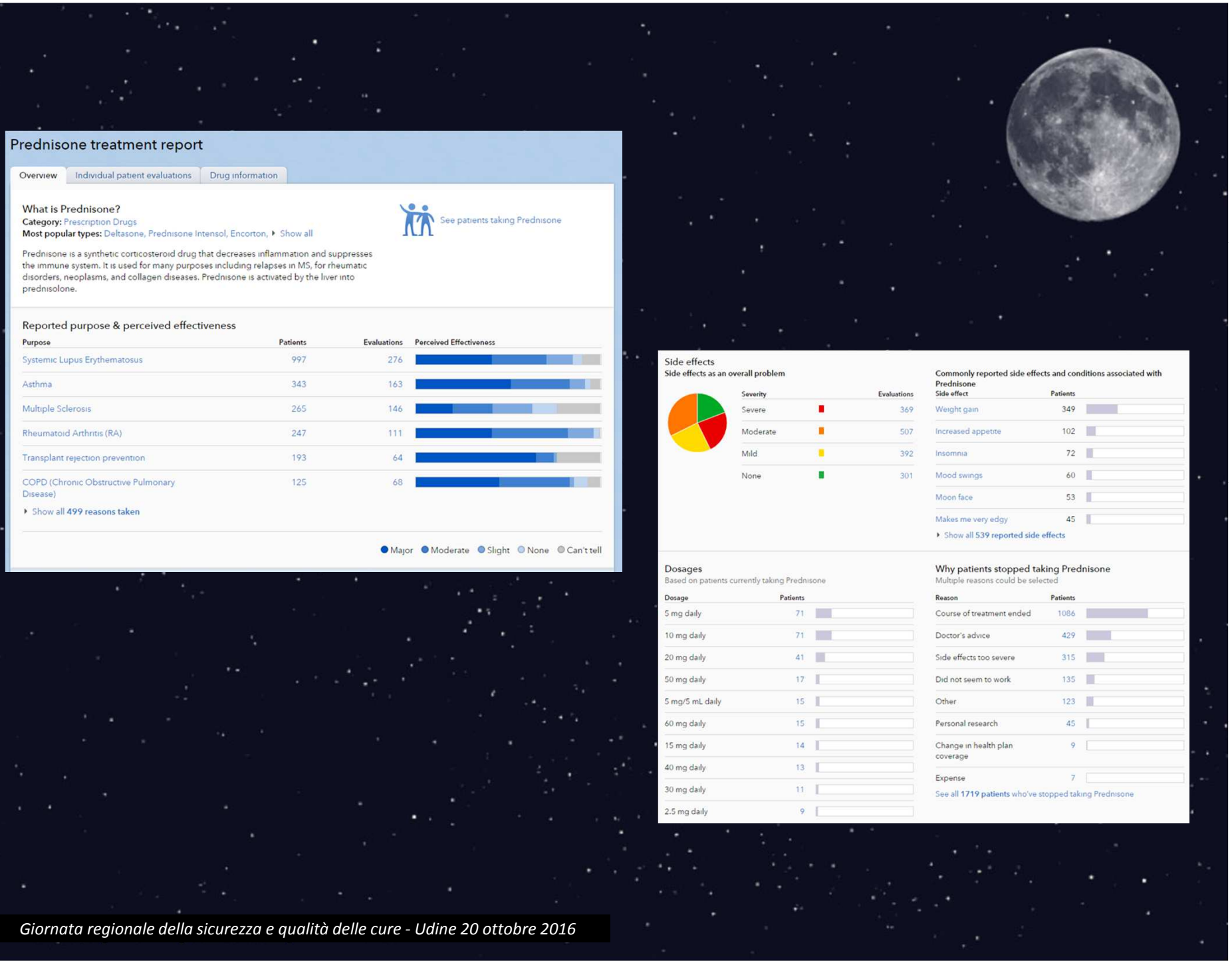
Jackie, MS community member

"My zeal for knowledge in my condition and understanding of the way things seem to work in the clinical world can benefit others who are going through their own challenges."

John, ALS community member

"I found a treatment that worked well for others, and decided to go for it. I haven't had a seizure since! Now my experience is helping new patients discover better options."

Letitia, epilepsy community member


Prednisone treatment report
Overview
Individual patient evaluations
Drug information
What is Prednisone?
Category: Prescription Drugs
Most popular types: Deltasone, Prednisone Intensol, Encorton, Show all
See patients taking Prednisone
Prednisone is a synthetic corticosteroid drug that decreases inflammation and suppresses the immune system. It is used for many purposes including relapses in MS, for rheumatic disorders, neoplasms, and collagen diseases. Prednisone is activated by the liver into prednisolone.
Reported purpose & perceived effectiveness
Purpose
Patients
Evaluations
Perceived Effectiveness
Systemic Lupus Erythematosus 997 276
Asthma 343 163
Multiple Sclerosis 265 146
Rheumatoid Arthritis (RA) 247 111
Transplant rejection prevention 193 64
COPD (Chronic Obstructive Pulmonary Disease) 125 68
Show all 499 reasons taken
Major
Moderate
Slight
None
Can't tell
Side effects
Side effects as an overall problem
Severity
Evaluations
Severe 369
Moderate 507
Mild 392
None 301
Commonly reported side effects and conditions associated with Prednisone
Side effect
Patients
Weight gain 349
Increased appetite 102
Insomnia 72
Mood swings 60
Moon face 53
Makes me very edgy 45
Show all 539 reported side effects
Dosages
Based on patients currently taking Prednisone
Dosage
Patients
5 mg daily 71
10 mg daily 71
20 mg daily 41
50 mg daily 17
5 mg/5 mL daily 15
60 mg daily 15
15 mg daily 14
40 mg daily 13
30 mg daily 11
2.5 mg daily 9
Why patients stopped taking Prednisone
Multiple reasons could be selected
Reason
Patients
Course of treatment ended 1086
Doctor's advice 429
Side effects too severe 315
Did not seem to work 135
Other 123
Personal research 45
Change in health plan coverage 9
Expense 7
See all 1719 patients who've stopped taking Prednisone

PHARMACOEPIDEMIOLOGY AND DRUG SAFETY 2013; **22**: 256–262
Published online 16 January 2013 in Wiley Online Library (wileyonlinelibrary.com) **DOI**: 10.1002/pds.3365

ORIGINAL REPORT

Online discussion of drug side effects and discontinuation among breast cancer survivors

Jun J. Mao[1,2,3]*, Annie Chung[2], Adrian Benton[2], Shawndra Hill[4], Lyle Ungar[5], Charles E. Leonard[2], Sean Hennessy[2] and John H. Holmes[2,3]

[1] *Department of Family Medicine and Community Health, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, USA*
[2] *Center for Clinical Epidemiology and Biostatistics, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, USA*
[3] *Abramson Cancer Center, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, USA*
[4] *University of Pennsylvania, The Wharton School, Philadelphia, PA, USA*
[5] *University of Pennsylvania School of Engineering and Applied Science, Philadelphia, PA, USA*

ABSTRACT

Purpose While patients often use the internet as a medium to search for and exchange health-related information, little is known about the extent to which patients use social media to discuss side effects related to medications. We aim to understand the frequency and content of side effects and associated adherence behaviors discussed by breast cancer patients related to using aromatase inhibitors (AIs), with particular emphasis on AI-related arthralgia.

Methods We performed a mixed methods study to examine content related to AI associated side effects posted by individuals on 12 message boards between 2002 and 2010. We quantitatively defined the frequency and association between side effects and AIs and identified common themes using content analysis. One thousand randomly selected messages related to arthralgia were coded by two independent raters.

Results Among 25 256 posts related to AIs, 4589 (18.2%) mentioned at least one side effect. Top-cited side effects on message boards related to AIs were joint/musculoskeletal pain (N = 5093), hot flashes (1498), osteoporosis (719), and weight gain (429). Among the authors posting messages who self-reported AI use, 12.8% mentioned discontinuing AIs, while another 28.1% mentioned switching AIs. Although patients often cited severe joint pain as the reason for discontinuing AIs, many also offered support and advice for coping with AI-associated arthralgia.

Conclusion Online discussion of AI-related side effects was common and often related to drug switching and discontinuation. Physicians should be aware of these discussions and guide patients to effectively manage side effects of drugs and promote optimal adherence.

iPhone 6

ANDROID APP ON
Google play

Home | Chi siamo | Contatti

SIC
sanità in cifre

Il punto di riferimento per il mondo della sanità

NEWS | PATOLOGIE | APPROFONDIMENTI | ECOSTAMPA | ATTIVITÀ SCIENTIFICHE | AREA RISERVATA

Sei qui: Home > News > Ricerca

Ricerca sul sito »

01.03.2011 - ore 13.22

Cancro: Smartphone lo scopre nel 100% dei casi nel giro di un'ora

Ancora una frontiera della nuova medicina conquistata dagli **smartphone**. Dopo l'utilizzo delle nuove generazioni di telefonini per l'elaborazione delle analisi del sangue, la più recente e innovativa **applicazione** consente addirittura l'individuazione di marcatori che riescono a individuare la presenza del **cancro**.

Il sistema, messo a punto da un gruppo di ricercatori del Massachusetts General Hospital di Boston, consente di rilevare precocemente i tumori, analizzando alcune migliaia di cellule e risparmiando ai pazienti le biopsie attualmente in uso. Il dispositivo è gestito attraverso una semplice **applicazione smartphone**. Al centro dello strumento c'è un chip per una micro **risonanza** magnetica nucleare (microNMR), una versione ridotta della tecnologia utilizzata per lo scanner della **risonanza** magnetica (MRI). Il chip utilizza nanoparticelle magnetiche per misurare i livelli di proteine e individuare marcatori che indicano la presenza di **cancro**. I medici possono vedere la lettura del chip sullo schermo del telefono. I risultati delle prove condotte su un campione di 50 pazienti sono incoraggianti: combinando le letture dei quattro marcatori proteici sono stati in grado di rilevare correttamente il cancro nel 96 per cento dei casi. Un secondo studio ha raggiunto il 100 per cento di precisione, mentre gli attuali metodi di rilevazione del cancro raggiungono una precisione di "appena" l'84 per cento.

Il dispositivo smartphone è anche più veloce rispetto ai metodi attuali, fornendo i risultati in meno di un'ora rispetto all'attesa standard di tre giorni. Ci vorranno ancora altri studi prima che l'applicazione possa essere diffusa nell'utilizzo

Articoli simili

- Malattie coronariche: migliore diagnosi con risonanza magnetica
- Nanotecnologie a caccia di tumori per diagnosi precoce
- A Milano la prima risonanza "all'aperto"
- Sclerosi multipla: test del respiro per diagnosi economica e più facile
- Tumori: allo studio diagnosi super precoce con test di sangue e urina

SIC è il centro studi di FEDERANZIANI

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Sanità

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di Giustizia Pop
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SPECIAL REPORT: TECHNOLOGY & INNOVATION

Do-It-Yourself Health Care With Smartphones

By SONIA KOLESNIKOV-JESSOP
Published: February 28, 2011

SINGAPORE — For more and more people, computers and software are becoming a critical part of their health care.

Thanks to an array of small devices and applications for smartphones that gather vital health information and store it electronically, consumers can take a more active role in managing their own care, often treating chronic illnesses — and preventing acute ones — without the direct aid of a physician.

"Both health care providers and consumers are embracing smartphones as a means to improving health care," said Ralf-Gordon Jahns, head of research at research2guidance, which follows the mobile industry.

He added that the firm's findings "indicate that the long-expected mobile revolution in health care is set to happen."

With a rapidly aging population in some parts of the world and curbs on government spending, the use of computer-compatible devices and online tools as part of a program of preventive medicine is a growing industry.

A report by Parks Associates in February estimated that in the United States alone, revenue from digital health technology and services would exceed $5.7 billion in 2015, compared with $1.7 billion in 2010, fueled by devices that monitor chronic conditions like hypertension and diabetes and by wellness and fitness applications and programs.

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Cardinals Elect Jorge Mario Bergoglio of Argentina as New Pope

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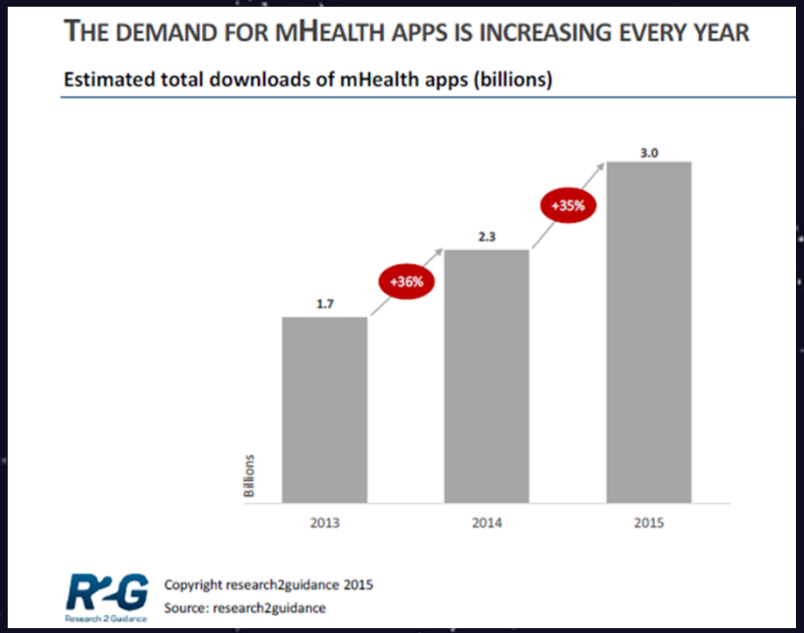
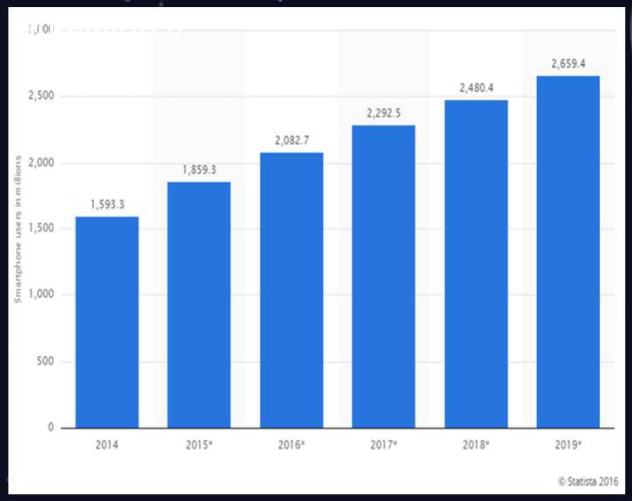
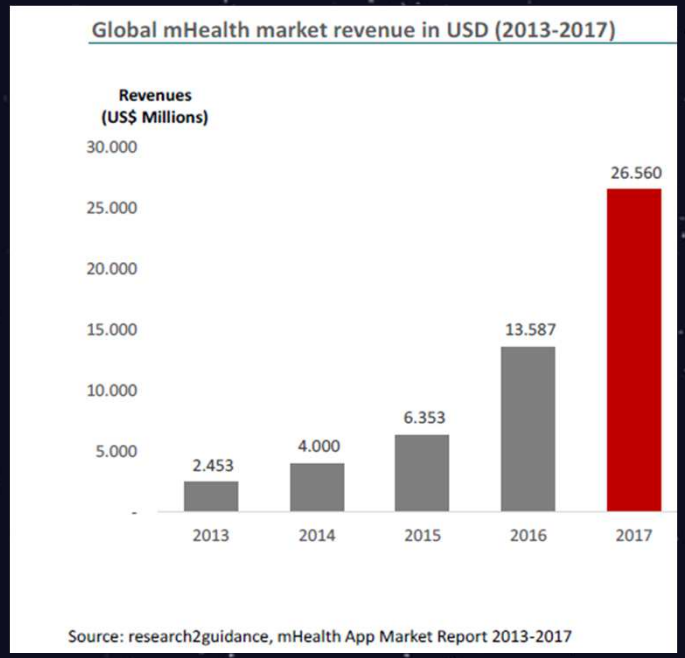
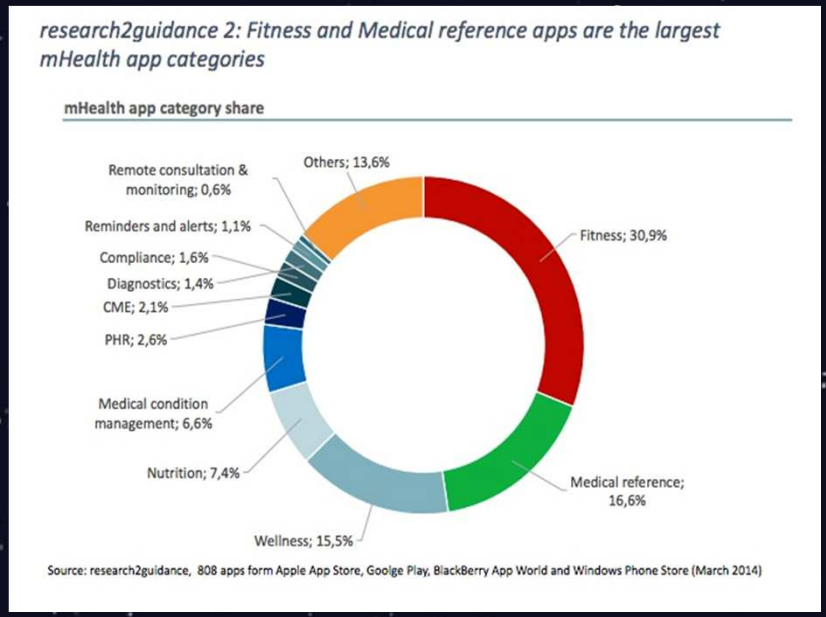
MOST POPULAR - TECHNOLOGY



Number of smartphone users worldwide from 2013 to 2019







Potential of mHealth

EUROPEAN COMMISSION

Brussels, 10.4.2014
COM(2014) 219 final

GREEN PAPER

on mobile Health ("mHealth")

{SWD(2014) 135 final}

Increased prevention/quality of life approach

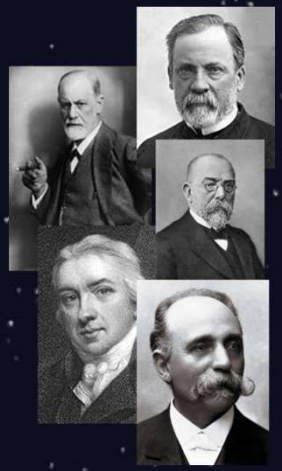
mHealth solutions can help detect the development of chronic conditions at an early stage through self-assessment tools .....

More efficient and sustainable healthcare

The healthcare workforce could be used more efficiently, supported by real-time communication with patients.....

More empowered patients

mHealth solutions support the changing role of **patients from a rather passive, to a more participative role** while enhancing their responsibility over their own health **through sensors** that detect and report vital signs, and **mobile apps** that encourage them to adhere to diet and medication



I media dopo la grande trasformazione

I consumi mediatici nel 2015: su internet il 71% degli italiani (ma solo il 5,2% si connette con banda ultralarga), tra i giovani under 30 è boom di smartphone (li usa l'85,7%) e tablet (36,6%). La tv è ancora la regina dei media, ma sul web si cercano informazioni, si fanno acquisti, si sbrigano pratiche. Così decolla l'economia della disintermediazione digitale, che sposta valore dalle filiere produttive e occupazionali tradizionali

Roma, 26 marzo 2015 - **Su internet il 71% degli italiani, crescono ancora i social network.** Nel 2015 gli utenti di internet aumentano ancora (+7,4% rispetto al 2013) e arrivano alla quota record del 70,9% della popolazione italiana. Ma solo il 5,2% di essi si connette con banda ultralarga. E continua la forte diffusione dei social network. È iscritto a Facebook il 50,3% dell'intera popolazione (il 77,4% dei giovani under 30), YouTube raggiunge il 42% di utenti (il 72,5% tra i giovani) e il 10,1% degli italiani usa Twitter. È quanto emerge dal 12° Rapporto Censis sulla comunicazione, che fa il bilancio della «grande trasformazione» dei media dell'ultimo decennio.

Tv regina dei media, boom di smartphone e tablet. La televisione continua ad avere una quota di telespettatori che coincide sostanzialmente con la totalità della popolazione (il 96,7%), con un rafforzamento però del pubblico delle nuove televisioni: la web tv è arrivata a una utenza del 23,7% (+1,6% rispetto al 2013), la mobile tv all'11,6% (+4,8%), mentre le tv satellitari si attestan utenza complessiva del 42,4% e ormai il 10% degli italiani usa la smart tv connessa in re la radio si conferma una larghissima diffusione di massa (l'utenza complessiva corrispond degli italiani), con l'ascolto per mezzo dei telefoni cellulari (+2%) e via internet (+2%) anc L'uso degli smartphone continua ad aumentare vertiginosamente (+12,9%) e ora vengono regolarmente da oltre la metà degli italiani (il 52,8%), mentre i tablet praticamente raddopp diffusione nel giro di un biennio e oggi si trovano tra le mani di più di un quarto degli italian

?????

La comunicazione come strumento di miglioramento della compliance

???

ACPM

American College of Preventive Medicine

physicians dedicated to prevention

Over 183 million office visits can be prevented through better communication

Studies show that effective communication between patients and physicians enables higher medication adherence rates. This is attributed to trust in the physician, an understanding of the benefits of the medication, and participation in the decision-making process. Hence the challenge is to enhance:

- Verbal and nonverbal communication
- Interviewing skills
- Positive discussion and greater transmission of information
- Continuous expressions of empathy
- Participatory decision-making

There is a Wide Gap Between Writing a Prescription and Actual Medication Use

It is estimated that between 20% and 50% of patients are nonadherent. For every 100 prescriptions written, 50-70 are filled by the pharmacy, 48-66 are picked up, 25-30 are taken properly, and 15-20 are refilled. Poor medical adherence is widespread and widely recognized but it is still difficult to determine which patients will or will not take their medication as directed. Some predictors of such nonadherence include:

- Low literacy
- Homelessness
- Depression
- Psychiatric disease
- Substance abuse
- Lower cognitive function
- Forgetfulness
- Anger, psychological stress, anxiety
- Lack of insight into illness
- Lack of belief in benefit of treatment
- Cultural incongruency with medication
- Belief that the drug is not important or is harmful
- Complexity of medication regimen
- Weariness of taking medications
- Inconvenience of medication regimen
- Side effects or fear of side effects
- Cost of medication, copayment, or both
- Barriers to access to care/drugs
- Inadequate follow-up
- Missed appointments

ACPM
American College of Preventive Medicine
physicians dedicated to prevention

- **S— Simplify the regimen**
- **I — Impart knowledge**
- **M— Modify patient beliefs and behavior**
- **P — Provide communication and trust**
- **L — Leave the bias**
- **E — Evaluate adherence**

Source: Sourcehttp://www.acpm.org/?MedAdherTT_ClinRef

S—Simplify the Regimen

- **Adjust** timing, frequency, amount, and dosage
- Match regimen to patient's activities of daily living
- Recommend taking all medications at the same time of day
- Avoid prescribing medications with special requirements
- **Investigate customized packaging** for patients
- **Encourage use of adherence aids**
- **Consider changing the situation** vs. changing the patient

I—Impart Knowledge

- Focus on **patient-provider shared decision making**
- Keep **the team** informed (physicians, nurses, and pharmacists)
- Involve **patient's family or caregiver** if appropriate
- Advise on **how to cope with** medication costs
- Provide all prescription **instructions clearly in writing and verbally**
- **Suggest additional information from Internet** if patients are interested
- **Reinforce all discussions often**, especially for low-literacy patients

Review

Getting the message across: opportunities and obstacles in effective communication in hypertension care

Emily P. Jolles[a], Alexander M. Clark[b], and Branko Braam[a]

Journal of Hypertension 2012, 30:1500–1510

Time it takes to communicate and potential importance of teams

Time pressure for providers is a big issue quoted by 53% of physicians [32] and is realistic, given the increasingly large burden of chronic diseases. Estimates report for any primary care physician with 2500 patients per practice, managing 10 chronic disease conditions would take 10.6 h daily [33]. Another study, based on a similar size practice, estimates that preventive measures advised by the US Preventive Services Task Force would take an additional 7.4 h daily [34]. This all must be delivered in a context of acute care and follow-up, reportedly accounting for 58% of the workday of a family physician [35].

Patient satisfaction of a visit varies with expectations about the anticipated time spent with the physician [36]. Sicker, more anxious patients and those who need to see a specialist need more time with doctors [36]. Physicians that spend more time with patients are inclined to prescribe less medication and engage more in lifestyle and prevention education [37]. Time perception by doctors affects communication as well; in one study examining women with heart disease, doctors who did not see time as a barrier to their practice were 70% more likely to ask for a 'quit smoking date' and refer their patients to a cessation program [38]. A possible explanation for the higher satisfaction during longer visits is that the doctor gives more in-depth explanation, with less chance of a patient feeling confused.

Interdisciplinary team-based approaches increase contact time between providers and patients. A systematic review of a collaborative approach between nurses and pharmacists supports better HTN control compared to physicians only [39]. Possibly, but not well studied, more effective treatment could result from a combination of factors, including time spent with the patient, more effective communication, and repetition and format of information.

Issuing more time to physicians *per se* is unrealistic, since demands on healthcare, time, and economic constraints will worsen, and life expectancy and chronic disease prevalence will increase. However, a better use of time to communicate and formation of multidisciplinary teams may ameliorate the current time issues.

Research

Original Investigation

Mobile Telephone Text Messaging for Medication Adherence in Chronic Disease
A Meta-analysis

Jay Thakkar, FRACP; Rahul Kurup, MBBS; Tracey-Lea Laba, PhD; Karla Santo, MD; Aravinda Thiagalingam, PhD; Anthony Rodgers, PhD; Mark Woodward, PhD; Julie Redfern, PhD; Clara K. Chow, PhD

Invited Commentary page 350

Supplemental content at jamainternalmedicine.com

IMPORTANCE Adherence to long-term therapies in chronic disease is poor. Traditional interventions to improve adherence are complex and not widely effective. Mobile telephone text messaging may be a scalable means to support medication adherence.

OBJECTIVES To conduct a meta-analysis of randomized clinical trials to assess the effect of mobile telephone text messaging on medication adherence in chronic disease.

DATA SOURCES MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials, PsycINFO, and CINAHL (from database inception to January 15, 2015), as well as reference lists of the articles identified. The data were analyzed in March 2015.

STUDY SELECTION Randomized clinical trials evaluating a mobile telephone text message intervention to promote medication adherence in adults with chronic disease.

DATA EXTRACTION Two authors independently extracted information on study characteristics, text message characteristics, and outcome measures as per the predefined protocol.

MAIN OUTCOMES AND MEASURES Odds ratios and pooled data were calculated using random-effects models. Risk of bias and study quality were assessed as per Cochrane guidelines. Disagreement was resolved by consensus.

RESULTS Sixteen randomized clinical trials were included, with 5 of 16 using personalization, 8 of 16 using 2-way communication, and 8 of 16 using a daily text message frequency. The median intervention duration was 12 weeks, and self-report was the most commonly used method to assess medication adherence. In the pooled analysis of 2742 patients (median age, 39 years and 50.3% [1380 of 2742] female), text messaging significantly improved medication adherence (odds ratio, 2.11; 95% CI, 1.52-2.93; $P < .001$). The effect was not sensitive to study characteristics (intervention duration or type of disease) or text message characteristics (personalization, 2-way communication, or daily text message frequency). In a sensitivity analysis, our findings remained robust to change in inclusion criteria based on study quality (odds ratio, 1.67; 95% CI, 1.21-2.29; $P = .002$). There was moderate heterogeneity ($I^2 = 62\%$) across clinical trials. After adjustment for publication bias, the point estimate was reduced but remained positive for an intervention effect (odds ratio, 1.68; 95% CI, 1.18-2.39).

CONCLUSIONS AND RELEVANCE Mobile phone text messaging approximately doubles the odds of medication adherence. This increase translates into adherence rates improving from 50% (assuming this baseline rate in patients with chronic disease) to 67.8%, or an absolute increase of 17.8%. While promising, these results should be interpreted with caution given the short duration of trials and reliance on self-reported medication adherence measures. Future studies need to determine the features of text message interventions that improve success, as well as appropriate patient populations, sustained effects, and influences on clinical outcomes.

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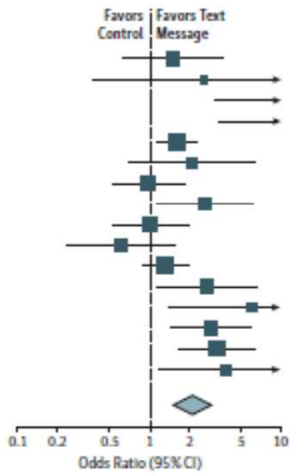
Figure 2. Meta-analysis of the Effect of a Mobile Telephone Text Message Intervention on Medication Adherence

Source	Statistics for Each Study: Odds Ratio	(95% CI)	P Value
Márquez Contreras et al,[43] 2004	1.508	(0.631-3.605)	.36
da Costa et al,[29] 2012	2.571	(0.371-17.831)	.34
Hardy et al,[30] 2011[a]	21.131	(3.161-141.237)	.002
Khonsari et al,[31] 2015[a]	12.273	(3.405-44.236)	<.001
Lester et al,[32] 2010	1.612	(1.144-2.271)	.006
Lv et al,[21] 2012	2.074	(0.686-6.251)	.20
Lua and Neni,[33] 2013	0.985	(0.535-1.812)	.96
Maduka and Tobin-West,[34] 2013	2.644	(1.135-6.160)	.02
Mbuagbaw et al,[35] 2012	1.026	(0.519-2.026)	.94
Park et al,[36] 2014	0.610	(0.236-1.585)	.31
Pop-Eleches et al,[37] 2011	1.330	(0.882-2.005)	.17
Quilici et al,[38] 2013	2.705	(1.109-6.596)	.03
Strandbygaard et al,[39] 2010	6.018	(1.368-26.466)	.02
Vervloet et al,[40] 2012	2.959	(1.448-6.046)	.003
Wald et al,[41] 2014	3.267	(1.686-6.331)	<.001
Wang et al,[42] 2014	3.857	(1.180-12.606)	.03
Overall	2.107	(1.517-2.926)	<.001



Area	First author, year	Intervention group (n°)	Control group (n°)	Duration FU (months)	Main results	
Weight management	Allen, 2013	18	68	6	Participants with counselling (both intensive and less) plus smartphone achieved greater weight loss than the other groups (5.4Kg vs 3.3 Kg; p>0.05)	😐
	Brindal, 2016	28	30	2	No difference in weight loss between the two groups (p=.08). Those in the intervention group were more motivated to stay on the diet than those in the control group (P=.02)	😐
	Carter, 2013	43	85	6	Reduction of weight, BMI and body fat after 6 months but no difference between groups.	☹
	Godino, 2016	202	202	24	Limited weight loss at 6 and 12 months (-1.33 Kg, p<.05) in the intervention group compared with the control group, but not at 18 months (p=0.2).	☹
	Hebden,2014	26	25	3	Positive change in weight, nutrition and PA with no significant difference respect to controls (p>.05)	☹
	Johnston,2013	147	145	6	Intervention group significantly decreased BMI (p<.001) and were 8.0 and 8.8 times likely to achieve a 5% and 10% reduction in weight respectively compared with control (p<.001)	☺
	Laing, 2014	105	107	6	The app did not produce significant weight change	☹
	Stephens, 2016	31	31	3	Intervention participants lost more weight (p=.03) and had a significant reduction in both BMI (p=.03) and waist circumference (p<.01) compared with controls.	☺
	Svetkey,2015	Group CP: 122 Group PC: 120	123	24	No difference between CP group and control group. PC participants lost significantly more weight than controls at 6 months, (p=.003), but not at 12 and 24 months.	☹
	Turner-McGrievy, 2011	47	49	6	Weight loss did not differ by group	☹
	Warton, 2014	19	20 (paper group); 18 (memo group)	2	Weight loss did not differ between groups	☹
Physical activity	Choi,2015	15	15	3	The change between groups in weakly mean steps per day was not significant (P>0.05)	☹
	Direito,2015	Immersive app (n=17); nonimmersive app (n= 16)	18	2	Fitness improved in both app groups, but no significant difference compared to controls (p>.05)	☹
	Glynn, 2014	37	41	2	Significant improvement in in daily steps in the intervention group respect to control (P=.009)	☺
	King,2016	Framed app (n=21), socially framed app (n=22), an affectively framed app(n=22)	24	2	Social framed app users had significantly increase in physical activity and lower overall amounts of accelerometry-derived sedentary behavior compared to the other arms (p<.05)	☺
	Petrella, 2014	75	74	3	No difference between intervention and control group	☹
	Smith, 2014	181	180	5	Significant improvement for muscular fitness p=.04), RT skill (P<.001), screen time (P=.03)	☺
Healthy eatings	Elbert, 2016	n=114 (textual) and n=113 (auditory)	115	6	Increase in fruit and vegetable intake (p<.05)	☺
	Mummah,2016	8	9	3	Consumption of vegetables was significantly greater among the intervention vesus control condition (p=.02)	☺
	Nollen, 2014	26	25	3	Trend towards increased fruit/vegetable (p=.08) and decreased sugar (p=.09). Not statistically significant.	☹
Smoking cessation	Bricker, 2014	98	98	2	The overall quit rates were 13% in Smartquit vs 8% in QuitGuide (OR=2.7; 95% CI = 0.8-10.3)	☹
	Buller, 2014	51	51	3	Text messaging produce more abstinance than app (p<0.05)	☹
Sun protection	Buller, 2015	399	395	2.5	Mean days staying in the shade 41% in the intervention group vs control 34% C, p=.03; Intervention group spent less time in the sun than the controls (mean days 60% vs 49%, p=.04) and using all protection behaviours (39% vs 34%, P=.04)	☺
	Buller, 2015b	96	106	3	Overall weak improvements in sun protection in app users than control (p<0.05)	☺
Alcohol reduction	Gajecki, 2014	Group 1 (n=643) Group 2 (n=640)	649	1.5	Group 1 increased the frequency of their drinking occasions compared to controls (p=.001). No change in consumption for group 2.	☹

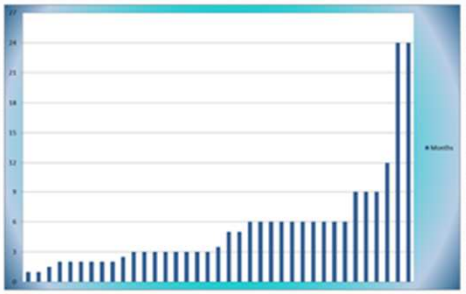
Some considerations…

Cell Phone Intervention for You (CITY): A Randomized, Controlled Trial of Behavioral Weight Loss Intervention for Young Adults Using Mobile Technology

➢ Follow up

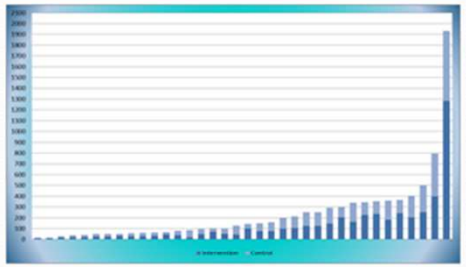
The Lancet Diabetes & Endocrinology

Using social and mobile tools for weight loss in overweight and obese young adults (Project SMART): a 2 year, parallel-group, randomised, controlled trial



➢ Sample size

Mobile phone brief intervention applications for risky alcohol use among university students: a randomized controlled study



➢ Possible selection bias

Conclusions

- Overall the 43% of the studies gave positive results and 16% partially positive. Mobile apps on lifestyle seem to be more effective in terms of behavior change than mobile apps focused on a specific endpoint
- An integrated approach (mobile app+other tools) seem to be more effective than the use of a mobile app only
- Most of the studies selected had a follow-up short (89% less than 12 months), a sample size small (43% less than 100 subjects) and possible selection bias.

The evidence so far about efficacy of apps in health promotion is still poor.

M—Modify Patient Beliefs and Behavior

- **Empower patients to self-manage** their condition
- **Ensure that patients understand** their risks if they don't take their medications
- Ask patients about the consequences of not taking their medications
- Have patients restate the positive benefits of taking their medications
- **Address fears and concerns**
- **Provide rewards for adherence**

P—Provide Communication and Trust

- Improve interviewing skills
- Practice active listening
- Provide emotional support
- Use plain language
- Elicit patient's input in treatment decisions

P – Provide Communication and Trust

- Modifying patient beliefs is only possible if a high level of patient trust exists. A physician's communication style is one of the strongest predictors of a patient's trust in his or her physician. Many physicians are weak in communications. Consider these statistics:
- At least 50% of patients leave the office not understanding what they have been told
- Physicians miss 50% of psychosocial and psychiatric problems due to poor communication skills
- Physicians interrupt patients on an average of 22 seconds into the patients' descriptions of the presenting problems
- 54% of patients' problems and 45% of patient concerns are neither elicited by the physician nor disclosed by the patient
- 71% of patients cited poor relationships as a reason for their malpractice claims

Medication Adherence: Truth and Consequences

Marie T. Brown, MD, Jennifer Bussell, MD, Suparna Dutta, MD, MPH,
Katherine Davis, RN, BSN, Shelby Strong, APN, MSN and
Suja Mathew, MD

ABSTRACT

Improving medication adherence may have a greater influence on the health of our population than in the discovery of any new therapy. Patients are nonadherent to their medicine 50% of the time. Although most physicians believe nonadherence is primarily due to lack of access or forgetfulness, nonadherence can often be an intentional choice made by the patient. Patient concealment of their medication-taking behavior is often motivated by emotions on the part of both provider and patient, leading to potentially dire consequences. A review of the literature highlights critical predictors of adherence including trust, communication and empathy, which are not easily measured by current administrative databases. Multifactorial solutions to improve medication adherence include efforts to improve patients' understanding of medication benefits, access and trust in their provider and health system. Improving providers' recognition and understanding of patients' beliefs, fears and values, as well as their own biases is also necessary to achieve increased medication adherence and population health.

Key Indexing Terms: Medication adherence; Compliance; Nonadherence; Trust; Electronic prescribing. **[Am J Med Sci 2016;351(4):387–399.]**

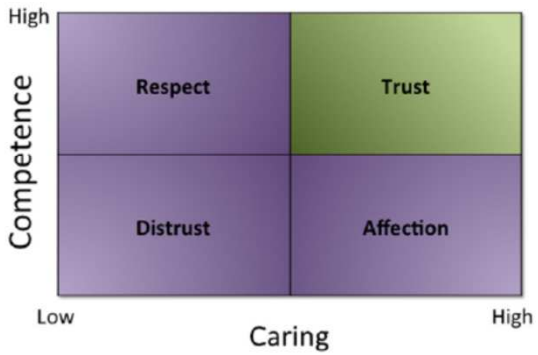


FIGURE 2. Building Trust. Trust is a critical factor in an effective relationship. A provider perceived as competent but uncaring would be respected but not trusted. A provider perceived as caring but incompetent would be viewed with affection but not trusted. Trust develops when both caring and competence are present. (Adapted with permission from Paling J.[41])

Provide the Necessary Time Required to Develop Trust

Develop Team-Based Care

Effectively Use Technology

L—Leave the Bias

- **Understand health literacy** and how it affects outcomes
- Examine self-efficacy regarding **care of racial, ethnic, and social minority populations**
- Develop **patient-centered communication style**
- Acknowledge biases in medical decision making
- Address dissonance of patient-provider, race-ethnicity, and language

Review

Getting the message across: opportunities and obstacles in effective communication in hypertension care

Emily P. Jolles[a], Alexander M. Clark[b], and Branko Braam[a]

Journal of Hypertension 2012, 30:1500–1510

Language, health literacy, and numeracy

Education, health literacy, and language can be grouped together regarding consequences for communication. Comprehension/acceptance (phase 1) and thereby health literacy is affected by patient and healthcare provider not sharing the same first language. [76]. Language issues can result in noncompliance and patient feelings of fear and lack of connection with the physician [76,77]. Language barriers go beyond the understanding of a specific message: a requirement in making informed health decisions is the ability to comprehend health information which can impact a patient's future health [78]. Obviously, despite the availability of interpreters language and culture are tightly integrated so that translation alone does not necessarily overcome a language barrier (e.g. connotation of Spanish words may be different for those patients from Central and South America, and Spain).

Health literacy is defined by the American Medical Association as 'a constellation of skills, including the ability to perform basic reading and numerical tasks required for functioning in the healthcare environment' [79]. Pertinent to phase 1, patients with less education have more trouble comprehending health information. In a survey, 47% of patients without a college degree versus 14% with a college degree said they had incomplete understanding of the information [78,80]. Nevertheless, a patient's health literacy status is more than just the patient's years of school completed in the context of HTN knowledge [79]. Patients with low rates of HTN control tend to have lower literacy skills [80]. Paradoxically, physicians give more time, ask more questions, and give more information to patients with a higher educational level [81]. Compounding the issue, illiteracy is quite common in many countries and providers have difficulty in assessing low literacy, leading to overestimation of literacy skills and thereby promoting disparities [82]. Continuous feedback to check whether and how patients perceive information seems pivotal.

Numeracy, being able to understand and interpret numbers, is an aspect of literacy that has been studied in recent years [83]. It can be defined as 'the degree to which individuals have the capacity to access, process, interpret, communicate, and act on numerical, quantitative, graphical, biostatistical, and probabilistic health information needed to make effective health decisions' [84]. The need to explain patients their individual CVD risk profile [85] makes numeracy very important. Numeracy skills are categorized as basic, computational, analytical, and statistical. Basic skills entail identifying numbers and

Review

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HOW DOES THE FORMAT AND CONTEXT IN WHICH THE MESSAGE IS TRANSFERRED AFFECT COMMUNICATION?

Formatting and tailoring of the message

Verbal communication is still the most widely used format by providers presumably since it is quick. However, written information may lead to greater recall. Health information presented at the beginning or at the end of a provider interaction is more likely to be recalled compared to information in the middle of a conversation [51]. Studies 4 weeks post intervention suggest that pictographs are useful in recall in low-literacy patients [52]; recall averages 15% with verbal instructions and up to 85% with a combination of pictures and verbal instructions [53]. An obvious advantage of printed material is that providers can check for content, accuracy, completeness, writing style, readability, and design prior to providing it to their patients [54]. Patients do not want written information to replace providers' verbal instructions for medication information; however, if written

Regarding formulation, medical advice is often suboptimal due to medical jargon, complex and/or contextualized language, and structure of the dialog [56]. Written materials provided to patients after a stroke have too high a reading level in 53% of patients [57]. A screening project for CVD risk supplied written and verbal information to low-income hypertensive women. Regarding retention, only 34% of the women could recall that they were diagnosed with HTN after 1 year [58]. Analogous, patient recall post myocardial infarction via telephone follow-up was low; only 41% of patients could successfully recall the cardiac diagnosis [59].

Hypertension management is becoming more complex and protocol-driven [60], requiring tailoring of the message. One study argues that a provider is able to modulate the impact of the health message by modifying its elements. A care provider can emphasize or downplay the importance of specific symptoms of a disease and can spend variable amounts of time to explain risk of developing certain disease manifestations. Although the care provider is not able to change evidence, information can be more or less positive about prevention of the disease [6]. The tailored format facilitates that the message will be experienced as personally relevant to the patient. It requires that providers

E—Evaluating Adherence

- Self-report
- **Ask about adherence** behavior at every visit
- Periodically **review** patient's medication containers, noting renewal dates
- Use biochemical tests—measure serum or urine medication levels as needed
- Use medication adherence scales

?????

!!!!!

La comunicazione come strumento di miglioramento della compliance

???

Lo facciamo!

Lo facciamo bene!

Lo facciamo con tempo e risorse adeguate!

"The practice of medicine is much more than a black bag of clever tests and diagnoses - it encompasses the art of human interaction".

Teutsch C. Patient-doctor communication. Med Clin North Am 2003; 87: 1115-1145.

Grazie per l'attenzione