



Microsoft® Research

Faculty Summit

10
YEAR ANNIVERSARY

Emerging Transformational Changes in Healthcare

Michael Gillam, MD
Director, Microsoft Medical Media Lab (M3 Lab)
Microsoft Health Solutions Group







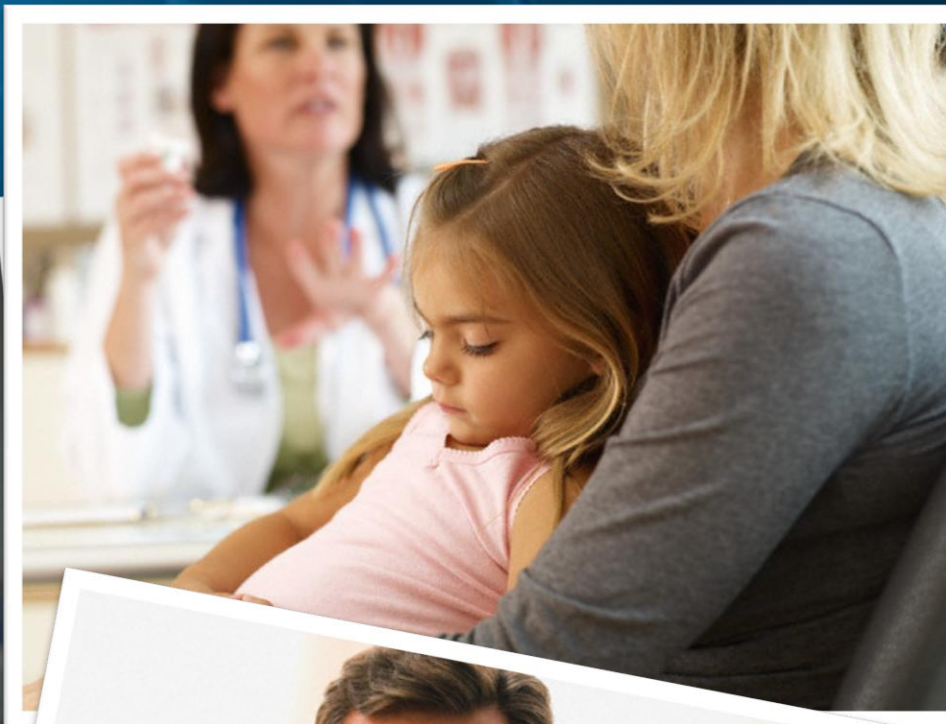


Healthy

Sick



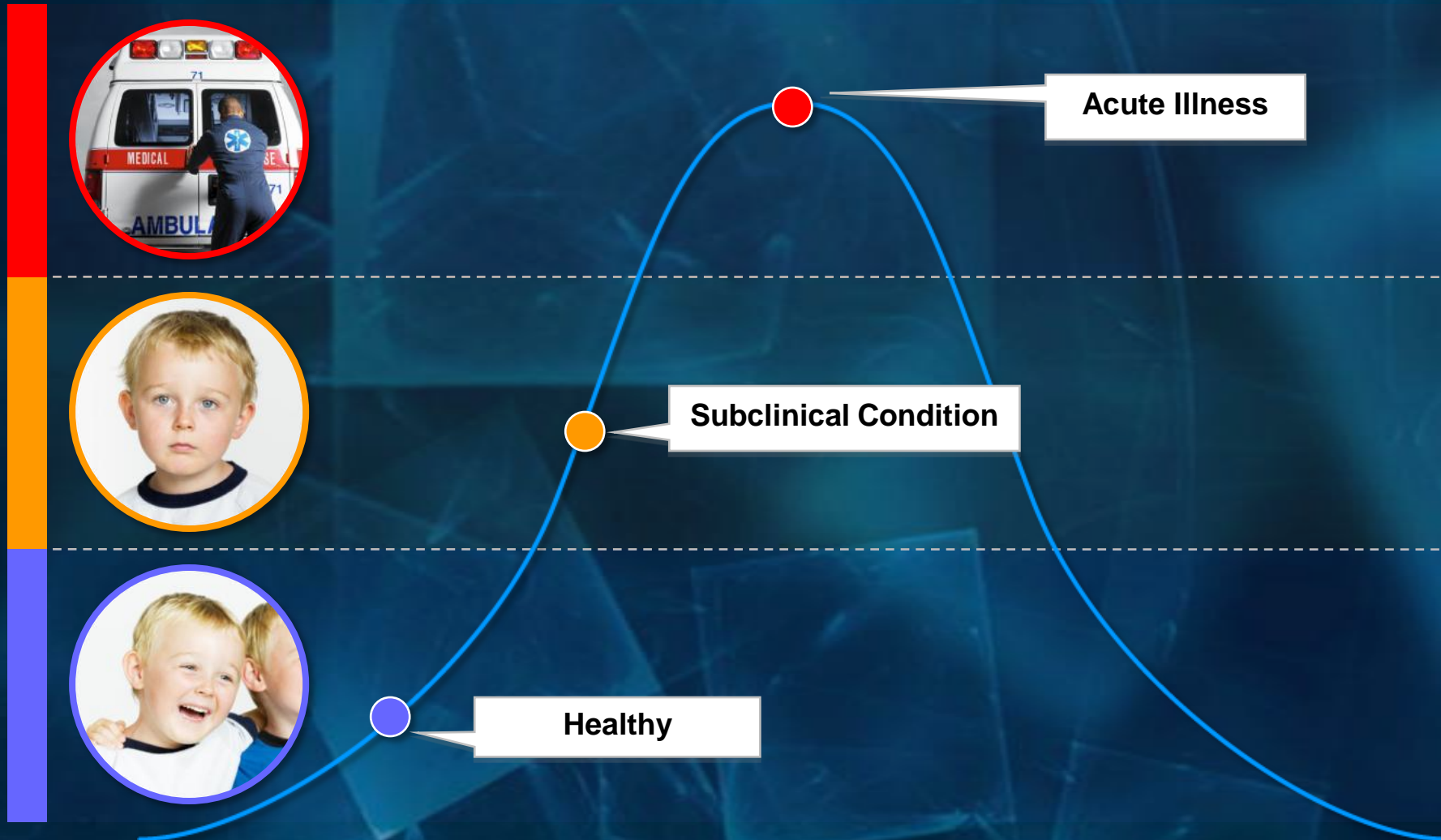




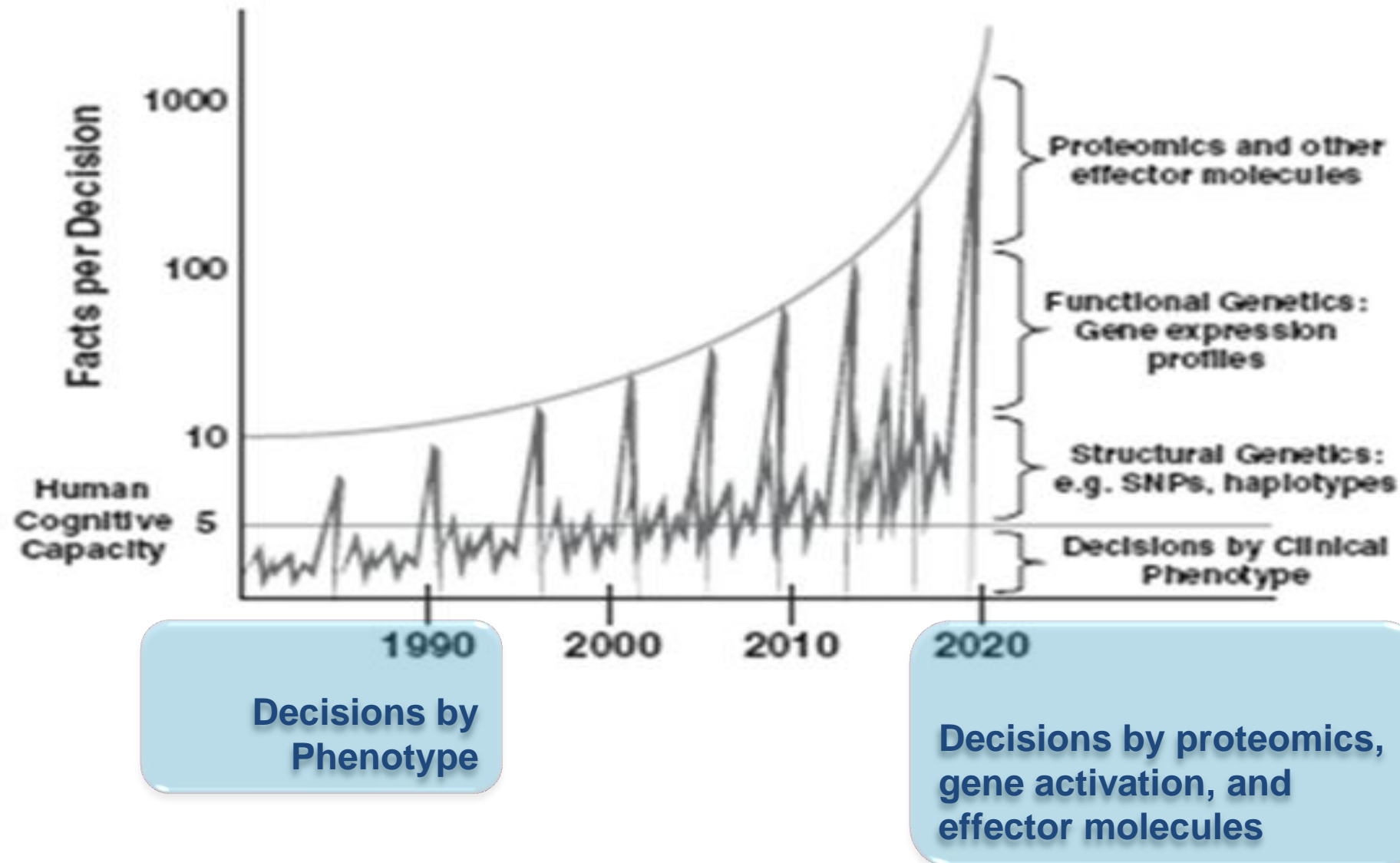
NATURAL HEALTH



What is the Continuum of Wellness?



What will clinicians measure the *Continuum of Wellness*?





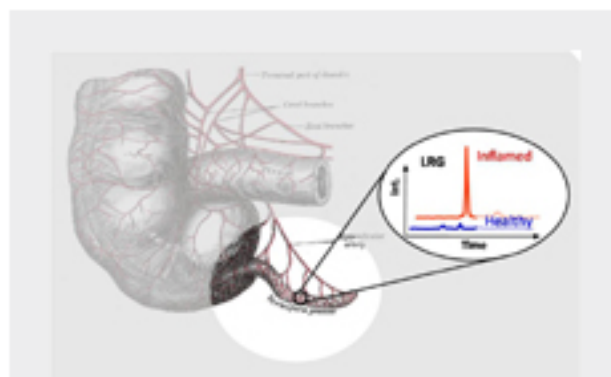


WORK IN PROGRESS
IN THE FIELD
A LIFE IN SCIENCE

resources:

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HARVARDSCIENCE MATTERS
RESOURCE DIRECTORY
HUSEC
HARVARD CATALYST - CTSC
OFFICE OF TECHNOLOGY
DEVELOPMENT
EVENTS CALENDARS
MOST EMAILED
FAQs

HARVARDSCIENCE RSS



+ ENLARGE IMAGE

IN EARLY RESEARCH, A SIMPLE URINE TEST DETECTS LRG LEVELS IN PATIENTS WITH APPENDICITIS (RED), AND WITHOUT THE INFLAMMATION (BLUE).

Diagram courtesy Hanno Steen/Proteomics Center

Post this story to:



del.icio.us



Reddit

HOME: MEDICINE+HEALTH

A urine test for appendicitis?

Protein marker could lead to faster, cheaper diagnosis

JUNE 23, 2009

IRIS MÓNICA VARGAS

HARVARD NEWS OFFICE

Harvard researchers at **Children's Hospital Boston** have identified a protein in the urine of **appendicitis** patients that they believe may provide the basis of a quick, noninvasive, accurate, and inexpensive test for the common condition.



Microsoft Signs Agreement With Merck & Co. Inc. to Acquire Assets of Rosetta Biosoftware, Strengthening Position in Life Science

REDMOND, Wash. - Microsoft Corp. today announced that it has signed an agreement with Merck & Co. Inc. to acquire certain assets of Rosetta Biosoftware, a business unit of Rosetta Inpharmatics LLC, a wholly owned subsidiary of Merck & Co. Inc. The deal allows Microsoft to incorporate genetic, genomic, metabolomic and proteomics data management software into the Microsoft Amalga Life Sciences platform for enhanced translational research capabilities. In addition, Microsoft will establish a strategic relationship with Merck to enhance the Amalga Life Sciences platform to meet emerging pharmaceutical research needs.

Microsoft Amalga - ActstAct

Amalga Life Sciences

Apps Logout

File Edit Tools Window

Amalga Grid View

Life Sciences User View

Filter Sort

12/4/2006 - 2/4/2009 Cohort

Info Input

Total 1089

ACC...	AD...	AD...	AGE	AGE...	DOB
40833393		05/11/2007	71	71M	07/02/1935
41228859		03/19/2007	90	90F	10/10/1916
42509725		03/01/2007	65	65M	05/13/1941
40108345	5	08/19/2008	35	35F	04/08/1973
40440306		01/27/2008	68	68F	03/29/1939
42609762		12/12/2006	77	77M	11/05/1929
40560016		12/07/2006	85	85M	10/26/1921
40109943		02/13/2007	34	34M	
40761752		12/05/2006	74	74M	
41527836		01/17/2007	49	49F	
41090444		07/05/2007	60	60M	

Amalga Grid View

Results of SPARQLQuery1

Atom1_Name			
annulate lamellae	e		
Cdc48p-Npl4p-Ufd1p AAA ATPase complex	e		
dolichyl-phosphate-mannose-protein mannosyltransferase complex	e		
endoplasmic reticulum membrane	e		
ER ubiquitin ligase complex	e		
extrinsic to endoplasmic reticulum membrane	e		
extrinsic to nuclear outer membrane	e		
Golgi membrane	e		

Start Page SPARQLQuery1

```
1 PREFIX UMLS_Atom: <http://amalgalife.com/ontology/UMLS_Atom/ >
2 PREFIX UMLS_Atom_Has: <http://amalgalife.com/ontology/UMLS_Atom_Has/ >
3 PREFIX UMLS_RN: <http://amalgalife.com/ontology/UMLS_RN/ >
4 SELECT ?Atom1_Name ?
5 WHERE {
6   ?Atom1
7   UMLS_Atom:A11583603.
8   ?Atom1
9   UMLS_Atom:A115
10 }
11
```

Concept Browser

Connect options:

Find all paths Search Depth: 5 Associate Stop

lect Search

Disease, Disorder or Finding

Handicapped Exceptional...

UNKNOWN/MISC PROBLEM

Hemolytic disease of...

Epizootic hemorrhagic...

Infectious bursal disease...

Infectious bursal disease...


Border disease virus...

Foot and mouth disease...

Thesaurus of Psychological...

Nutrition Disorders

Zoom: 100%



Microsoft®

Amalga™

Life Sciences

Composable. Active. Open

BIO MARKERS

MARKER	STUDIES	DETAILS
CYP2C9*	Clinical	SNP ID ▾
	Mouse	Genome Location ▾
	Insilico	Functions ▾
VKORC1	Clinical	SNP ID ▾
	Mouse	Genome Location ▾
	Insilico	Functions ▾
HLA-DRA	Clinical	SNP ID ▾
	Mouse	Genome Location ▾
	Insilico	Functions ▾
MAF	CYP2C9*	■■■
	VKORC1	■■■■■
	HLA-DRA	■■■■

RESEARCH DIMENSIONS

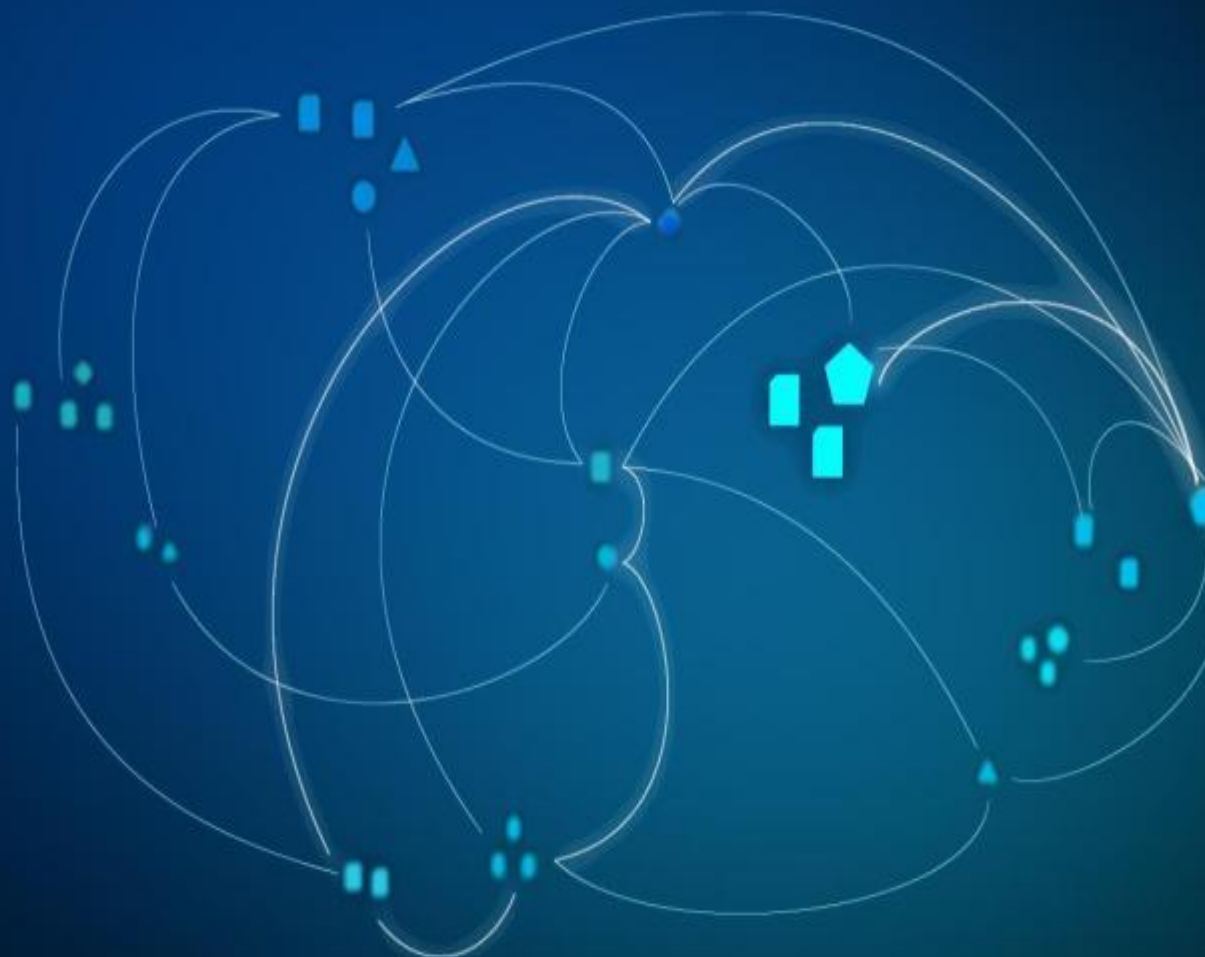
DIGITAL EXPRESSION	■	1.1 PB
PROTEOMICS	●	6.7 TB
METABOLOMICS	◆	4.2 TB
DIAGNOSTICS	▲	3.1 TB
CLINICAL	★	2.4 TB

ANALYSES

- VIRTUAL COHORTS ▾
- ENVIRONMENTAL RISK ▾
- DISEASE MODELS ▾
- PATHWAY OPTIMIZATION ▾
- PREDICTIVE TOXICOLOGY ▾
- PHARMACOVIGILANCE ▾

SUBMIT RESULTS

- RESEARCH TEAM ▾
- PEER REVIEW ▾
- PUBLICATION ▾



60
50
40
30
20
10
0
-10
-20
-30

What is the Rosetta Stone?

The Rosetta Stone carries an inscription in different languages which helped decipher the ancient Egyptian hieroglyphic script. It is the only surviving fragment of a larger stone slab (stelae) recording a decree on 27 March, 196 BC.

At the top the decree was written in hieroglyphs, the traditional script of Egyptian monuments, usually 1000 years old. In the middle the same decree was written in Demotic, the everyday script of ancient Egyptians, and at the bottom in Greek, the language used by the government.

At the time Egypt was ruled by a Greek dynasty, and the decree was issued in honour of the two young Ptolemy V Epiphanes. It records the decision of the Egyptian priests to establish a royal cult in honour of Ptolemy's coronation as the Egyptian pharaoh. The granodiorite stele was placed in a temple, probably at the city of Ptolemais (Fouad) (Cheikh).

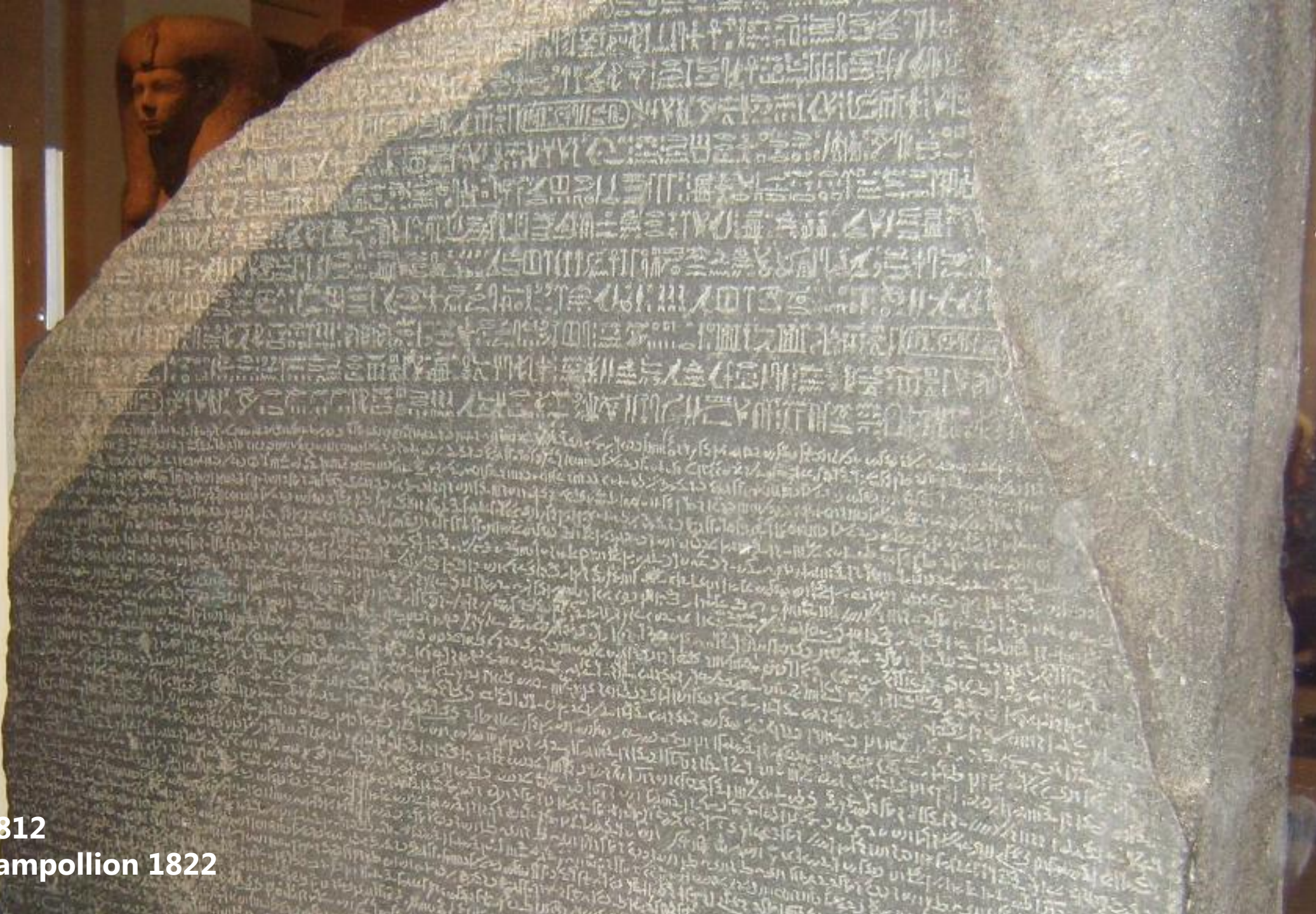


The hieroglyphic section of the Rosetta Stone, showing the traditional script of ancient Egypt.



The Demotic section of the Rosetta Stone, showing the everyday script of ancient Egyptians.

Thomas Young 1812
Jean Francois Champollion 1822











Vasco de Gama



60%



Vasco de Gama



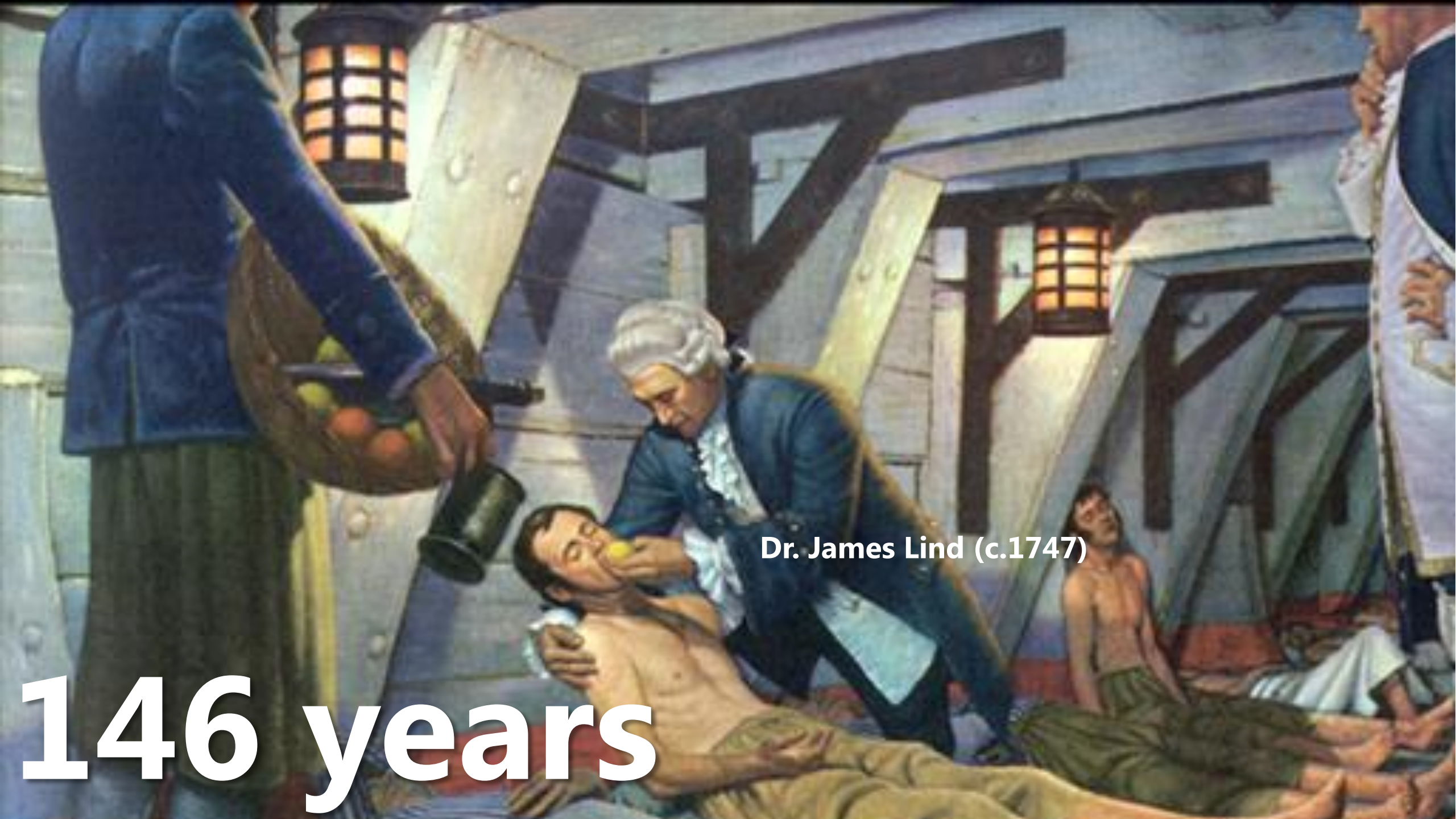
James Lancaster



110



James Lancaster



Dr. James Lind (c.1747)

146 years

48 years



70 years





1601-1865



1601-1865

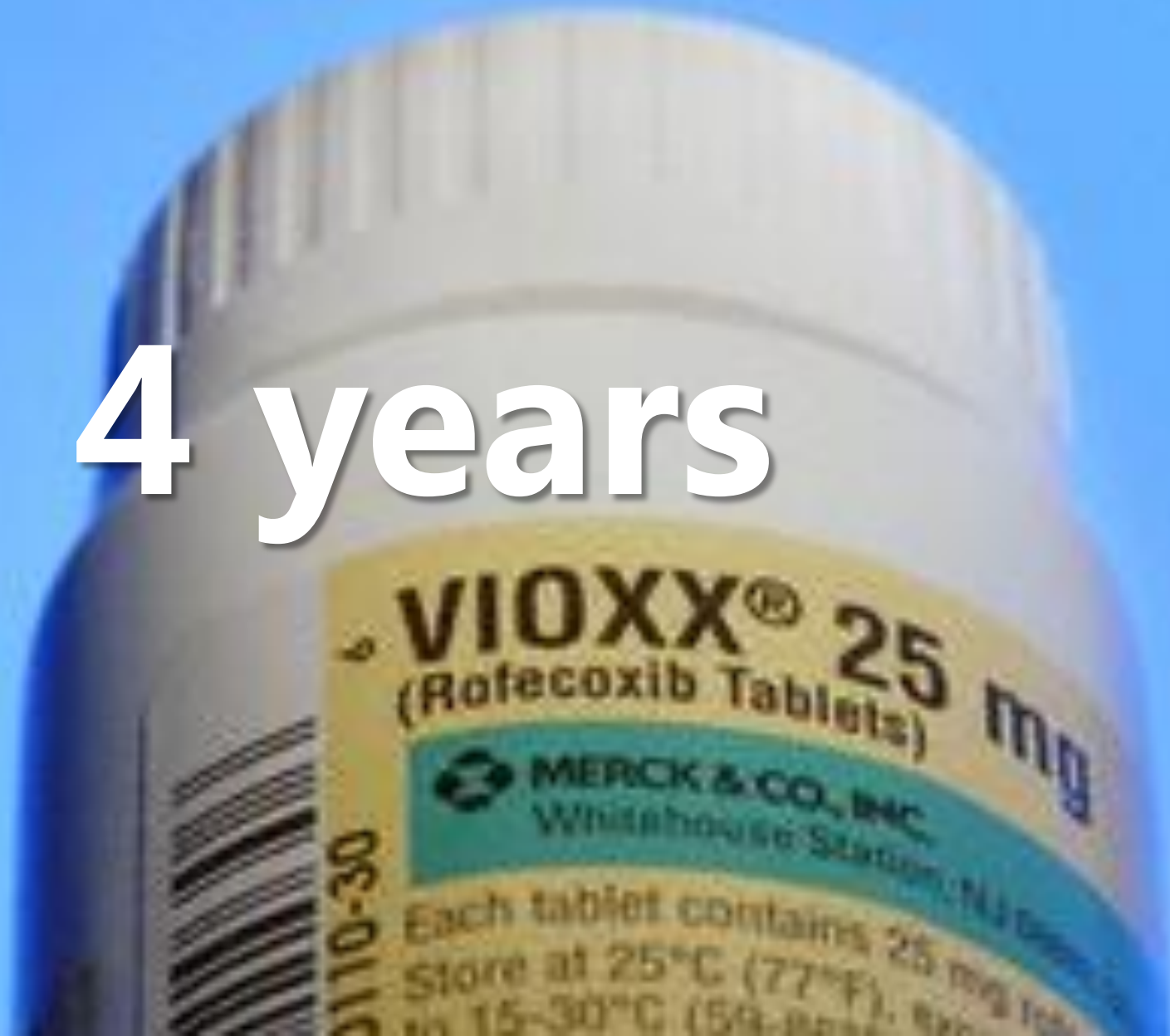
264 years



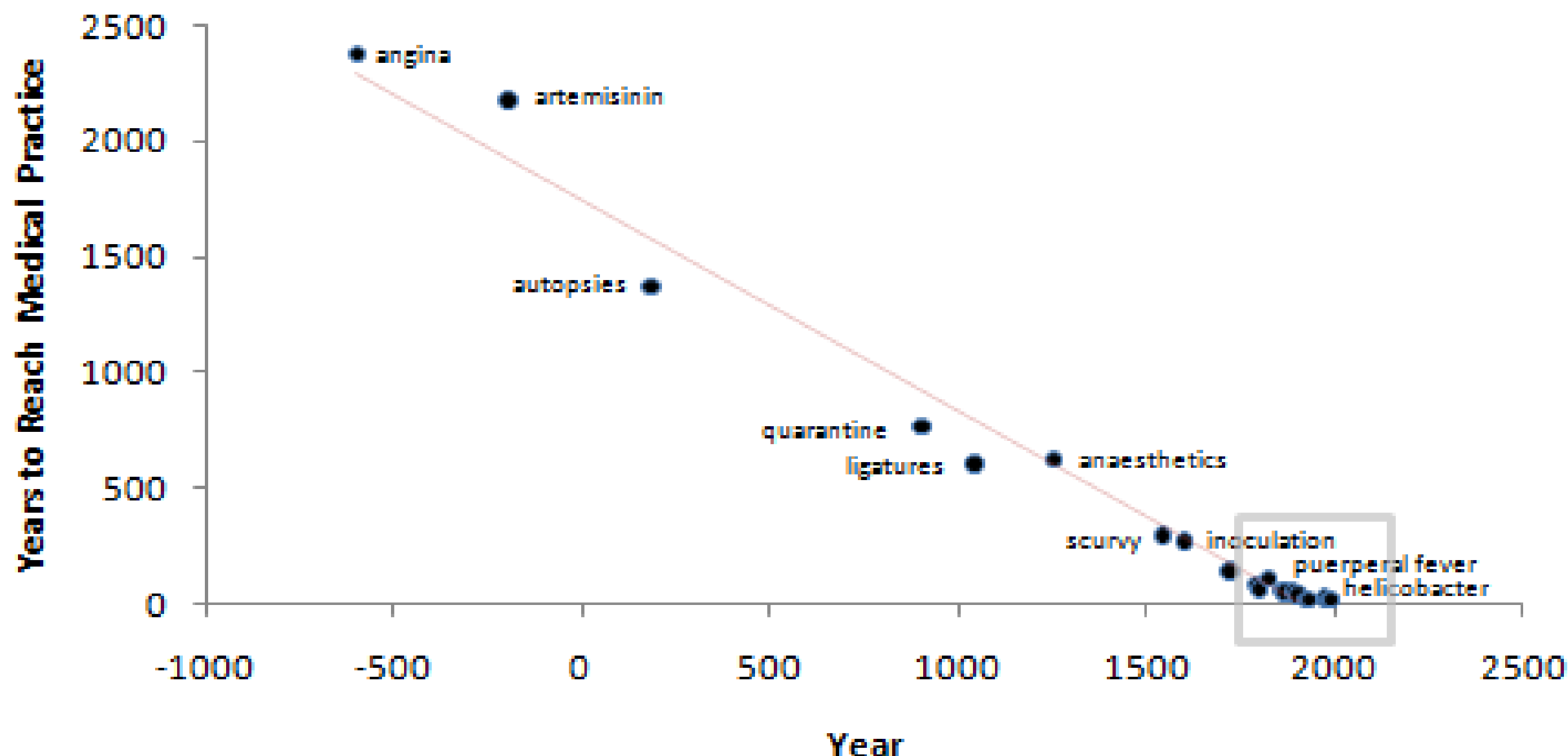
17 years



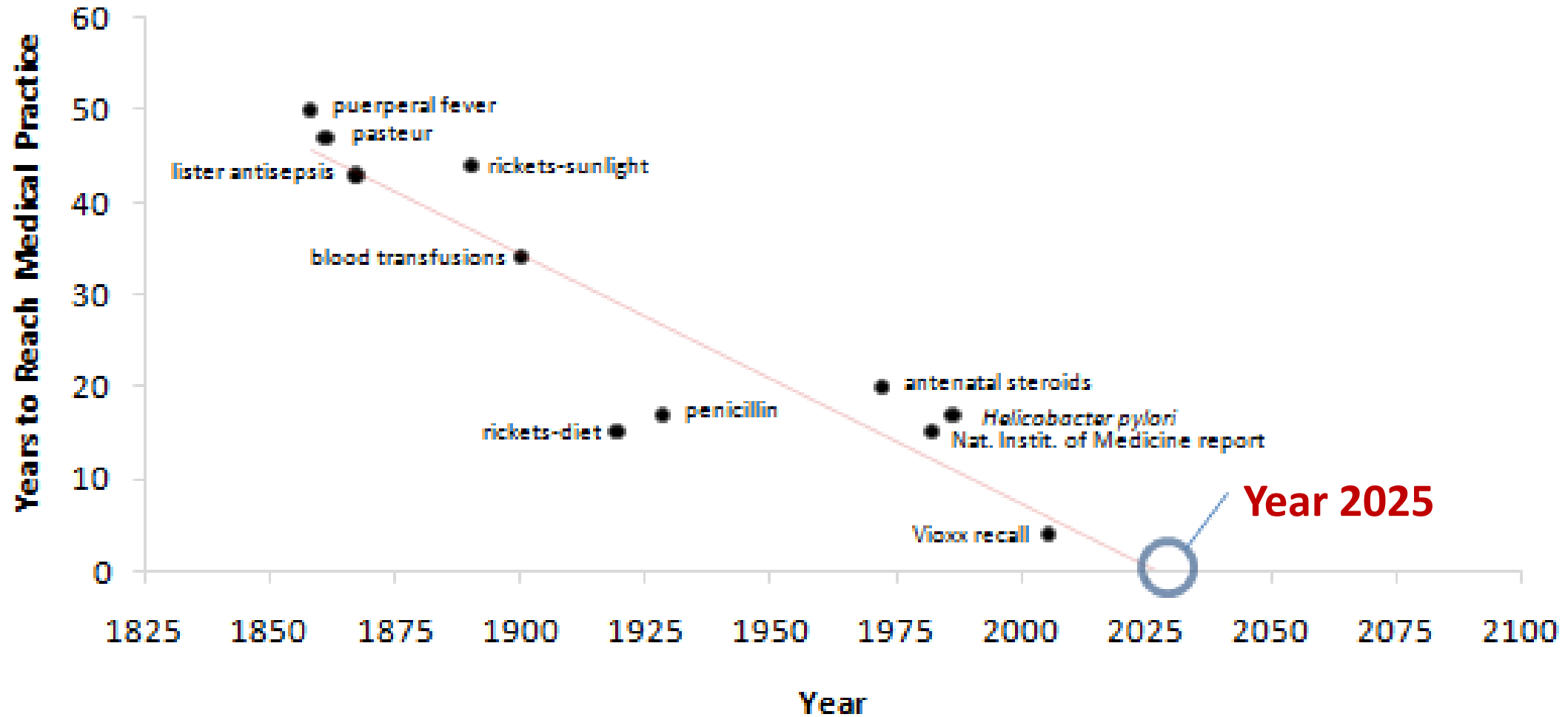
4 years



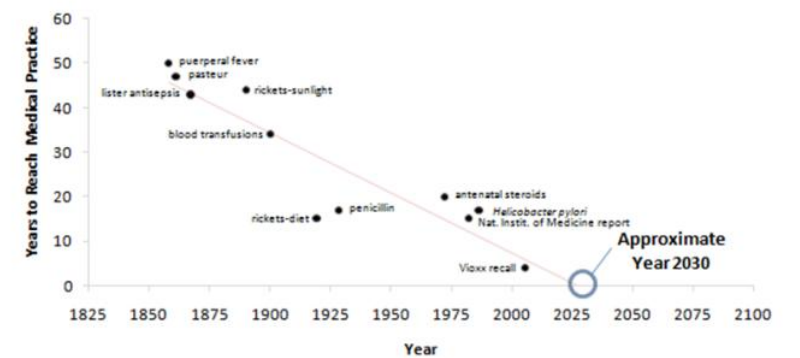
The Speed New Medical Knowledge Reached Broad Clinical Use over the Last 2,500 Years

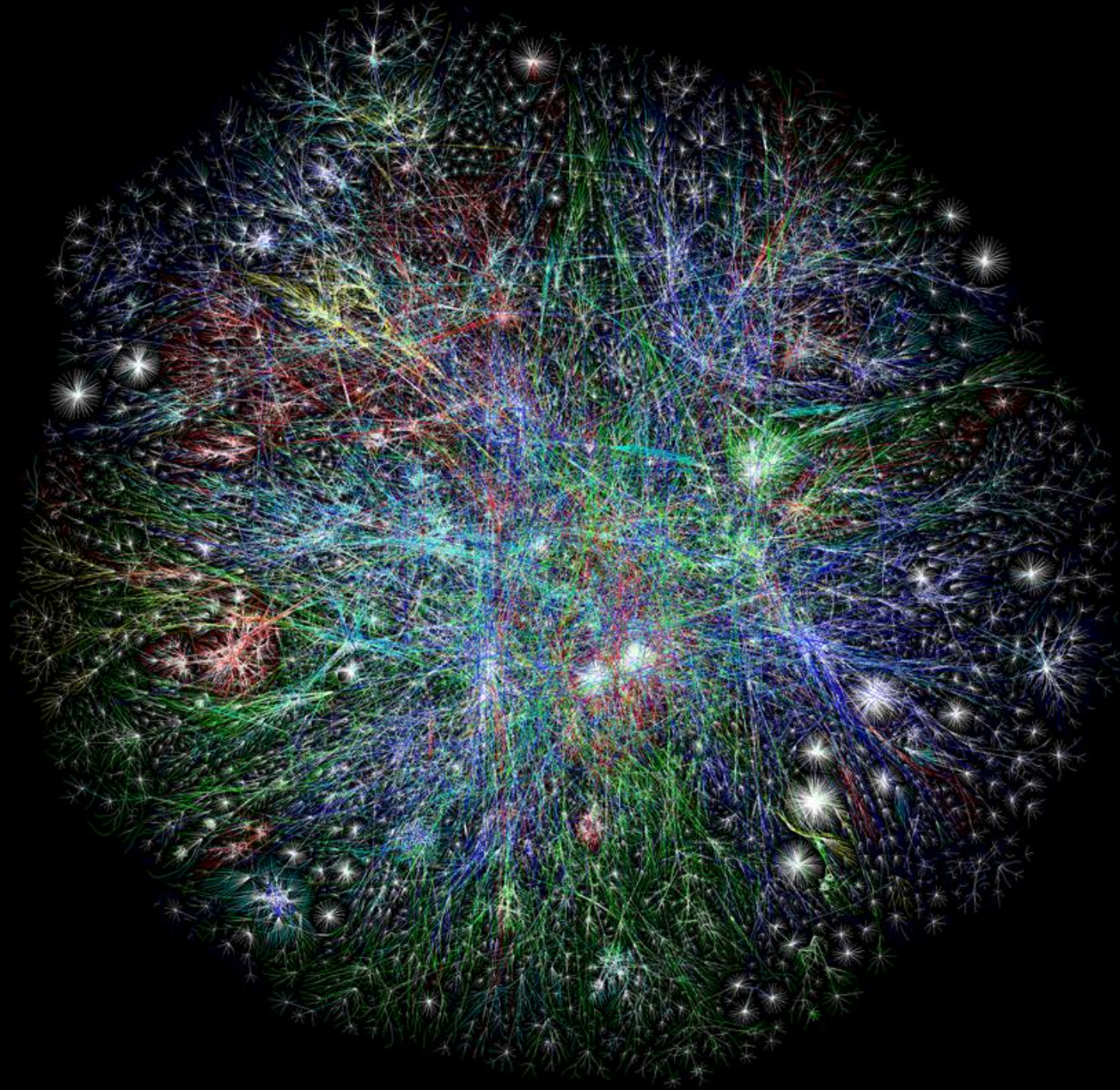


A Healthcare “Singularity”?



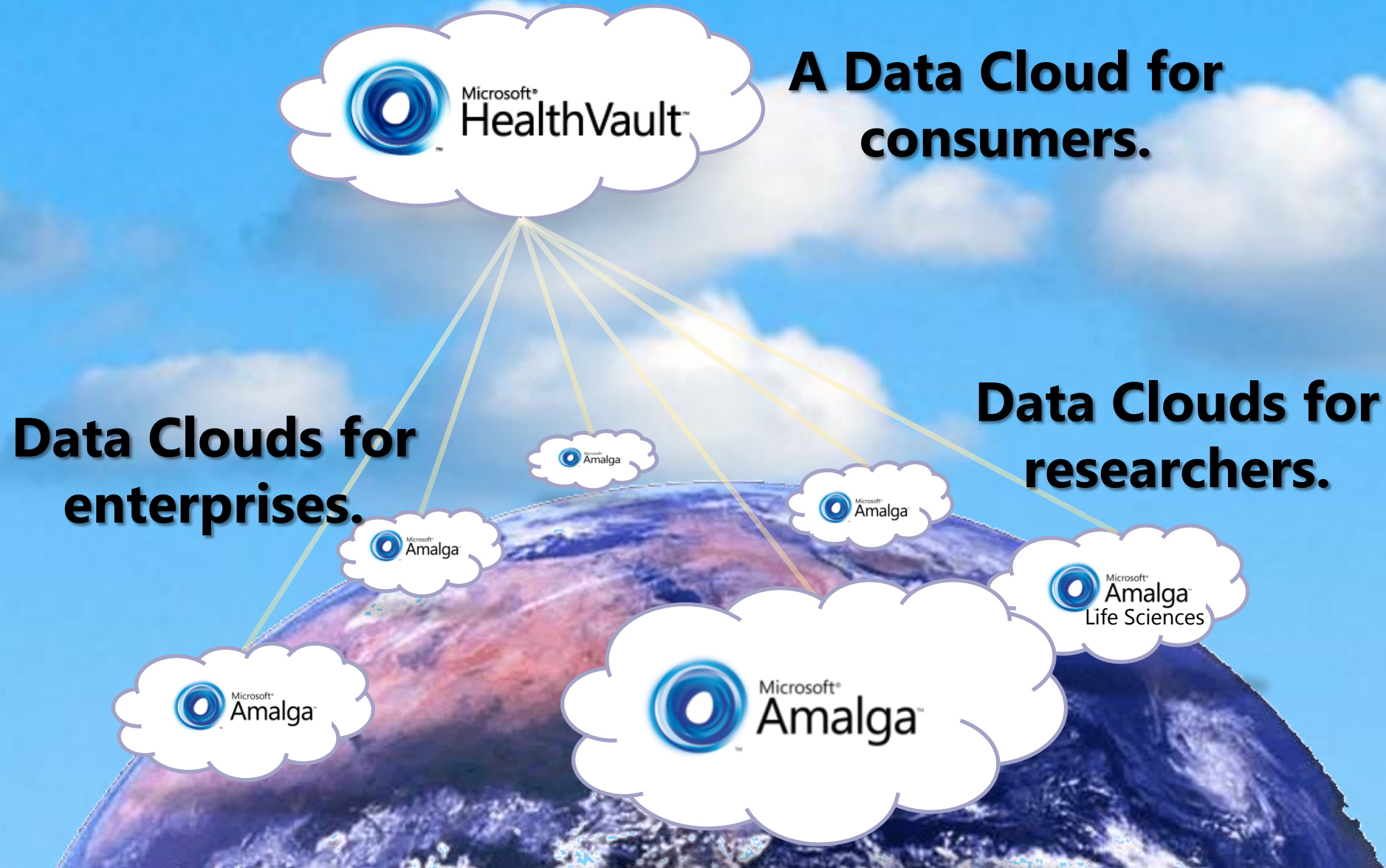
The Speed New Medical Knowledge Reached Broad Clinical Use Over the Last 150 Years







What are Microsoft's three pillars to enable *instantaneous knowledge translation*?

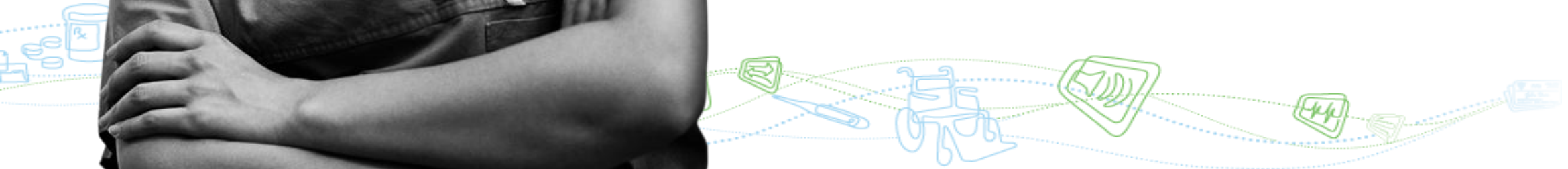




Microsoft®

Amalga™

Unified Intelligence
System 2009



Amalga Unified Intelligence System 2009

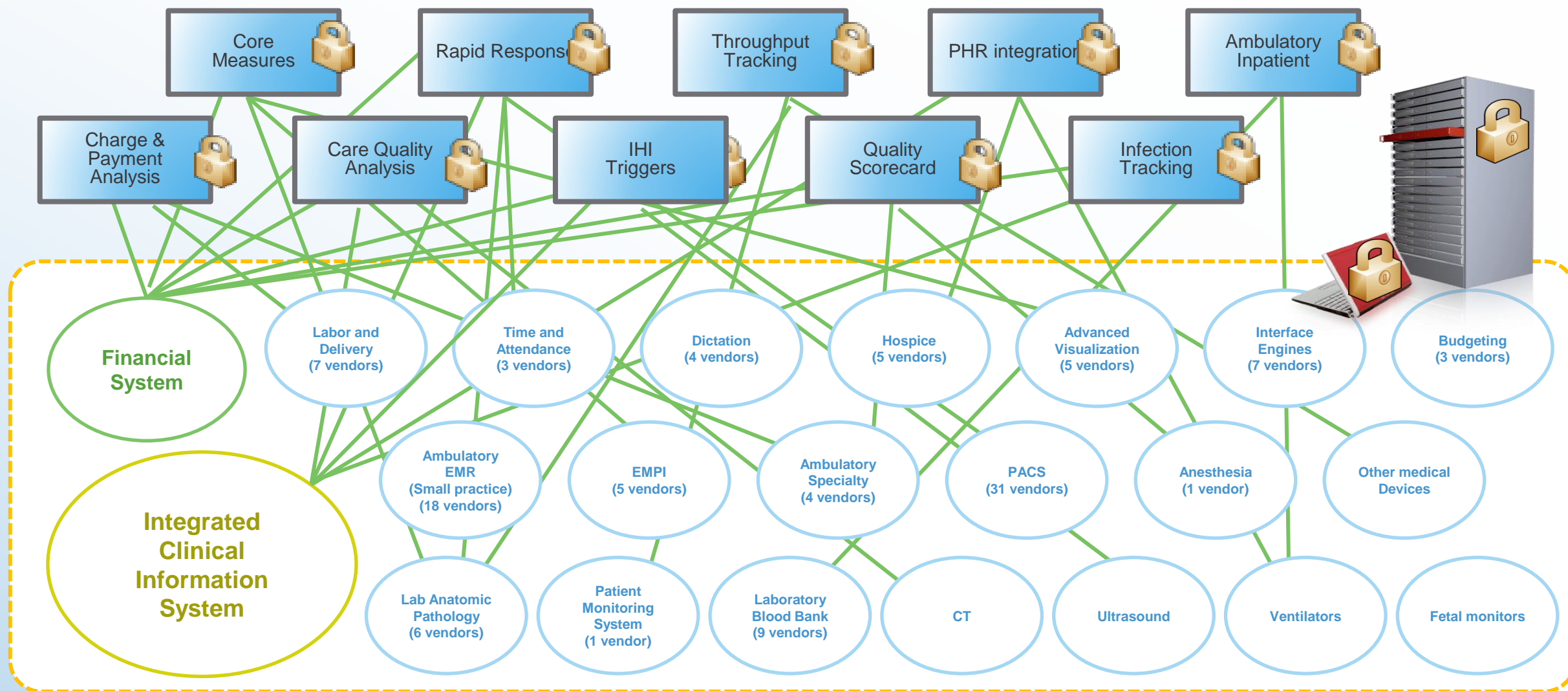
Liberate Data



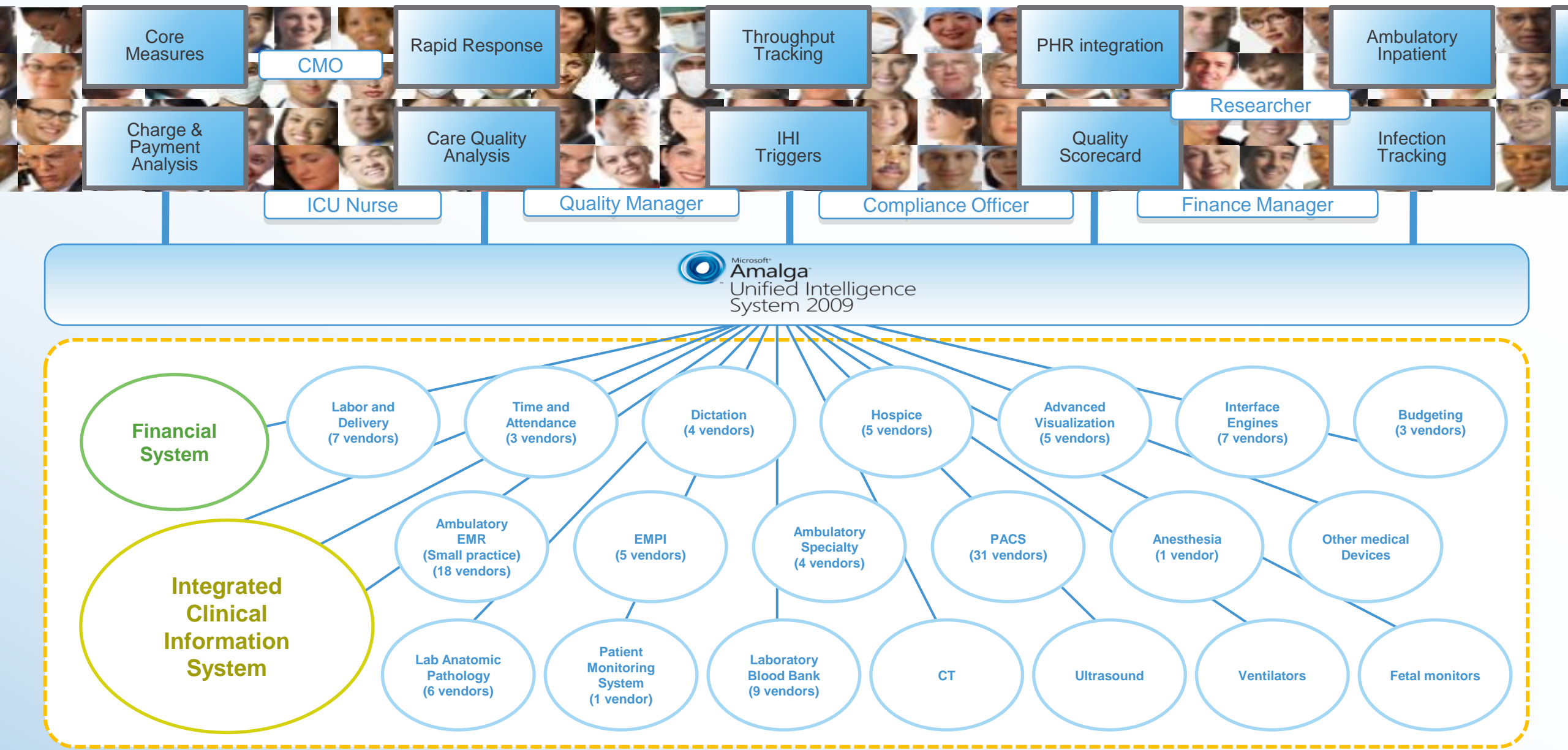
Empower Users

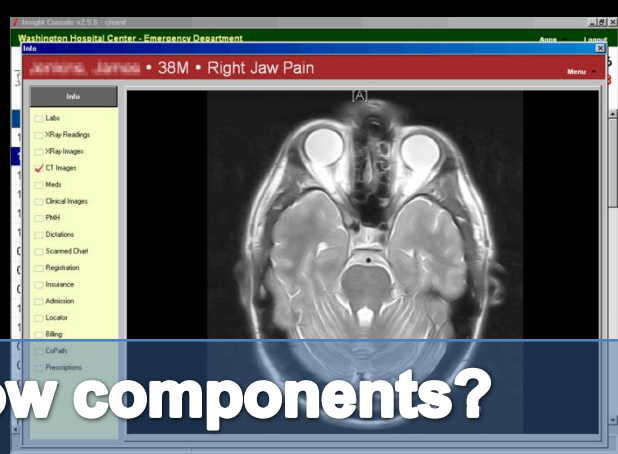
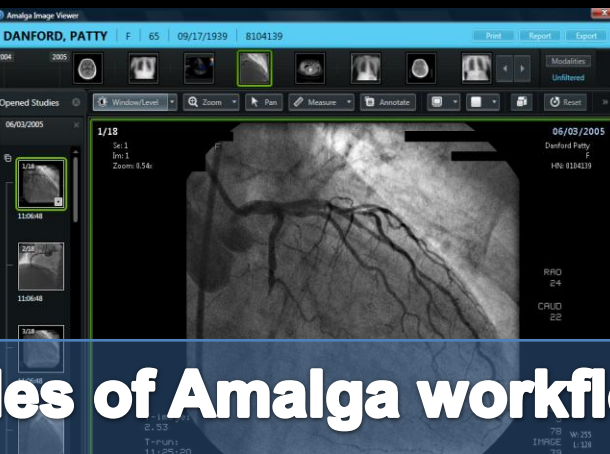
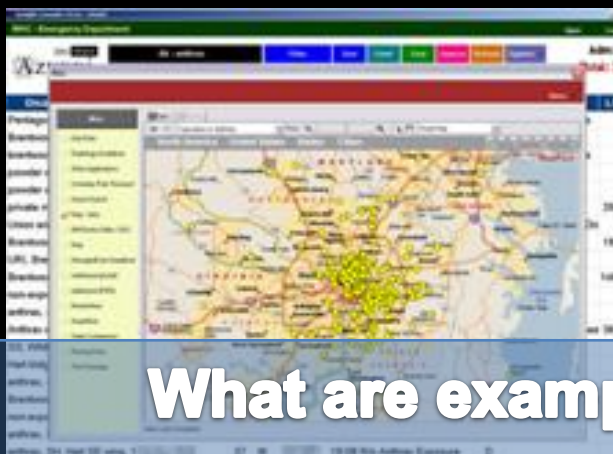
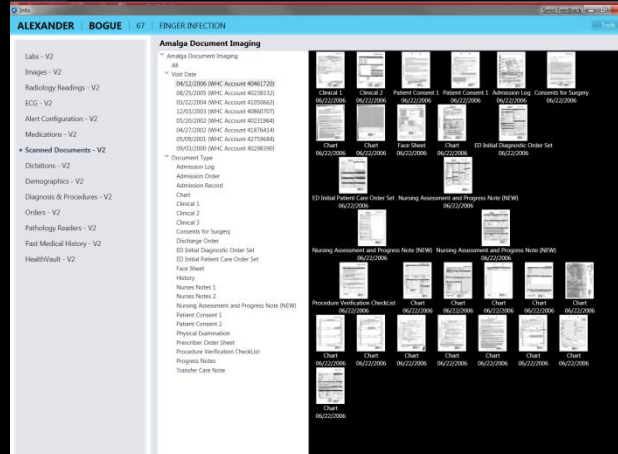
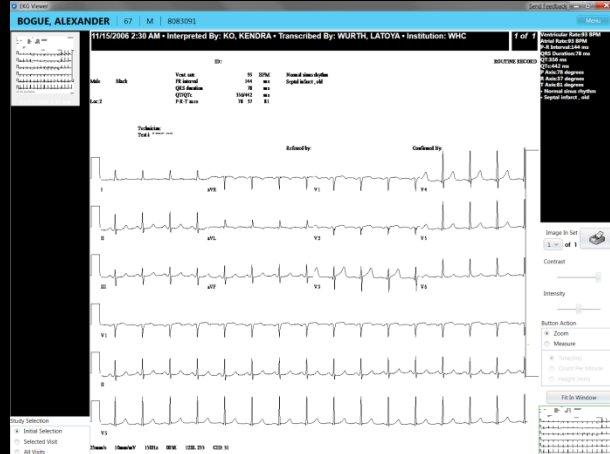
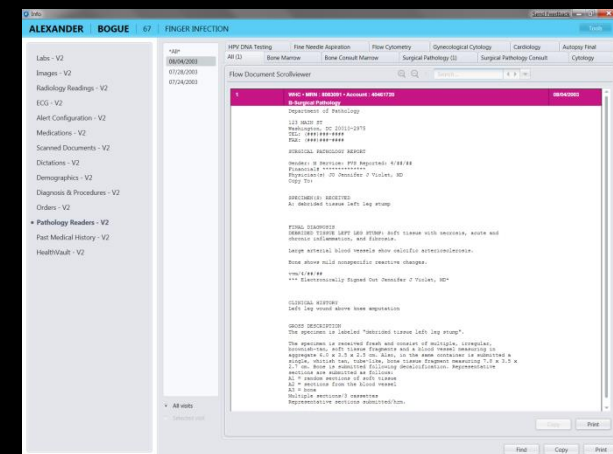
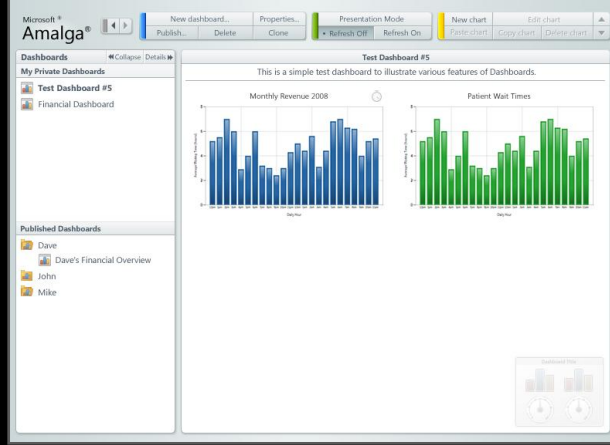
Connect Care

IT System Silos and Point Solutions



Amalga UIS Liberates Your Data





What are examples of Amalga workflow components?

Microsoft Health Solutions Group Customer Community



Health Solutions Group Customer Community Portal

The Health Solutions Group Customer Community Portal is a great way for customers to stay connected with one another as well as the Microsoft team. Discover how other organizations are using Microsoft Amalga Unified Intelligence System, share best practices and identify solutions to outstanding questions. This online destination is also an area for Microsoft to share information intended for existing customers including product updates, training content, documentation, customer webcasts and details for upcoming events. At the same time, it is also a vehicle for customers to participate in topical discussion forums, share product suggestions, exchange Extensions and establish professional connections.

Benefits to joining the Customer Community Portal

There are many benefits for customers to get engaged with the community and participate in this online forum. These include:

- Peer to Peer Networking - Find out how other organizations are using Amalga UIS with HealthVault and connect with professionals across the customer community
- Learn about Product News, Announcements, Updates and share your feedback
- Learn about customer use cases that can benefit your organization
- Access Product Documentation and Training Materials
- Interact with members of the product technical team
- Find information for upcoming events and webcasts exclusive to the community
- Find out how other Amalga customers are addressing their issues and solutions

Thank you for your interest in the Customer Community. For more information on the Customer Community Portal, please contact your Customer Relationship Manager or Engage with Microsoft.

Membership to this community is by invitation only.

Personal Health Information Disclaimer – Reminder – Please do not include PHI on this site. We reserve the right to notify the author and have any PHI removed.

If you are already a member, log in through Windows Live ID.



Are you a new customer who would like access to the Community? [Request Access](#)

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Storage that lets you do
more with less

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Amalga helps hospital keep swine flu in check

El Camino Hospital in California built a custom tool on top of Microsoft's e-health system to track patients

Elizabeth Montalbano (IDG News Service) 09 June, 2009 04:54

Tags: swine flu, e-health



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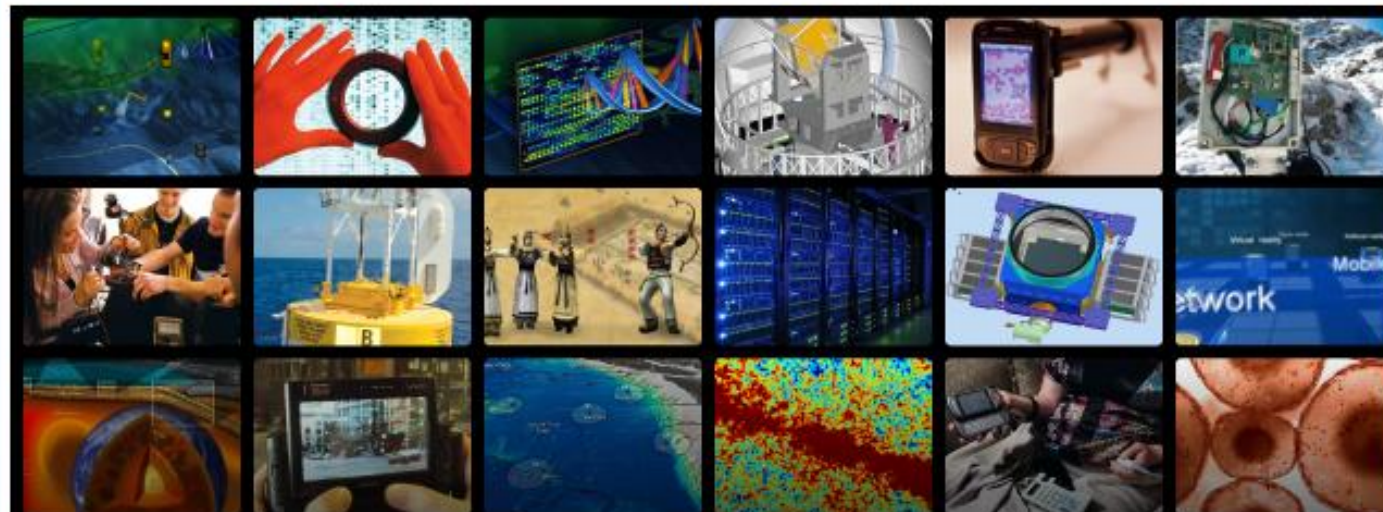
Events

Community



Microsoft Research Community

[Join the conversation](#)



Faculty Summit 2009:

Get a Preview, Check Back for News Updates

Feature Stories (1/3)



Making the Shortest Path Even Quicker

Finding the shortest path between two points in a network is a classic computing problem. Now the popularity of online maps and portable devices challenges researchers to find even more efficient ways of solving the shortest-path problem. [Read more...](#)

Discharge Instructions

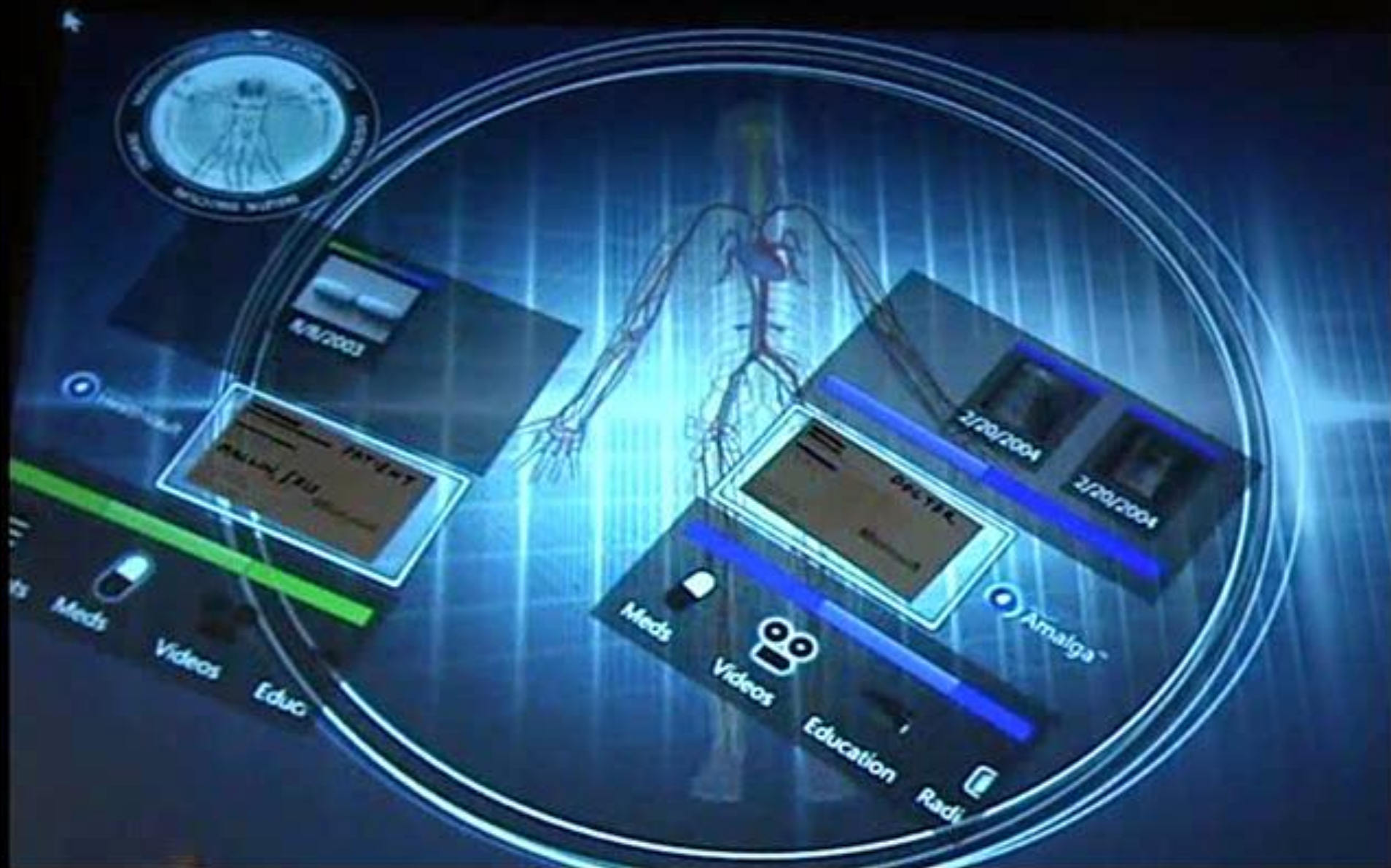
A photograph of a male doctor with grey hair, wearing a light blue hospital gown and a stethoscope, leaning over and holding a small white pill bottle. He is looking down at the bottle. An elderly male patient with grey hair is sitting up in a hospital bed, looking towards the doctor. In the background, there is a medical monitor displaying '115 / 80 89' and other medical equipment. The scene is set in a bright hospital room with large windows.

4/5 Confident of Comprehension

1/5 Actual Comprehension



Educate. Connect. Empower. Collaborate.



Bad test results often not reported to U.S. patients

Mon Jun 22, 2009 4:43pm EDT

By [Julie Steenhuysen](#)

CHICAGO (Reuters) - Doctors in the United States fail to tell patients about abnormal test results 7 percent of the time, or a rate of about 1 out of every 14 tests, U.S. researchers said on Monday.

They said electronic medical records -- touted by President [Barack Obama](#) and many experts as a way of reducing errors -- did not reduce and, in some cases, slightly increased the chances for these kinds of mistakes, they said.

"The electronic medical record doesn't magically fix the problem," said Dr. Lawrence Casalino of Weill Cornell Medical College in New York, whose study appears in the Archives of Internal Medicine.

Not telling patients about abnormal test results can delay treatment for doctors' or health care workers', hurting the patient's chances of survival and exposing doctors to malpractice lawsuits.

"Failure to diagnose is one of the most common causes of malpractice suits," Casalino said in a telephone interview.

Casalino and colleagues analyzed more than 5,000 patient records from 23 physician practices across the country, looking at screening tests for conditions such as high cholesterol, diabetes, blood tests for colon cancer and mammograms.

They found doctors failed to inform patients 7 percent of the time. Performance at individual practices varied widely. Some practices always informed patients, and some failed to inform patients 26 percent of the time.

Physician offices that used a combination of paper and electronic records -- a so-called partial electronic medical record -- had the highest failure rates, while there was no significant difference between practices that only used electronic medical records or paper records.

Casalino said doctors should have explicit rules for informing patients of test results. He said all results should be sent back to the doctor who ordered them, and patients should be told the results of all tests, even if they are normal.

He said patients should make sure they ask their doctors for the results of all tests. "Don't ever assume that no news is good news," Casalino said.

**Patients never hear
about 1 out of every 14
abnormal tests**

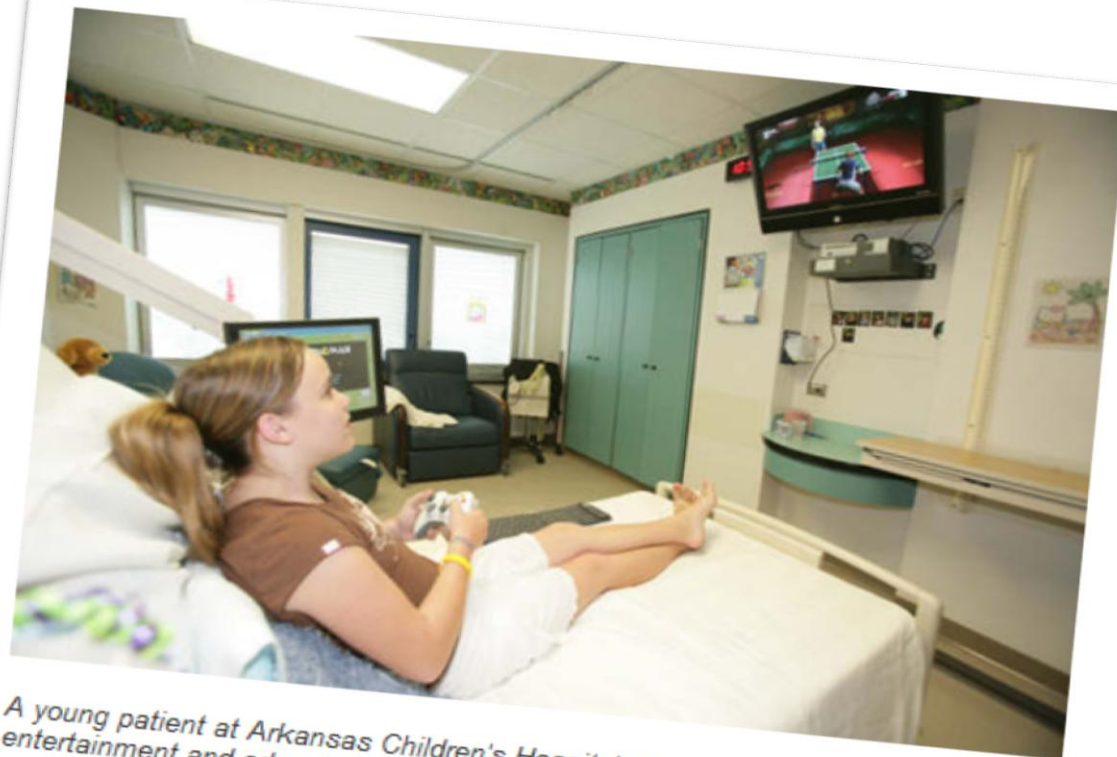


Entertain. Communicate. Educate. Reassure. Empower.



Home screen to the bedside entertainment and education system at Arkansas Children's Hospital based on Microsoft Media Center

Yesterday, I recorded one of my [House Calls](#) audio-casts with the staff at ACH. That program will be posted on my House Call's site on [Microsoft.com](#) within the next few days. In the meantime, I just couldn't wait to tell you about this. Although the solution has just finished a limited pilot, the decision has already been made to roll it out hospital-wide. One of the highlights of my audio-cast was interviewing a 16 year-old young man who is a frequent patient at ACH. To hear his excitement about using the new bedside entertainment and education system at ACH was reward in itself. He said the system is totally awesome in helping him stay in touch with school, friends and family during extended hospital stays. His doctor has used the bedside monitor to review test results with him. And the TV, movies and Xbox games are way cool!



A young patient at Arkansas Children's Hospital plays Xbox on the CarePoint bedside entertainment and education system



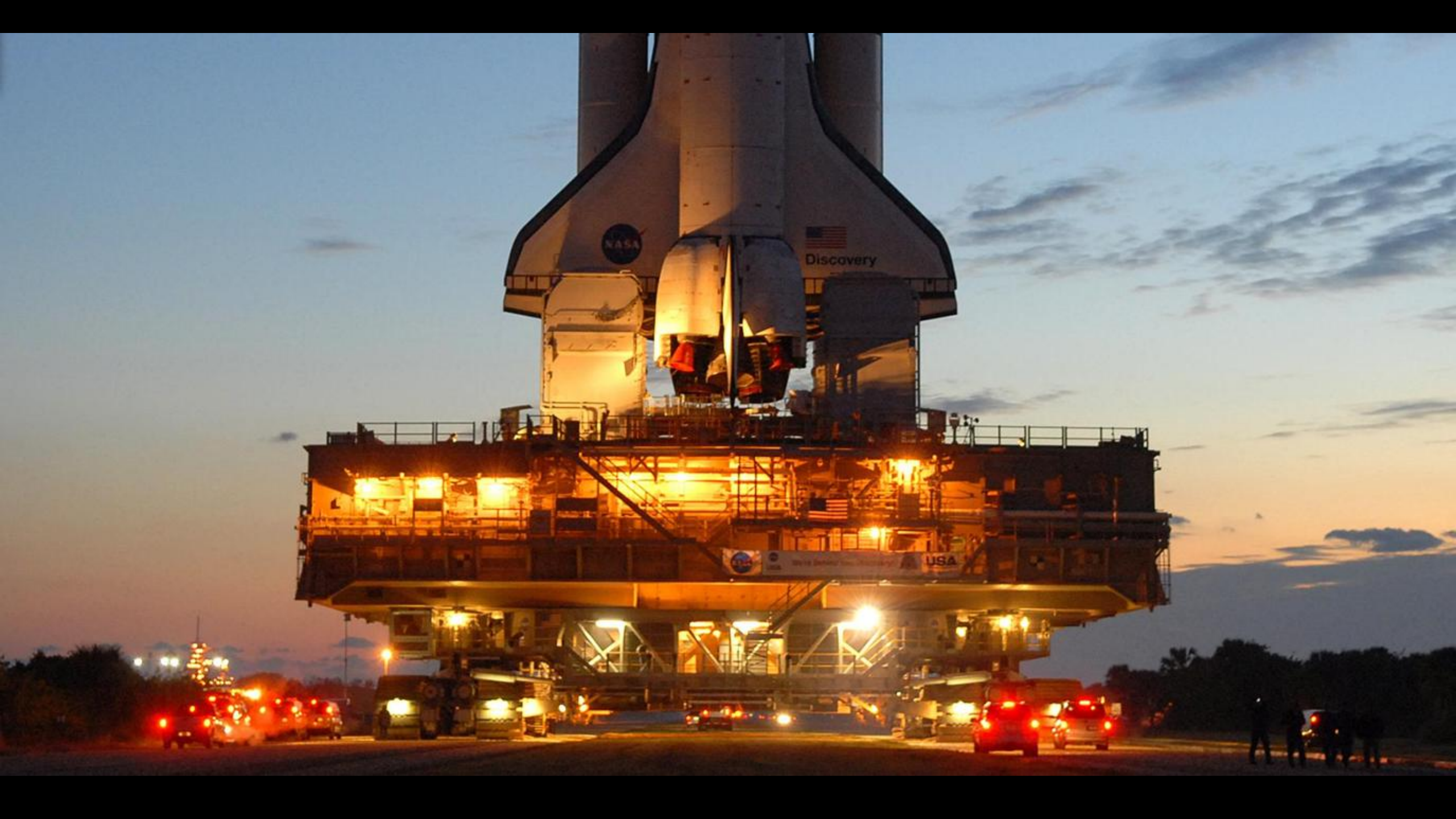
Maintain Sterile Environments

Gesture Based Interface Control



Working with Leaders













Case Two

Title: Instructions concerning a gaping wound in his head, penetrating to the bone.

Examination: If thou examinest a man having a gaping wound in his head, penetrating to the bone, thou shouldst lay thy hand upon it and thou shouldst palpate his wound. If thou findest his skull uninjured, not having a perforation in it...

Diagnosis: *Thou shouldst say regarding him: "One having a gaping wound in his head. **An ailment which I will treat.**"*

Treatment: Thou shouldst bind fresh meat upon it the first day; thou shouldst apply for him two strips of linen, and treat afterward with grease, honey, and lint every day until he recovers.

Gloss: As for: "Two strips of linen," it means two bands of linen which one applies upon the two lips of the gaping wound in order to cause that one join to the other.

Case Three

Title: Instructions concerning a gaping wound in his head, penetrating to the bone and perforating his skull.

Examination: If thou examinest a man having a gaping wound in his head, penetrating to the bone, and perforating his skull; thou shouldst palpate his wound; shouldst thou find him unable to look at his two shoulders and his breast, and suffering with stiffness in his neck...

Diagnosis: *Thou shouldst say regarding him: "One having a gaping wound in his head, penetrating to the bone, and perforating his skull, while he suffers with stiffness in his neck. **An ailment which I will treat.**"*

Treatment: Now after thou has stitched it, thou shouldst lay fresh meat upon his wound the first day. Thou shouldst not bind it. Moor him at his mooring stakes until the period of his injury passes by. Thou shouldst treat it afterward with grease, honey, and lint every day, until he recovers...

Gloss: As for: "Moor him at his mooring stakes," it means putting him on his customary diet, without administering to him a prescription.

Case Four

Title: Instructions concerning a gaping wound in his head, penetrating to the bone, (and) splitting his skull.

Examination: If thou examinest a man having a gaping wound in his head, penetrating to the bone, and splitting his skull, thou shouldst palpate his wound. Shouldst thou find something disturbing therein under thy fingers, and he shudders exceedingly, while the swelling which is over it protrudes, he discharges blood from both his nostrils and from both his ears, he suffers with stiffness in his neck, so that he is unable to look at his two shoulders and his breast...

Diagnosis: *Thou shouldst say regarding him: "One having a gaping wound in his head, penetrating to the bone, and splitting his skull; while he discharges blood from both his nostrils and from both his ears, and he suffers with stiffness in his neck. **An ailment with which I will contend.**"*

Treatment: Now when thou findest that the skull of that man is split, thou shouldst not bind him, but moor him at his mooring stakes until the period of his injury passes by. His treatment is sitting. Make for him two supports of brick, until thou knowest he has reached a decisive point. Thou shouldst apply grease to his head, and soften his neck therewith and both his shoulders. Thou shouldst do likewise for every man whom thou findest having a split skull...

Gloss: As for "Until thou knowest he has reached a decisive point," it means (until thou knowest whether he will die or he will live: for he is a case of "an ailment with which I will contend.")





8%









one million



one trillion

Winning Scorecard

Hospitals in the Veterans Affairs system outpace those in the private sector by many measures

The McGraw-Hill Companies

BusinessWeek

QUALITY of Care

The latest Rand Corp. study found that VA patients, on average, received about two-thirds of the care recommended by national standards, compared with just half for patients at a sample of the nation's other hospitals. Here's the breakdown:

HEALTH INDICATOR	VA SCORE*	NATIONAL SAMPLE**
Overall	67%	51%
Chronic care	72	59
Lung disease	69	59
Heart disease	73	70
Depression	80	62
Diabetes	70	47
Hypertension	78	65
High cholesterol	64	53
Osteoarthritis	65	57
Preventive care	64	44
Acute care	53	55
Screening	68	46
Diagnosis	73	61
Treatment	56	41
Follow-up	73	58

*Total VA patients. **500 patients at non-VA hospitals.
Data: Rand Corp., Agency for Healthcare Research & Quality

Patient SATISFACTION

For the sixth year in a row, veterans in 2005 were happier than other patients with their health care.

	VA	PRIVATE SECTOR
Inpatient	83*	73
Outpatient	80	75

*Out of 100. Data: American Customer Satisfaction Index

TECHNOLOGY Use

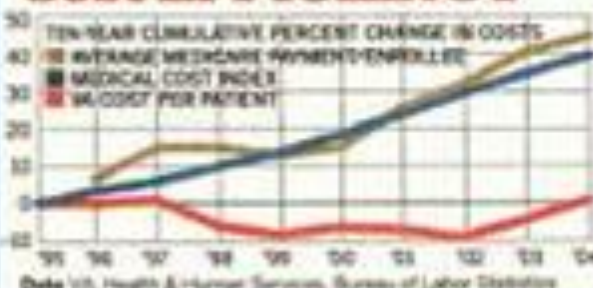
The VA has the most advanced electronic-records system in the U.S.

PERCENTAGE OF NEW DRUG AND PROCEDURE ORDERS ENTERED ELECTRONICALLY

VA	94%
Academic medical centers	30
Nationwide	8

Data: Commonwealth Foundation

Cost EFFICIENCY



Winning Scorecard

Hospitals in the Veterans Affairs system outpace those in the private sector by many measures

The McGraw-Hill Companies
BusinessWeek

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TECHNOLOGY

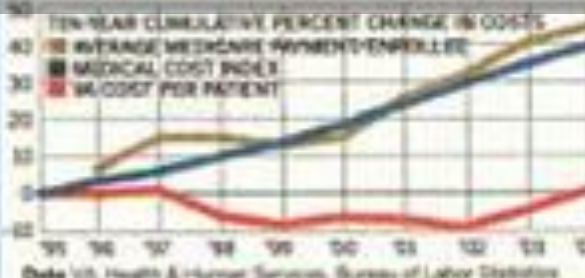
The VA is the most advanced in the use of electronic records.

PERCENT OF MEDICAL RECORDS STORED ELECTRONICALLY

VA 94%
Academic medical centers 91%
National average 88%

Source: Commonwealth Foundation

Cost EFFICIENCY





MOON



EARTH

SUN

Copernicus

The Traditional Healthcare Universe



“Copernican Shift” in Healthcare



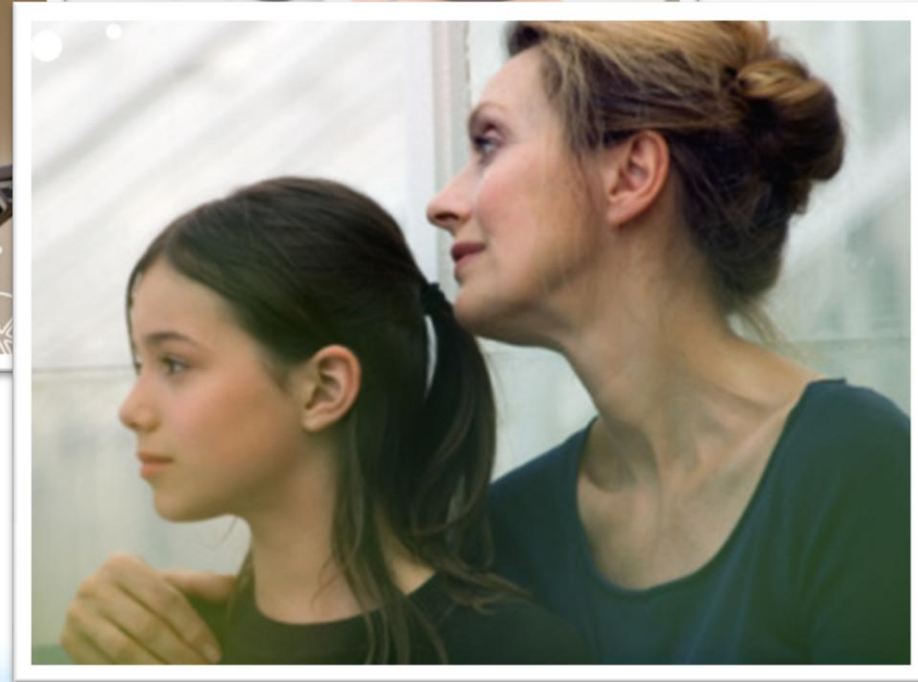


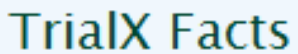
Application & Device Companies

Signed and Live as of 10/29/08



- 40 live applications
- 50 connected devices
- 90 signed partners
- 12,000 SDK downloads





- ❖ **14,000+** ongoing clinical trials approved by the US FDA
- ❖ **8000+** clinical trial investigators
- ❖ **3000+** and counting participants matched to clinical trials

Clinical Trials	Age: <input type="text"/> <input type="button" value="Enter"/>	Select
Personalized Exercise for Adolescen...		
Cross-Sectional and Longitudinal St...		
The STATIN CHOICE Decision Aid for ...		
Risk Communication Within Mexican-A...		
Harnessing Health IT for Self-Manag...		
Family Investigation of Nephropathy...		
Thiamine and Acute Decompensate He...		

For Participants ▾

Step 1: Find a matching clinical trial

Step 2: Contact the trial investigators in your area

Step 3: Get alerts on new matching trials

trial phase	Match Score	How does it work?
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment
	100	 Begin Trial Recruitment

Get Matching Trials using your Personal Health Record

Copy FROM



Microsoft HealthVault is the way to collect, store and share information online. [Learn More](#)

TrialX is going to copy data from your HealthVault account and needs you to sign in

TrialX is a Google Health integrated partner. [Start an account](#) with Google Health to securely manage your personal health information online. Link up with TrialX to get personalized matching clinical trials.



Advanced Drug Safety

Check and Resolve Drug Interactions and Combined Side Effect Risks

[Survey My List of Drugs for Safety](#)

Try it now! It's Free. No login required.

Advanced Drug Safety Survey

4 steps to personalize a patient's regimen for safety

- 1 Input the patient's symptoms and drugs directly or via their Health Record
- 2 Identify symptoms that may be side Effects of the patient's medications
- 3 Diagnose which drugs pose the highest risk of the patient's presenting Side Effects
- 4 Resolve Side Effects by modifying the medications to minimize the patient's risks

My Drug Safety Survey

Pharma**SURVEYOR** Personalized Drug Safety [START NEW SURVEY](#) [?](#)

Medications | Side Effect Risks | Interactions | Survey Meds from Partners | Help

View: All Side Effects

Search side effects for my symptoms: breath fatigue dizzy throwing

Severity	Side Effect	Combined Risk	Regimen	Adult Aspirin Oral	Amoxicillin Oral	Ibuprofen Oral	Lipitor Oral	Maxalt Oral	Valtrex Oral	Zoloft Oral
Dizziness - Dizzy										
Nausea - Feel Like Throwing Up										
Vomiting - Throwing Up										
Dyspnea - Trouble Breathing										
Bloody Vomit - Throwing Up Blood										

Maxalt Oral

- + Add Drug
- Remove this Drug
- ↻ Replace via Condition
- ↻ Replace via Class
- ↻ Replace via Search

Modify enables "what-if" analysis, like using a spreadsheet, to simulate and evaluate the impact of changes to the medications.

PharmaSURVEYOR works with



Get my medications from Microsoft® HealthVault™



North America's Finest: The top 100 Most Promising Tech Companies.

CBS Evening News Video



[Senior Safety: High-Tech Ways to Protect Elderly](#)

Sample Drug Safety Surveys

- [CBS Story - Lester's Drugs](#)
- [Heath Ledger's Drug Cocktail](#)
- [New York Times Complex Patient](#)

Privacy & Terms of Use

Our [Privacy Policy](#) has changed to accommodate member account functionality.

Consumer Side Clinical Decision Support



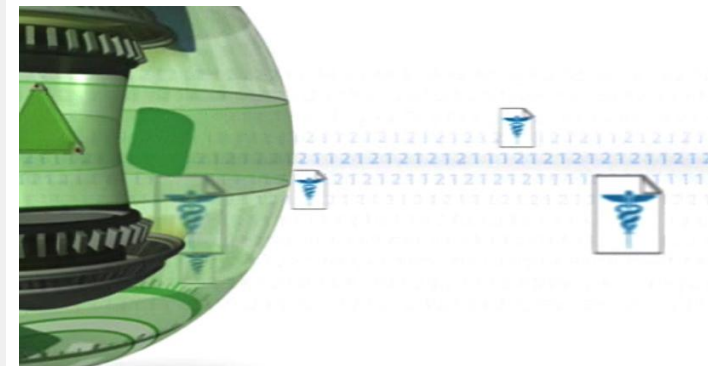
LARGE-SCALE CLINICAL TRIAL IN A COMMERCIAL HEALTH PLAN SETTING.

This randomized, prospective study to demonstrate the value of our CareEngine clinical decision support technology was conducted by ActiveHealth Management. The study population consisted of 39,462 members of a midwestern managed care plan age 12-64 with at least 1 medical claim in the prior year. It was published as a peer-reviewed article in *The American Journal of Managed Care*.

Across the study population:

46 potentially serious medical errors identified per 1,000 people – nearly 1 for every 20 members.

8.4% fewer hospitalizations.



Thousands of clinical rules – “care considerations”
CareEngine™ scans claims data, prescriptions
Recommends stopping, starting treatments, tests, procedures.
Phone, fax, letter to clinicians.

Welcome

Welcome to the Mayo Clinic Health Manager, a free tool that enables you to easily manage your family's health online.

You'll get **interactive, personal guidance** based on health information from Mayo Clinic experts. Plus, you can easily access and **organize your family's health information** all in one place.

STORED IN



Mayo Clinic Health Manager
uses Microsoft HealthVault to
store your data. [Learn more](#)

Take a tour

[Welcome](#)[Manage your family's
health](#)[Access your
information](#)[Get personal guidance](#)[Monitor your health](#)[Make the most of
doctor visits](#)[Sign up](#)





WHAT AFFECTS YOUR HEART HEALTH? »

- Do you have high blood pressure or a family history of high blood pressure?
- Are you physically active?
- Do you know what your cholesterol levels are?
- Do you have a family history of high cholesterol?
- Do you have diabetes or have a family history of diabetes?
- Are you overweight?
- What medications are you taking?

Sign in to use our trackers to help reduce your risk of cardiovascular disease.

Heart360™ Cardiovascular Wellness Center

Connect Your Devices

You can enter your information here in Heart360™, or directly from a device, such as a blood pressure monitor, that you can connect to your PC.



[◀ Back](#)

[Next ▶](#)

Sign up today

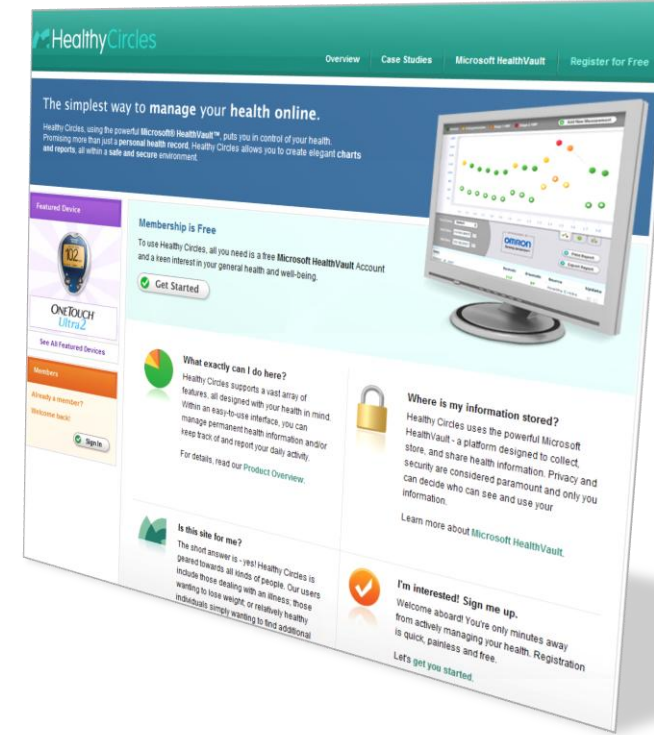
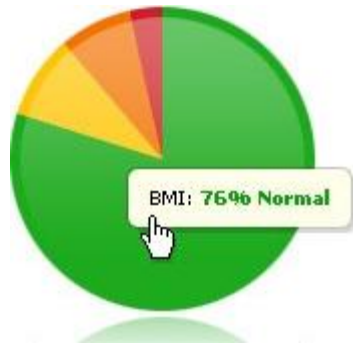
Creating your account on Heart360™ takes only a few minutes.

Already registered? [Sign in](#)

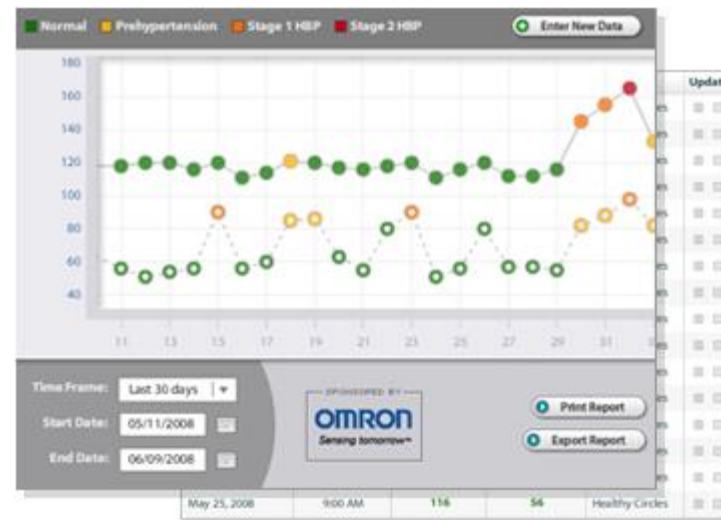


[University](#)

Healthcare providers can do that. The American Heart Association recommends that you consult your healthcare provider. This assessment can help you work with your healthcare provider to map a successful path to heart health.

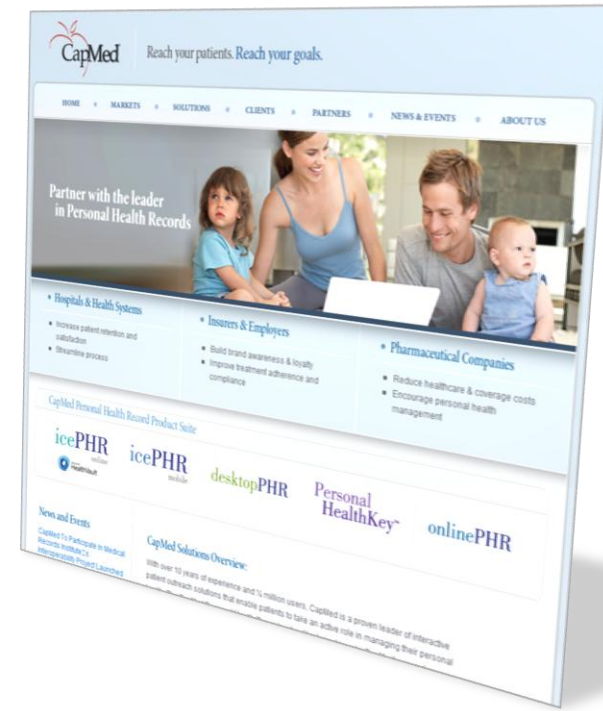


Blood Glucose
Blood Pressure
Peak Flow/FEV1
Pedometer/Steps
Weight/BMI
Well-Being





Copy FROM Microsoft HealthVault



icePHR Last Updated: 9/25/2007 Logout

Family Member: Shalimov, Dmitry

Increase Text

Decrease Text

Emergency Information - Shalimov, Dmitry

Edit Emergency Information

Download From

Send To

Print



Shalimov, Dmitry
6678 Pickwick ct
Bensalem, PA 19020
(215) 702-0304

Blood Type: N/A
Religious Preference: N/A

Medical Information

Conditions

Angina
Behavioral Disturbance
Bronchitis

Allergies

Dust
Grasses

Medications

Acetaminophen
Percocet

Medical Devices

Autoinjector and Syringes
Bilevel Positive Airway Pressure

Immunizations

Hepatitis A
Influenza

Advanced Directives

I have a Do not Resuscitate Order ☒ ☐
I have a No Blood Transfusion Order ☒ ☐
I have a Living Will ☒ ☐
I am an Organ Donor ☒ ☐

Power of Attorney
mr John Apple
2233322222

icePHR Last Updated: 9/25/2007 Logout

Family Member: Shalimov, Dmitry

Emergency Information - Shalimov, Dmitry

Edit Emergency Information

Medical Information

Conditions: Angina, Behavioral Disturbance, Bronchitis

Allergies: Dust, Grasses

Medications: Acetaminophen, Percocet

Medical Devices: Autoinjector and Syringes, Bilevel Positive Airway Pressure

Immunizations: Hepatitis A, Influenza

Advanced Directives

I have a Do not Resuscitate Order ☒ ☐
I have a No Blood Transfusion Order ☒ ☐
I have a Living Will ☒ ☐
I am an Organ Donor ☒ ☐

Power of Attorney
mr John Apple
2233322222

Add Insurance

Policy Details Contact Information Additional Contacts

Policy Details

Company Name Subscriber Name
Policy Number Group Number
Effective Date 09/26/2007 Termination Date
☐ Show on Emergency Card

Members

Name	Relationship	Coverage
Name <input type="text"/>	Relationship <input type="text"/>	Coverage <input type="text"/>

Coverage Category ☒ Primary ☐ Secondary ☐ Other

Add Record

Deductibles, Copays and Limits

Type	In-Network Amount	Out-Of-Network Amount
Type <input type="text"/>	In-Network Amount \$ <input type="text"/>	Out-Of-Network Amount \$ <input type="text"/>

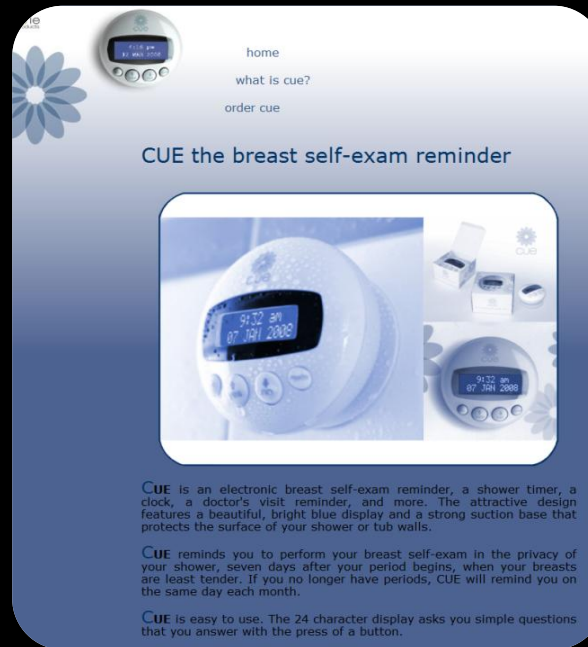
Add Record

Cancel Save

Track Weight



Personal Reminder Technology



Cue is a simple waterproof device that's designed to hang in the shower and remind women to perform a personal breast exam seven days after a period, a time when the tissue is least tender and identifying lumpy spots is easier to perform.

is easier to perform
identifying lumpy spots
tissue is least tender and
period, a time when the

zeo[®] Personal Sleep Coach



Discover the science of
a good night's sleep



ZQ Breakdown



Sleep History



Sleep Graph



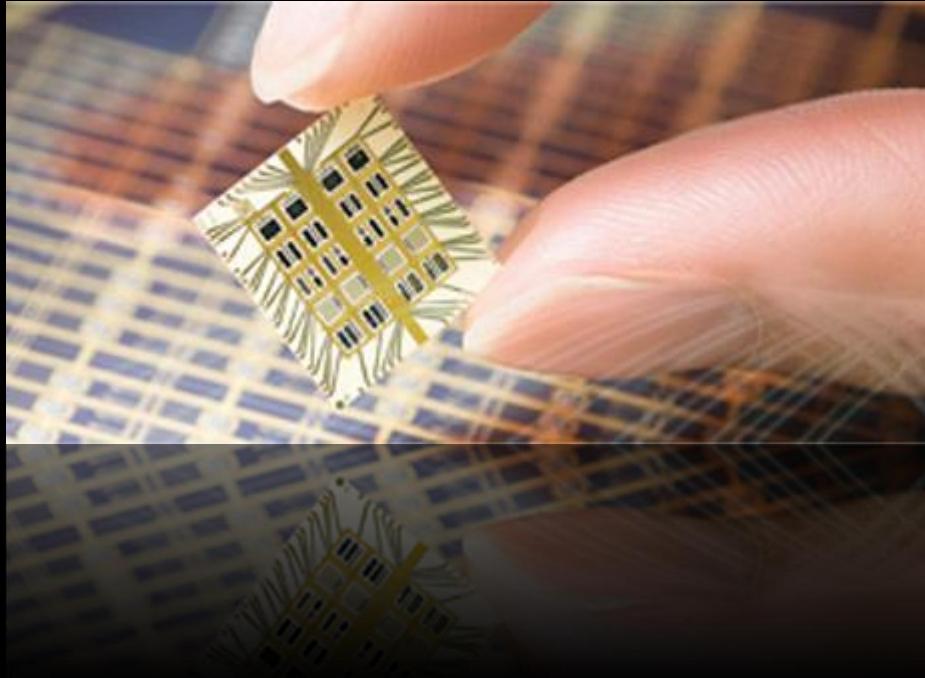
Trends

1 billion PCs
3 billion cell phones

VITALS		LABS		IMAGES	
HR	72	WBC	12.5	CXR	Normal
BP	120/80	HEMOG	15.0	US	Normal
RR	18	PLT	450	CT	Normal
SpO2	98%	CRP	10.0	MRI	Normal
Temp	37.5	ESR	30	Angio	Normal
Glucose	100	Urea	1.0	ECG	Normal
Liver	Normal	Creat	1.2	EEG	Normal
Kidney	Normal	Calc	9.5	EMG	Normal
Heart	Normal	Phos	3.5	ENT	Normal
Lungs	Normal	Mg	2.0	Ophthalm	Normal
Gastro	Normal	Zinc	1.0	Neuro	Normal
Genit	Normal	Copper	1.5	Dermat	Normal
Endo	Normal	Mn	0.5	Immun	Normal
Neuro	Normal	Se	0.1	Path	Normal
Muscle	Normal	Co	0.05	Micro	Normal
Skin	Normal	Ni	0.01	Parasit	Normal
Bone	Normal	Pb	0.00	Stain	Normal
Teeth	Normal	Cd	0.00	Spec	Normal
Hair	Normal	Hg	0.00	Culture	Normal
Nails	Normal	As	0.00	Serology	Normal
Diagn	Normal	Sb	0.00	Antibody	Normal
Progn	Good	Bi	0.00	Vaccine	Normal
Ref	Normal	Po	0.00	Screen	Normal
Cost	Low	Mo	0.00	Test	Normal
Time	Fast	Ag	0.00	Result	Normal
Port	Wide	Am	0.00	Interp	Normal
Acc	High	Pr	0.00	Signif	Normal
Rel	Good	Ca	0.00	Valid	Normal
Use	Easy	Mg	0.00	Reliab	Normal
Maint	Simple	K	0.00	Consist	Normal
Repair	Quick	Na	0.00	Stable	Normal
Parts	Common	Cl	0.00	Secure	Normal
Supp	Local	S	0.00	Discreet	Normal
Transp	Good	O	0.00	Unobtrus	Normal
Deliv	Fast	F	0.00	Non-invas	Normal
Cost	Low	Li	0.00	Painless	Normal
Time	Fast	Be	0.00	Risk-free	Normal
Port	Wide	H	0.00	Safe	Normal
Acc	High	Ne	0.00	Sound	Normal
Rel	Good	Si	0.00	Clear	Normal
Use	Easy	Br	0.00	Convinc	Normal
Maint	Simple	I	0.00	Authorit	Normal
Repair	Quick	Ar	0.00	Trustwort	Normal
Parts	Common	Kr	0.00	Reliable	Normal
Supp	Local	Co	0.00	Dependab	Normal
Transp	Good	Ni	0.00	Steadfast	Normal
Deliv	Fast	Cu	0.00	Unshakab	Normal
Cost	Low	Zn	0.00	Immovabl	Normal
Time	Fast	Pb	0.00	Fast-grow	Normal
Port	Wide	As	0.00	Sturdy	Normal
Acc	High	Sb	0.00	Durable	Normal
Rel	Good	Bi	0.00	Long-las	Normal
Use	Easy	Po	0.00	Hard-wear	Normal
Maint	Simple	Mo	0.00	Proof-wear	Normal
Repair	Quick	Ag	0.00	Unbreaka	Normal
Parts	Common	Pr	0.00	Invincibl	Normal
Supp	Local	Ca	0.00	Impenetr	Normal
Transp	Good	Mg	0.00	Impassabl	Normal
Deliv	Fast	K	0.00	Unconquer	Normal
Cost	Low	Na	0.00	Unsubdu	Normal
Time	Fast	Cl	0.00	Unbattl	Normal
Port	Wide	S	0.00	Unconquer	Normal
Acc	High	O	0.00	Unconquer	Normal
Rel	Good	F	0.00	Unconquer	Normal
Use	Easy	Li	0.00	Unconquer	Normal
Maint	Simple	Be	0.00	Unconquer	Normal
Repair	Quick	H	0.00	Unconquer	Normal
Parts	Common	Ne	0.00	Unconquer	Normal
Supp	Local	Si	0.00	Unconquer	Normal
Transp	Good	Br	0.00	Unconquer	Normal
Deliv	Fast	I	0.00	Unconquer	Normal
Cost	Low	Ar	0.00	Unconquer	Normal
Time	Fast	Kr	0.00	Unconquer	Normal
Port					



Embedded Personal Health Technologies

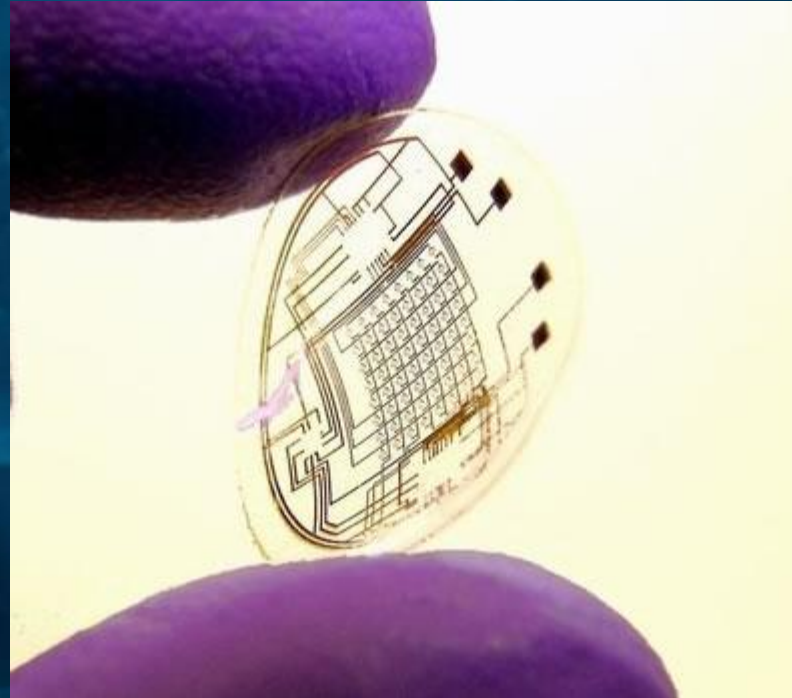


Clinical trials begin this year on this glucose detecting microchip, a device that has shown positive results when studied on animals.

Future of Embedded Data Bridging Technologies



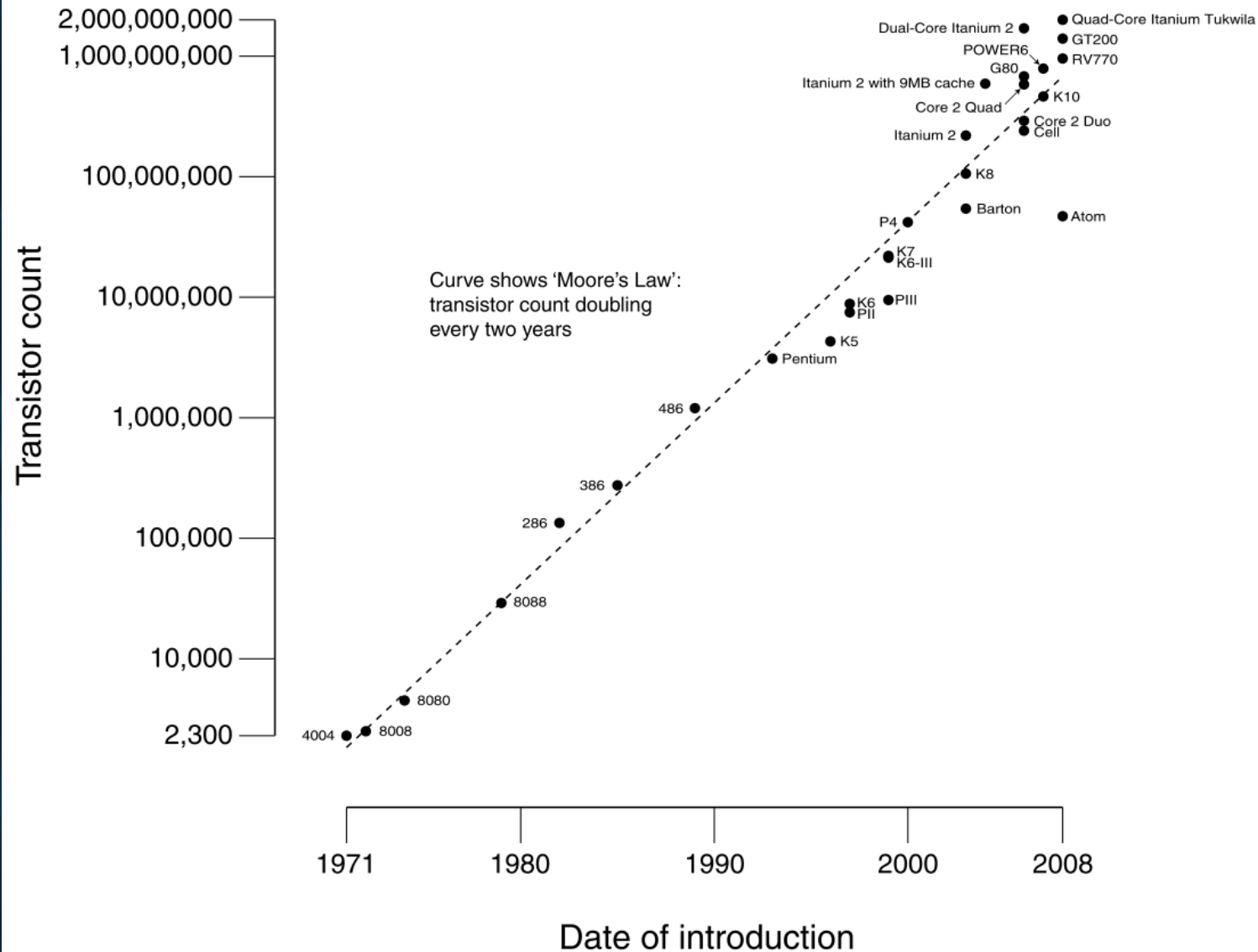
"There is a large area outside of the transparent part of the eye that we can use for placing instrumentation," Parviz said. Future improvements will add wireless communication to and from the lens. The researchers hope to power the whole system using a combination of radio-frequency power and solar cells placed on the lens, Parviz said.



The prototype device contains an electric circuit as well as red light-emitting diodes for a display, though it does not yet light up.

The UW engineers used microscopic scale manufacturing techniques to create a flexible, biologically safe contact lens with imprinted electronic circuits and lights.

CPU Transistor Counts 1971-2008 & Moore's Law









2030

\$1,000 for one thousand



2050



2050

\$1,000 for seven billion

Stethoscope 2.0



The image displays two pages of an ancient Arabic manuscript. The script is a highly stylized cursive, characteristic of the Maghribi or Maghrebi script. The text is arranged in horizontal lines across both pages. On folio 100v (left), there are several lines of text, some of which appear to be headings or section markers, possibly written in red ink. Folio 101r (right) continues the text. The parchment shows signs of age, including slight discoloration and wear along the edges. The central gutter shows the binding of the book.

Microsoft Health Vision



**To Improve Health Around The World
Through Software Innovation**



Microsoft®

Your potential. Our passion.™

Healthcare of the Future

