

Making Analytics Work For Strategy & Sustainability

The Metrics, The Dashboard & The Management

The *OPEN MINDS* Technology & Analytics Institute
Wednesday, October 27, 2021



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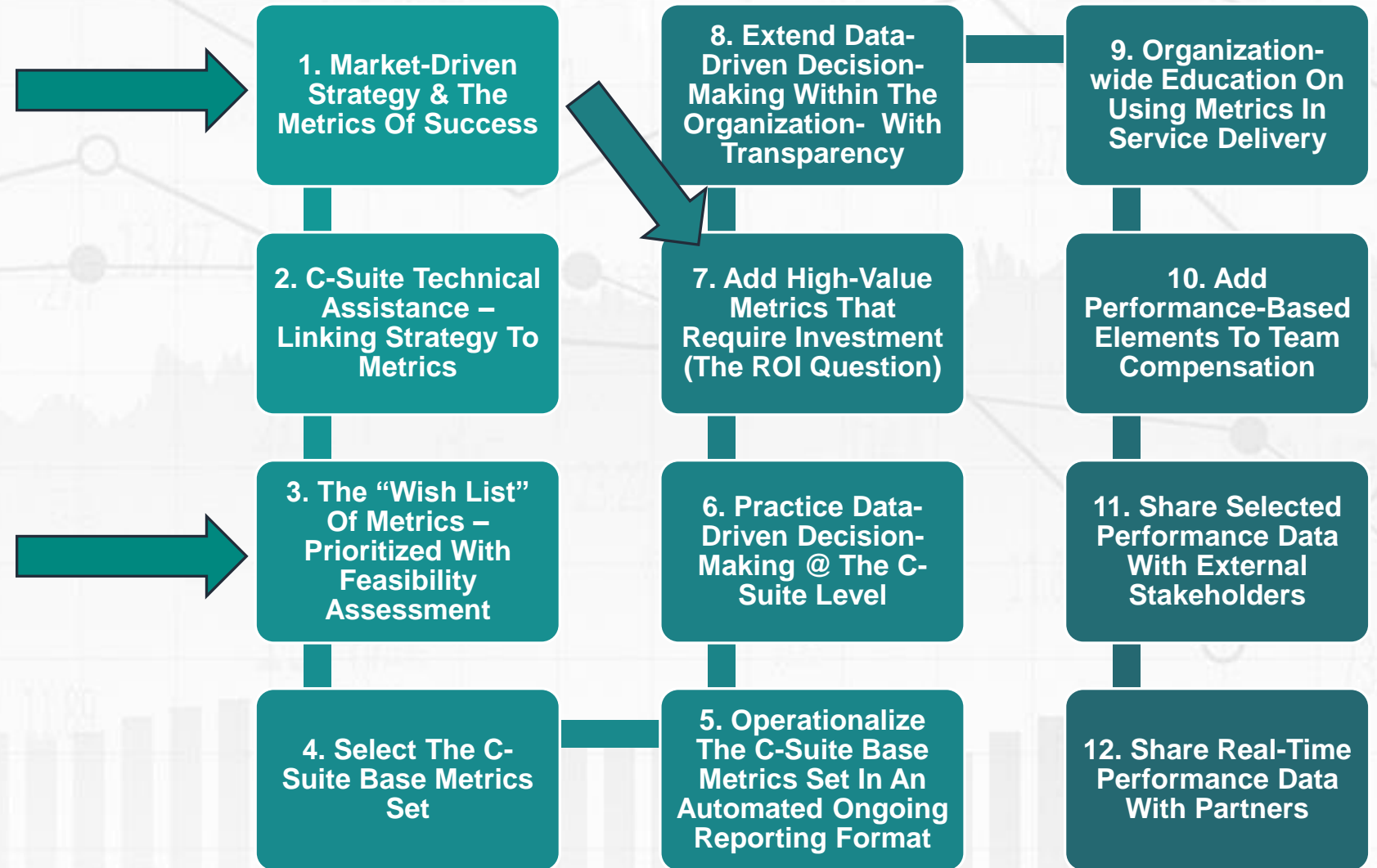
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Senior Associate
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Objectives

- Develop an understanding of how to link your analytics and reporting strategy to the overall strategic plan
- Develop an understanding of how to select or develop metrics
- Develop an understanding of the differences in types of reporting, including analytics, and the business application for each
- Learn how to measure and report on Return on Investment (ROI)

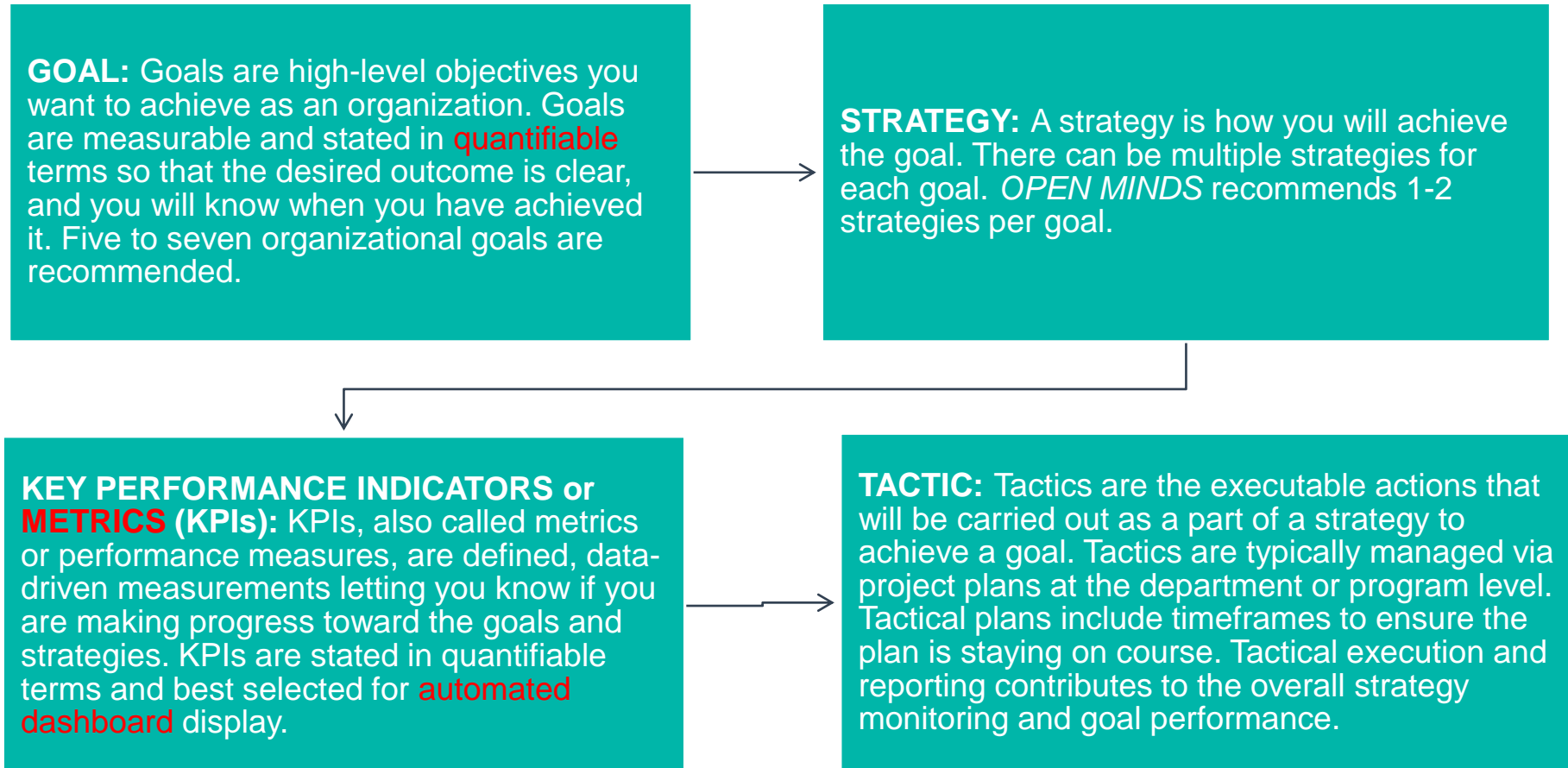
Strategic Planning

*The OPEN MINDS Guide to
Become A Data-Driven
Organization*



Strategic Planning Process

OPEN MINDS believes in a top down and bottom-up approach to strategic planning – incorporating the broad objectives of the CEO and board for mission driven and business sustainability direction while incorporating directors, managers and front-line staff for input, buy-in and engagement in metric selection and tactical planning. The OPEN MINDS framework for strategic planning is built on the following key components:



Market Driven Analysis



OPEN MINDS RESOURCE ... What We Know ...

The 'Next Normal' Landscape:

- “Integrated” care coordination models preferred
- Virtual therapies become the norm and ‘hybrid’ models become dominant:
 - What can be done by telehealth or by new technologies? What needs to be done “face to face”? In clinic? In home?
 - The rise of hybrid service bundles
 - Home-based/virtual primary care model
- Facility-based services transition to ‘hybrid’ and bundled:
 - Home-based/virtual addiction treatment
 - Home-based/virtual long-term care
 - Hospital at home and SNF at home
- New competition from existing (and new) health and human service organizations – both traditional and virtual
- New competition with health plans as “payviders”
- Price sensitivity + risk-based reimbursement

Emerging Opportunities:

- Programs to manage the care of consumers with complex needs – integrated “whole person” care coordination (medical, behavioral, social), risk-based, leverage new technologies
- Primary care services for consumers with complex needs
- Home-based services
- Targeted social supports programs
- “In lieu of” services offering alternatives to traditional residential and inpatient care

Payers & Stakeholder Analysis



Who Do You Answer To & What Do They Care About?

- Payer—Health Plans
- Payer—Government Funders
- Consumers
- Board Members
- Community At Large
- Grantors
- ??



Health Plans

What Health Plans Want:

- Increased Market Share
- Member Retention
- Lower Costs (Utilization)
- Predictability in Revenue Stream/Actuarial Outliers

How Do They Get It:

- Favorable Pricing:
 - Fixed Provider Rates OR
 - Shared Risk/Value Based Contracting
 - Lower Utilization
- Customer Satisfaction:
 - Comprehensive Network
 - Accessible Network
 - Quality of Care

Government Funders

What They Want:

- Balanced Budget
- Political Agenda Success:
 - Medicaid Expansion
 - National Opioid Epidemic
 - Care Coordination Programs
- Value for the Dollar/Tax-Payer Stewards

How Do They Get It:

- Controlled Rates/Fixed Rates
- Good News Stories

Federal ViT Demonstration For Opioid Treatment

- **For Whom:** Medicare Enrolled OUD Providers—physicians, CCBHCs, FQHCs, outpatient clinics, facilities
- **Hope to Achieve:**
 - ✓ Increased access to MAT
 - ✓ Reduced use of Inpatient, ER and Residential Services
 - ✓ Reduced infectious disease such as HIV
 - ✓ Reduced Deaths from Overdose
 - ✓ Reduce Medicare Program Expenditures
- **How Measured:**
 - MAT Utilization
 - Retention in Treatment
- **Perks:**
 - ✓ A PMPM Care Management Fee
 - ✓ Performance Based Financial Incentive

Stakeholder & Consumer Goals

Board Goals:

- Increase capacity to serve vulnerable children & adults.
- Maintain financial sustainability.
- Maintain a stable workforce.
- Demonstrate diversity and inclusion.

Consumer Goals:

- Stable housing
- Stable job
- More social contact/recreational pursuits

The Wish List Of Metrics



OPEN MINDS Performance Domains For Health & Human Service Provider Organizations

“High Performing” On Payer Contracts

- National health home measures
- NCQA HEDIS measures
- CMS STARS measures
- Most common health plan contract measures
- Specific health plan contract measures
- Specific funder performance measures

The Speed & Cost Factors

- Unit cost
- Search engine ranking and optimization
- Online reputation
- Inquiries
- Inquiry response time
- Inquiry conversion rates
- Time to appointment
- Service rates
- Rate-value linkage

The Consumer Experience

- Net promoter score
- Customer satisfaction
- Customer experience monitoring (“mystery shopper”) results

Clinically Cutting Edge

- Consistency in “treatment model” – lack of unexplained variability
- Current in clinical and service practices
- Short time to evaluation and adoption of new treatment technology

Financial Sustainability

- Revenue – by service line
- Liquidity – current ratio, days cash outstanding, cash flow from operations, days of accounts receivable
- Profitability – revenue growth and net operating profit margin, by service line
- Leverage – debt to equity ratio

Metric Prioritization & Selection



Proposed Approach To Metric Selection

Phase 1.

Finalize Goals and Strategies relative to market analysis, funder analysis, stakeholder input including staff.

Phase 2.

Brainstorm metrics for each overarching goal and for each strategy. Utilize broad engagement of stakeholders and staff.

Phase 3.

Rank order:

- Measurability
- Feasibility
- Data Availability
- Cost to Implement
- Automation
- Nice to Have vs. Need to Have
- Overall Impact

Phase 4.

Determine final selection. No more than one metric per strategy and/or goal. 15-18 tops!

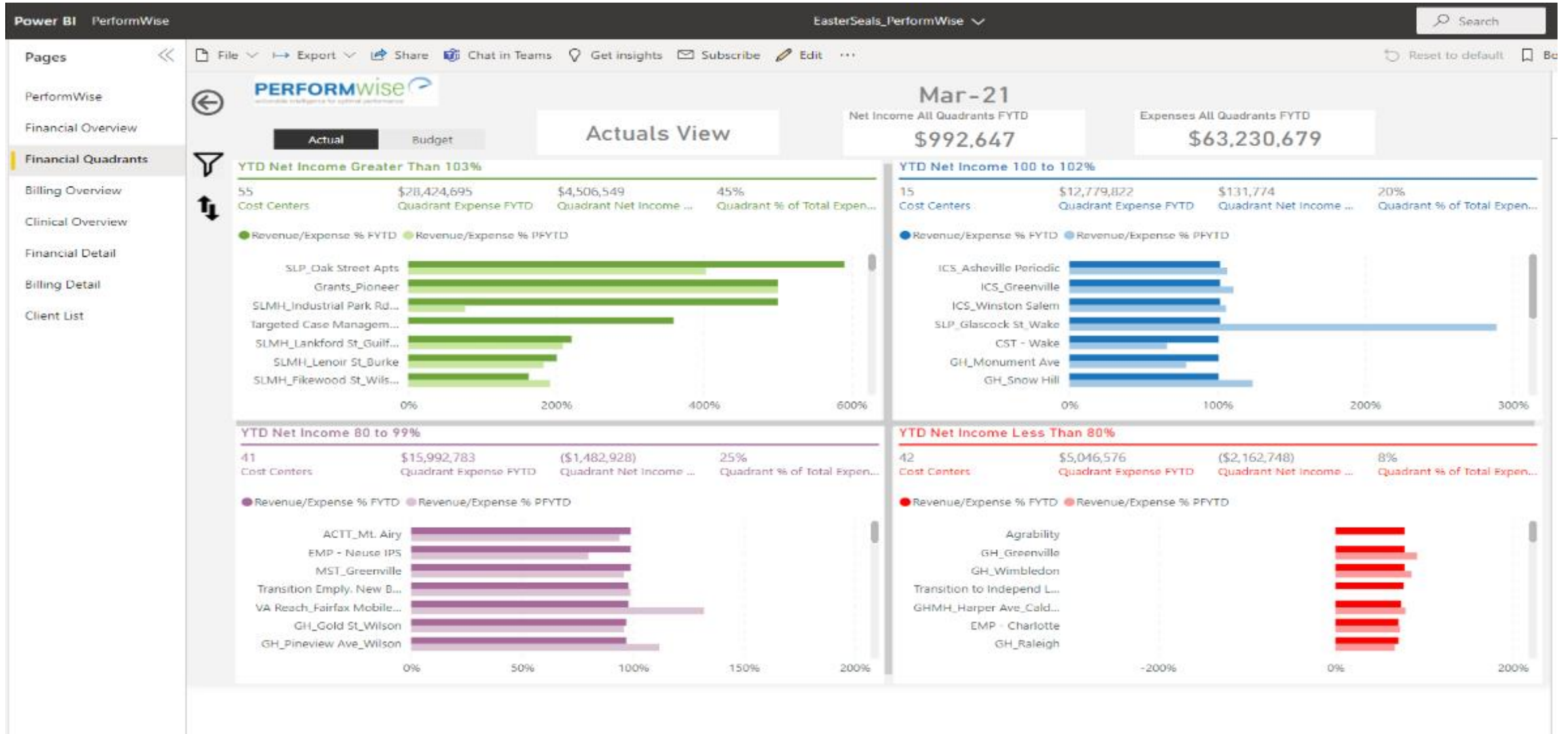
Example of Metric Selection and Development

Strategic Goal:
Maintain Financial Sustainability

Strategy	Metric
2A. Reduce administrative costs.	2A. Reduction of approximately 8% in overall administrative costs.
2B. Add at least one profitable service line or program in any current region or new service geography.	2B. As evidenced by a greater than 2% profit margin for the new service line or program.

- Measureable: Yes, we have cost data captured
- Feasible: Owner Available; Part of the Workflow
- Data Available: Yes, in Business Intelligence System
- Cost to Implement: Low, already a part of workflow
- Automation: Could be a dashboard
- Impact: High-No Business/No Mission

Financial Sustainability Metric Dashboard



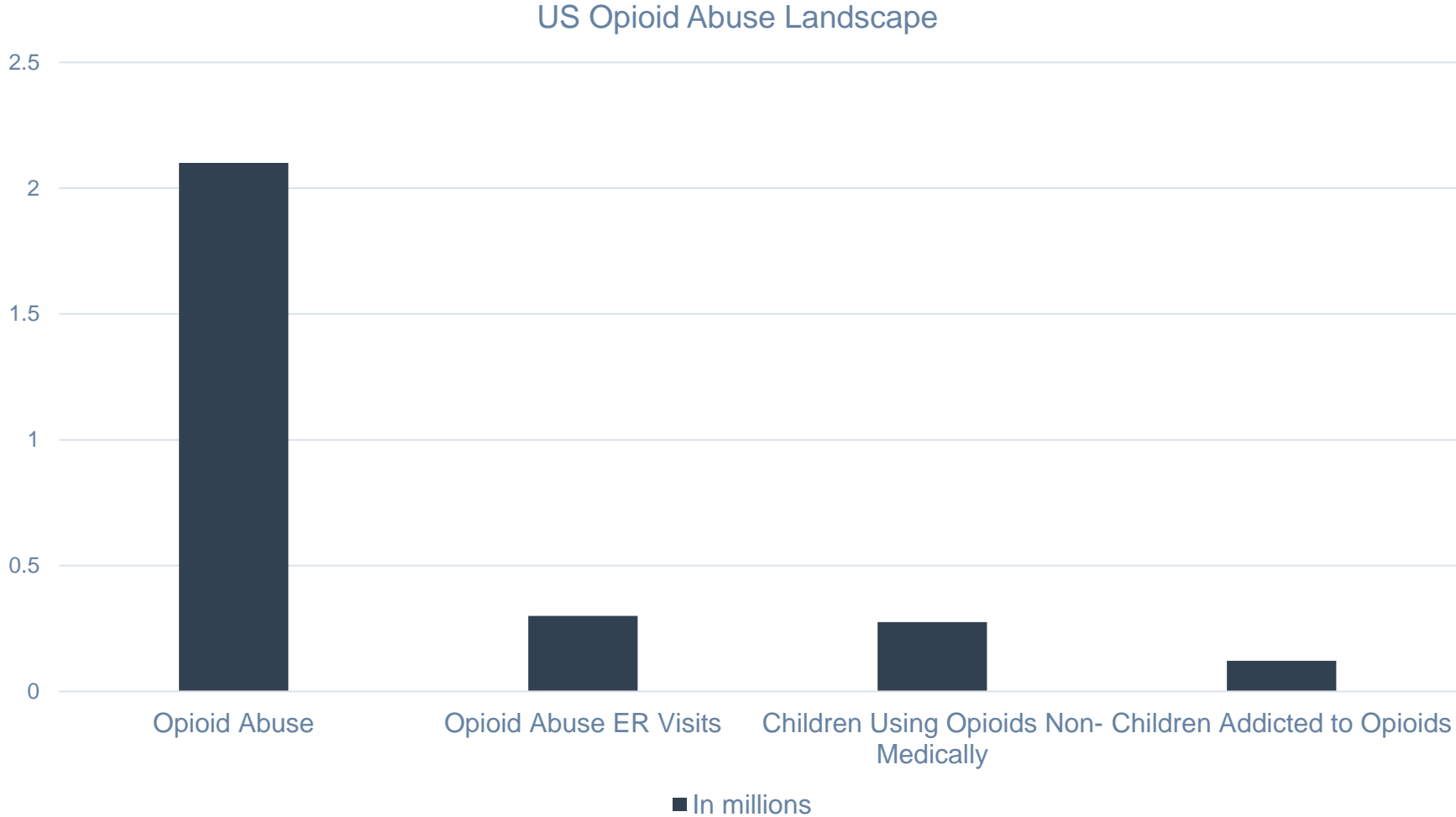
Reporting & Analytics

Reporting & Analytics: When Is A Report Just A Report

Types of Reports:

- Descriptive
- Diagnostic
- Predictive
- Prescriptive

Descriptive Reports: Typically, A “Count” Of Things Not Analytics!



Descriptive Reports: When A Report Is Just A Report

Vehicle Diagnostic Scan Results			
Manufacturer Specific Engine			
No fault codes present			
Live Data Analysis Results (Out of Range Parameters)			
Parameter	Value Type	Actual Reading	Expected Reading
Long Term Fuel Trim Bank 1	Min	-27.460 %	-5 %
Mass Air Flow / MAF (g/sec)	Max	2.280 g/sec	1.6 g/sec
Engine RPM	Avg	552.105 rpm	720 rpm
Engine RPM	Max	673.000 rpm	780 rpm
Engine RPM	Min	454.000 rpm	650 rpm
Short Term Fuel Trim Bank 1 Sensor 1	Min	-20.440 %	-5 %
Short Term Fuel Trim Bank 1 Sensor 1	Max	19.340 %	5 %
Calculated Load	Max	39.780 %	22 %
Fuel Injector Duration	Max	2.800 ms	2.01 ms
Idle Air Control (IAC) Duty Cycle	Max	53.820 %	40 %
Comments			
<p>The Mass Air Flow Meter is randomly reading too low and high at idle (with a bias towards too high). This is causing increases in fuel injection duration, which is affecting idle RPM. It looks like the engine computer is trying to compensate by adjusting the Idle Air Control Duty Cycle, and adjusting the fuel trims.</p> <p>The higher than normal Mass Airflow Meter, Flow Rate would also explain the high Calculated Load. Suggest thoroughly cleaning the Mass Air Flow Meter with proper cleaner such as the CRC Mass Air Flow Meter cleaner product from Repco. Please do not use Brake Clean or other cleaners as they tend to damage the MAF sensor and plastics.</p>			

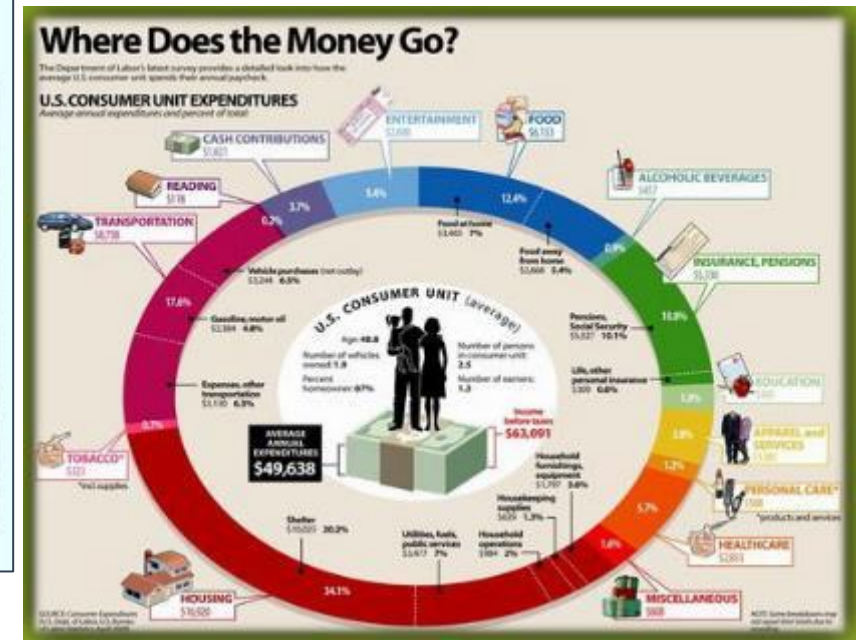
21

Grade Test	Non Poverty (NP)					Grade Test	Poverty (P)					Gap Between Groups Non Poverty (NP-P)		
	School		System		State		School		System		State	School Gap (%)	System Gap (%)	State Gap (%)
	% in Group	% at Level IV	% in Group	% at Level IV	% at Level IV		% in Group	% at Level IV	% in Group	% at Level IV	% at Level IV			
3 M	54.9	53.8	74.2	71.3	74.3	3 M	45.1	28.1	25.8	36.1	52.4	25.7	35.0	22.4
4 M	51.6	75.8	75.5	68.7	72.7	4 M	48.4	38.7	24.5	34.5	49.9	37.1	34.3	22.8
5 M	55.8	81.4	74.0	82.5	78.1	5 M	44.2	47.1	26.0	49.5	52.9	34.3	33.1	25.1
3 R	54.9	51.3	74.2	69.0	72.9	3 R	45.1	31.3	25.8	36.5	42.5	20.0	32.5	30.0
4 R	51.6	66.7	75.5	73.1	75.3	4 R	48.4	38.7	24.5	40.3	44.2	28.0	32.7	31.1
5 R	55.8	74.4	74.0	80.5	78.0	5 R	44.2	29.4	26.0	43.3	48.2	45.0	37.2	29.7

Causes and/or Nature of Traffic Accidents (2003)

Cause	Number	Frequency (%)
Driver's Error	4,222	25.72
Drunk Driving	94	0.57
Mechanical Defect	2,003	12.20
Overspeeding	2,908	17.71
Using Cell Phone	47	0.29
Road Defect	783	4.77
Hit and Run	673	4.10
Bad Overtaking	2,042	12.44
Bad Turning	1,543	9.40
Overloading	1,174	7.15
Self Accident	806	4.91
Others	123	0.75
Total	16,418	100.00

Source: Traffic Management Group, Philippine National Police.

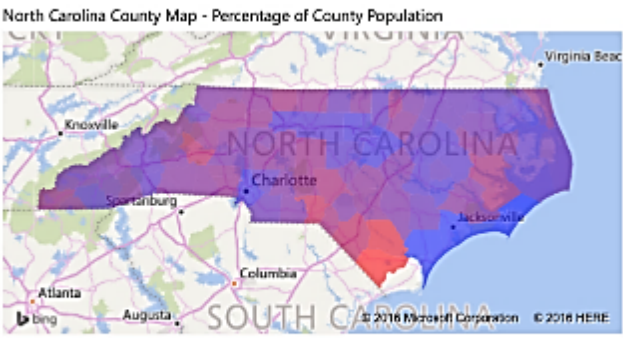


Diagnostic Reports: More Than Counts; A Bit About “Why” May Require Analysis!

NC Integrated Dashboard January 2015 through December 2015

OPIOIDS AND SUBSTANCE MISUSE

- Catchment Area**
- Alliance
 - Cardinal
 - Centerpoint
 - Eastpointe
 - Partners
 - Sandhills
 - Smoky
 - Trillium
- County**
- ALAMANCE
 - ALEXANDER
 - ALLEGHANY
 - ANSON
 - ASHE
 - AVERY
 - BEAUFORT
 - BERTIE
 - BLADEN
 - BRUNSWICK
 - BUNCOMBE
 - CATAWBA
 - CHatham
- Charlson Comorbidity Score**
- Select All
 - 0.00
 - 1.00
 - 2.00
 - 3.00
 - 4.00
 - 5.00
 - 6.00
 - 7.00
 - 8.00
 - 9.00
 - 10.00



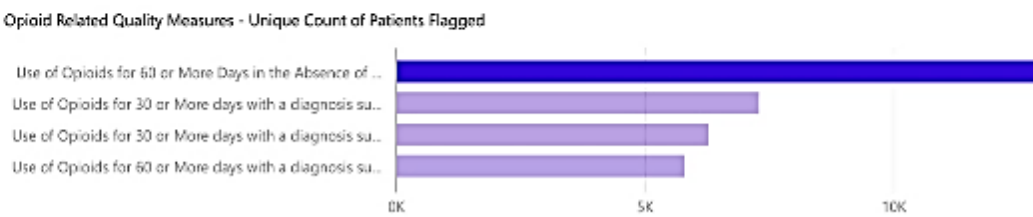
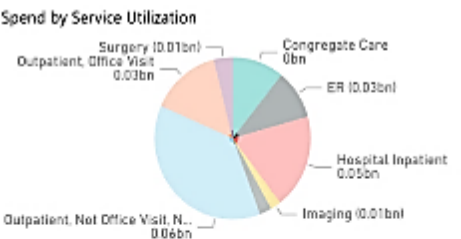
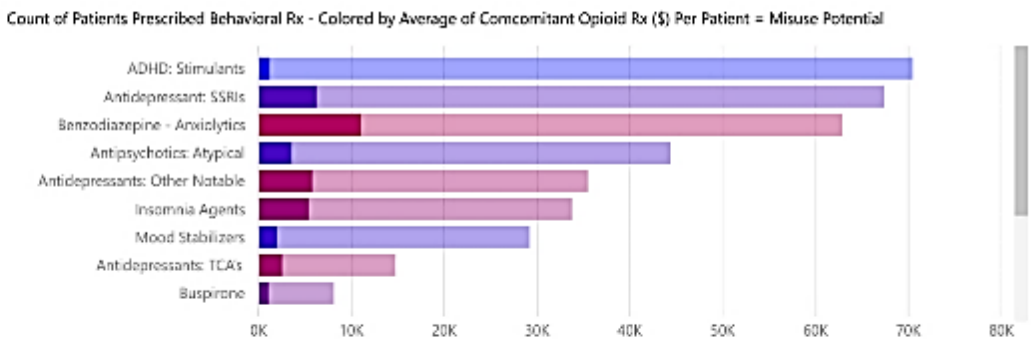
Total Patients	Population %
20.870K	1.471%
Total Spend	% of Total Spend
\$370.579M	7.706%
Hospital Admits	ED Visits
7707.0	43.4K
Total Spend - Opioid Rx	
\$26.484M	

- Has Rx of Type:**
- Behavioral
 - Medical
 - Opioid

- Has SUD Dx:**
- No
 - Yes

- Has MAT:**
- No
 - Yes

- Has SMI Dx:**
- No
 - Yes



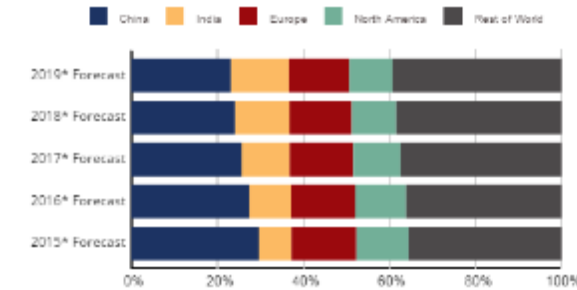
Predictive Reports: Data Analytics Required



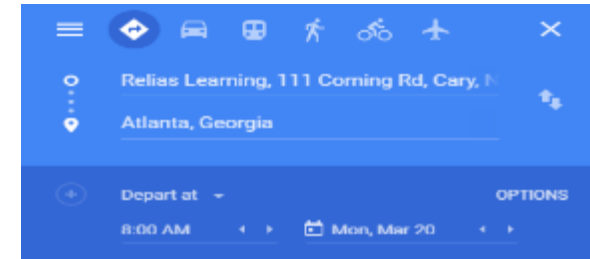
We Use Risk Modelling In All Kinds Of Decisions



WW Smartphone Shipment Share by Geography, 2015-2019



Source: IDC WW Quarterly Mobile Phone Tracker, August 2015

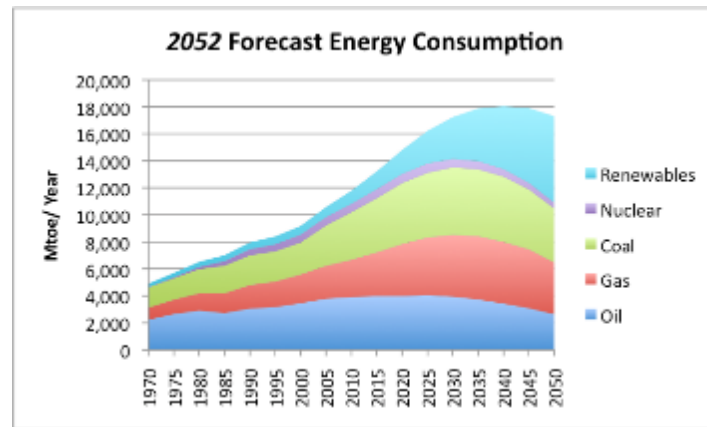


Send directions to your phone

via I-85 S typically 5 h 40 min - 7 h 406 miles

via I-95 S and I-20 W typically 5 h 50 min - 7 h 10 min 440 miles

Raleigh, NC—Atlanta, GA 1 h 25 min from \$183



The chances of going to university

% of state school students going to university age 18/19

Most advantaged 20% 56

Most disadvantaged 20% 19

theconversation.com

Data: Author's calculations using administrative data.



Predictive Report Using Machine Learning: Over 90% Accuracy Of Dependency Risk One Year Later

Clinical Consideration™

Possible Early Opioid Dependence: Initial Use of Opioids for Three Months in Absence of a Diagnosis Supporting Chronic Use

Patients												OPI - All (August 2016 to October 2016)	
	Patient ID	First	Middle	Last	Date of Birth	Age	QJ Claims	QJ Amount Paid	Workflow Status	Cohort	Health Home	Status	
>	<input type="checkbox"/>	1000007255	Emil	Y	Francizes	04/26/1952	64	6	\$700.08	View		✓	Active
>	<input type="checkbox"/>	1000056334	Jian	X	Backpay	08/13/1977	39	8	\$598.86	View			Active
>	<input type="checkbox"/>	1000002169	Euphemia	K	Kentucky	07/08/1983	33	4	\$105.35	View		✓	Active
>	<input type="checkbox"/>	1000006570	Liliana	S	Bourne	11/24/1961	54	9	\$98.95	View		✓	Active
>	<input type="checkbox"/>	1000003355	Zara	Z	Starkey	04/11/1985	31	4	\$72.03	View			Active
>	<input type="checkbox"/>	1000015521	Hayleigh	C	Elliot	02/01/1956	60	3	\$58.30	View			Active
>	<input type="checkbox"/>	1000002110	Abbeygail	G	Brandt	05/12/1957	59	3	\$55.07	View			Active
>	<input type="checkbox"/>	1000004284	Harleigh	F	Australian	01/16/1962	54	3	\$37.62	View		✓	Active
>	<input type="checkbox"/>	1000043817	Karmen	R	Justinian	06/24/1958	58	4	\$29.39	View			Active
>	<input type="checkbox"/>	1000001827	Kacie	J	Paine	03/26/1968	48	3	\$29.03	View			Active
>	<input type="checkbox"/>	1000050766	Tala	F	Ameet	03/02/1953	63	5	\$13.91	View			Active
>	<input type="checkbox"/>	1000019942	Wendy	W	Melville	05/28/1990	26	3	\$11.47	View		✓	Active

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Prescriptive Reports: Tells You What To Do Based On Evidence, Research & Data Analytics; Also Called Clinical Decision Support

Clinical Consideration™

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Considered Intervention

- If your patient has neuropathic pain (such as diabetic neuropathy or multiple sclerosis), if you haven't already, please consider (Jackman 2008):
 - Non-pharmacologic options (such as cognitive behavioral therapy, exercise, physical therapy, relaxation).
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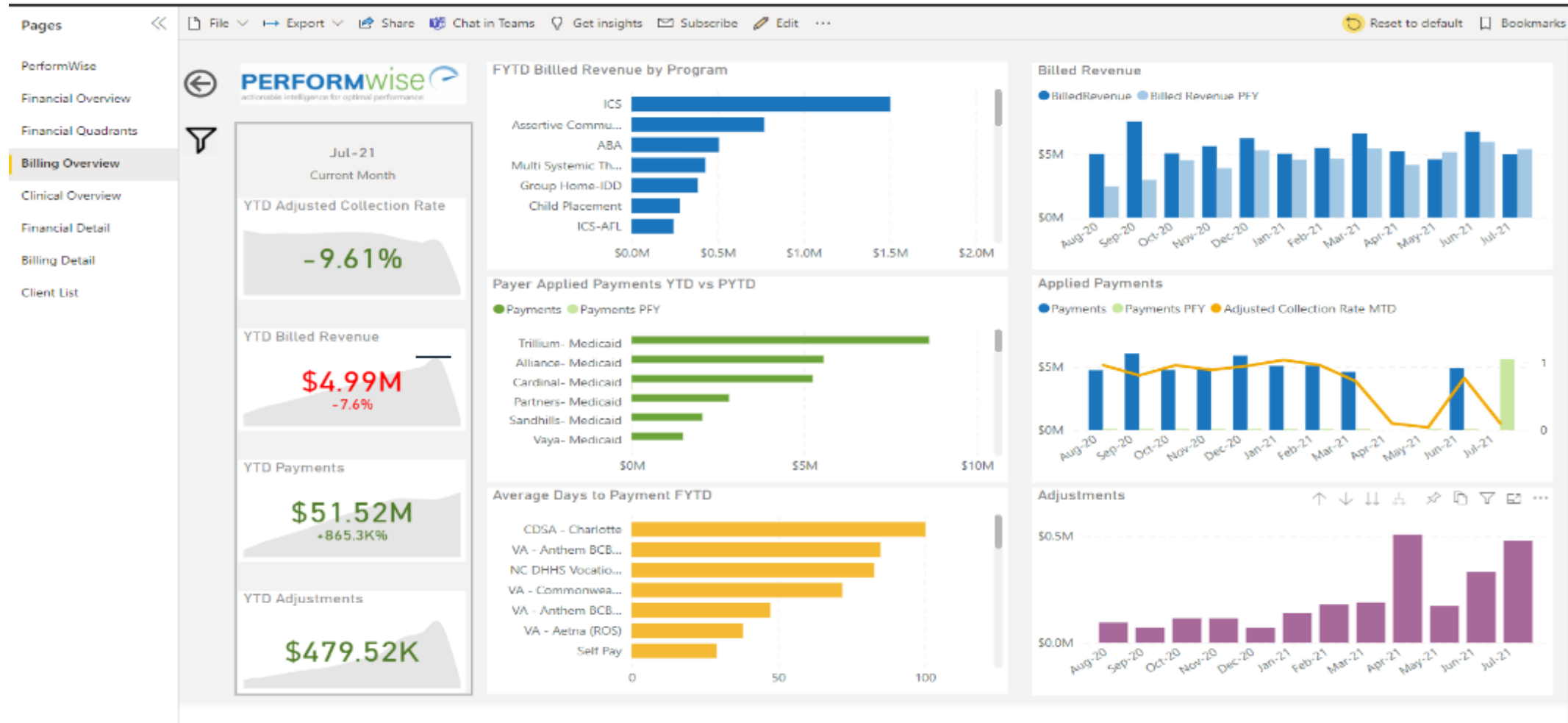
Dashboarding

- For Management
- For Behavioral Nudging—Actionable
- For Clinical Decision Support—Actionable & Prescriptive
- For Outcomes Reporting

TIPS For Management Reports

1. Beware of overstimulation
2. Think about placement like you were a grocer
3. Allow for basic view – then drill down
4. Be parameter driven
5. Be cognizant of use of visuals—graphs and color
6. Be consistent
7. Utilize data (follow user paths) to eliminate or add

For Financial Management: At A Glance Views



For Clinical Management – At A Quick Glance



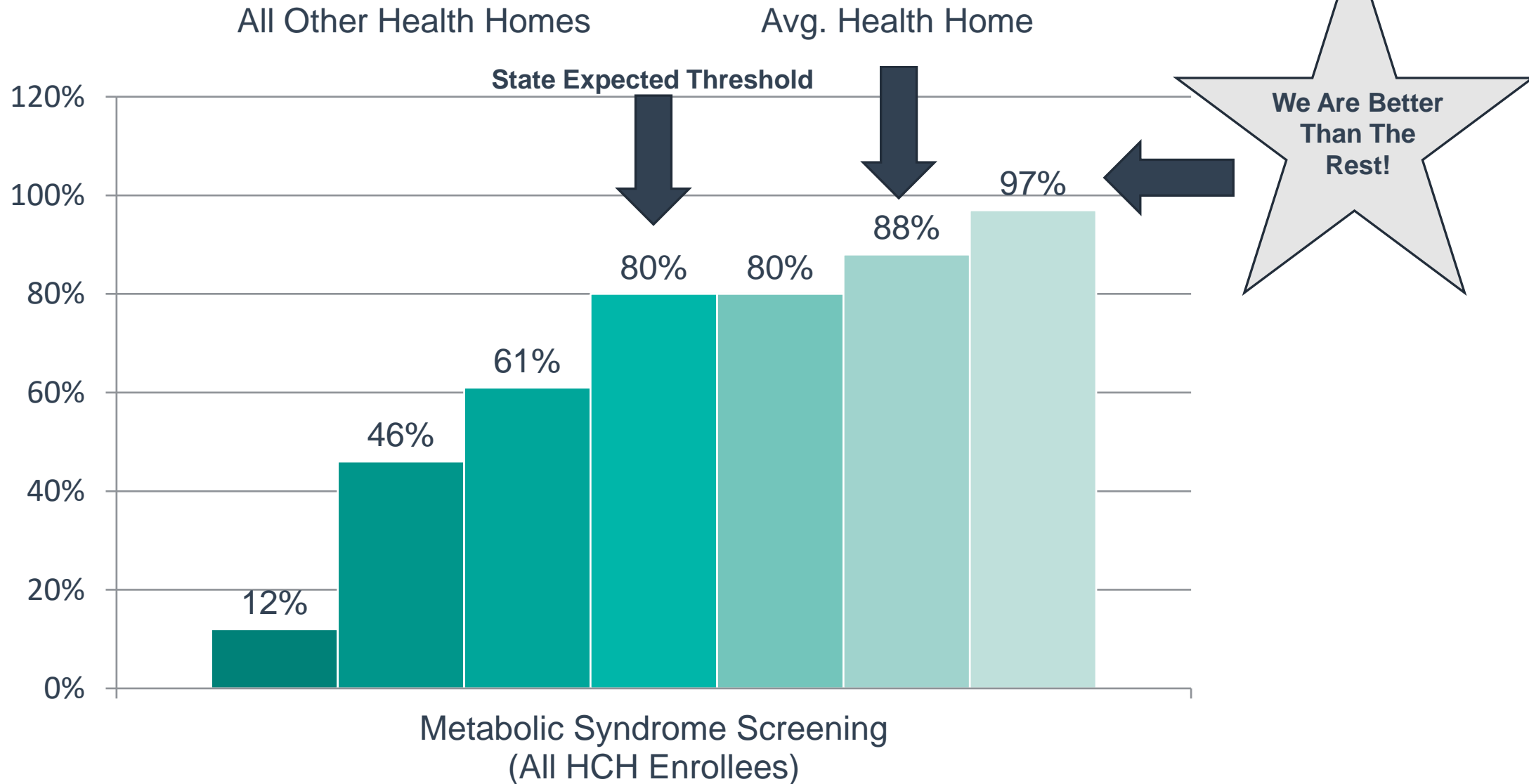
- Six Levers Of Influence: Individual, Social and Technological:
 - What's In It For Me?:
 - ✓ Financial
 - ✓ Personal/Mission Driven
 - What Do You Want Me To See First?:
 - ✓ Draw attention through structural or strategic placement
 - What Do You Want Me To Do?:
 - ✓ Evidence Based Practice Direction
 - How Do I Compare to Others?:
 - ✓ Comparator Charts
 - How Are You Preparing Me To Do It?:
 - ✓ Provider Evidence or Research Base/Tutorial

For Nudging: Behavioral Economics Theory Using Data Analysis & Social Pressure To Nudge Action

- Peer Pressure/Social Influence
- Public Display
- Reward Successes
- Show Progress

	TOTAL	Site 1	Site 2	Site 3	Site 4	Site 5
TOTAL	12956	984	3286	1530	5557	1599
HOSPITALIZATIONS	2017	94	370	308	1065	180
ER VISITS	18787	1472	4952	2543	7608	2212
Hosp / Person	0.156	0.096	0.113	0.201	0.192	0.113
ER Visits / Person	1.450	1.496	1.507	1.662	1.369	1.383
Hospital / ER Visit	10.7%	6.4%	7.5%	12.1%	14.0%	8.1%

Showing Progress Relative To Others

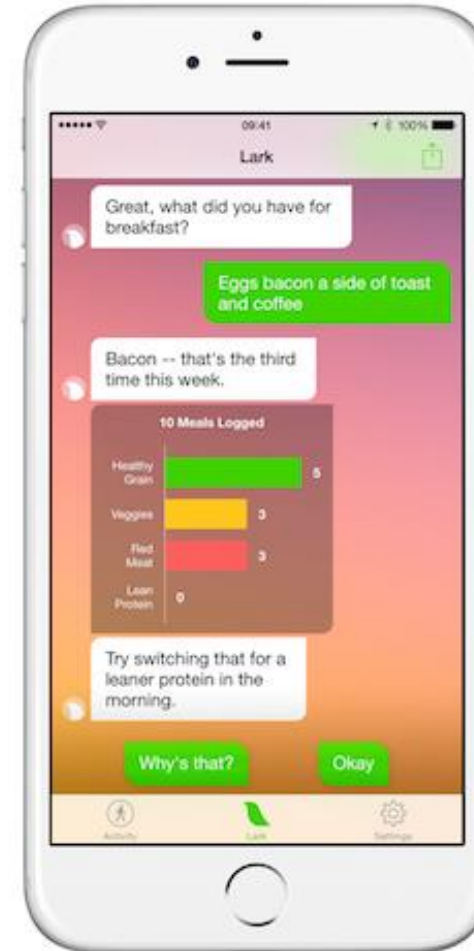


Digital Health Using Data & Behavioral Nudging To Drive Demand & Market Share

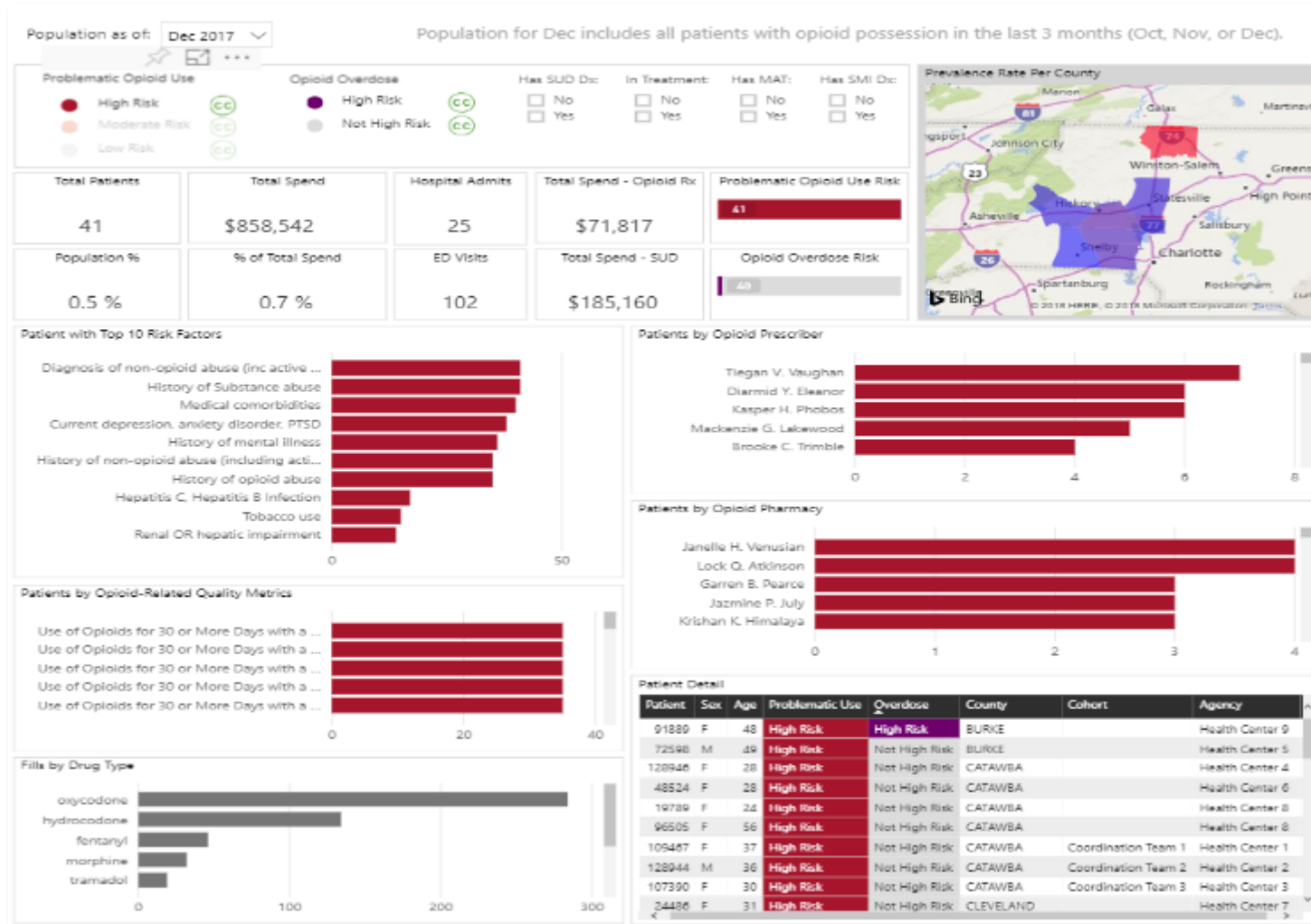
Digital Health

Lark Health flying high with \$100M boost to invest in R&D, tech integrations with payers

- Launched in 2011, Lark's platform has since grown to reach nearly 2 million people to support managing their diabetes, weight loss, hypertension, and behavioral health needs. Patients are provided with connected devices they can **use to monitor their condition**, and that **data is then translated into individualized health insights** through a text message-like interface.



Clinical Decision Support: Using Data To Augment What Clinicians Know To Help Them Get Better At Identifying & Addressing Risk Sooner



Drill Down Data Driving Clinical Action

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Tell People What You Want Them To Do Based On Data Analysis: Clinical Decision Support Automation

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The Grand Finale

ROI & Telling Your Story

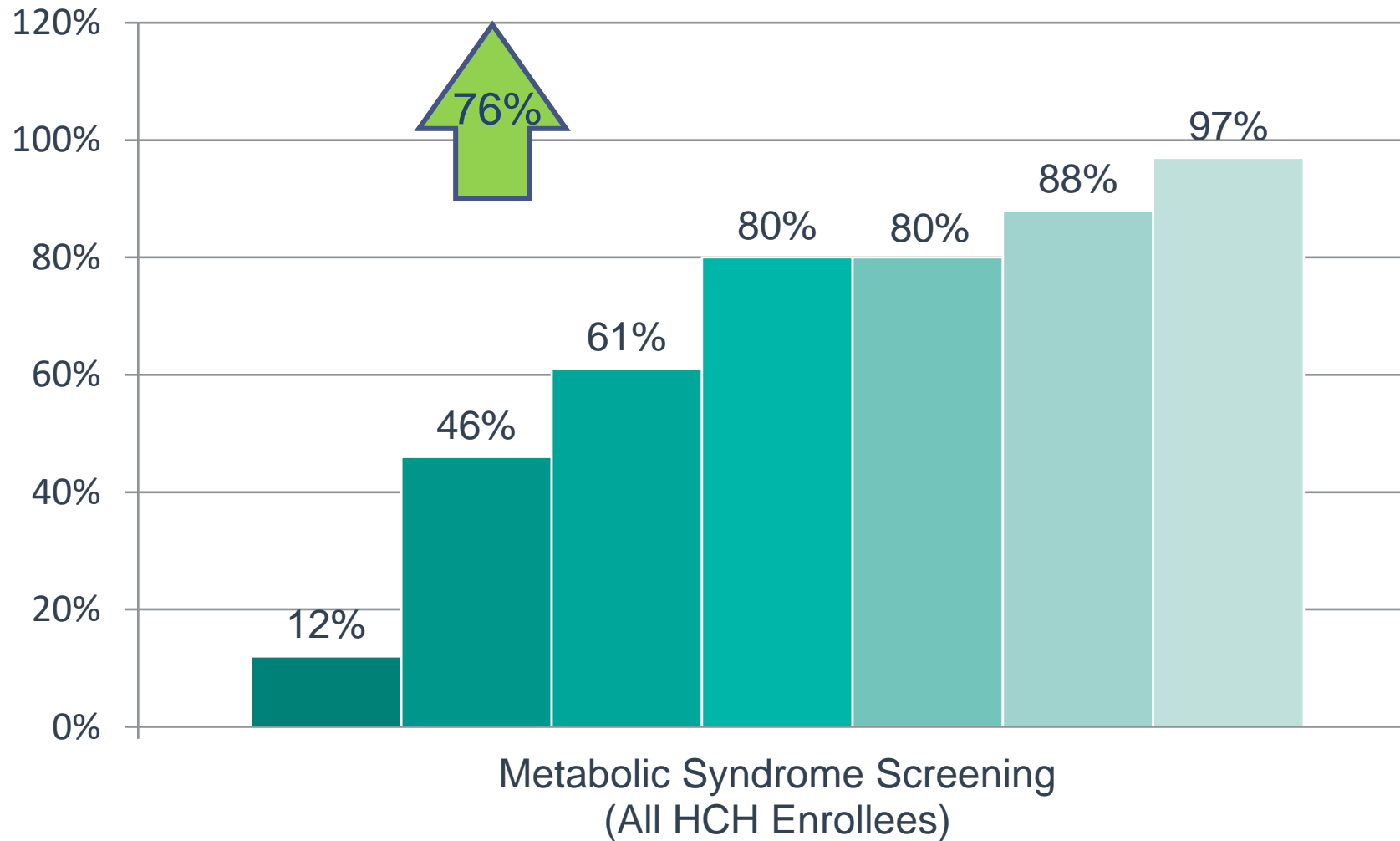
The Pitch Deck

Elements Of A Pitch Deck

Pitch Your Story Tips

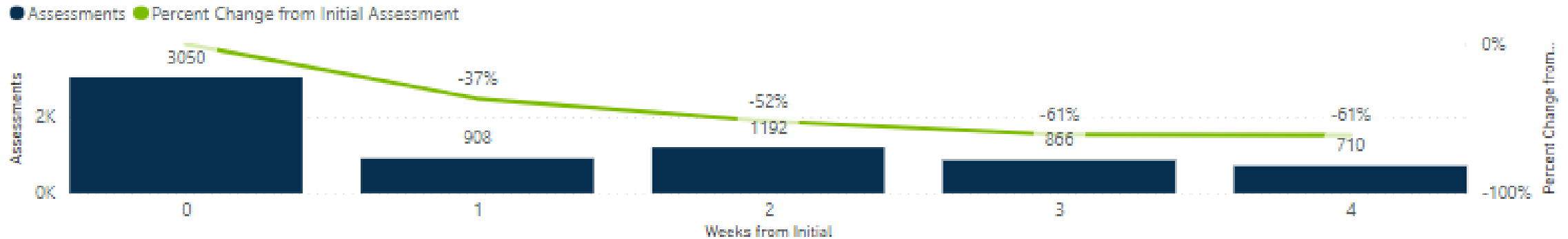
- Tells Your Value Relative To The Funder's Priorities
- Emphasizes Your Strengths
- Emphasizes Return-On-Investment For The Funder
- Says Clearly "WHY YOU?"
- Do Not Exaggerate ROI
- Twelve (12) Slides Or Less

Outcome Story In Pictures

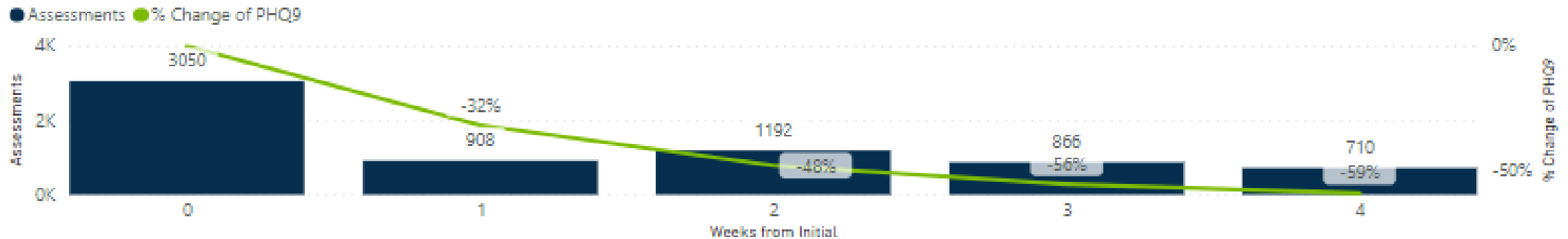


Vertava Health: Findings

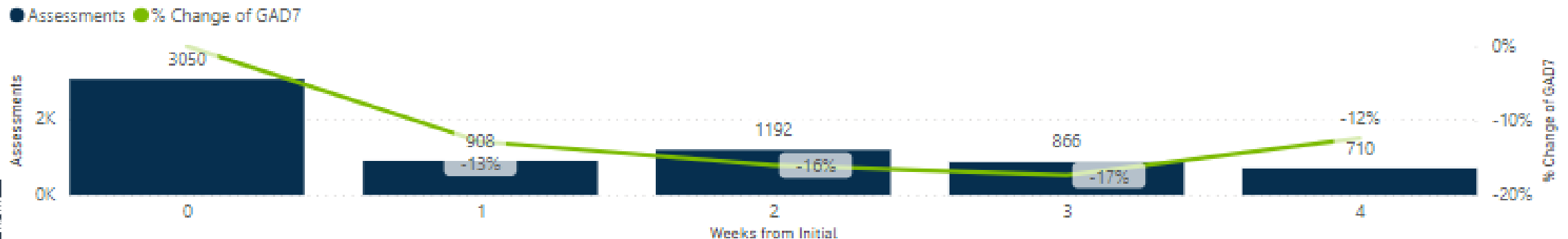
Behavioral Health Index (BHI) % Change by Weeks from Initial Assessment



Depression Index (PHQ9) % Change by Weeks from Initial Assessment

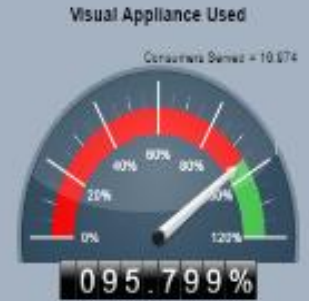


Anxiety Index (GAD7) % Change by Weeks from Initial Assessment



This dashboard displays the Health QI fields that require a 95% completion rate by MDCH. The percentage complete is a calculation based on the number of consumers with a completed record divided by total consumers served - for the current Fiscal Year. Click on the gauge to get the drilldown by CPA > from the CPA list > Click on any Provider to get the list of consumers who have an incomplete field for that measure. Primary Admission determines Core Provider alignment.

Red Range = Under 95%
Green Range = 95% and Over



Telling Your Story: Economic Impact

Baseline To Year 1:

- Reduced Mean Blood Pressure
- Systolic: 144 to 134 (<10pts)
- Diastolic: 90 to 84 (<6pts)

6 point drop in Blood Pressure!

- 16% ↓ In Cardiovascular Disease
- 42% ↓ In Stroke
- Average Cost Of Inpatient Episode For One Stroke Patient: \$28,500 Inpatient
- Annual Cost Of Care Coordination Program: \$1440
- Minimal Annual ROI: 20:1

Early Intervention: Impact

Early Intervention Is Shown To Result In 39%
Decrease In Child Welfare Presentations

Average Cost Of Child Welfare Involvement
With Injury Requiring Hospital: \$39,500;
Exclusive Of Other Costs

Annual Case Rate For Early Intervention:
\$19,500

Annual Minimal ROI of 2:1

Assertive Community Treatment (ACT)

A multidisciplinary mobile treatment approach primarily for persons with co-occurring and multi-morbid mental health, substance use, and chronic health conditions.

SERVICES INCLUDE:

- Supported employment
- Co-occurring groups
- Individual & family therapy
- Medication monitoring
- Care coordination
- 24/7 Crisis management support

OUTCOMES

- Hospitalization reduced 46%
- ER use down 52%
- Total cost of care down 50% for those receiving services in the program
- Year over year, the population served maintains community-based living as evidenced by <5% hospital admission rate



Turning Market Intelligence Into Business Advantage

OPEN MINDS market intelligence and technical assistance helps over 550,000+ industry executives tackle business challenges, improve decision-making, and maximize organizational performance every day.

