

Enabling the “Data Driven Healthcare Enterprise” - Forecasting Customer Preferences for Medicare Advantage leveraging publicly available Medicare Data

Andy Dé | Senior Industry Director, Healthcare and Life Sciences, Tableau

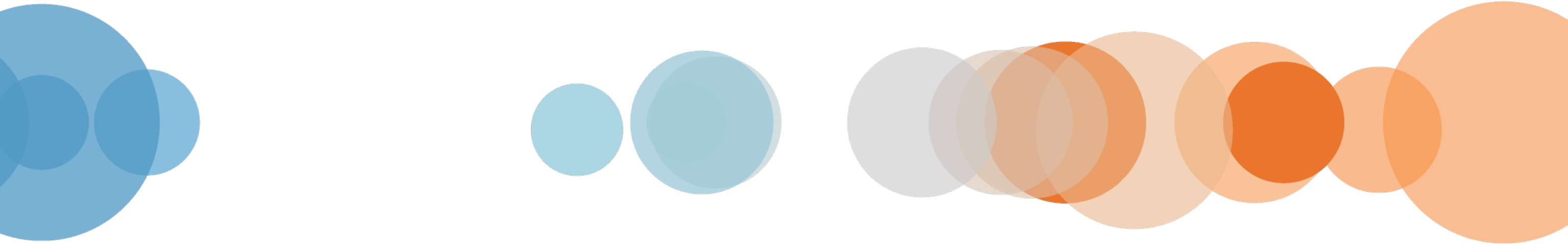
Arvind Nagpal | CEO and Founder, TEG Analytics LLC.

Agenda

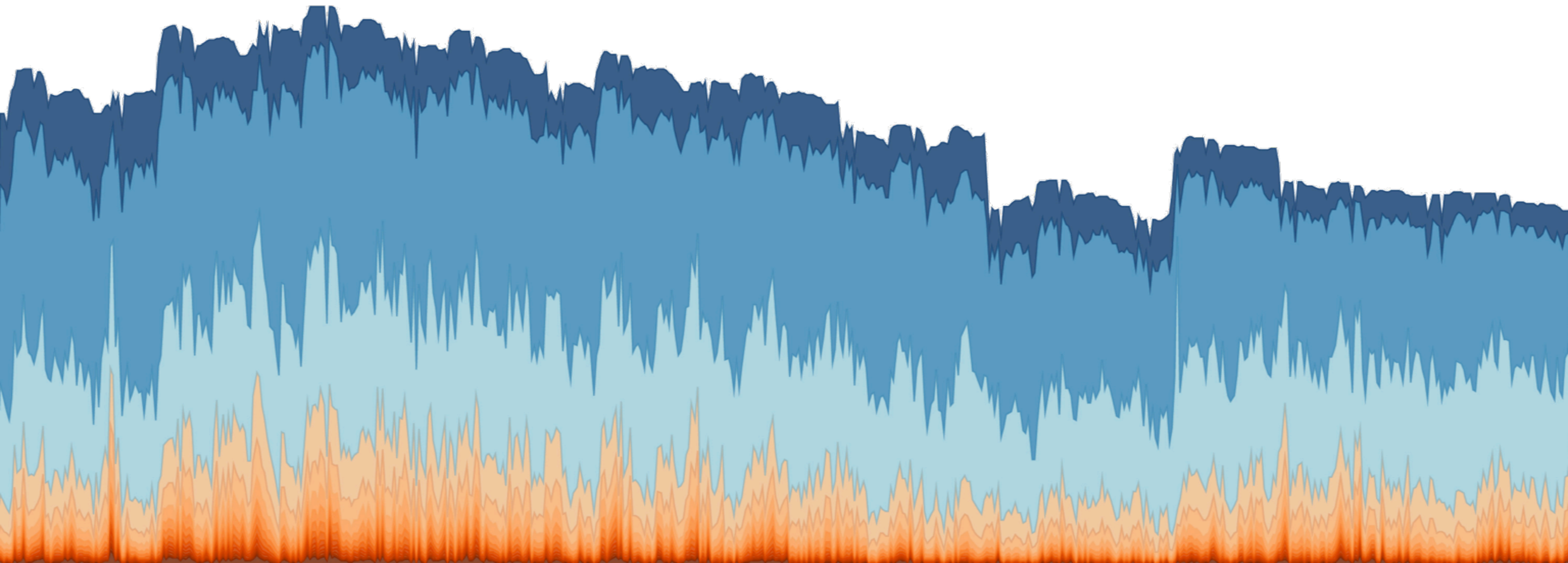
- Tableau – Mission, Vision and Impact
- Healthcare Trends and Implications from an Analytics perspective
- Why Self-Service Data Discovery and Visualization in Healthcare
- The US Medicare Landscape today and Payer challenges
- Powering ‘Medicare Advantage Enrolment’ thru Annual Election Planning (AEP) Strategy and Execution



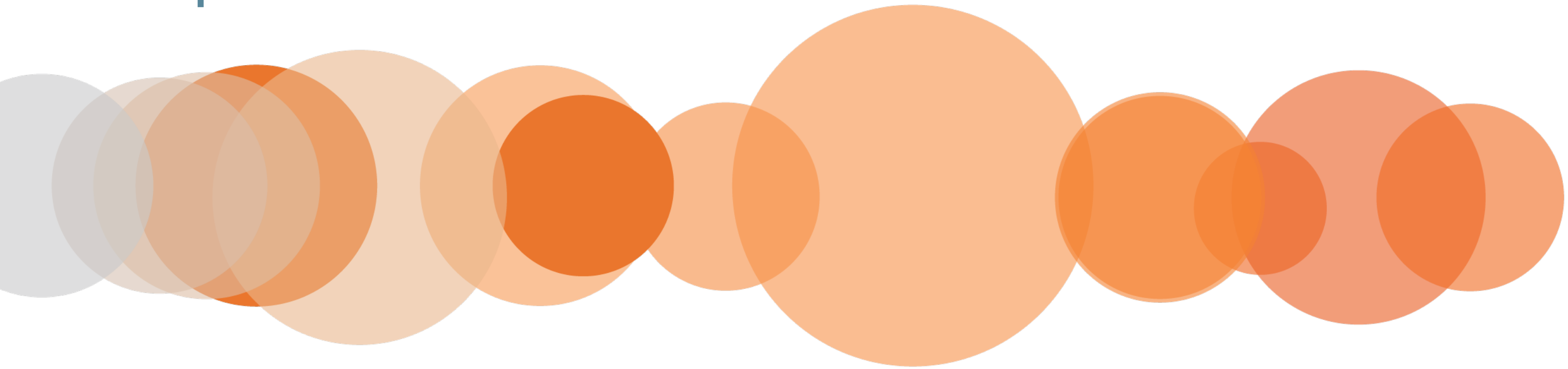
Tableau – Mission, Vision and Impact



Help people **see and**
understand their **data**



Healthcare Trends & Implications from an Analytics Perspective



Healthcare Trends in the US from an Analytics perspective



Improving Health Outcomes and Economic Value

- Focus on patients with chronic conditions to better manage care and reduce costs
- Reduce practice variation by utilizing analytics to identify best standards
- Collaborate with providers to define and measure outcomes and value



Adopting Big Data and M-Health Technologies

- Leverage mobile health technology data using predictive analytics
- Share data and technical expertise with providers to enable business capabilities
- Use analytics to manage population health and keep patients out of the hospital



Increasing Customer Centrality and Interaction

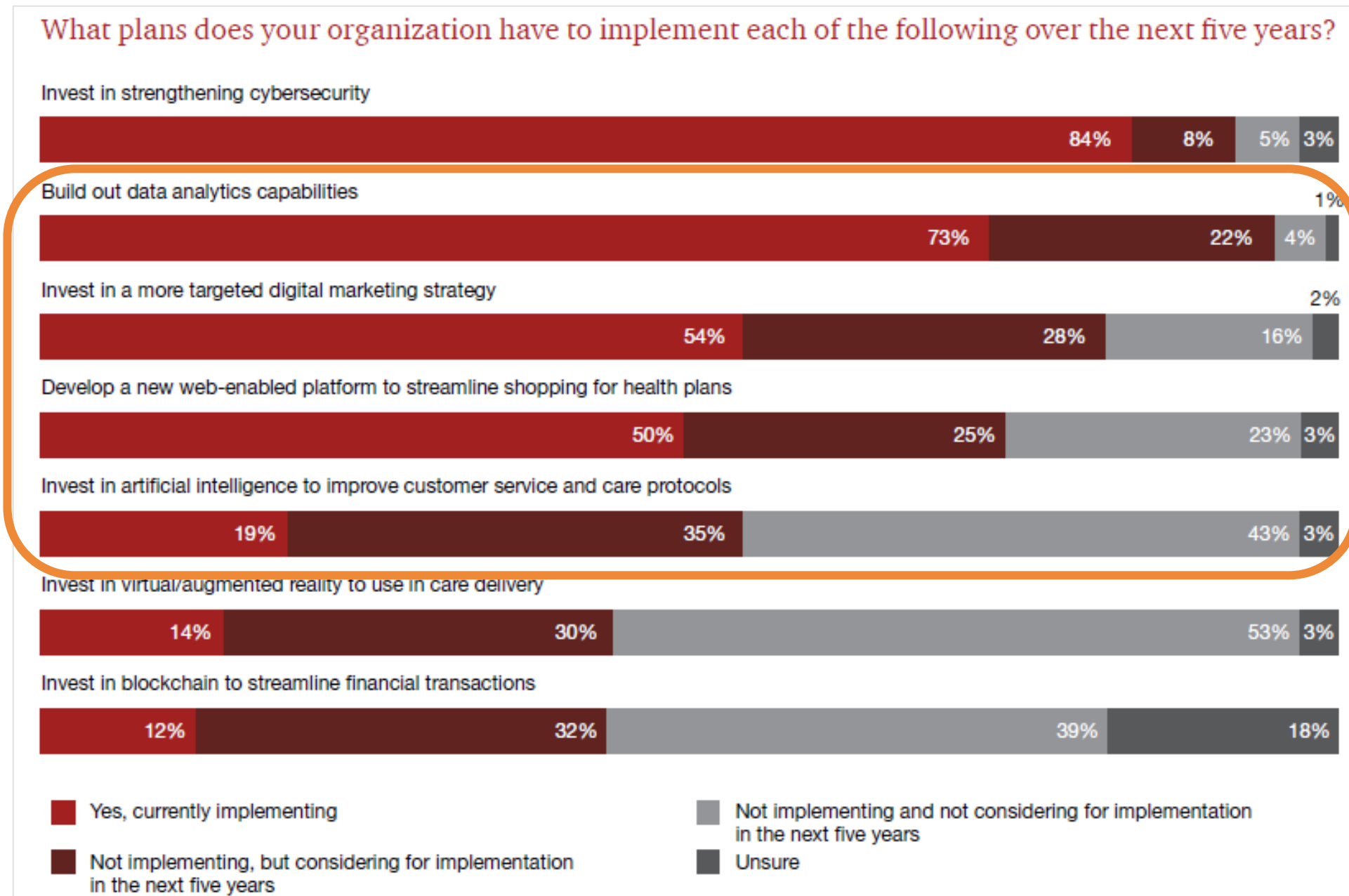
- Create an integrated customer view and enhance customer interactions
- Onboard and educate the high volume of new members from Medicare Advantage plans and healthcare exchanges
- Act on customer preferences and create an integrated customer experience



Responding to Political, Regulatory and Cost Pressures

- Analyze the impact of regulatory changes coming from political change
- Respond proactively to healthcare policy changes while improving results and profitability
- Improve payer operations including managing provider networks and reducing claims processing costs while managing compliance

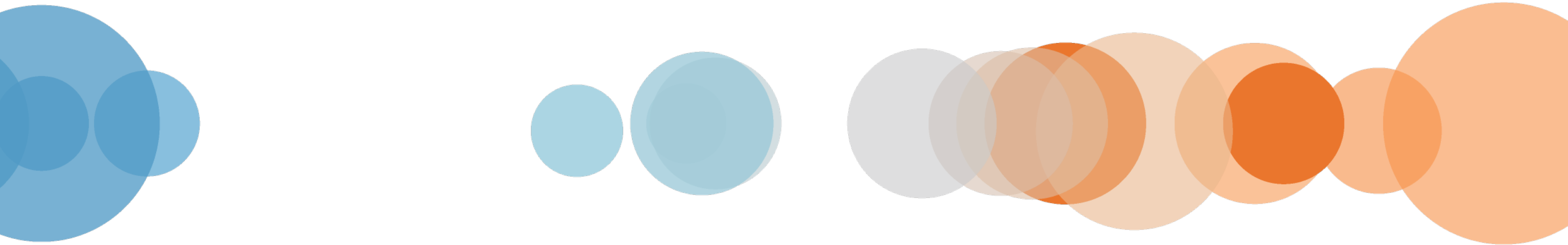
Healthcare Analytics key area of Investment for Payers...



Source: [PwC Health Research Institute health insurer executive survey 2016-2017](#)

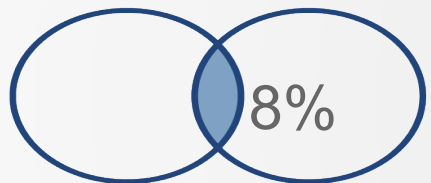


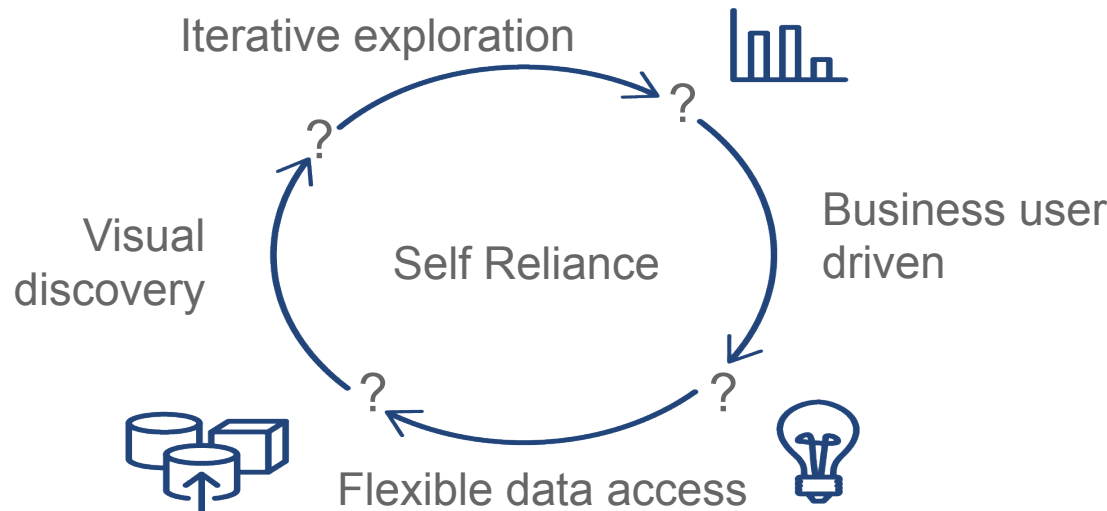
- Investments in Analytics is a key enabler of Healthcare Payer Strategic Initiatives
- Healthcare Analytics for Payers growing at a 27% CAGR from 2016 to 2021!

Why Self-Service Data Discovery and Visual Analytics in Healthcare



The Healthcare ‘Report Factory’

Is your organization ‘Opinions based’ or ‘Data and Insights Driven?’

Opinions Based		Data & Insights Driven	
Want		Want	
			
Speed to Opinion (weeks/months)		Speed to Insight (seconds/minutes)	

Evolution of Healthcare IT from 'The Report Factory' to the 'Data Driven Healthcare Enterprise'

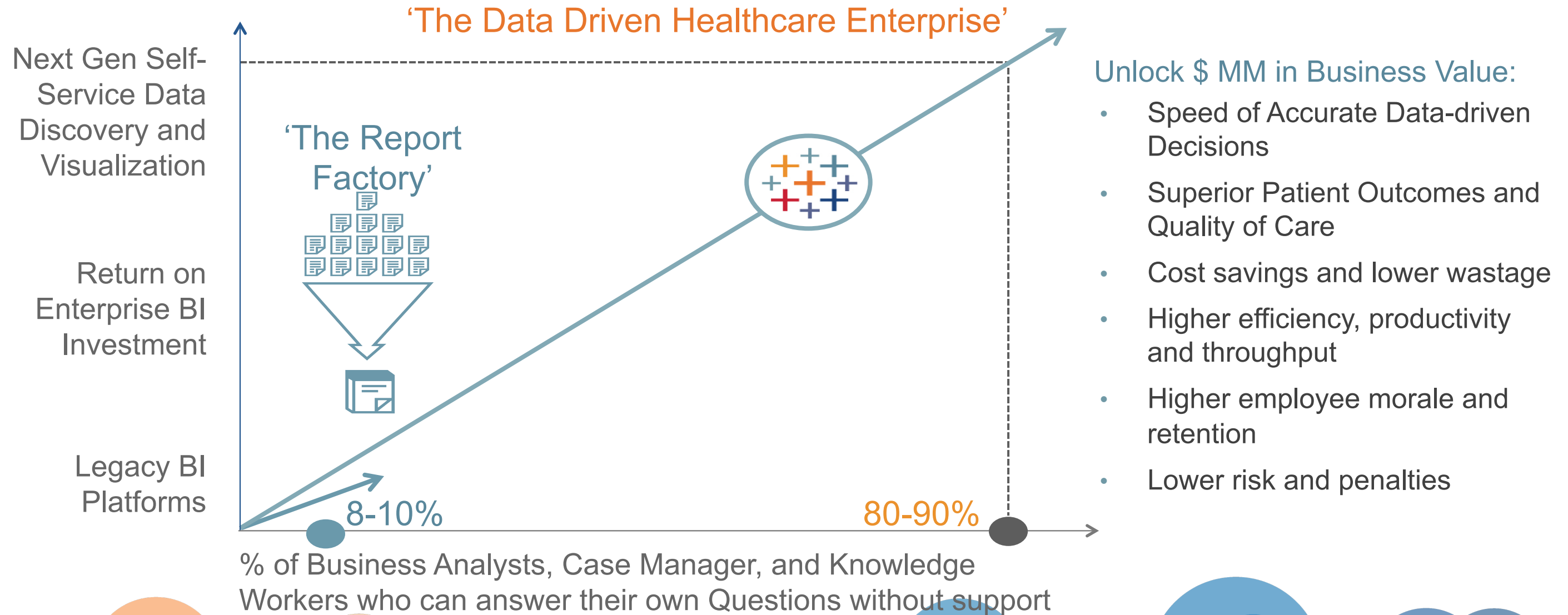
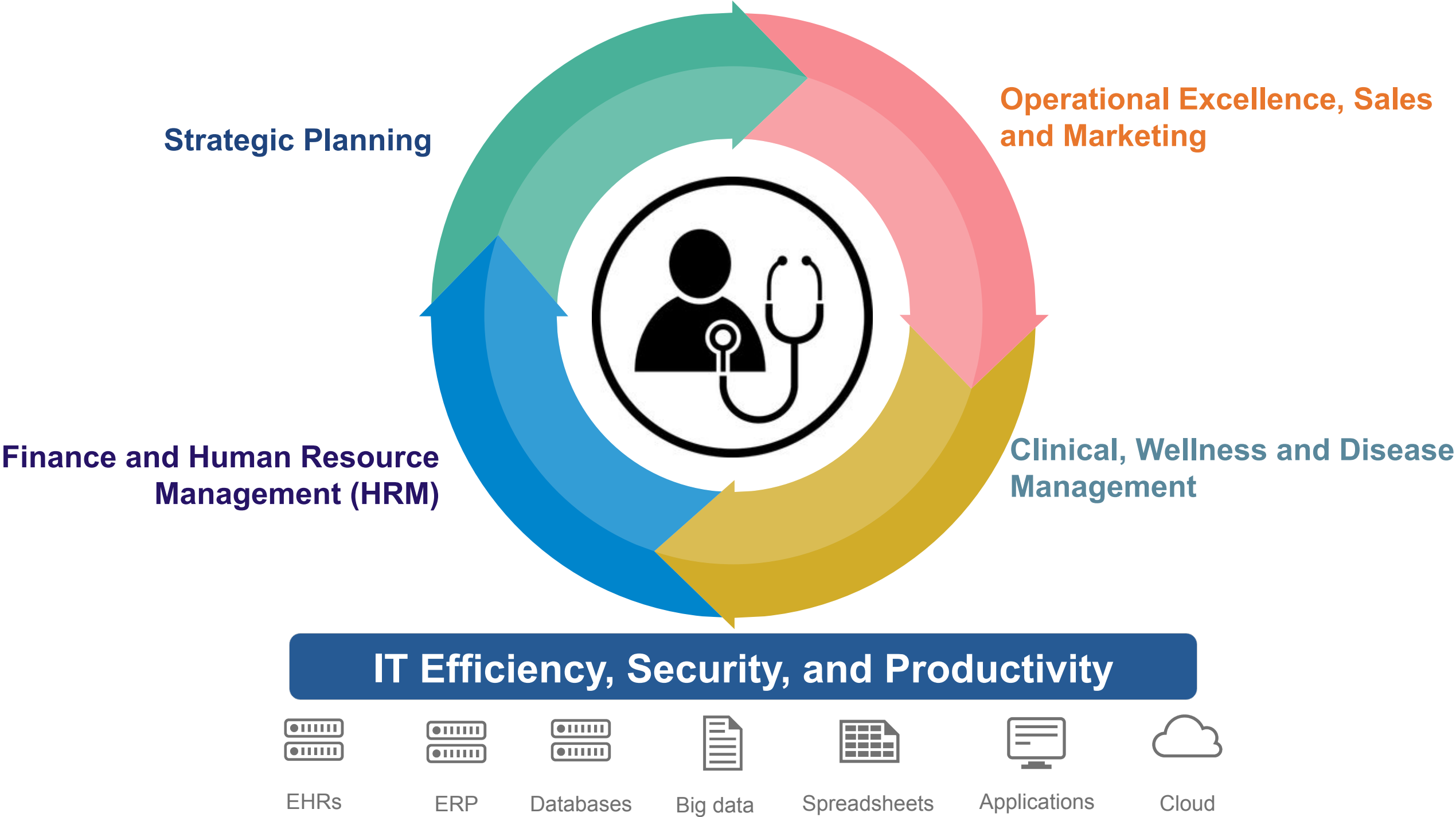


Tableau for Healthcare Payers – Enabling Measurable Value



Why Tableau for Healthcare Payers?

Tableau helps you see and understand your Healthcare data with visual analytics for superior clinical and business outcomes.

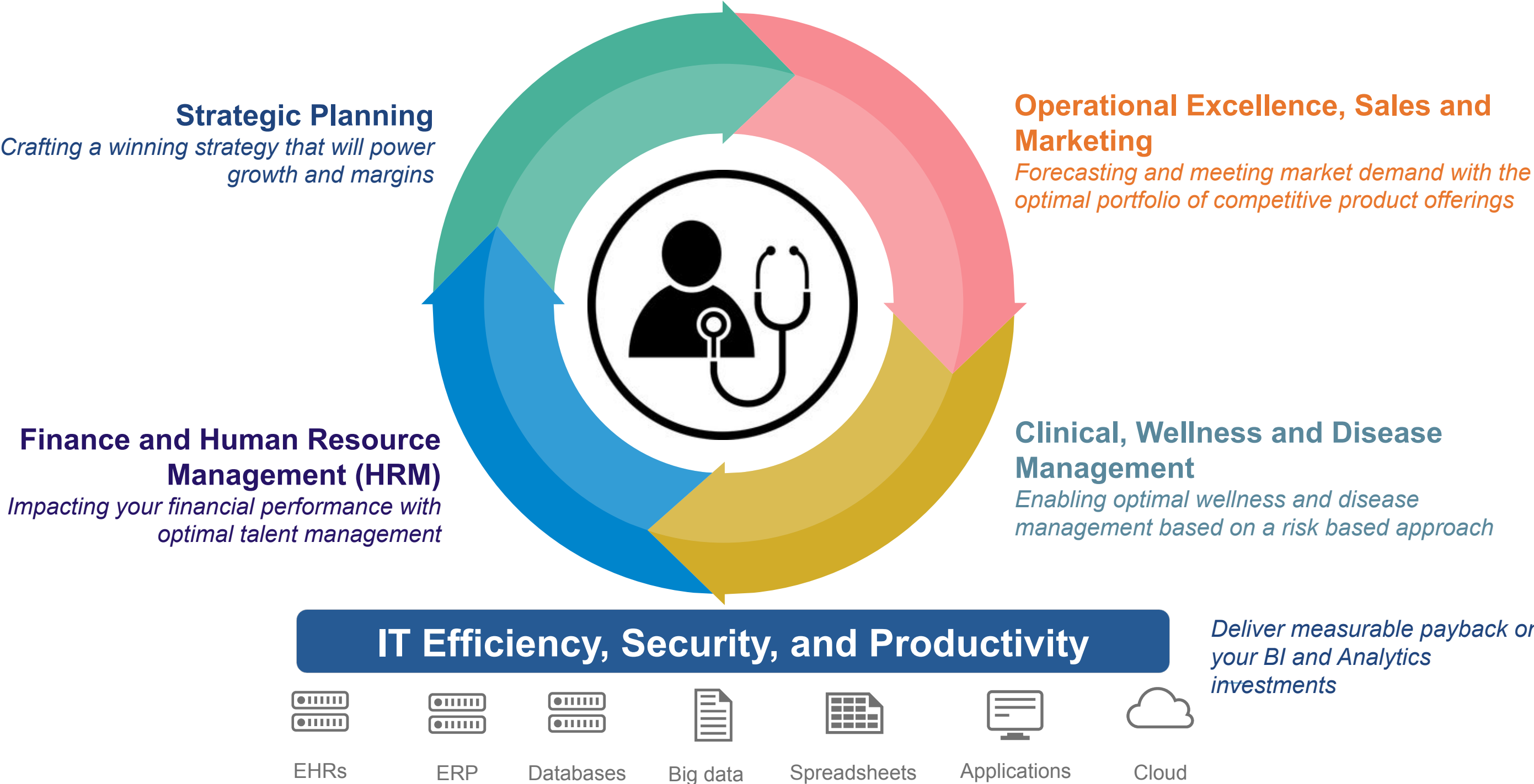


Tableau for Healthcare Payers – Enabling Measurable Value

Strategic Planning

- New Market Opportunity Identification
- Sales and Operations Planning (S&OP)
- Optimal Resources Allocation
 - Risk based approach to Claims Management

Finance and Human Resource Management (HRM)

- Planning, budgeting and forecasting
- Accounts receivable and collections
- Denials Management/ Claims Administration
 - Billing and contract management
- Pay-for-Performance Reporting and Analysis
 - Talent Management and Retention
 - Fraud, Waste and Abuse Detection

Operational Excellence, Sales and Marketing

- Segmentation and Targeting New Customers
- Demand Forecasting
- Lowering Costs of Customer Service thru Self-Service vs. Call Centers
- Sales Force Operations & Performance Management
- Operational Expense Analysis
- Benchmarking Performance against Peers and identifying Opportunities

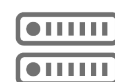
Clinical, Wellness and Disease Management

- Risk based Segmentation of Employees and Patients
- Population Risk Stratification
- Wellness and Disease Management for Chronic & High Risk Patients
- Evidence based medicine & outcomes analysis
- ACO & Population Health Metrics

IT Efficiency, Security, and Productivity



EHRs



ERP



Databases



Big data



Spreadsheets



Applications



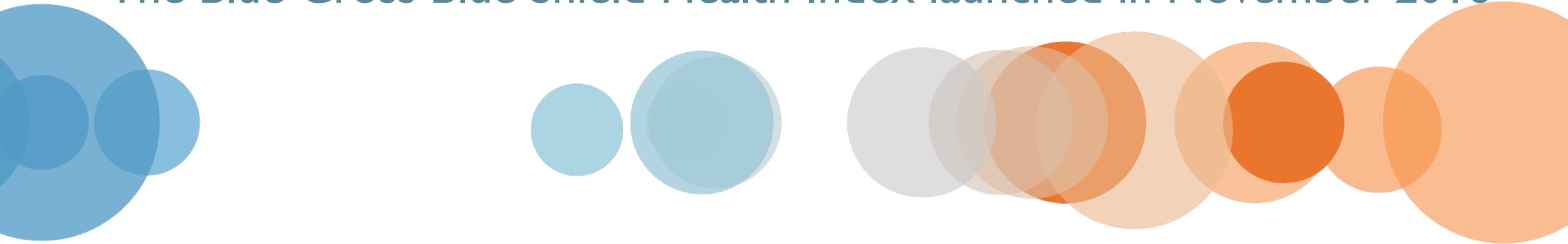
Cloud

- Minimizing the “Report Factory”
- Secure and Governed BI and Analytics
- Enable Healthcare Analytics across the Enterprise via a Center of Excellence (COE)



Blue Cross Blue Shield Association

The Blue Cross Blue Shield Health Index launched in November 2016



Blue Cross Blue Shield Association



The Blue Cross Blue Shield Health Index launched in November 2016

Background

The **Blue Cross Blue Shield Association** is a national association of 36 independent, community-based and locally operated Blue Cross Blue Shield companies.

- The Association owns and manages the Blue Cross and Blue Shield trademarks and names in more than **170 countries around the world.**
- The Association also grants licenses to independent companies to use the trademarks and names in exclusive geographic areas.

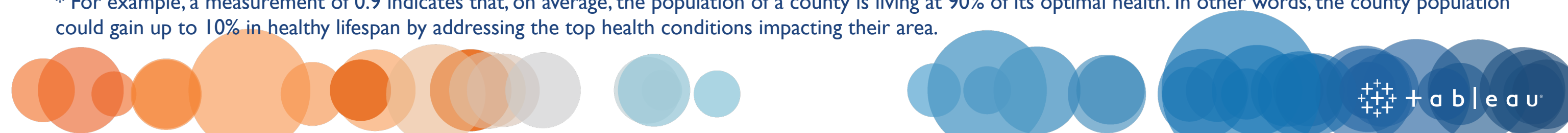
[Link to the BCBS National Health Index](#)

BCBS National Health Index powered by Tableau - Nov '16

The **Blue Cross Blue Shield Health IndexSM** is a unique metric of the **state of America's health** powered by **claims data from more than 40 million BCBS members**

- The BCBS Health Index measures the **impact of more than 200 common diseases** and conditions on **overall health and wellness**
- The Index assigns **each county in the United States a health metric between 0 and 1***, designating the proportion of optimal health reached by the county's population
- The **BCBS Health Index** finds 1) depression, anxiety and other mood disorders, 2) hypertension, 3) diabetes, 4) high cholesterol and 5) substance use disorders are the **top five conditions nationally, causing approximately 30 % of insured Americans' overall reduction in health**
- Correlation between **healthy people and a healthy economy** with **healthier counties** having **lower unemployment** and **higher incomes.**

* For example, a measurement of 0.9 indicates that, on average, the population of a county is living at 90% of its optimal health. In other words, the county population could gain up to 10% in healthy lifespan by addressing the top health conditions impacting their area.



The Blue Cross Blue Shield Health Index (1 of 4)



Blue Cross Blue Shield Health Index

State and County Views

Use filters below to select states and counties.

Select One or More States

(Multiple values)

Select One or More Counties

(All)

BCBS Health Index by Range

Less Healthy More Healthy

0.867 0.968

BCBS Health Index Legend

Less Healthy More Heal...

Top 5 National Conditions

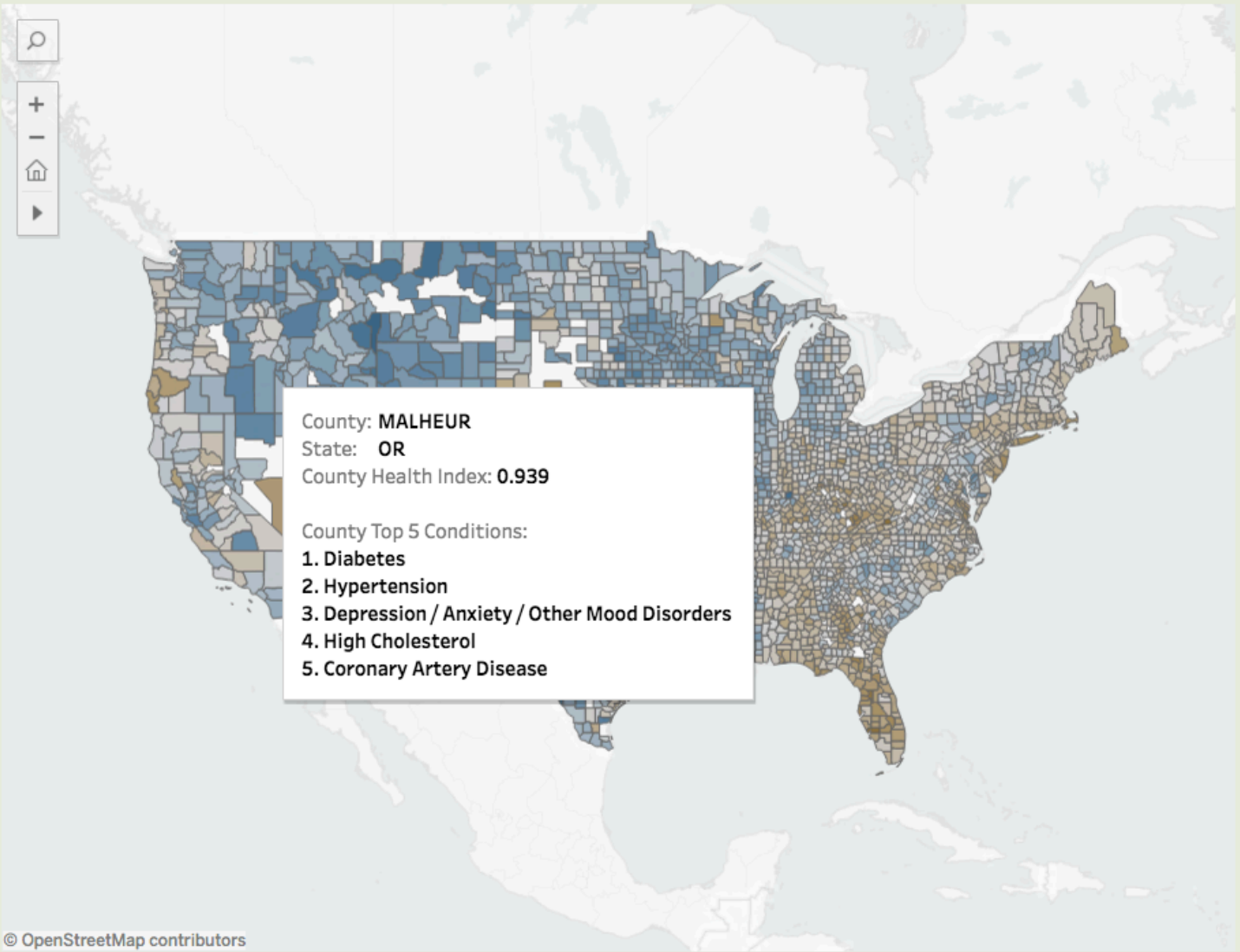
Select one of the conditions below to see its impact on U.S. counties.

Select One

SELECT

National Health Index: 0.924

Rollover or select counties on the map to see the health index and top five conditions.
Hold "control" button to select multiple counties.



County Health Index

State - County Health Index

AL-AUTAUGA	0.915
AL-BALDWIN	0.917
AL-BARBOUR	0.911
AL-BIBB	0.913
AL-BLOUNT	0.916
AL-BULLOCK	0.907
AL-BUTLER	0.914
AL-CALHOUN	0.899
AL-CHAMBERS	0.912
AL-CHEROKEE	0.913
AL-CHILTON	0.908
AL-CHOCTAW	0.924
AL-CLARKE	0.921
AL-CLAY	0.918
AL-CLEBURNE	0.907
AL-COFFEE	0.912
AL-COLBERT	0.910
AL-CONECUH	0.905
AL-COOSA	0.901
AL-COVINGTON	0.914
AL-CRENSHAW	0.910
AL-CULLMAN	0.914
AL-DALE	0.907
AL-DALLAS	0.900
AL-DE KALB	0.917
AL-ELMORE	0.909
AL-ESCAMBIA	0.913
AL-ETOWAH	0.906
AL-FAYETTE	0.909
AL-FRANKLIN	0.915
AL-GENEVA	0.913

Global Health Index across the Nation, identifying top 5 conditions by county.

Based on 40 MM claims data aggregated from Blue Cross Blue Shield customers across the country.

The Blue Cross Blue Shield Health Index (2 of 4)



National Condition Impacts by County

Diabetes Impact on U.S. Counties

Top 5 National Conditions

Select one of the conditions below to see its impact on U.S. counties.

Diabetes

State and County Views

Use filters below to select states and counties.

Select One or More States

(Multiple values)

Select One or More Counties

(All)

Condition Impact by County Legend

Less Impact

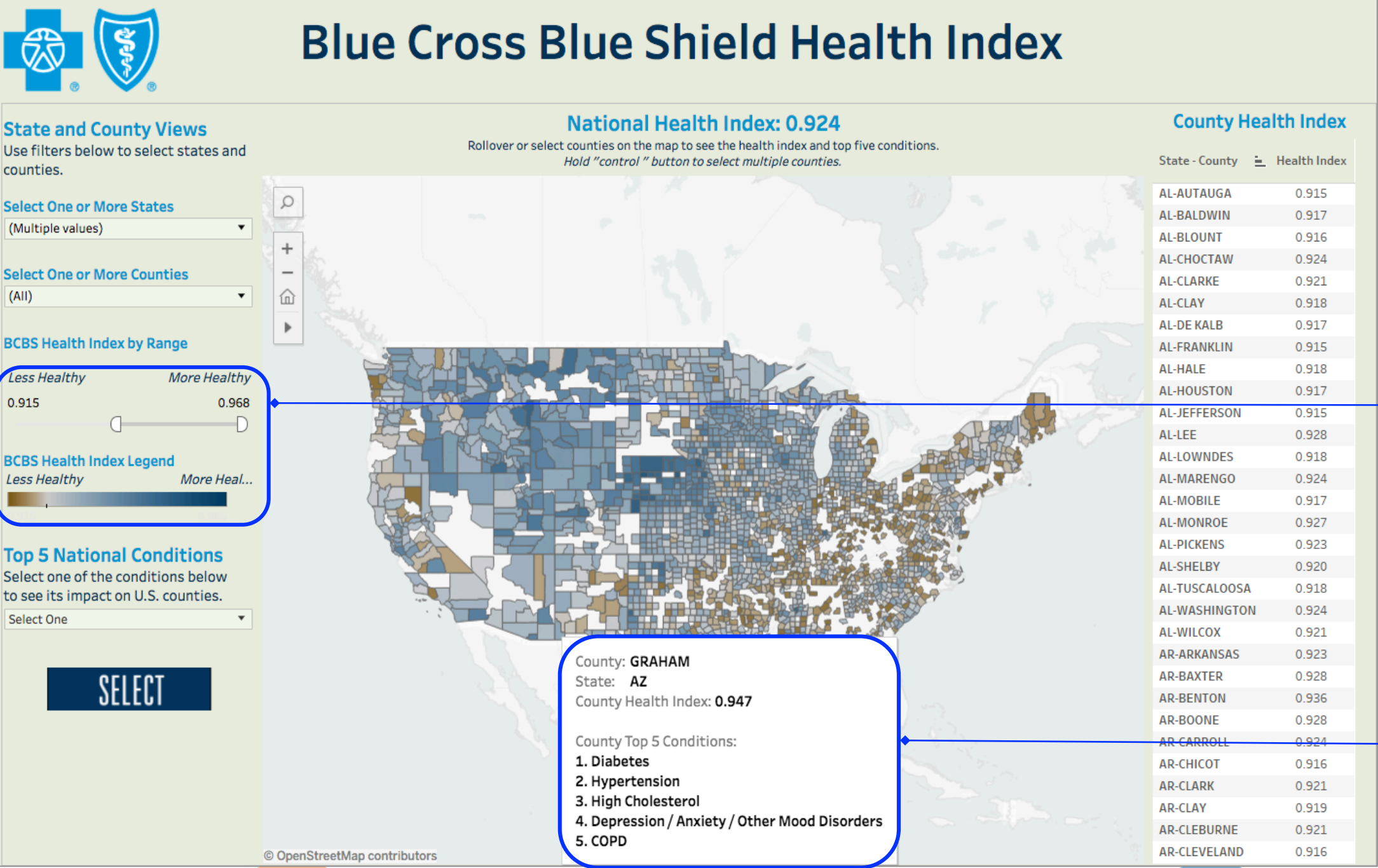
More Impact

BACK

© OpenStreetMap contributors

Filter down to see a 'top 5 condition' (e.g. Diabetes) and understand its impact across the nation at a county by county level, and across states.

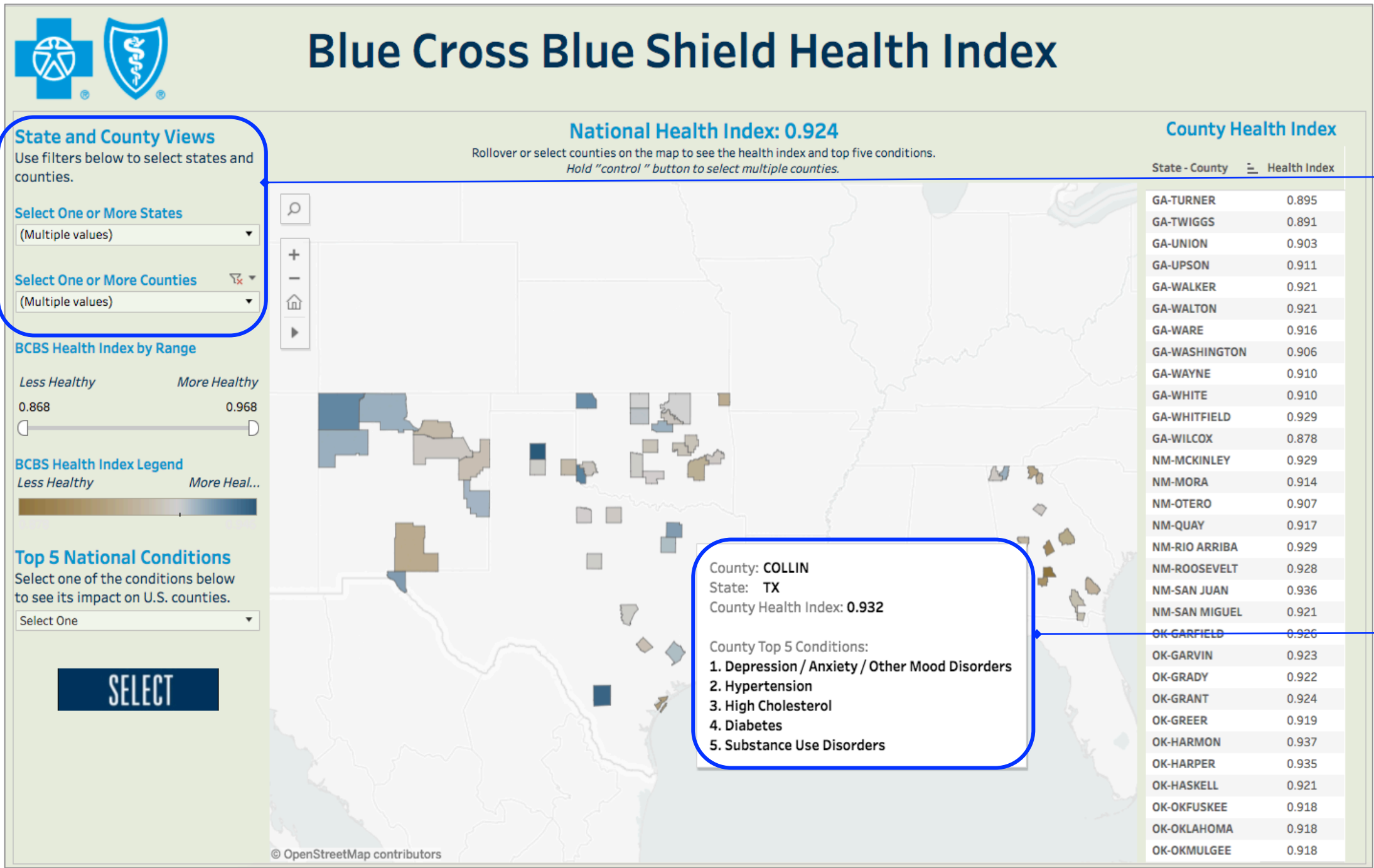
The Blue Cross Blue Shield Health Index (3 of 4)



Filter the global data based on Health Index – from less healthy to more healthy

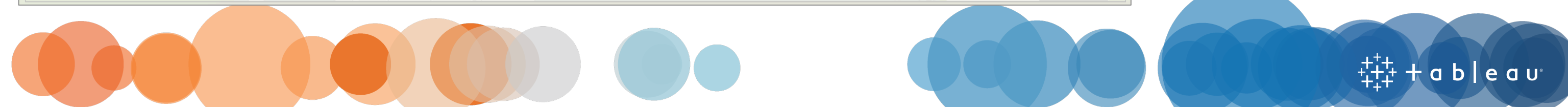
Filter down to a county level identifying top 5 health conditions afflicting that patient population

The Blue Cross Blue Shield Health Index (4 of 4)



Filter and query health indices by specific counties in specific states of interest

Identify top 5 health conditions in any county afflicting that patient population.



The Blue Cross Blue Shield Health Index

Potential Benefits

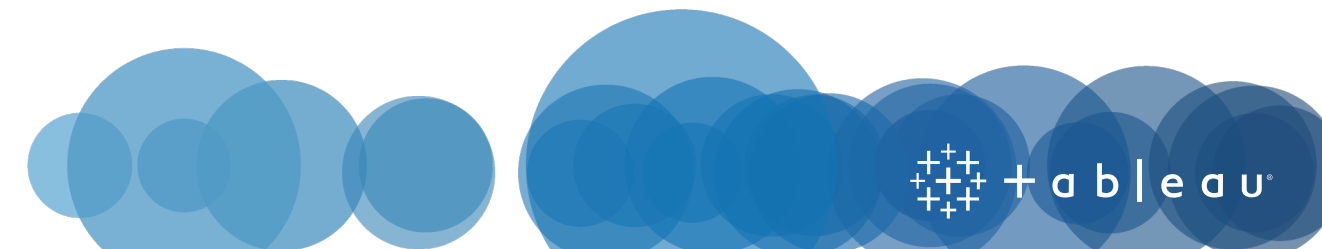
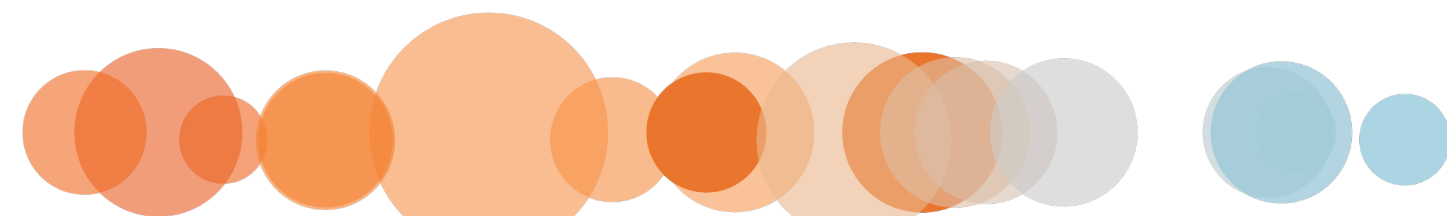
Potential Benefits for Healthcare Providers

- Leverage data from the Health Index at a county level for **population health segmentation** based on the top 5 conditions
- Proactively identify the counties with the highest gaps and risks to drive **market opportunity analysis and population health management strategy**
- **Target the counties with the highest gaps for wellness campaigns** to address diabetes, hypertension, high cholesterol etc.
- **Measure the impact of your population health management programs** on a before and after basis against the Health Index

Potential Benefits for Life Sciences companies**

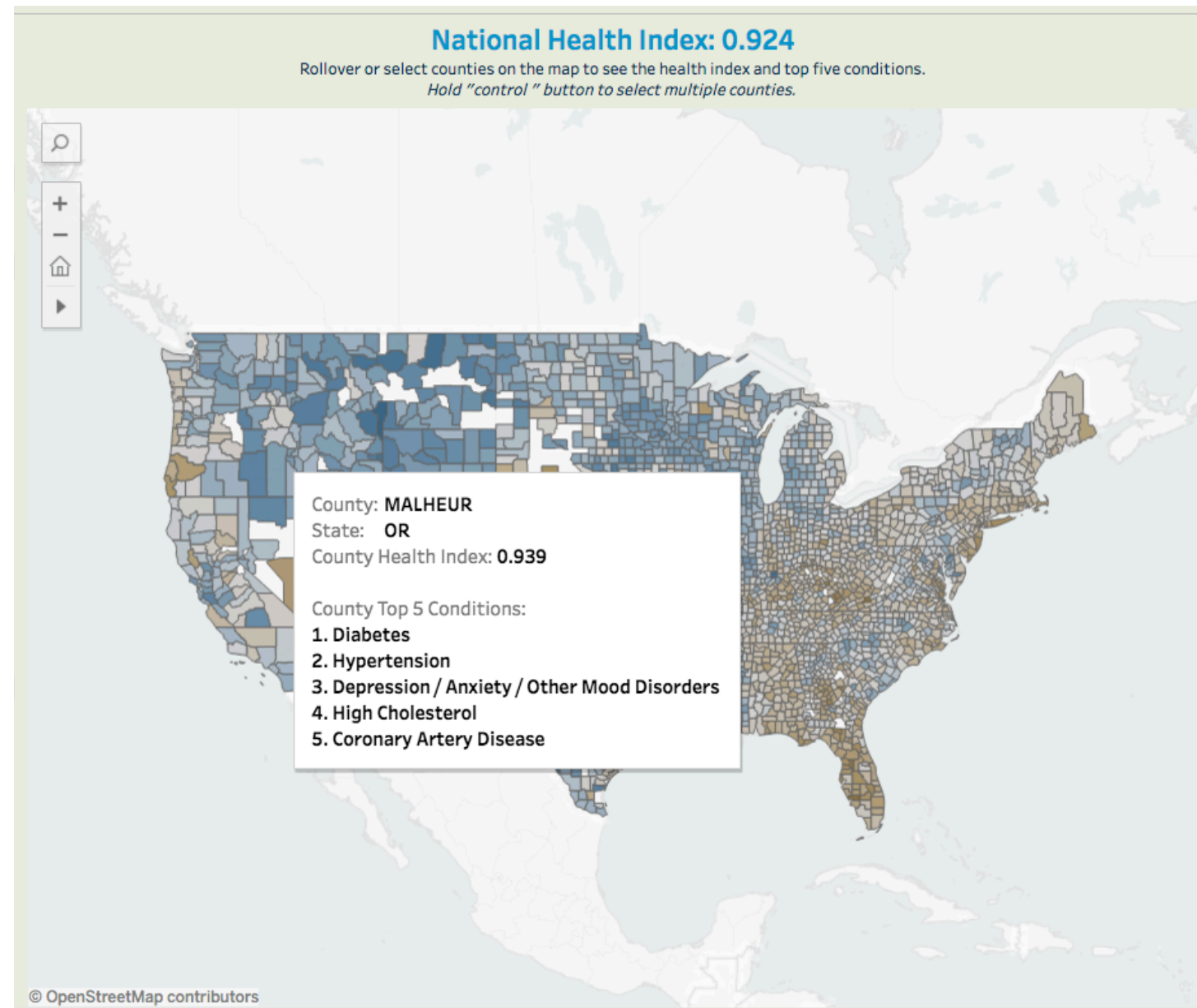
- Proactively segment and target the most impacted counties and states to **recruit patients for clinical trials for new drugs and devices**
- Identify states and counties most in need of your drugs and devices to drive **sales and operations planning (S&OP), integrated sales and marketing strategies+ plans, sales force territory planning and deployment**
- Identify areas with the greatest demand for your products to inform your **supply chain + distribution strategy and planning**

**Life Sciences companies – Pharmaceuticals and Medical Devices



The Blue Cross Blue Shield Health Index

Potential Benefits

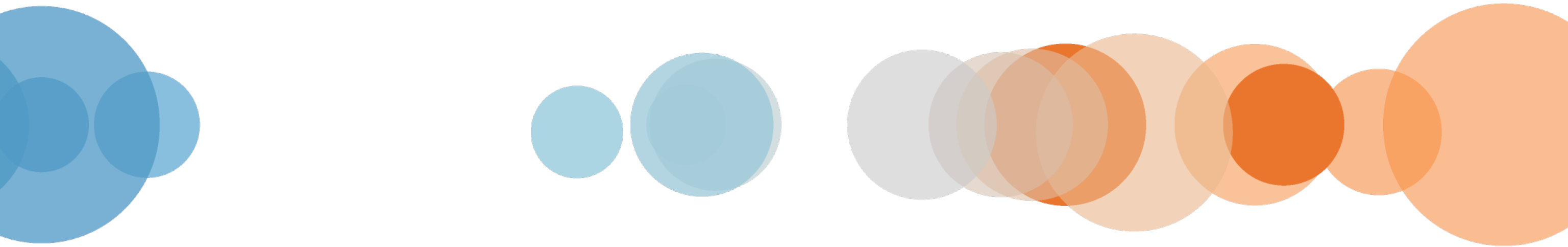


“Blue Cross and Blue Shield companies are committed to transforming our healthcare system and the health of our nation through actionable data.

This Health Index uses the breadth and depth of BCBS data to bring critical health insights to policymakers, community leaders, business leaders and healthcare professionals, helping them further focus efforts to improve their communities’ health.”

***Scott Serota**, President and CEO for the Blue Cross Blue Shield Association (BCBSA).*

Forecasting Customer Preferences for Medicare Advantage leveraging publicly available Medicare Data



US Medicare Landscape

57.8 M

Medicare Beneficiaries
(as of 2017)



20.0 M

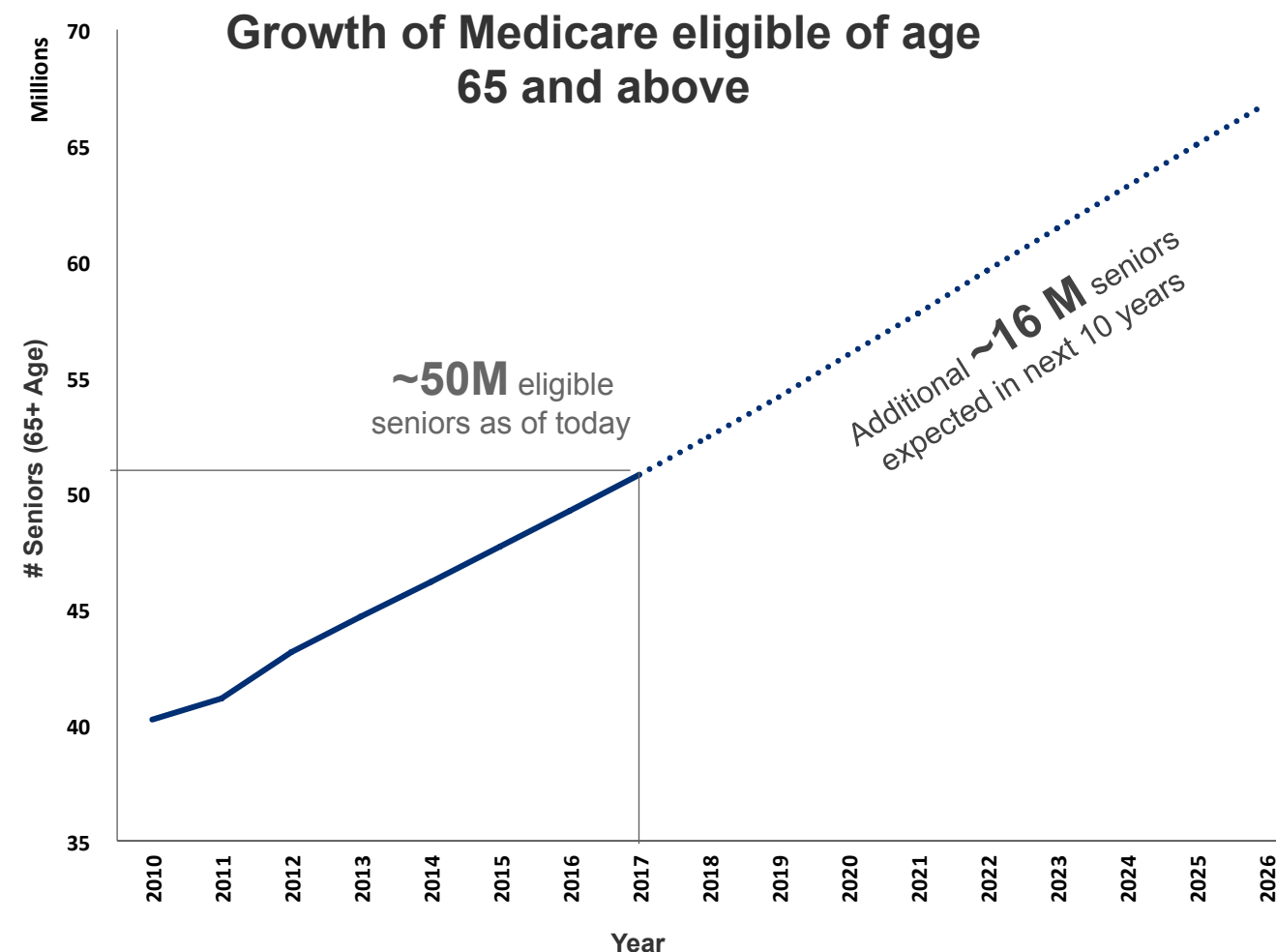
Medicare Advantage
(as of 2017)

12.6 M

Medicare Supplement
(as of 2016)

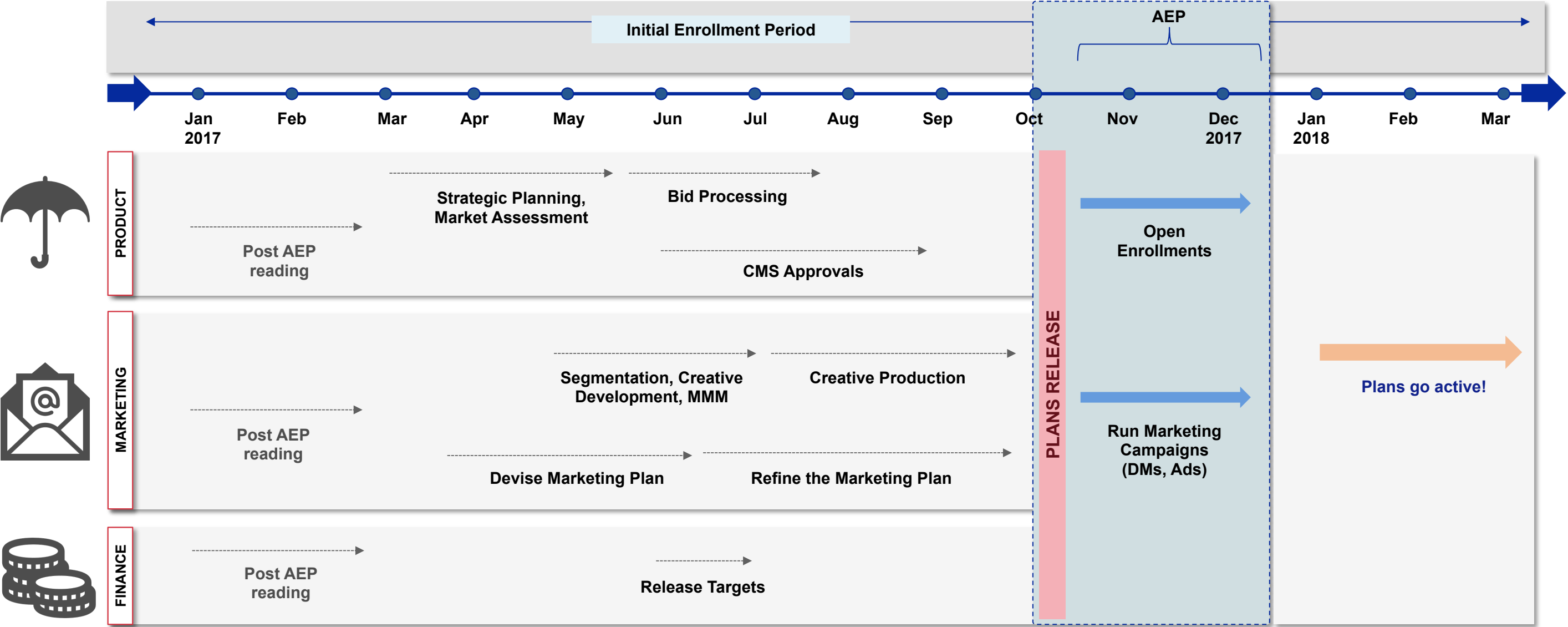
25.1 M

PDP (Stand Alone)
(as of 2017)

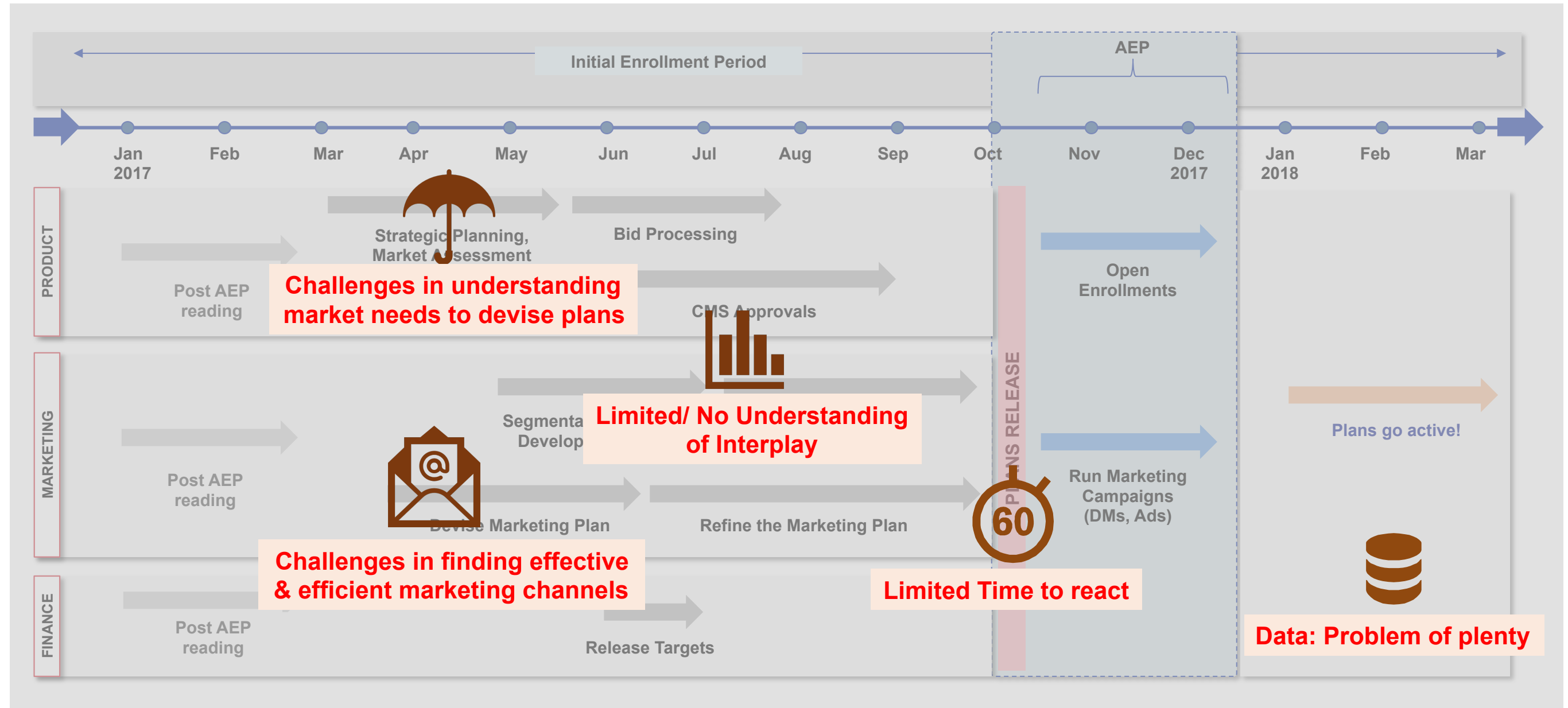


Source: census.gov & cms.gov

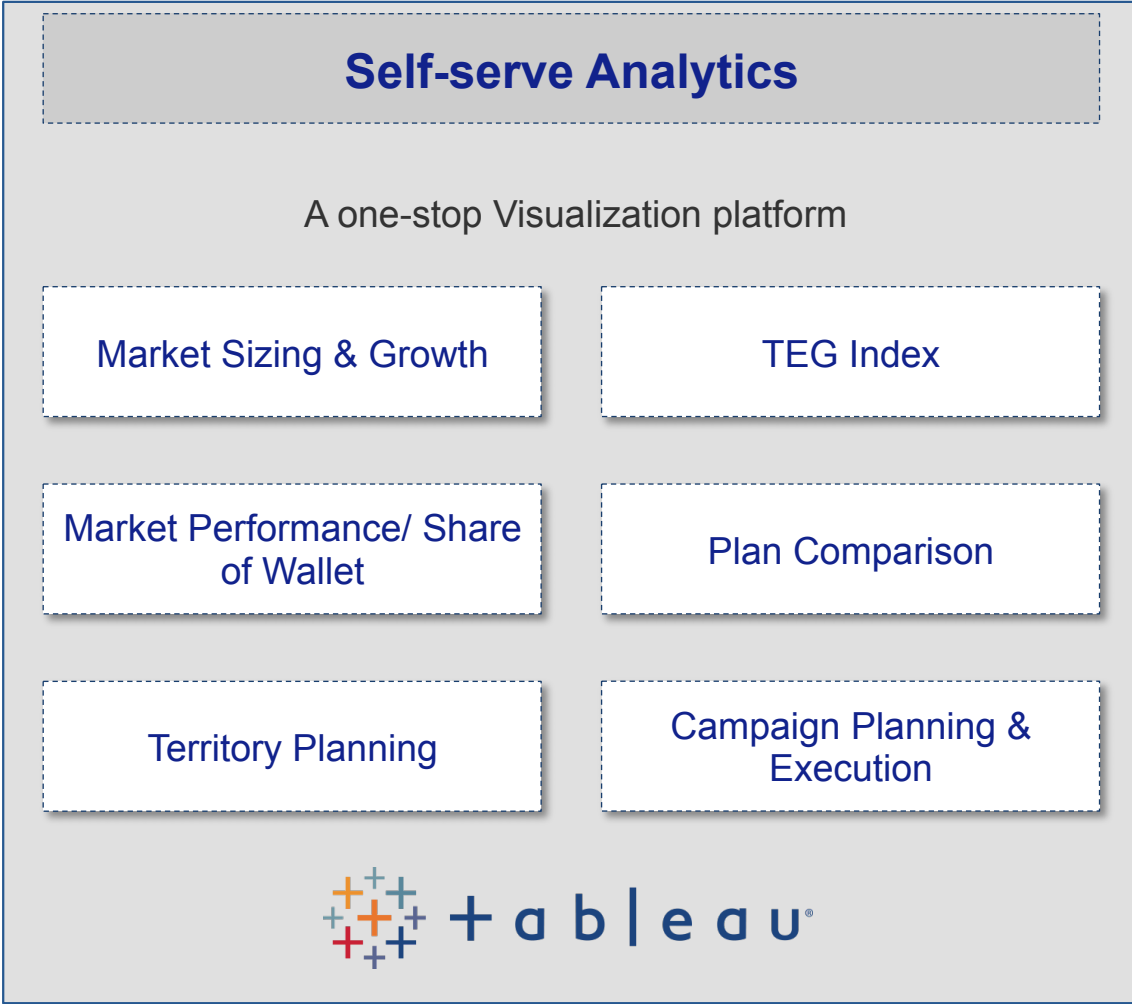
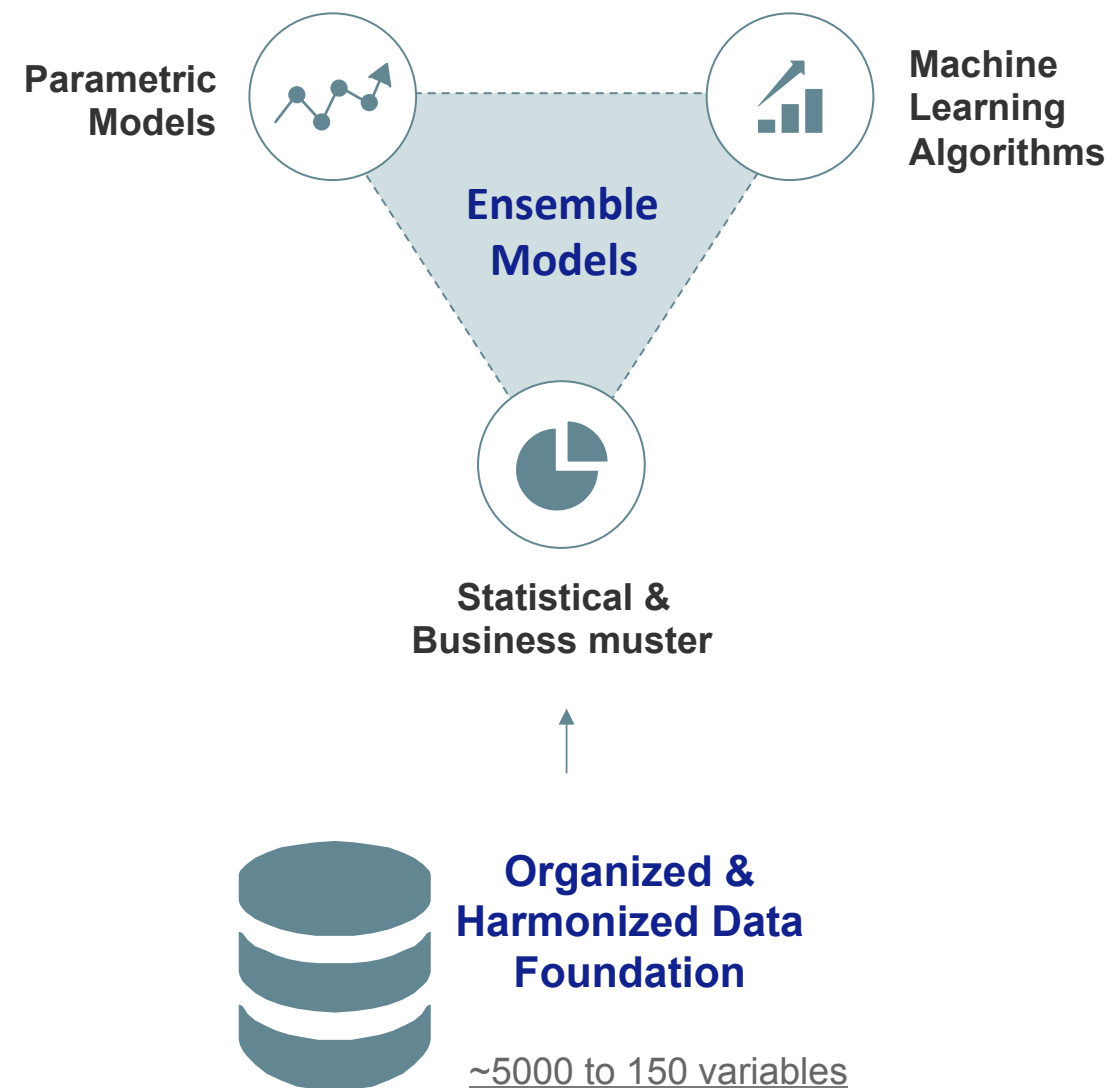
Medicare Advantage Enrollment



Healthcare Payers' Challenges



TEG HealthWorks™ – a Self-Service Analytics Platform



60 Insights in 5 Business Days

Quick facts on Medicare Datasets

Medicare datasets can be categorized in two ways..

Based on Levels of Restriction

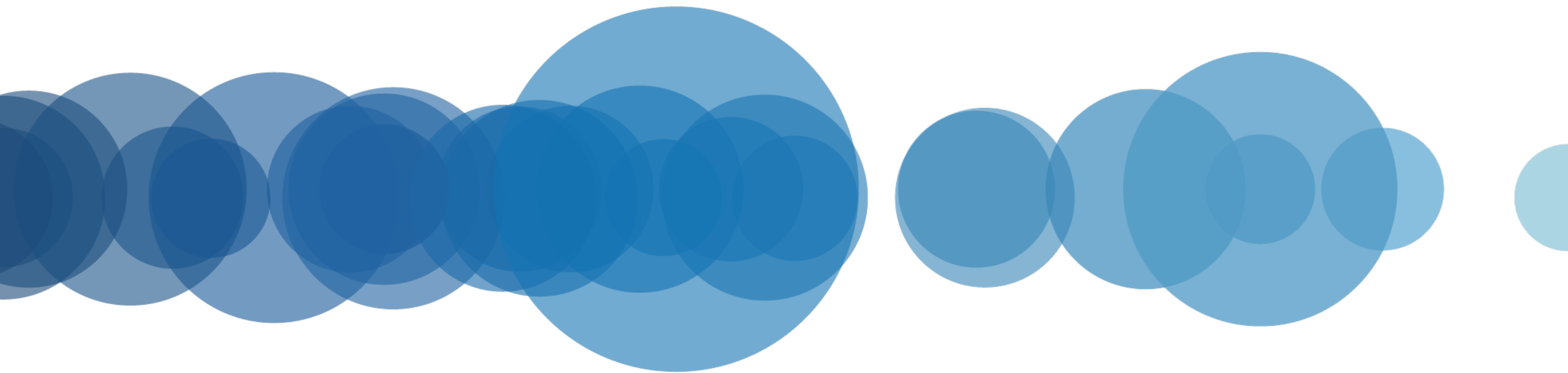
Public Use Files (PUFs)	Aggregate level information on Medicare Beneficiary or Provider Utilization
Limited Data Sets (LDS)	Beneficiary level protected information with confidential identifiers removed
Research Identifiable Files (RIFs)	Beneficiary level protected health information (PHI); Requires Data User Agreement (DUA), CMS's Privacy Board Review

Based on Functional Use

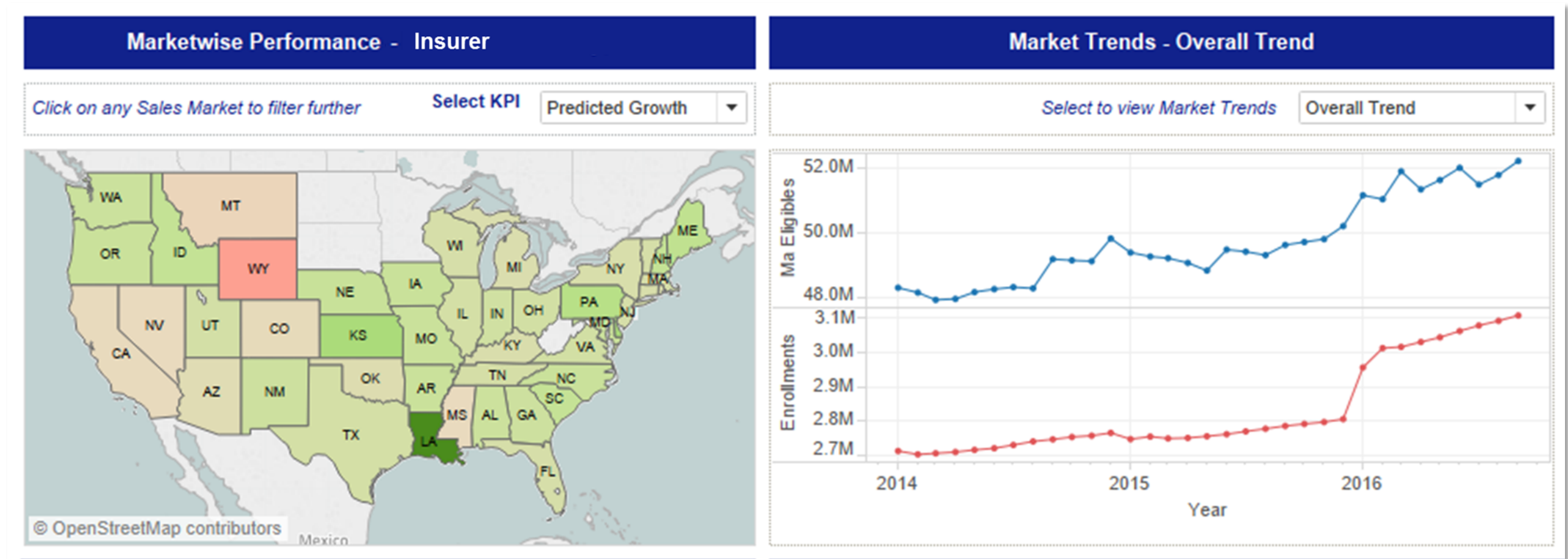
Market Penetration	Historical files since 1997.. For all the counties & States	Beneficiary Info	Historical files since 1999..	Part D files	Historical files since 2006..
Enrollment	Historical files since 2006.. ~30M records every year	Provider Info	Historical files since 1999~	Part B files	Historical files since 2000..
Plans	Historical files since 2001.. ~5000 raw variables across landscape, premium & benefit files	Health Survey Data	Historical files since 1998..	Geographic Variation files	Historical files since 2006..
Claims	Historical files since 1999	Benefit Information	Historical files since 1998..	Other files	Historical files..

Healthcare Payer Use Cases

Demo – Market Preferences

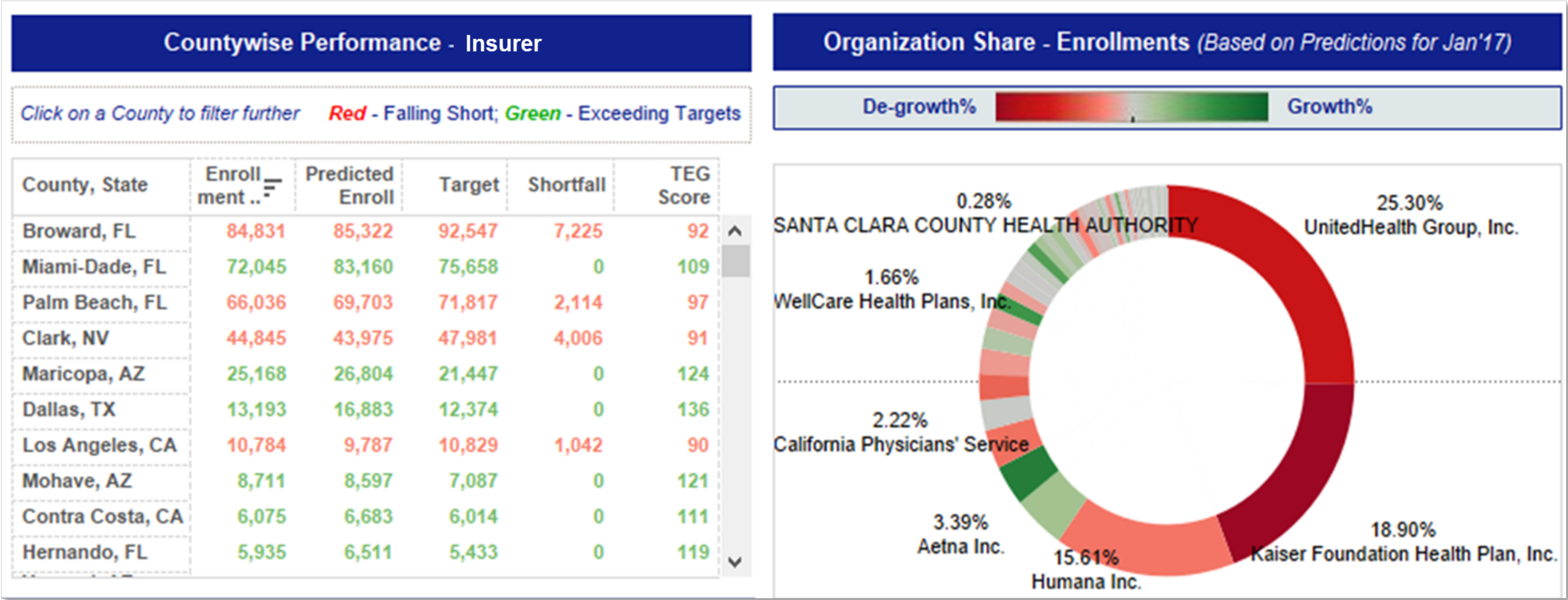


Use Case: Understanding Market trends and potential



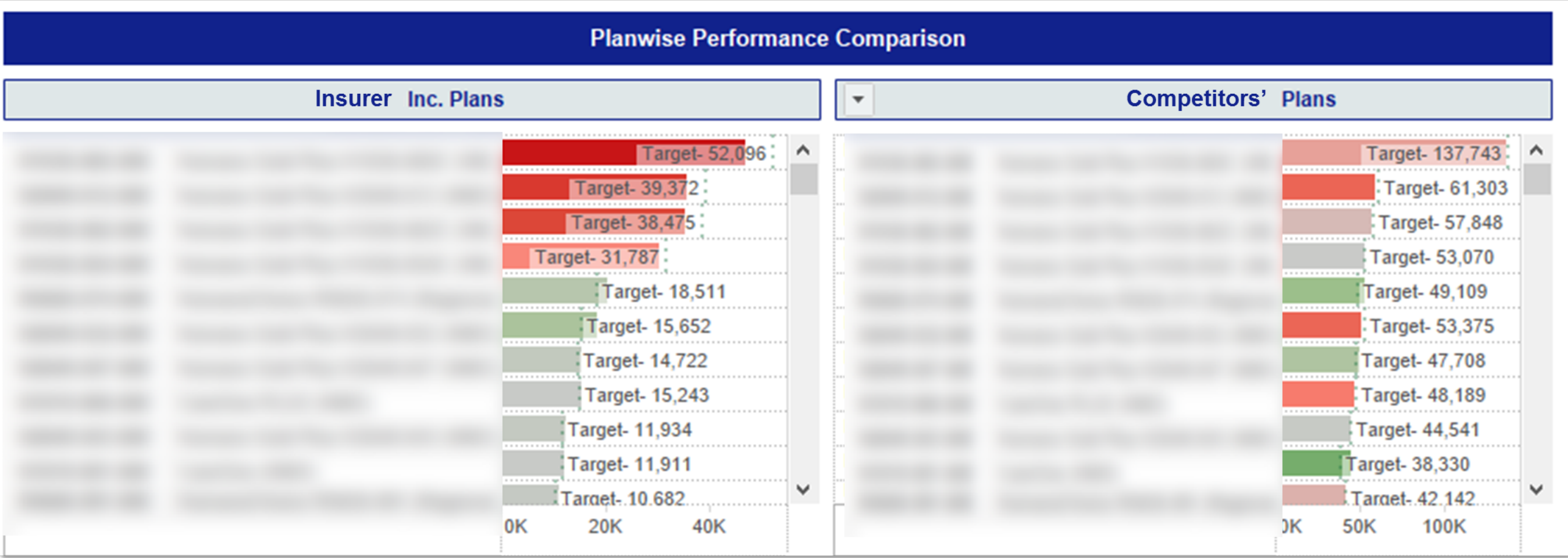
- **Market Growth & Sizing** – Provides an ability to look at a market's growth in enrollments, eligible population and penetration
- **Market Performance** – Provides an ability to look at own or competitor's past trends, projected AEP growth trends

Use Case: Evaluate products’ potential against the targets



- **TEG Index** – Evaluate products’ potential at a county level and identify markets that require attention (where a shortfall is expected); Identify potential competition and the likelihood movement of own/ competitor’s market share

Use Case: Evaluate product's potential against competition



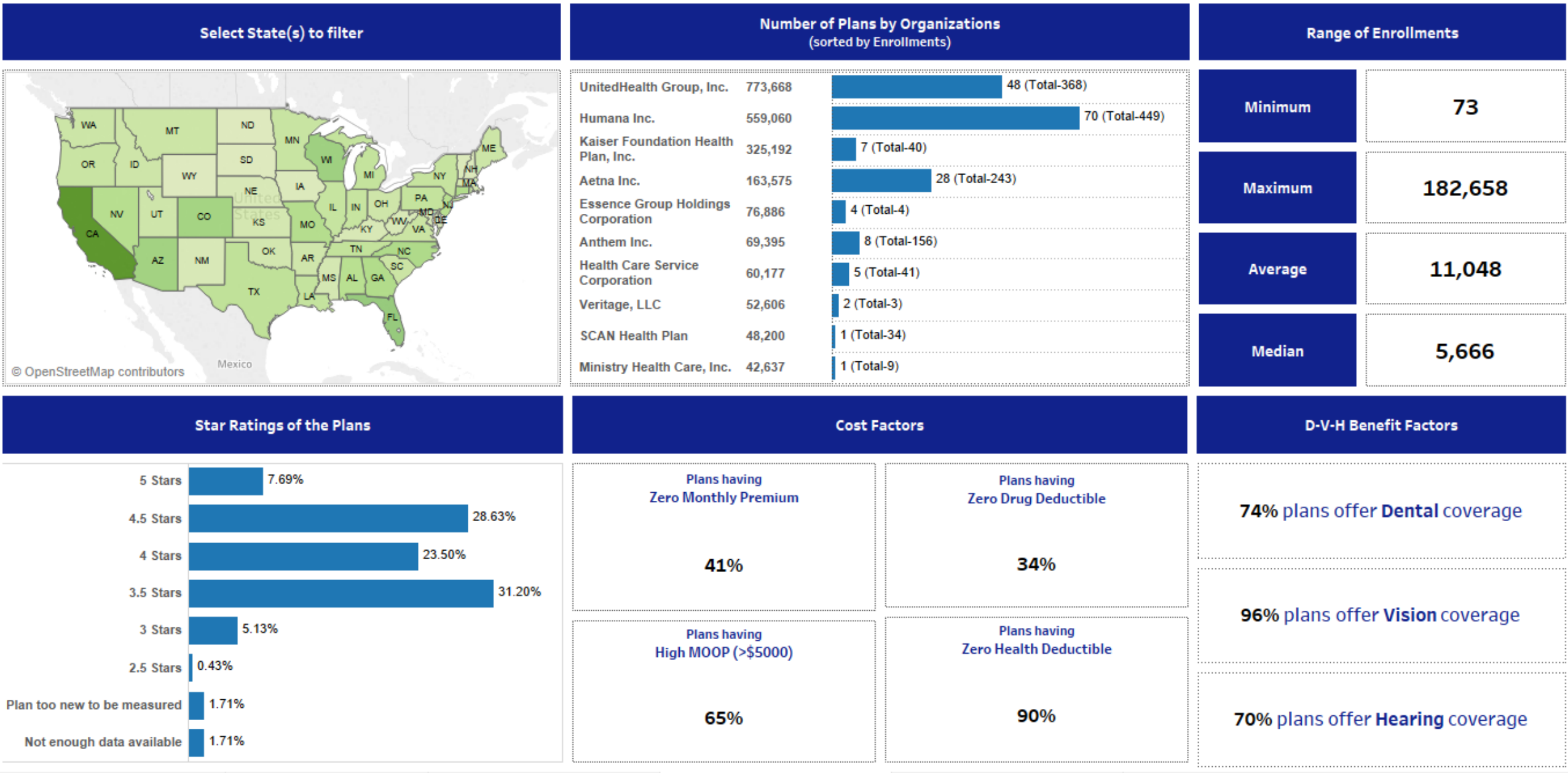
- **Plan Comparison** – Identify similar competitive plans in the market; Analyze own plans' potential against competitive plans

Use Case: Compare & Contrast plans

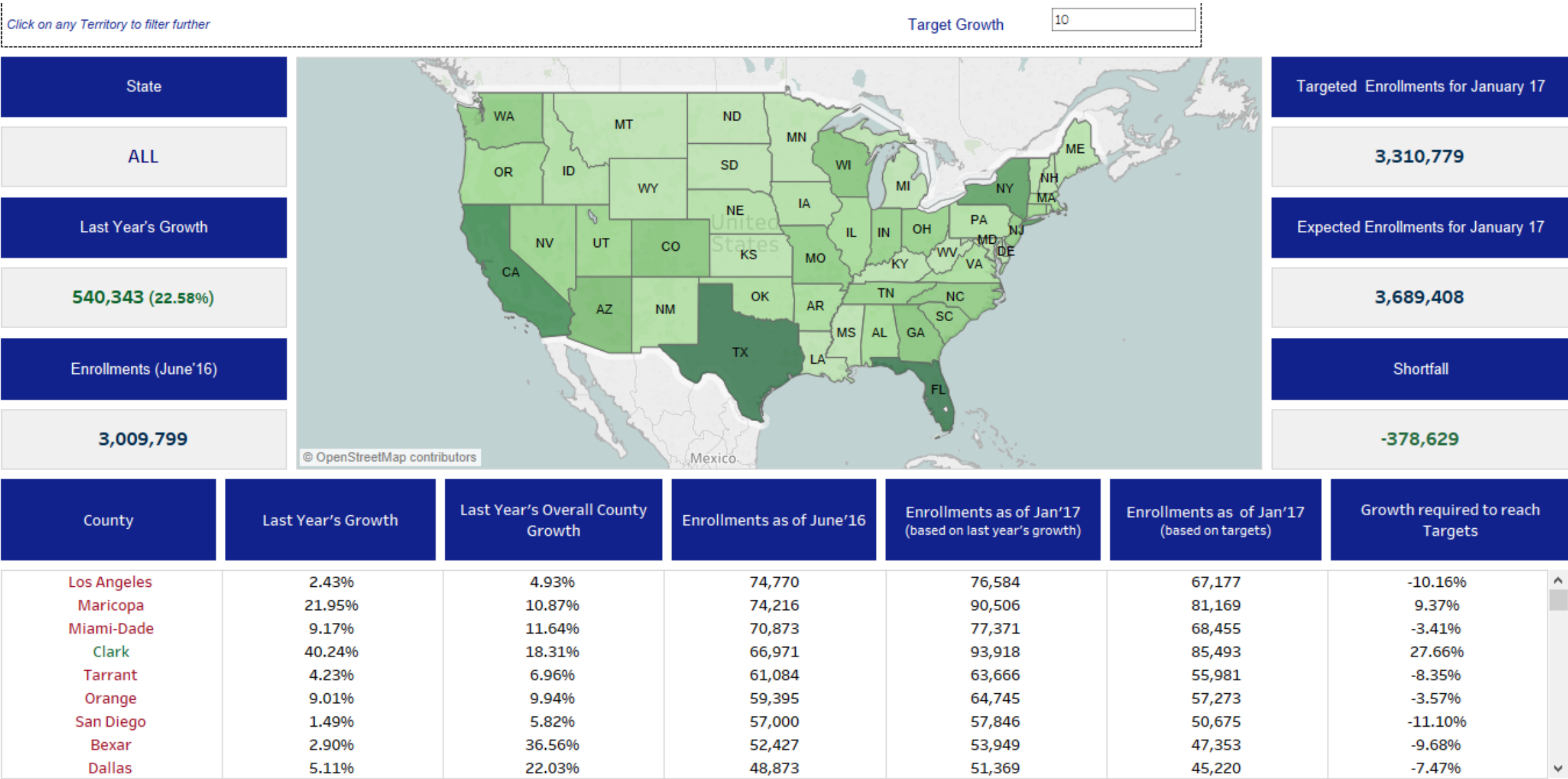
Cost Information	Annual Estimated Costs	Not Applicable	Not Applicable	Not Applicable
	Monthly Premium	\$ 0	\$ 65	\$ 0
	Annual Drug Deductible	\$ 250	\$ 200	\$ 290
	Annual Health Deductible	\$ 1000	\$ 0	\$ 0
	Max. Out of Pocket Enrollee Responsibility	\$ 6700 in network	\$ 6700 in network	\$ 6700 in network
	Ambulance	\$300	\$225	\$250
	Doctor Visit - Primary Physician	\$10 per visit	\$15 per visit	\$10 per visit
	Doctor Visit - Specialist	\$40 per visit	\$50 per visit	\$45 per visit
	Durable Medical Equipment	20% per item	20% per item	20% per item
	Emergency Care	\$75 per visit (always covered)	\$75 per visit (always covered)	\$75 per visit (always covered)

- **Plan Comparison** – Compare & Contrast plans to the most granular level of Cost and Benefits offered

Use Case: Analyze the top performing plans in a market



Use Case: Plan and simulate your territories' AEP growth



Use Case: Measure effectiveness of DM Campaigns



Healthcare Payer Customer Benefits

Unfair advantage over competition thru a holistic assessment of gainers & losers



10% increase in membership; translates to \$300 M incremental revenue



Identify characteristics of winning plans across the country

Ability to read the market movements within 72 hours of release of plans by CMS



Insights within 72 hours from release of plans



Clear demarcation on the contribution from product capabilities vs marketing tactics

Ability to refine marketing efforts on the fly by identifying the gaps in the plans



Insights into markets where the performance may not be accordant with planned targets

Future Direction



Payers



Product Management

- What are the important product attributes driving enrollments of the insurance plans?
- How does one predict in-market performance of plans during AEP?

Marketing Optimization

- How effective and efficient are one's marketing activities in a market?
- How does one optimize the marketing spend across the multiple marketing channels?

Prevention of Fraud, Waste and Abuse (FWA)

- How can one predict and identify the fraud activities before it impacts the business?

Claims Settlement, Customer Experience

- How can one optimize the Claims processes that include activity optimization, payments optimization, etc.?

Customer Retention, Persistency

- How can one model customer behavior to gain major factors that influence retention?

Tableau delivers Measurable Value to Industry Leaders in Healthcare



15 of the top 15 hospitals recognized by the US News and World Report in 2015 - 16 are Tableau customers.

Relevant Resources - Blue Cross Blue Shield Health Index:

1. [The BCBS Health Index](#)
2. [Blue Cross Blue Shield Association](#)
3. [BCBS Health Index Press Release](#)
4. [Relevant details re: the BCBS Health Index](#)



Enabling the “Data Driven Healthcare Enterprise” - Forecasting Customer Preferences for Medicare Advantage leveraging publicly available Medicare Data

Andy Dé | Senior Industry Director, Healthcare and Life Sciences, Tableau | ade@tableau.com

Arvind Nagpal | CEO and Founder, TEG Analytics LLC. | arvind@teganalytics.com