



Medicine in the age of Facebook



Social media,
transparency,
and
disrupting traditions

C.T. Lin MD

Chief Medical Information Officer, UCHealth
Professor, University of Colorado School of Medicine



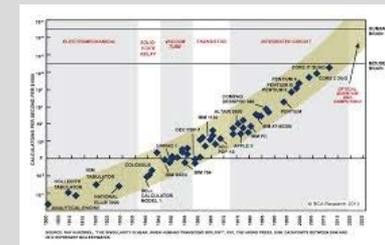
University of Colorado Hospital
UNIVERSITY OF COLORADO HEALTH

Disclosures:

- None

Your takeaways

- Facebook-like forces will change relationships in healthcare.
- Patients will want to read AND write in their healthcare record.
- Moore's law will disrupt traditional healthcare.
- Will we be nimble enough to keep up?



Social media Q and A

- What social media do you (admit that you) use?
- *Email, Texting, Blogging, Podcasting, Twitter, Facebook, Tumblr, Hangouts, Yelp, Waze, Tinder?*
- What about social media and healthcare? Any experiences good or bad?

Mythbusters (transparency)

- If **patients talk to doctors online**, then surely THE FLOODGATES WILL OPEN
- **Releasing test results online** will create more misunderstanding and re-work for doctors
- **Showing doctor's progress notes** to patients is “just asking for trouble”
- **Releasing INPATIENT results** will increase patient trust and empowerment
- **Social media** can be used as a force for better patient care

UCH 9th Avenue Campus
46 acres at 9th & Colorado



Vision 2020

Re-inventing health care for the next
century

Former Fitzsimons Army Base, now Anschutz Medical Campus



One square mile; 30,000 employees





Paternalism

(doctor-centered)

Knowledge is power, I am the expert

I am too important for clerical tasks

Patients do best when they do what I say

There is nothing wrong with the way I work



Knowledge...power **Collaboration is powerful**

I am too important **Communication improves safety**

Pts...do what I say **Connection fosters participation**

Nothing wrong... **Change requires a burning platform**

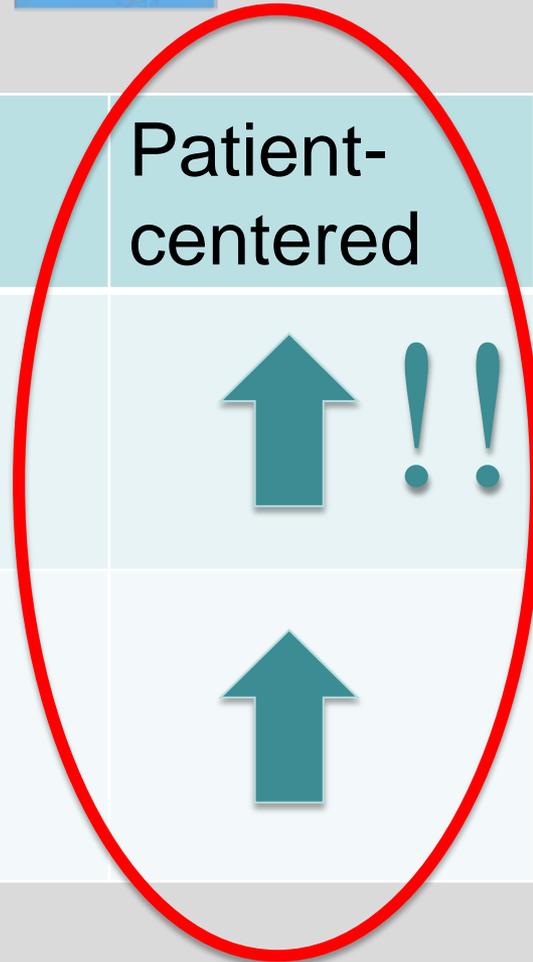


Doctor-centered

Patient-centered



	Doctor-centered	Patient-centered
Doctor-centered	↑	↑ !!
Patient-centered	↓	↑



**A STEP-BY-STEP APPROACH
TO CREATIVITY ON DEMAND**

SERIOUS CREATIVITY

*Using the Power of
Lateral Thinking to
Create New Ideas*

EDWARD DE BONO

Author of the bestsellers Lateral Thinking and Six Thinking Hats

*"Serious Creativity contains everything de Bono has learned about lateral thinking
in the past twenty-five years and will become the bible of creativity for business."*

—Ben D. Barbano, President, The Prudential Insurance Company of America

My Doctor's Office

Direct Scheduling

Advance Check-In

CEO-email satisfaction

Better understand my conditions

- Get my questions answered
- See my medical records

Coordinate care between doctors

- Referrals
- Sharing information between doctors

Manage my condition

- Prescription management
- Improve my condition

Between visits

Preparing for a visit

Easy appointment making

- Do I need an appointment?
- Convenient appointment times
- Simplify appointment process
- Remind me of appointment
- Streamline my check-in

What do patients want?

Ask follow-up questions

Simplify paying bill

Get test results

After the visit

During the visit

- Be seen on time
- Time enough to tell my story
- Make sure I get high quality care
- Get my questions answered
- Be treated respectfully

Electronic Medical Records

SPPARO

CORHIO

Diabetes-STAR

myth #1

If patients talk to doctors
online, then surely THE
FLOODGATES WILL OPEN

Online communication

- 87% of U.S. adults have Internet access
 - (Pew Internet Poll, Feb, 2014)
- 90% of online patients want to e-mail their doctor
- 56% of online patients say e-mail access would influence their choice of doctor
 - Harris Interactive poll, April, 2002
- 41% of patients say that social media affects their choice of doctor
 - DCinteractive Media, 2014

Online communication (MD opinions)



“The floodgates will open”

“Patients will send chest pain messages--at midnight!”



“Patients can reach me”

“Less telephone tag!”

Patient satisfaction improved

Sending a message to Docs:	24%	
Prescription refills:	19%	
Appointment requests:	24%	
Overall care from the clinic	11%	
Overall communication	32%	

Most messages were sent after hours



Online Communication Summary

- MDO patients are **more satisfied** with communication and overall care
- Patients say it **saves phone calls**, visits
- Physicians are neutral to positive
- Messaging **volume is modest**
 - 1 message for 250 patients online
- 2016: 150,000 patients enrolled

myth #1

If patients talk to doctors
online, then surely THE
FLOODGATES WILL OPEN



myth #2

Releasing test results online will create more misunderstanding and more work for doctors

myth #3

Showing doctor's progress notes to patients is "just asking for trouble"

Online release of test results



“Patients will be confused.”

“The only reason I will participate is that you are doing a rigorous study.”

“Patients will be better participants in their care.”

SPPARO Version 1.0
System to Provide Patients Access to Records Online

[Change Password](#) | [University Of Colorado Hospital](#) | [Log Out](#)

Choose Below

- [Demographics](#)
- [Laboratory](#)
- [Transcription](#)
- [Radiology](#)
- [Heart Guide](#)
- [Questions](#)

CONGESTIVE HEART FAILURE BNP

Test Name	Units	Ref. Range	Result
			11/11/2003 9:10:00 AM
BNP	pg/mL	0-100	118 H *

Report Comments

Test Name / Date	Note
BNP / 11-NOV-2003 09:10:00	15886020 CONGESTIVE HEART FAILURE BNP 3821841 Basic Metabolic Panel BNP = Brain Natriuretic Peptide

Basic Metabolic Panel

Test Name	Units	Ref. Range	Result	Ref. Range	Result	Ref. Range	Result	Ref. Range	Result
			7/15/2003 9:10:00 AM		4/15/2003 9:00:00 AM		4/8/2003 3:41:00 PM		3/7/2003 1:25:00 PM
NA	mmol/L	133-145	137	133-145	136	133-145	136	133-145	138
K	mmol/L	3.3-5.0	4.6	3.3-5.0	4.3	3.3-5.0	4.4	3.3-5.0	4.5
CL	mmol/L	96-108	101	96-108	101	96-108	101	96-108	99
CO2	mmol/L	22-29	26	22-29	26	22-29	23	22-29	24
GLU R	mg/dL	60-199	90	60-199	85	60-199	77	60-199	81
BUN	mg/dL	6-23	25 H	6-23	34 H	6-23	32 H	6-23	36 H

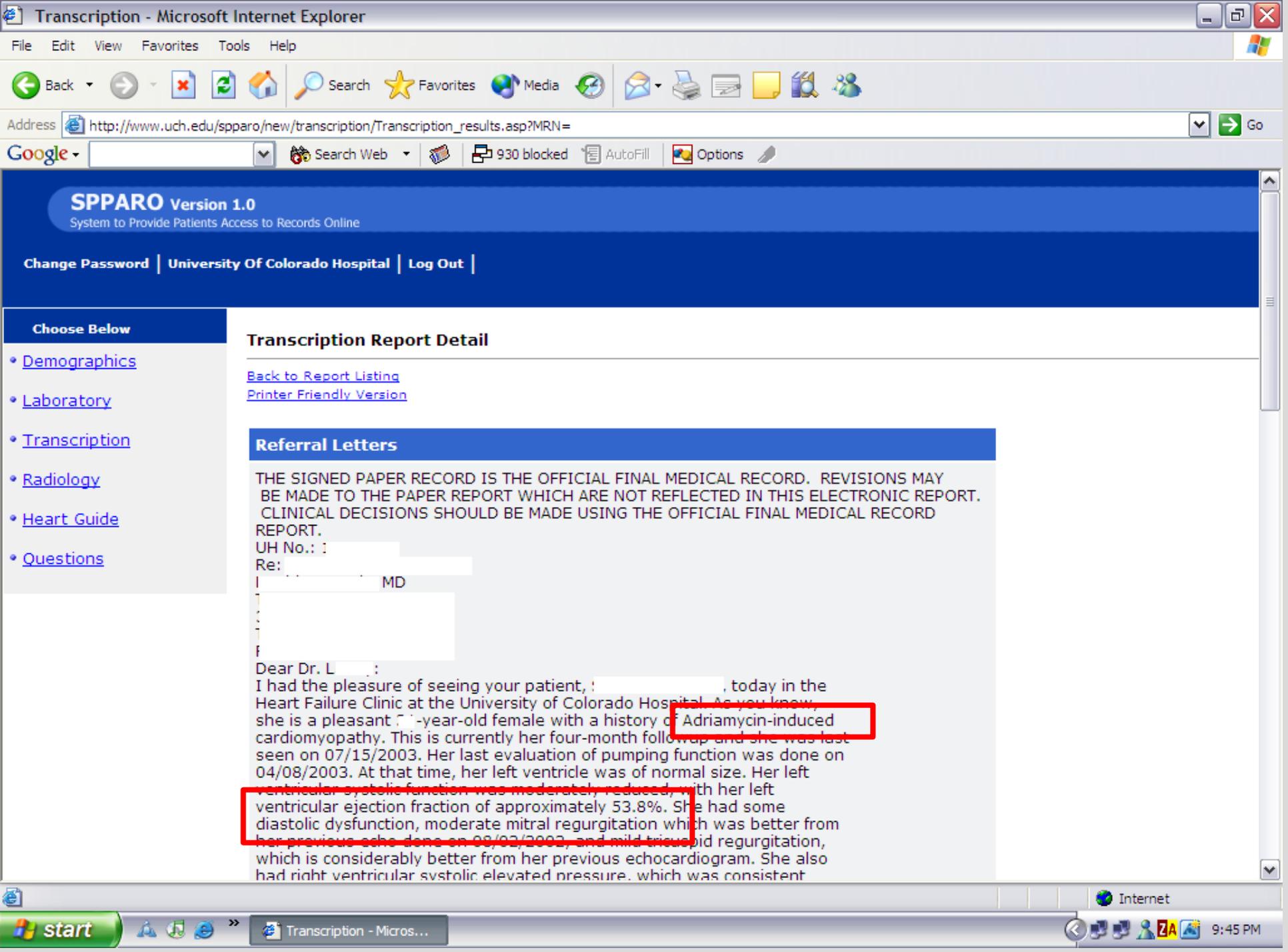
Online release of doctor notes



*Patients will act on errors in transcripts.
Patients will be more anxious.*

This is a crazy idea; the phone will ring off the hook.

Patients can already request their paper chart. Why not?



SPPARO Version 1.0

System to Provide Patients Access to Records Online

[Change Password](#) | [University Of Colorado Hospital](#) | [Log Out](#)

Choose Below

- [Demographics](#)
- [Laboratory](#)
- [Transcription](#)
- [Radiology](#)
- [Heart Guide](#)
- [Questions](#)

Transcription Report Detail

[Back to Report Listing](#)
[Printer Friendly Version](#)

Referral Letters

THE SIGNED PAPER RECORD IS THE OFFICIAL FINAL MEDICAL RECORD. REVISIONS MAY BE MADE TO THE PAPER REPORT WHICH ARE NOT REFLECTED IN THIS ELECTRONIC REPORT. CLINICAL DECISIONS SHOULD BE MADE USING THE OFFICIAL FINAL MEDICAL RECORD REPORT.

UH No.: [REDACTED]
 Re: [REDACTED]
 [REDACTED] MD
 [REDACTED]
 [REDACTED]

Dear Dr. L [REDACTED]:
 I had the pleasure of seeing your patient, [REDACTED], today in the Heart Failure Clinic at the University of Colorado Hospital. As you know, she is a pleasant [REDACTED]-year-old female with a history of **Adriamycin-induced cardiomyopathy**. This is currently her four-month follow-up and she was last seen on 07/15/2003. Her last evaluation of pumping function was done on 04/08/2003. At that time, her left ventricle was of normal size. Her left **ventricular systolic function was moderately reduced**, with her left ventricular ejection fraction of approximately 53.8%. She had some diastolic dysfunction, moderate mitral regurgitation which was better from **her previous echo done on 08/02/2002**, and mild tricuspid regurgitation, which is considerably better from her previous echocardiogram. She also had right ventricular systolic elevated pressure, which was consistent



Surprise!

I am quicker to notify my patients of their results. Before, if I was busy, I might let a result wait on my desk for a few days. Now, because the patient might already have seen it, I will make a phone call, or send an online comment.

-Physician participant



Trust
Empowered
Felt understood
Adherence to treatment

SPPARO Summary

NO: patient overuse or misunderstanding

NO CHANGE: health utilization (visits, calls)
physician documentation
MD, RN, patient satisfaction

IMPROVED: Patients felt more empowered
Patients felt more in control
Patients felt more trust in their doctors

Patients described many uses for their records
(travel, clarification, learning, error checking)

SPPARO update

Presenting this data to University audience

- Administration saw a competitive advantage
- Nursing saw a patient education tool
- Physicians saw “no clinical benefit”

Study completed 2002, and after 6 yrs of lobbying

- **My Medical Record** launched in July 2008, house-wide
- Patient access to test results
- No delay for labs, XR, US, 1 wk for CT/MRI, 2wk for Path

After 7 years of patient utilization:

- 120,000 patient accounts
- Over 1.7 million web pages of results viewed by patients
- 1 PET scan incident, 1 Dilantin level incident

myth #2

**Releasing test results online will
create more misunderstanding and
more work for doctors**



myth #3

Showing doctor's progress notes to patients is "just asking for trouble"



myth #4

Releasing INPATIENT test results will increase patient trust and empowerment





HOME > EVIDENCE > CASE STUDIES > DIVERGENT CARE TEAM OPINIONS ABOUT ONLINE RELEASE OF TEST RESULTS TO AN ICU PATIENT

Welcome

Divergent Care Team Opinions About Online Release of Test Results to an ICU Patient



Jonathan Sprague, Jonathan Pell & C.T. Lin | Case Studies | Vol. 5, 2013 | June 12, 2013

Abstract

Summary: Many health care organizations release test results to outpatients through an online patient portal. However, there are no reports in the literature about the immediate release of online test results to patients who are in the hospital. We report an experience with a patient's family member who reviewed online test results in the intensive care unit (ICU) and the divergent opinions of care team members about how this information affected the patient's care.

Keywords: EHR, medical transparency, patient portal, access to data, HIT, patient engagement.

Citation: Sprague J, Pell J, Lin CT. Divergent care team opinions about online release of test results to an ICU patient. J Participat Med. 2013 Jun 12; 5:e24.

Published: June 12, 2013.

Competing Interests: The authors have declared that no competing interests exist.

Introduction

The University of Colorado Hospital deployed its electronic health record in 1994 and began offering an online patient portal to improve communication in 2001. The portal was initially deployed in primary care clinics and was eventually adopted by all specialty clinics. Patients may choose to use the portal to communicate with physicians and clinic staff about clinical questions, appointments, prescriptions, and referrals.

Patient satisfaction and perceptions of quality of care improved after the portal was implemented, and physician satisfaction with the portal was neutral to positive.[1] Test results were released immediately through the portal to a limited number of clinic outpatients in a controlled study.[2][3] Compared to patients who did not use the portal, those who used it had higher rates of adherence to therapy and greater trust in their physicians.[2] Additionally, patients described the usefulness of this tool for continuity of care: for example, one patient lost his luggage when traveling, and was able to obtain replacement prescriptions by showing his online medical record to a local urgent



Participatory Medicine is a model of cooperative health care that seeks to achieve active involvement by patients, professionals, caregivers, and others across the continuum of care on all issues related to an individual's health. Participatory medicine is an ethical approach to care that also holds promise to improve outcomes, reduce medical errors, increase patient satisfaction and improve the cost of care. Learn more...

Submit an Article

Become a Reviewer

Subscribe to the Journal: (free)

email address

First Name:

Last Name:

Subscribe

e-Patients Blog

"Stetho-Snopes": MightyCasey calls for medical myth-busting—e-Patient Dave
June 24, 2013

May 2015 >

[< Previous Article](#)

Full content is available to subscribers

[Subscribe/Learn More](#)

[Next Article >](#)

Research Letter | May 2015

Patient Access to Electronic Health Records During Hospitalization

Jonathan Michael Pell, MD¹; Mary Mancuso, MA²; Shelly Limon, BSN, MS, CNRN³; Kathy Oman, RN, PhD⁴; Chen-Tan Lin, MD^{1,5}

[\[+\] Author Affiliations](#)

JAMA Intern Med. 2015;175(5):856-858. doi:10.1001/jamainternmed.2015.121.

Text Size: [A](#) [A](#) [A](#)

Article

Tables

References

Comments (1)

In 2001, the Institute of Medicine¹ recommended improving patient engagement by providing continuous care, allowing patients to be the source of control and fostering transparency with patients and families. Electronic health records (EHRs) facilitate these objectives via the use of patient portals.² Giving outpatients direct access to their health information helps clinicians find errors and improves patient satisfaction, although the implications of this type of access have not been well studied in the inpatient setting.³⁻⁵ This hospital-based study evaluates the experiences of patients, clinicians (including physicians and advanced practice providers), and nurses with immediate (real-time) release of test results and other EHR information through a patient portal.



20W20M0





RELEASE RULES

All lab results immediately
EXCEPT initial HIV and
genetic panels never
released.

All radiology immediately
except CT/MRI/PET
held for 1 week

Pathology held for 2 weeks

Patients worries:

Confusion

Call MD/RN more

Error Finding



Worries NOT CONFIRMED!



Nurse worries:

Workload

Confused Patients

Error Finding

Worries NOT CONFIRMED!



MD worries: **NOT CONFIRMED!**

	Pre	Post
Pts ask for provider more	67%	35%
Pts would worry	85%	67%
Pts find errors in meds	96%	65%

MD optimism: **CONFIRMED!**

Pts more reassured	75%	82%
Pts feel more in control	92%	96%

Comments - Providers

When [patients] look at results, they are over anxious and have more questions about incidental findings which aren't clinically useful

I think it's a good idea. I did not see a huge difference in my workload or that of my colleagues. With one patient, it was especially helpful for the family by helping them feel more empowered

Overall, the patients felt more in control. It didn't impact provider care but helps the patient feel more involved

Inpatient results release summary

Patients: had very high expectations that were tempered by end of study, but still felt

More empowered, reassured

More trust in their providers

Nurses and Providers: had low expectations, and by end of study felt:

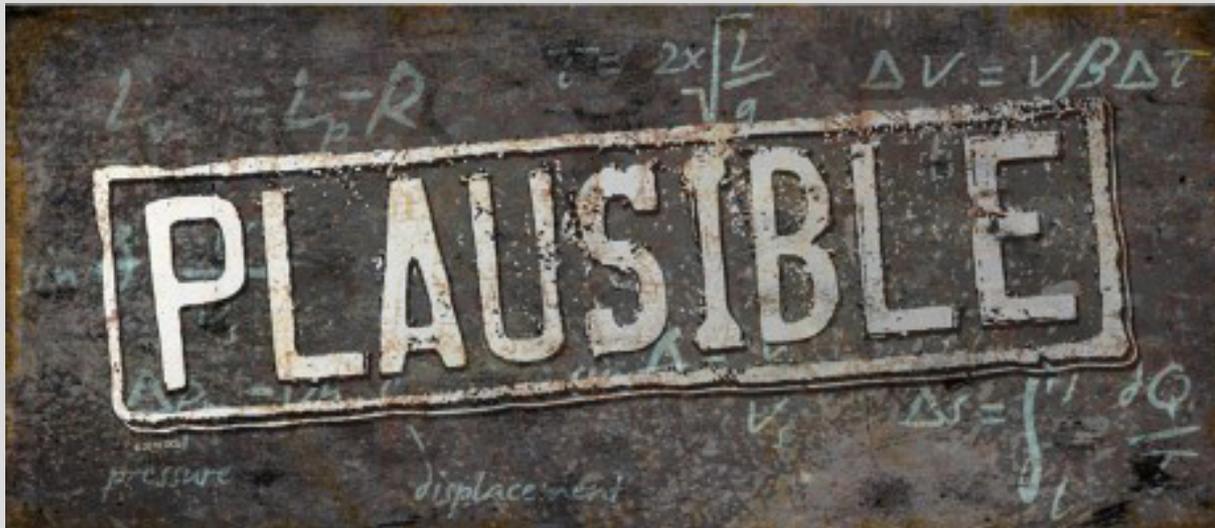
Less worried about workload fears

Less worried about patient confusion

No impact on “error finding” and “d/c timing”

myth #4

Releasing INPATIENT test results will increase patient trust and empowerment



myth #5

Social media can be used as a force for better patient care



CT Lin
Edit Profile

FAVORITES

News Feed

Messages

Photos

Events 2

FRIENDS

Close Friends 11

Family 8

University of Colo... 12

Amos P. Godby High 11

Harvard University 20+

Stanford University 16

Denver, Colorado ... 20+

Stanley 9

Tally 20+

GROUPS

Family

Association of Go... 20+

Add Group...

APPS

App Center 2

Notes

Games Feed 20+

PAGES

Create a Page...

Pages Feed 20+

Like Pages 4

INTERESTS

Add Interests...

Update Status Add Photos/Video

What's on your mind?

SORT ▾



Jonathan Cohen

Be mindful to appreciate the small joys in your day



Like · Comment · Share · 4 hours ago via mobile ·

Esther Langmack, Brendan G Craine and 4 others like this.



Marjorie Alexander Guess I should get a better knife
4 hours ago via mobile · Like



David Rahmani They're quite amazing.
3 hours ago · Like



Leah Cohen and the sharp ones, too!
2 hours ago · Like

3 upcoming birthdays

Carol Bebee Turpin and 3 others recommended Pages

2 requests from Trish Hoffmann

Sponsored

See All

Verizon Wireless

solutions.vzwshop.com



WiFi on the go! Add your tablet to your Share Everything plan for only \$10/month.

Save 15% on Flowers!

1800flowers.com



Order our unique Fields of Europe bouquet and be transported to the European countryside!

THE BEST DISCOUNTS



GovX offers huge discounts on premium brands. Sign up for exclusive firefighter discount!

23,235 people like GovX.

You can still win!



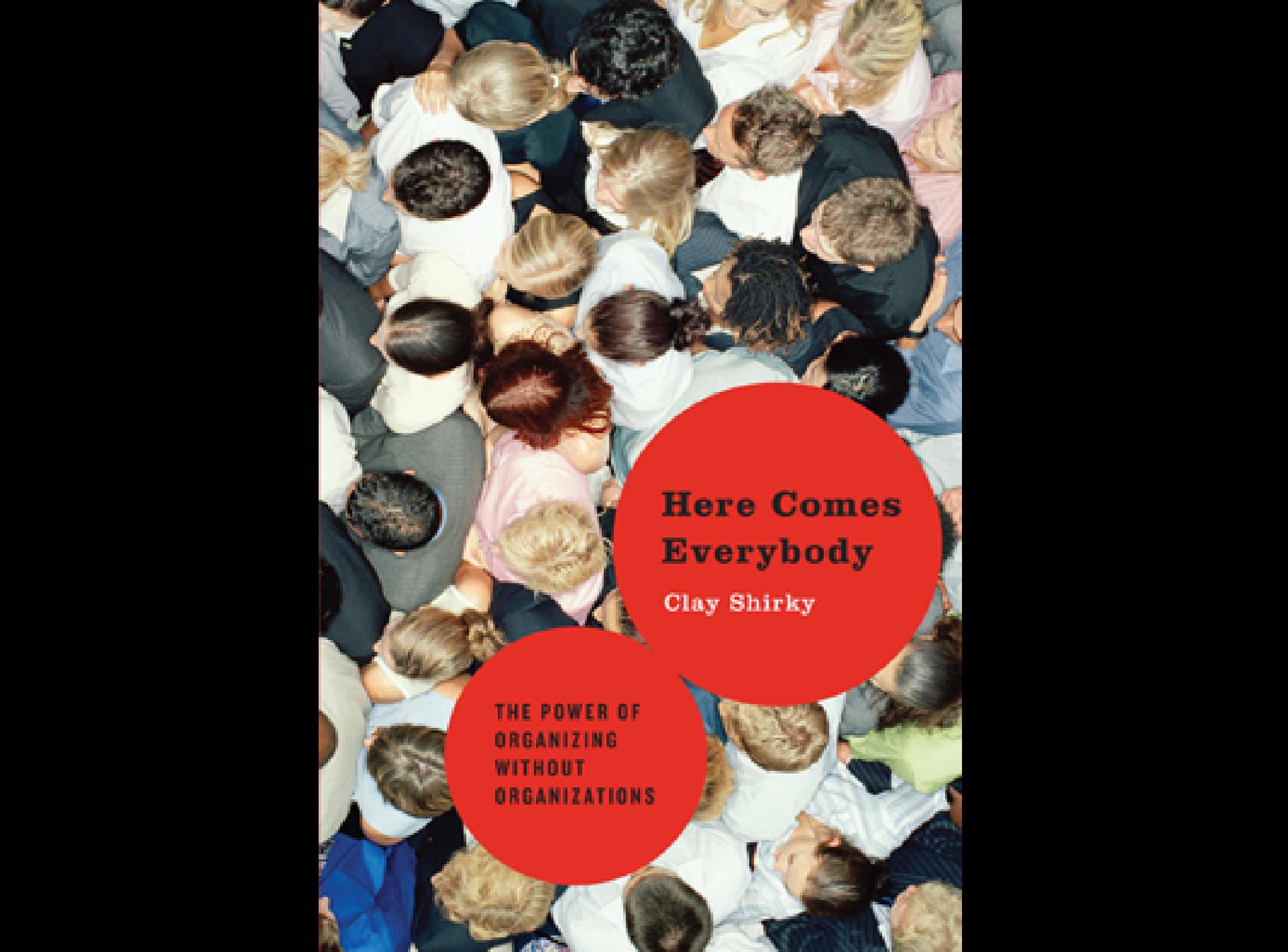
Submit your most creative, fun flossing photo for a chance to win a tablet PC.

5,566,273 people like Oral-B.

MBA for Doctors



Pursue a part-time MBA online with the academic rigor of an on-campus program.

An aerial, top-down view of a large, dense crowd of people, mostly in business attire, looking towards the center. The image is used as a background for the book cover.

Here Comes Everybody

Clay Shirky

**THE POWER OF
ORGANIZING
WITHOUT
ORGANIZATIONS**

[home](#)[success stories](#)[get started](#)[my quit tools](#)[support team](#)[enroll now!](#)

COLORADO QuitLine

Be tobacco free

Welcome!

Whether you are thinking about quitting tobacco or have already quit, Colorado QuitLine is a FREE program and here to help you.

[ENROLL ONLINE NOW](#)

or call 1-800-QUIT-NOW (784-8669)
and speak to a Quitline coach today!

JOIN TODAY AND RECEIVE FREE:

- Personally tailored quit program
- Nicotine replacement therapy
- Support network
- Telephone coaching
- Tools and tips based on the latest research

CALL 1-800-QUIT-NOW (784-8669)

[ENROLL ONLINE](#)



▶ **What kind of smoker/tobacco user are you?**

[Take The Short Quiz](#)

▶ [Enroll Now!](#)

▶ [Smoking Calculator](#)

▶ [Frequently Asked Questions](#)

▶ [Fact Sheets](#)

LOGIN

USERNAME

PASSWORD

ENTER

[Login help?](#)

Government sponsored, expert-driven


[Home](#)

What is ACOR?

ACOR is a unique collection of online cancer communities designed to provide timely and accurate information in a supportive environment. It is a **free** lifeline for everyone affected by cancer & related disorders.

You are not alone! Use one of ACOR's **142** online communities to connect with people like you online and share information and support.

Who uses ACOR?

ACOR online communities are for parents, caregivers, family members, and friends to discuss clinical and nonclinical issues and advances pertaining to all forms of a specific disease. This includes patient and caregiver experiences, psychosocial issues, new research, clinical trials, long-term side effects and discussions of current treatment practices.

[See what others say about us...](#)

How do I get started?

To find the right online cancer-related community for you, simply use the search form below with cancer-related terms such as "prostate"

OR

[Browse the full list of communities...](#)

Example search phrases: prostate, renal cell carcinoma

Take me to the following list: [Childhood Cancers](#) [Side Effects - Quality of Life](#) [Country Specific](#) [Diseases Other Than Cancer](#) [Treatments - Side Effects](#)

Browse the general list of ACOR online communities...

Acinic Cell Carcinoma (ACC)

Extraskeletal Chondrosarcoma

Multiple Myeloma

Acute Lymphoblastic Leukemia - Adult (ALL)

Fallopian Tube Cancer

Mycosis Fungoides

Non-profit, clearinghouse

1955chevy
shared a forum post



109,134 patients
500+ conditions

Who's like you?

Share your experience.

The more you share, the easier it will be to find patients like you. Start by adding a condition, symptom or treatment.

I have

I take

I am

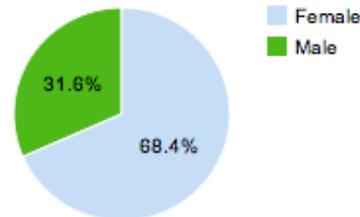
There is **1** male patient between 40 and 49 years old with **Polymyalgia rheumatica**

They do not have a public profile. [Join Now](#) to see them.

Age & Gender in patients with Polymyalgia rheumatica

0-19 yrs	0
20-29 yrs	19
30-39 yrs	45
✓ 40-49 yrs	85
50-59 yrs	42
60-69 yrs	14
70+ yrs	0

Numbers based on subset of users who provided data.



[Find Patients Like You](#)

[Explore our Treatment Reports](#)

[Learn about Symptoms](#)

[Review our Research](#)

[Check for your Conditions](#)

[Patient Testimonials](#)

" I don't think all the money in the world could replace what I've learned here. "

—PatientsLikeMe member

About PatientsLikeMe

[Read about the company](#)

[How we make money](#)

[Be part of our team](#)

[Contact Us](#)

[Information for Industry Partners](#)

Zestril, Prinivil (Lisinopril) Prescription only

Reviews

- Personal page
- Basics
- Benefits & tradeoffs
- Alternatives
- Reviews**
- Side effects and warnings
- Tips
- Drug facts & package insert

You decide what matters most. See how this medication affects:

- Pregnancy
- Alcohol
- Food
- Kidneys
- Liver
- Sex
- Sleep
- Weight

- Everyone
- Men
- Women
- All ages**
- 18-34
- 35-54
- 55+
- All uses
- 614 reviews

Is Lisinopril worth it overall?



How well does Lisinopril work for you?



Taken Lisinopril?
Review it to help someone out.

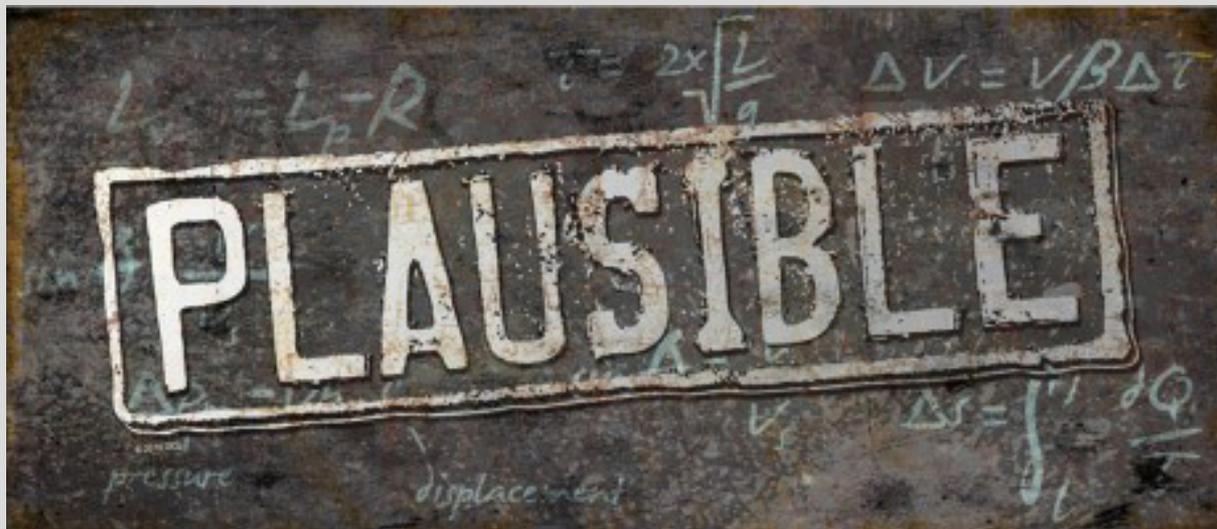
Was it worth it?

Worth it Not sure

Not worth it

myth #5

Social media can be used as a force for better patient care



Crystal ball says...



Imminent technology disruptions:

Patient generated data

Patient reported outcomes

Patient eVisits

Patients choosing doctors

Patients empowered with WATSON

Patients with a Tricorder?!

Patient generated data



Pad 4:04 PM 82%

MEDICARE BLUE BUTTON® by iBlueButton®
08/27/2012

Mary Heart
DOB: 12/10/1942
Age: 69

CONTACT INFO PROVIDERS VIEW ORIGINAL DONE
INSURANCE PHARMACY EXPORT CCD PRINT
IMPLANTED DEVICES FAMILY HISTORY

Claims & Other Medicare Generated Data
Self Entered Data

PROBLEM LIST & DIAGNOSES			MEDICATIONS			
Date	Condition	Provider	Drug Name	First Filled	Last Filled	Pharmacy
02/03/2012	Left Heart Failure	UCSD Medical Center	Aspirin	02/03/2012	05/09/2012	LabCorp, San Diego
02/03/2012	Hypertension with heart involvement	Sara Gordon, M.D.	Lovastatin	02/03/2012	05/03/2012	LabCorp, San Diego
02/03/2012	Foot Sprain			02/03/2012	05/03/2012	LabCorp, San Diego
02/03/2012	Broken Wrist			02/03/2012	05/09/2012	LabCorp, San Diego

Aspirin
Patient reports that this medication is not currently taken.
Patient reports the following side effect(s) with this medication:
-heartburn

ENCOUNTERS, PROCEDURES, LABS & TESTS		TESTS	
Date	Description	Result	Date Performed
02/03/2012	Electrolyte panel 1, Serum Creatinine level	4.0 mg/dL	02/03/2012
02/03/2012	Electrolyte panel 2, Serum Creatinine	4.0 mg/dL	02/03/2012
02/03/2012	Electrolyte panel 3, Serum Creatinine	4.0 mg/dL	02/03/2012
02/03/2012	Electrolyte panel 4, Serum Creatinine	4.0 mg/dL	02/03/2012

ALLERGIES & ADVERSE REACTIONS			IMMUNIZATIONS		
Medication	Date	Reaction	Vaccine	Date	Facility
Oxycodone	02/03/2012	Pain	Influenza	02/03/2012	LabCorp, San Diego
Valium	02/03/2012	Itches, Hives, swollen glands	Pneumovax	02/03/2012	LabCorp, San Diego
Lipitor	02/03/2012	Joint Pain	Polio	02/03/2012	LabCorp, San Diego

Practice-based Evidence (patient reported)

In 50 year old
men like you,
with pain 7/10,
choosing
Knee Surgery
vs. PT alone



Satisfaction at	3M	50%	60%
at	12M	65%	90%
Pain score at	3M	4/10	3/10
at	12M	3/10	1/10

eVisits: who is your competitor?

Don't want to see patients online?

Walgreens will.



Mayo clinic telehealth?
Dubai Health?
Health service of India?

So, how to find:

A good **Surgeon** who treats
Aortic Aneurysms
near me?

Aortic Aneurysm Repair, Zip 80045



Sal “your pal” Jones MD



Frank “my way” Sinatra MD



CT “Devo” Lin MD

Rating	★★★★☆
Outcomes	
Cases/year	100
Survival:	96%
Re-admits:	2%
Pt Satisfaction:	99%
Cost:	\$8,000

Rating	★★★★★
Outcomes	
Cases/year	500
Survival:	99%
Re-admits:	1%
Pt Satisfaction:	89%
Cost:	\$10,000

Rating	★☆☆☆☆
Outcomes	
Cases/year	12
Survival:	90%
Re-admits:	10%
Pt Satisfaction:	60%
Cost:	\$52,000

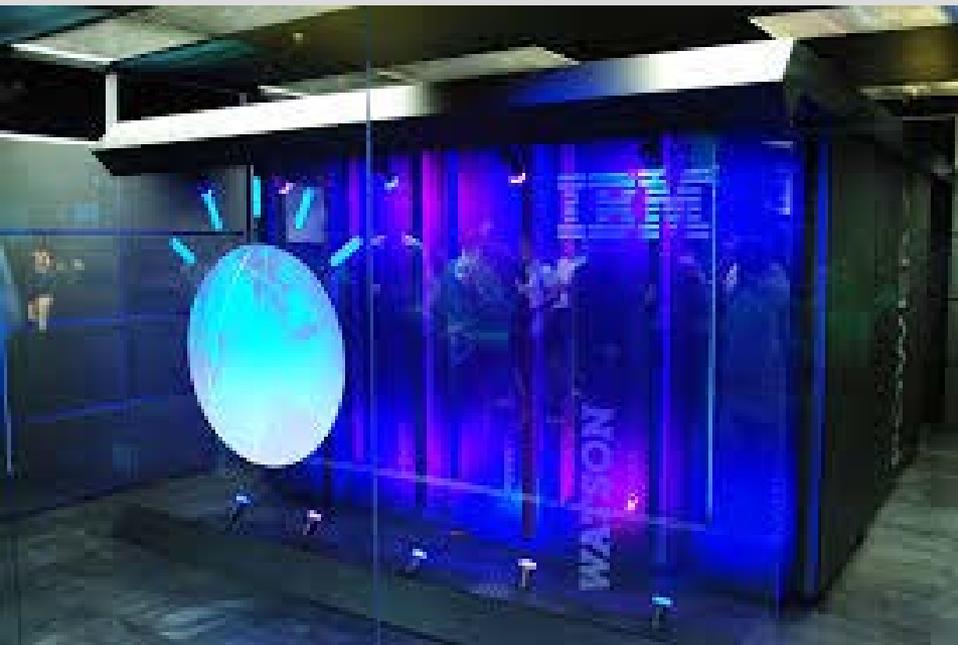
Tricorder X-Prize

The device will be a tool capable of capturing key health metrics and diagnosing a set of 15 diseases, helping consumers make their own reliable health diagnoses, anywhere, anytime.

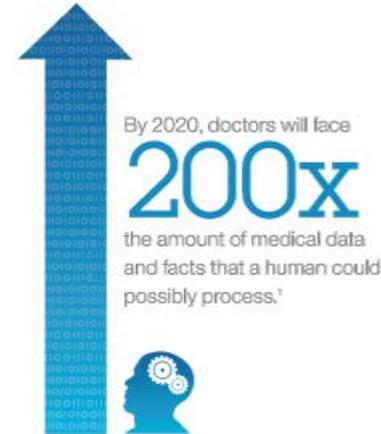
10/2012: X-prize announced
8/2014: 10 finalists selected!
1/2016: To be awarded:



Patients using IBM WATSON



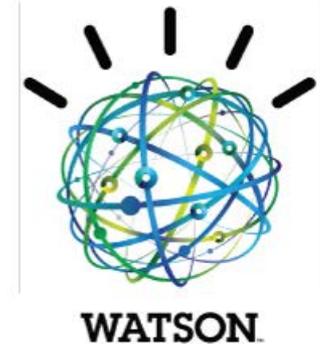
Too Much Information: The Doctor's Data Dilemma



The answer? IBM Research and the Cleveland Clinic are bringing IBM® Watson™ to medical school to create a learning application for students.

Watson will help students navigate medical information and make the best decisions for **improving patient care.**

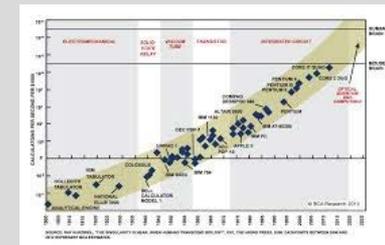
Students will also be able to **teach and train Watson** to advance its knowledge.



¹ William Stead, ICM Meeting, October 8, 2007: Growth in facts affecting provider decisions versus human cognitive capacity
² University of Oulu, Finland, January 16, 2009

Your takeaways

- Facebook-like forces will change relationships in healthcare.
- Patients will want to read AND write in their healthcare record.
- Moore's law will disrupt traditional healthcare.
- Will we be nimble enough to keep up?



Thank you!

CT Lin MD

ct.lin@ucdenver.edu



University of Colorado Hospital

UNIVERSITY OF COLORADO HEALTH