

# From Data to Action: Transforming Revenue Cycle Reporting to Drive Transparency and Improvement

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May 3, 2018, Session 4, 2:45 pm –3:30 pm

**Himss**

**NORTH CAROLINA** *Chapter*

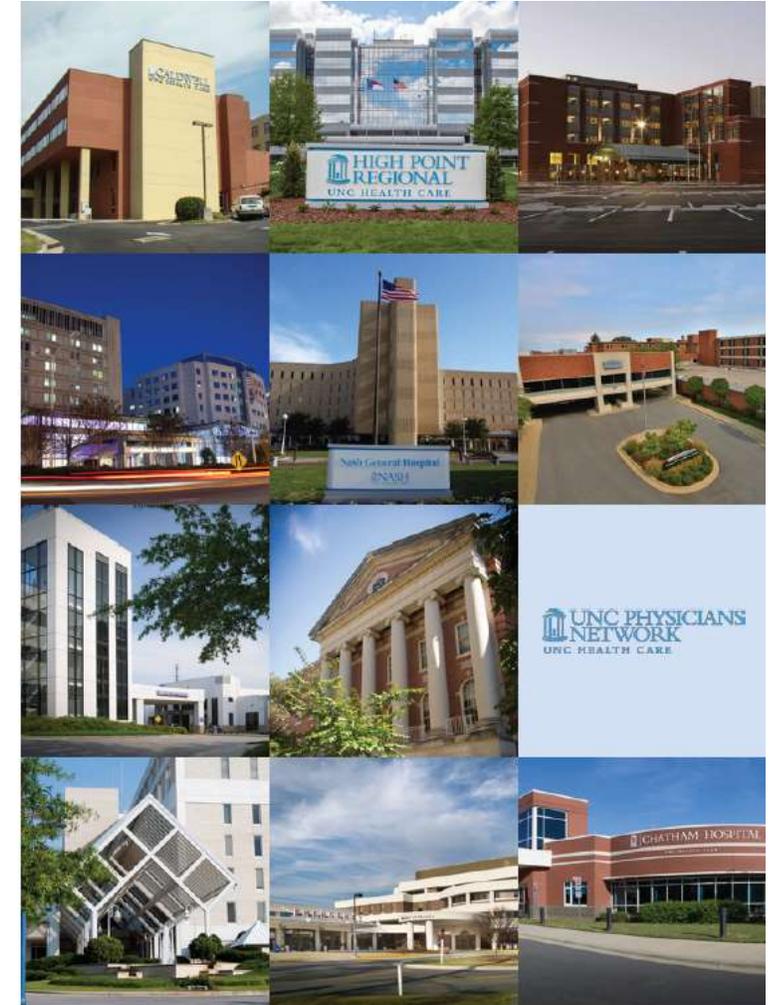
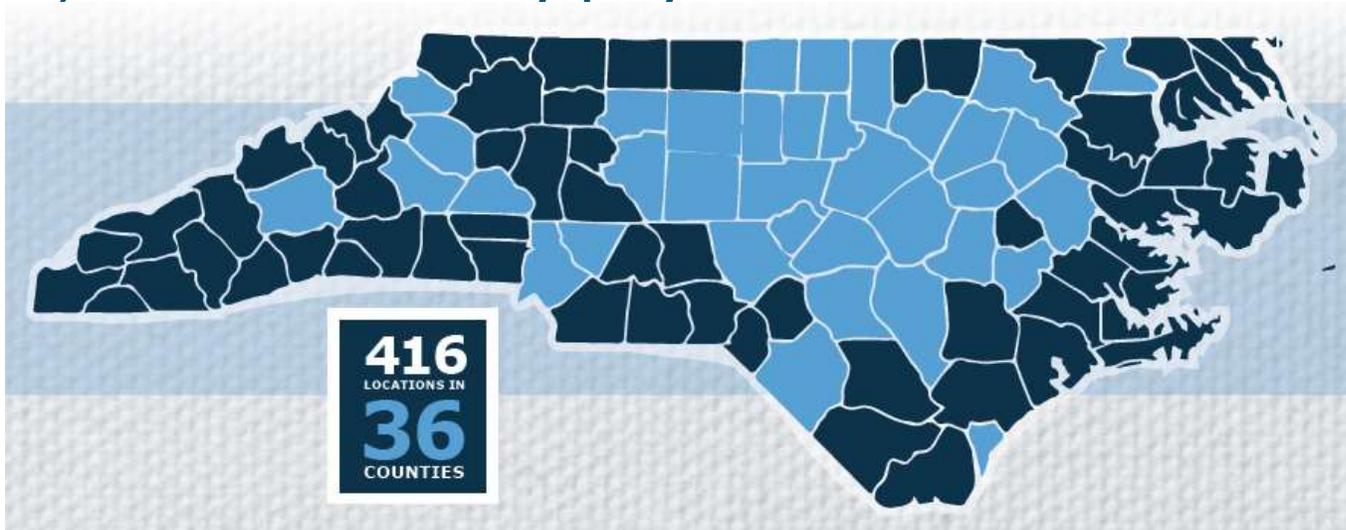
# Agenda

- Introduction
- Agile Process Overview
- Lessons Learned
- Demo of past, current and future

UNC Health Care comprises UNC Hospitals and its provider network, UNC School of Medicine's clinical programs and 10 hospitals.

## FY 2016 By the Numbers

- \$3.6 billion in net operating revenue
- 3 million clinic visits
- 3,000 healthcare professionals
- 1,700 UNC faculty physicians



# Learning Objectives

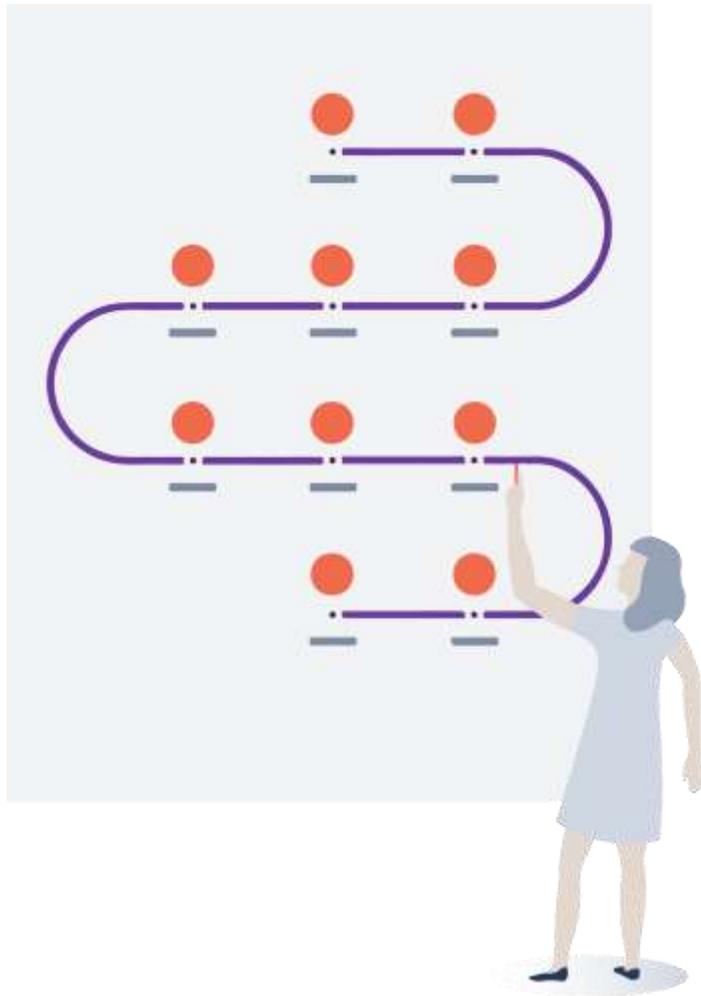
- Adopt new reporting technology and processes to distill growing amounts of data into key insights
- Recognize need for change in response to organizational feedback and evolving environment
- Develop a strategy for balancing data governance with the individualized needs of end users



## Agile Process Overview



# Agile Process Overview

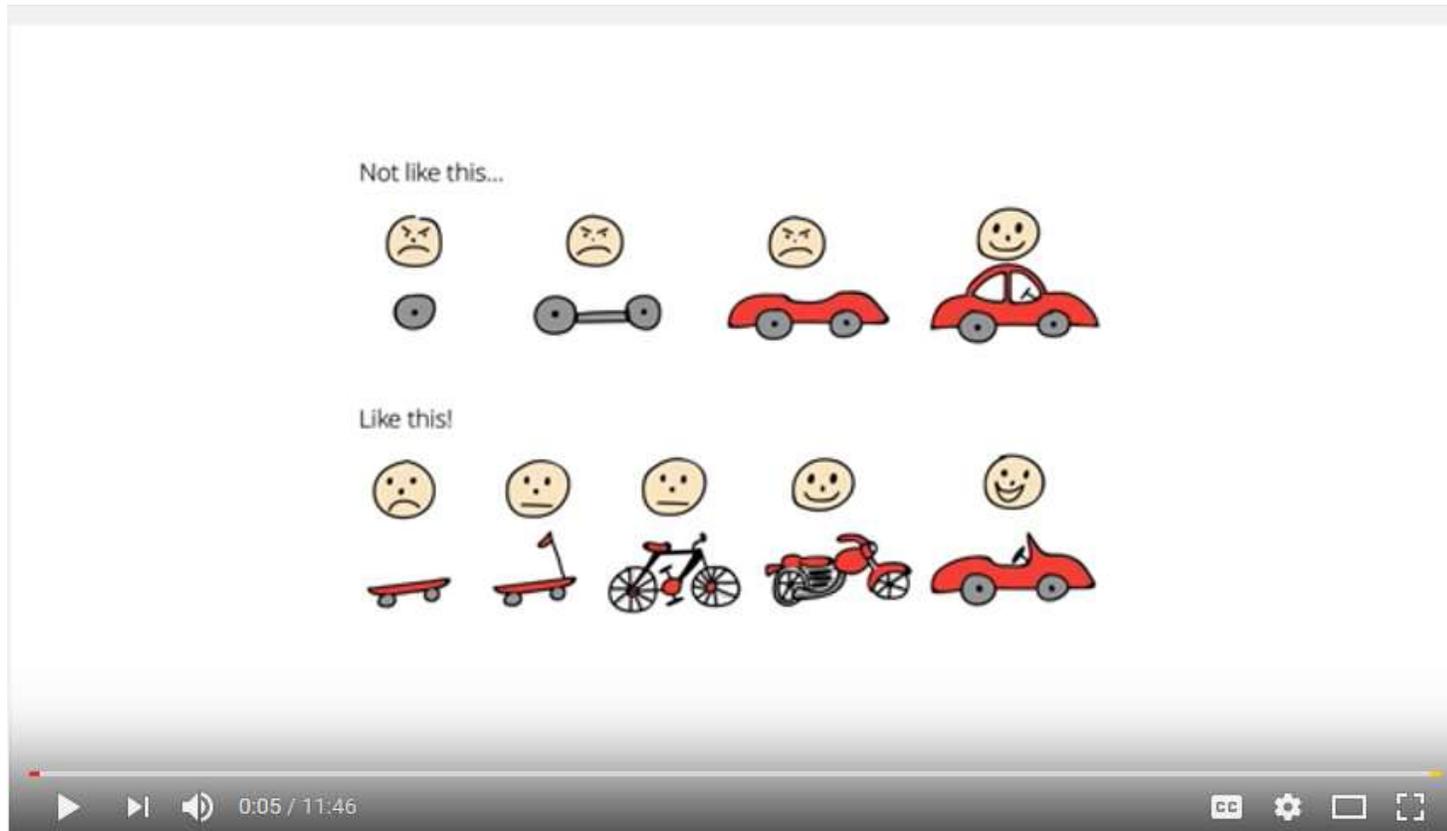


- Individuals and interactions over processes and tools
- Functional deliverables over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

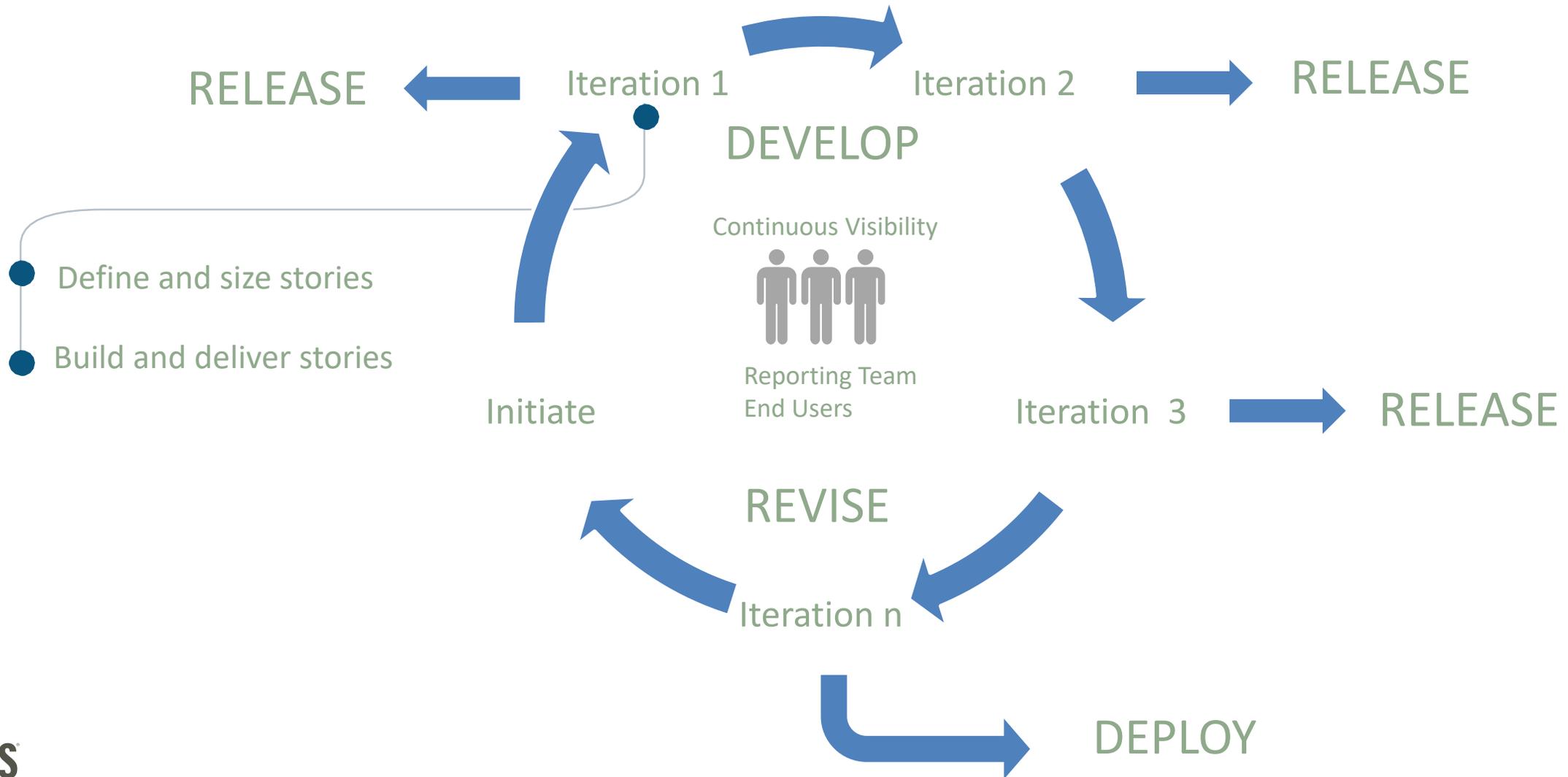
Process Artifact	Description
Customer Findings	Notes from customer discussions that describe needed capabilities, requirements, gaps, problems, errors, or other issues for development.
Report Backlog	The inventory of requirements in priority order, updated weekly. Includes “Themes” (general focus areas for development work), “Epics” (large requirements that need to be further decomposed), and “Stories” (smaller requirements that can be build by developers in a short timeframe).
Release Plans	The schedule of bundled functionality released to customers; what is coming when. Usually, releases occur on a fixed schedule (monthly, quarterly, etc.).

# What does it mean to Develop Products *ITERATIVELY*?



<https://www.youtube.com/watch?v=0P7nCmln7PM>

# An Agile team delivers working products in fixed iterations



# What is a user story?

As an administrative chair of a medical department,  
I want to review the Top 20 CPT codes billed fiscal year to date as compared to a year earlier  
so that I can assess shifts in billing activity, the patient population and coding accuracy.

“As a \_\_\_\_\_ <role>  
I want to \_\_\_\_\_ <do some task>  
so that I can \_\_\_\_\_ <achieve some goal> ”

The core concept is to “quit starting and start finishing,” by working collaboratively on stories and working them to completion.

# User stories can be hierarchical



# Reporting Reveal a Success!



- Two-pager is “powerful”
  - “Really excited about this”
  - “This is great stuff!”
- Improved focus because team members hone in on defined scope over a defined timeline to produce working deliverables.
  - Happier stakeholders because we capture user stories and feedback throughout the development process.
  - Stronger customer relationships due to ongoing collaboration.

March  
Soft Launch

Continued Feedback

July  
Hard Transition

# User Stories Captured

## Provider's feedback:

- As a Medical Chair, I would like to see the relative percentage of CPT codes billed by volume so that I can understand which procedures that we spend the most time doing.
- As a Medical Chair, I would like to review the amount of collections by CPT code so that I understand the relationship between charges and collections and can quickly identify payment issues.

...

## Revenue Cycle Team's Assumption:

- As an department leader, I want to review the Top 20 CPT codes billed fiscal year to date as compared to a year earlier so that I can assess shifts in billing activity, the patient population and coding accuracy.

- As a Medical Chair, I want to review detailed data down to the EPIC department level for ambulatory settings so that I can understand how individual clinics are performing.
- As a Medical Chair, I want to have access to documentation in an appendix on FPSC solutions and membership participation in benchmarking so that I feel confident that performance comparisons are relevant.
- As a Medical Chair, I would like to review financial performance relative to a budget so that I can understand how we are managing our funds.

# Lessons Learned



**Data infrastructure must be in place to support Tableau** – Direct data access vs. data transformation tools, performance vs. self-service.



**Expect resistance to new technologies** – Over-communicate, make it easy for end users to adopt new tools.



**Include a wide cross-section of SMEs for feedback and user testing** – Some of the best feedback may come from unexpected sources.



**Don't underestimate the time needed for consensus on data governance** – Consider your culture and how decisions are reached – top down, bottom up, work groups, etc.

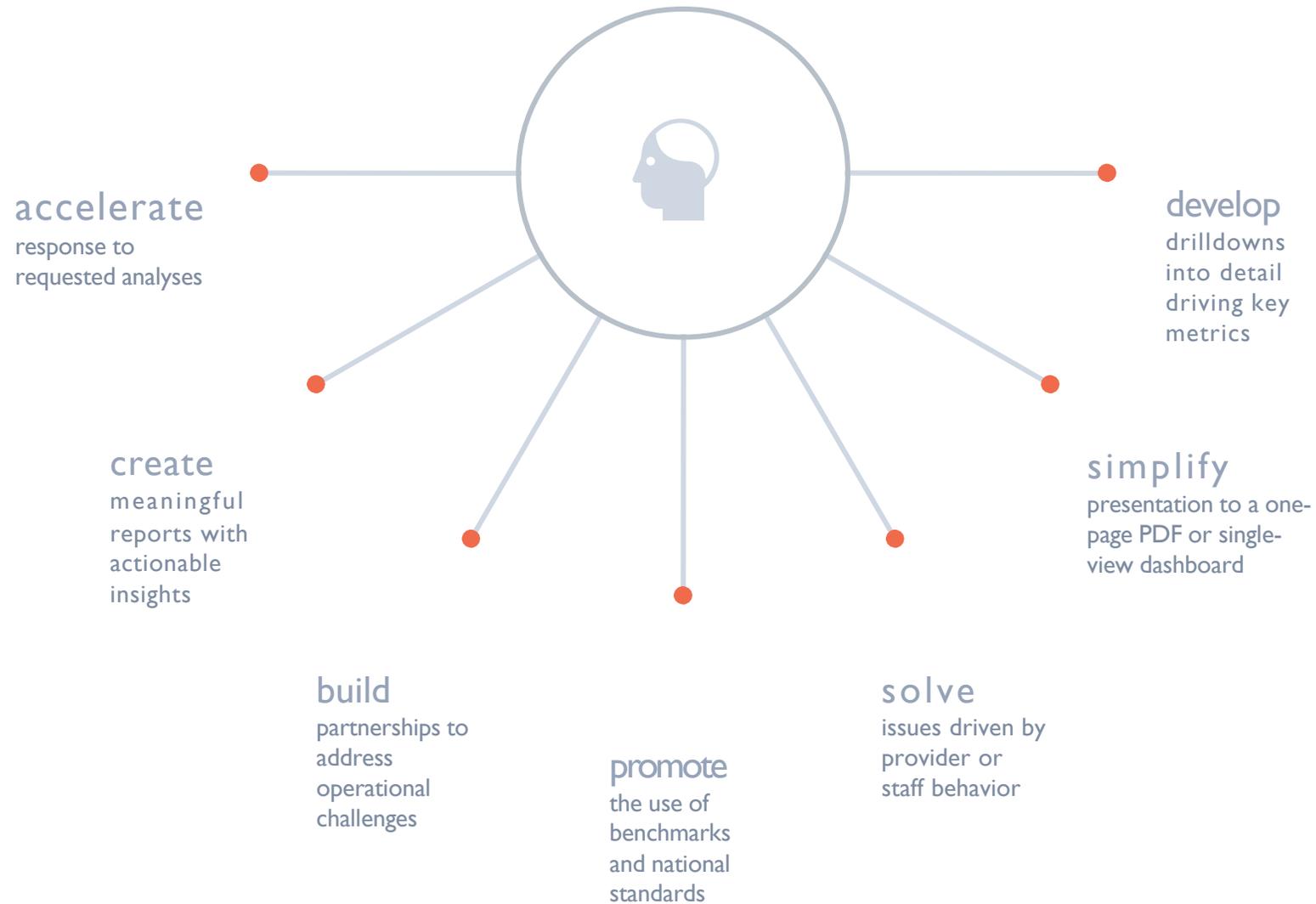


**Hold reveals early and often** – Keep momentum going, understand your audience.



**Be realistic about resource planning** – Invest in training, early adopters have limited access to experts.

# Stakeholder Feedback Themes

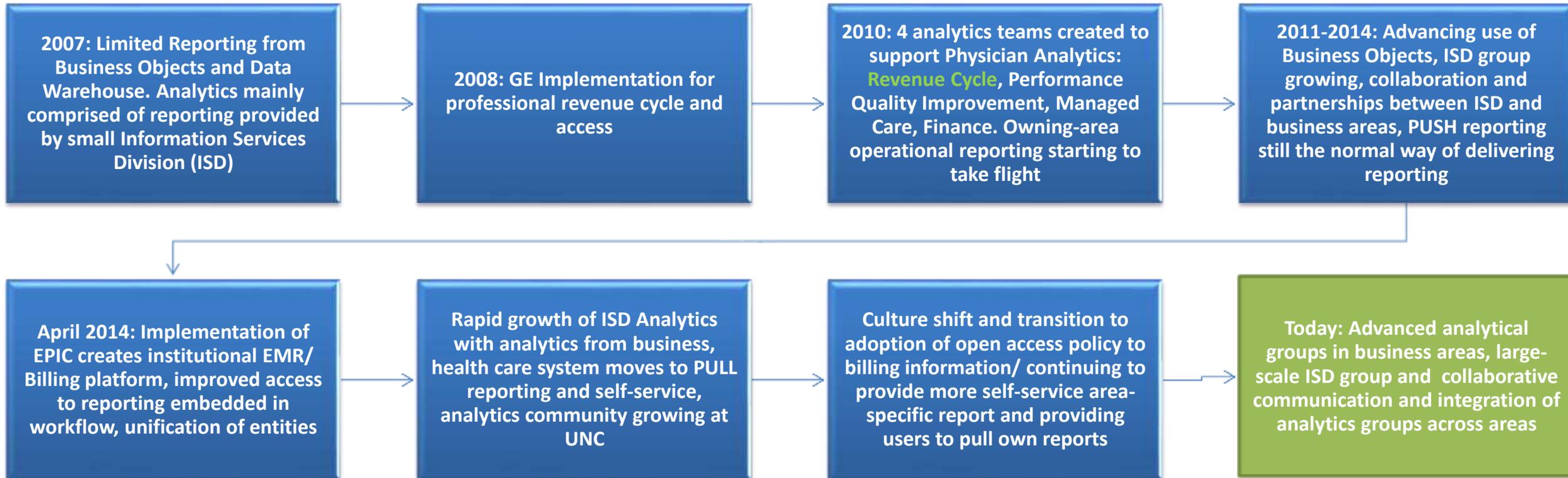




## Revenue Cycle Analytics Reporting Demo



# History and Evolution of Analytics at UNC



# What is an ORBIT?

## Creating Decentralized Teams

### Operational Reporting Business Intelligence Team



#### ORBIT Value Proposition

##### Priority and Strategy

- Priorities set by operations
- Faster path to prioritized new build
- Streamlined reporting availability
- End user self-service support

##### Driver for data governance

##### Training optimization and skill development

##### Communication and community

##### Recognizing business and data expertise throughout the system

#### Mission

ORBIT focus on the creation, growth, and sustainment of decentralized reporting teams that standardize the suite of operational insights for their function.

ORBITs will focus on documentation, training, analyst skill development, data and self-service enablement.

#### A Decentralized Function - Specific Team

EADS



**Benefit to the Organization:** Creating analytics economies of scale across the HCS for operational reporting and BI needs through well-trained business analysts, well-documented and understood data sources, and insightful operational dashboards and reports.

#### Vision

ORBITs optimize the analytics experience for those who build, use, and consume operational analytics at UNC HCS



# Previous Revenue Cycle Reporting Tools

# CAR

## Built in Excel

### PROS:

- Provided summary level analysis

### CONS:

- Required pushing reports to customers (administrative burden)
- Limited ability to drill down to specifics

#### Accounts Receivable & Work RVU Analysis

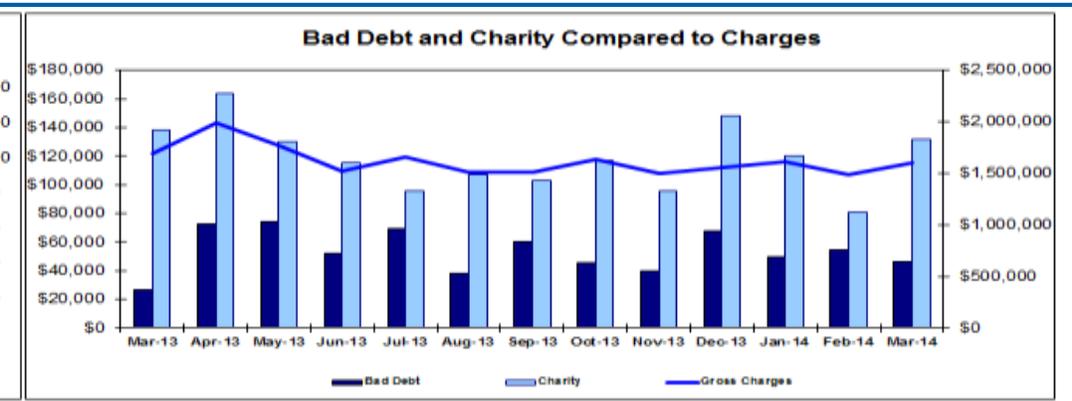
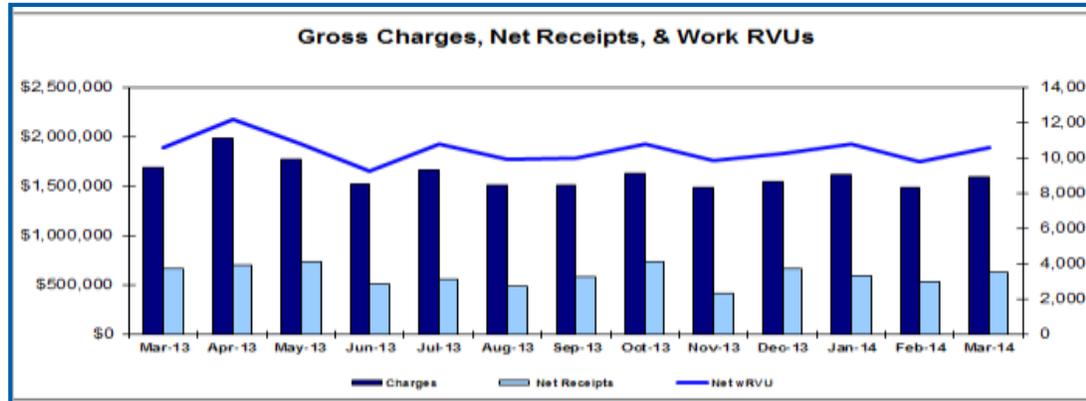
	FYTD		Prior FYTD		Variance		Mar 14		Mar 13		Variance	
	Actual		Actual		\$	%	Actual		Actual		\$	%
<b>Charges</b>	14,063,624		14,488,111		(424,488)	-3%	1,598,675		1,695,410		(96,735)	-6%
Contractual Adjustments	6,870,562		7,296,880		(426,318)	-6%	830,774		1,025,720		(194,946)	-19%
Write-offs	215,923		210,305		5,618	3%	16,304		19,330		(3,026)	-16%
Charity	999,688		937,538		62,050	7%	131,831		138,167		(6,336)	-5%
Bad Debt	471,718		410,170		61,548	15%	46,069		26,339		19,730	75%
Other Adjustments	8,305		13,372		(5,066)	-38%	278		700		(422)	-60%
<b>Net Receipts</b>	5,227,560		5,234,889		(7,329)	0%	635,314		672,100		(36,786)	-5%
Inc/(Dec) in AR	269,966		384,957		(114,991)	-30%						
Beginning AR	2,786,690		2,342,437		444,253	19%						
Ending AR	3,056,657		2,727,395		329,262	12%						
Days in AR	58.5		49.9									
% of AR > 90	47.4%											
<b>Total wRVU</b>	94,536		93,887		649	1%	10,742		10,764		(13)	-0%
Total SCID wRVU (Forfeit)	1,619		931		688	74%	133		173		(40)	-23%
Net wRVU	92,917		92,956		(38)	0%	10,609		10,581		27	0%
Charge per wRVU	151		156		(5)	-3%	151		160		(10)	-6%
Receipts per wRVU	56		56		(0)	0%	60		64		(4)	-6%
<b>Budget Variance</b>	<b>Actual \$</b>	<b>Budgeted \$</b>	<b>\$ Variance</b>	<b>% Variance</b>								
Charges	14,063,624	16,707,258	(2,643,634)	-16%								
Net Receipts	5,227,560	5,793,675	(566,115)	-10%								
wRVUs	92,917	101,616	(8,699)	-9%								
<b>Pharmacy Charges &amp; Net Receipts</b>	<b>FYTD</b>	<b>Prior FYTD</b>	<b>\$ Variance</b>	<b>% Variance</b>	<b>Mar 14</b>	<b>Mar 13</b>	<b>\$ Variance</b>	<b>% Variance</b>				
Pharmacy Charges	31,707	180,798	(149,091)	-82%	36	15,527	(15,491)	-100%				
Pharmacy Line Item Net Receipts	12,898	83,594	(70,696)	-85%	36	10,212	(10,176)	-100%				
Charges without Pharmacy	14,031,917	14,307,313	(275,397)	-2%	1,598,639	1,679,883	(81,244)	-5%				
Net Receipts without Pharmacy	5,214,662	5,151,295	63,367	1%	635,278	661,888	(26,610)	-4%				
<b>Prime Denial Rejection Categories - % of Denied Charge Amount (DOS 12 Month Rolling, 3 Month Lag)</b>												
<b>Prime Denial Category</b>	<b>Denied Charge Amount</b>	<b>Resolved</b>	<b>Writeoff</b>	<b>Patient Responsibility</b>	<b>Unresolved</b>	<b>Other</b>	<b>% Ttl Chgs Denied</b>	<b>% Ttl Chgs Written Off</b>				
	900,586	76.0%	0.7%	1.1%	21.6%	0.6%	4.6%	0.0%				
	385,188	64.7%	4.2%	1.4%	14.1%	15.6%	2.0%	0.1%				
	283,044	62.7%	2.2%	0.7%	32.8%	1.6%	1.4%	0.0%				

#### CPT Frequency (Top 20)

CPT ID & Description	FYTD Charges	FYTD Frequency	Prior FYTD Frequency	Frequency % Change
	2,303,207	2,494	2,838	-12.1%
	1,640,077	2,096	1,717	22.1%
	1,459,658	6,572	6,319	4.0%
	983,643	3,375	3,187	6.9%
	863,669	2,904	2,468	17.7%
	842,426	1,724	1,783	-3.3%
	836,135	4,160	4,124	0.9%
	669,000	1,735	1,905	-8.9%
	390,189	867	1,069	-18.9%
	332,836	682	601	13.5%
	295,310	637	637	0.0%
	284,531	692	627	10.4%
	276,216	388	404	-4.0%
	215,680	463	552	-16.1%
	161,057	346	303	14.2%
	138,689	207	160	29.4%
	121,746	404	642	-37.1%
	115,012	763	719	6.1%
	101,505	708	672	5.4%
	101,190	1,329	151	780.1%
<b>SUBTOTAL - SVCS LISTED ABOVE</b>	12,121,666	32,546	30,878	5%
<b>TOTAL ALL SVCS</b>	14,063,624	42,950	45,143	-7%
<b>SVCS ABOVE AS % OF ALL SVCS</b>	86.2%	75.8%	66.9%	

Closed Sponsorship and GCR		Sponsor %		Gross Coll. Rate	
Primary Sponsor	FYTD	Prior FYTD	FYTD	Prior FYTD	
MEDICARE					
MEDICAID					
MANAGED CARE					
Aetna					
BCBS					
Cigna					
United Health Care					
AGENCY					
OTHER COMMERCIAL					



# Dynamic Analytics Portal

Built in  
XCelsius

**PROS:**

- Available monthly for self-service reporting
  - Archive ability within tool
- CONS:**
- Dashboard performance slower as data volume increased
  - Some interactive ability but still limited

UNC PHYSICIANS UNC HEALTH CARE		System: Division: Subdivision: Bill Area: Billed Provider:				Archive Drill Thru Print Reset			
For Period Ending: March 2018									
Reference	<input checked="" type="radio"/> Both <input type="radio"/> Inpatient <input type="radio"/> Outpatient				All Primary Payors				
Anesthesia	Curr FYTD	Prev FYTD	FYTD Var	FYTD Var %	Curr MAR	Prev MAR	Month Var	Month Var %	
<b>Financial Transactions</b>									
Charges	614,844	614,697	147	0%	75,194	80,492	(5,298)	-7%	
Inpatient	0	0	0	0%	0	0	0	0%	
Outpatient	614,844	614,697	147	0%	75,194	80,492	(5,298)	-7%	
Net Receipts	527,916	546,121	(18,205)	-3%	49,525	74,427	(24,902)	-33%	
Payments	527,916	546,121	(18,205)	-3%	49,525	74,427	(24,902)	-33%	
Refunds	0	0	0	0%	0	0	0	0%	
Adjustments	51,233	73,638	(22,404)	-30%	6,656	9,998	(3,341)	-33%	
Contractuals	49,128	71,620	(22,492)	-31%	6,071	9,731	-3,661	-38%	
Write-Offs	1,017	992	25	2%	356	308	48	16%	
Other Adjs	22	197	(175)	-89%	0	(42)	42	-100%	
Charity - Selfpay Discount	190	0	190	0%	189	0	189	0%	
Bad Debt	876	828	49	6%	40	0	40	#####	
AR Begin	31,567	45,920	(14,353)	-31%	48,249	44,791	3,458	8%	
AR End	67,262	40,858	26,404	65%	67,262	40,858	26,404	65%	
Inc/(Dec) in AR	35,695	(5,062)			19,013	(3,933)			
% Of AR > 90 Days					19%	7%	12%	164%	
<b>Statistics and Ratios</b>									
Net wRVUs (DOS Standard)	528	407	121	30%	75	58	17	30%	
Total wRVU	528	407	121	30%	75	58	17	30%	
Forfeited wRVU	0	0	0	0%	0	0	0	0%	
Charges per Net wRVU	1,164	1,511	(347)	-23%	999	1,387	(388)	-28%	
Net Receipts per Net wRVU	1,000	1,343	(343)	-26%	658	1,283	(625)	-49%	
Days in AR	30	16	14	89%					
GCR (Closed Rolling 12 Months)	90.8%	89.0%	1.8%	2.0%					
NCR (Closed Rolling 12 Months)	99.7%	99.8%	-0.1%	-0.1%					
<b>Budget</b>									
	Actual FYTD	Budget FYTD	FYTD Var	FYTD Var %	Actual MAR	Budget MAR	Month Var	Month Var %	

# Monthly Key Metrics Slide Deck

## Key Metrics as of March 2018

Category		PB - Rex Express Care of Cary	UNC Health Care System	Goal
Days in AR		30	37	45
% AR Over 90 Days		17%	22%	24%
NCR		94%	90%	95%
NCR Excluding True Self-Pay		95%	93%	
% Charges Denied [Epic Only]		5%	11%	10%
% Charge Lag Txn Within 8 Days [Epic Only]		98%	79%	90%

- Negative Indicator: >10% "Worse Than" Goal
- Within 10% Below Goal
- Positive Indicator: "Better Than" or Equal to Goal

## Built in SAP Business Objects

### PROS:

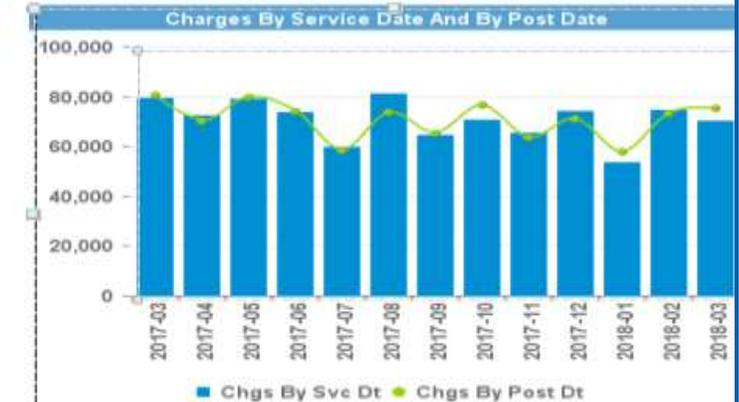
- Available monthly for self-service reporting
- Reporting of Key Performance Indicators with target goal comparisons

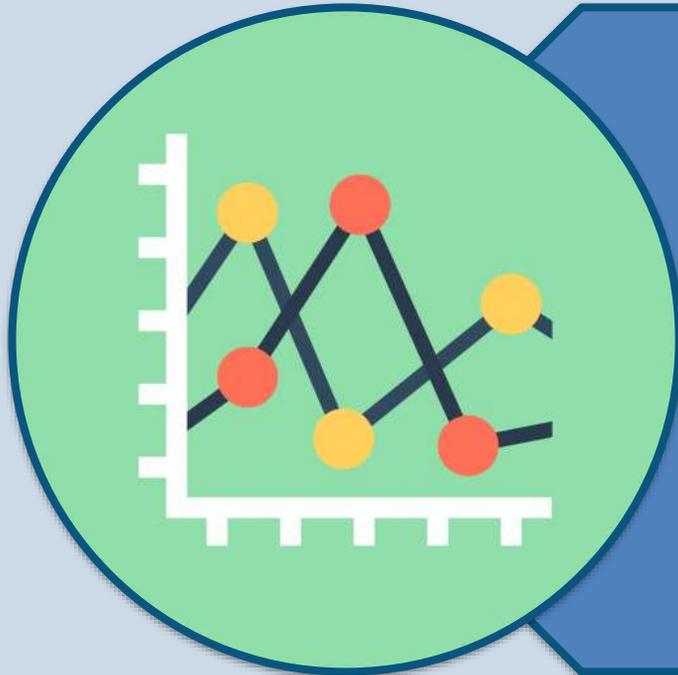
### CONS:

- Dashboard performance drastically slower as data volume increased (Growing organization and longer timeframe of data)
- Some ability for users to filter to specific areas but less functionality for interactive data analysis

## Charges

	Curr FYTD	Prev FYTD	Prev FYTD Var	FYTD Var %	Budget FYTD	Budget Var	Budget Var %
Total Charges	614,844	614,697	147	0.0%	585,307	29,538	5.0%
Inpatient	0	0	0	0.0%	0	0	0.0%
Outpatient	614,844	614,697	147	0.0%	585,307	29,538	5.0%





# Current and Upcoming Revenue Cycle Reporting Tools

# Purpose of Benchmarking to Industry Standards

- To provide appropriate KPIs that are specific to specialties for Physician Billing metrics
- Risks of not providing specialty specific benchmarks are:
  - Inappropriate goals (too aggressive, not aggressive enough)
  - Lack of direction as to areas that need improvement
- Incorporating feedback from customers of analytics
- **FPSC benchmarking comparison to 50<sup>th</sup> Percentile, 75<sup>th</sup> Percentile and 90<sup>th</sup> Percentile**

UNC PHYSICIANS  
UNC HEALTH CARE

FPSC Specialty-Specific Benchmarking Metrics

Reporting Period  
March 2018

■ Better than Benchmark  
■ Worse than Benchmark

Subdivision Name	Days in AR		% AR > 90		Net Collection Rate		First Pass Denial Rate		Terminal Denial Rate		Select View Subdivision Level ▼
	Current	FPSC Median Benchmark	Current	FPSC Median Benchmark	Current	FPSC Median Benchmark	Current	FPSC Median Benchmark	Current	FPSC Median Benchmark	
	37.3	42.1	24.8%	28.7%	95.5%	88.6%	5.8%	7.2%	0.6%	3.6%	Select FPSC Benchm Median Bench... ▼
	52.2	43.2	35.1%	27.6%	92.9%	88.5%	5.5%	7.2%	0.7%	3.6%	

# Implementation of Industry Standard Benchmarks

FPSC

- Phase 1 of Providing Industry Standard Benchmarks
- Provides **PB specialty-specific** benchmarking for operational comparison to national academic medical center peers
- Geared towards academic medical center practices

MGMA

- Phase 2 (Starting next)
- Provides PB specialty-specific benchmarking for operational comparison to national private practice peers
- Geared towards non-academic medical center practices

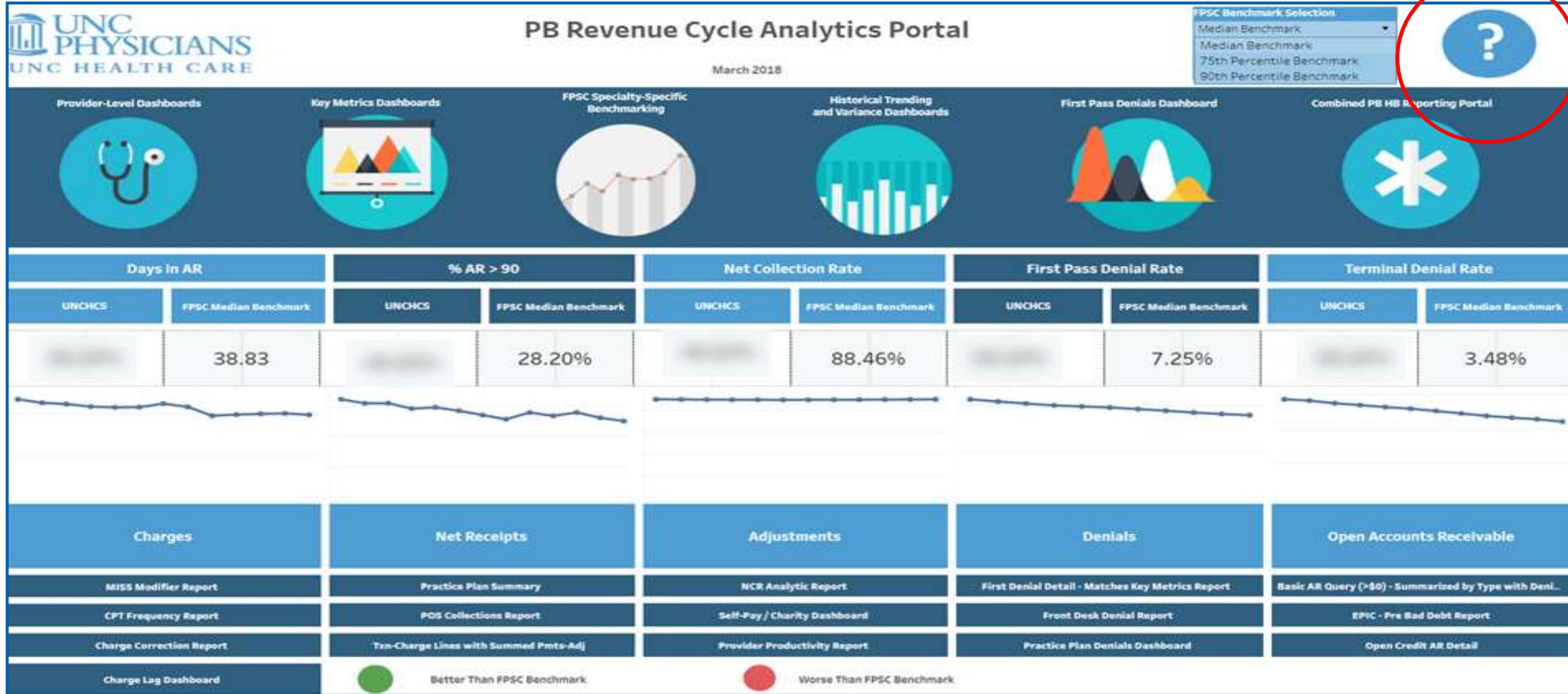
HFMA

- Phase 3 (TBD)
- Provides system-level strategic benchmarking across both PB and HB combined

# Tableau PB Revenue Cycle Analytics Portal

**Built in  
Tableau**

Portals allow for visual organization of available dashboards via linked reports to specific revenue cycle topics, high-use reports, BO detailed reports, etc. for easier navigation and self-service reporting



# Tableau PB Revenue Cycle Analytics Reporting Help Guide

## PB Revenue Cycle Analytics Reporting Help Guide



**PDS Reporting SharePoint Site** for helpful links, training guides, and tip sheets around data access and reporting.



**Questions?** Please email us at [PDSReports@unhealth.unc.edu](mailto:PDSReports@unhealth.unc.edu)



**Report Request?** Please submit a [MySupport@UNC](mailto:MySupport@UNC) Ticket. For PB requests: Please select "Professional Revenue Cycle" as the relevant request type.



**PB Prompted Reports:** For the full list of PB Prompted Reports in Business Objects, follow BO Pathway: Public Folders, PDS View Only, P&A Prompted Reports, Epic Reports



**PB Revenue Cycle Analytics Quick Data Definitions**



**EADSpedia SharePoint** for Documentation information, certified analytical assest, etc.



**FPSC Metric Benchmarking**  
Methodology for PB Metrics and Information.  
Coming Soon!

Provide easier access to quick data definitions, increasing training and education around revenue cycle metrics to increase customer understanding and ability to drive improvement in their operational areas

# Tableau PB Revenue Cycle Analytics Portal



Dashboard created out of customer feedback and requests for 1-2 page summary of metrics for discussions with providers and quick view of high level metrics in a summary format

# Tableau Trending Key Metrics Dashboard

Metric Category	Historical Trending by Previous Reporting Periods	Current Value	FPSC Median Benchmark	Previous Month Compare	Previous Month Value	Internal Comparison Value	
						Division	Subdivision
Days in AR		37.3	42.1	↓	38.2	(A)	(A)
% AR > 90		24.8%	28.7%	↑	22.6%	(A)	(A)
Net Collection Rate		95.5%	88.6%	↓	95.7%	(A)	(A)
First Pass Denial Rate		5.8%	7.2%	↓	5.9%	(A)	(A)
Terminal Denial Rate		0.6%	3.6%	↓	0.6%	(A)	(A)

Enhanced key metrics summary dashboard with feedback incorporated such as historical trending by reporting periods and comparisons to previous months.

# Tableau PB Revenue Cycle Analytics Portal

Link to Business Objects Detailed Report for more granular information. Report saved with data and filters so users do not have to wait to run report

 [Click Here for Detail Report](#)

March 2018

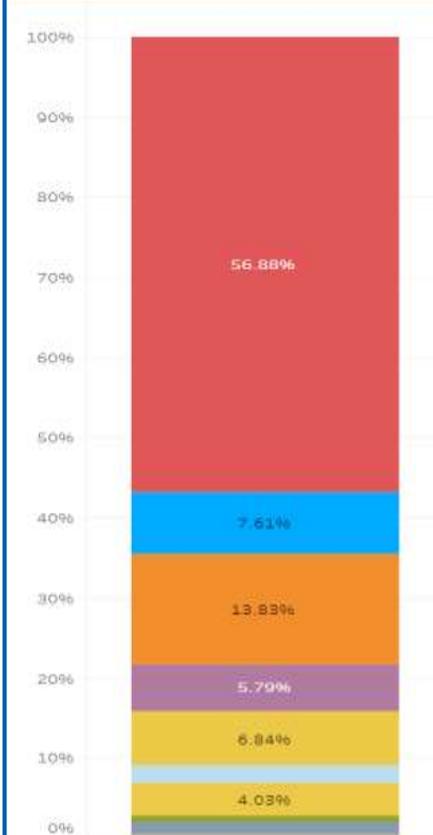


## Preventable Write-Offs Dashboard

Rolling 12 Mo of Closed Charges

### Breakdown by Category

Click a Bar to Filter Dashboard



### Preventable WO Amount by Category

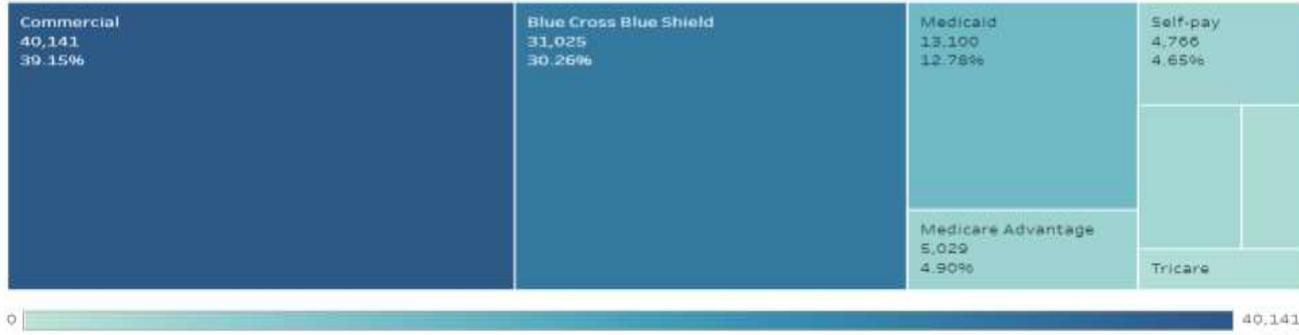
Click to Filter Dashboard

BAD DEBT	58,109
TIMELY FILING	7,771
AUTHORIZATION	14,125
CODING	5,918
CLINICAL AREA	6,991
PROVIDER ENROLLMENT	2,206
POSTING	4,121
NON-COVERED	847
PATIENT RELATED	1,534
MISCELLANEOUS	245
CUSTOMER SERVICE	298
<b>Grand Total</b>	<b>102,165</b>

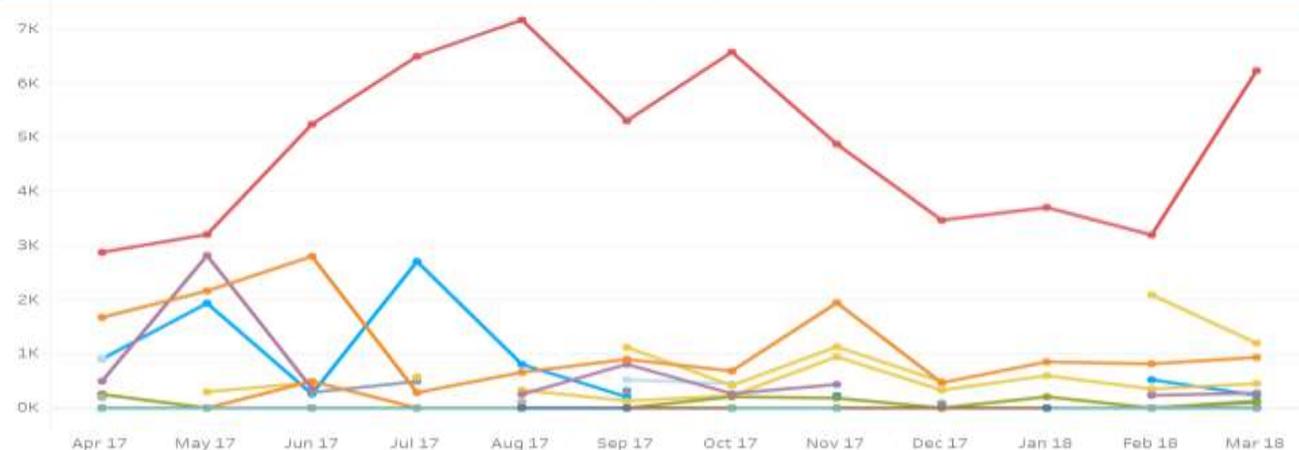
- Preventable Groupers
- BAD DEBT
  - TIMELY FILING
  - AUTHORIZATION
  - CODING
  - CLINICAL AREA
  - PROVIDER ENROLLMENT
  - POSTING
  - NON-COVERED
  - PATIENT RELATED
  - MISCELLANEOUS
  - CUSTOMER SERVICE

### Preventable WOs by Financial Class

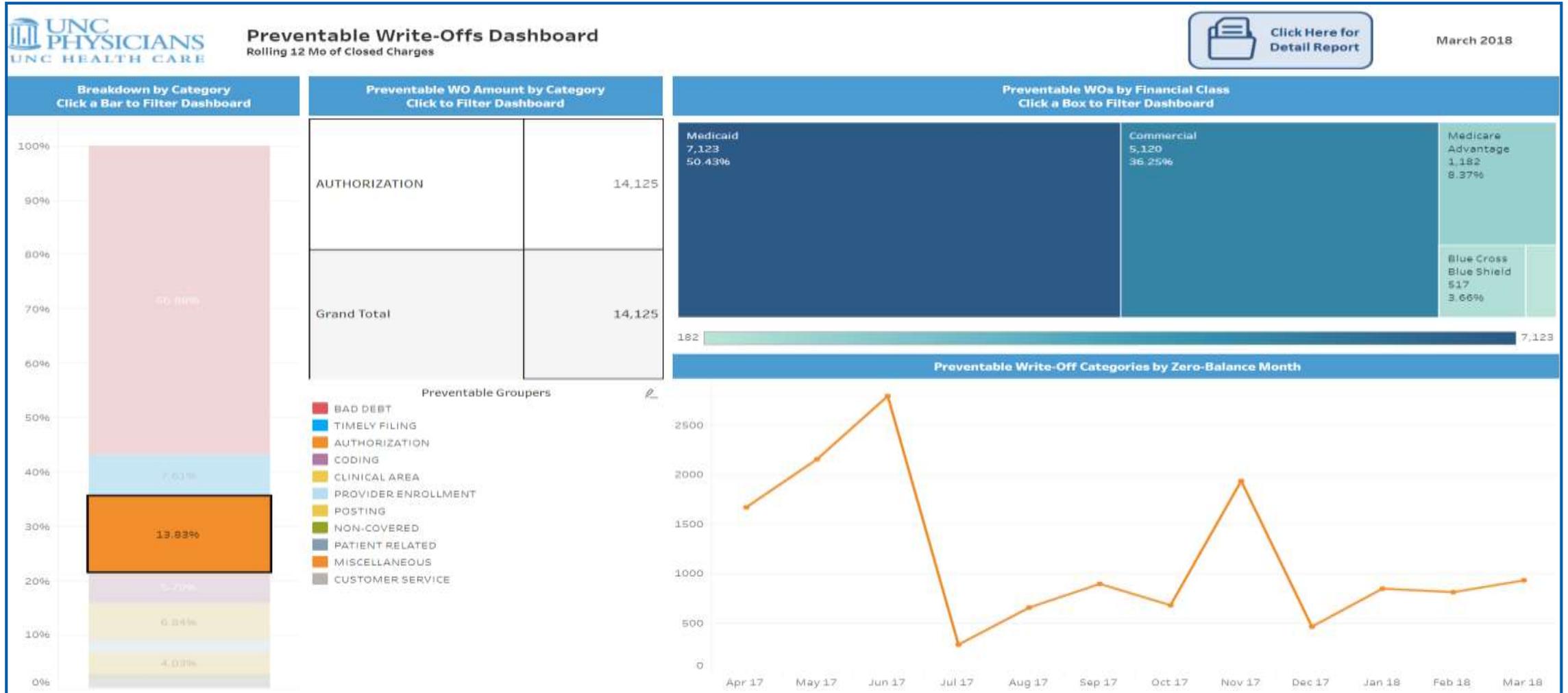
Click a Box to Filter Dashboard



### Preventable Write-Off Categories by Zero-Balance Month



# Tableau PB Revenue Cycle Analytics Portal

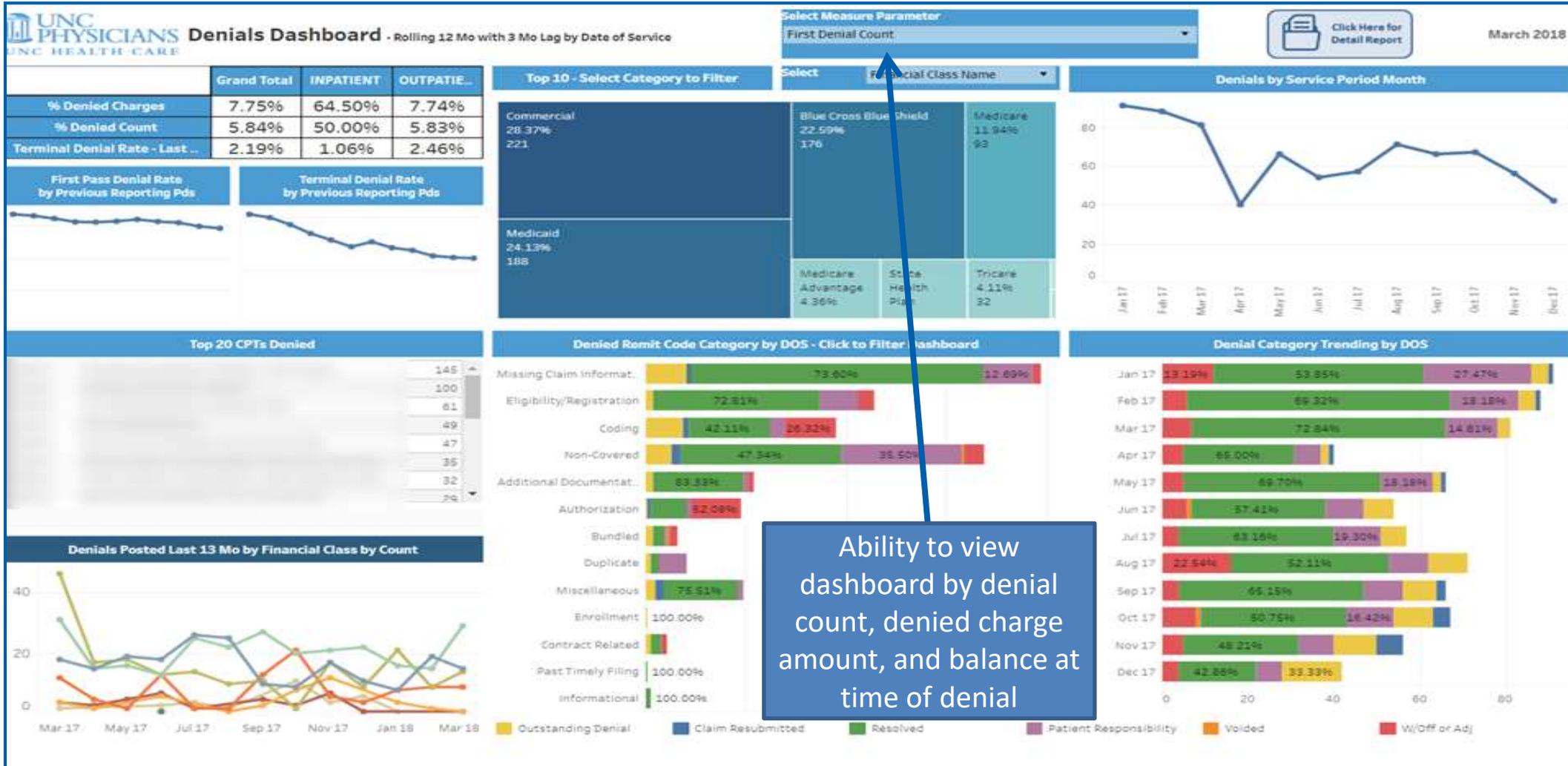


# Tableau PB Revenue Cycle Analytics Portal

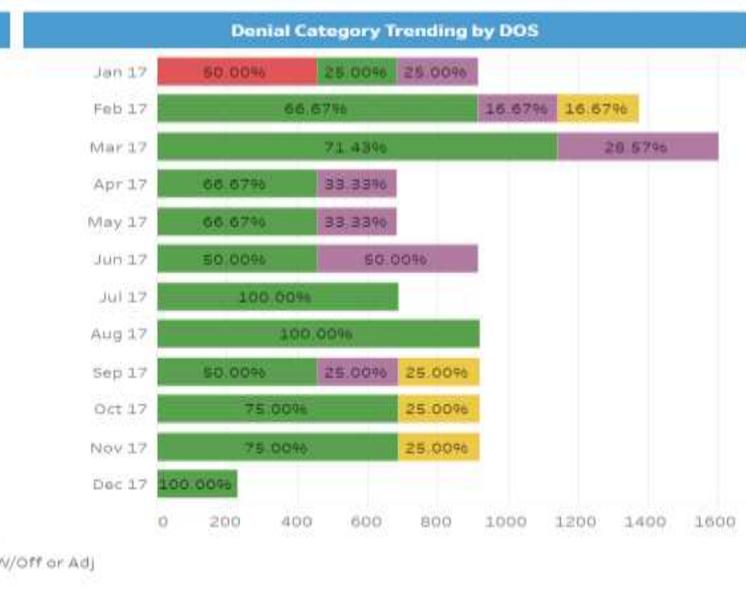
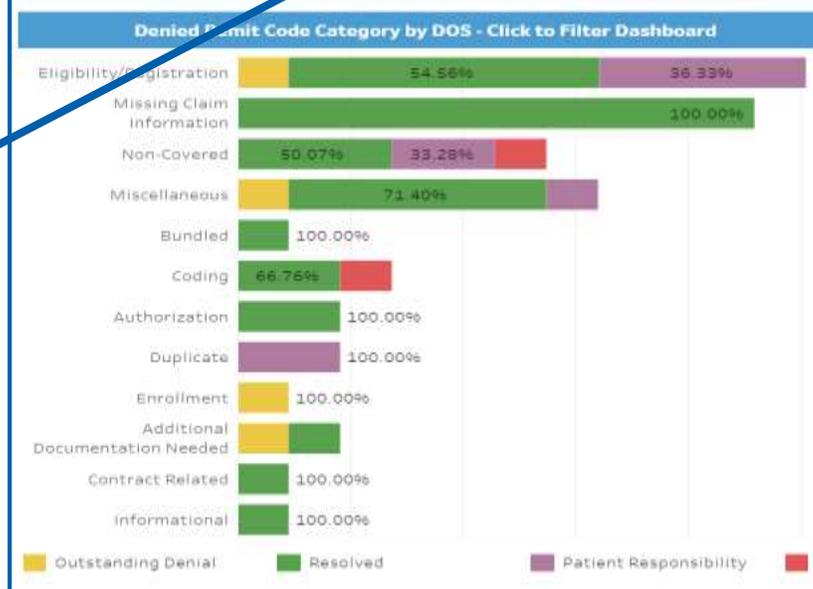
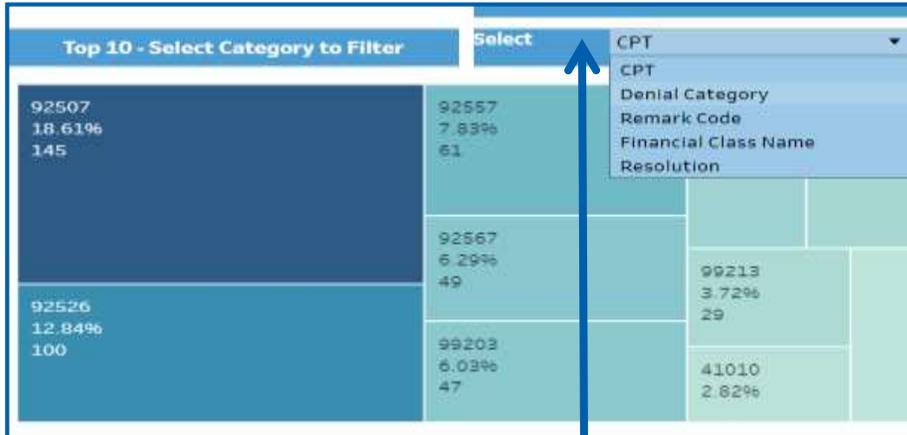
Highly interactive analytical tool

Improved ability to dig into denials without the initial need to for Excel data dumps to pivot

Use of parameters functionality of Tableau to allow for filtering by a variety of measures & dimensions

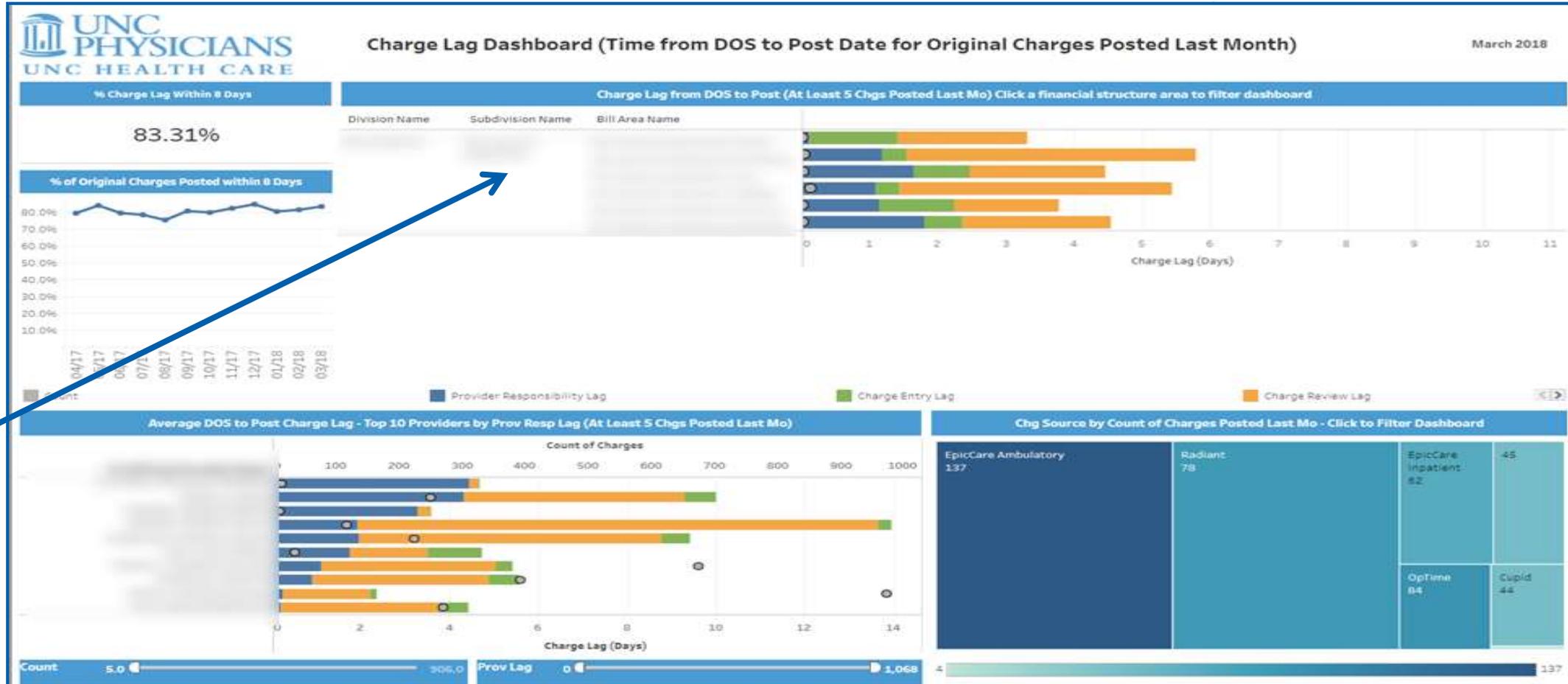


# Tableau PB Revenue Cycle Analytics Portal



Use of parameters and actions functionality in Tableau to provide ability to view many different topics within the s

# Tableau PB Revenue Cycle Analytics Portal



Use of "Hierarchy" Functionality in Tableau to Build Cascading Levels for Users

User-Interactive functionality to update data view by charge source, by area, by providers. Default provider responsibility to at least 5 charges posted to remove outliers from default view to increase operational focus on more impactful areas for analysis (and allow users to use sliders to see full range)

# Questions?



# Contact Information

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