

CONSUMER HEALTH INFORMATICS (CHI)

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Color coding:

Important

Notes

What is Consumer Health Informatics?

- A branch of health informatics that:
 - **Analyzes** information **needs** of consumers
 - Studies and **implements** methods of making health information and services accessible to consumers
 - Integrates consumer preferences into health care information systems

Consumer health informatics is a branch of health informatics

- in this view, consumer health informatics **analyzes consumers'** needs for information; studies and **implements methods** for making **information and services accessible** to consumers; and models and integrates consumers' **preferences** into health information systems.
- Consumer informatics stands at the crossroads of other disciplines, such as **nursing informatics**, **public health**, **health promotion**, **health education**, **library science**, and **communication science**.

Don't expect that you will make a diabetic patient better by only giving them medications, you have to refer patients to a diabetes education clinic.

Consumer Health Informatics

- Integration of consumer health information and information technology in an environment of 1- **shared** healthcare decision-making that 2- supports effective **self-health** action.

Lewis, D. & Friedman, C. (2002). Consumer health informatics. In M.J. Ball, K.J. Hannah, S.K. Newbold, & J.V. Douglas (Eds.). *Nursing informatics: Where caring and technology meet* (3rd ed.). New York; Springer-Verlag.

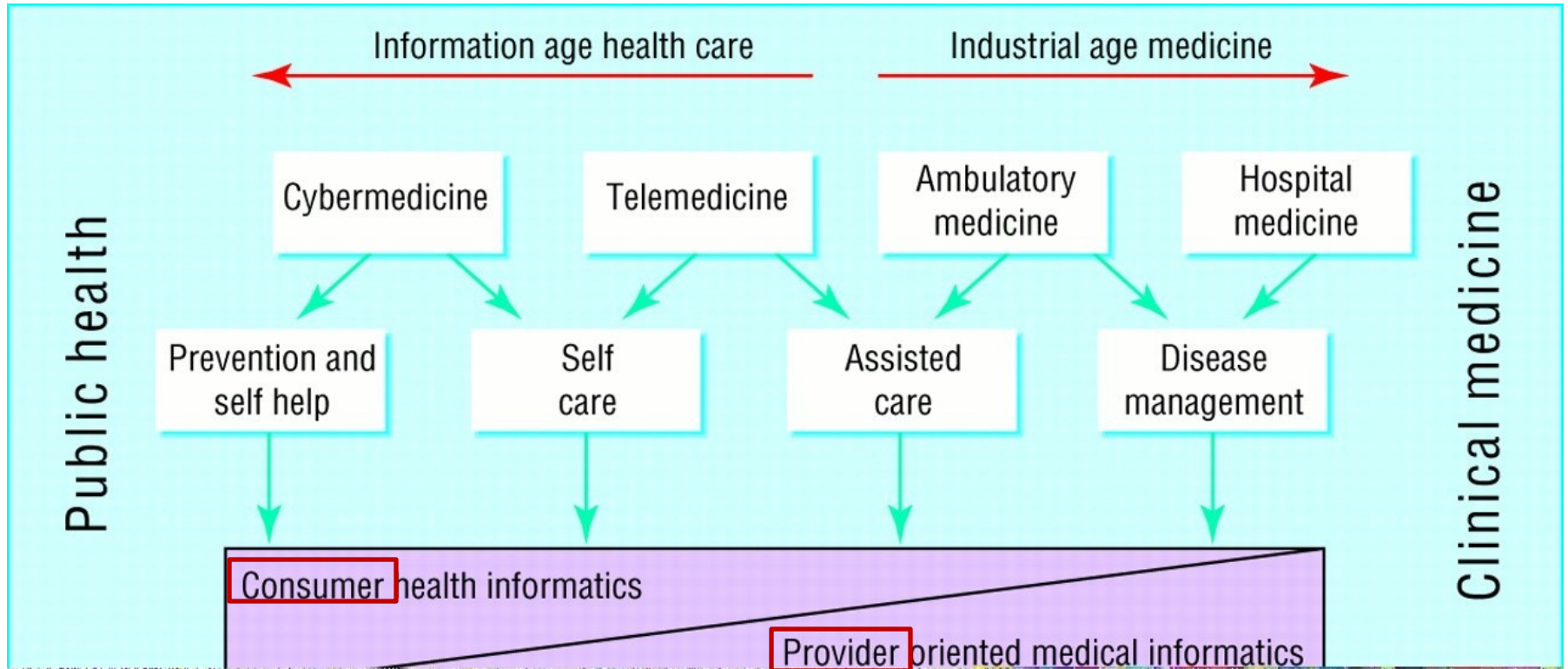
Consumers

- Broader than “patient “ it may include the well, healthy and caregivers
- It is a very diverse group

We're saying consumer and not patient because it also involves healthy people (vaccinations).

Brennan&Safran.Chapter 2 Empowered consumers.
In: Lewis, Eysenbach, Kukafka, Stavri, Jimison. Consumer Health Informatics
Springer, 2005

The focus of traditional health care and medical informatics is shifting from health professionals to consumers



The right side focuses more on the provider (Hospital). The left side focuses more on the patient (virtual, electronic).

Empowered Consumers

- Empowerment: Granting of power to a dependent group or enhancing an individual's **ability** for **self** determination
- “a **social** process of recognizing, promoting and enhancing people’ abilities to meet their own **needs**, to **solve** their own problems, and **mobilize** the necessary resources in order to feel in control of their lives” (Gibson, 1991)

Empowering Consumers

- Consumers Health Informatics applications support the empowered consumers concept (a power balance in the patient-health professional relationship) by e.g.:
 - ✓ Providing Informing about health concerns
(educate patients so they can be part of the decision)
 - ✓ Assisting in finding others with similar concerns
emotionally support patients and their families (usually virtual "cyber" communities)
 - ✓ Assisting in navigating the health care system and services
 - ✓ Access to clinical records and personal care management tools.
Peers education



More People. More Information. Better Health.

SIGN UP FOR PEER TO PEER HEALTH SUPPORT

FOLLOW:



Sign Up To Get Notified of Our Interactive Community Site Launch

You have questions. The world has answers. The Human Health Project has made a space to bring together the experiences from people using many different forms of health care. We will

To search type and hit enter

CHECK OUT OUR NEWEST ARTICLES



AWARENESS / EVERYDAY HEALTH / NEUROLOGICAL HEALTH

Understanding Chiari Malformation

29 MAR, 2016



AWARENESS / EATING DISORDERS / EMOTIONAL HEALTH / EVERYDAY HEALTH / MENTAL HEALTH

National Eating Disorders Awareness Week

24 FEB, 2016



DISEASE / EVERYDAY HEALTH

Zika Virus: A WHO Emergency

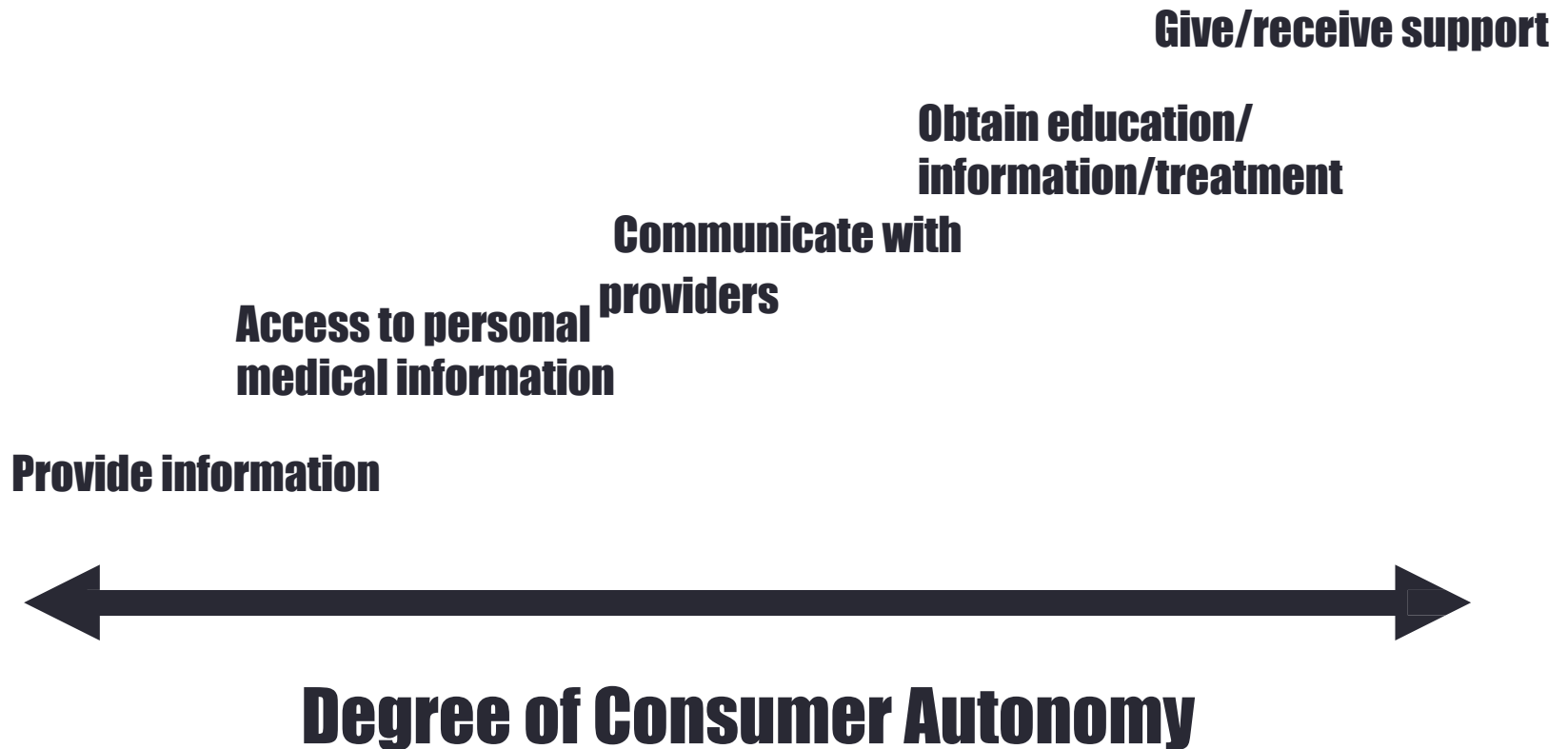
18 FEB, 2016

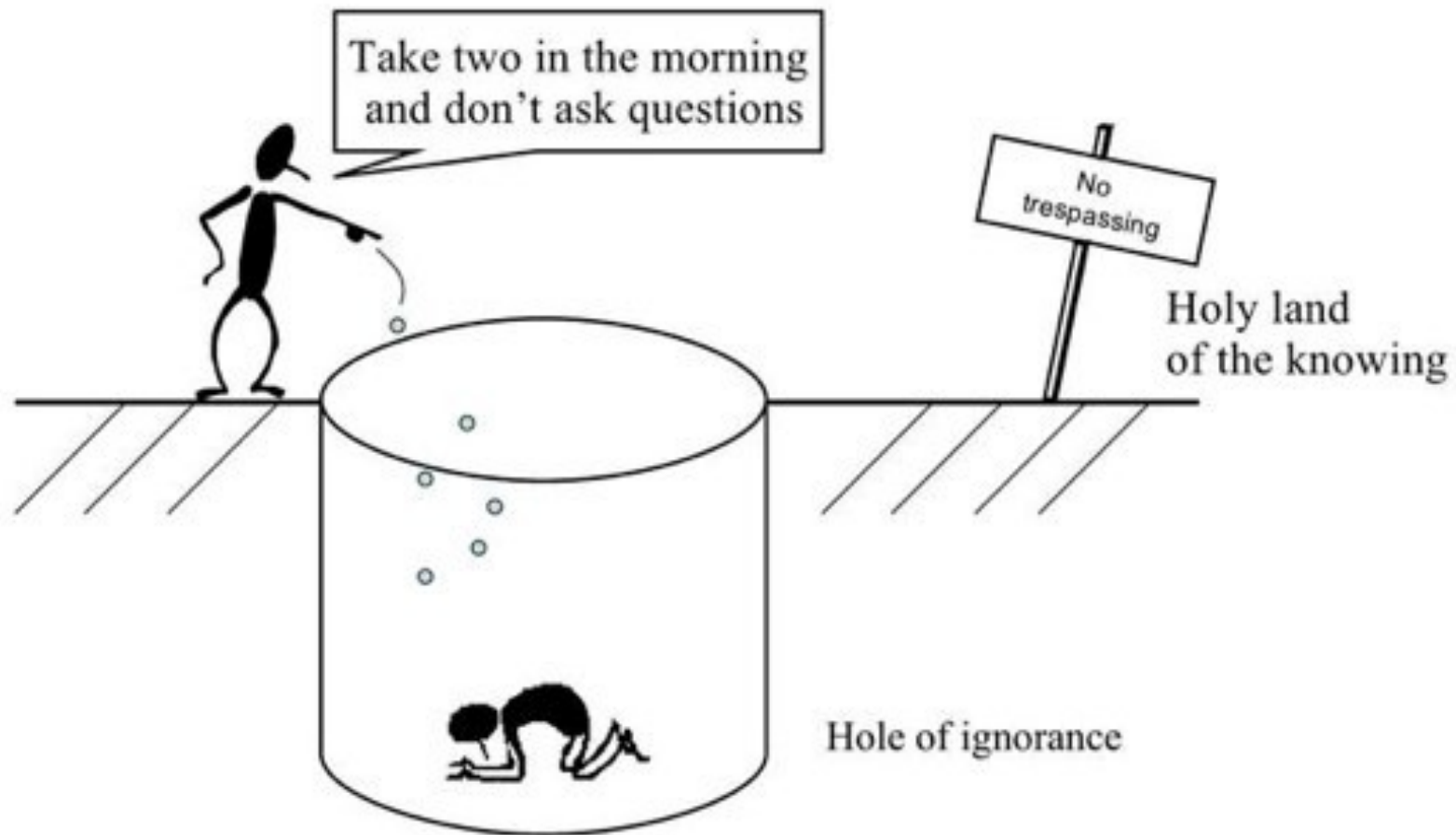
History of CHI

- Consumer movement of 1970s
 - Increased demand for information
 - Greater participation in “medical” decision making
- Prominence of “self-help” phenomenon of 1980s
 - Huge increase in health information for lay audience
- Widespread use of the Internet
 - Increased dramatically throughout 1990s

[Consumer Health Informatics: Past, Present, and Future of a Rapidly Evolving Domain](#)
[G Demiris - IMIA Yearbook, 2016](#)

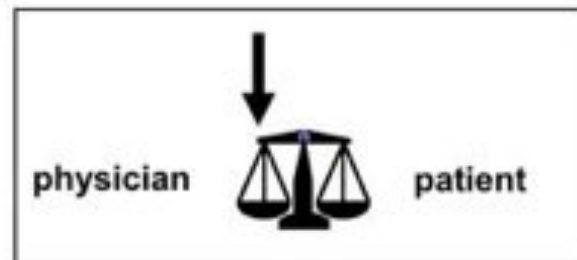
CHI Continuum

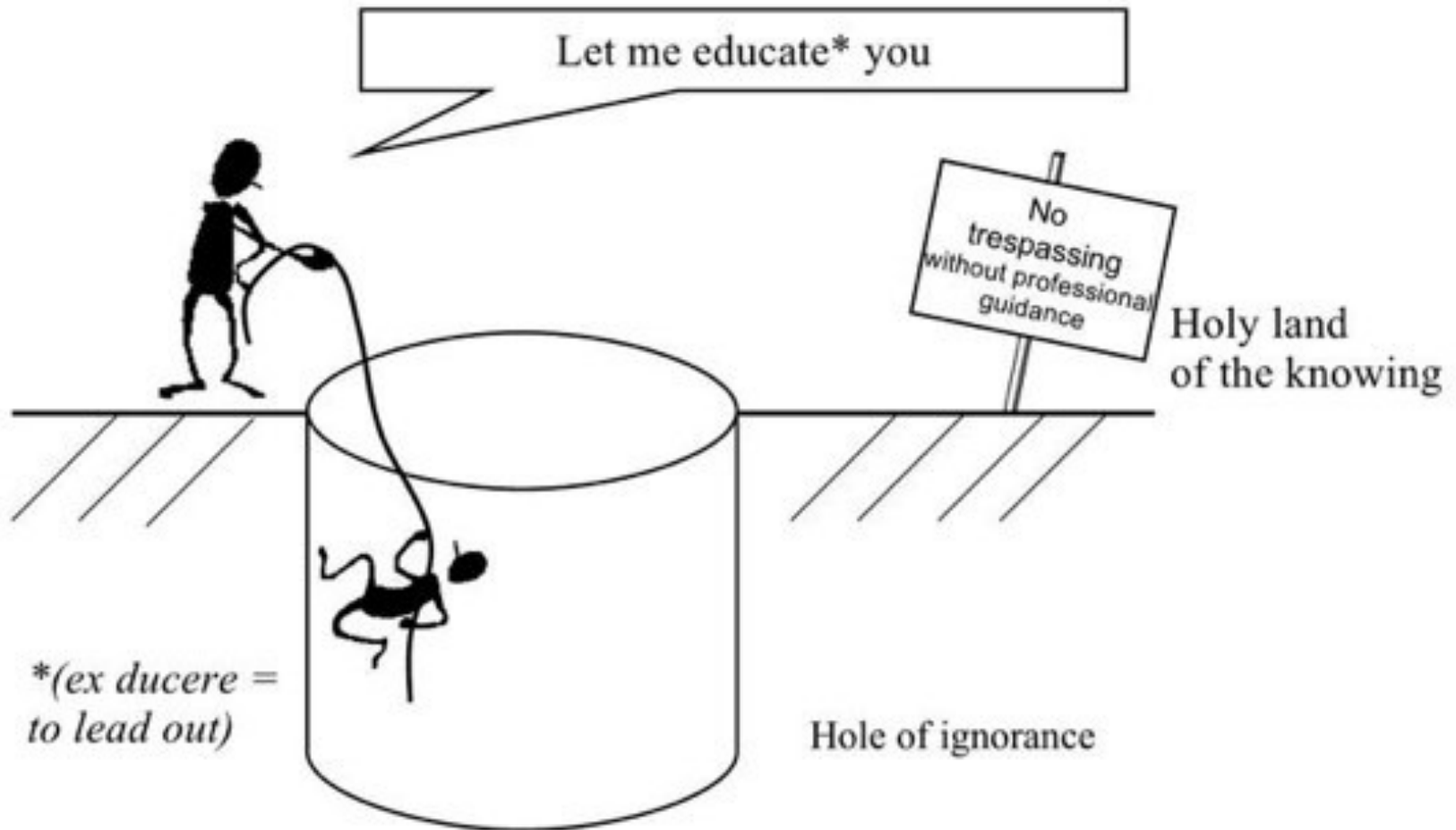




Before the 70s. The patient was isolated and is only given limited information.

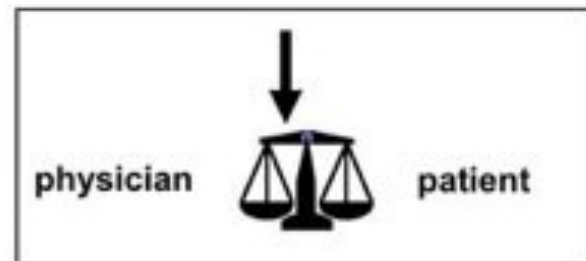
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Consumer health informatics in the internet age.
<URL: <http://www.jmir.org/2001/2/e19/>>

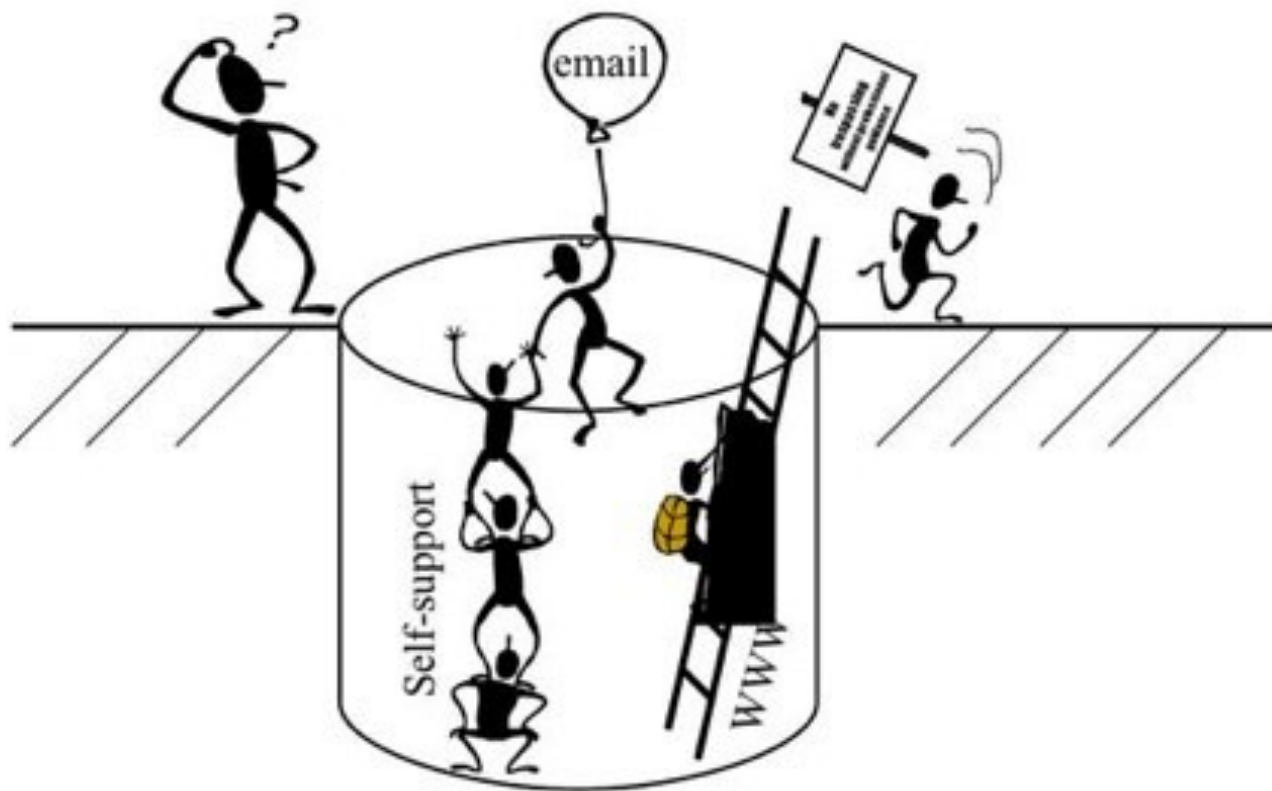




During the 80s.

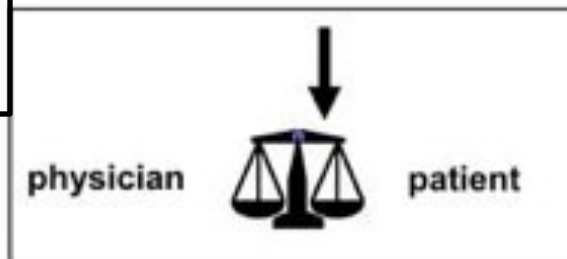
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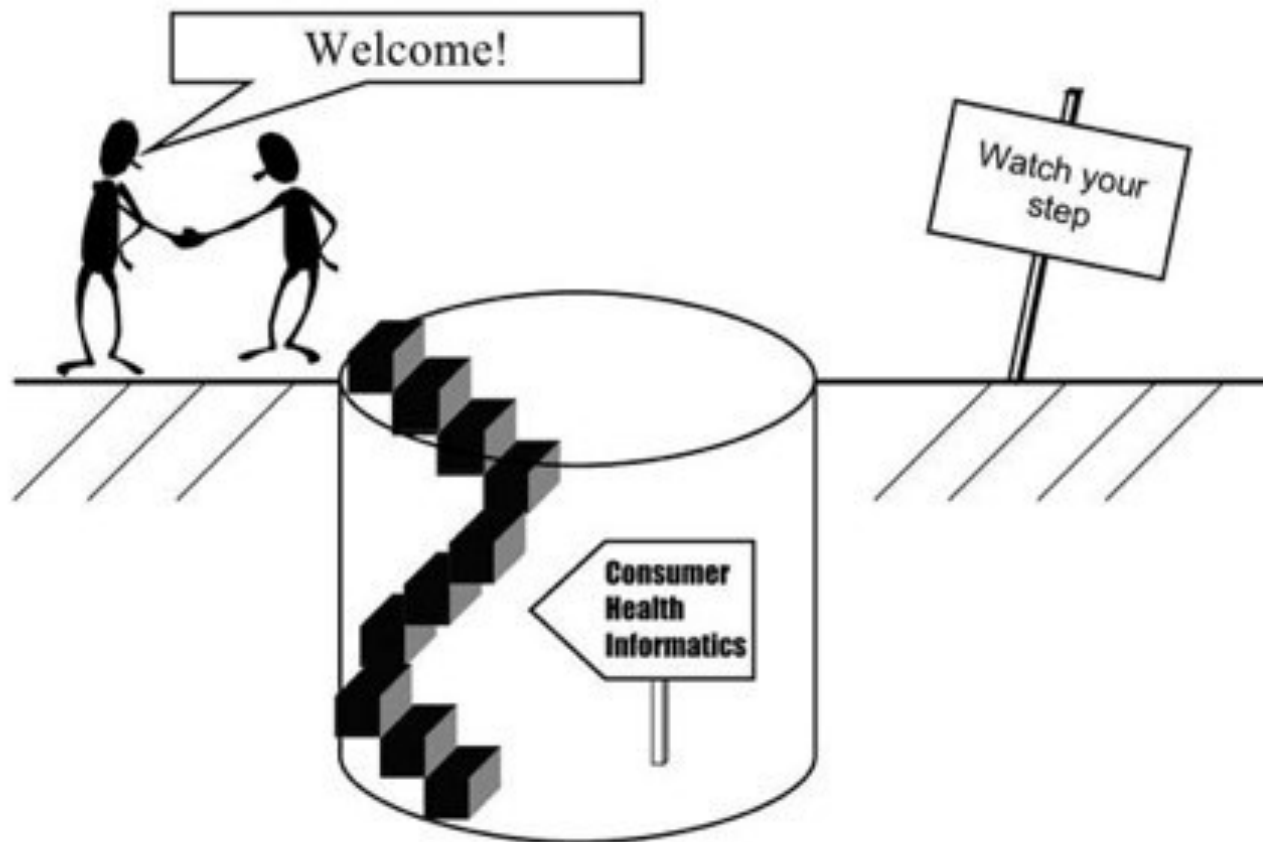




During the 90s. When people started using the internet they found away to escape the hole of ignorance. The knowledge is there but people still don't know how to use it because of lack of communication with the health care provider.

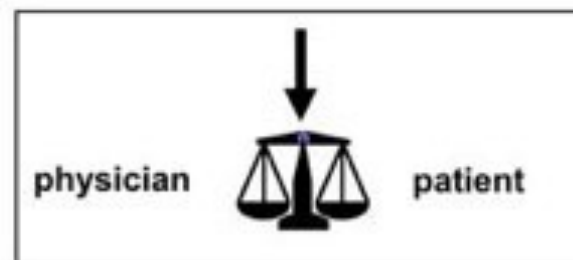
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Consumer health informatics bridges the gap between patients and providers.

Eysenbach G, Jadad AR.
Consumer health informatics in the internet age.
<URL: <http://www.jmir.org/2001/2/e19/>>



Saudi Arabia: Internet Growth and Population Statistics

YEAR	Users	Population	% Pop.	Usage Source
2000	200,000	21,624,422	0.9 %	ITU
2003	1,500,000	21,771,609	6.9 %	ITU
2005	2,540,000	23,595,634	10.8 %	C+I+A
2007	4,700,000	24,069,943	19.5 %	ITU
2009	7,761,800	28,686,633	27.1 %	ITU
2010	9,800,000	25,731,776	38.1 %	ITU

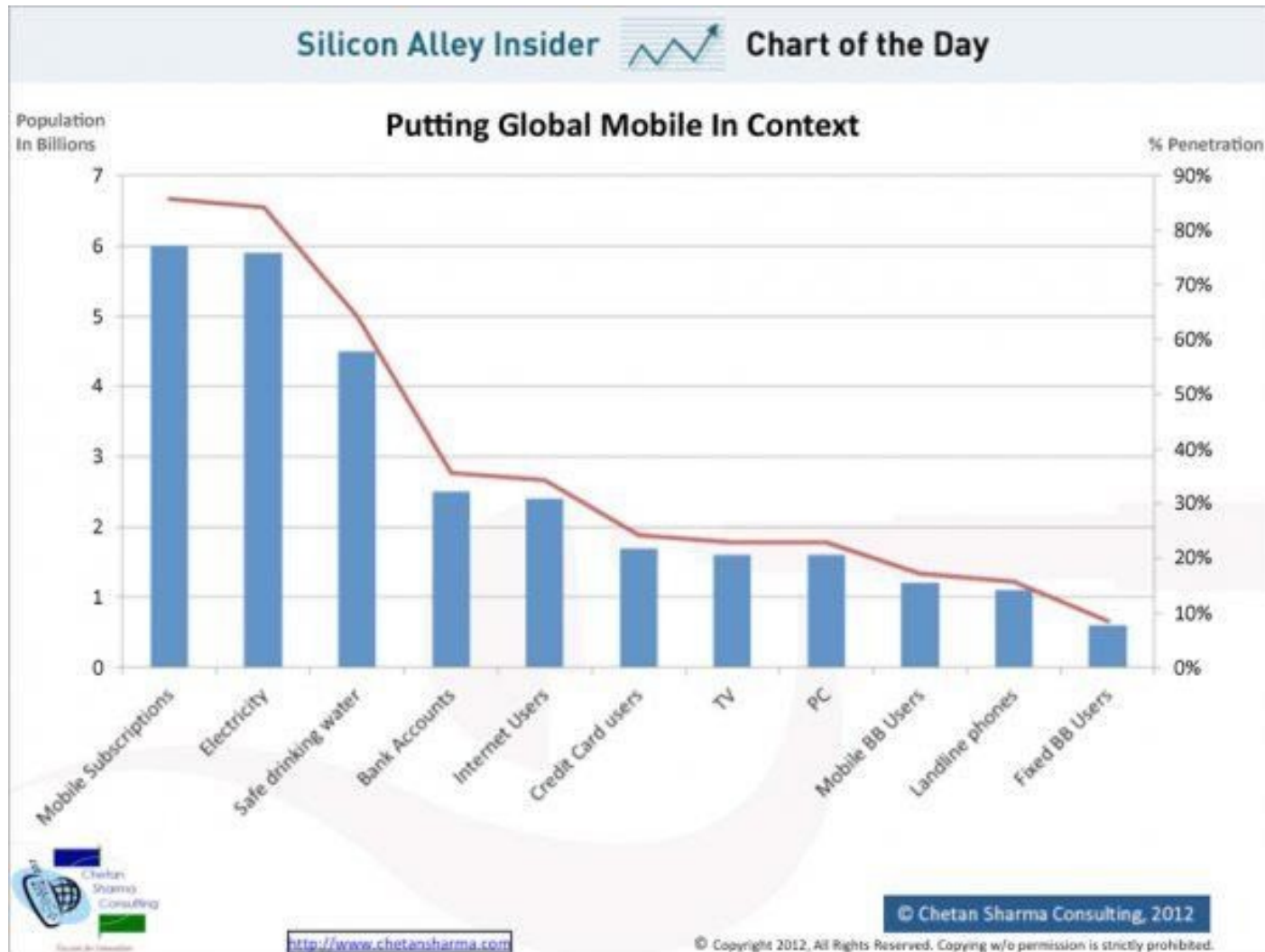
2011 USERS-→ 12,500,000
2014 USERS-→ 16,500,000
2015 USERS-→ 21,500,000

Mobile health

- M-health or Mobile health is a term used for the practice of medicine and public health, supported by mobile devices. The term is mainly used in reference to using mobile communication devices, such as [mobile phones](#), tablets and [PDAs](#), for [health services](#) and information. The mobile Health is a sub-segment of [eHealth](#),
- The mHealth market earned revenues of \$230 million in 2010 and is estimated to reach **\$392** million in 2015 in USA, according to a new report from research firm Frost & Sullivan.

mHealth

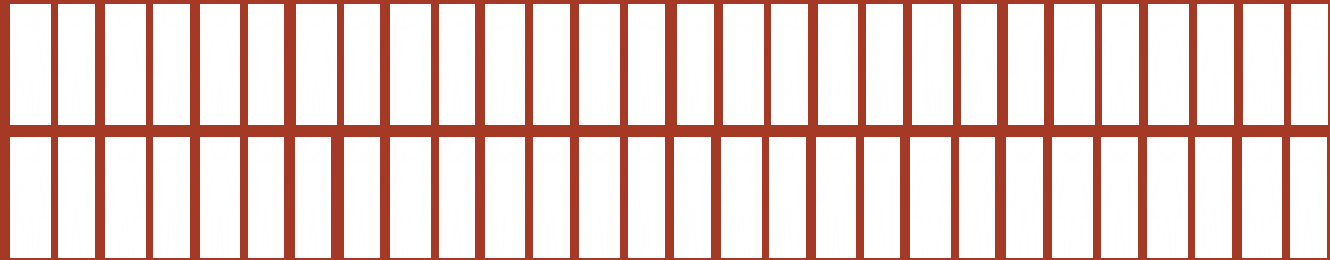
Mobile is the most Pervasive technology ever invented



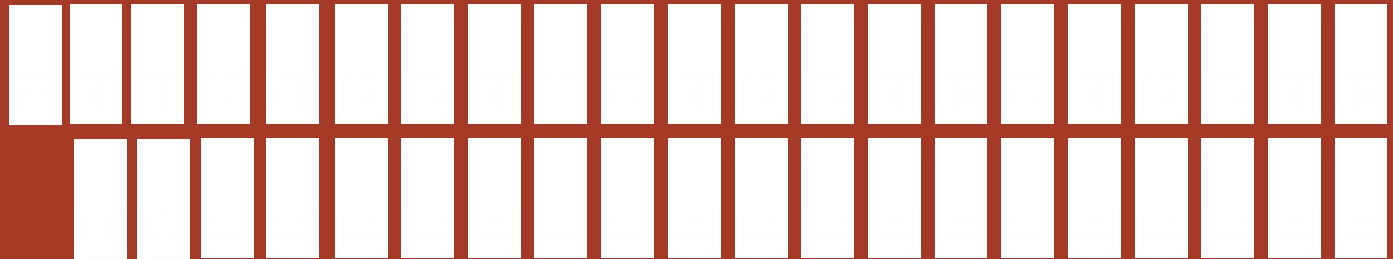
The mHealth Opportunity

In 2014 a study showed that the most widely used invention was cell phones (even more than electricity). The most downloaded application is torch (light) because in some countries cell phones are more available than electricity.

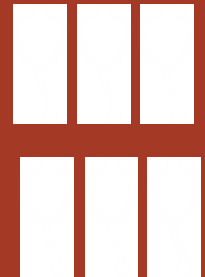
7 Billion
People



By 2014
More mobile
phones than
people



Expanding the coverage and reach of
critical health information and services
and moving towards citizen-centered
health and well-being



Consumer Health Informatics

- **Consumer Health Informatics**
- consumer or patient views.
- patient-focused informatics,
- health literacy and consumer education.
- health information literacy,
- consumer-friendly language (easy to understand)
- personal health records, and Internet-based strategies and resources.

Where clinical IS and Consumer health informatics meet

- Patient Portals: Patient interface to clinical information systems
- Personal Health Record: Internet based- set of tools that allows people to access and coordinate their life-long health information and make appropriate parts of it available to those who need it

Important Notes

Please phone the office 360-875-2288 for urgent medical problems or dial 911 for medical emergencies.

Your physician will respond to your message Monday through Friday during office hours. If you do not receive a timely response, please phone the office. During evenings and weekends, please

Contact My Doctor/Provider

Most important is ability of the patient to contact their doctor.

Please complete the following information:

To:

Subject:

Message:

Dr Jones, the sample medication you gave me at my last visit does not seem to be working. Should I continue to use this or should we change to something else?

Thanks,

Steve

Important Notes

Please phone the office at 800-477-4666 for urgent medical problems or dial 911 for medical emergencies.

Request an Appointment

Our appointment scheduling staff will handle your request, and will reply with date and time options for you to confirm.

Please complete the following information:

Type of Appointment	Complete Physical Exam <input type="button" value="v"/>
Reason for Appointment (Optional)	I need my yearly physical exam <input type="button" value="v"/>
Special Requests, Comments, etc.	<input type="button" value="v"/>

Date Requested:

Time

Morning Afternoon No Preference

Important Notes

Please report any medication side effects or allergies.

All patients must be seen at regular intervals to evaluate your medical problems and medications.

Some insurance plans will only permit enough medication for one month at a time.

We will forward your

Refill/Renew My Medications

Please complete the following information regarding your medication refills.

(Check only those medications you need refilled or renewed at this time. You must select at least one checkbox. If you do not see your medication listed below, please [Click here](#) to update your medication list. Once you have updated your medication list, you can return to this page and request a refill.)

Add/Edit Meds

Check to Refill	Medication Name	Dosage (mg, ml)	Dosage Frequency	Quantity
<input type="checkbox"/>	Lantus	14 units	Once Daily	1 Days
<input type="checkbox"/>	Regular insulin	as needed	Three Times	1 Days
<input checked="" type="checkbox"/>	Lasix	20 mg	Once Daily	1 Days
<input type="checkbox"/>	Lovastatin	20 mg	Once Daily	1 Days
<input type="checkbox"/>	Lisinopril	20 mg	Once Daily	1 Days

Important Notes

This form will be reviewed by your doctor for approval. You will be notified about approval, the need to visit your primary care doctor, etc.

Request a Referral

To receive a referral to a specialist, please complete the following:

Specialist Type	Allergist
Specific Doctor	Dr Green
Medical or Surgical Problem (Describe)	Allergies
Have you seen this specialist before?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Have you consulted your primary care physician for this problem?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Comments	

Important Notes


Please phone the
office 303-871-2205 for
urgent medical
problems or dial 911 for
medical emergencies.

View EKG

Enable patients to see their test results

Click on the title to view a document.

Results for **Steve Johnson**:

Title	Description	Print
<u>3-30-2003</u>	Normal	



GRAPHICS



GRAPHICS



GRAPHICS



Consumer Health Informatics Systems

- Consumer health informatics can be organized into three general systems that:
 - *provide* health information to the user (one-way communication) ex. brochures, TV displays
 - *tailor* specific information to the user's unique situation (customized communication) see next slide
 - allow the user to *communicate* and *interact* with health care providers or other users (two-way communication) ex. email

Consumer Health Informatics Systems

- **One-way communication:** CD-ROMs, on-line health articles
- **Tailor:** automated systems that obtain information from the consumer about his or her general health or other health-related factors (such as family disease histories and smoking habits) and, on the basis of this information, suggest a need for preventive health procedures (such as mammograms), or identify actions to curb high-risk behaviors.
- **Two-way communication:** electronic mail, electronic bulletin boards, on-line discussion groups.

Roles of Health Professionals in CHI

- Professionals serve as sources of content
- Professionals provide important guidance in moderating public electronic discussion groups and responding to patients' electronic messages
- Clinicians become information brokers and interpreters for patients.

Quality control of health information on the internet

- The quality control of health information on the internet rests on **four pillars**:
 - educating the consumer helps with patient compliance
 - encouraging the self regulation of providers of health information
 - having third parties evaluate the information
 - enforcing consents in cases of dissemination of fraudulent or harmful information.

American board of medical quality set standards that require physicians to listen to patients for 4 minutes without interruption except for encouragement.

Credibility Criteria

Not important

- The FA4CT Algorithm: A New Model and Tool for Consumers to Assess and Filter Health Information on the Internet
- **CREDIBLE Criterion**
- **C**urrent and frequently updated
- **R**eference cited
- **E**xplicit purpose
- **D**isclosure of sponsors
- **I**nterest disclosed and no conflicts found (e.g financial)
- **B**alanced
- **L**evel of **E**vidence
 - Eysenbach G, Thomson M. The FA4CT Algorithm: A New Model and Tool for Consumers to Assess and Filter Health Information on the Internet. In: Kuhn K (ed.) Medinfo 2007 Proceedings (in press)

Patient Centric Healthcare

“care that is respectful of, and responsive to, individual patient preferences, needs, and values” and that ensures

“that patient values guide all clinical decisions.”

This definition highlights the importance of clinicians and patients working together to produce the best outcomes possible.

Patient / People Engagement

WHO defines People Centered Care as:

“Care that is focused & organized around the health needs & expectations of people & communities rather than on disease”

Characteristics of Patient Centered Care

- **Respect** for patients values, preferences & needs
- **Coordinated and integrated** care
- **Information, Communication & Education**
- **Physical Comfort**
- **Emotional Support** cyber communities
- **Involvement** of family & friends
- **Continuity** of care
- **Access** to care

Picker Institute-Multiyear Research Project

“Through the Patient’s Eyes: Understanding and Promoting Patient-Centered Care”

It's a Different Ball game

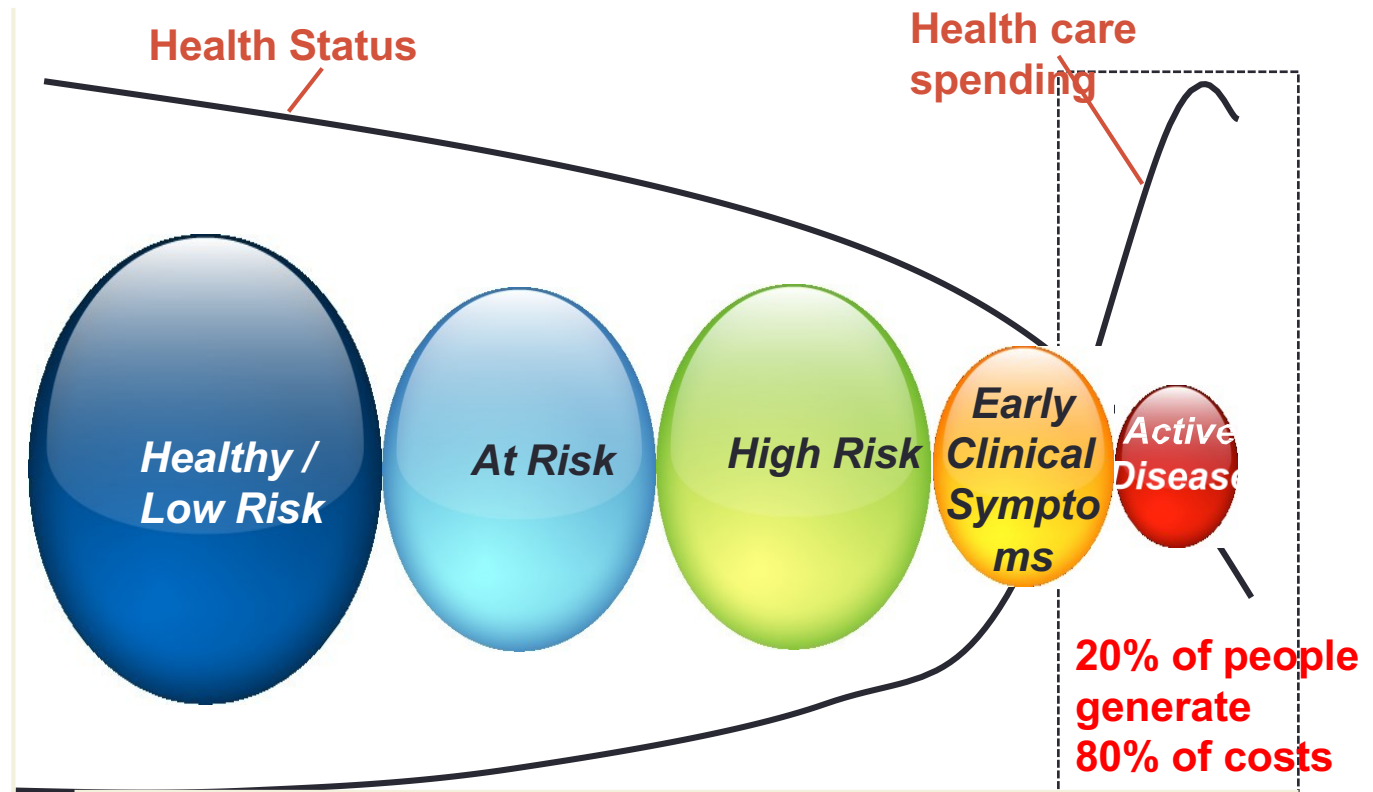
In an eHealth environment, **Information Moves**
rather than the Physician or the Patient

eHealth

ePhysician - eConsumer

!

Is “At the Point of Care” Too Late?

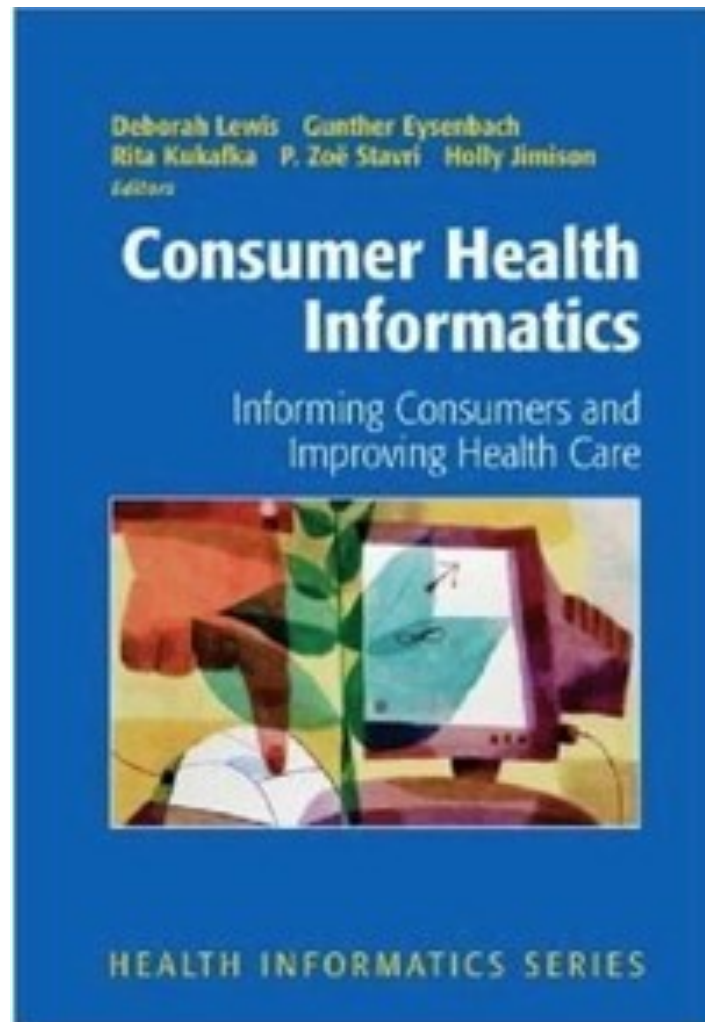


- Early detection of at-risk patients
- Provide **personalized** evidence to enable proactive decisions

Actions

- Technology victories and chronic disease,
- e-Health takes a prominent role in the management of healthcare
- To aggregate rather than segregate healthcare system
- Consumer health education and empowerment
- Preventive medicine takes precedence over treating the sick
- Focus on vulnerable members of society;

Further Reading





The Future: Trends

- Is for Consumer Health Informatics

Thank you

With my best wishes

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Sara Alqahtani
Sara Alkhalifah

