Trends in Health Technology: the Data and Digital Convergence

Indu Subaiya, MD, MBA
Co-Founder & CEO

Health 2.0

BASECAMP
BACKPACK
CHALK.IT
REMEMBERTHEMILK
WRITEBOARD
TADALIST
GOOGLE MAPS
KIKO
WRITELY
GTD
GMAIL
GOOGLE
RSSREADER
GOOGLE IG
ZIMBRA
MEEBO
WIKIPEDIA
Focus on Simplicity
PROTOPAGE
TAGGLING
CLOUDALICIOUS
TAGCLOUD
Wikis
WIDGETS
Joy of Use
FLOCK
DELICIOUS
COLLABORATION
STUMBLEUPON
FLICKR
Folksonomy
SHARING
AJAX
DIGG
SQUIDOO
PAGERANK
Usability
EBAY
Recommendation
USER CENTERED
LINKEDIN
FOAF
BLINKSALE
PERPETUAL BETA
ORKUT
SIXDEGREES
Social Software
The Long Tail
FRIENDSTER
PAYPAL
XFN
Participation
TRUST
Economy
BLOGGER
Blogs
AMAZON
AGGREGATION
VC
TYPEPAD
Affiliation
TECHNORATI
WORDPRESS
MINT
Web2.0
beta
READ.IO
MEASUREMAP
COSTPERCLICK
IPODDER
PODCASTING
IM
Audio
ODEO
SKYPE GTALK JABBER
Convergence
LIVELINESS
ITUNES
DATA INSIDE
SEO
Design
VIMEO
Video
VIDEOCASTING
BIT TORRENT
GRANULARITY
MODULARITY
SIMPLICITY
WIFI
SYNDICATION
Mobility
UMTS
Remixability
SOAP
REST
RUBYONRAILS
GOOGLE MAPS
XML
CREATIVECOMMONS
A9
PLAZES
Standardization
RSS
OpenAPIs
YAHOO MAPS
TAGCLOUD
CSS-Design
SEMANTIC
NEWSGATOR
BLOGLINES
AMAZON
DataDriven
XHTML
ACCESSIBILITY
WASP
FEEDSTER
ROJO
GOOGLE MAPS
Web Standards
FEEDBURNER
GMAPS MASHUPS
TECHNORATI
MYYAHOO
GOOGLE NEWS
FIREFOX
Microformats
BUZZTRACKER
GOOGLE
A9
ICEROCKET
INORDER
WINK
ALEXA
MICROFORMATS.ORG
ROLLYO
TRENDMAPPER
PUBSUB
MARKUS.ANGERMEIER @ APER

So what is

Health 2.0

adaptable technology

adaptable technology

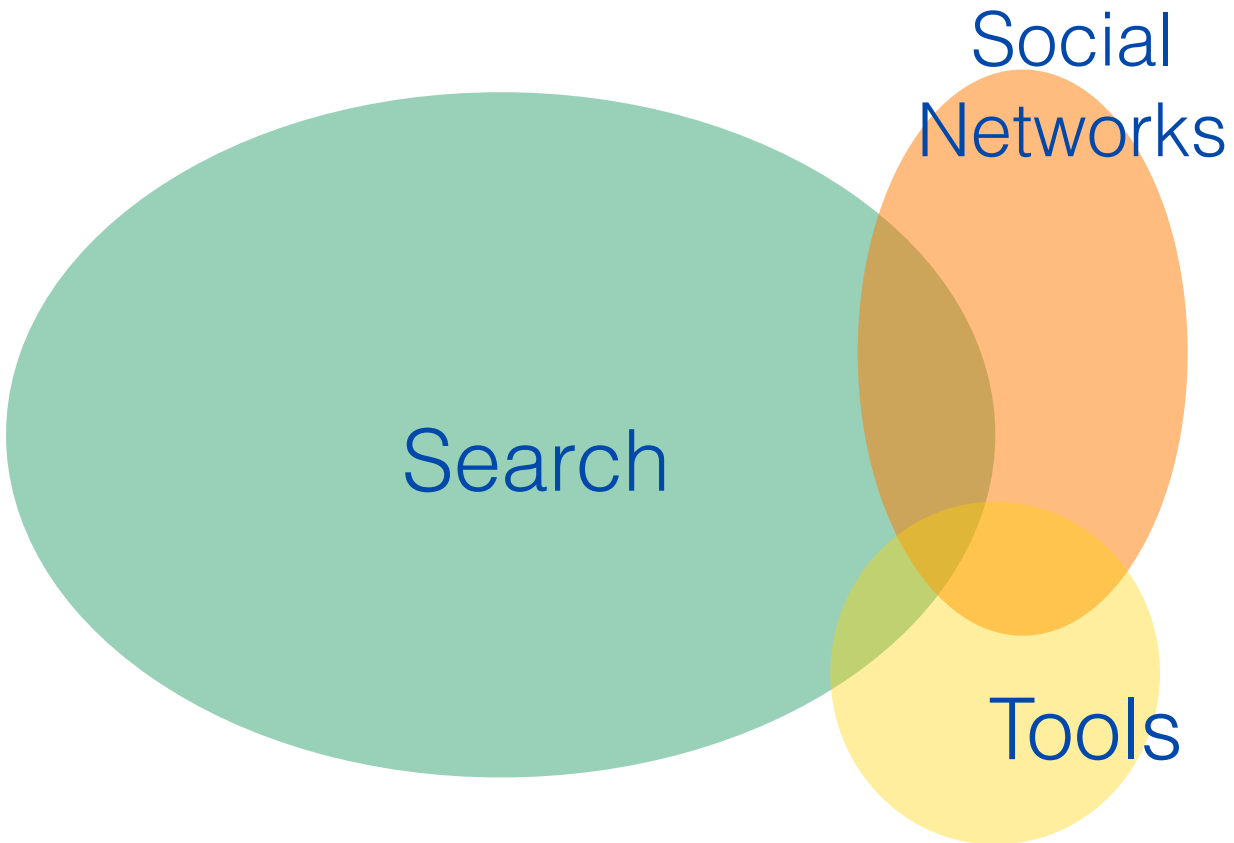
user experience

adaptable technology

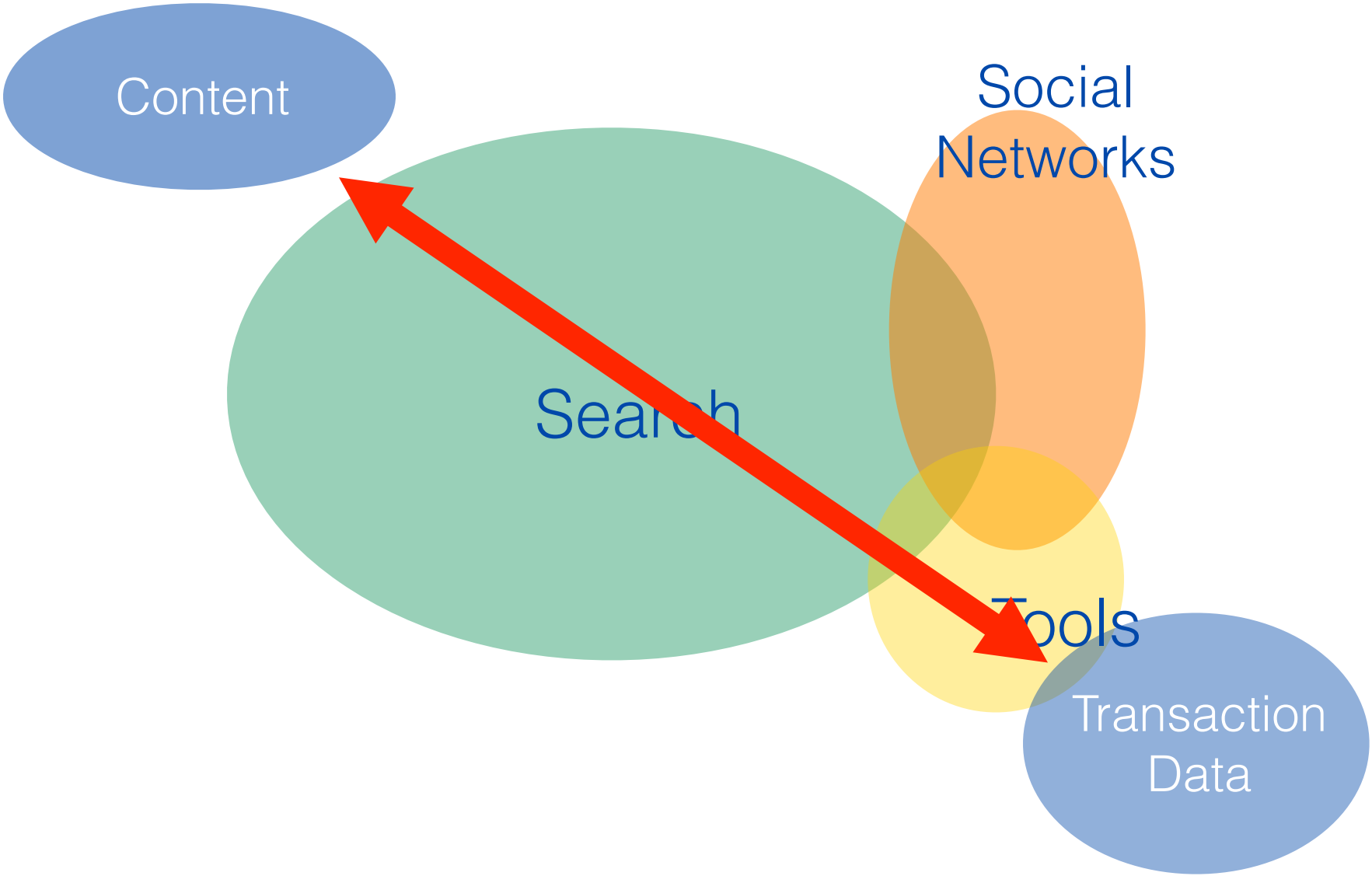
user experience

data drives-decisions

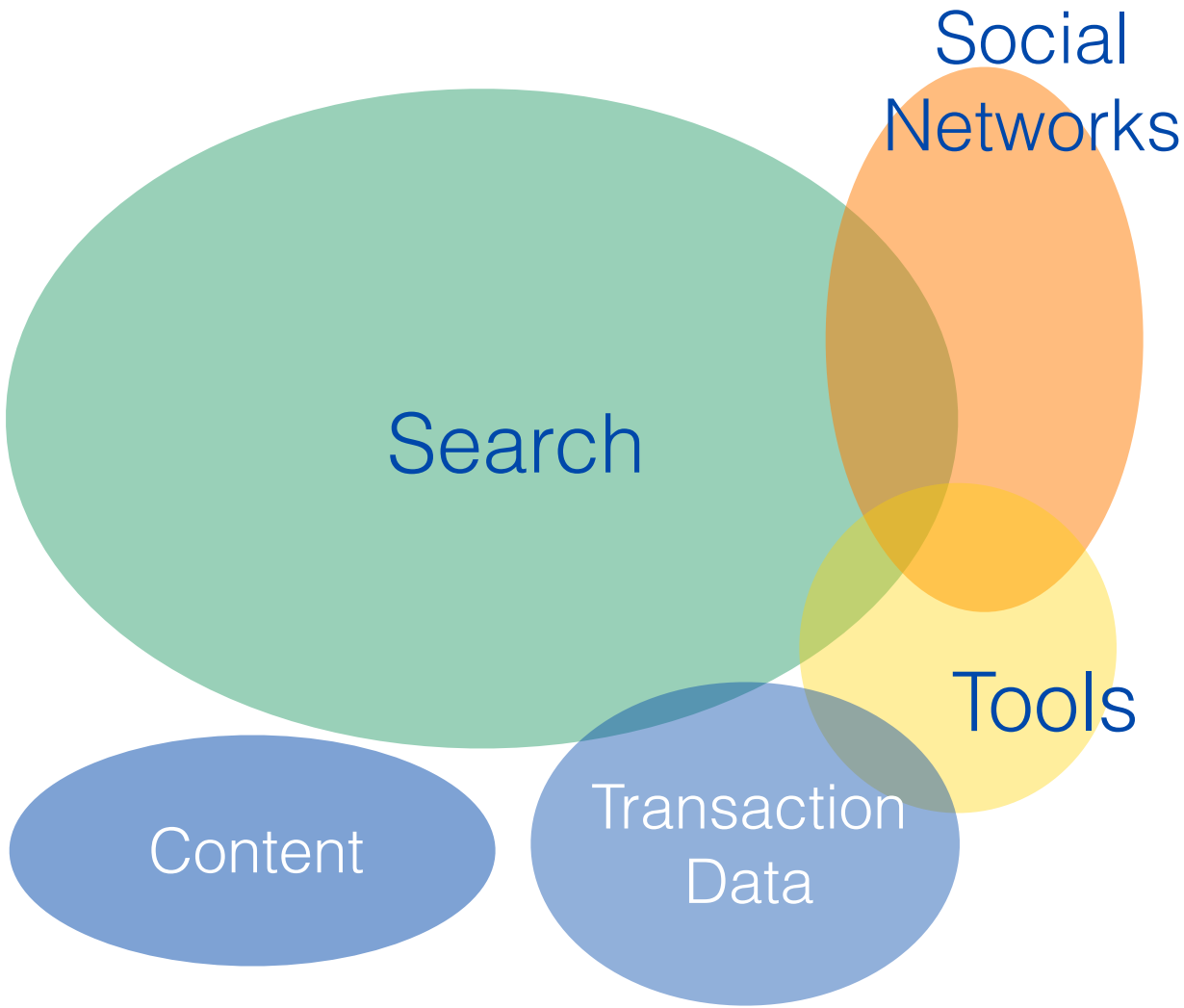
Health 2.0: User-Generated Healthcare



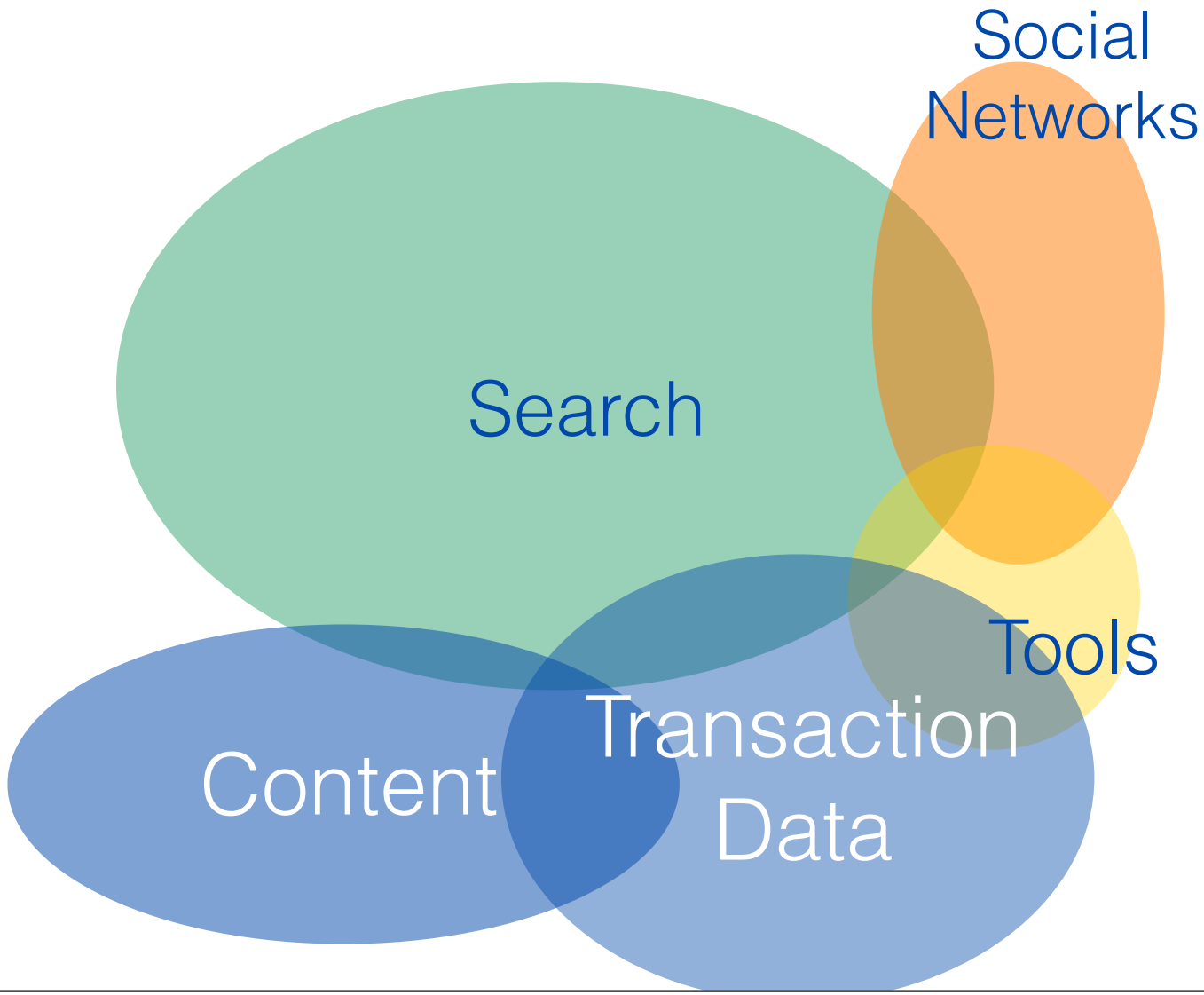
Health 2.0: User-Generated Healthcare



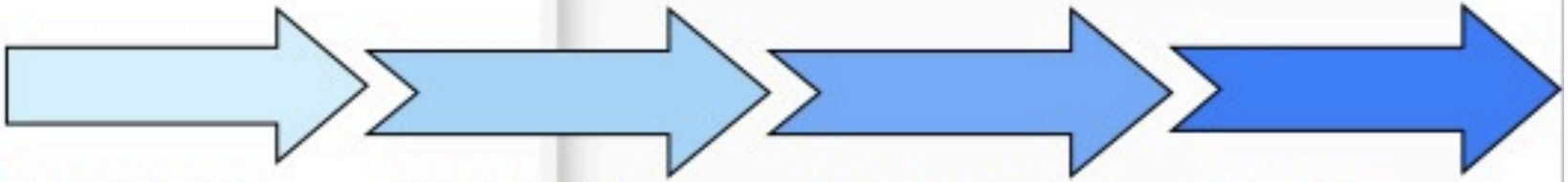
Health 2.0: User-Generated Healthcare



Health 2.0: User-Generated Healthcare



A continuum of Health 2.0?



User-generated health care

Use of Web2.0 technologies for patients and physicians to communicate and investigate ***without connecting*** to the health care system

Users connect to providers

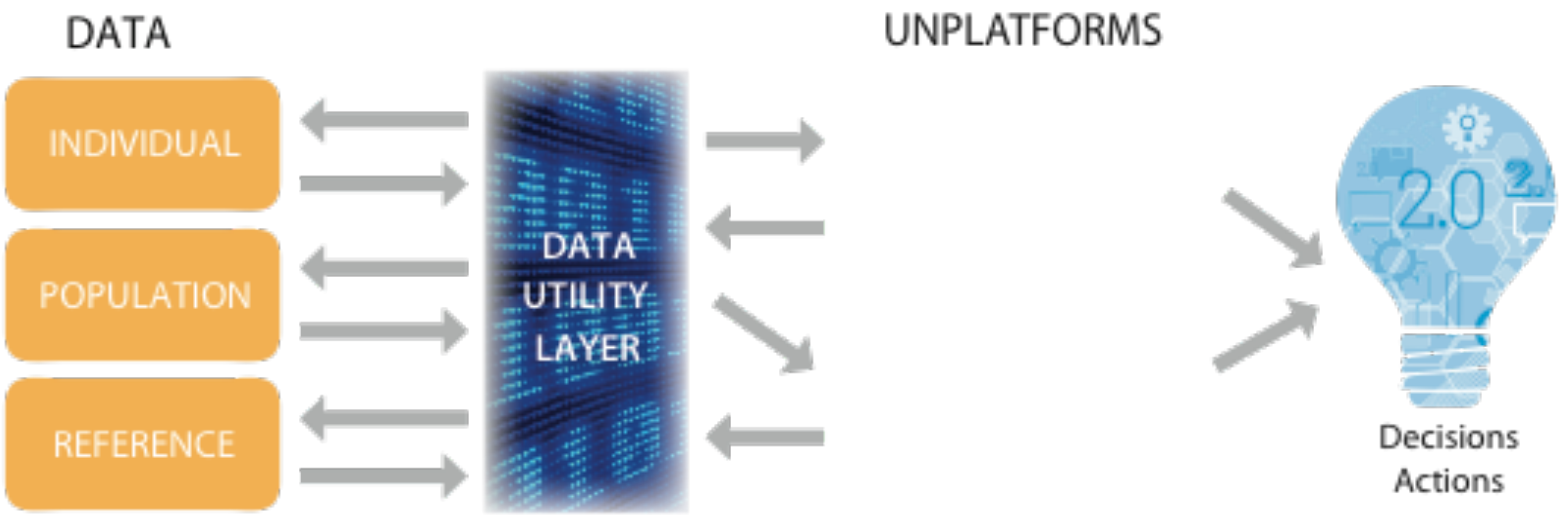
Tools and communities created as part of Web2.0 in health care, which then becoming connected to the system (i.e. creating appointments, conducting transactions, managing clinical events)

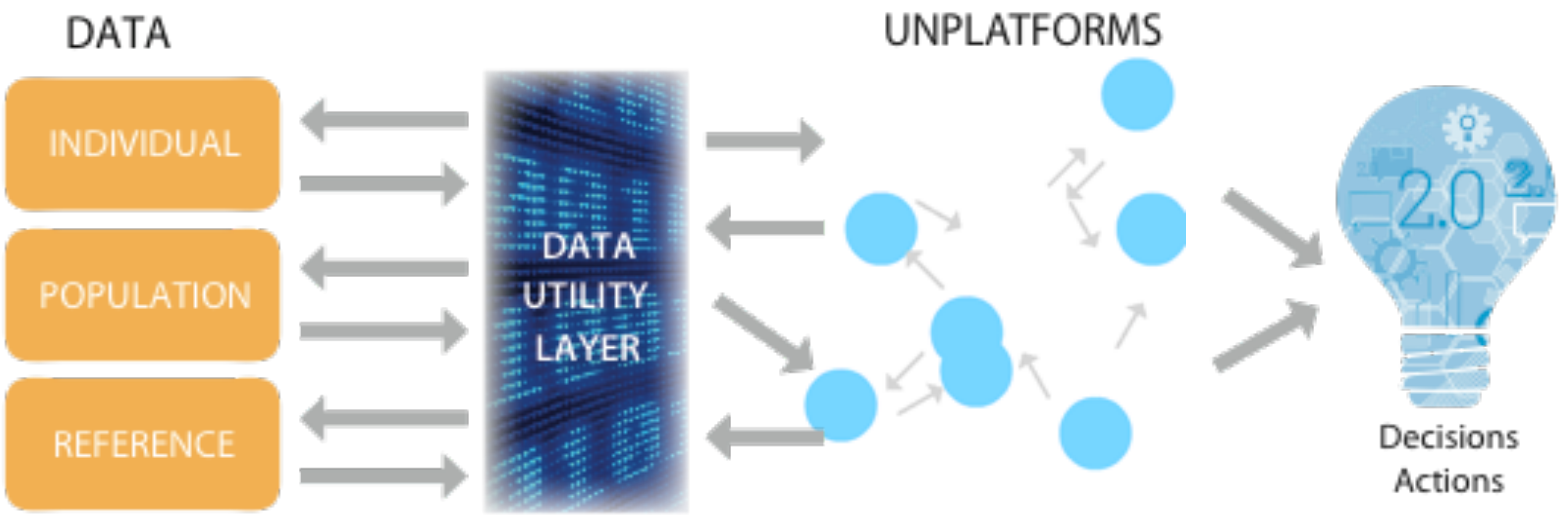
Partnerships to reform delivery

Reforms in payment structures, transparency, and technology produce changes in delivery structure and process around chronic care treatment, excellence centers for particular procedures, etc.

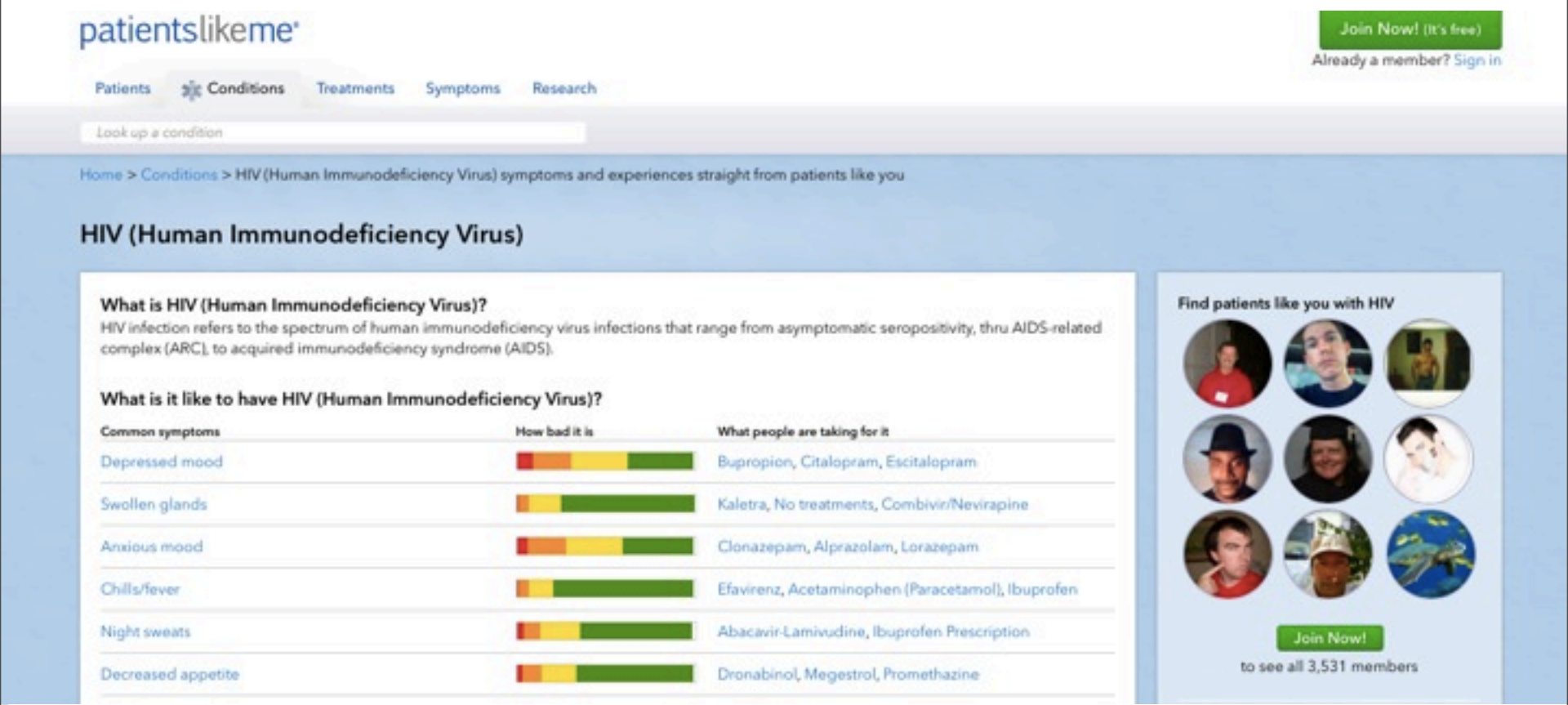
Data drives decisions

All the data collected in a combination of a, b & c produces leaps ahead in the process of care and eventually in drug and procedure discovery.

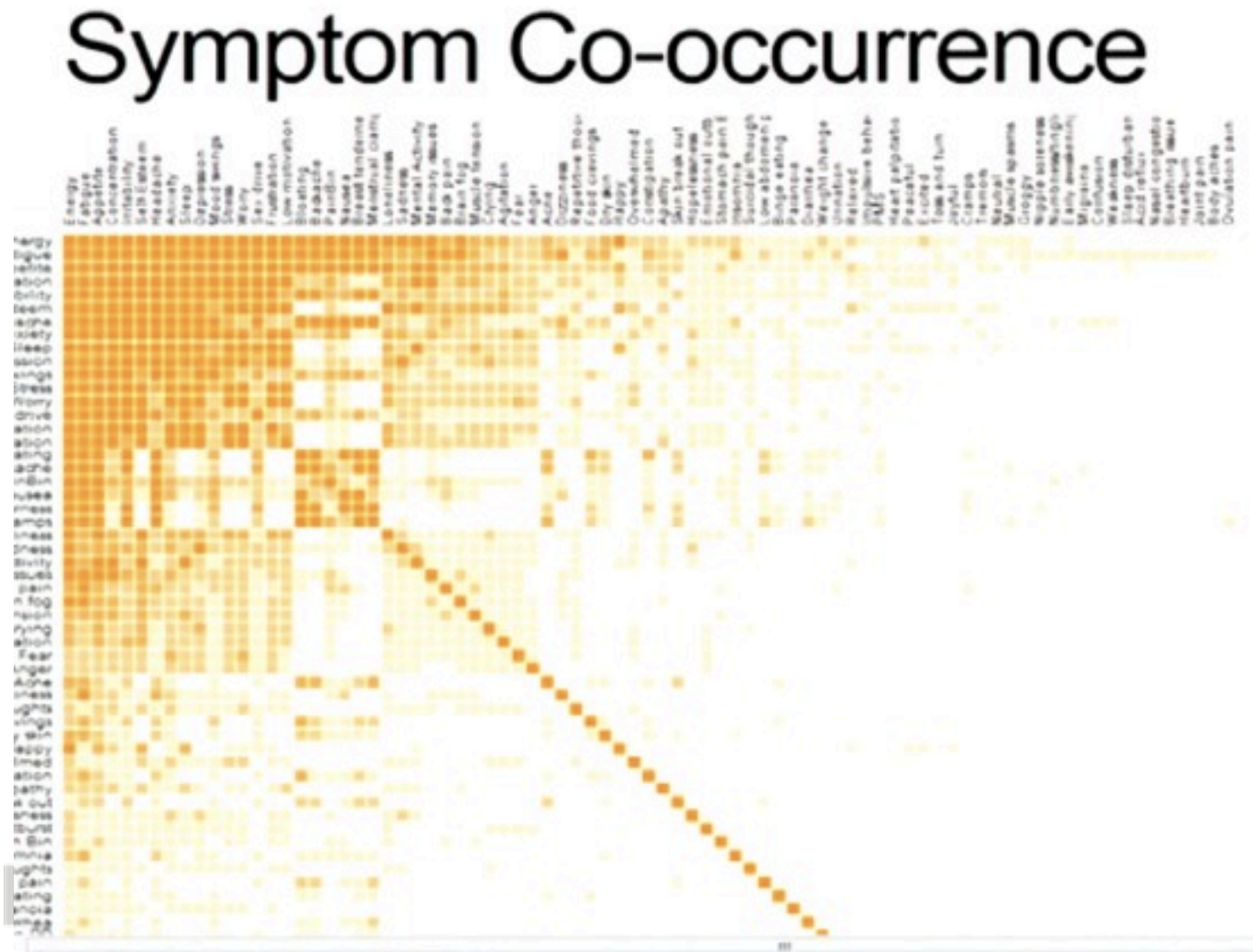

DATA
INDIVIDUAL
POPULATION
REFERENCE
DATA
UTILITY
LAYER
UNPLATFORMS
2.0
Decisions
Actions


DATA
INDIVIDUAL
POPULATION
REFERENCE
DATA
UTILITY
LAYER
UNPLATFORMS
2.0
Decisions
Actions

Community

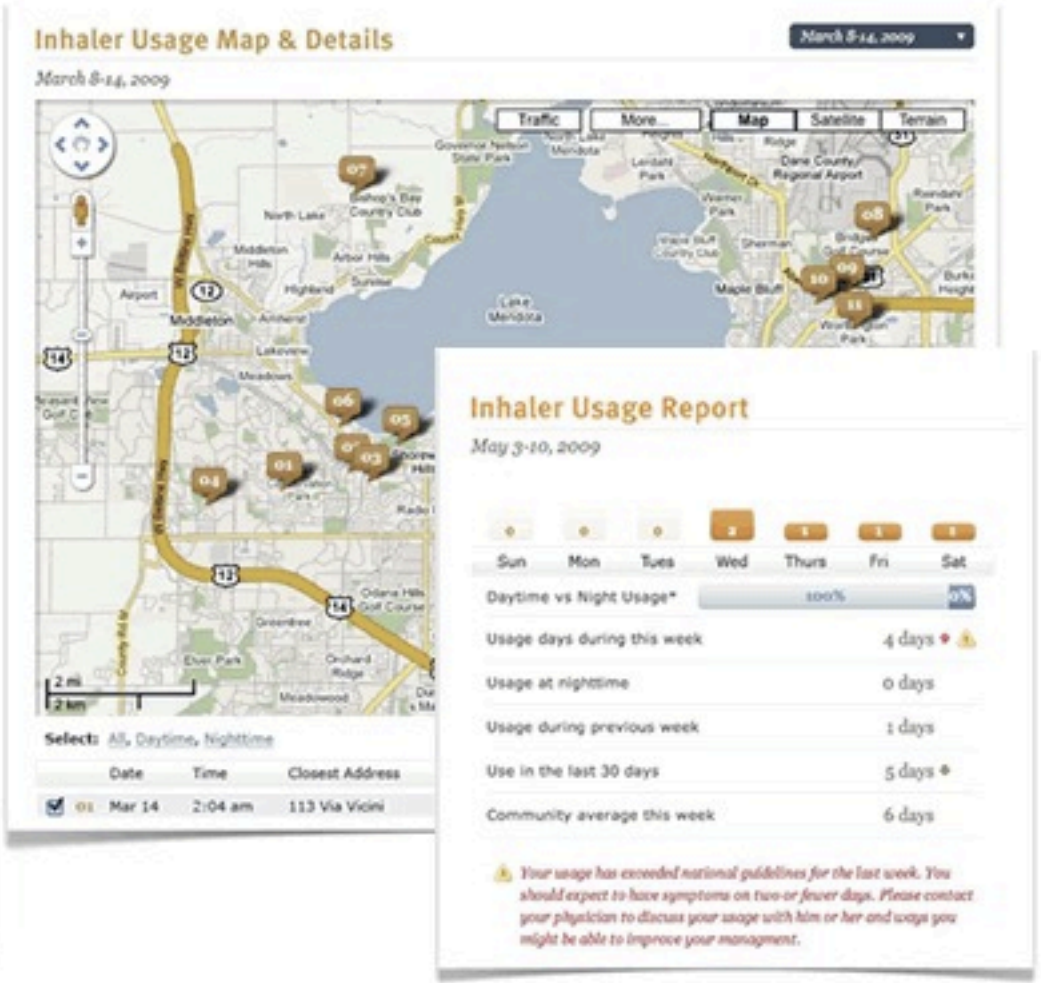

patientslikeme
Join Now! (It's free)
Already a member? Sign in
Patients
Conditions
Treatments
Symptoms
Research
Look up a condition
Home > Conditions > HIV (Human Immunodeficiency Virus) symptoms and experiences straight from patients like you
HIV (Human Immunodeficiency Virus)
What is HIV (Human Immunodeficiency Virus)?
HIV infection refers to the spectrum of human immunodeficiency virus infections that range from asymptomatic seropositivity, thru AIDS-related complex (ARC), to acquired immunodeficiency syndrome (AIDS).
What is it like to have HIV (Human Immunodeficiency Virus)?
Common symptoms
How bad it is
What people are taking for it
Depressed mood
Bupropion, Citalopram, Escitalopram
Swollen glands
Kaletra, No treatments, Combivir/Nevirapine
Anxious mood
Clonazepam, Alprazolam, Lorazepam
Chills/fever
Efavirenz, Acetaminophen (Paracetamol), Ibuprofen
Night sweats
Abacavir-Lamivudine, Ibuprofen Prescription
Decreased appetite
Dronabinol, Megestrol, Promethazine
Find patients like you with HIV
Join Now!
to see all 3,531 members

Data



Data

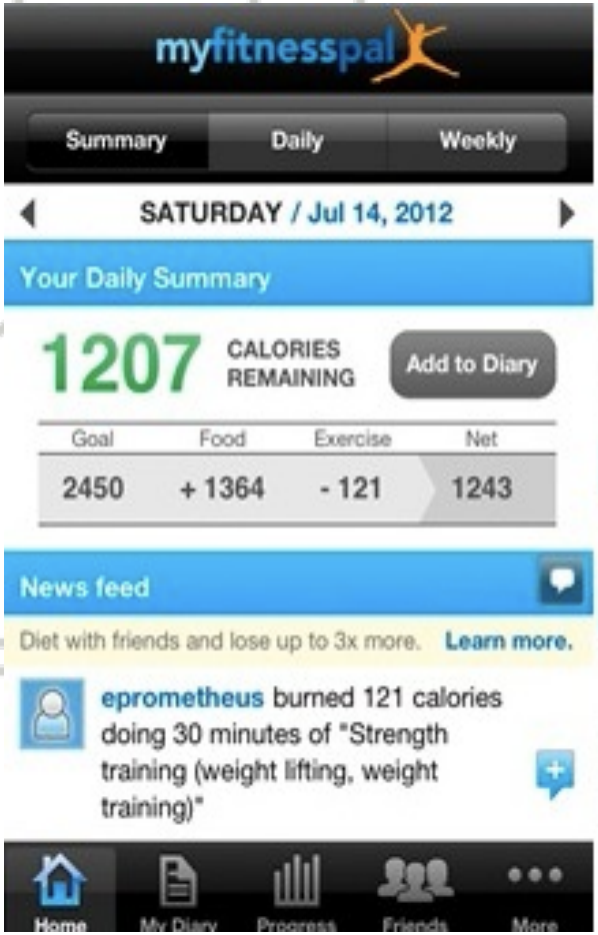
Back
Your asthma
Map
Charts
Events
Asthma map
7 days
30 days
All
Map:
Inhaler use
Symptoms
Heat Map
Point Map
Common locations
Home 50%
Work 13%
School 12%
Other 25%

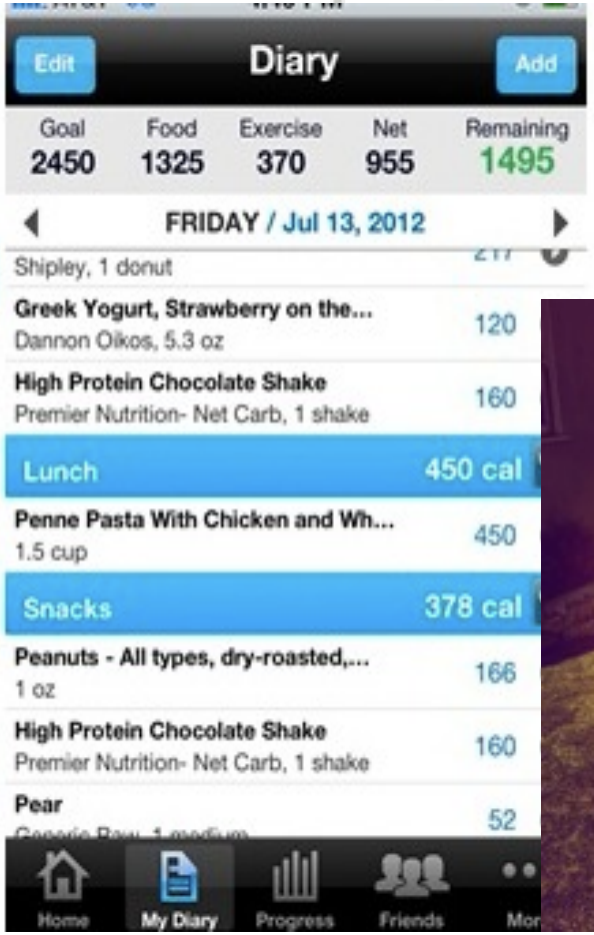

Inhaler Usage Map & Details
March 8-14, 2009
Traffic
More...
Map
Satellite
Terrain
Select: All, Daytime, Nighttime
Date
Time
Closest Address
01 Mar 14 2:04 am 113 Via Vicini
Inhaler Usage Report
May 3-10, 2009
Sun
Mon
Tues
Wed
Thurs
Fri
Sat
Daytime vs Night Usage*
Usage days during this week 4 days
Usage at nighttime 0 days
Usage during previous week 1 days
Use in the last 30 days 5 days
Community average this week 6 days
Your usage has exceeded national guidelines for the last week. You should expect to have symptoms on two or fewer days. Please contact your physician to discuss your usage with him or her and ways you might be able to improve your management.

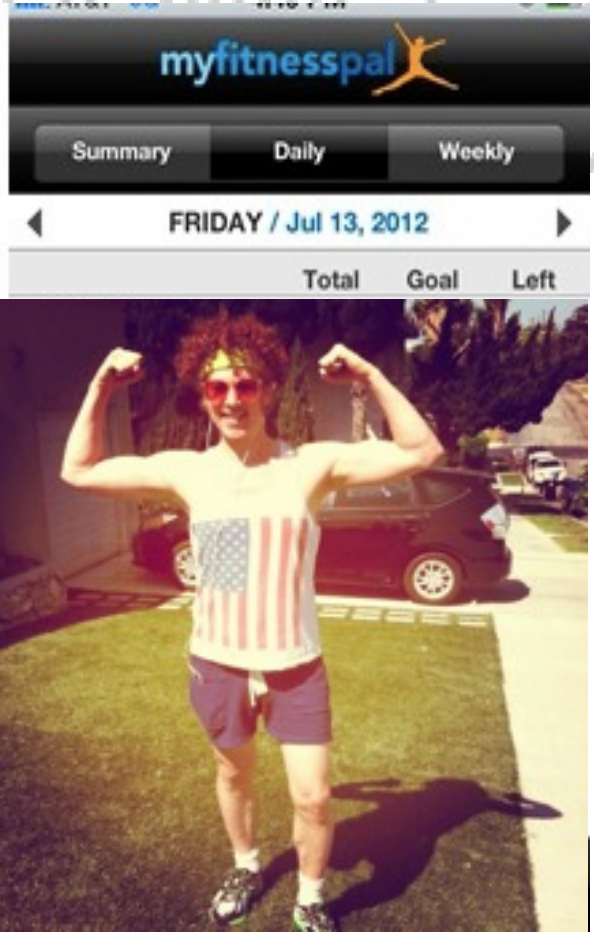
Data

PHYTEL
Help · Russell
Search Patients
Go
Dashboard
Patients
Remind
Outreach
Insight
Coordinate
Transition
Reports
Benchmark
Comparison
Population
Patient
Opportunities
Report Date:
February 25, 2013
Chart Options:
Age Range:
0
to
100
HbA1c Range:
0
to
18
Group: Medical Center, Westside
Provider: 17 Providers
Population: HbA1c x LDL
Population Summary
Coordinate
Update Results
Export
HbA1c vs LDL
HbA1c
17
16
15
14
13
12
11
10
9
8
7
6
5
4
Outreach
Campaign
CareManager
Not Engaged

Trend 1


myfitnesspal
Summary
Daily
Weekly
SATURDAY / Jul 14, 2012
Your Daily Summary
1207
CALORIES REMAINING
Add to Diary
Goal
Food
Exercise
Net
2450
+ 1364
- 121
1243
News feed
Diet with friends and lose up to 3x more.
Learn more.
eprometheus burned 121 calories doing 30 minutes of "Strength training (weight lifting, weight training)"
Home
My Diary
Progress
Friends
More


Edit
Diary
Add
Goal
Food
Exercise
Net
Remaining
2450
1325
370
955
1495
FRIDAY / Jul 13, 2012
Shipley, 1 donut
Greek Yogurt, Strawberry on the...
Dannon Oikos, 5.3 oz
120
High Protein Chocolate Shake
Premier Nutrition- Net Carb, 1 shake
160
Lunch
450 cal
Penne Pasta With Chicken and Wh...
1.5 cup
450
Snacks
378 cal
Peanuts - All types, dry-roasted,...
1 oz
166
High Protein Chocolate Shake
Premier Nutrition- Net Carb, 1 shake
160
Pear
52
Home
My Diary
Progress
Friends

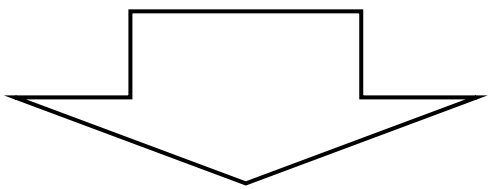

myfitnesspal
Summary
Daily
Weekly
FRIDAY / Jul 13, 2012
Total
Goal
Left

Trend 1

60% of U.S. adults track weight, diet, or exercise routine.

33% track health indicators or symptoms.

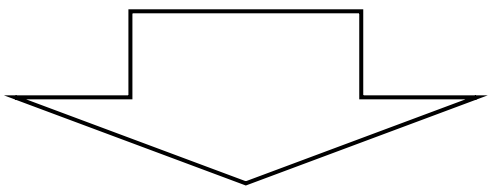
12% track a health indicator on behalf of someone they care for.



7 in 10 U.S. adults track for health

@PewResearch @SusannahFox

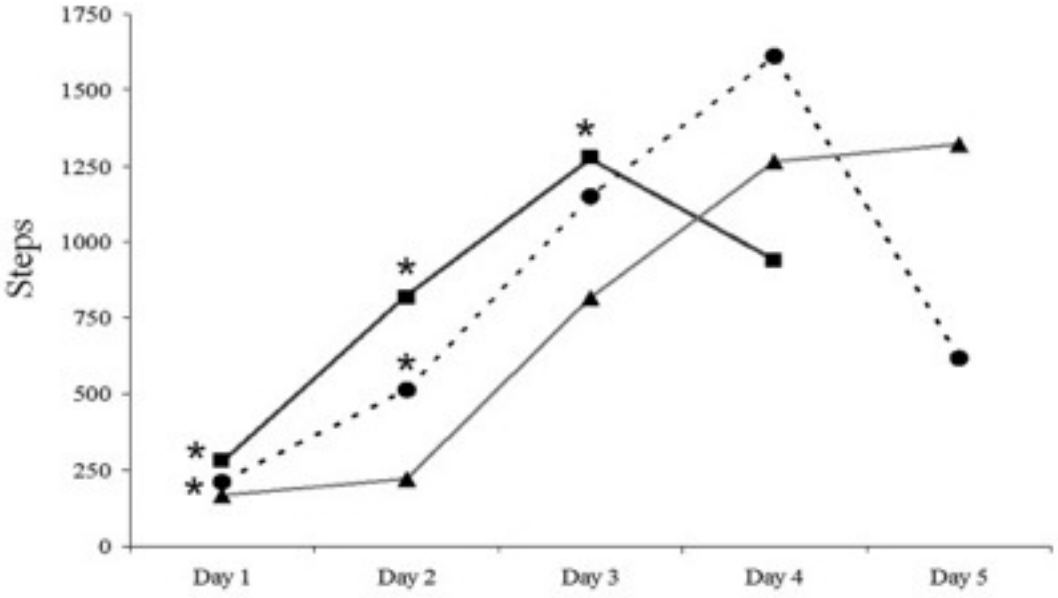
45% of U.S. adults are living with at least one chronic disease.



7 in 10
track for health

@PewResearch @SusannahFox

Mayo: Fitbit data predicts surgical recovery time



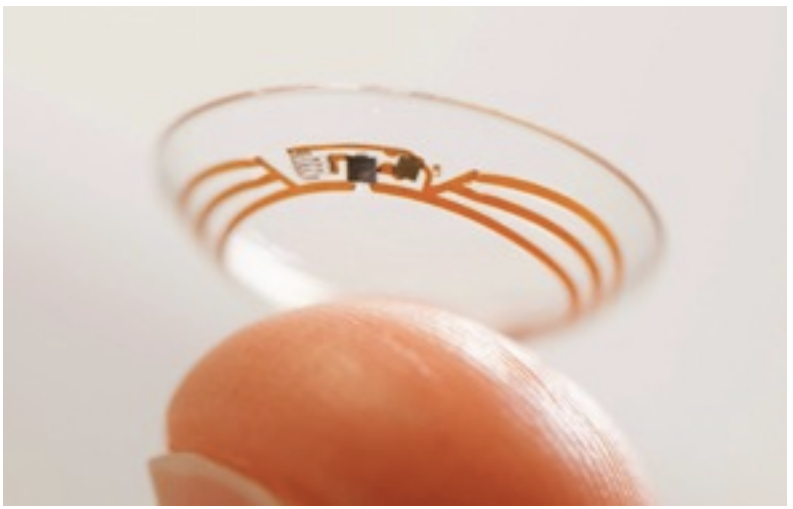
Recovery Day		1	2	3	4	5
Short (n=64)	Median	284	818	1279	939	
	IQ Range	381	843	1241	947	
Intermediate (n=44)	Median	213	514	1151	1613	620
	IQ Range	298	886	1304	1149	629
Long (n=41)	Median	167	223	817	1267	1323
	IQ Range	248	624	1130	1419	1805

LOS <5 days ■
LOS 5-6 days ●
LOS >6 days ▲

Trend 1

Trend 1

Trend 2



Trend 2

Trend 3

accenture
High performance. Delivered.
Newsroom Home
News
Media Requests
Contacts
Archive
Accenture Home ▸ Newsroom Home ▸ News
News Releases
View by industry
View by subject
View by date
Archive
Corporate Information
Fact Sheet
Executive Biographies
Investor Relations
More than Forty Percent of U.S. Consumers Willing to Switch Physicians to Gain Online Access to Electronic Medical Records, According to Accenture Survey
Related Assets
September 16, 2013
More than Forty Percent of U.S. Consumers Willing to Switch Physicians to Gain Online Access to Electronic Medical Records, According to Accenture Survey
Majority of patients have taken ownership of records by self-tracking personal health information
ARLINGTON, Va; Sept. 16, 2013 – Supporting the growing trend toward patient engagement, a
Newsroom Search
search
Search
Advanced Newsroom Search
Search Accenture.com
My Newsdesk
Login
Why Register
Email Alerts

Trend 3

FINANCIAL STRESS
RELATIONSHIP ISSUES
CAREGIVING
JOB STRESS
SAD OR WORRIED
TROUBLE SLEEPING
SEX
SUBSTANCE USE
SOCIAL SUPPORT
SPIRITUALITY
EXERCISE

Trend 4

Mindful Schools

Engaging children. Supporting educators.
Transforming schools.

Trend 4

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Hospital Billing Varies Wildly, Government Data Shows

By BARRY MEIER, JO CRAVEN McGINTY and JULIE CRESWELL
Published: May 8, 2013 | 708 Comments

A hospital in Livingston, N.J., charged $70,712 on average to implant a pacemaker, while a hospital in nearby Rahway, N.J., charged $101,945.

Enlarge This Image

C.J. Gunther for The New York Times

In Saint Augustine, Fla., one hospital typically billed nearly $40,000 to remove a gallbladder using minimally invasive surgery, while one in Orange Park, Fla., charged $91,000.

In one hospital in Dallas, the average bill for treating simple pneumonia was $14,610, while another there charged

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SAVE
EMAIL
SHARE
PRINT
SINGLE PAGE
REPRINTS

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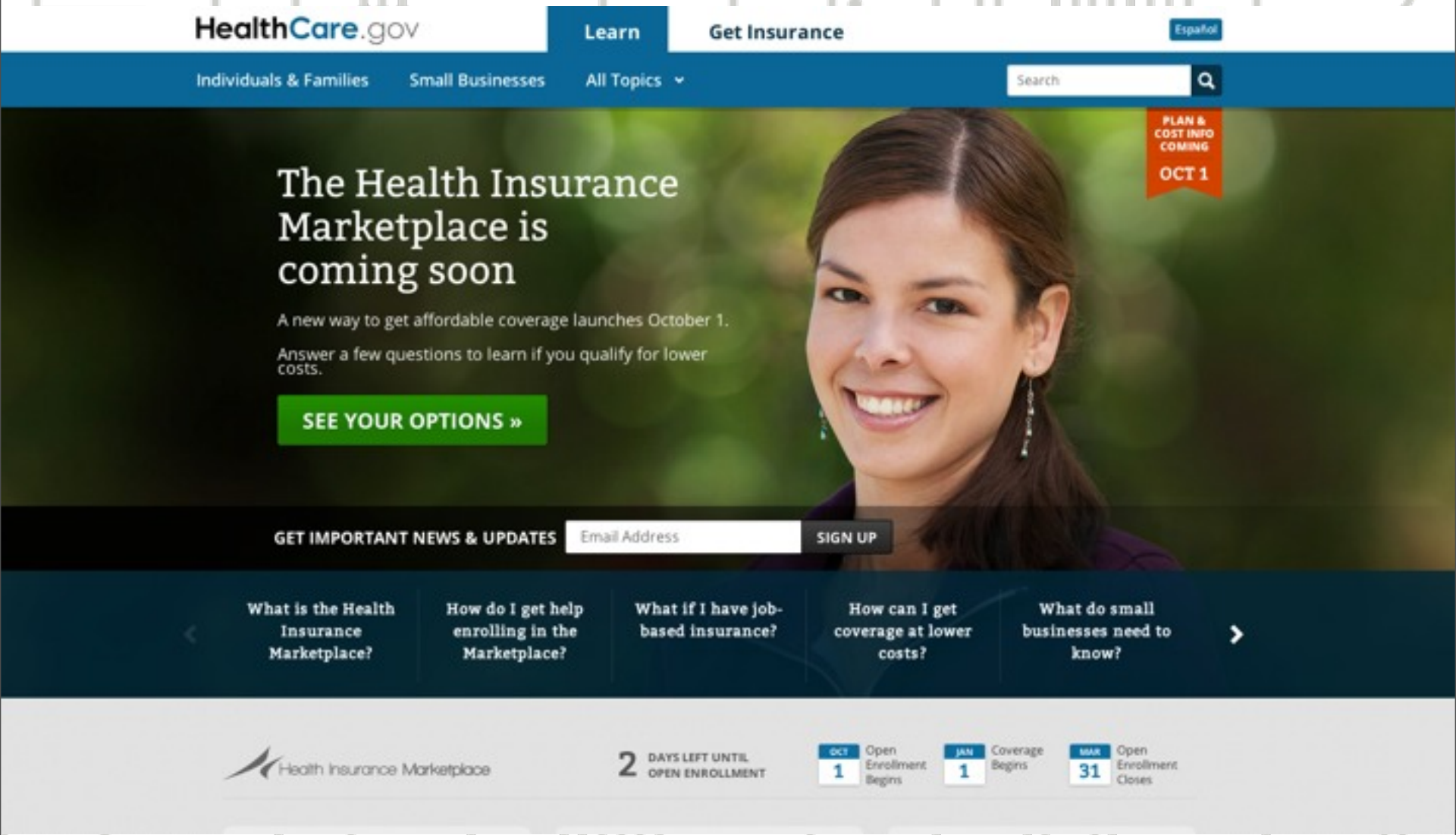
What's Popular Now

The Art of Presence

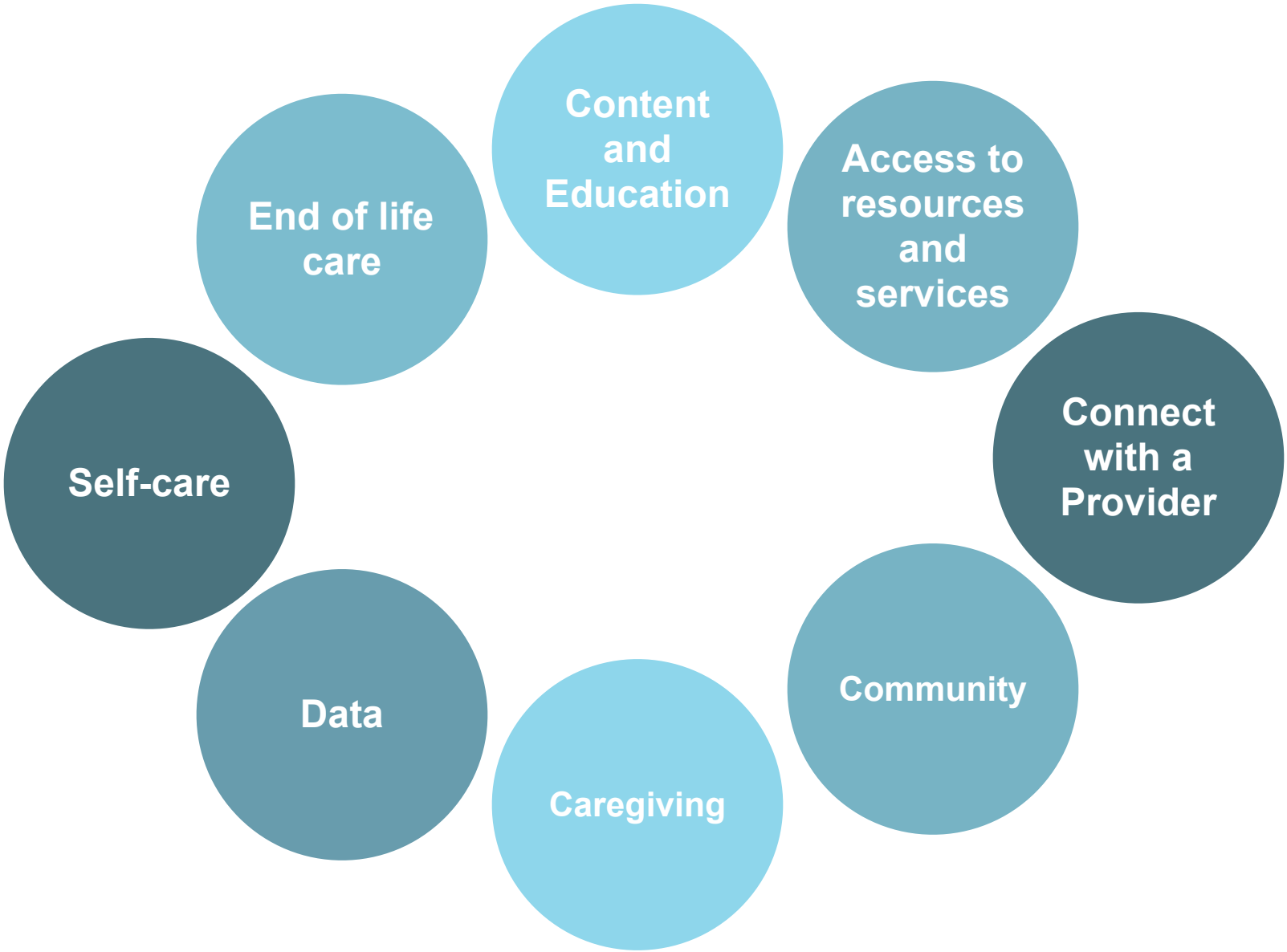
Encore, for the Norwegian Curlers and Their Pants

Trend 5

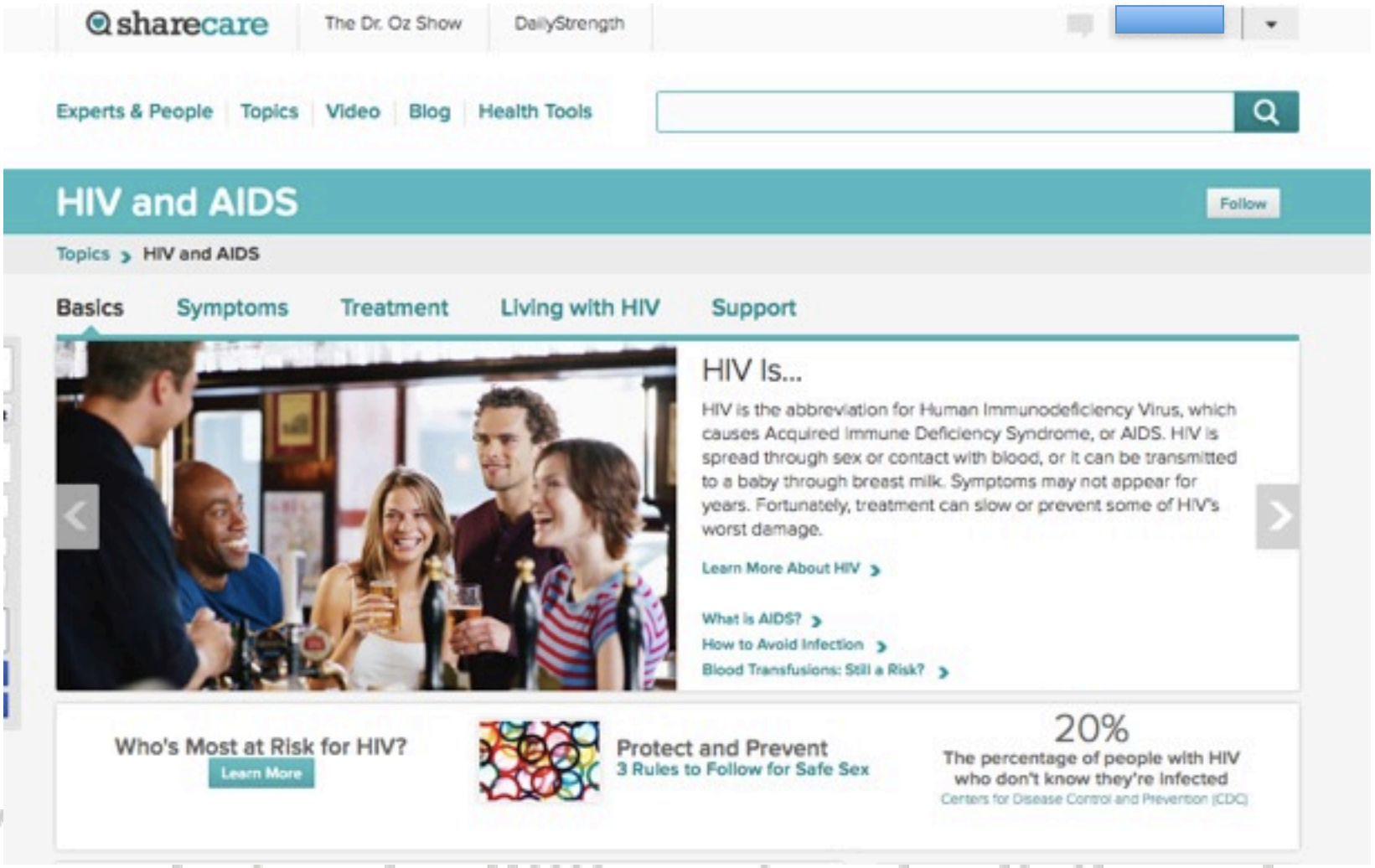
Trend 5


HealthCare.gov
Learn
Get Insurance
Español
Individuals & Families
Small Businesses
All Topics
Search
PLAN & COST INFO COMING
OCT 1
The Health Insurance Marketplace is coming soon
A new way to get affordable coverage launches October 1.
Answer a few questions to learn if you qualify for lower costs.
SEE YOUR OPTIONS »
GET IMPORTANT NEWS & UPDATES
Email Address
SIGN UP
What is the Health Insurance Marketplace?
How do I get help enrolling in the Marketplace?
What if I have job-based insurance?
How can I get coverage at lower costs?
What do small businesses need to know?
Health Insurance Marketplace
2 DAYS LEFT UNTIL OPEN ENROLLMENT
OCT 1 Open Enrollment Begins
JAN 1 Coverage Begins
MAR 31 Open Enrollment Closes

Trend 5

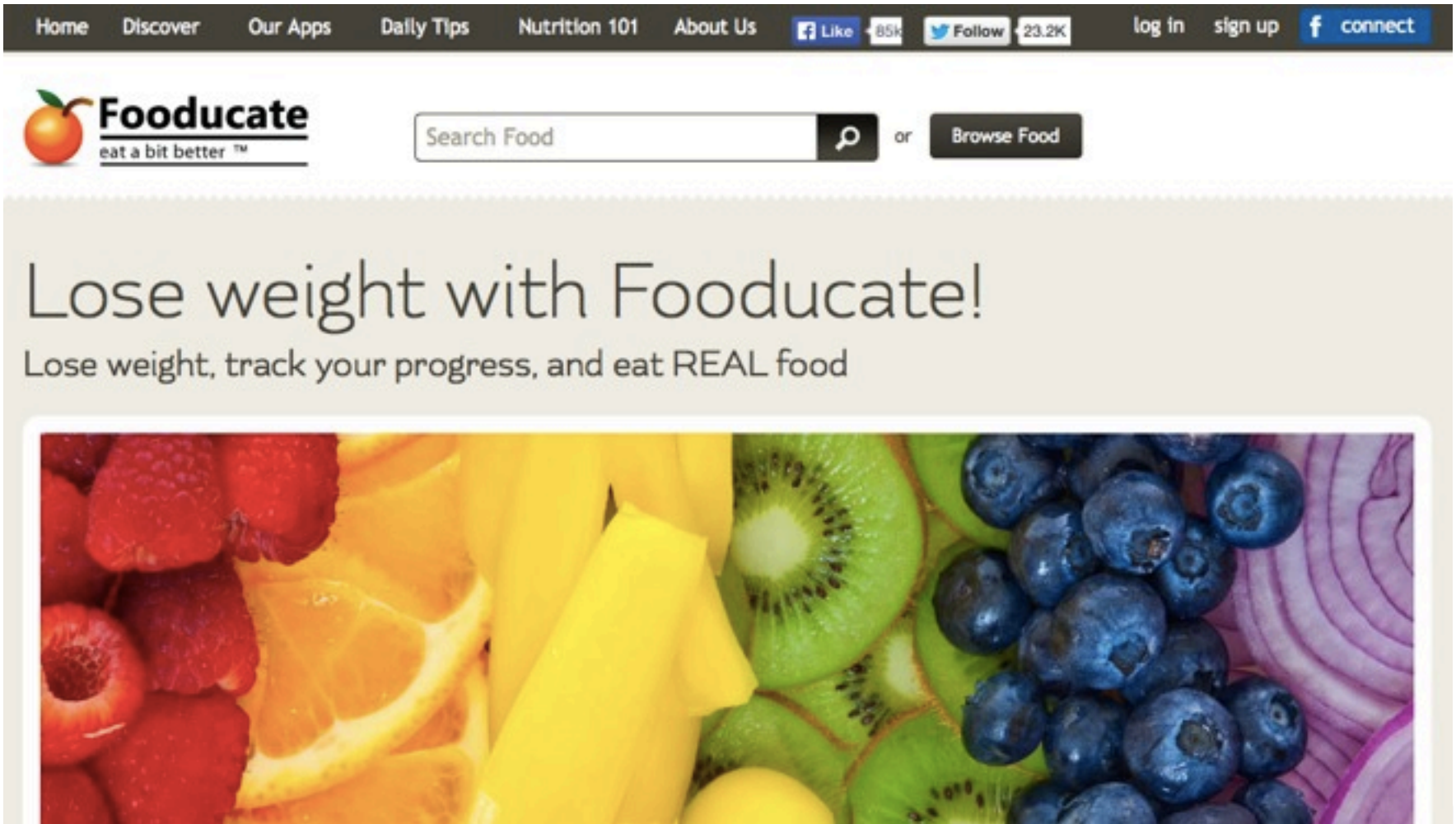

Content and Education
Access to resources and services
Connect with a Provider
Community
Caregiving
Data
Self-care
End of life care

Content and Education

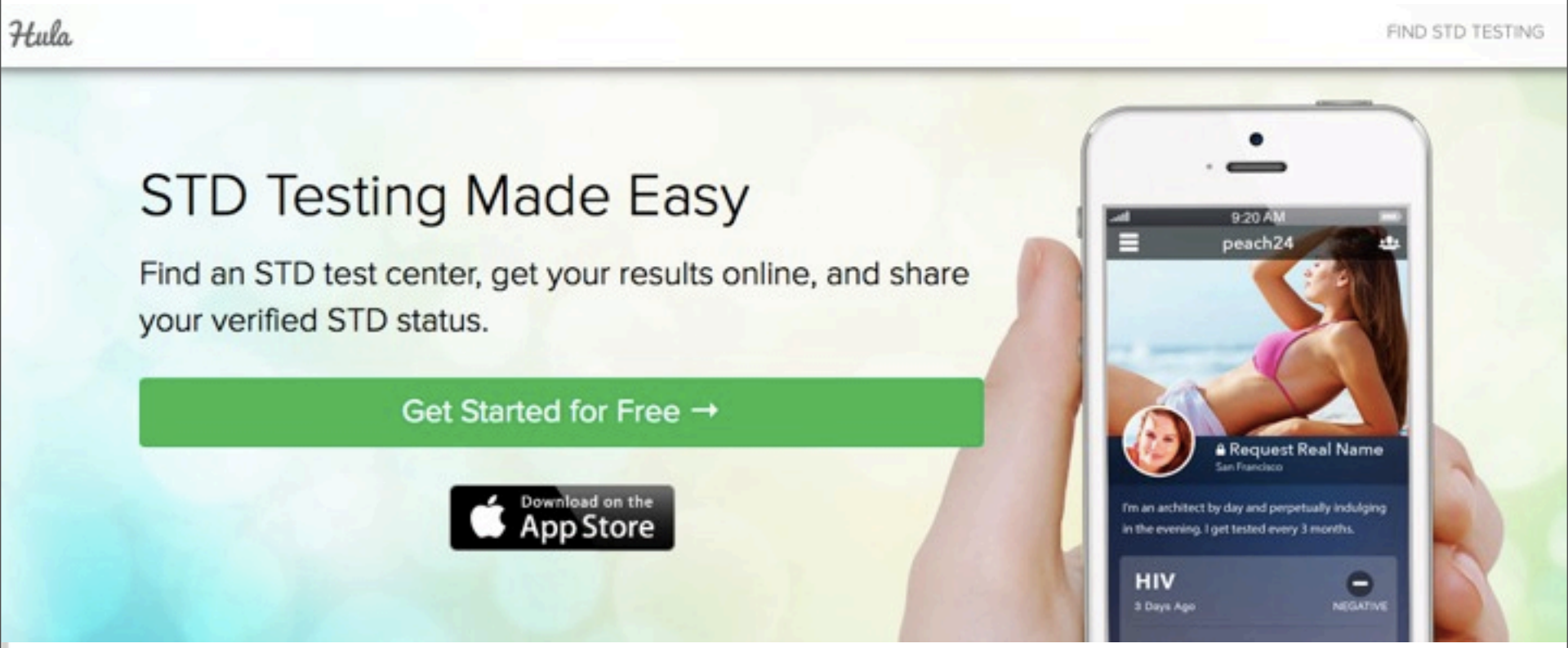


Content and Education

Self-care


Home
Discover
Our Apps
Daily Tips
Nutrition 101
About Us
Like 85k
Follow 23.2K
log in
sign up
connect
Fooducate
eat a bit better ™
Search Food
or
Browse Food
Lose weight with Fooducate!
Lose weight, track your progress, and eat REAL food

Access to Resources and Services



Access to Resources and Services

SEXUAL HEALTH INNOVATIONS

JOIN US DONATE

PROJECTS CHALLENGES ABOUT US RESOURCES

ANNOUNCEMENTS

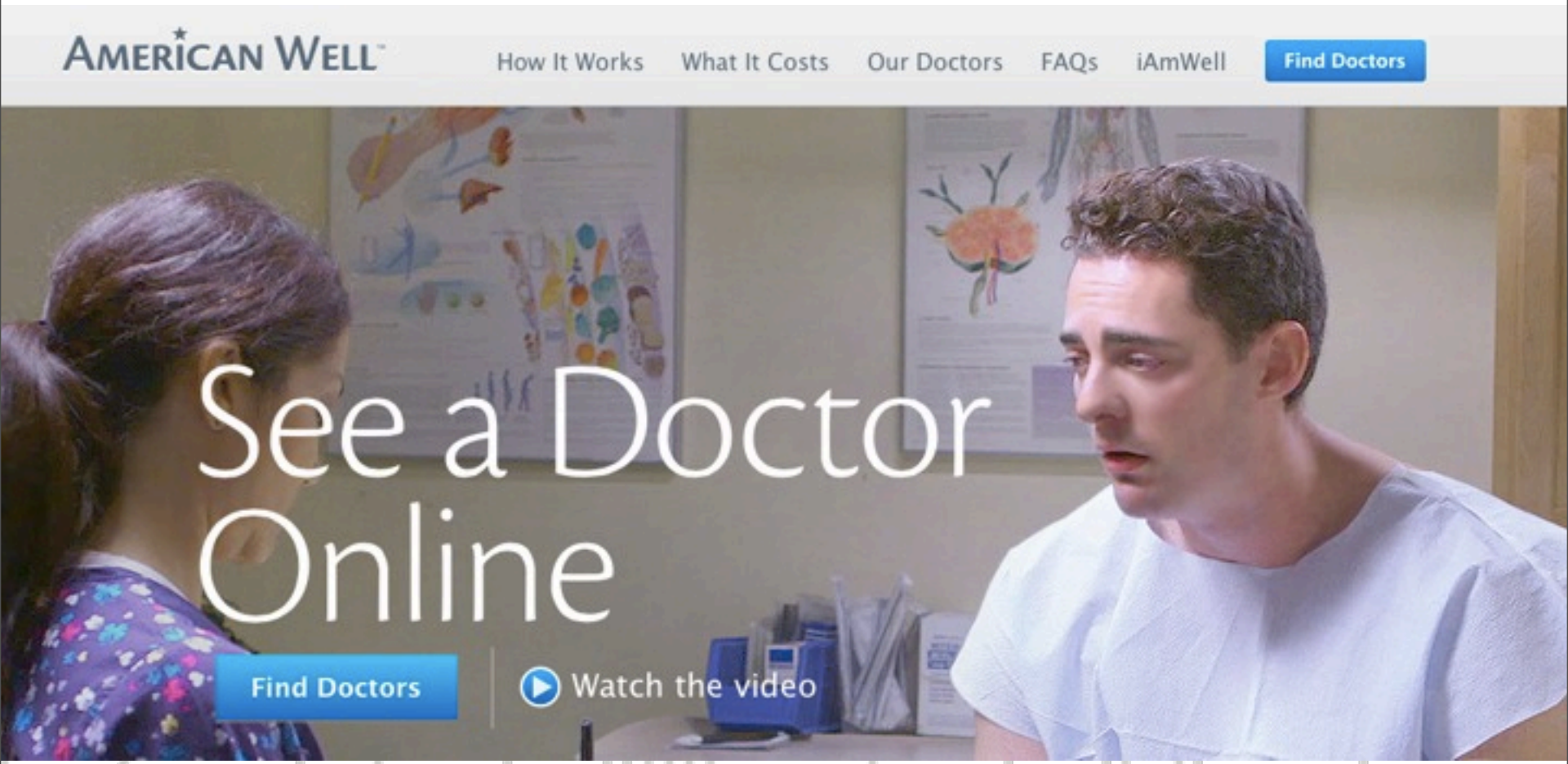
We present **Private Results** at the Health 2.0 conference in Santa Clara. See the presentation here.

Baltimore Innovation Week celebrates our founder, Jessica Ladd, as the **"Hacker of the Year"**.

So They Can Know turns one year old, with over 15,000 users and over 80 clinics promoting.

A Sexual Health Innovations initiative to help the Baltimore City Health Department deliver STD test results online, **wins "Most Likely to Make a Difference"** at the Baltimore Hack for Change. View our presentation here.

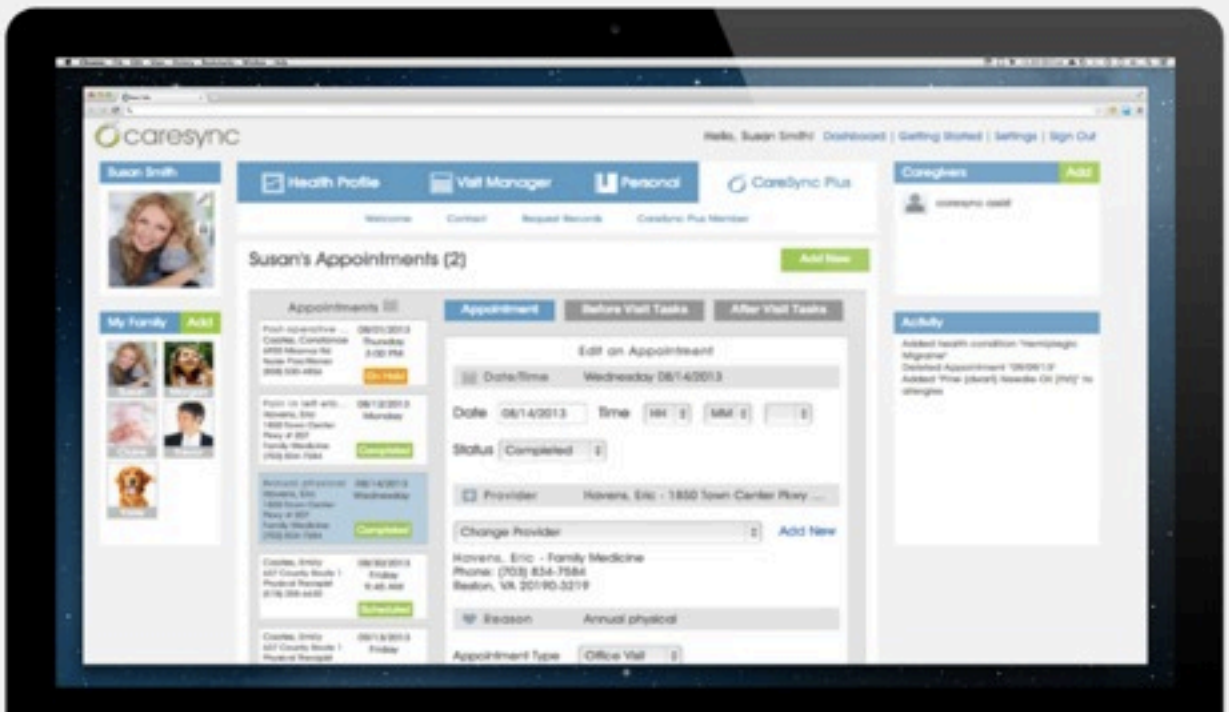
Connect with a Provider



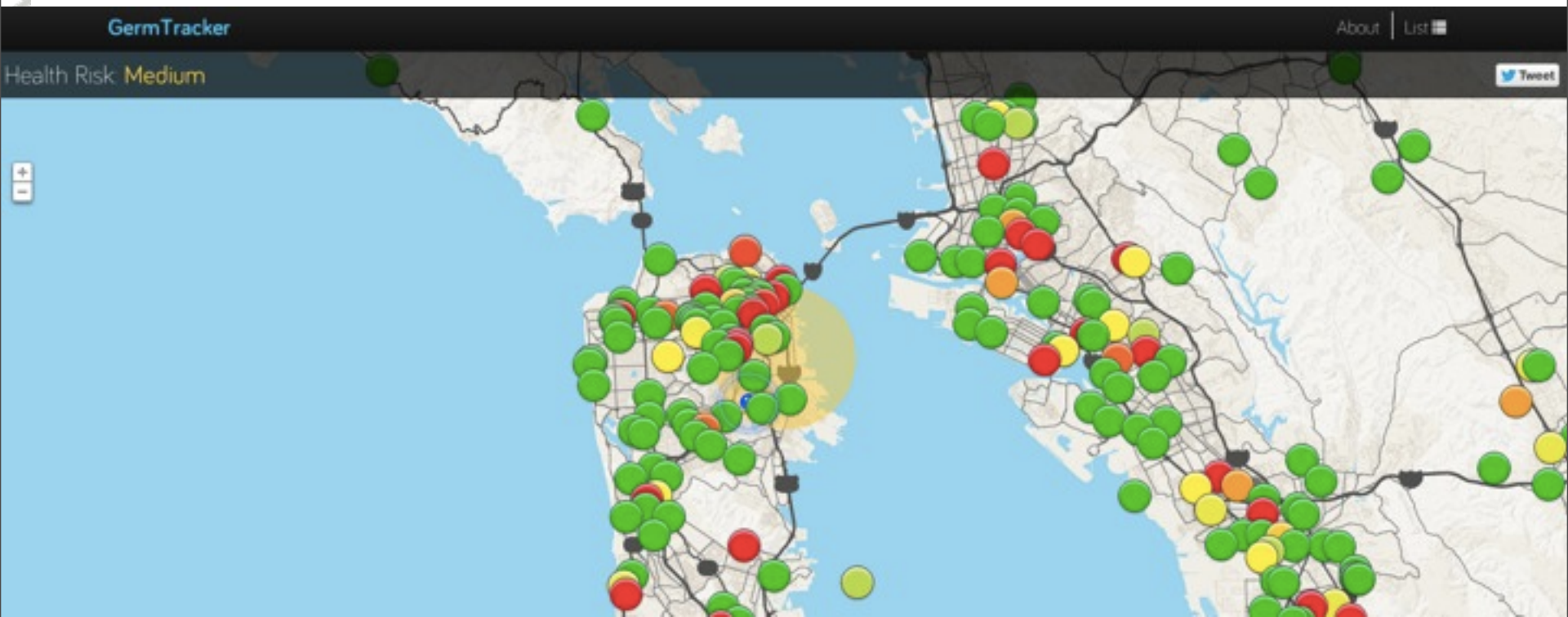
Community

login
hiv/aidstribe
home | health info | groups | browse | gallery | blogs | forums | polls | games | therapist blogs | sign up
find a psychologist
share.
share your story, write a blog, start a forum, create a poll, and join a group.
create
connect
share
JOIN the tribe
Username
Password
forgot your password?
login
testimonials
"I've found nothing but support and acceptance, I actually look forward to waking in the morning to log on and say: Good Morning Tribe!" Positively Mad, MI
read what members say... 1 2 3 4

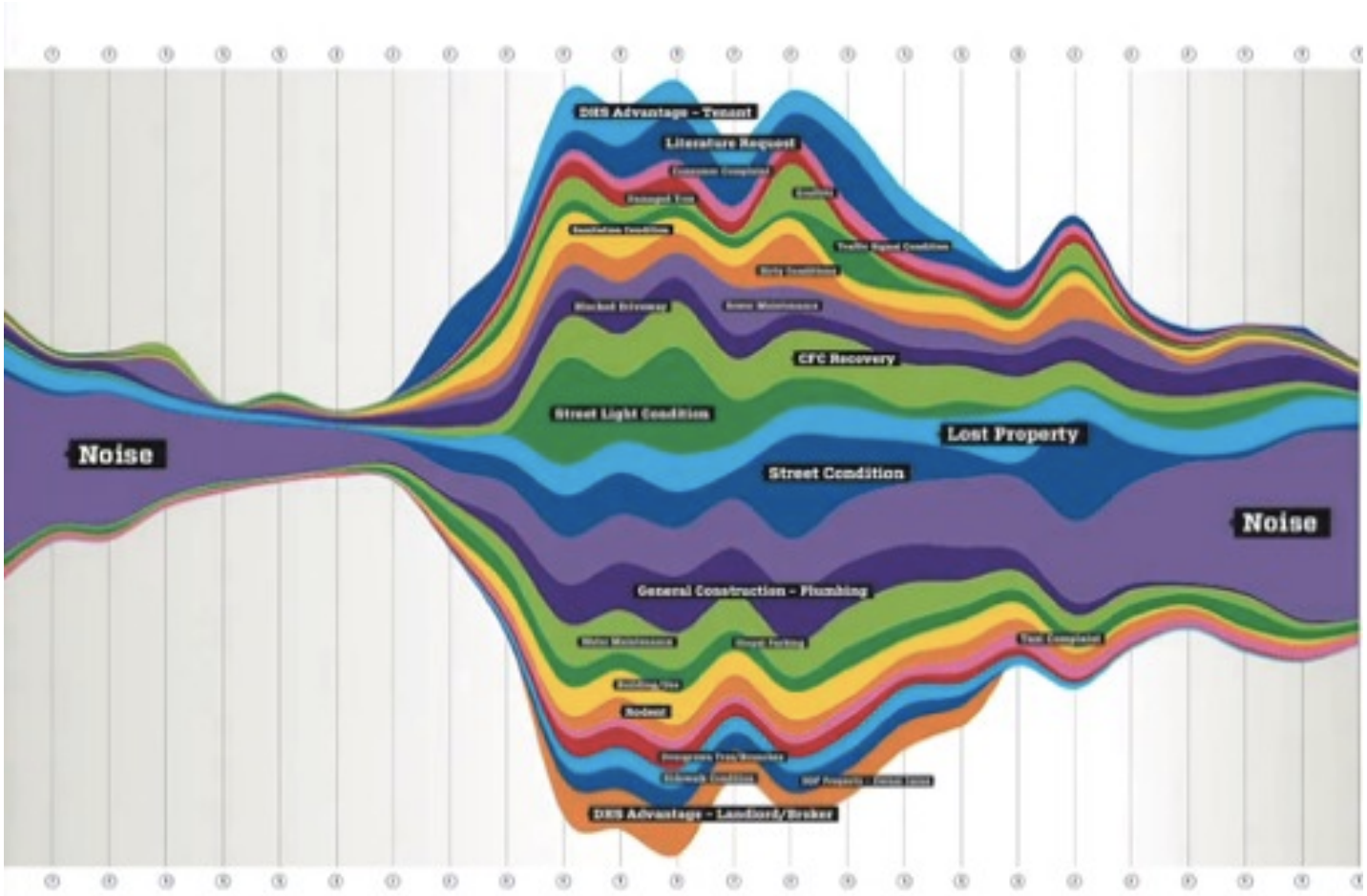
Caregiving


caresync
SOLUTIONS
COMPANY
BUZZ
BLOG
GET RECORDS
SIGN IN
GIFT CARESYNC
SIGN UP
Health Profile
Visit Manager
Personal
CareSync Plus
Susan's Appointments (2)
Caregivers
Activity
Edit an Appointment
Change Provider
Add New
Reason
Annual physical
Appointment Type
Office Visit

Data



Data


DHS Advantage - Tenant
Literature Request
CFC Recovery
Street Light Condition
Noise
Lost Property
Street Condition
Noise
General Construction - Plumbing
DHS Advantage - Landlord/Broker