Activate2018
MARINA DEL REY, CA | SEPTEMBER 26-27, 2018
@mpulsemobile
#Activate4Health

Achieving a Lower-Cost, Higher-Quality Health Care System Through Innovation, Open Data and Consumer Activation

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President
CareJourney
A Hunch Analytics Company

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Online Registration System
Ministry of Electronics & Information Technology
Goverment of India
Frequently Asked Questions
Follow the simple steps below and get your appointment fixed online!
1. Verify yourself using Mobile No.
2. Choose Hospital / Department
3. Select date of appointment
4. Verify yourself using Aadhaar Number
5. Get confirmation sms
BOOK APPOINTMENT

The Economist
MAY 6TH–12TH 2017
Crunch time in France
Ten years on: banking after the crisis
South Korea's unfinished revolution
Biology, but without the cells
The world's most valuable resource
Data and the new rules of competition
Google
amazon
Microsoft
Google
UBER
TESLA
TESLA

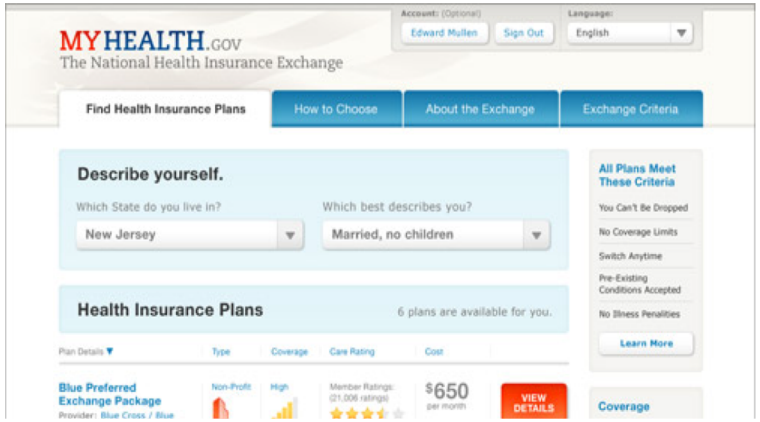
Best Practices in Open Innovation

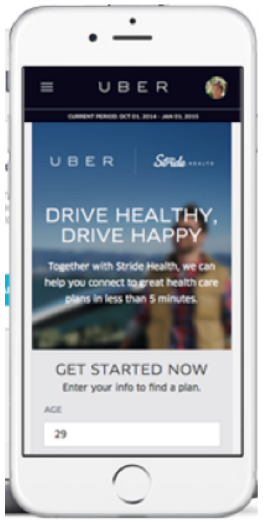
P&G, Facebook, Amazon (among others) lead the way

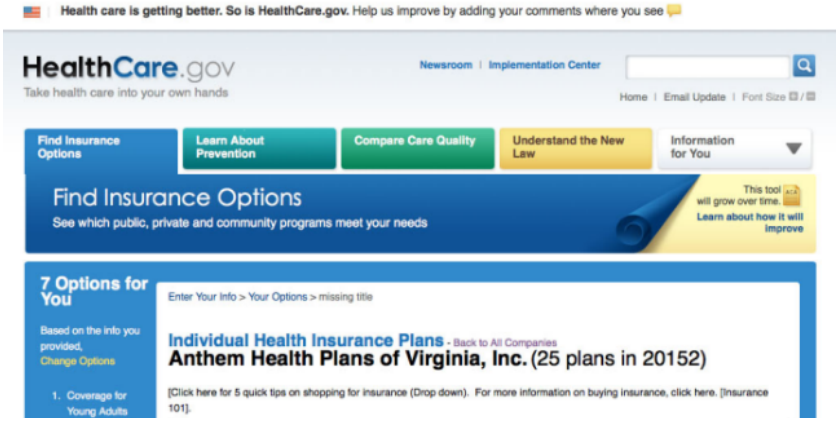
Joy's Law: "no matter who you are,
most of the smartest people work for someone else"

Source: Innovative State; Lakhani KR, Panetta JA (2007), "The Principles of Distributed Innovation" MIT Press.

The (Less Told) Healthcare.gov Story



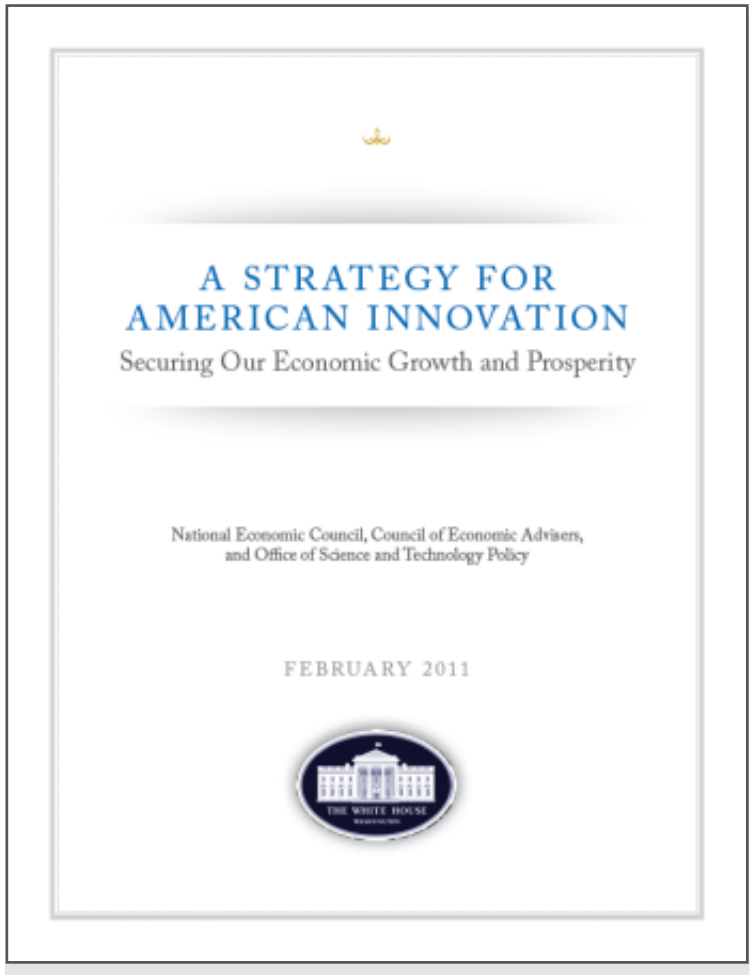




Source: http://makinggood.edmullen.com/index.php/article/health_insurance_exchange/; www.healthcare.gov; http://health.usnews.com/health-insurance; http://blog.uber.com/Momentum

Enablers for Care Delivery Transformation

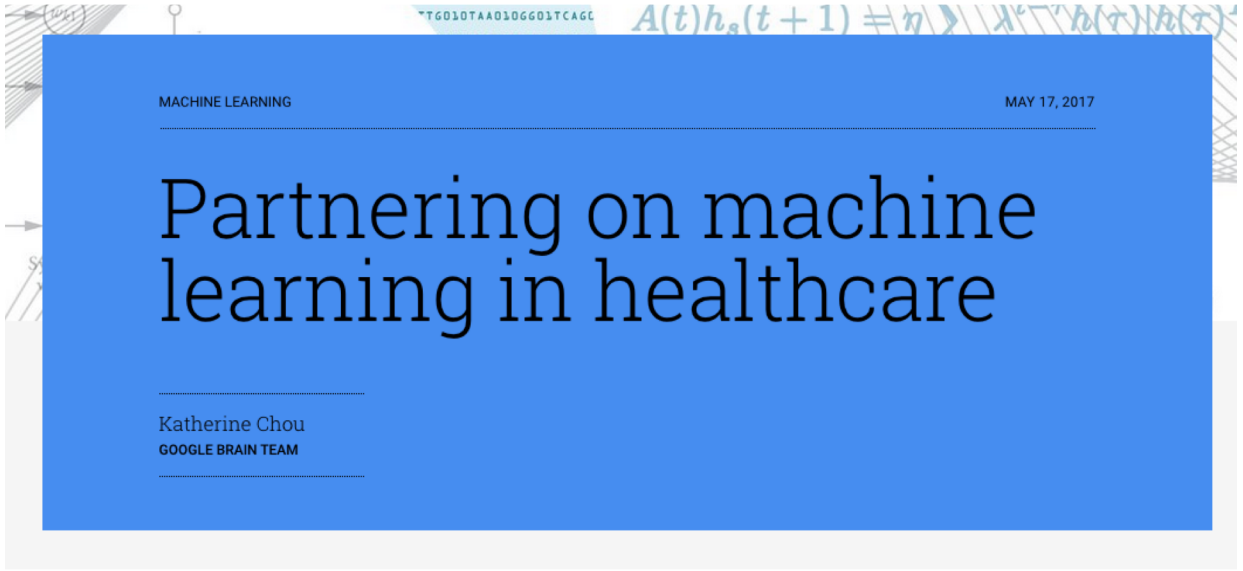
Derived from Strategy for American Innovation

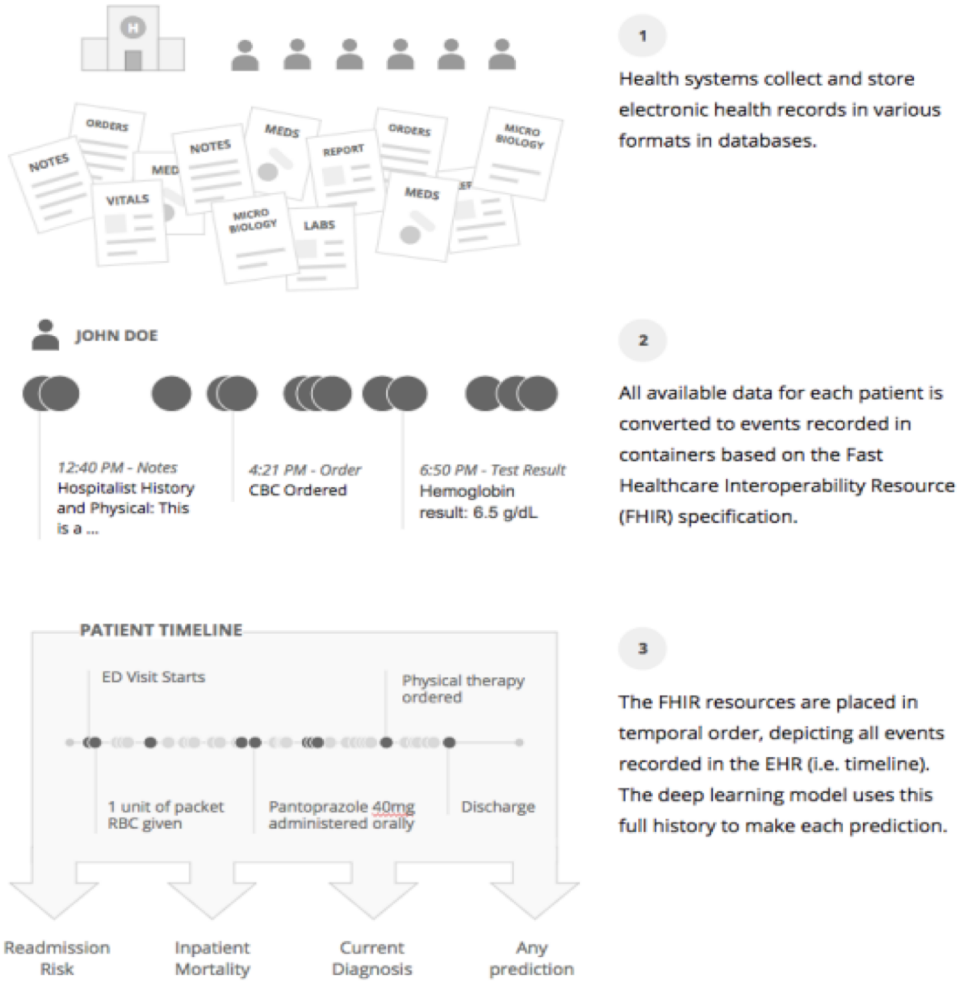


1. Invest in (digital) infrastructure
2. Encourage standards
3. Open up data
4. Enable “retail” and “wholesale” digital services
5. Reward outcomes

Source: whitehouse.gov/innovation

Cloud Computing a Building Block





1

Health systems collect and store electronic health records in various formats in databases.

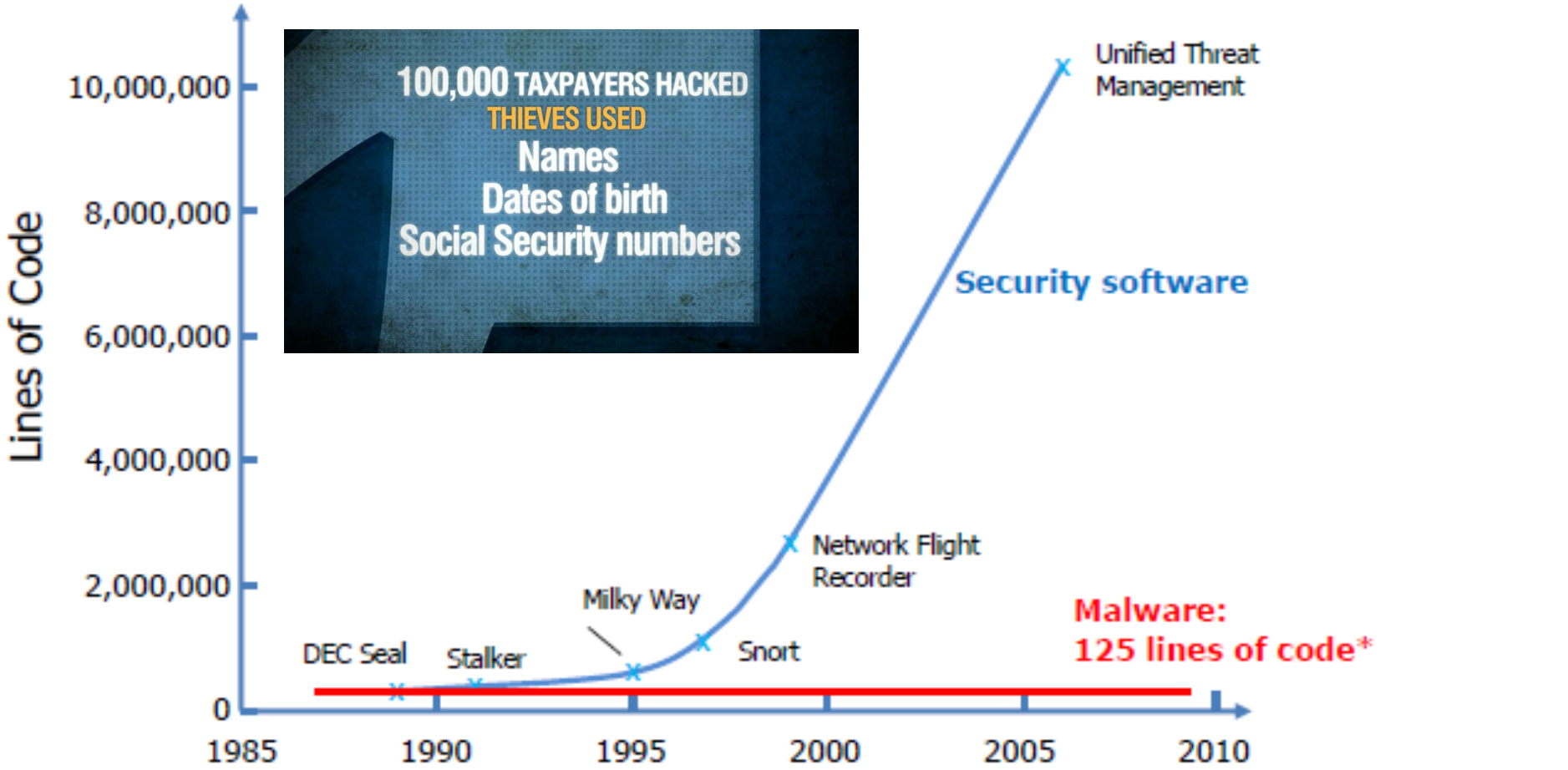
2

All available data for each patient is converted to events recorded in containers based on the Fast Healthcare Interoperability Resource (FHIR) specification.

3

The FHIR resources are placed in temporal order, depicting all events recorded in the EHR (i.e. timeline). The deep learning model uses this full history to make each prediction.

Source: https://blog.google/topics/machine-learning/partnering-machine-learning-healthcare/; https://arxiv.org/pdf/1801.07860.pdf

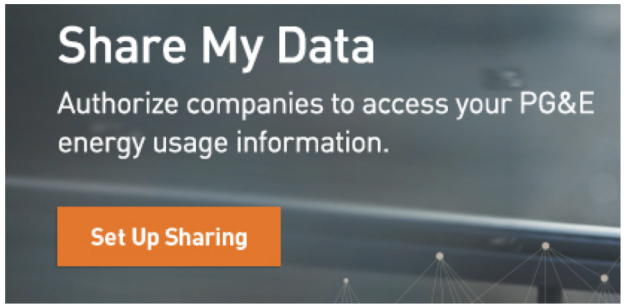


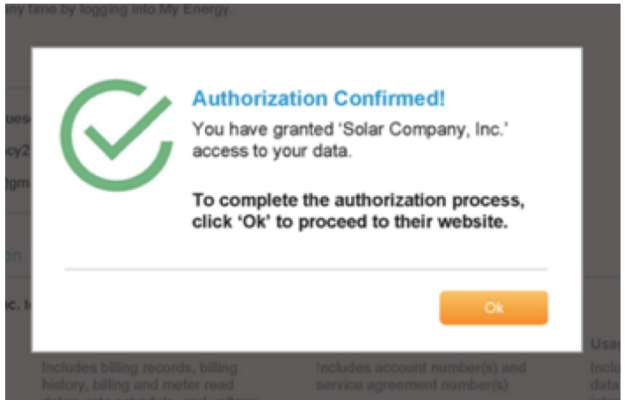
* Public sources of malware averaged over 9,000 samples
(collection of exploits, worms, botnets, viruses, DoS tools)

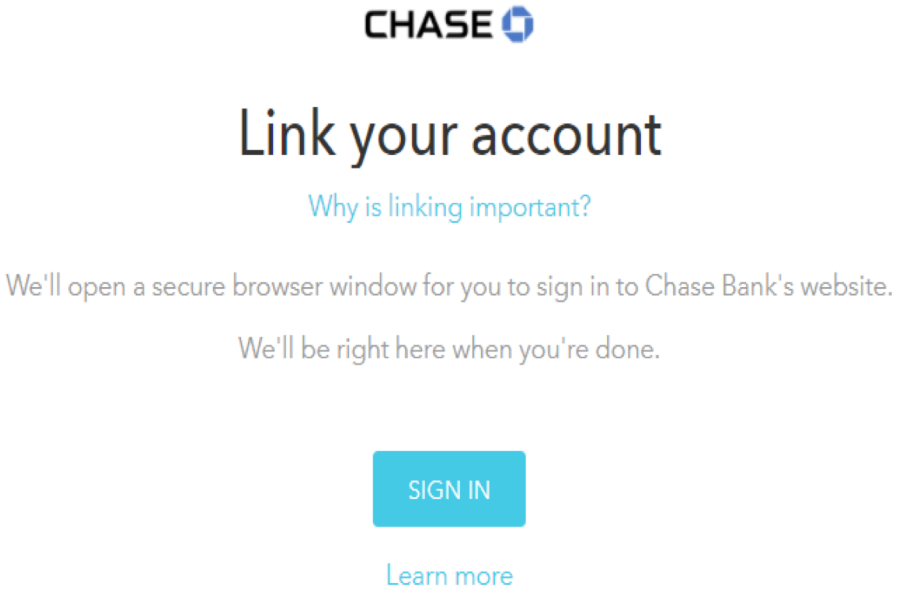
Further dissemination only as directed by DARPA Public Release Center or higher DoD authority
UNCLASSIFIED

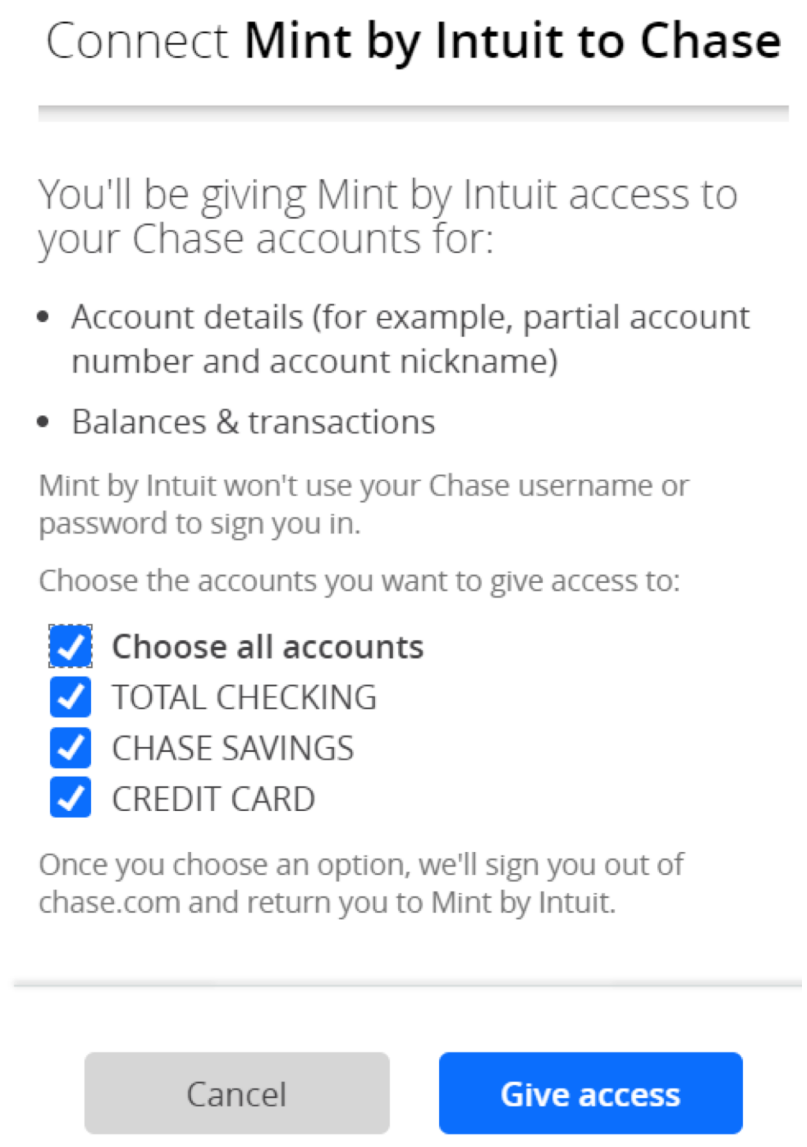
Source: http://abcnews.go.com/GMA/video/criminals-allegedly-hack-irs-steal-taxpayers-personal-data-31330191; https://www.irs.gov/uac/Newsroom/Additional-IRS-Statement-on-the-Get-Transcript-Incident; DARPA

API-Based Interop Standards



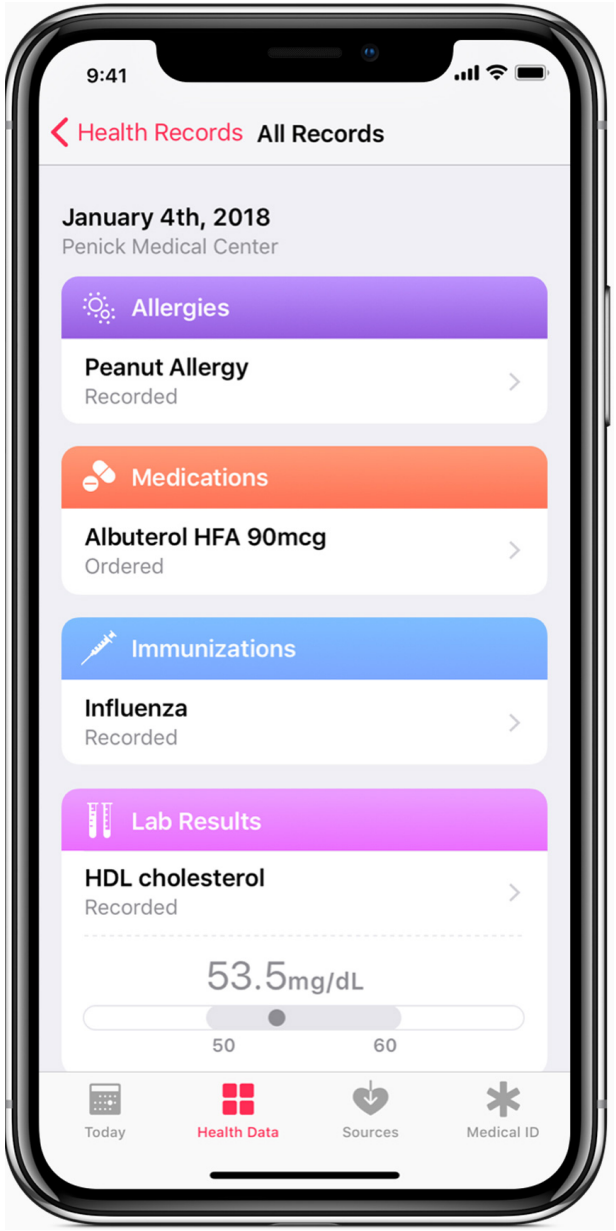


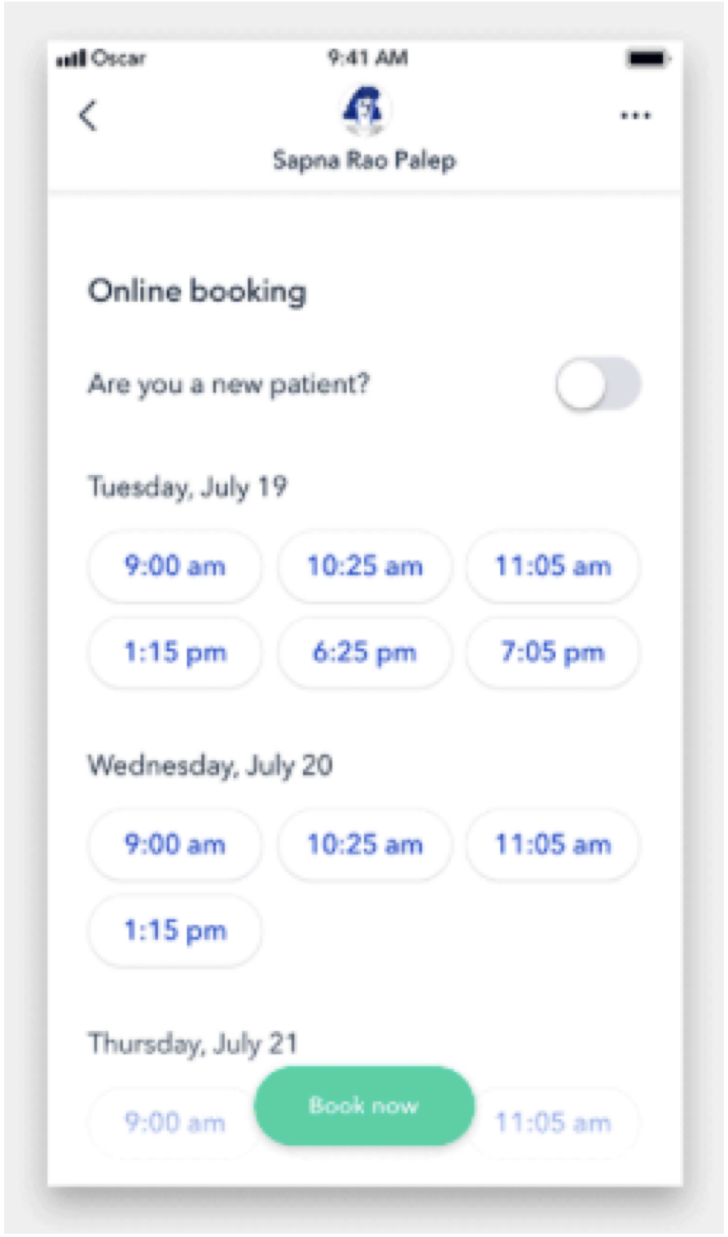


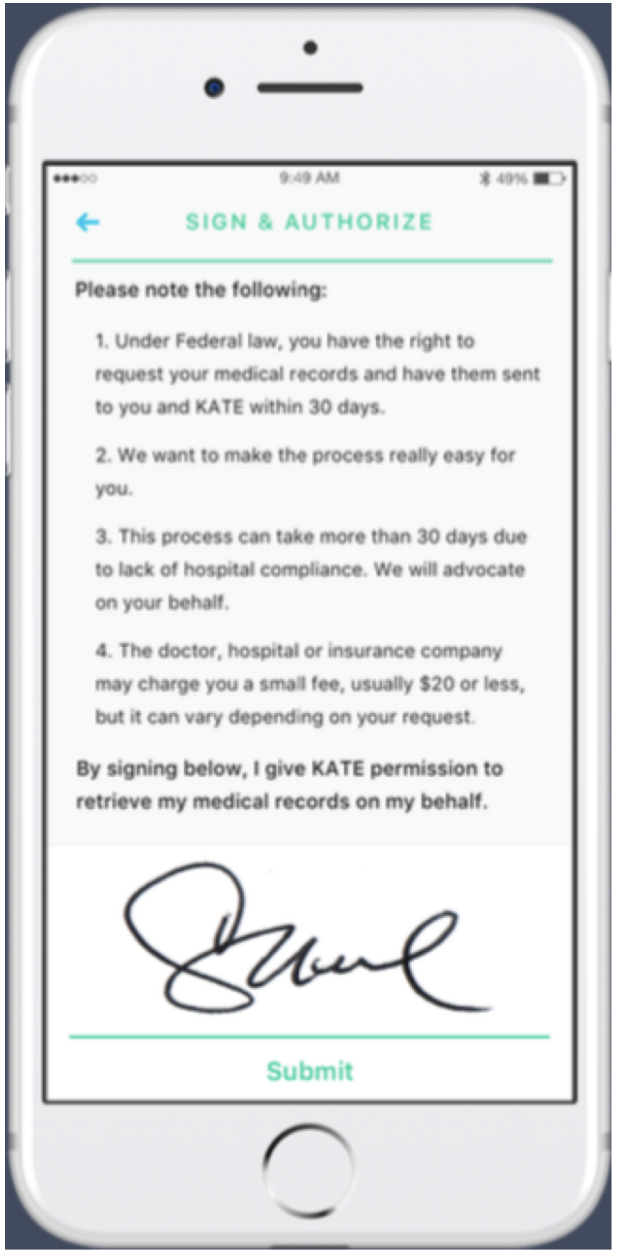


"In the future, instead of giving a third party unlimited access…we hope to build systems that allow us to "push" information – and only that information agreed to by the customer – to that third party."
- Jamie Dimon, 2015 Shareholder Letter

Source: http://www.pge.com/en/myhome/addservices/sharemydata/customers/index.page; mint.com; https://www.jpmorganchase.com/corporate/investor-relations/document/ar2015-ceolettershareholders.pdf


9:41
Health Records
All Records
January 4th, 2018
Penick Medical Center
Allergies
Peanut Allergy
Recorded
Medications
Albuterol HFA 90mcg
Ordered
Immunizations
Influenza
Recorded
Lab Results
HDL cholesterol
Recorded
53.5mg/dL
50
60
Today
Health Data
Sources
Medical ID


Oscar
9:41 AM
Sapna Rao Palep
Online booking
Are you a new patient?
Tuesday, July 19
9:00 am
10:25 am
11:05 am
1:15 pm
6:25 pm
7:05 pm
Wednesday, July 20
9:00 am
10:25 am
11:05 am
1:15 pm
Thursday, July 21
9:00 am
Book now
11:05 am


9:49 AM
49%
SIGN & AUTHORIZE
Please note the following:
1. Under Federal law, you have the right to request your medical records and have them sent to you and KATE within 30 days.
2. We want to make the process really easy for you.
3. This process can take more than 30 days due to lack of hospital compliance. We will advocate on your behalf.
4. The doctor, hospital or insurance company may charge you a small fee, usually $20 or less, but it can vary depending on your request.
By signing below, I give KATE permission to retrieve my medical records on my behalf.
Submit

Convergence on Health Internet Standards

Culture, Culture, Culture

Institutions that support health records on iPhone (beta)

A growing list of healthcare institutions support health records on iPhone, enabling you to view important data such as immunizations, lab results, medications, and vitals directly in the Health app.

We're working with more hospitals and clinics to support health records. Health institutions might have multiple hospitals and clinics that support health records, which are listed in the Health app.

Adventist Health System (Colorado, Florida, Georgia, Illinois, Texas, and others)
https://www.adventisthealthsystem.com

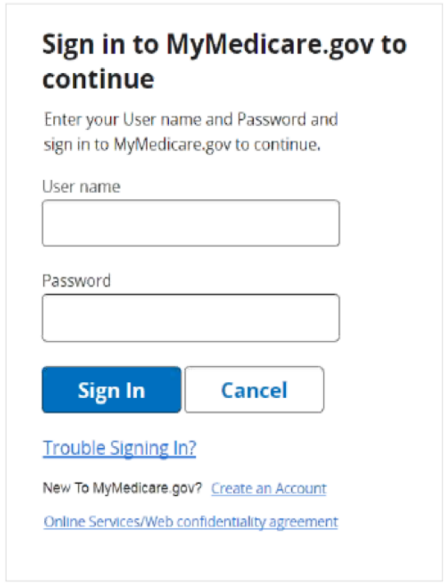
AtlantiCare (New Jersey)
http://atlanticare.org

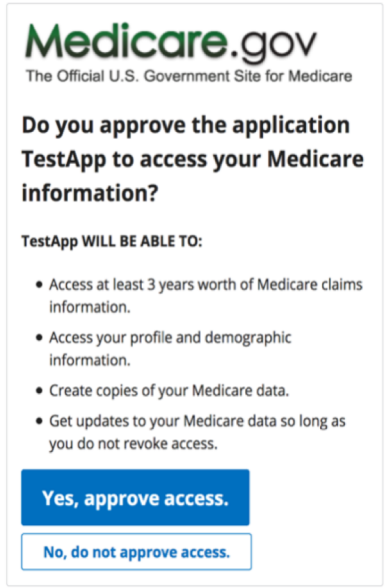
Austin Regional Clinic (Texas)
https://www.austinregionalclinic.com

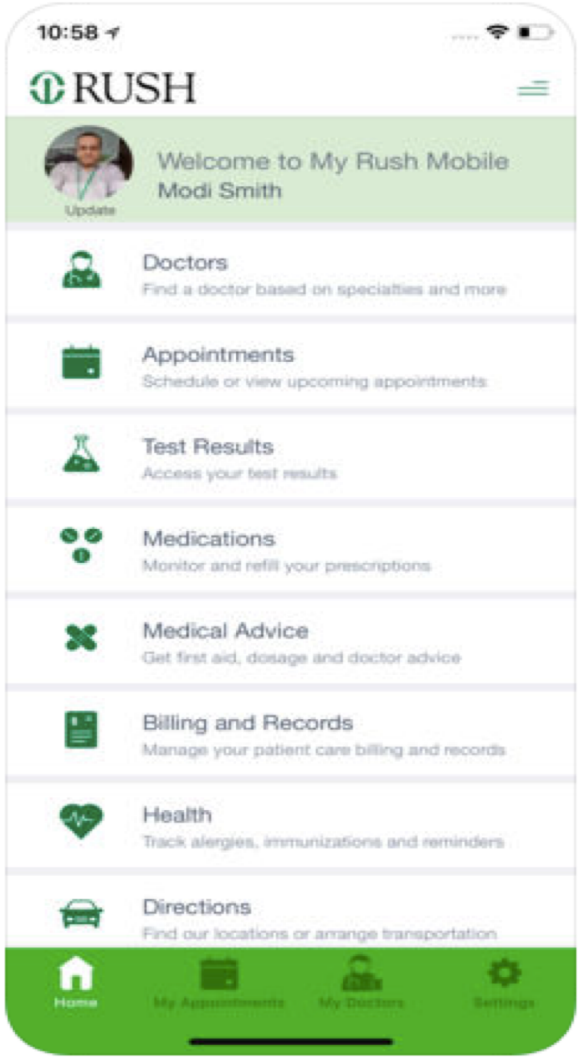
Objective	Performance	Exclusion
E – copy of health information	93%	54%
E – copy of discharge Instructions	93%	53%
Patient education resources	77%	N/A

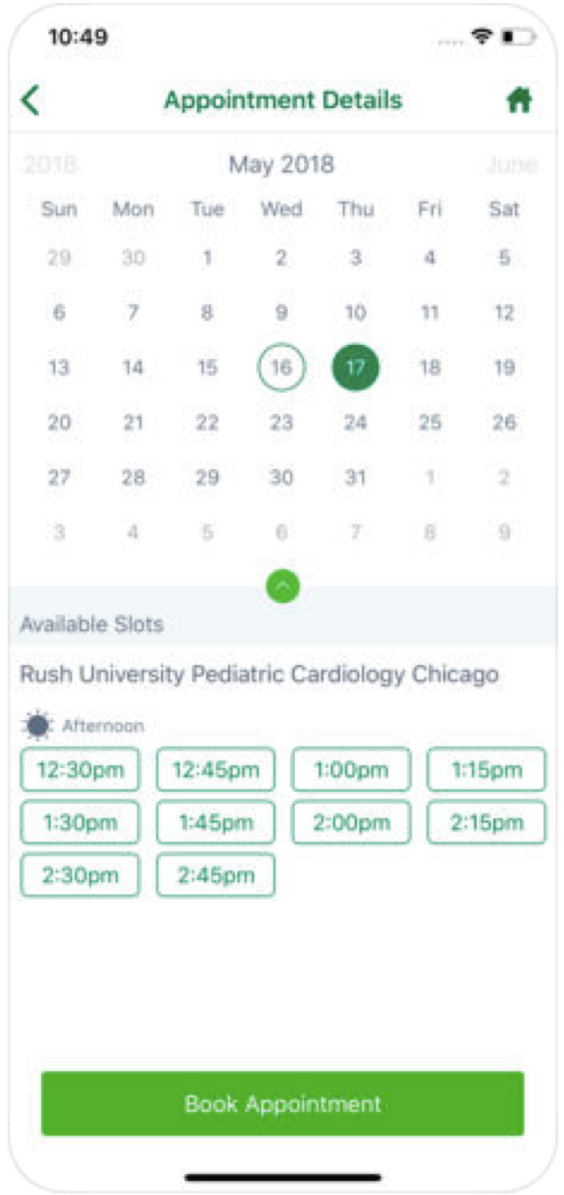
Source: https://support.apple.com/en-us/HT208647 ONC

“Wholesale” Digital Services



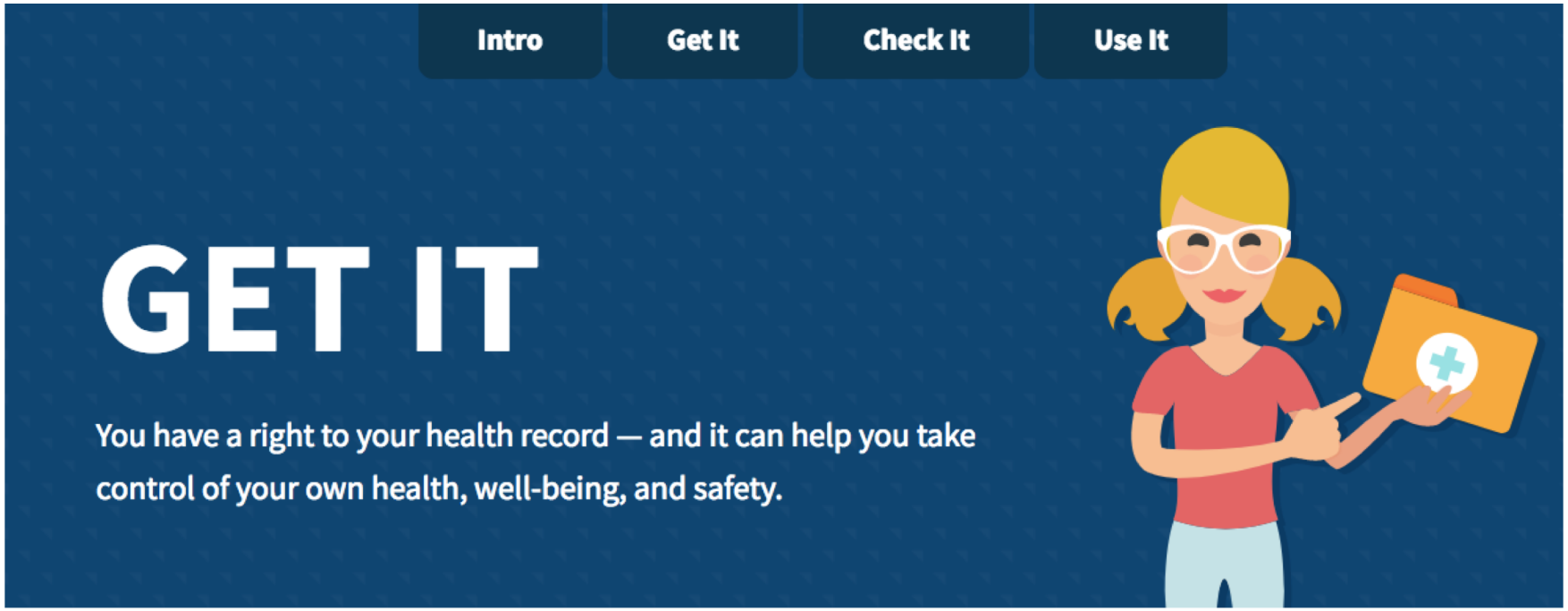






CMS calls on MA plans to “meet or exceed” Blue Button FHIR API by CY2020, considering regulation; Rush UMC launching one of the inaugural “Blue Button” apps to aid consumers in navigating care delivery options

“Must Share” for Consumer Applications



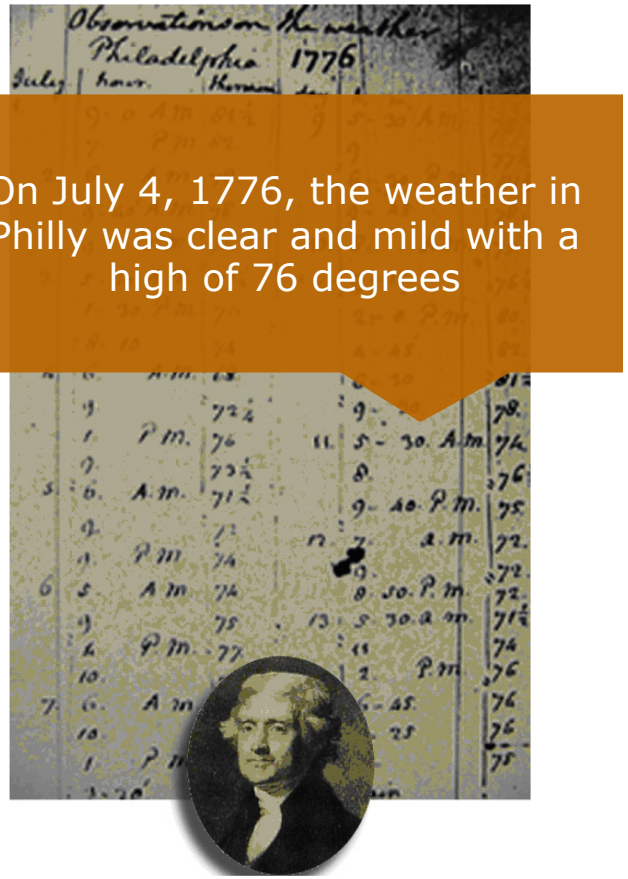
You have a right to your health record (also known as a medical record) — and it can help you take control of your own health, well-being, and safety. Having your health record makes it easier to:

- Share important health information with family members, a new doctor, or a medical emergency team
- Coordinate health care with different doctors, clinics, and hospitals
- Make sure your information is up-to-date and accurate

Source: https://support.apple.com/en-us/HT208647 ONC

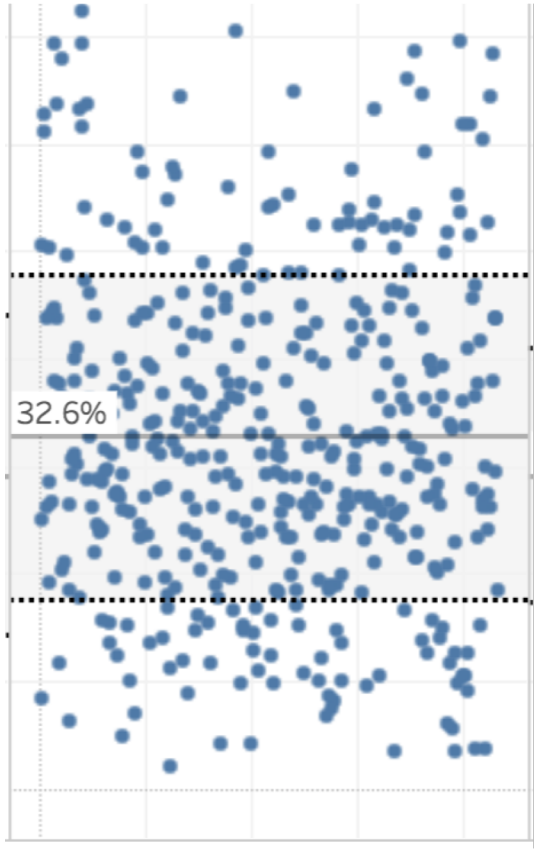
Democratize Government Data

From Jefferson to Medicare “Linked A/B/D” Claims

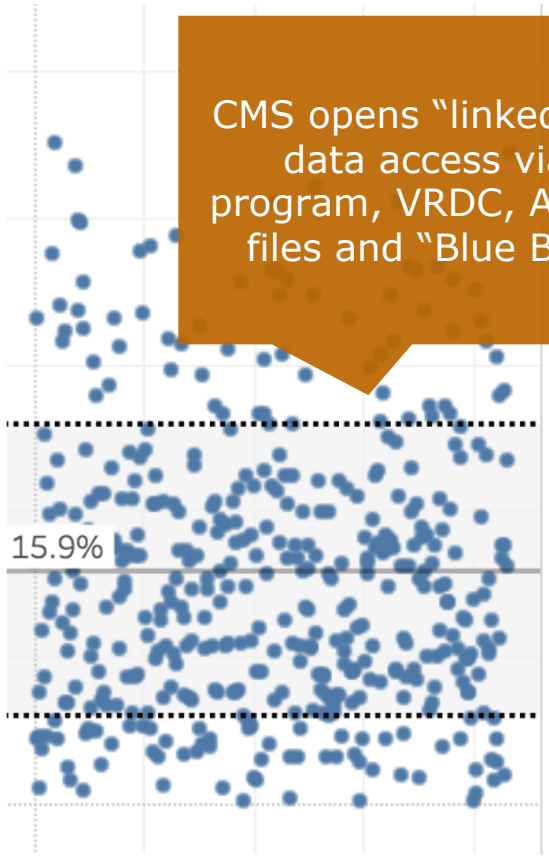


On July 4, 1776, the weather in Philly was clear and mild with a high of 76 degrees

Annual Wellness Visit



TCM (Transitional Care)



CMS opens “linked A/B/D” data access via QE program, VRDC, ACO, PUF files and “Blue Button”

Source: http://celebrating200years.noaa.gov/foundations/climate_data/image1.html; whitehouse.gov; CareJourney analysis of CMS “VRDC”

Outcomes Payment Opens Up Competition

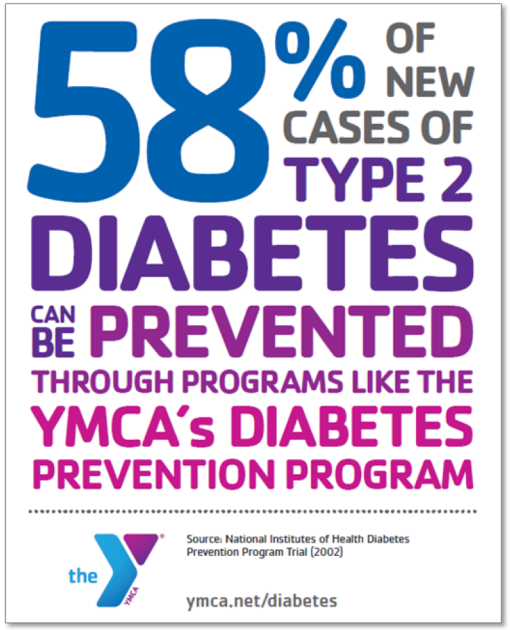
Pay for “value” to drive new care workflows

Patient Centered Medical Homes	• Organized outpatient care, coordination and team-based approaches
Accountable Care Organizations	• Shared savings; Redesigned care processes for high quality, efficient delivery
Bundled Payments	• Pilot program for episodes of care; incentivizes reduced costs around eight conditions
Readmission Reduction Programs	• Motivates hospitals to engage with care coordinators and better organize delivery systems

Innovations Needed:

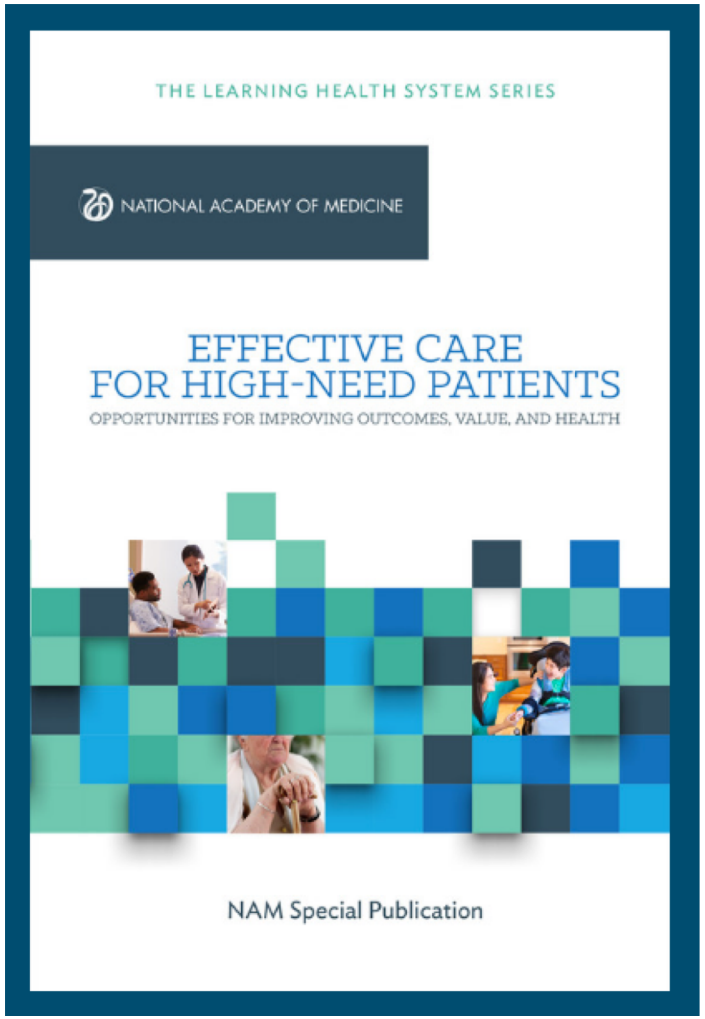
- Data Mining/Analytics
- Care Integration Tools
- Timely Clinical Data, Decision-Support
- Technology to Extend Physician Reach
- Consumer Engagement Tools/Platforms/Apps

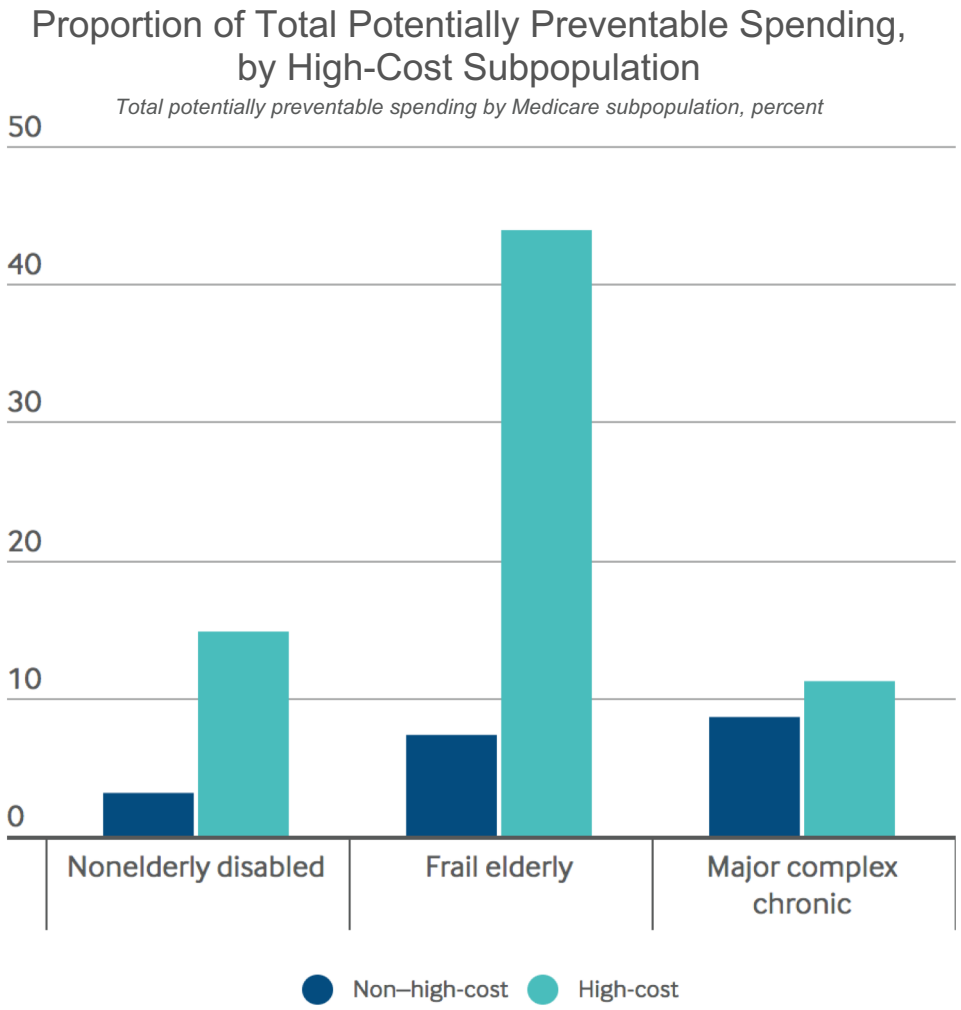
Source: White House Office of the CTO



“The evaluation…indicate that beneficiaries…have achieved success with losing weight and reducing the incidence of diabetes.” - CMS Actuary

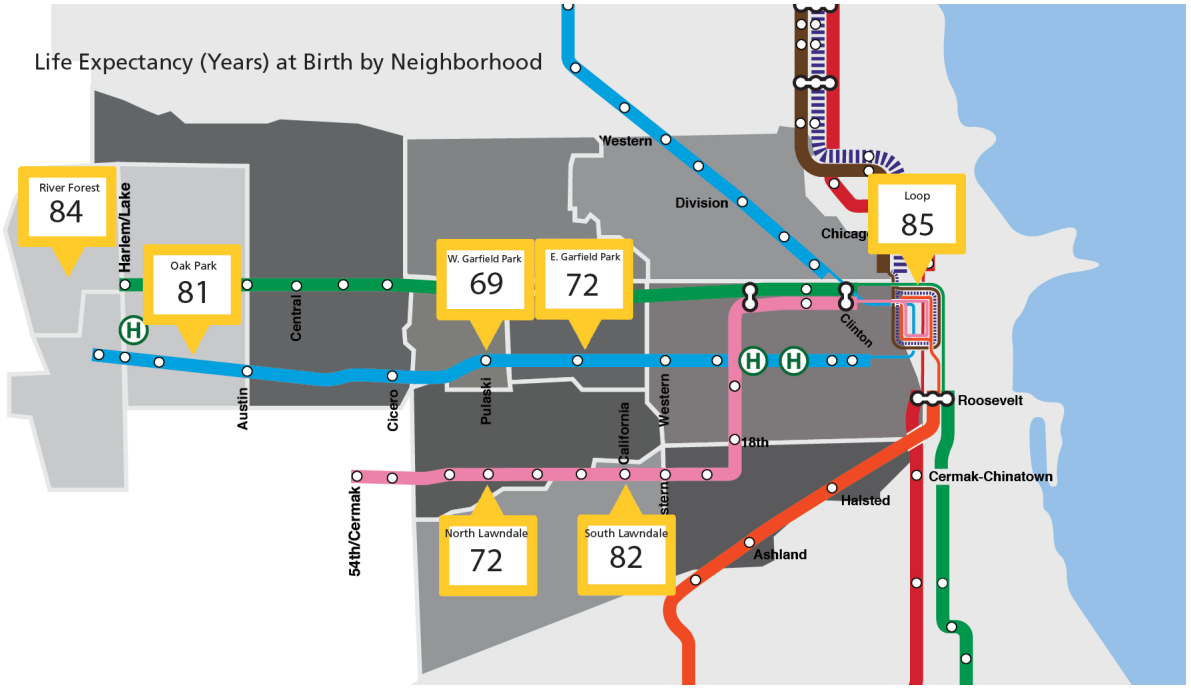
Tools to Prioritize High-Need, High-Cost Patients

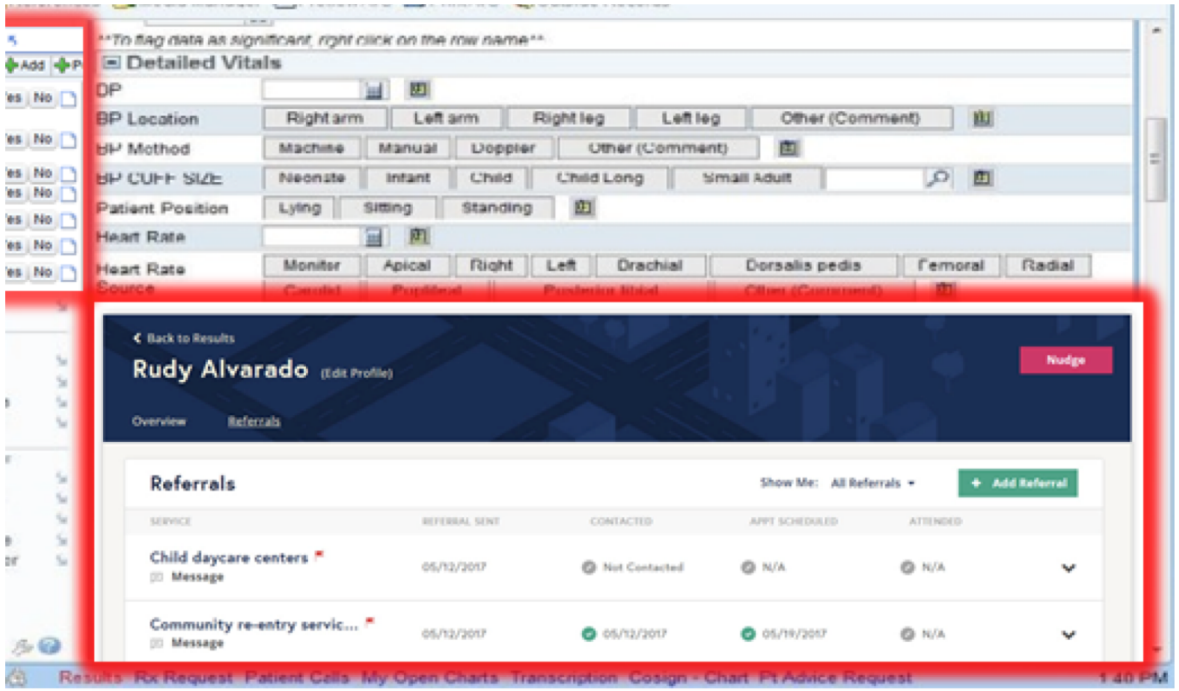




Adapted from J. F. Figueroa, K. E. Joynt Maddox, N. Beaulieu et al., "Concentration of Potentially Preventable Spending Among High-Cost Medicare Subpopulations,"Annals of Internal Medicine, published online Oct. 17. 2017.

Tools for Reducing Provider Burnout





16-year life expectancy gap; goal to cut 50% in ten years

Leadership selected 3rd party app, for "plug-play" workflow changes

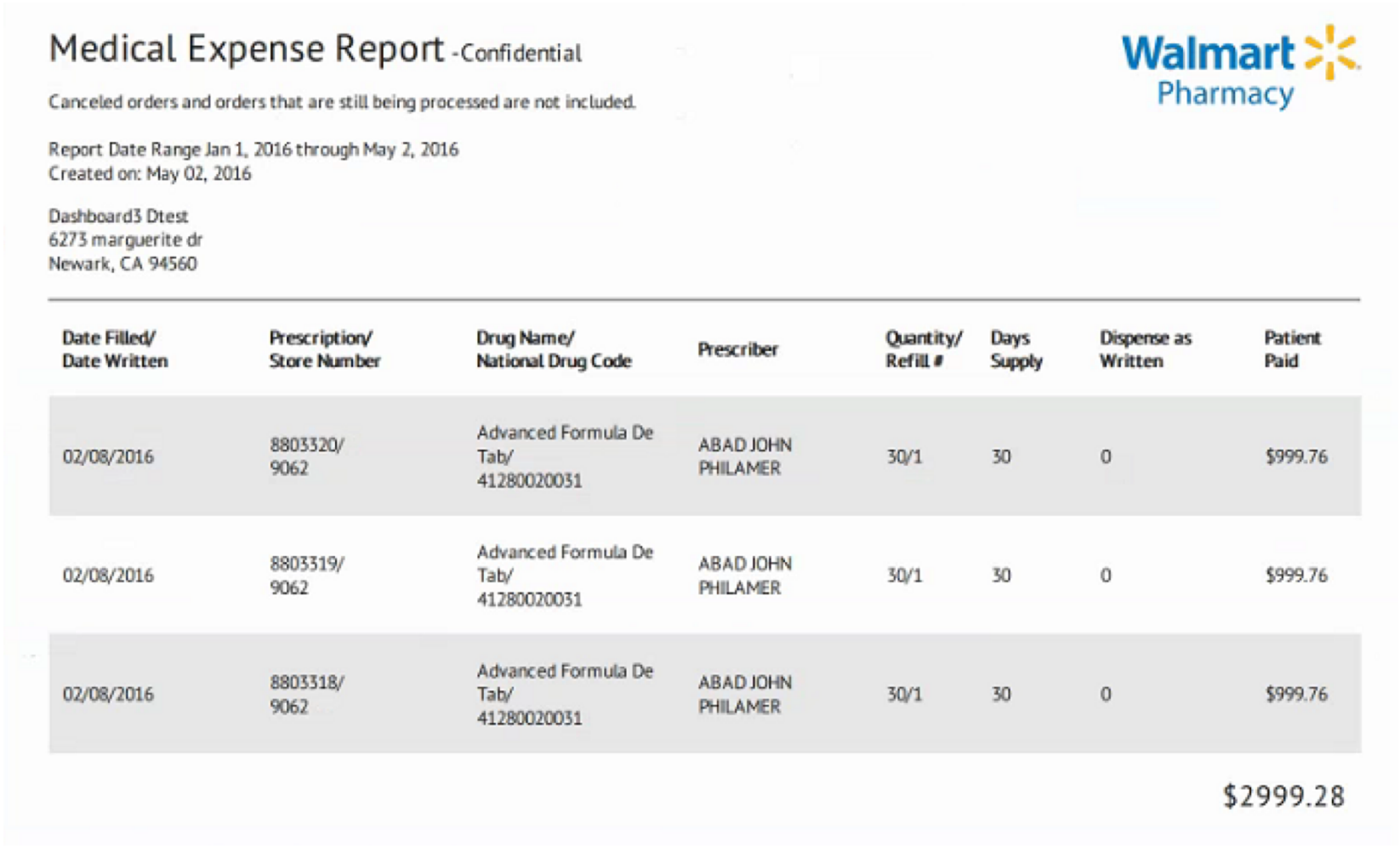
CIO takes weeks, not months to enable apps integration

Immediate impact – 48/70 patients screened for needs; no return ER visits

Source: https://www.rush.edu/health-wellness/video-library/total-health-collaborative; Shafiq Rab, RUMC CIO

Tools to Assemble Longitudinal Patient Records

A "patient-centered" data model includes clinical, financial, and other information to serve as the foundation for intervention decision support



Medical Expense Report -Confidential

Walmart Pharmacy

Canceled orders and orders that are still being processed are not included.

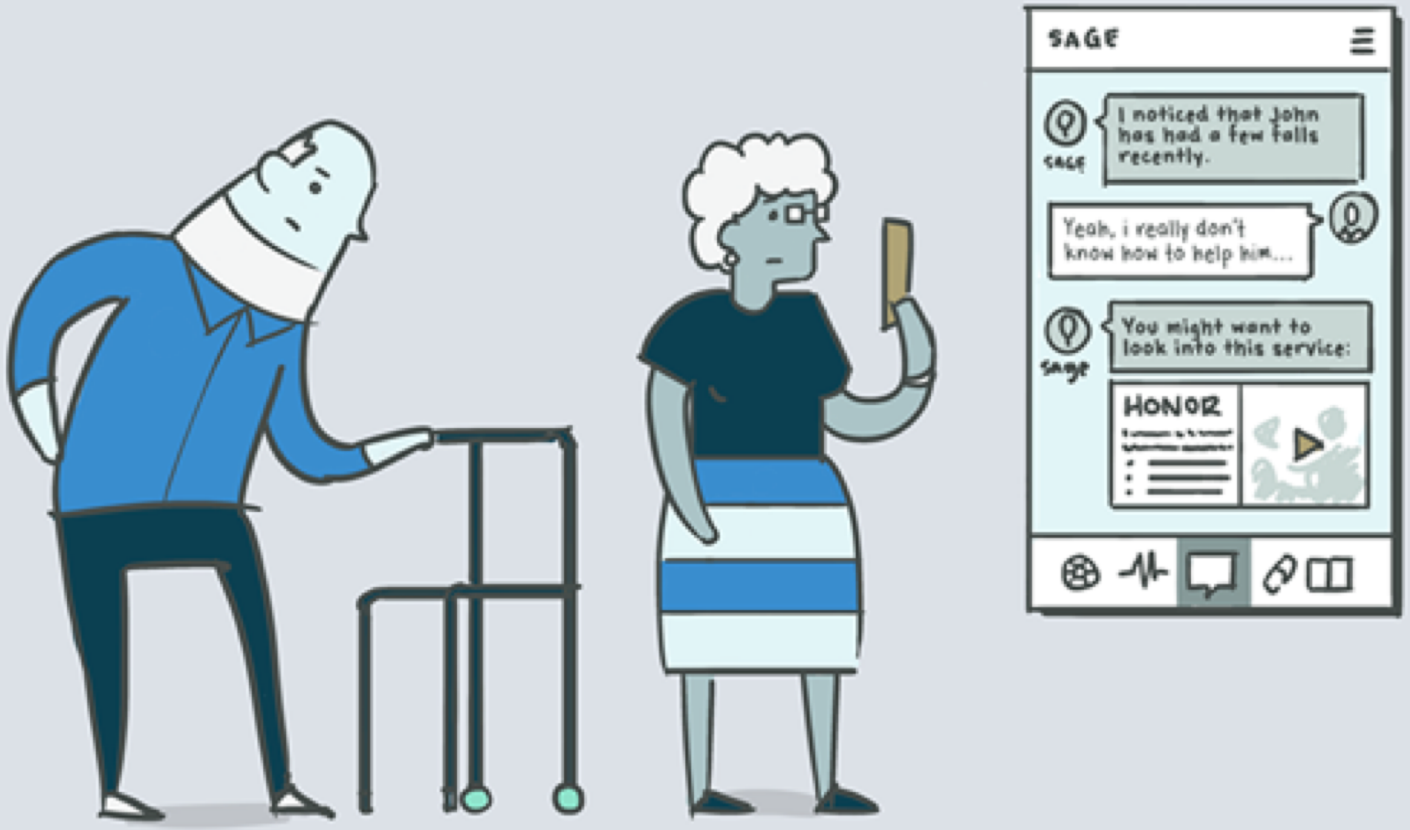
Report Date Range Jan 1, 2016 through May 2, 2016
Created on: May 02, 2016

Dashboard3 Dtest
6273 marguerite dr
Newark, CA 94560

Date Filled/ Date Written	Prescription/ Store Number	Drug Name/ National Drug Code	Prescriber	Quantity/ Refill #	Days Supply	Dispense as Written	Patient Paid
02/08/2016	8803320/ 9062	Advanced Formula De Tab/ 41280020031	ABAD JOHN PHILAMER	30/1	30	0	$999.76
02/08/2016	8803319/ 9062	Advanced Formula De Tab/ 41280020031	ABAD JOHN PHILAMER	30/1	30	0	$999.76
02/08/2016	8803318/ 9062	Advanced Formula De Tab/ 41280020031	ABAD JOHN PHILAMER	30/1	30	0	$999.76

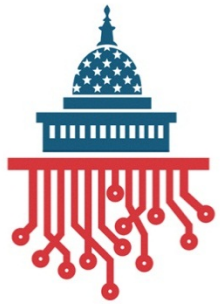
$2999.28

Tools for Health Information Fiduciaries



"Savers receiving conflicted advice earn returns roughly 1% lower each year… we estimate the aggregate annual cost of conflicted advice is about $17 billion each year" – Obama Council of Economic Advisors

Source: Commonwealth Fund; https://www.whitehouse.gov/sites/default/files/docs/cea_coi_report_final.pdf



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