



The Office of the National Coordinator for  
Health Information Technology

# Is it Time to Re-Focus on the Practice? Strategies and Support for Reliable Quality Measurement

---

Craig Jones – ONC Resource Center  
Hans Kastensmith – Capitol Health Associates  
Patrick Gordon – Rocky Mountain Health Plan



# Context

- **Value based payment models** are driving traditionally segregated provider groups to enter into new business arrangements, where they work together to improve coordination and quality of services, and health outcomes
- **Growing need to evaluate variation and comparative performance** across settings, a process that depends on aggregation of reliable data (e.g. claims, clinical).
- **Aggregating reliable clinical data from EHRs has proven challenging**, particularly for independent practices that don't have substantial administrative and technical support.
- **These challenges have stimulated interest and innovation** around how to support practices in order to assist with changes in workflow, and to improve the ability to evaluate outcomes while reducing measurement burden.

# ONC Support of the State Innovation Models Initiative

- ONC is providing technical assistance to CMS and State Innovation Model States.
- This involves one-on-one subject matter expertise as well as the creation of tools and resources that can be leveraged to support health IT innovation in care delivery and payment systems.

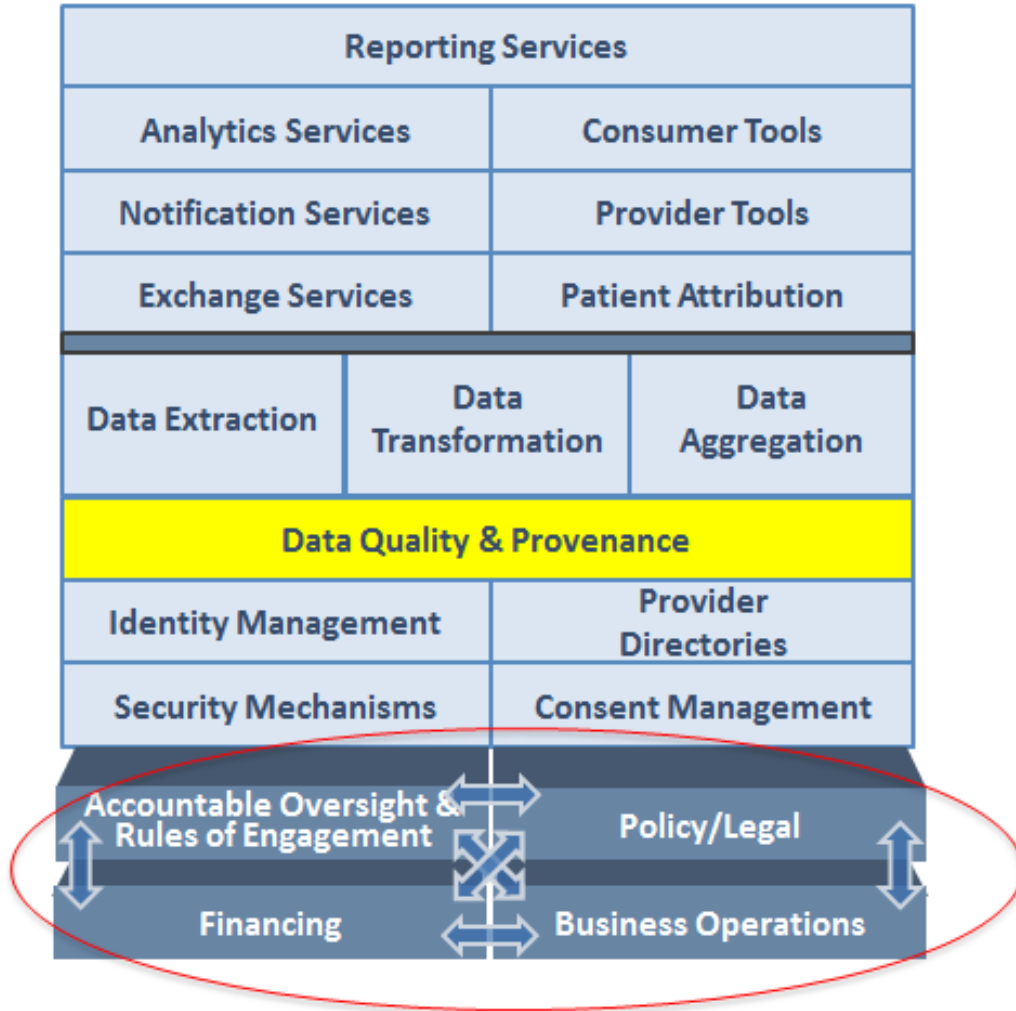
- **Materials Cover:**

- » Privacy and Security
- » Alerting
- » ID Management
- » Behavioral Health
- » Provider Directories

- Materials are published at:  
<https://www.healthit.gov/providers-professionals/state-innovation-model-health-it-resource-center>

The screenshot shows the HealthIT.gov website's State Innovation Model Resource Center. The page features a navigation menu with categories like 'Providers & Professionals', 'Patients & Families', and 'Policy Researchers & Implementers'. Below the navigation, there are tabs for 'Benefits of EHRs', 'How to Implement EHRs', 'Privacy & Security', 'EHR Incentives & Certification', 'Success Stories & Case Studies', and 'Resource Center'. The main content area is titled 'State Innovation Model Resource Center' and includes a sidebar with links to 'National Learning Consortium', 'Regional Extension Centers (RECs)', 'Workforce Development Programs', 'Rural Health Resources', 'Solutions: Overcoming Challenges to Meaningful Use in Practices', 'Health Information Exchange (HIE)', and 'Million Hearts'. The main text describes the SIM Initiative's support for states and lists resources such as 'Delivery System Reform Resources for States', 'Interoperability Resources', and 'Privacy and Security Resources'. A 'Find Out More!' section on the right provides links to blog posts and press releases.

# Health IT Modular Functions



## Additional Tools Being Developed

- Strategic planning and implementation guide for health IT enabled quality measurement in support of alternative payment models
- Decision guide to assist with selection of data extraction and measurement strategies
- Content enhanced based on recent HITEQM in-person meeting with SIM States

← Foundation for a 'healthy' Health IT Stack

# Vermont's Community Oriented Medical Home Model



All-Insurer Payment Reforms

Transformation Network

Service Area & Statewide Collaboratives

Data Infrastructure

Evaluation & Comparative Reporting

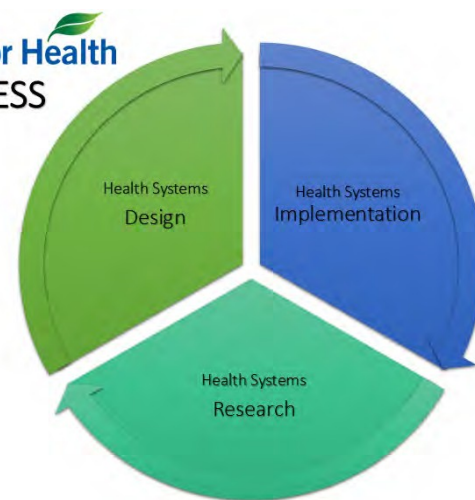


# Statewide Network for Comparative Learning



- 31 Community Health Team Leaders
- 19 Blueprint Practice Facilitators
- 14 Blueprint Project Managers
- 4 ACO Clinical Quality Leaders
- 6 ACO Clinical Consultants

VERMONT  
Blueprint for Health  
PROCESS



# Practice Profiles Evaluate Care Delivery Commercial, Medicaid, & Medicare



Practice Profile: ABC P  
Period: 01/2013 - 12/2013 Practice HSA: ABC Profile Type: Adults (18+ Years)

Welcome to the 2014 Blueprint Practice Profile for the Blueprint for Health, a state-led initiative transforming the way that health care and overall health services are delivered in Vermont. The Blueprint is leading a transition to an environment where all Vermonters have access to a continuum of seamless, effective, and preventive health services.

Blueprint practice profiles are based on data from Vermont's all-payer claims database, the Vermont Healthcare Claims Uniform Reporting and Evaluation System (VHCURES). Data include all covered commercial, full Medicaid, and Medicare members, attributed to Blueprint practices starting by December 31, 2013.

Practice Profiles for the adult population cover members ages 18 years and older, pediatric profiles cover members between the ages of 1 and 17 years.

Utilization and expenditure rates presented in these profiles have been risk adjusted for demographic and health status differences among the reported populations.

This reporting includes only members with a visit to a primary care physician, as identified in VHCURES claims data, during the current reporting year or the prior year.

## Demographics & Health Status

	Practice	H.S.A.	St
Average Members	4,081	84,070	2
Average Age	50.6	50.1	
% Female	55.8	55.5	
% Medicaid	14.5	13.0	
% Medicare	23.7	22.2	
% Maternity	2.1	2.1	
% with Selected Chronic Conditions	50.1	38.8	
<b>Health Status (CRO)</b>			
% Healthy	39.0	43.9	
% Acute or Minor Chronic	18.8	20.5	
% Moderate Chronic	27.9	24.5	
% Significant Chronic	15.4	12.3	
% Cancer or Catastrophic	1.4	1.3	

Table 1: This table provides comparative information on the demographic status of your practice, or Blueprint practice in your Hospital Service Area (HSA) state as a whole. Included measures reflect the types of information used to adjust for case mix, age, gender, residency status, and health status.

Average Members serves as this state's denominator and adjusts for partial enrollment during the year. In addition, special attention has been given to Medicaid and Medicare. This includes adjustment for each member's enrollment in Medicaid or Medicare, the member's projected percentage of membership in Medicare, Medicare disability or end-stage renal disease status, and the member's required special Medicaid services that are not found in certain populations (e.g. drug treatment, residential treatment, case management, services, and transportation).

The Selected Chronic Conditions measure indicates the proportion of members through the claims state as having one or more of seven selected chronic conditions: chronic obstructive pulmonary disease, congestive heart failure, diabetes, hypertension, diabetes, and depression.

The Health Status measure aggregates 3M™ Clinical Risk Group (CRG) via the year for the purpose of generating adjusted rates. Aggregate risk class includes: Healthy, Acute (e.g. acute stroke, thrombocytopenia) or Minor Chronic (chronic joint pain), Moderate Chronic (e.g. alcoholism), Significant Chronic (CHF, COPD, and Cancer (e.g. breast cancer, colorectal cancer) or Catastrophic (e.g. stroke, cystic fibrosis).

Demographics & Health Status    Cost of Care    Utilization    Effective & Preventive Care    Data Detail



## Practice Profile: ABC Primary Care

Period: 01/2013 - 12/2013 Practice HSA: ABC Profile Type: Adults (18+ Years)

### Total Expenditures per Capita

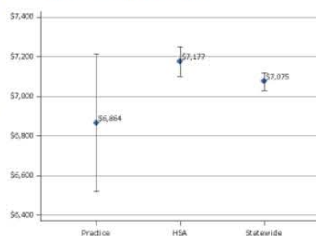


Figure 1: Presents annual risk-adjusted rates and 95% confidence intervals with expenditures capped statewide for outlier patients. Expenditures include both plan and member out-of-pocket payments (i.e., copay, coinsurance, and deductibles).

### Total Expenditures by Major Category

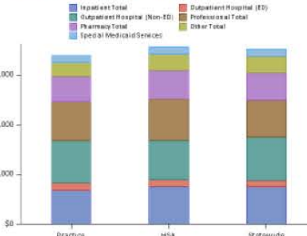


Figure 2: Presents annual risk-adjusted rates for the major components of cost (as shown in Figure 1) with expenditures capped statewide for outlier patients. Some services provided by Medicaid (e.g., case management, transportation) are reported separately as Special Medicaid Services.

### Total Expenditures Excluding SMS

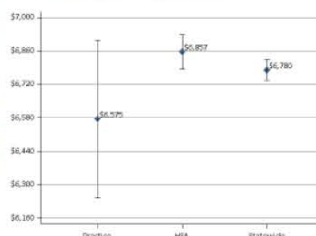


Figure 3: Presents annual risk-adjusted rates and 95% confidence intervals with expenditures excluding Special Medicaid Services, capped statewide for outlier patients. Expenditures include both plan and member out-of-pocket payments (i.e., copay, coinsurance, and deductibles).

### Total Resource Use Index (RUI) Excluding SMS

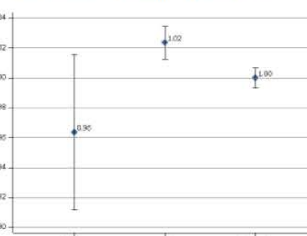


Figure 4: Presents annual risk-adjusted rates and 95% confidence intervals. Since price per service varies across Vermont, a measure of expenditures based on resource use — Total Resource Use Index (RUI) — is included. RUI reflects an aggregated cost based on utilization and intensity of services across major components of care (e.g., inpatient) and excludes Special Medicaid Services. The practice and HSA are indexed to the statewide average (1.00).

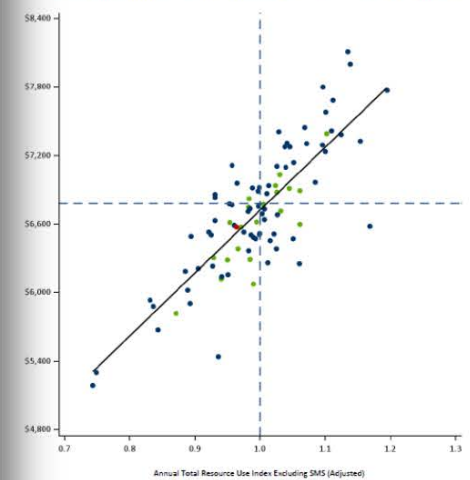
Demographics & Health Status    Cost of Care    Utilization    Effective & Preventive Care    Data Detail



## Practice Profile: ABC Primary Care

Period: 01/2013 - 12/2013 Practice HSA: ABC Profile Type: Adults (18+ Years)

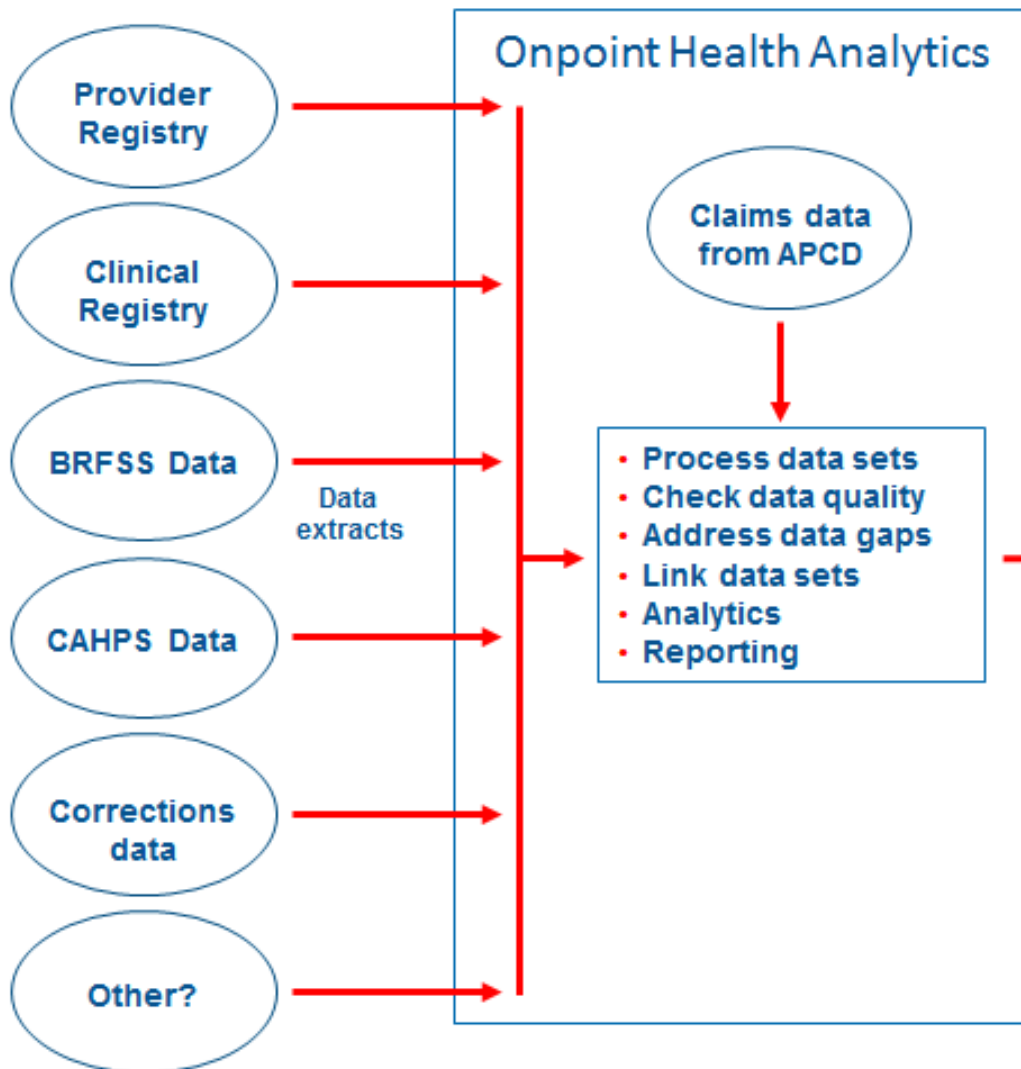
### Annual Total Expenditures per Capita Excluding SMS vs. Resource Use Index (RUI)



This graphic demonstrates the relationship between risk-adjusted expenditures excluding SMS and RUI for Blueprint practices. This graphic illustrates your practice's risk-adjusted rates (i.e., the red dot) of its practice in your Health Service Area (i.e., the green dot) and all other Blueprint practices (i.e., the blue dots). The dotted lines show the average expenditures per capita and average RUI statewide (i.e., 1.00). Practices with higher expenditures and utilization are in the upper right-hand quadrant with higher expenditures and utilization are in the lower left-hand quadrant. An RUI value indicates higher than average utilization; conversely, a value lower than 1.00 indicates lower than average utilization. The practice and HSA are indexed to the statewide average (1.00).

Demographics    Cost of Care    Utilization    Effective & Preventive Care    Data Detail

# Data Use for a Learning Health System



## Measurement

- Utilization
- Expenditures
- Unit Costs
- Quality
- Patient Experience
- Social, Economic, Behavioral
- Variation & Associations

## Products

- Practice Profiles
- HSA Profiles
- Learning System Support
- Performance Payments
- Program Impact & Publications
  - PCMH + CHT
  - Opioid Program
- Predictive Models



# Use of Federal & State Funding Streams

- State HIT Fund
- 1115 Waiver
- IAPD
- SIM



- HIE Infrastructure
- Clinical Registry
- Provider Registry
- All Payer Claims Database
- Patient Experience Survey
- Data Processing
- Analytics
- Reporting

# Collecting Reliable EHR Data for Quality Measurement

Core Measure Set  
Defines Priority  
Data Elements



- Capture elements in EHR system
- Extract elements from EHR system
- Transmit to intermediary systems
- Aggregate priority data elements
- Establish patient level records



Improve Completeness  
& Utility of Data from  
each Source System



Evaluate Completeness  
& Utility of Data from  
each Source System



**Dedicated Team for Data Quality**

‘EHR Capture to Aggregation to Assessment to Improvement’

# Vermont Blueprint Data Quality Initiative

## SPRINT Program



Capitol Health Associates LLC  
Hans C. Kastensmith  
Managing Partner

# Introduction

- **Clean Reliable End to End Data**
  - » The goal of the Blueprint Sprint is to establish end to end data extraction, transmission, and registry reporting in support of health services
- **Results Oriented Team Approach**
  - » The Sprint Program utilizes a results oriented approach where all participants engage in ownership and responsibility for achieving the stated measure of success.
  - » The individuals work together as a complete team, with regular direct communication, until the goal is achieved.
- **Intensive Interaction to Completion**
  - » A focus and intensity is maintained by all partners so that this process is accelerated and completed at each site as soon as possible.
- **Completion and Verification**
  - » Data is verified and accepted by the lead clinicians
  - » Analysis can be run and HSA Profiles Produced

# High Level Sprint Process

- Blueprint Community Evaluation
- Build Team
- Initial Site Evaluation
- Action Plan
- First Sprint Meeting Reviews Goals and Defines Roles
- Weekly Progress Meetings on Continuing Work
- Final Data Continuity and Validation
- Ongoing Maintenance



# Sprint Team

- **Multi-Disciplinary Teams**
  - » Representatives from the community and practices are selected and dedicated to the process from beginning to end.
- **Lead Clinicians**
  - » A lead clinician from each practice
- **Lead Site IT Representatives**
  - » An individual or group that have access and insight to the sources of data
- **Vermont Information Technology Leaders (VITL)**
  - » HIE interface team and eHealth Specialist members
- **BPCR Team**
  - » Program and Project management team
  - » Onboarding and support team members
- **Blueprint**
  - » BP Director, Sprint Program Team, BP Assistant Directors, Project Managers, others
- **Bi-State representative (where applicable)**

# Initial Site Evaluation

- An initial evaluation is conducted with the site(s) on Demographic and Clinical data collected.
  - » Review of EMR data transmission and format capabilities
  - » Review of connectivity issues and capabilities
  - » Review workflows and procedures around data entry
  - » Assess the quality and consistency of data at the source
  - » Compare the data transmitted to the V-HIE/BPCR (where applicable.)
  - » Generate exception report to identify issues in the feed

# Initial Data Verification

- An exception list is generated that gives the team a detailed view of data related issues
  - » Shows % of good and bad data elements
  - » Permits identification of mapping issues
  - » Allows for translation and missing elements to be addressed
  - » Identifies data entry issues
- Promotes situational awareness
- Sets up the basis for Action Plan

# Data Verification Report

MeasureID	MeasureName	TotalMeasures	TotalValid	PctValid	ReqMap/Trans	ReqMap/Trans
594	Foot Exam - Visual Inspection	2	2	100.00%	-	0.00%
635	Height (inch)	16,120	16,097	99.86%	23	0.14%
636	Weight (lb)	19,250	19,171	99.59%	79	0.41%
637	Body Mass Index	16,111	16,100	99.93%	11	0.07%
678	BP SBP	19,223	19,222	99.99%	1	0.01%
679	BP DBP	19,221	19,221	100.00%	-	0.00%
800	Lipids-fasting	1	1	100.00%	-	0.00%
1855	HDL - Female	4,658	4,651	99.85%	7	0.15%
2144	Asthma Classification (at diagnosis and between treatment)	118	112	94.92%	6	5.08%
2310	What, if anything have you done about these feelings?	2	2	100.00%	-	0.00%
2367	PHQ 9 Total Score	80	79	98.75%	1	1.25%
2552	Exercise Duration (minutes per day)	198	1	0.51%	197	99.49%
2588	Total Cholesterol	9,753	9,704	99.50%	49	0.50%
2763	Exercise (# days/week)	9,076	3,696	40.72%	5,380	59.28%
3138	Hep A	40	-	0.00%	40	100.00%
3506	Triglycerides	9,073	9,050	99.75%	23	0.25%
3517	LDL	9,347	9,222	98.66%	125	1.34%
3620	Tetanus	9,326	68	0.73%	9,258	99.27%
3983	a. little interest or pleasure in doing anything?	2	2	100.00%	-	0.00%
3984	b. feeling down, depressed or hopeless?	2	2	100.00%	-	0.00%
4339	Do you still have these feelings	2	-	0.00%	2	100.00%
4412	Today's Visit Type	4,473	536	11.98%	3,937	88.02%
4463	Are they as strong as they were when you were diagnosed with depression	2	-	0.00%	2	100.00%
4525	Foot Exam Monofil / Visual / Pulse	424	342	80.66%	82	19.34%
4575	HDL - Male	4,640	4,637	99.94%	3	0.06%
4903	Pneumovax	3,868	421	10.88%	3,447	89.12%
5009	Influenza vaccine	10,699	446	4.17%	10,253	95.83%
5138	IPV	63	-	0.00%	63	100.00%
5140	MMR (min age 12 months)	80	-	0.00%	80	100.00%
5142	Varicella (min age 12m)	33	-	0.00%	33	100.00%
5147	Pneumococcal (PCV) (min age 6 weeks)	9	-	0.00%	9	100.00%
5391	Rotavirus	1	-	0.00%	1	100.00%

# Action Plan

- Based on the findings of the previous steps an action plan is generated
  - » Details of issues that require action on data quality and mapping
    - ADT – Provider/Patient Attribution – Active/Inactive – Dups – Field Integrity
    - CCD – Coded Measures – Style Sheets for Message Processing
    - Flat File Feeds – Expanded Measure Capture – Extraction Issues
    - Establish Translation Requirements
    - Death Registry – Consistent Source of Reliable Information
  - » Engage upstream data systems representatives if necessary
  - » Establish changes in work flow and data entry at the practice level
  - » Integrate ongoing known issues and items from other Sprints that are in process for global continuity
  - » Establishes the definitive path to completion of the Sprint



# Weekly Progress Reports

PCP Assignment	PCP Assignments improving. 60% of patients at CHCRR are missing a PCP in the Registry.	Track improvements as other fixes are applied	On hold until data clean up and reload occurs.
	MedFusion Portal Creating Duplicate Patients - ISSUE HAS BEEN SOLVED Registry Remediation Required	Remediate bad data in Registry	Rick - update on resolution
		Run Duplicates Report in Registry	Rick - update on resolution after MPI reload
	Building PCP De-Activation List - Problem with PM/EMR interface cause	Remediate Bad Data on PCPs in Allscripts EMR	This may be resolved
	Doctor on Call being Investigated to ensure we have proper assignment of urgent care patients and a clean Active patient panel, Issue related to Provider/Patient Attribution	HOLD UNTIL POPULATION VERIFICATION Rutland will send two patient records that are known urgent care - will add a TEST provider and track through the system to determine effects - "Fake NPI"	Hans - update on work underway

# ADT Verification Report

Bennington ADT Values				
ADT value	Description	Centricity	Meditech	Allscripts Pro
<b>MSH Segment</b>	message header values	y	y	y
<b>PID segment</b>				
<i>PID-3</i>	Patient ID	y	y	y
<i>PID-5</i>	Name	y	y	y
<i>PID-7</i>	DoB	y	y	y
<i>PID-8</i>	Sex	not processed in DocSite	not processed in DocSite	y
<i>PID-10</i>	Race	y	y	y
<i>PID-11</i>	Address	y	y	y
<i>PID-13</i>	Phone	y	y	y
<i>PID-15</i>	Language	y	n	not required
<i>PID-18</i>	Pt Account No	n		y
<i>PID 19</i>	SSN	not processed in DocSite	not processed in DocSite	n
<i>PID-22</i>	Ethnic Group	y	most not entered	y
<i>PID-29</i>	Death Date/Time	y	not generally entered	y
<i>PID-30</i>	Death Indicator	y	not generally entered	y
<b>PV1 Segment</b>				
<i>PV1-3</i>	Assigned Location	y	y	y
<i>PV1-7</i>	Attending Doc (NPI)	y	y	y
<b>IN1</b>	mapped to table			

# Measures of Success

- The site has optimized data quality for all purposes including health services, quality, evaluation
- The site has high quality data transmission into the HIE network and clinical registry
- The site can produce results of key metrics (ACO, UDS, NCQA, CQM meaningful use)

# Types of Sprints

- **Remediation**
  - » Sites currently sending data to VHIE/DocSite
- **Onboarding**
  - » Sites that are about to send data to VHIE/DocSite
- **Field Team**
  - » New Initiative
  - » Sites that are earlier in the process of EHR deployment

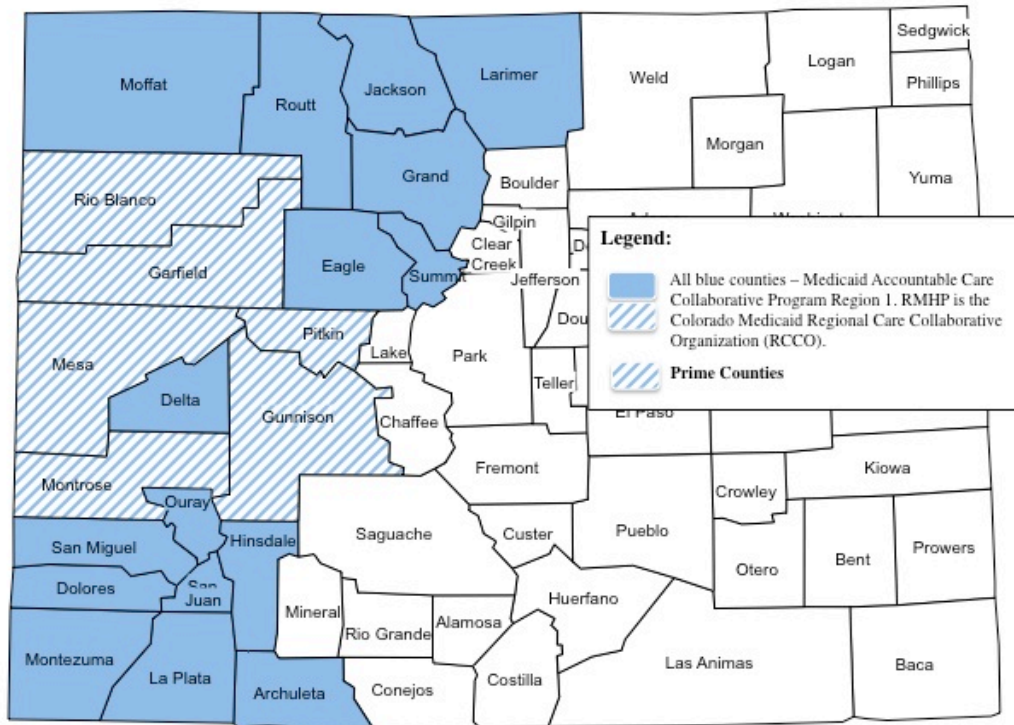


# Data Quality: People, Process and Performance Outcomes

ONC Learning Webinar | September 27, 2016

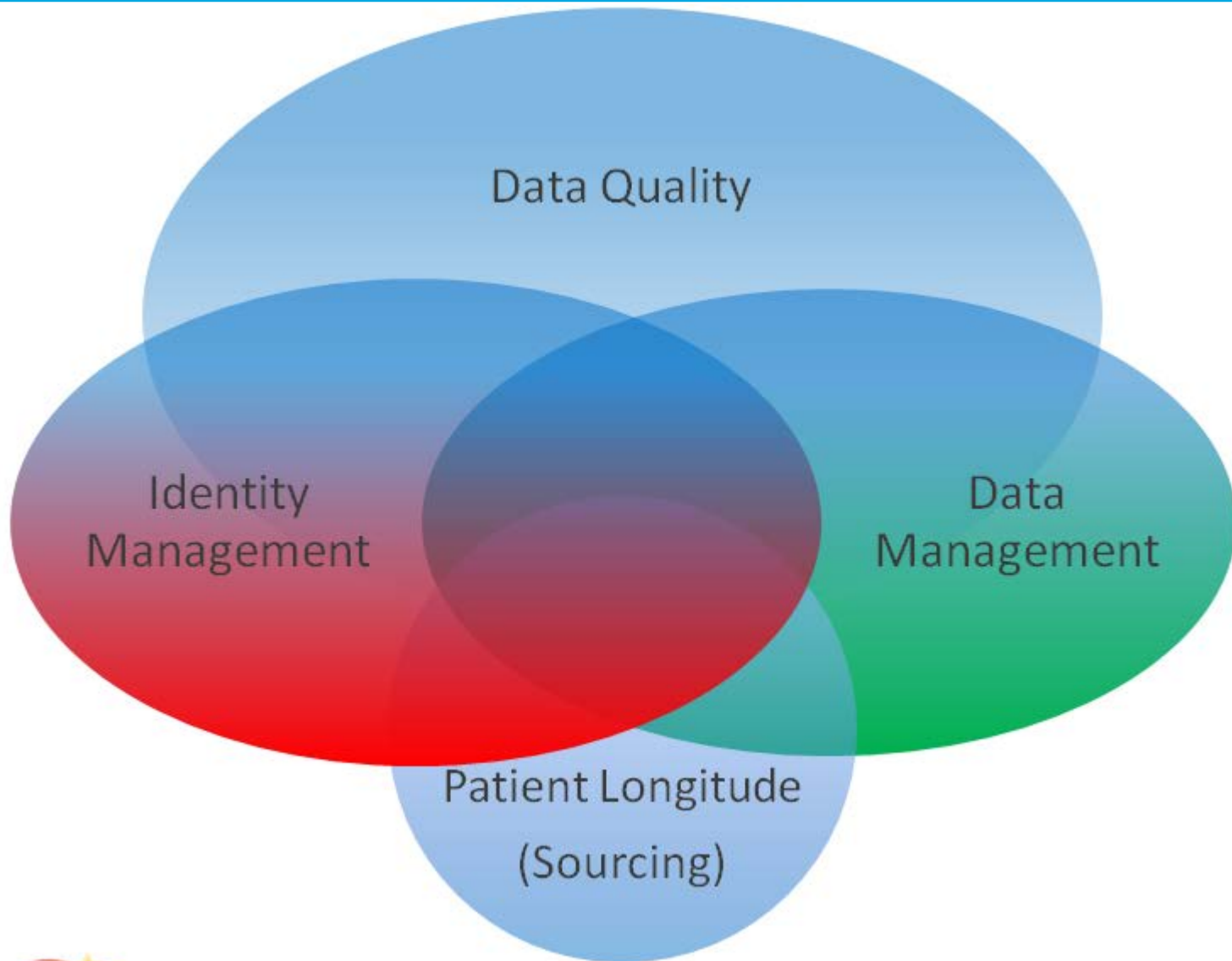


# Brief Introduction



- Independent, network model health plan, with provider and HIE partners;
- Serving ~350,000 people;
- Extensive participation in ONC and CMMI technology and transformation initiatives;
- Focused on Western Colorado; and,
- Committed to health equity.

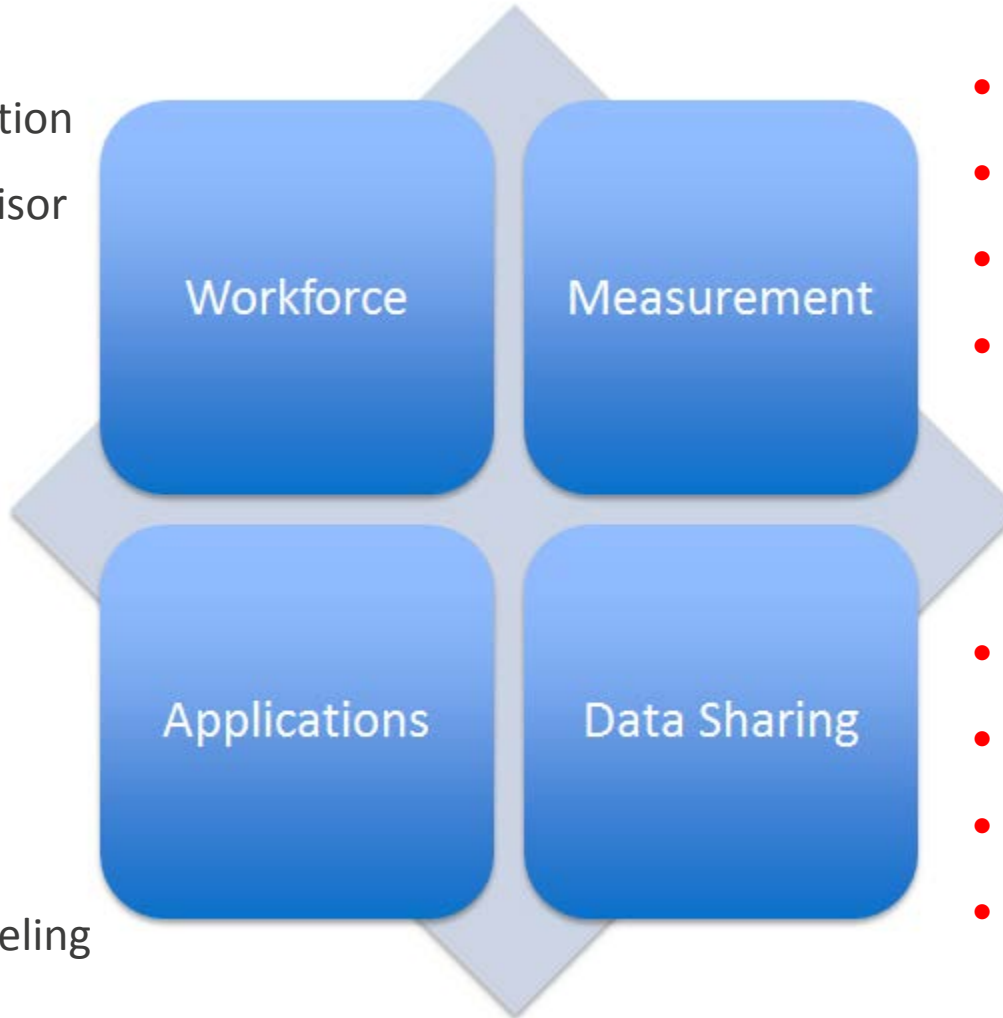
# Critical Health Information Network Services



# Data Quality Drivers

- Practice Facilitation
- Clinical HIT Advisor (“CHITA”)
- Leadership

- Benchmarking
- Gaps in Care
- Stratification
- Predictive Modeling



- Focused eCQMs
- Aligned HEDIS
- Total Cost & Utilization
- Patient Activation

- EHR
- Community / HIE
- (Multi) Payer
- Patient Reported

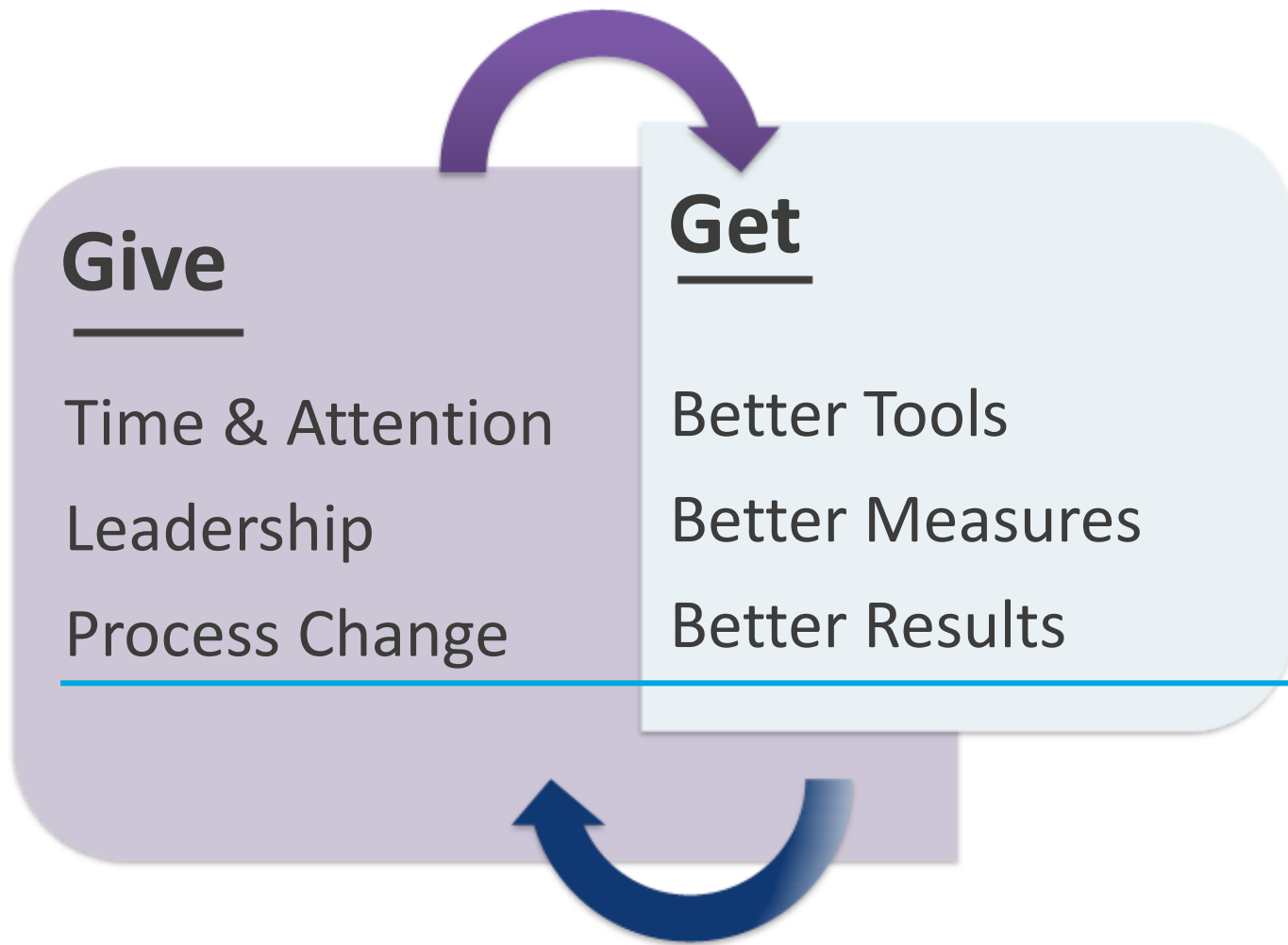
# The “CHITA”

- **Clinical Health Information Technology Advisor (CHITA)** An expert in data capture and data reporting
- The CHITA becomes familiar with the electronic health record (EHR) platform in each practice to understand how best to report clinical data that document measures that matter to the practice
- The CHITA supports practice workflow as it relates to effective data capture in the EHR, provides oversight and analysis of consistent data entry across practices to enhance the ability to accurately measure and report on key metrics
- The CHITA and the practice facilitator/coach work together closely to optimize their respective skills for the benefit of the practice

# Data Quality Steering - Key players

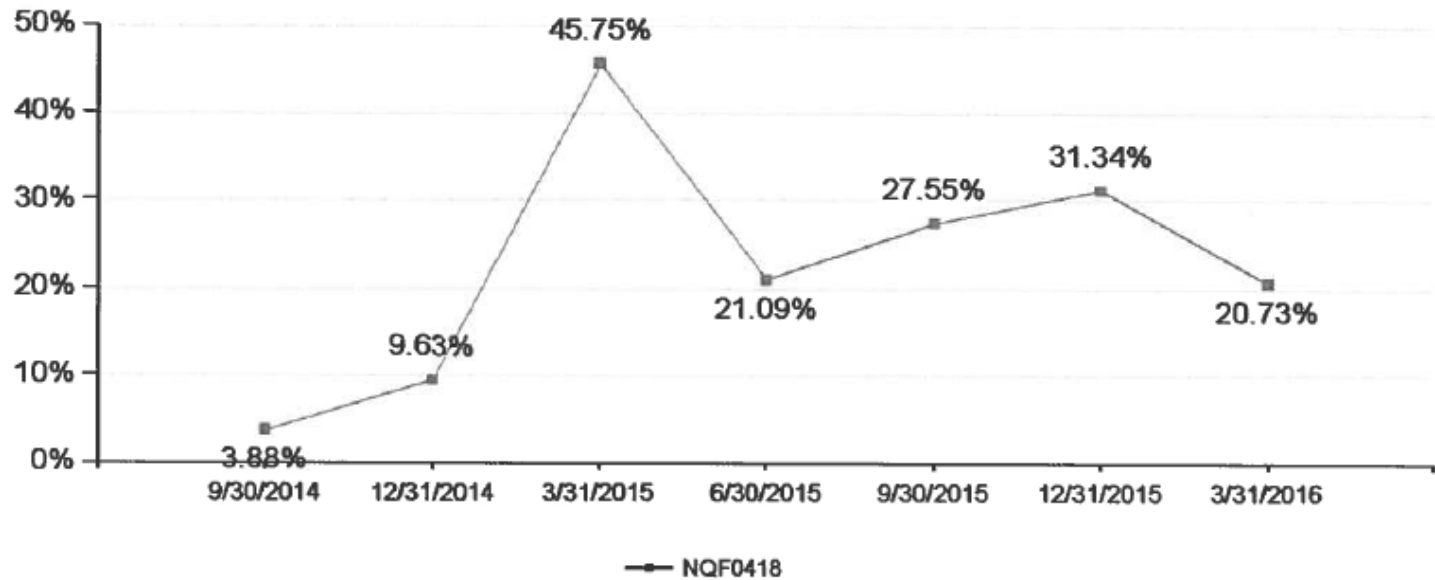
- People
  - » Leaders / sponsors
  - » Measurement / application experts
  - » IT/Technology
  - » Practice Facilitators
- Process
  - » Regular
  - » Feedback driven
  - » Continuous

# Data quality: creating a virtuous cycle



# Data quality: Continuous Feedback

**NQF 0418: Preventive Care and Screening Screening for Clinical Depression and Follow-up Plan**

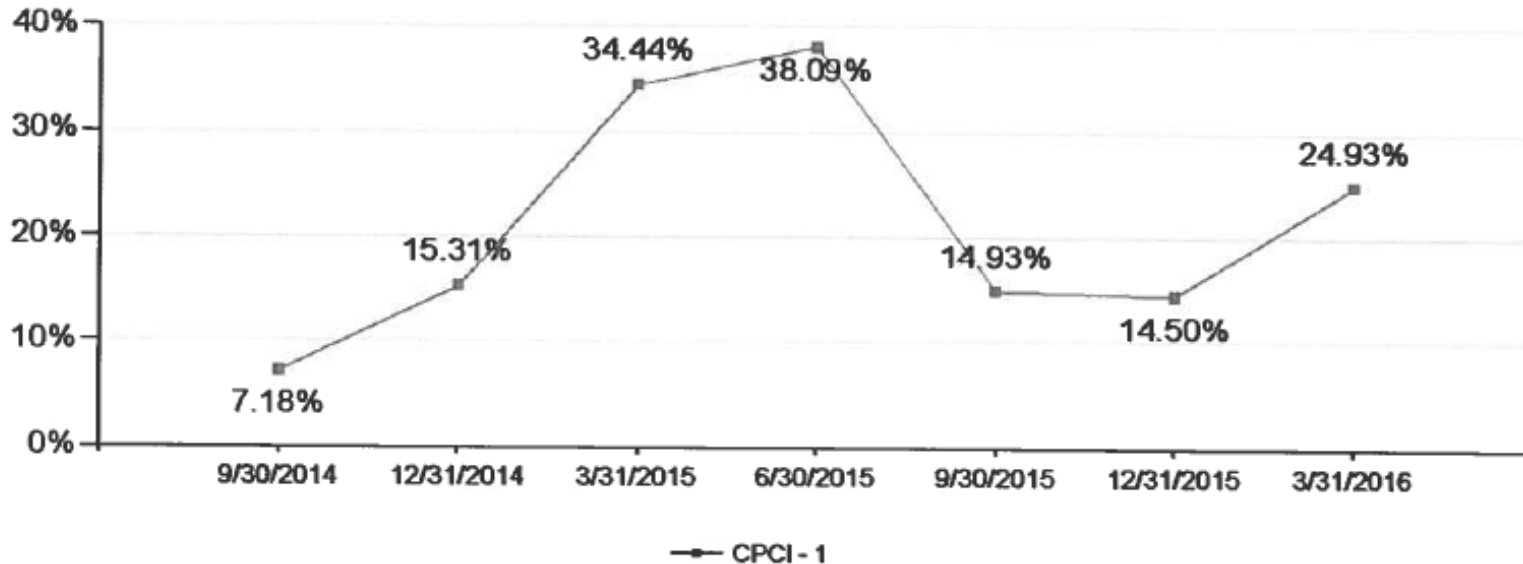


Practice ID	Practice Name	Numerator	Denominator	Rate
30	Foresight Family Physicians	437	1823	23.97%
46	Peach Valley Family Medical Center	228	2477	9.20%
49	Roaring Fork Family Physicians	474	1902	24.92%
57	Western Colorado Pediatric Associates/PCP (GJ)	0	1349	0.00%
158	Uncompahgre Medical Center	142	456	31.14%
171	Mountain Medical Center	736	1317	55.88%



# Data Quality: Continuous Validation

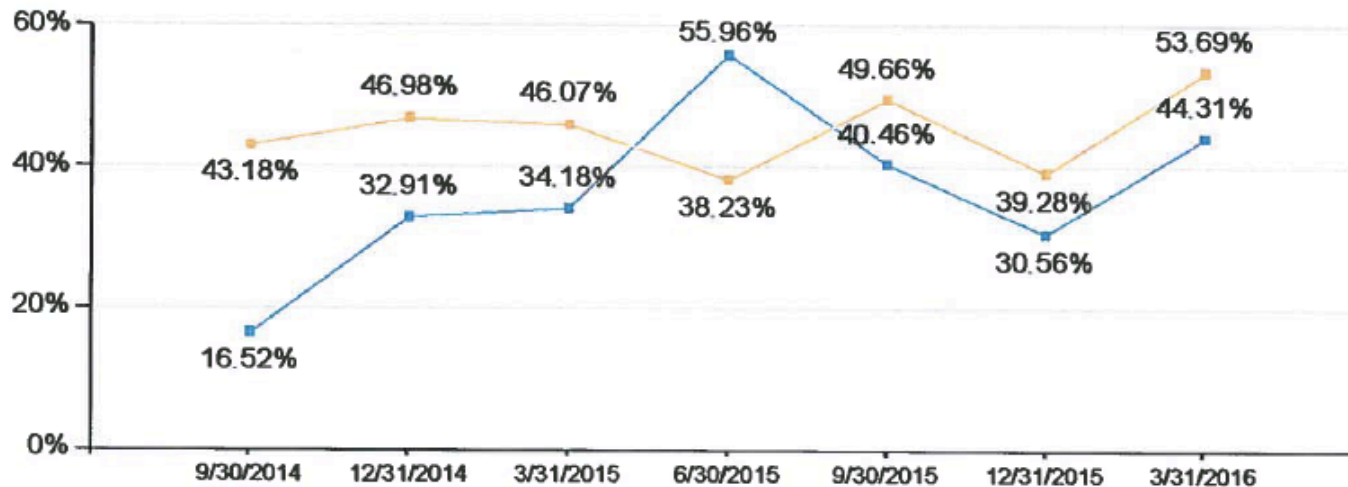
**NQF-0059: Diabetes Hemoglobin A1c Poor Control**



Cohort	Practice ID	Practice Name	Numerator	Denominator	Rate
1	75	Family Physicians of Western Colorado/PCP	5	728	0.69%
	30	Foresight Family Physicians	83	185	44.86%
	40	MidValley Family Practice	20	36	55.56%
	46	Peach Valley Family Medical Center	45	144	31.25%
	49	Roaring Fork Family Physicians	11	67	16.42%
	65	Western Colorado Physician Group/PCP	3	386	0.78%

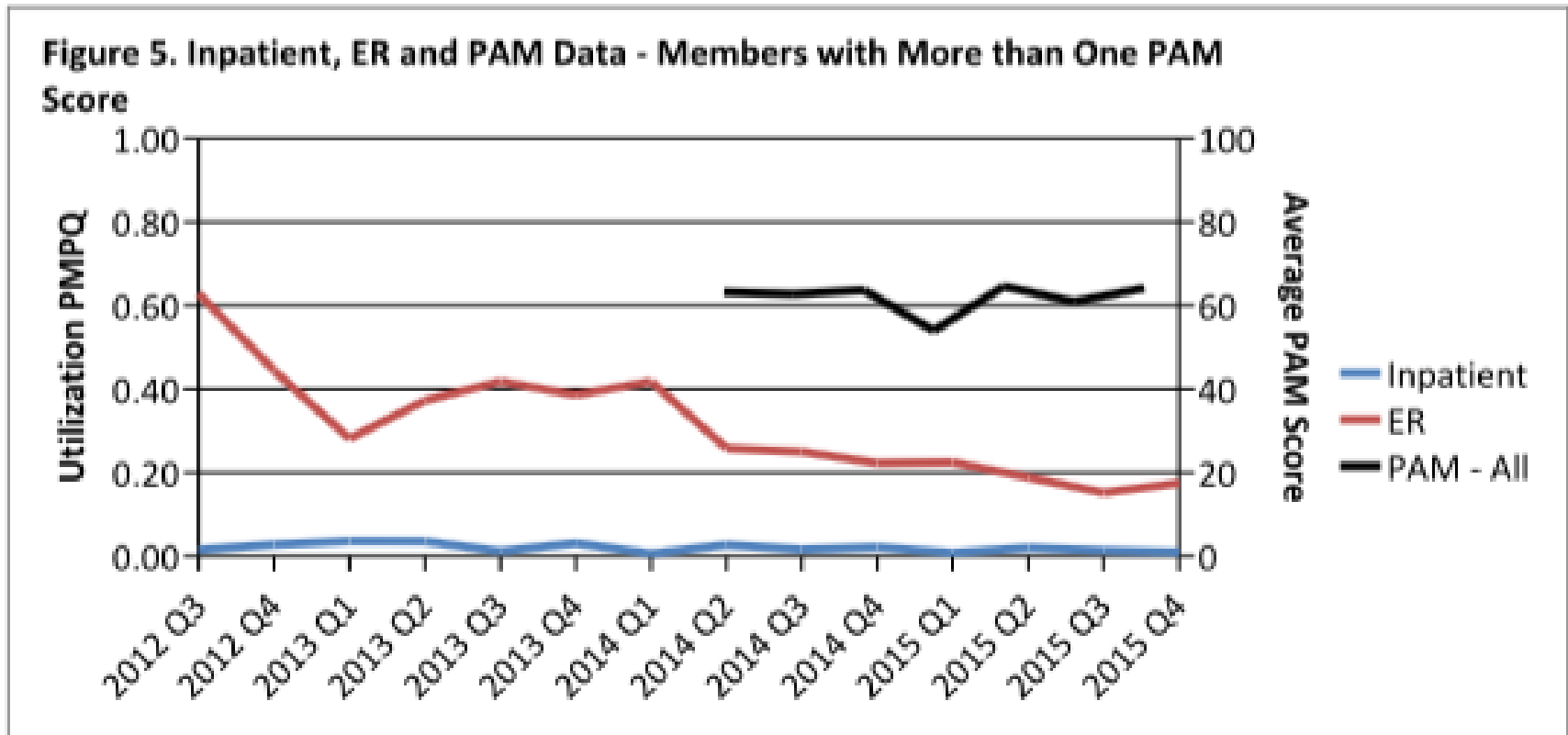
# Data quality: Trajectory matters

**NQF 0421: Preventive Care and Screening Body Mass Index Screening and Follow-up Plan**



rt	Practice ID	Practice Name	Numerator	Denominator	Rate
1	75	Family Physicians of Western Colorado/PCP			
		Ages 18 - 64	1623	4521	35.90%
		Ages 65+	1461	2378	61.44%
	30	Foresight Family Physicians			
		Ages 18 - 64	517	999	51.75%
		Ages 65+	370	594	62.29%
40	MidValley Family Practice				
	Ages 18 - 64	79	132	59.85%	
	Ages 65+	149	382	39.01%	

# Data quality: Continuous learning

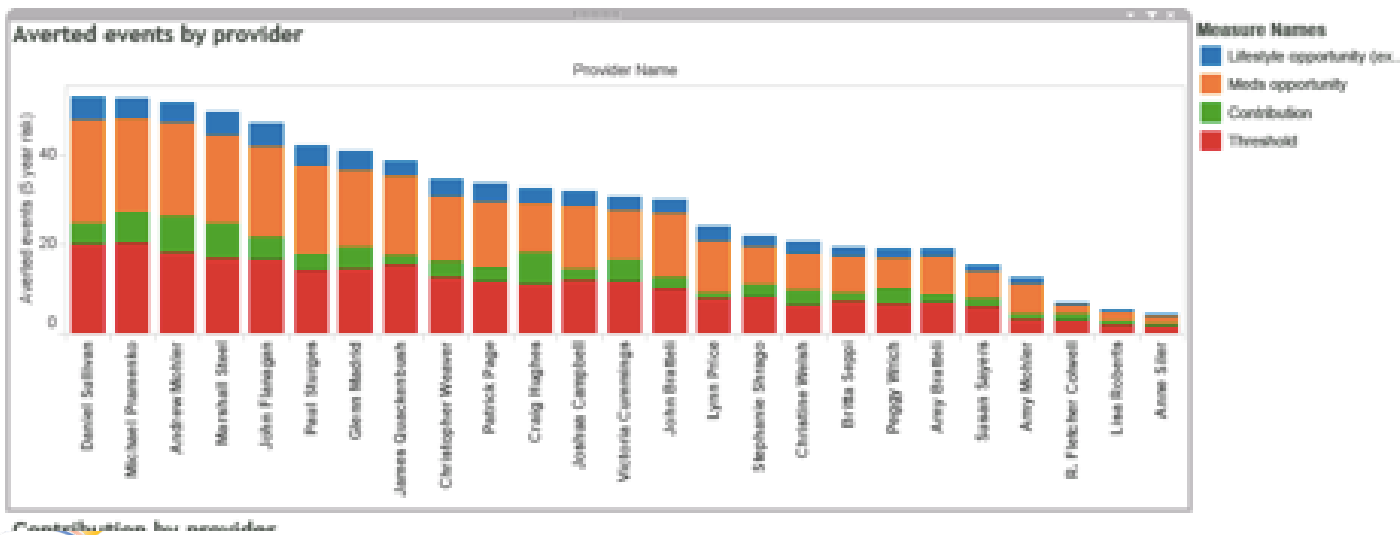


# Data Quality: Clear Value Proposition

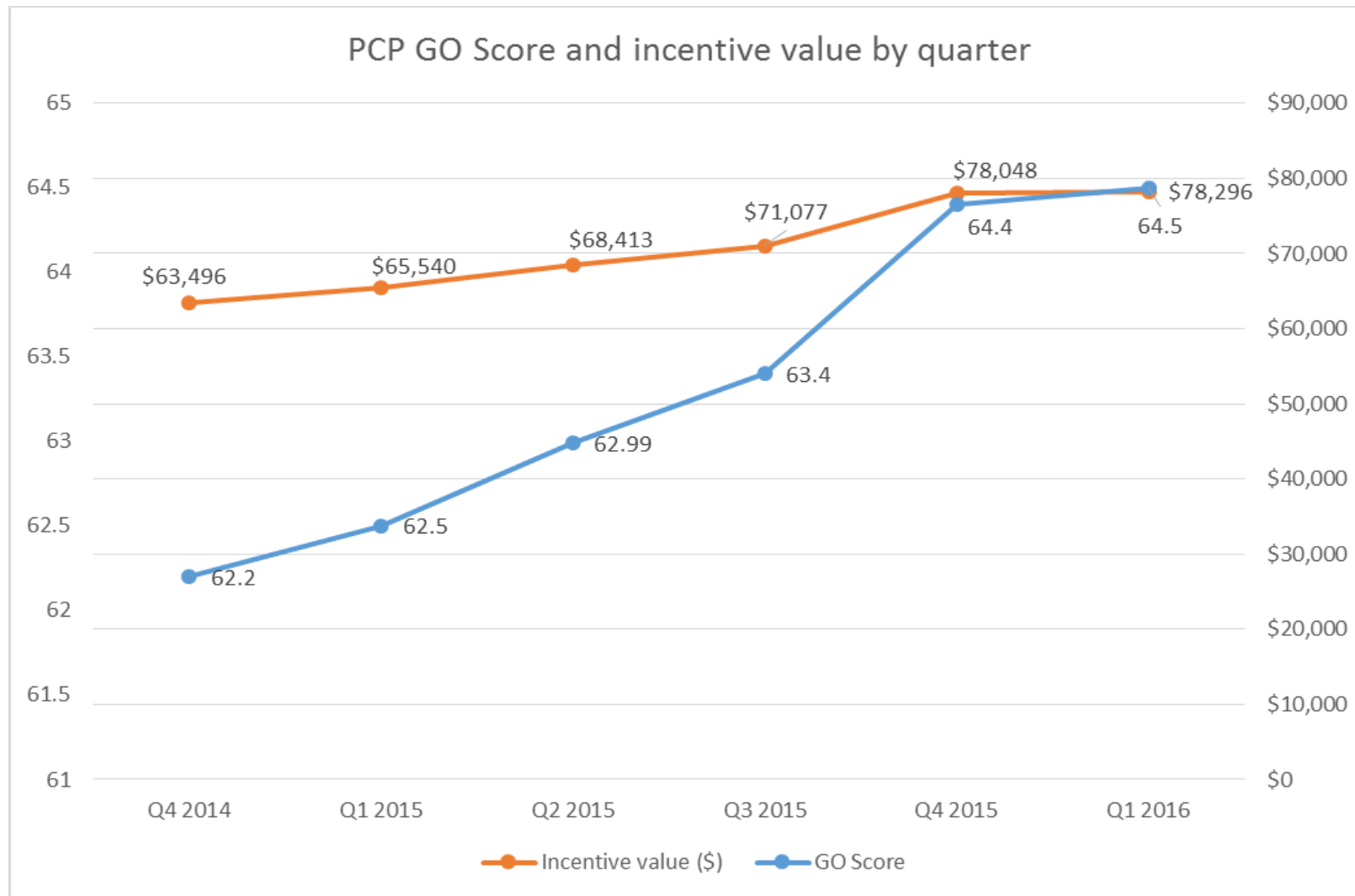
<b>Averted events by current treatment</b>	<b>356 (August 353)</b>
<b>Averted events over 50% guideline threshold (356 – 0.5 x 537):</b>	<b>87.4 (August: 85)</b>
<b>Quarterly Incentive payment (Averted over threshold x \$1000)</b>	<b>\$87,418</b>

## Averted events and contribution by provider:

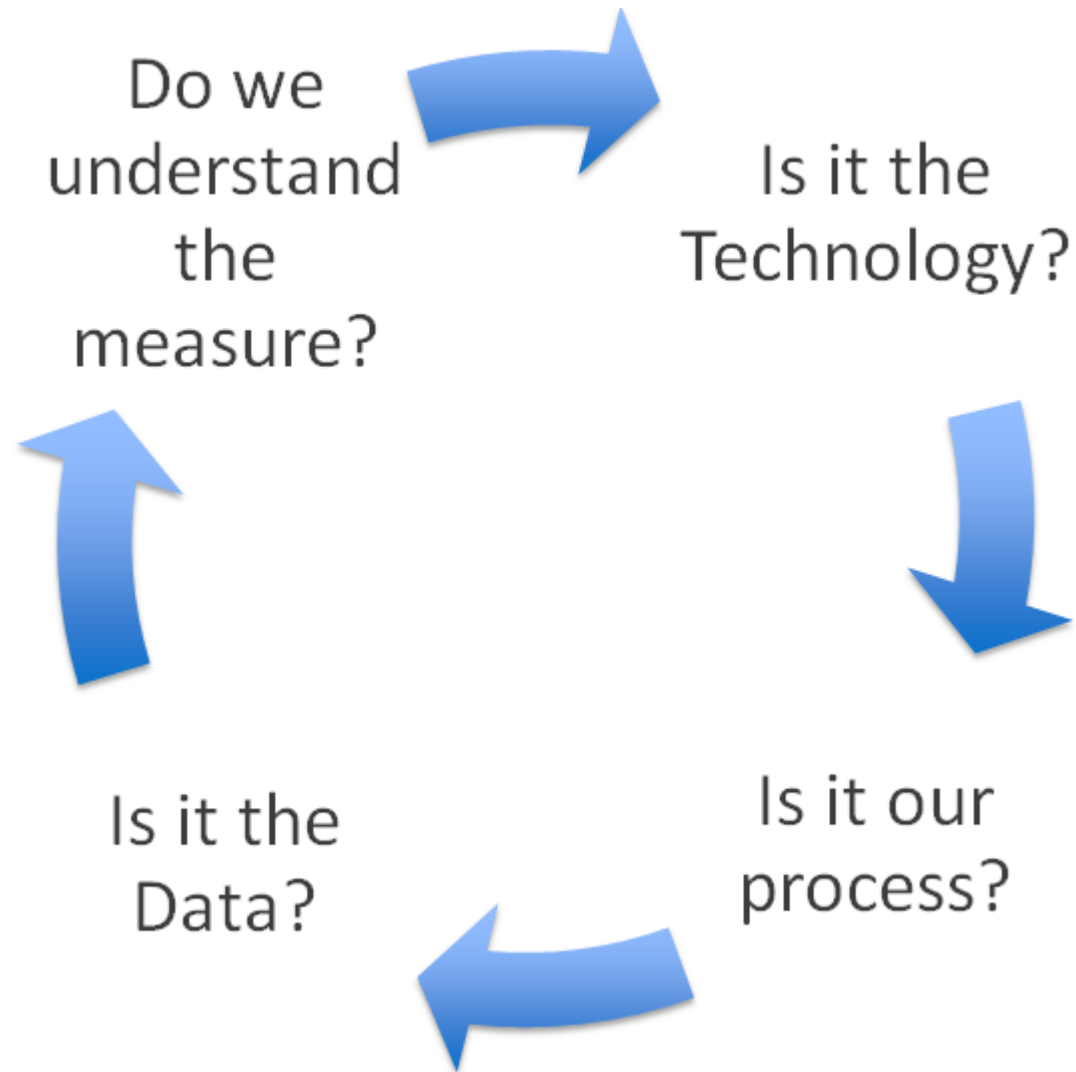
Each provider contributed some amount to the total calculated as his averted events minus his threshold (50% of guideline for is population). The bar graph and table below show each provider's threshold, averted events above threshold and their percent of the total events above threshold.



# Data quality: creating a virtuous cycle



# Data Quality: Steering Process



# Interoperability from the ground up

- **Value sets & specs:** Development of community and statewide data specifications that reflect the elements required to support defined value sets
- **Use & re-use:** Can be repurposed for a wide variety of measurement, analytic and clinical use cases
- **Policy & scale:** This is the essence of the ONC's Common Clinical Data Set concept





## Is it Time to Re-Focus on the Practice? Strategies and Support for Reliable Quality Measurement

- **Craig Jones - ONC Resource Center**  
[craigjvermont@gmail.com](mailto:craigjvermont@gmail.com)  
802 881 1710
- **Hans Kastensmith – Capitol Health Associates**  
[hck@capitolhealthdc.com](mailto:hck@capitolhealthdc.com)  
703 622 6896
- **Patrick Gordon - Rocky Mountain Health Plans**  
[patrick.gordon@rmhp.org](mailto:patrick.gordon@rmhp.org)  
720 515 4129



[@ONC\\_HealthIT](https://twitter.com/ONC_HealthIT)



[HHSONC](https://www.youtube.com/HHSONC)



## Follow-Up Listening Event Information

---

**Date:** Wednesday, September 28

**Time:** 4-5 pm EDT

**Link:** <https://global.gotomeeting.com/join/691653741>

You can also dial in using your phone.

United States (Toll-free) 1 877 309 2070

United States +1 (312) 757-3119

Access Code: 691-653-741



[@ONC\\_HealthIT](https://twitter.com/ONC_HealthIT)



[HHSONC](https://www.youtube.com/HHSONC)