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Wellness Data

Leveraging Supplemental Sources to Better Understand the Health Risks of the End User

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Legislation driving Adoption of Electronic Health Records

Electronic Health Record Regulation

ARRA(2009): American Recovery and Reinvestment Act("stimulus package").Established timeline for future incentives for health care providers to offer patient health records in electronic format

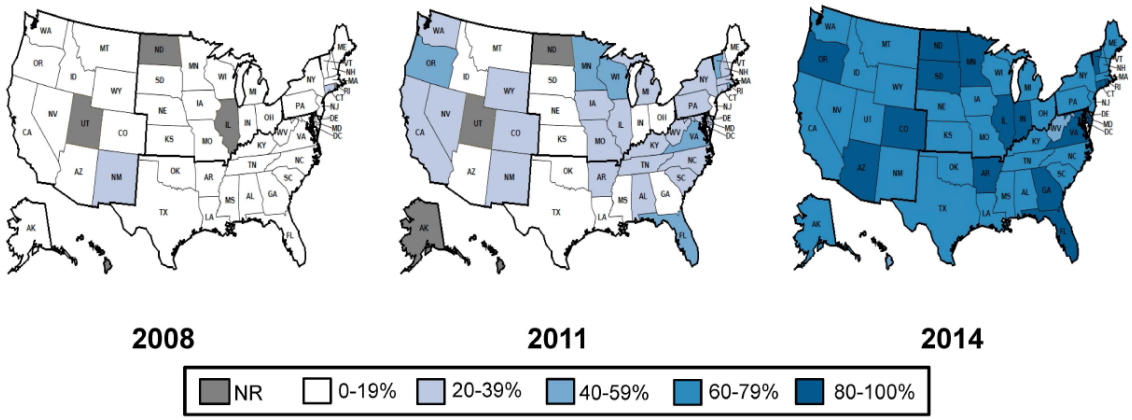
Positive Rewards / Incentives for "Meaningful Use" of EHR(2011-2014): Healthcare providers which demonstrate "meaningful use" of EHR receive increased levels of Medicaid and Medicare reimbursements

Penalties for Lack of "Meaningful Use" of EHR(2015+): Healthcare providers which fail to demonstrate "meaningful use" of EHR receive reduced levels of Medicaid and Medicare reimbursements

ARRA
American Recovery and Reinvestment Act of 2009

Meaningful Use
EHR INCENTIVE PROGRAM

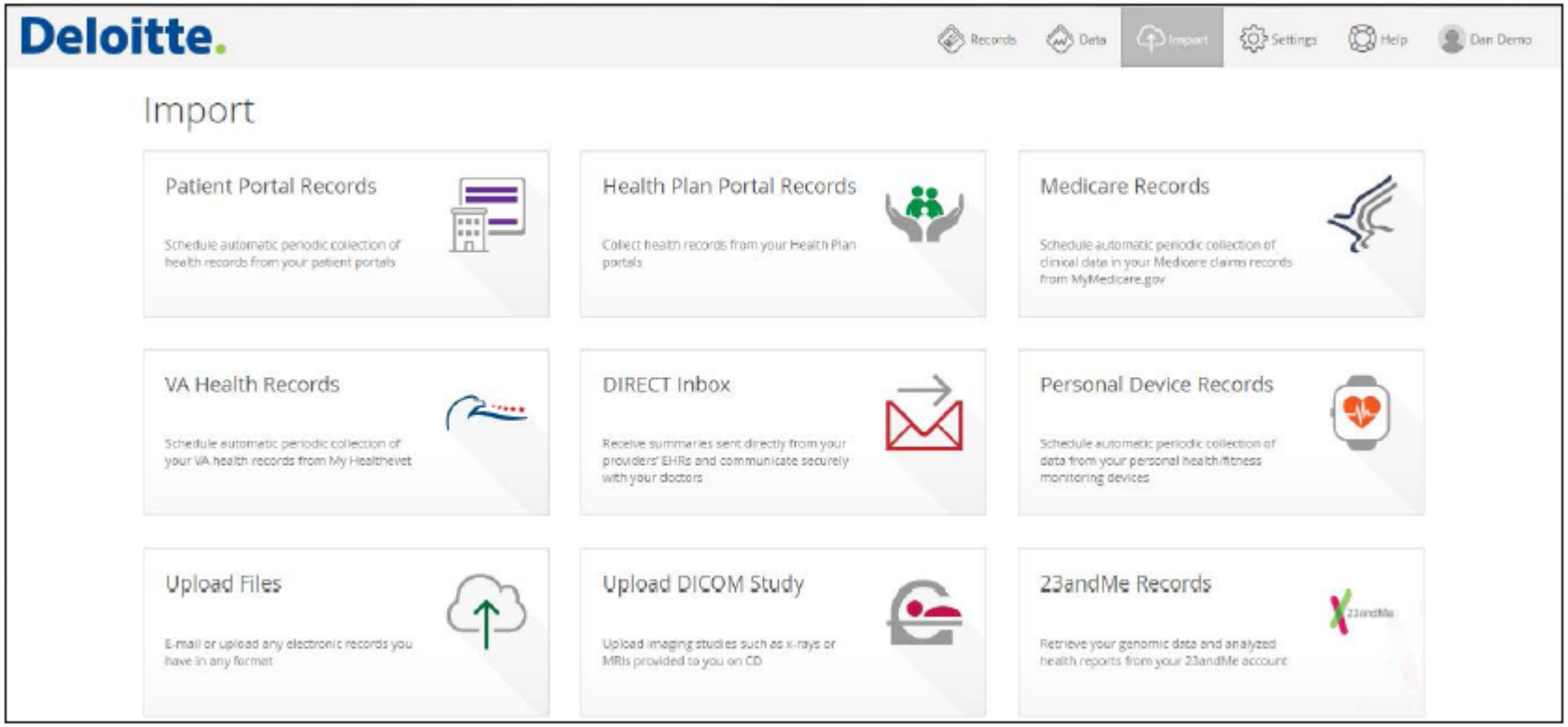
State adoption rates for acute care hospitals have increased significantly from 2008-2014



Source: healthit.gov

The proportion of American hospitals with an electronic health record has grown eight-fold in recent years, from 9% in 2008 to 76% in 2014. As for office-based physicians, over 80% have adopted an EHR by the end of 2014.

Electronic Health Records (EHR) Collection Process

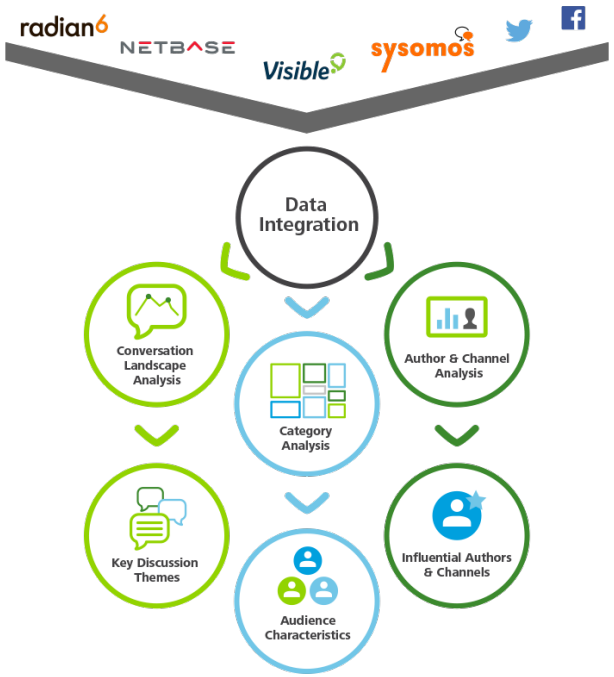


Deloitte **automates** the collection of EHRs from:

- Nearly 2,000 hospital and physician group patient portals
- Health Plan Portals
- Medicare (mymedicare.gov)
- VA (myhealthevet.com)
- Personal health monitoring devices (with Validic)
- Direct messages from MU-compatible EHRs
- X-Rays and MRIs
- Genetic testing services

Emerging Trends - social analytics, quantified self, etc.

Digital Analytics leverages a number of different tools to collect social conversations, then uses a combination of automated and manual processes to analyze the data.



"**Quantified Self**" applications such as Fitbit, Apple Watch and Smart Phone Apps allow customers to monitor and share lifestyle/health data

D-rive Business Overview

Insurer Need for Telematics

- Insurers are identifying the need for a telematics-based solution to better understand driver behavior and have a more precise view of risk
- Once the need for telematics has been identified, an insurer decides whether to build telematics capabilities or leverage third-party solutions
- Insurers then determine the specific solution that best fits their business and addresses their need

D-rive Product

D-rive addresses the insurer's need for telematics and accelerates an insurer's entry into the growing UBI market

Mobile App

Automatic Trip Detection

Real Time Trip Score

Minimal Battery Impact

Configurable White Label App

Cloud Analytics & Data Bureau

Driver vs. Passenger ID

Driver Score

Secure & Scalable Environment

Anonymized & Aggregated Data

Customer Portal

Configurable UI & Scoring Algorithms

Advanced Analytics

Customer Support

Access to Shared Data Bureau

Insurer and Driver Benefits

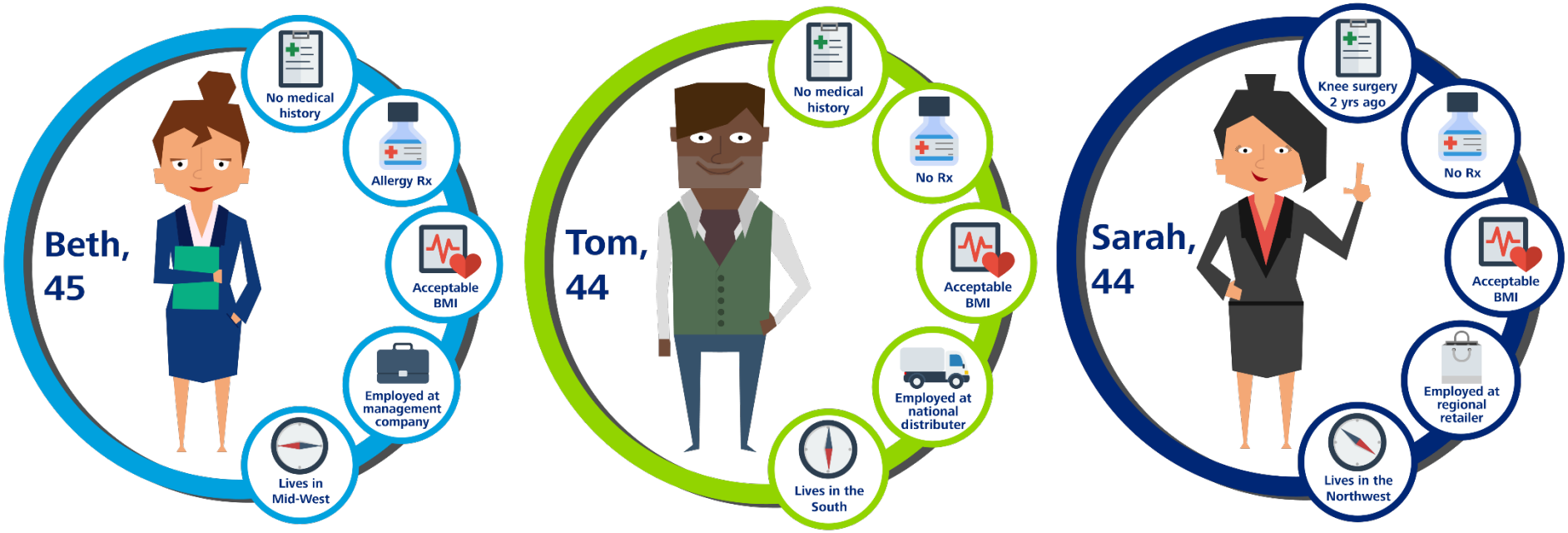
Benefits for Insurers:

- Better understanding of driver risk
- Increased consumer retention
- Increased conversion rate
- Ability to provide innovative customer service relating to safety
- New and innovative products to use to attract policyholders

Benefits for Drivers:

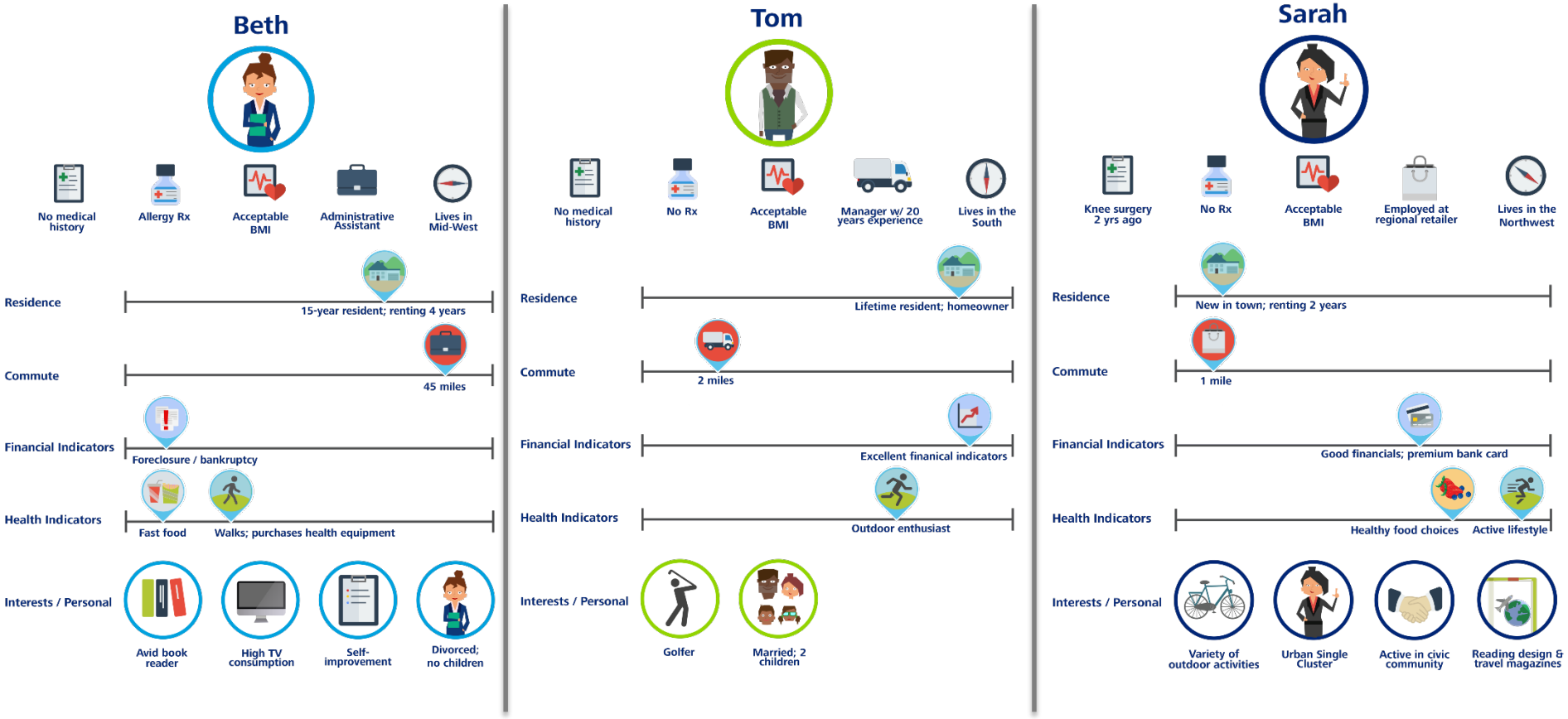
- Discount on monthly premium
- Easy-to-use mobile application
- Detailed statistics about driving and trip behavior

Evaluating the Population



Who will generate the highest medical claim costs?

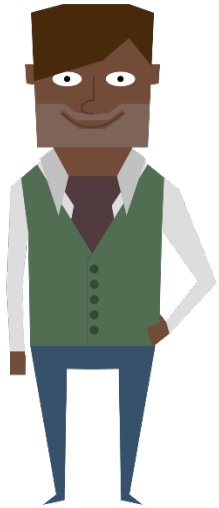
“Lifestyle-based” Analytics



“Lifestyle-based” Analytics

The pool of candidates who score similar to Beth will have **increased medical claims of 18%.**

- Long commute
- Poor financial indicators
- Purchases tied to obesity indicators
- Lack of exercise



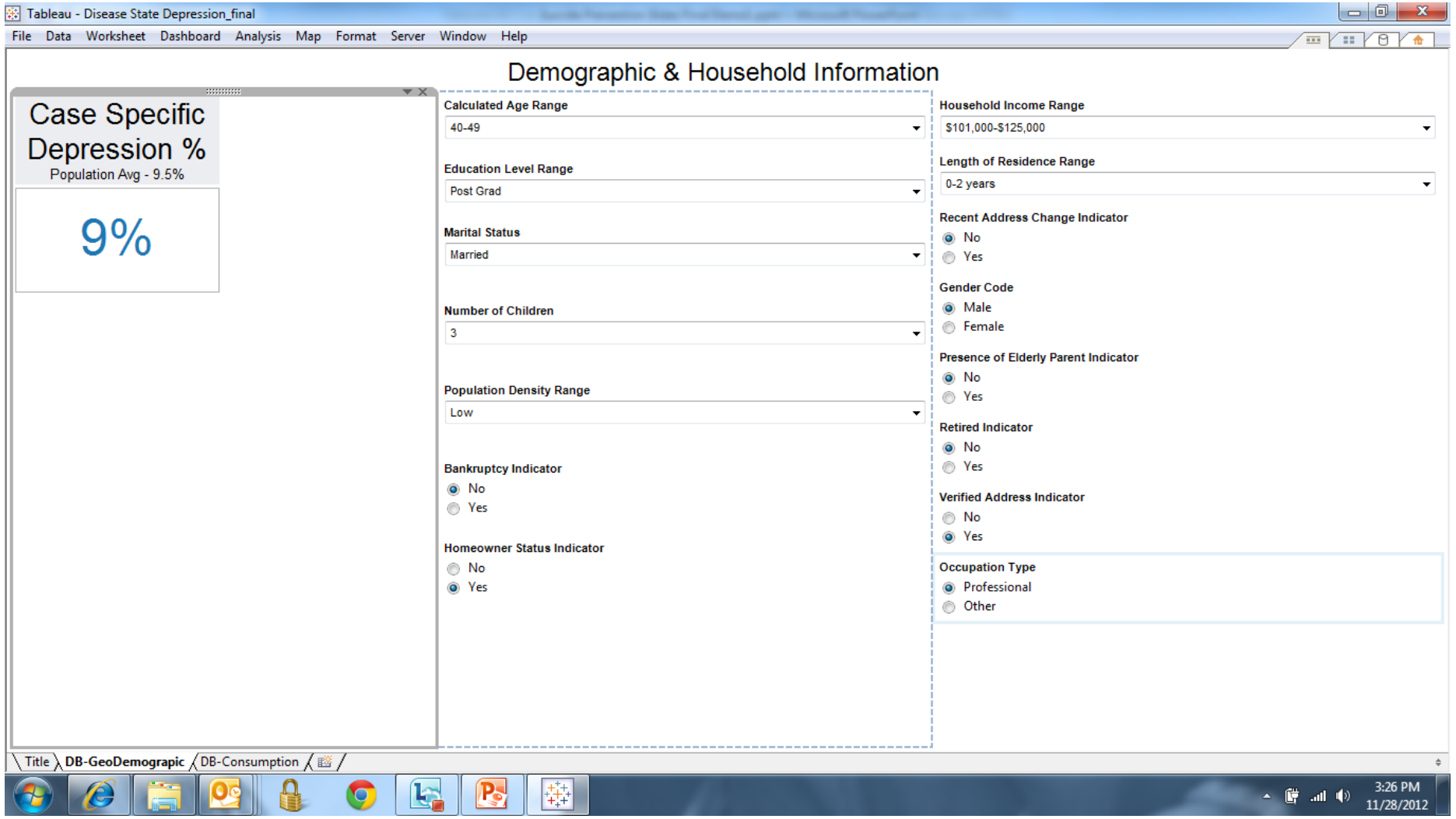
Tom falls into the pool of candidates that are **near expectations** on morbidity assumptions.

- Strong personal ties to community/location
- Avid outdoor enthusiast
- Avid golfer
- Average commute

The pool of candidates who score similar to Sarah will have **reduced medical claims of 15%.**

- High activity indicators
- Good financial indicators
- Healthy food choices
- Little television consumption
- Foreign traveler

Disease state model demo – depression



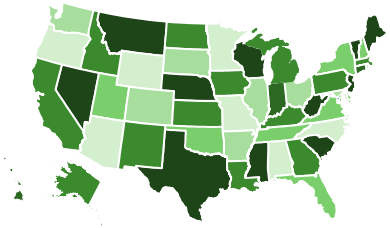
Customer Insights dataset

CI

150 +

Our analytics is powered by 150+ algorithms including:

- Disease state algorithms
- Lifestyle clusters
- Purchase behaviors
- Propensity to need and purchase insurance



We have scored the entire United States adult population **(230 million lives)**, giving clients the ability to identify the markets and individuals within those markets who are most likely to buy and most likely to qualify – driving to higher response and approval rates

50+ TB

We have access to over 50 terabytes of third-party data that provides individual-level lifestyle and purchasing habit insights across the entire United States population

Leveraging LBA

Financial Sustainability

Growing enrollment and achieving long term sustainability

- **Target the right population segment**: Identification of potential new members and uninsured profiles in the Individual market and identify potential employer participation in Small Group and preferred benefit levels for the Small Group market
- **Retain enrollment** using retention analytics to identify patterns of disenrollment
- **Expand market segments** by developing strategies for group expansions (e.g. inclusion of unions, Taft-Hartley plans, etc.)

Health Management

Improving health risk of the enrolled population

- **Develop cost trends** to identify rate level drivers such as population risk, pent up demand and disease conditions prevalence
- **Provide deeper understanding of health improvement outcomes** year over year
- **Target population with high prevalence and response rate** for change management

Consumer Experience

Enhance the consumer experience from end-to-end process

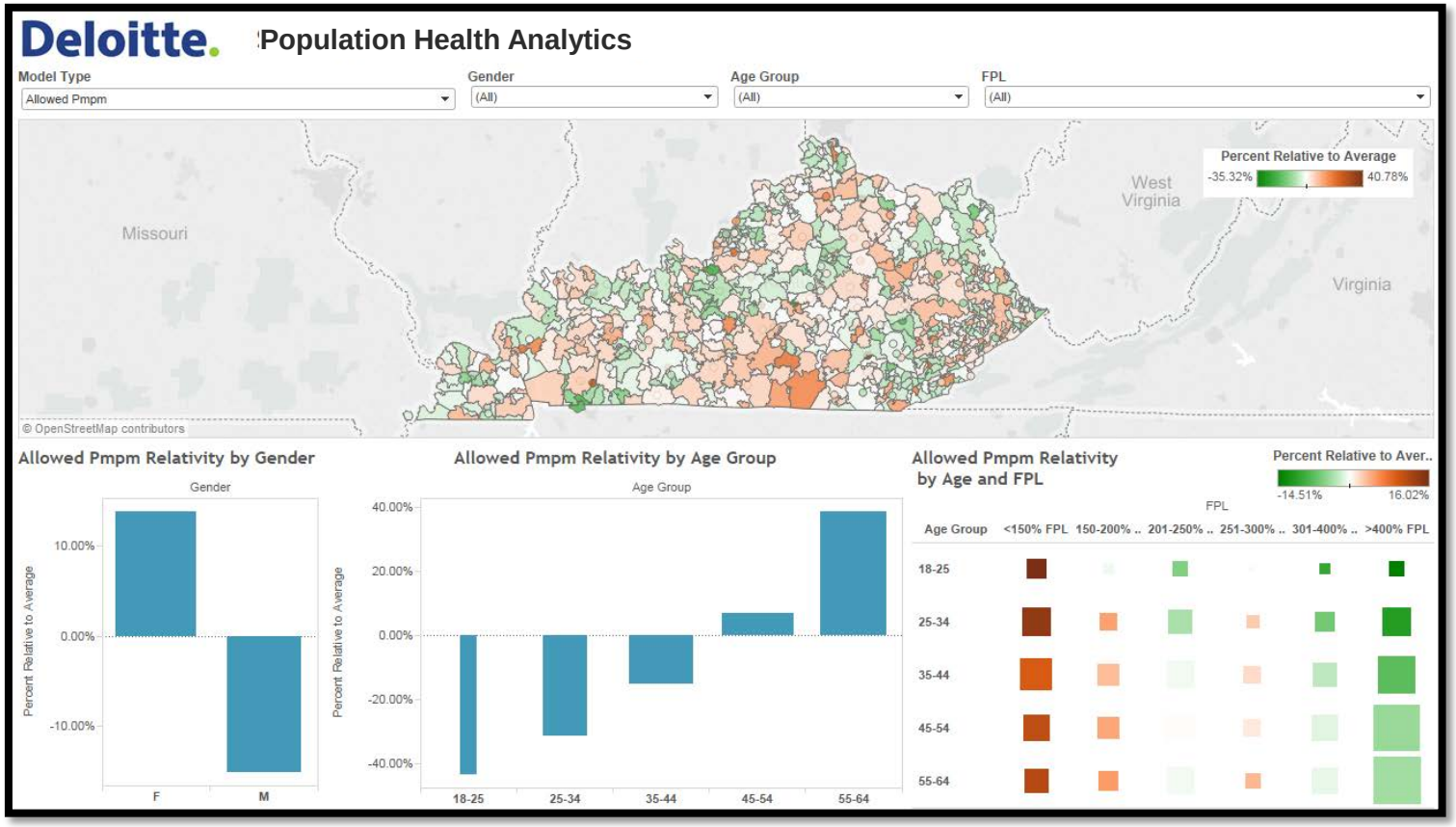
- **Develop marketing campaign lists** with outreach methodology suitable for target consumers
- **Provide guided whole consumer shopping experience tool** (i.e. plan selection tools) for enhanced consumer education and shopping experience
- **Support pro-active engagement** throughout the coverage period
- **Improve member and provider relationship** using provider matching tools

Product Management

Provide consumer choice and affordability

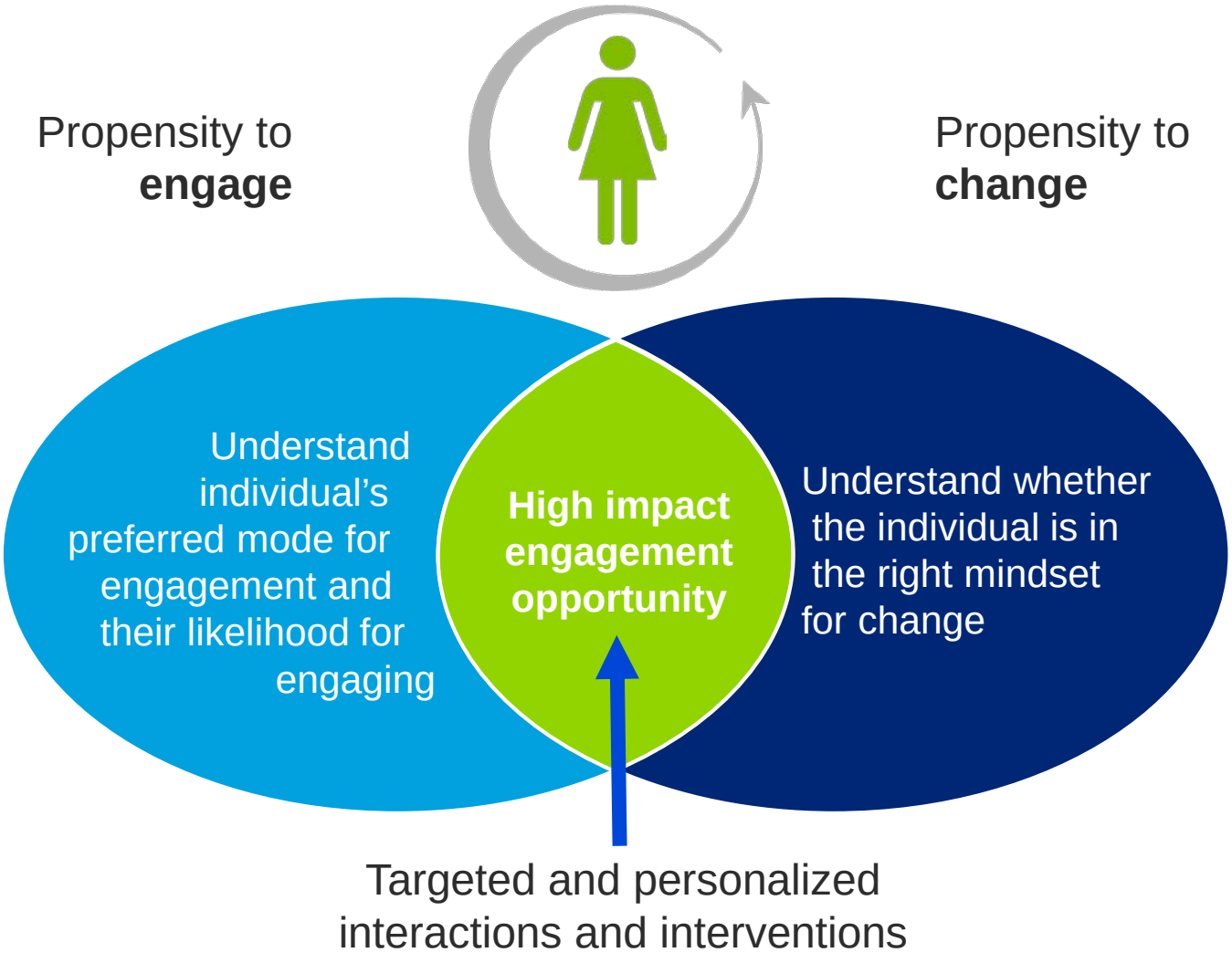
- **Identify consumer demands** on new plans (e.g. platinum level plans)
- **Develop price elasticity of demand** to support rate making review
- **Provide quantifiable measures on population health risk** for rate review support

Modern health analytics can profile current and prospective consumers along several key dimensions

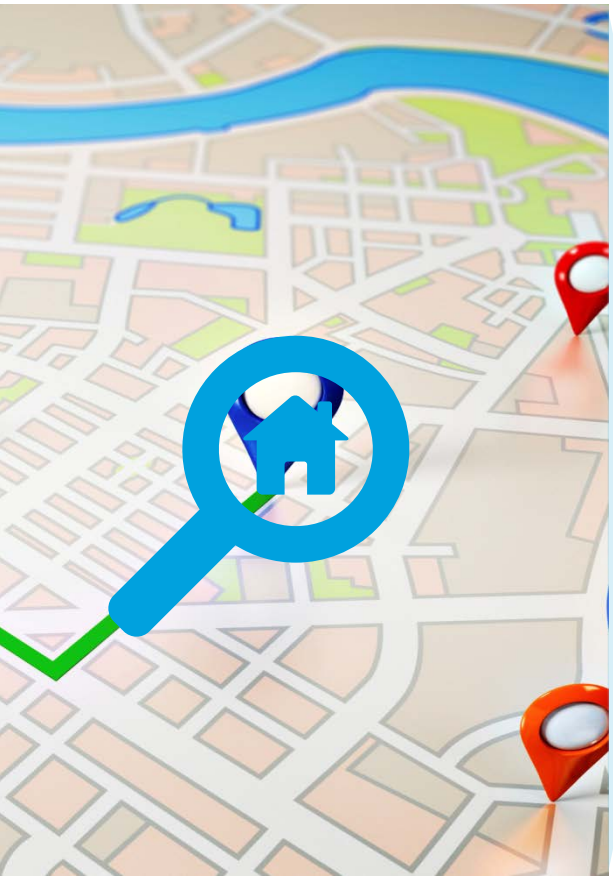


Every consumer in the US can now be mapped to health risks, product and communication preferences, and change behavior.

Health plans are quickly switch from patient centric view to a consumer centric view



The art of the possible for prediction and prevention strategies



John Smith

- 48 year old male
- Married to Jane with 3 children at home
- Undergraduate degree; employed in white collar job
- Group health insurance
- Hobbies include college and professional sports viewing and craft beers

Health risks include

- Increased risks for diabetes, cardiovascular and hypertension
- Low risk for tobacco related illnesses

Actions: Schedule full annual including complete lab with Dr. Smith

Jane Smith

- 45 year old female
- Married to John with 3 children ages 14, 12 and 9
- Master's degree in business; employed as stay-at-home parent
- Hobbies include team tennis, yoga, and 5k and 10k running

Health risks include

- Increased risks for skin cancer
- Low risk for diabetes, cardiovascular, and maternity event

Actions: Send a sun-blocking tennis hat, skin cancer educational brochure and coupon for sunscreen

Smith children

- Multiple pets in the household

Health risks include

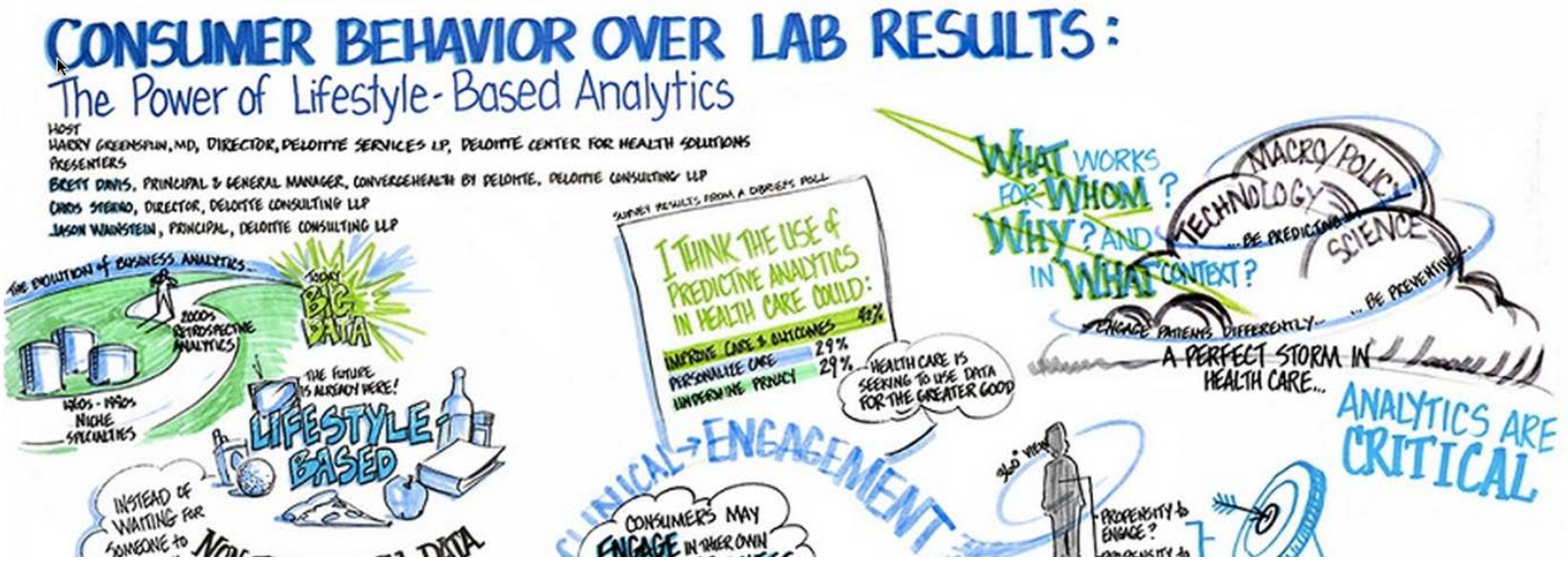
- Increased risks for asthma

Actions: Administer spirometer test at next physical

Data depicted here is for example only and does not represent actual individuals

Lifestyle data to predict lifestyle diseases

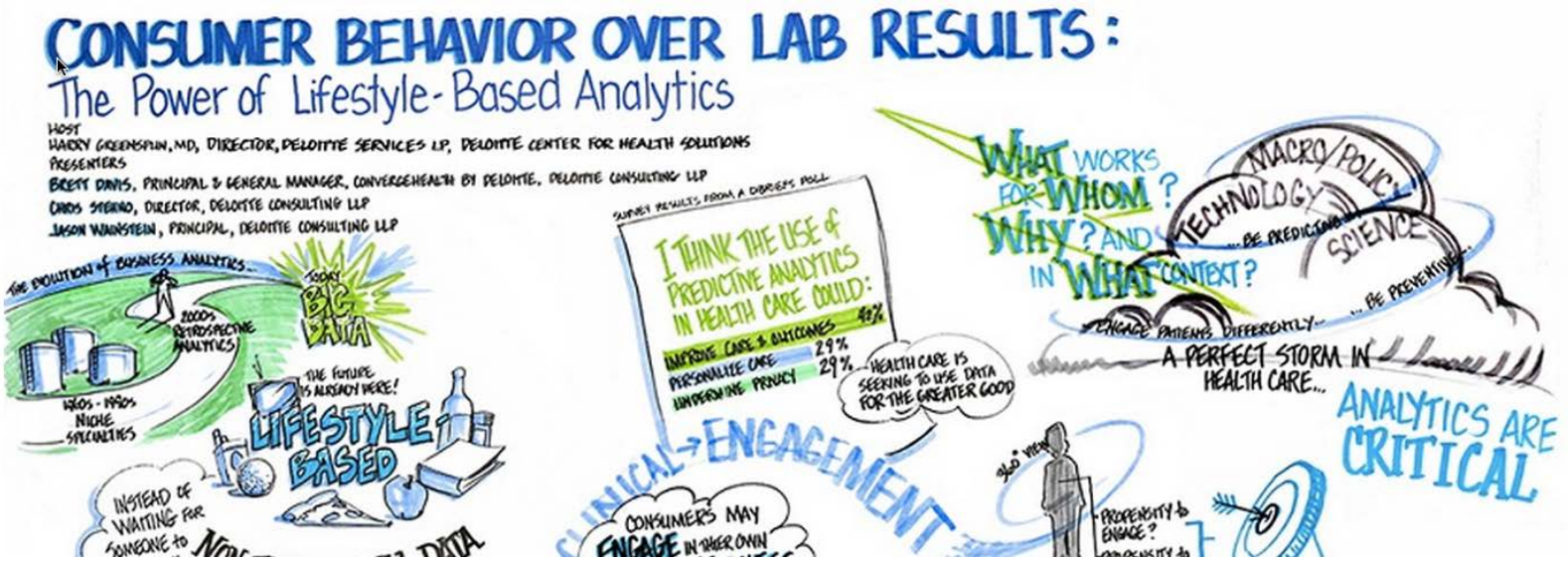
Lifestyle and medical data can used to predict individuals' healthcare utilization and likelihood of various disease states.



The last mile problem

Lifestyle and medical data can used to predict individuals' healthcare utilization and likelihood of various disease states.

But once we've identified the highest risks, what can be done to change behavior?



House calls and health coaching

Lifestyle and medical data can used to predict individuals' healthcare utilization and likelihood of various disease states.

But once we've identified the highest risks, what can be done to change behavior?

Promising behavioral strategies:

- *Health coaches for comorbid seniors*
- *"House calls" for root cause analysis of hospital ER "frequent fliers"*
- *Workplace health initiatives*
- *"Social Physics"*

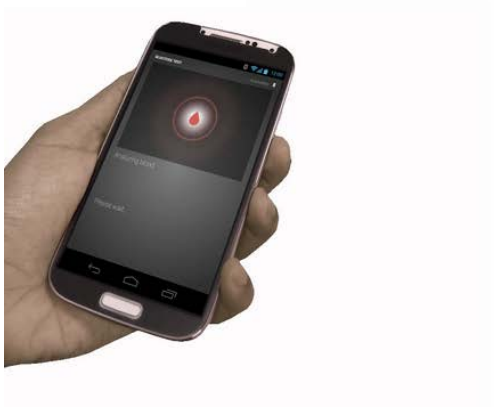
*Another Thought: analytics could be used to guide the **hiring** and **matching** of health coaches with patients.*

Precision medicine and behavioral health

THE ECONOMIC TIMES

Jana Care: Sidhant Jena's start-up develops lifestyle app to help manage 'diabesity'

Feb 23, 2014, 04.00AM IST



The Aina Device

A mobile diagnostic platform that measures the following parameters:

- Blood Glucose
- HbA1C
- Lipids-HDL,LDL,TrG
- Creatinine
- Haemoglobin

One device many uses

In-Patient Management (Hospitals)

Self Monitoring (Patients)

Screening (Health Workers)

Customer matching

Companies like Match.com and eHarmony.com use sophisticated algorithms factoring in stated preferences, behavioral patterns on their website and triangulation methods to find compatible matches. Similar methods have been used to match prospects to Agents in the sales process. Now this methodology is being used to match members to providers aiding in member satisfaction ratings and member retention.