CONSUMER HEALTH INFORMATICS (CHI)

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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

- In this view, 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**.

Consumer Health Informatics

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

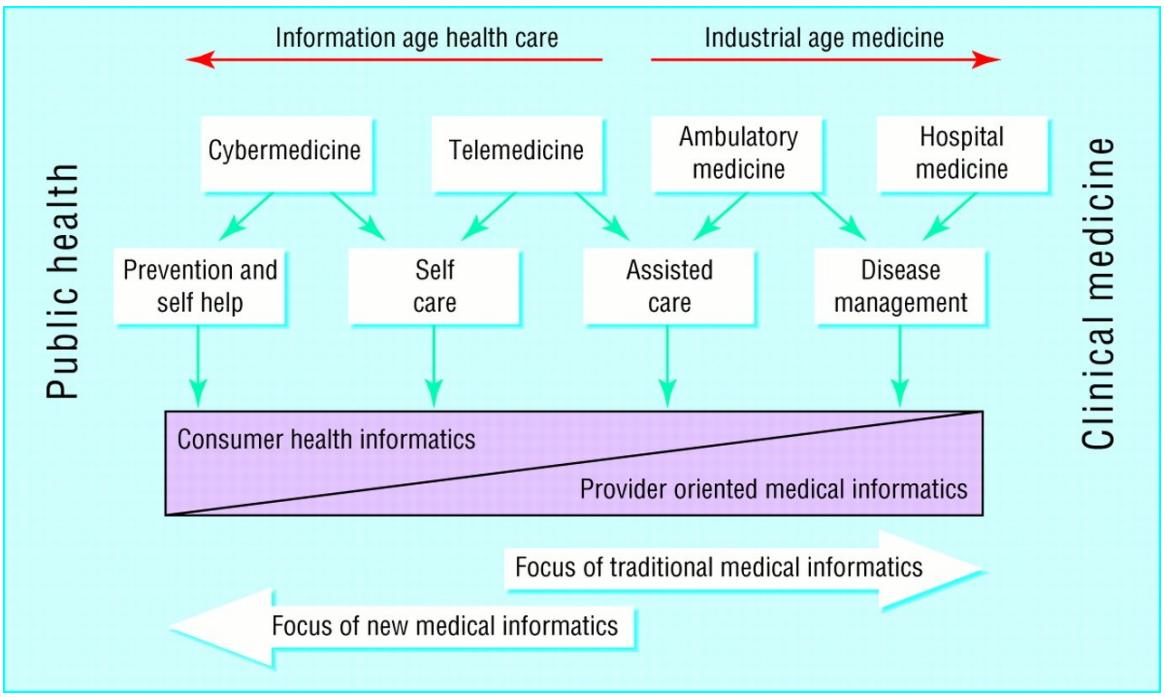
Lewis, D. & Friedman, C. (2002). Consumer health informatics. In M.J. Ball, K.J. Hannah, S.K. Newbold, & J.V.Douglas (Eds.). *Nursing informatics: Where caring and technology meet (3rd ed.).* New York; Springer-Verlag.

Consumers?

- More broader than “patient “ it may include the well and caregivers
- It is a very diverse group

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



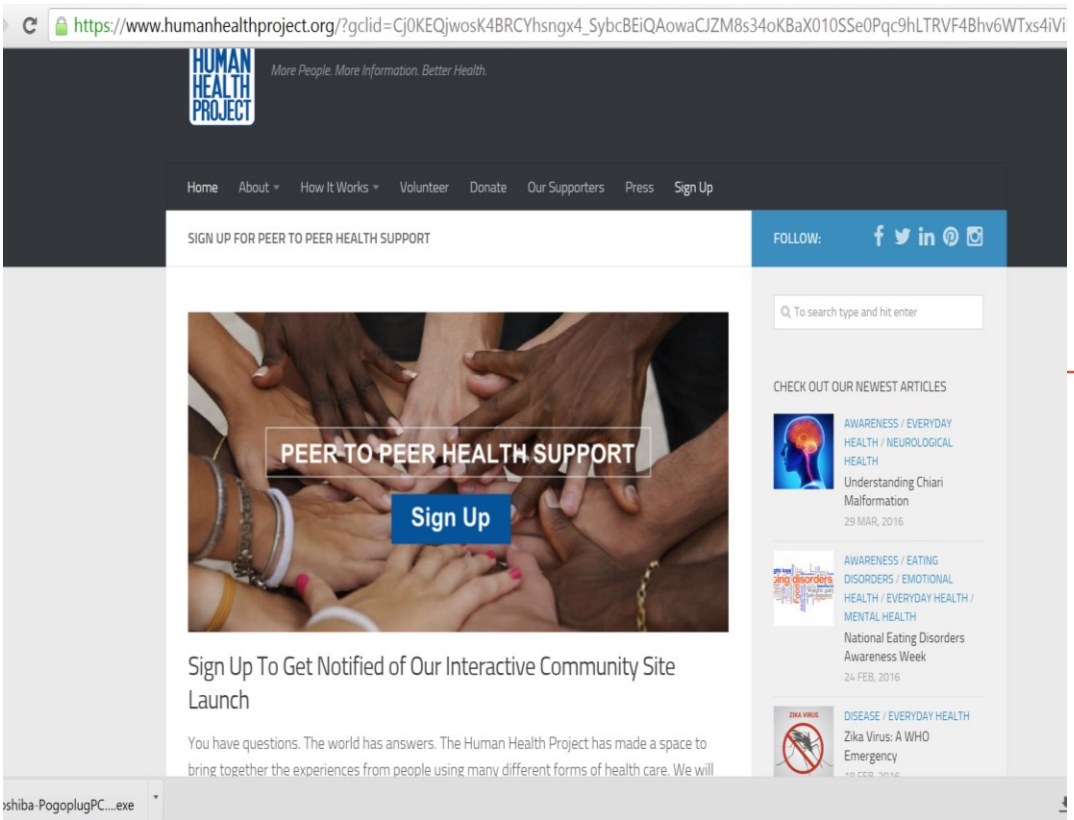
Empowered Consumers

- 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)

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

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
  - ✓Assisting in finding others with similar concerns
  - ✓Assisting in navigating the health care system and services
  - ✓Access to clinical records and personal care management tools.


https://www.humanhealthproject.org/?gclid=Cj0KEQjwosK4BRCYhsngx4_SybcBEiQAowaCJZM8s34oKBaX010SSe0Pqc9hLTRVF4Bhv6WTxs4iVi
HUMAN HEALTH PROJECT
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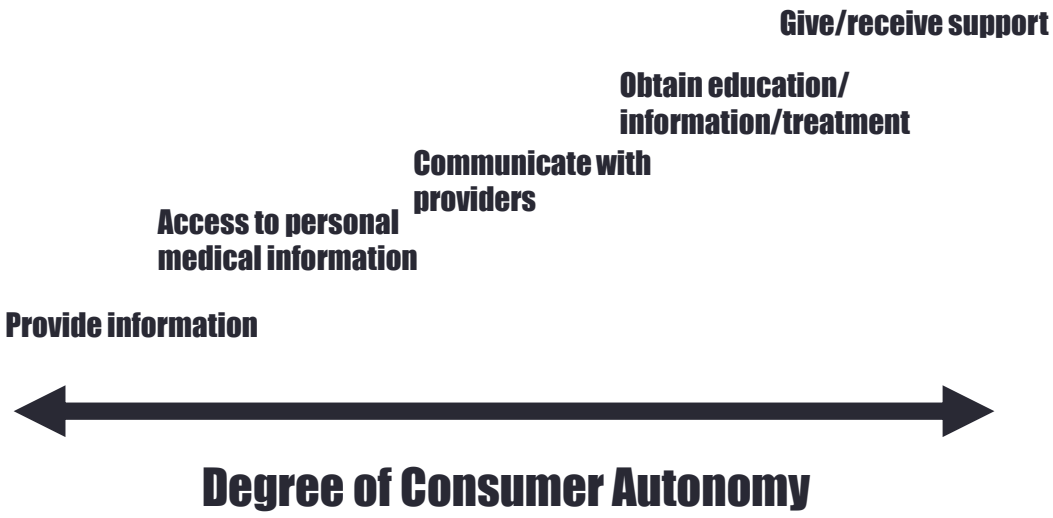
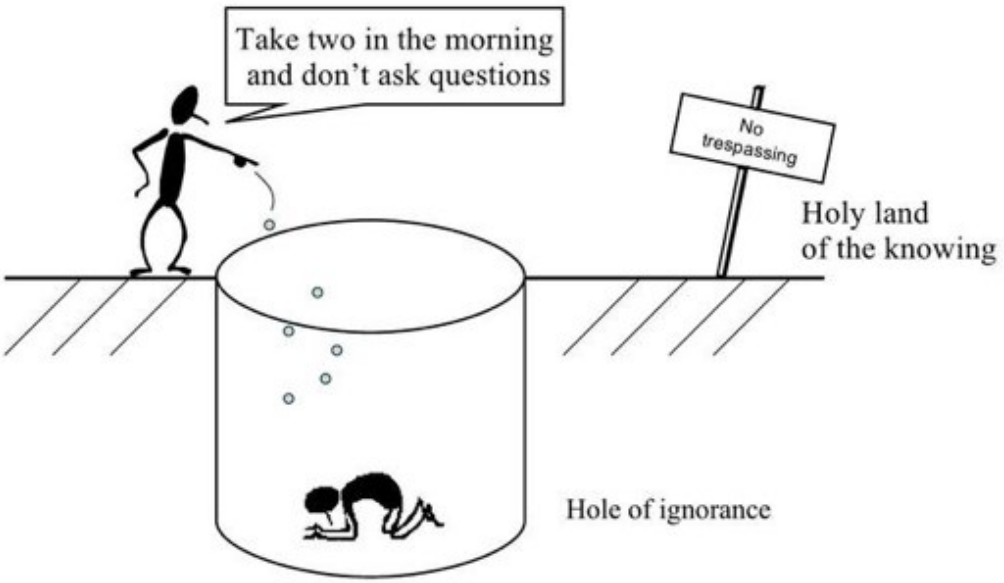
National Eating Disorders Awareness Week
24 FEB, 2016
DISEASE / EVERYDAY HEALTH
Zika Virus: A WHO Emergency
Sign Up To Get Notified of Our Interactive Community Site Launch
You have questions. The world has answers. The Human Health Project has made a space to bring together the experiences from people using many different forms of health care. We will
oshiba-PogoplugPC....exe

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

CHI Continuum





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Consumer health informatics in the internet age.
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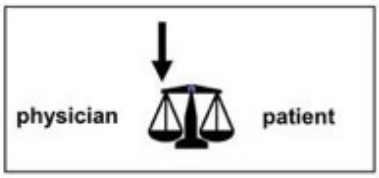

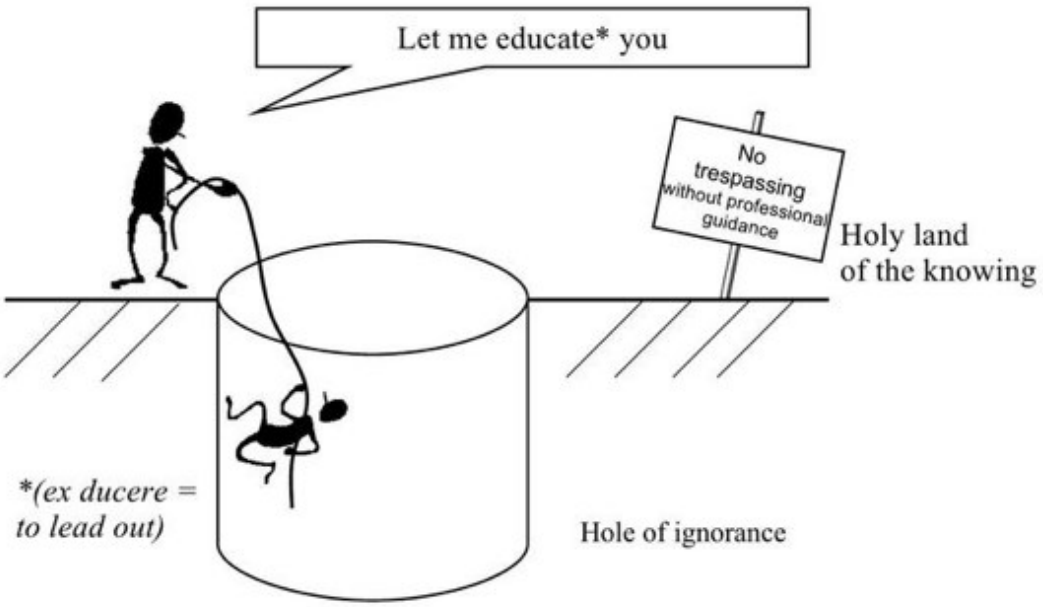

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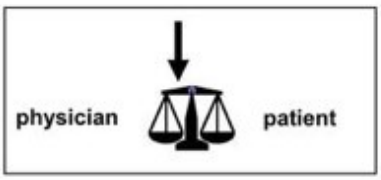

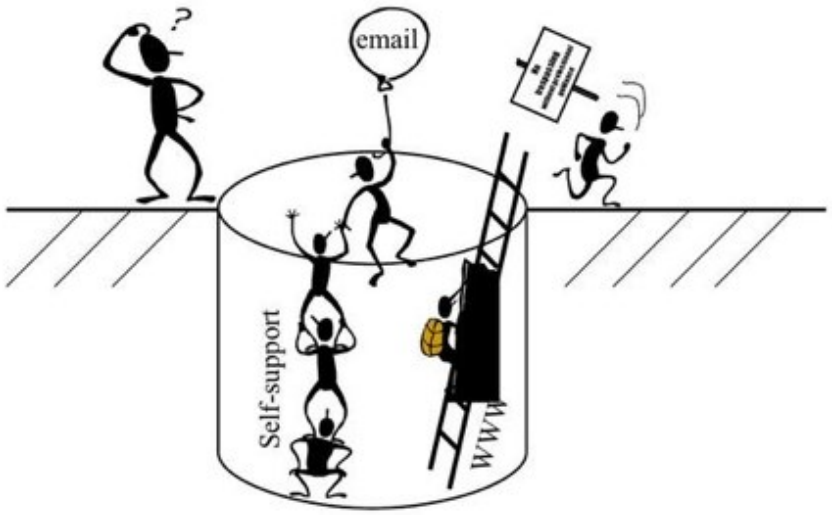

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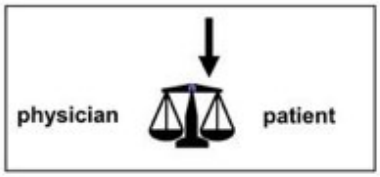

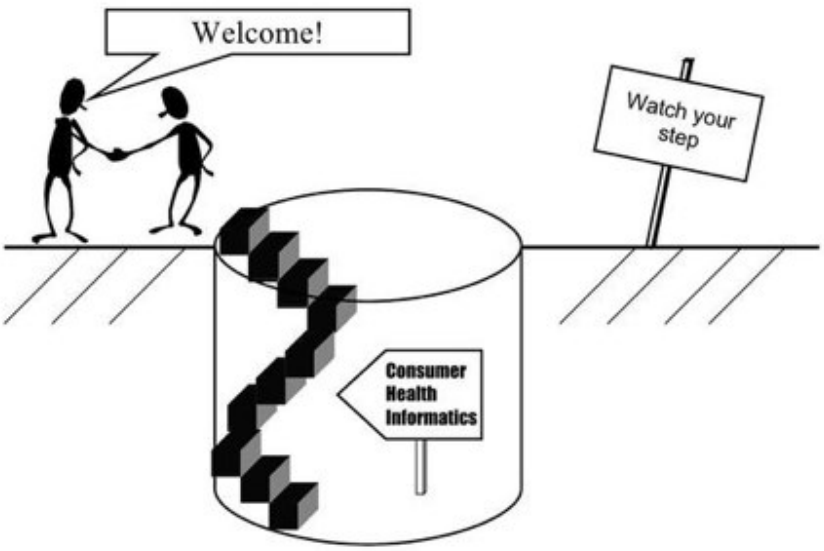

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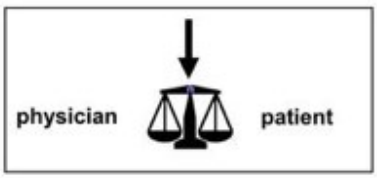


https://youtu.be/8BKN7RFhdq4

patient centered care

http://www.internetworldstats.com/me/sa.htm

Saudi Arabia: Internet Growth and Population Statistics

YEAR	Users	Population	% Pop.	Usage Source
2000	200,000	21,624,422	0.9 %	ITU
20	1,500,000	21,771,600	6.9 %	ITU
20				C+I+A
20				ITU
200				ITU
2010	9,800,000	25,731,776	38.1 %	ITU

2015 USERS-→21,500,000

http://www.internetworldstats.com/me/sa.htm

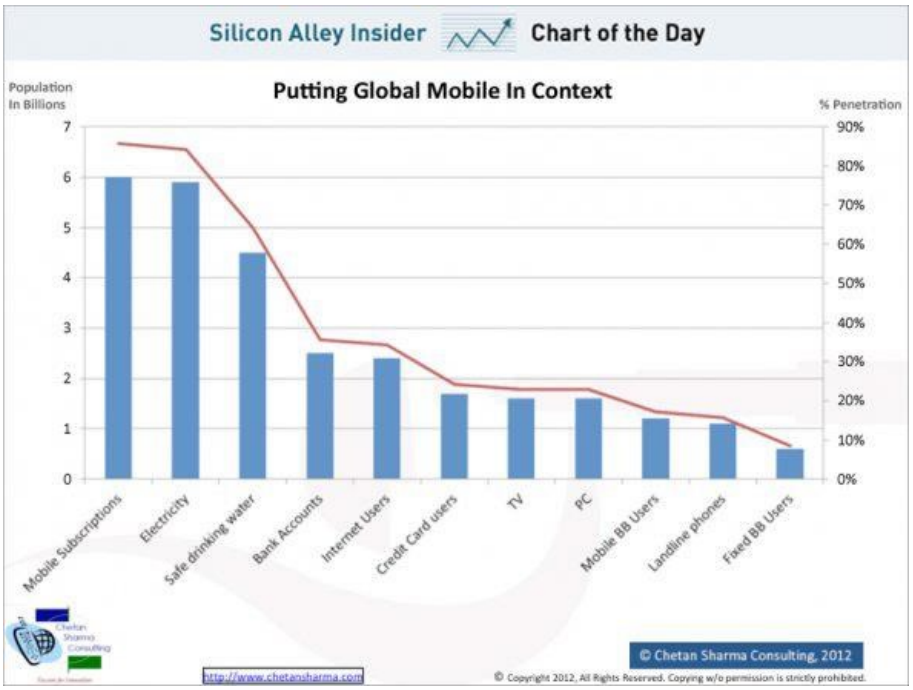
Mobile health

- 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

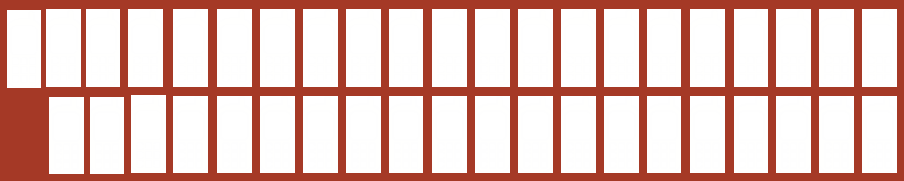
Mobile is the most Pervasive technology ever invented



The mHealth Opportunity

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,
- 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

http://ww.webcitation.org

ReachMyDoctor
SEND MESSAGES
READ MESSAGES
MY CHART
MY ACCOUNT
SIGN OUT
portant Notes
Please phone the
for
urgent medical
blems or dial 911 for
dical emergencies.
Your physician will
pond to your
ssage Monday
ough Friday during
ce hours. If you do
receive a timely
ponse, please phone
office. During
enings and
Contact My Doctor/Provider
Please complete the following information:
To:
Dr. Jones
Subject:
General Questions
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

ReachMyDoctor
SEND MESSAGES
READ MESSAGES
MY CHART
MY ACCOUNT
SIGN OUT
Request an Appointment
Our appointment scheduling staff will handle your request, and will reply with date and tim
options for you to confirm.
Please complete the following information:
Type of Appointment
Complete Physical Exam
Reason for Appointment (Optional)
I need my yearly physical exam
Special Requests, Comments, etc.
Calendar
Date Requested:
Time
Morning
Afternoon
No Preference
Send Appointment Request

ReachMyDoctor
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Some insurance
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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 t 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
Lantus
14 units
Once Daily
1
Days
Regular insulin
as needd
Three Times
1
Days
Lasix
20 mg
Once Daily
1
Days
Lovastatin
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Days

ReachMyDoctor
ME
SEND MESSAGES
READ MESSAGES
MY CHART
MY ACCOUNT
SIGN OUT
NO NEW MA
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This form will be
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approval. You will be
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the need to visit your
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t.
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?
Yes
No
Have you consulted your primary care physician for this problem?
Yes
No
Comments

ReachMyDoctor
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SEND MESSAGES
READ MESSAGES
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Please phone the
ce 303-871-2205 for
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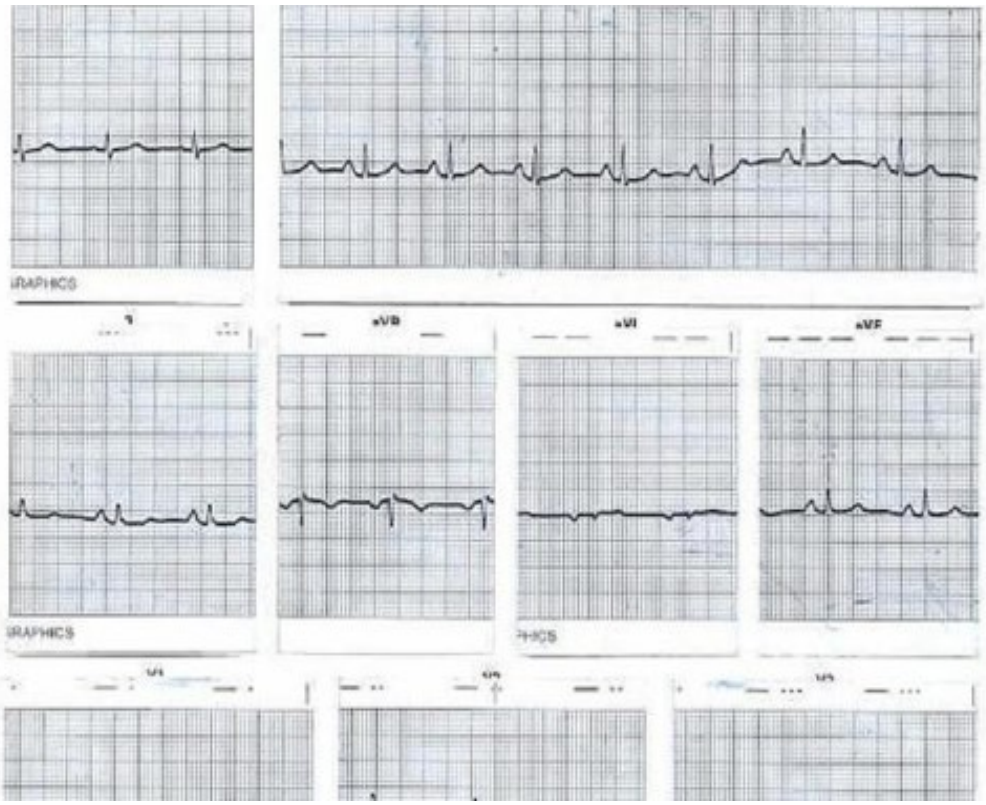
View EKG
Click on the title to view a document.
Results for Steve Johnson:
Title
Description
Print
3-30-2003
Normal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Consumer Health Informatics Systems

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

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
  - 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.

Credibility Criteria

- 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.

Crossing the Quality Chasm, IOM

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**
- **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

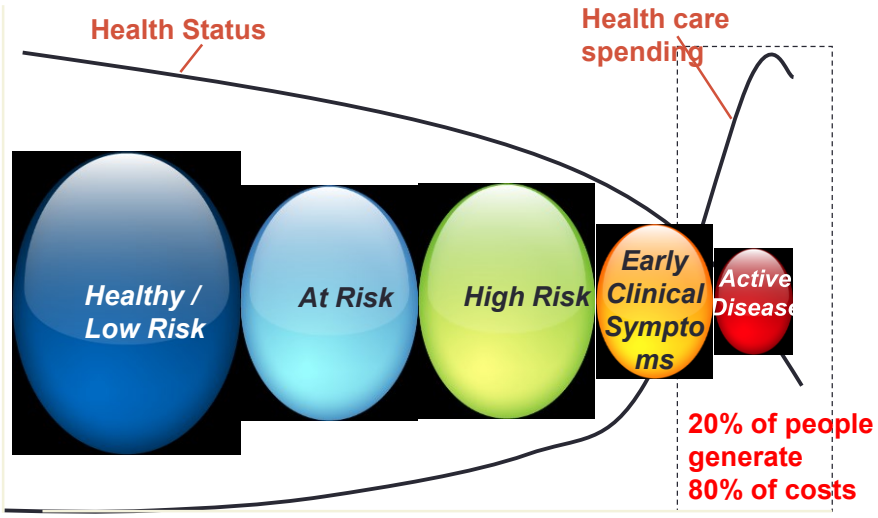
In an eHealth environment, **Information Moves** rather than the Physician or the Patient

eHealth

ePhysician - eConsumer

!

Is “At the Point of Care” Too Late?

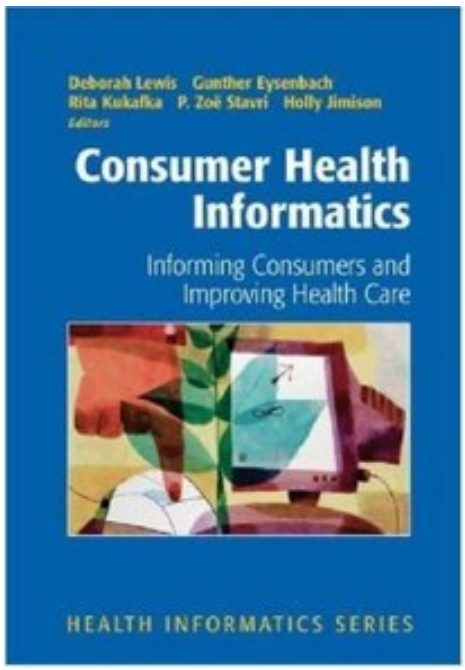


- Early detection of at-risk patients
- Provide **personalized** evidence to enable pro-active decisions

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



ABOUT HUMAN HEALTH PROJECT

https://youtu.be/kp-5Jo1qHw8

The Future: Trends

- Is for Consumer Health Informatics

Thank you

Prof Ahmed Albarrak