Safety Net Analytics Program
Learning Session #13– September 29, 2015

Thanks for joining us - the webinar will begin shortly!

Safety Net Analytics Program

Tools for Safety-Net Analytics
Learning Session #13 – September 29, 2015

CCI
CENTER FOR CARE INNOVATIONS

Program Updates

1. **November 10th Knowledge Building Session - San Francisco Bay Area**
   - Location (likely Oakland) firmed up by Friday
   - Christopher Boone, CEO - Health Data Consortium
   - Focus on Peer Learning and Sharing
   - Gallery of Innovations

2. **Upcoming Learning Sessions - Lunchtime (12:00 – 1:00) Webinars**
   - **October 8th** (Thursday)–Selecting Analytics Tools: What to Look For
     Dale Sanders, Vice President – Health Catalyst
   - **October 27th** (Tuesday) – Case Study: The Build Option, Lifelong Medical Care
     Dr. Ben Mansalis, Associate Medical Director – Lifelong Medical Care

3. **Advanced Empanelment – Maintaining Panels** (recorded)

SNAP Structure

- **Module 1:** Assessment and Roadmap

- **Module 2:** Managing Data as a Strategic Asset

- **Module 3:** Analytics for Performance Improvement

- **Module 4:** Trends, Tools and Technology

Navigating the River of Data: Opportunities and Tools for Safety-Net Analytics

September 29, 2015

Alex Horowitz & John Weir
Intrepid Ascent

Presentation for the Center for Care Innovations
Safety Net Analytics Program (SNAP)
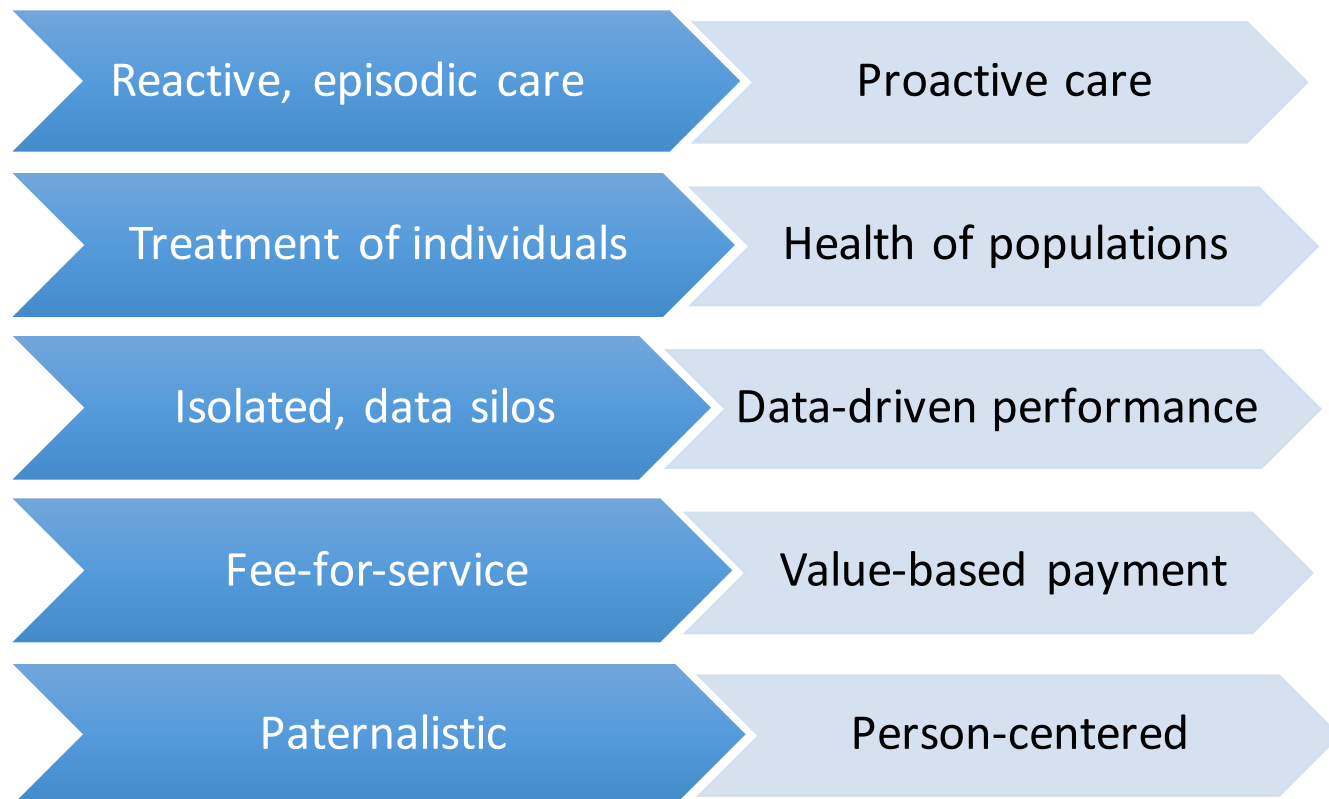
Outline

- Industry Changes Driving Demand for Data Analytics

- Data Analytics in Context

- Technical Solutions and Approaches

- Considerations for Your Technical Architecture

Industry Changes Driving Demand for Data Analytics

Healthcare Reform Currents and Where They are Flowing

Healthcare Reform Currents
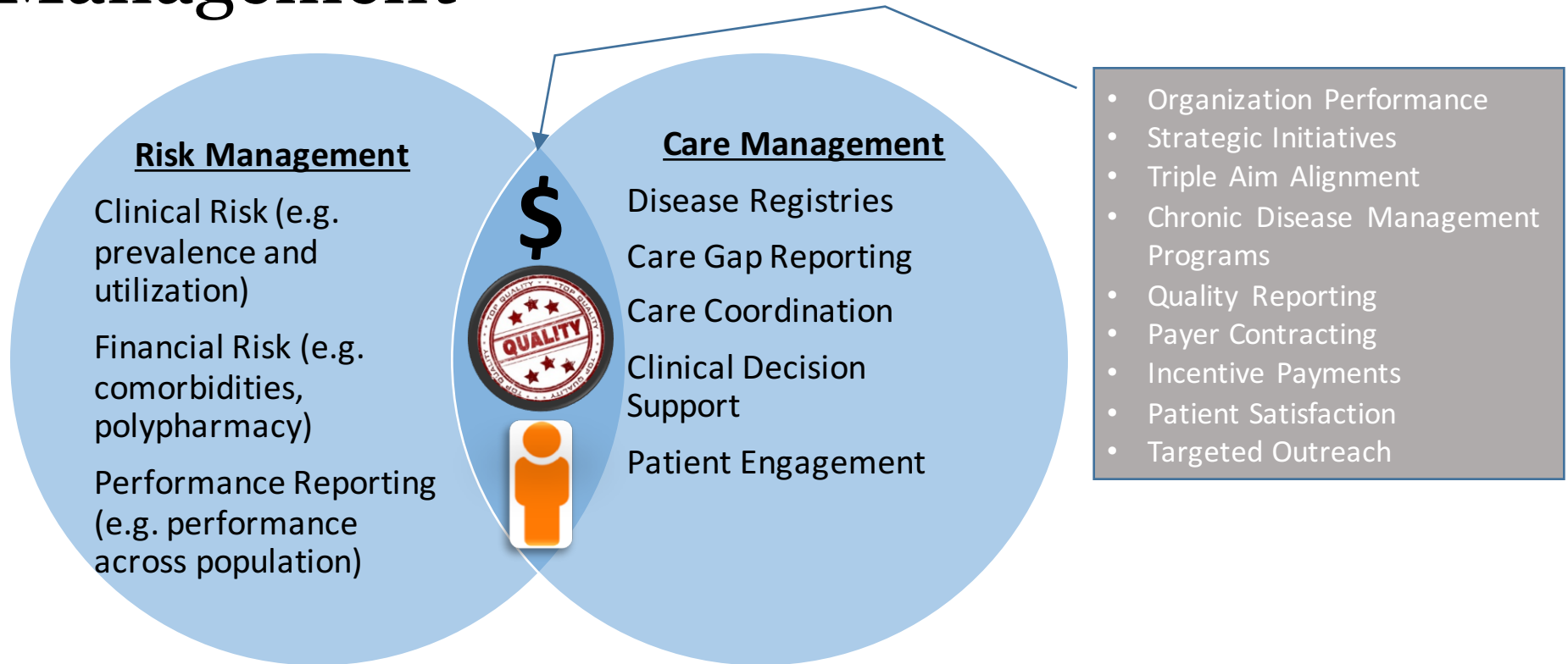
Reactive, episodic care	Proactive care
Treatment of individuals	Health of populations
Isolated, data silos	Data-driven performance
Fee-for-service	Value-based payment
Paternalistic	Person-centered

Analytics in Population Health Management

Risk Management

Clinical Risk (e.g. prevalence and utilization)

Financial Risk (e.g. comorbidities, polypharmacy)

Performance Reporting (e.g. performance across population)

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QUALITY

Care Management

Disease Registries

Care Gap Reporting

Care Coordination

Clinical Decision Support

Patient Engagement

- Organization Performance
- Strategic Initiatives
- Triple Aim Alignment
- Chronic Disease Management Programs
- Quality Reporting
- Payer Contracting
- Incentive Payments
- Patient Satisfaction
- Targeted Outreach

How Analytics Technology Drives Action

Ingredients for data-driven care quality improvement and population health initiatives

Leadership commitment
- Executives must own the vision
- Stakeholder collaboration

Specific motivation
- Reporting requirements
- Value-based payment
- Grant funding

Data / IT Infrastructure
- Technology tools
- Data quality
- Common measures
- Data-sharing mechanisms

Trust
- Reported outcomes are based on accurate data, apples-to-apples
- If you share your performance, it won't be used against you
- Data privacy and security laws / best practices followed

Coordinated teams and workflows
- Team-based care
- Data-aware organizations
- Workflow alignment
- User-friendly, integrated IT products

Outreach
- Engage people in their care with person-centered approaches
- Coordinated messages
- Multiple touchpoints
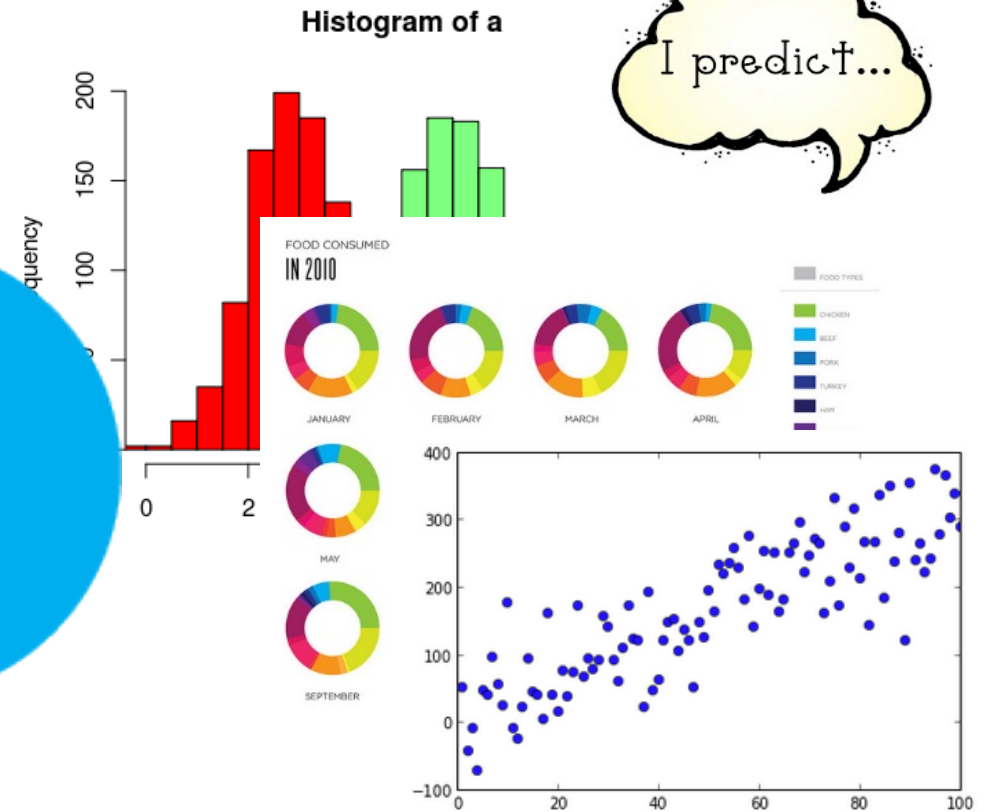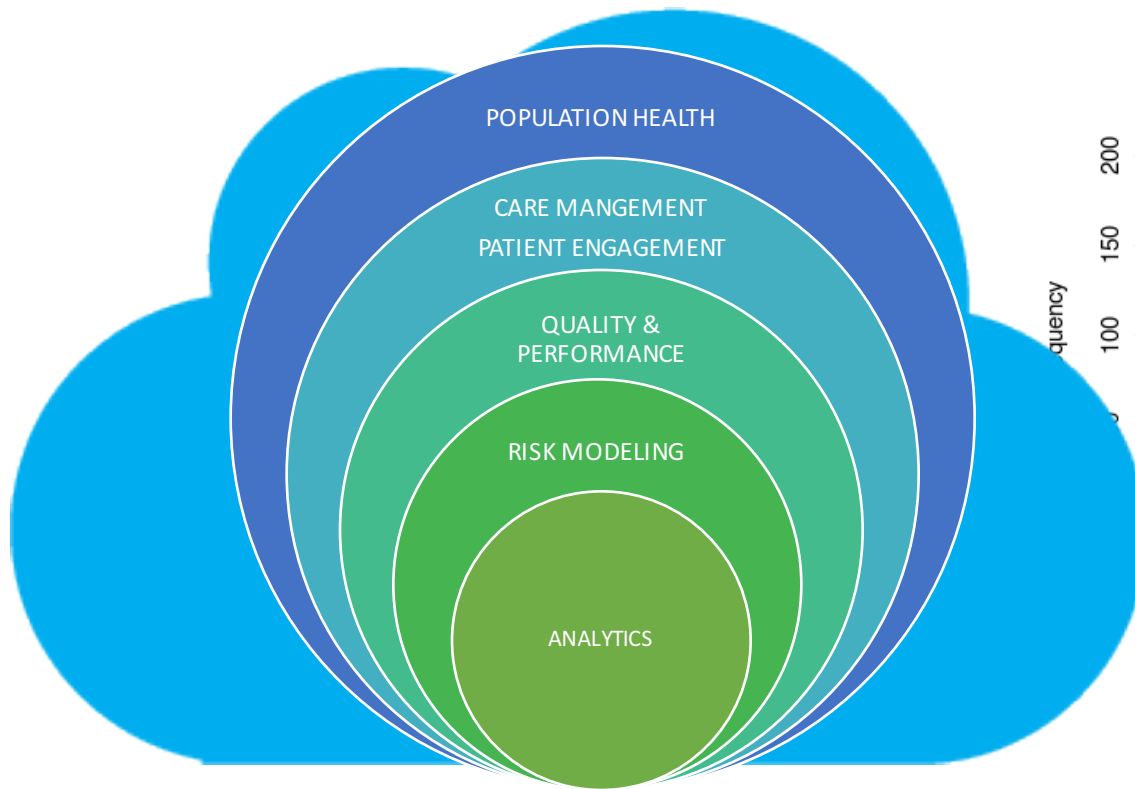- Platform agnostic

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Data Analytics in Context

Defining Analytics Use Cases

Trends in the Landscape

Trends in the Landscape

- Transition away from standalone analytics
  - Consolidation towards Population Health Management (PHM) platforms, HIE platforms/services, and even some EHRs
  - Cost benefit of 'Homegrown' solutions less and less feasible due to complexity
  - Clinical and financial/risk-based analytics combining to becoming one-and-the-same
- Cloud based services reduce time to production, management and maintenance
- Predictive modeling to stratify and target initiatives and populations
  - Building profiles for personalized healthcare
  - Patient behavior and compliance
- Increasing focus on data visualizations / dashboards as a primary component
  - Having separate vendors for this function, like Tableau, no longer necessary
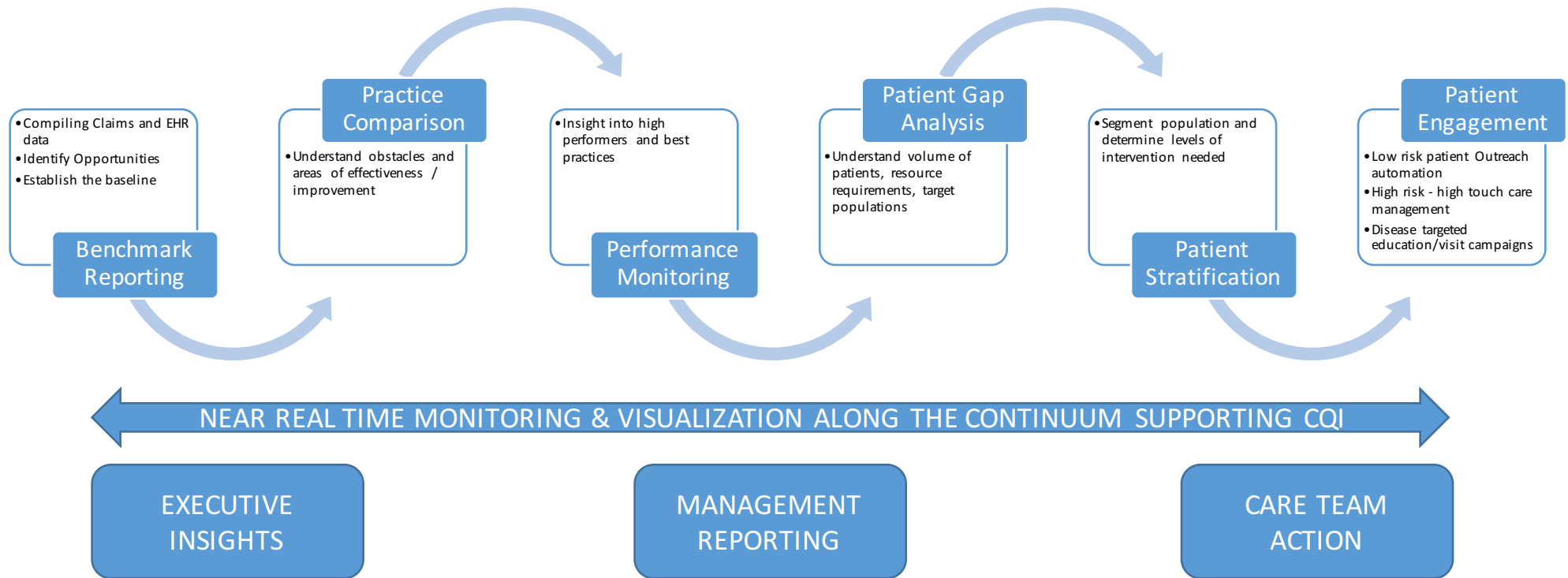
Data Analytics in the PHM Context

- Analytics is a core component of PHM, but is not the only component
  - Care Coordination
  - Chronic Disease Management

- Data Infrastructure pre-requisites to an effective PHM system include
  - Data Liquidity – Moving data out of source systems
  - Data Density – Collecting enough data to perform meaningful analytics
  - Data Governance – Building security and trust frameworks around the data

- Flow-down functionalities include
  - On-Demand Quality Reporting
  - Care Management Dashboards
  - Cross-Platform Communication
  - Financial/Risk Stratification

Analytics in the Quality Improvement Context

Benchmark Reporting
- Compiling Claims and EHR data
- Identify Opportunities
- Establish the baseline

Practice Comparison
- Understand obstacles and areas of effectiveness / improvement

Performance Monitoring
- Insight into high performers and best practices

Patient Gap Analysis
- Understand volume of patients, resource requirements, target populations

Patient Stratification
- Segment population and determine levels of intervention needed

Patient Engagement
- Low risk patient Outreach automation
- High risk - high touch care management
- Disease targeted education/visit campaigns

NEAR REAL TIME MONITORING & VISUALIZATION ALONG THE CONTINUUM SUPPORTING CQI

EXECUTIVE INSIGHTS

MANAGEMENT REPORTING

CARE TEAM ACTION

QI Reporting Requirements

| Domain	Measure	National Quality Forum (NQF)	CMS Physician Quality Reporting System (PQRS)	CMS Medicare EHR Incentive Program
Aspirin When Appropriate	**Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic** Percentage of patients aged 18 years and older with IVD with documented use of aspirin or other antithrombotic	#0068	#204	CMS164v2
Blood Pressure Screening	**Preventive Care and Screening: High Blood Pressure** Percentage of patients aged 18 years and older who are screened for high blood pressure AND a recommended follow-up plan is documented based on the current blood pressure readings as indicated	n/a	#317	CMS22v2
Blood Pressure Control	**Hypertension (HTN): Controlling High Blood Pressure** Percentage of patients aged 18 through 85 years who had a diagnosis of HTN and whose blood pressure was adequately controlled (<140/90) during the measurement year	#0018	#236	CMS165v2
Cholesterol Management	**Preventive Care and Screening: Cholesterol—Fasting Low Density Lipoprotein (LDL) Test Performed AND Risk-Stratified Fasting LDL** Percentage of patients aged 20 through 79 years who had a fasting LDL test performed and whose risk-stratified fasting LDL is at or below the recommended LDL goal.	n/a	#316	CMS61v3 CMS64v3
Cholesterol Management – Diabetes	**Diabetes Mellitus: Low Density Lipoprotein (LDL-C) Control in Diabetes Mellitus** Percentage of patients aged 18 through 75 years with diabetes mellitus who had most recent LDL-C level in control (less than 100 mg/dL)	#64	#2	CMS163v2
Cholesterol Management – Ischemic Vascular Disease	**Ischemic Vascular Disease (IVD): Complete Lipid Panel and Low Density Lipoprotein (LDL-C) Control** Percentage of patients aged 18 years and older with Ischemic Vascular Disease (IVD) who received at least one lipid profile within 12 months and who had most recent LDL-C level in control (less than 100 mg/dL)	#0075	#241	CMS182v3
Smoking Cessation	**Preventive Care and Screening: Tobacco Use** Percentage of patients aged 18 years and older who were screened about tobacco use one or more times within 24 months and who received cessation counseling intervention if identified as a tobacco user	#0028	#226	CMS138v2

Source: One Million Hearts Campaign Clinical Quality Metrics

Technical Solutions and Approaches

Defining Analytics Functionality

Vendor "Ancestry" in the Landscape

EHR Vendors

HIE Vendors

Analytics Vendors

"Population Health Management" Vendors

Claims Based
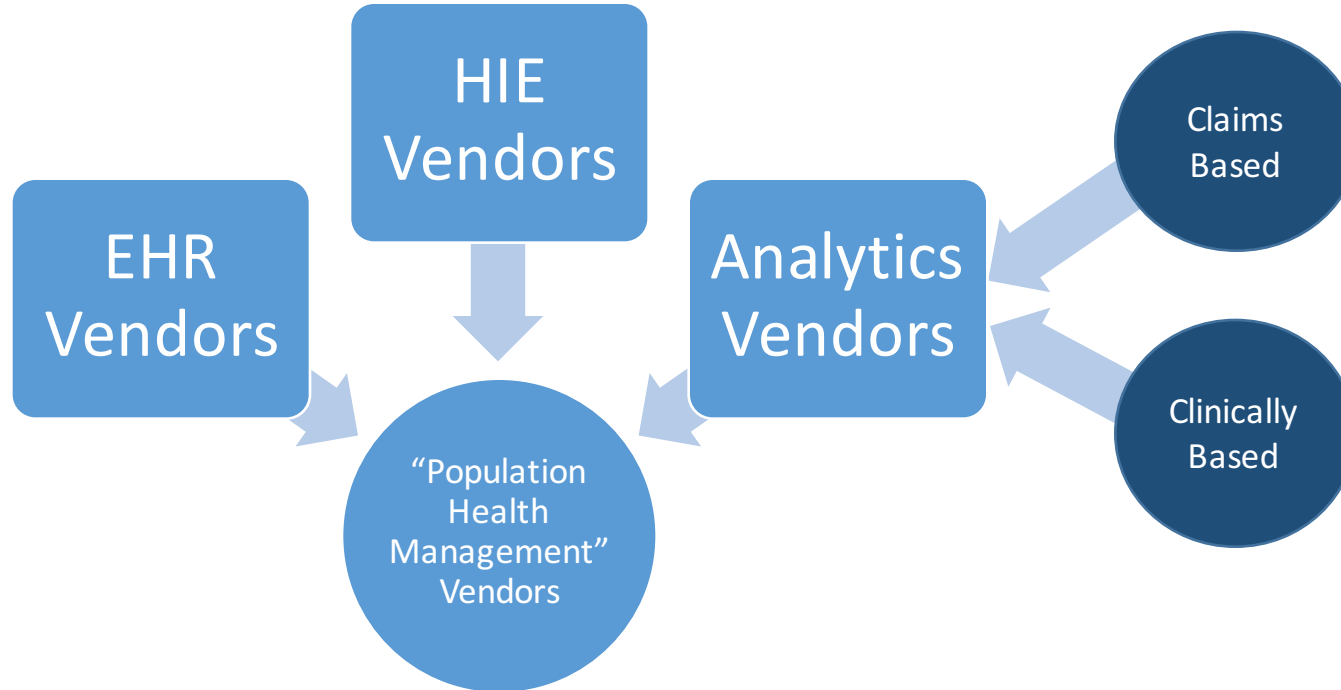
- More tolerant of "Big Data" requirements
- Often rich in data grouper and registry/cohort formation capabilities
- Risk scoring is native functionality
- Limited clinical depth

Clinically Based

- Better Data Parsing Capabilities
- Can Handle More Data Formats
- Often based on "Data Cube" or similar typology
- Data often persists as a longitudinal record

PHM Vendor Functionality Landscape

	RISK MANAGEMENT				CARE MANAGEMENT							
	Clinical Risk	Financial Risk	Value Based Payments	Utilization	Dynamic Registries	Chronic Disease Mgmt	Care Planning and Coordination	Patient Engagement	Care Gaps	Automated Reminders	Quality Reporting	Clinical Performance
EHR	ALLSCRIPTS, EPIC, CERNER				ALLSCRIPTS, EPIC, CERNER, **ECLINICALWORKS**, ATHENAHEALTH, GREENWAY, **NEXTGEN**, GE HEALTHCARE							
BEST OF BREED & ENTERPRISE	IBM, CRIMSON, OPTUM, MCKESSON (MEDVENTIVE), HEALTH CATALYST, WELLCENTIVE, **I2I SYSTEMS**, VERISK, LIGHTBEAM, ADVISORY BOARD, TRUVEN, PREMIER, LUMERIS, MEDECISION, ORACLE, MILLIMAN, PENTAHO				**I2I SYSTEMS**, IBM (INCL. PHYTEL, EXPLORYS), MCKESSON (MEDVENTIVE), WELLCENTIVE, OPTUM, LIGHTBEAM, ADVISORY BOARD, RELAYHEALTH, HUMEDICA, KRYPTIQ, MEDECISION, CARADIGM, CITIUS TECH, ORION, PENTAHO							
CLAIMS BASED "ANCESTRY"	IBM, ADVISORY BOARD, MCKESSON, TRUVEN, ORACLE, MILLIMAN, WELLCENTIVE, LIGHTBEAM, MEDECISION				**CLINICALLY BASED "ANCESTRY"** — OPTUM, CITIUS TECH, **I2I SYSTEMS**, CARADIGM, ORION, PENTAHO							

Information presented in this slide was derived from limited industry assessments and may not represent all functionality available, contact individual vendors for more information

PHM Vendor Functionality Examples

VENDOR	RISK MANAGEMENT				CARE MANAGEMENT						
	Clinical Risk	Financial Risk	Value Based Payments	Utilization	Dynamic Registries	Chronic Disease Mmgt	Care Planning and Coordination	Patient Engagement	Automated Reminders	Quality Reporting	Clinical Performance
McKesson (MedVentive)	X	X	X	X		X	X	X		X	X
NextGen (HQM)	X			X		X		X	X	X	
eClinicalWorks	X		X	X				X	X	X	
Optum	X	X	X	X	X	X	X	X		X	X
Tableau	X	X									X
I2i Systems (Tracks + popIQ)	X	X	X	X	X	X				X	X
IBM (incl. Phytel & Explorys)		X	X	X	X	X	X	X	X	X	X
Wellcentive	X	X	X	X	X	X	X			X	X

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Safety-Net Considerations

- Clinics are generally not vertically integrated organizations
  - Data aggregation is costly and time consuming, HIE tools enabling data liquidity are not commonly deployed in non-enterprise settings
  - Building organizational expertise is essential, but difficult in less vertically-integrated organizations
- Safety-Net business drivers have greater emphasis on QI programs, whereas payment reform is a larger driver in others
- Many existing QI platforms are already in place in the safety-net, can these be expanded to meet new needs, or is a new system needed?
- High mobility of patient populations, lower adherence to medical homes, some patient identifiers not reliable (i.e. SSN)

Navigating Market Ambiguities

- No one size fits all
  - PHM vendors categorize across EHR, best-of-breed and enterprise platforms
  - Vendor convergence to meet the broad array of needs in a maturing market
  - KLAS and others agree that no one vendor meets all core functions typically sought by large healthcare organizations
  - In reality, organizations have existing systems and the effort to integrate rather than rip/replace makes the market trend towards bundling a difficult shift

- Every vendor will identify themselves – and their services – differently
  - Terms like "Population Health Management" or "HIE" are widely used but do not mean the same thing to vendors – know exactly what functionality you need

Pitfalls to Avoid

- Data Integration Comes First
  - Consolidate your data within your organization
  - Invest in increasing data quality across your organization – do not depend on analytics vendors to clean the data
- Use broad vendor searches to understand which vendors will meet you where you are today without replicating existing functionality
- Choosing an analytics platform should fit into the broad QI and PHM context, this is where the river is flowing
- Once a platform has been selected, don't try to boil the ocean: pick broad reaching targeted initiatives to get started and build core competency

Considerations for your Technical Architecture

Defining Analytics Implementations
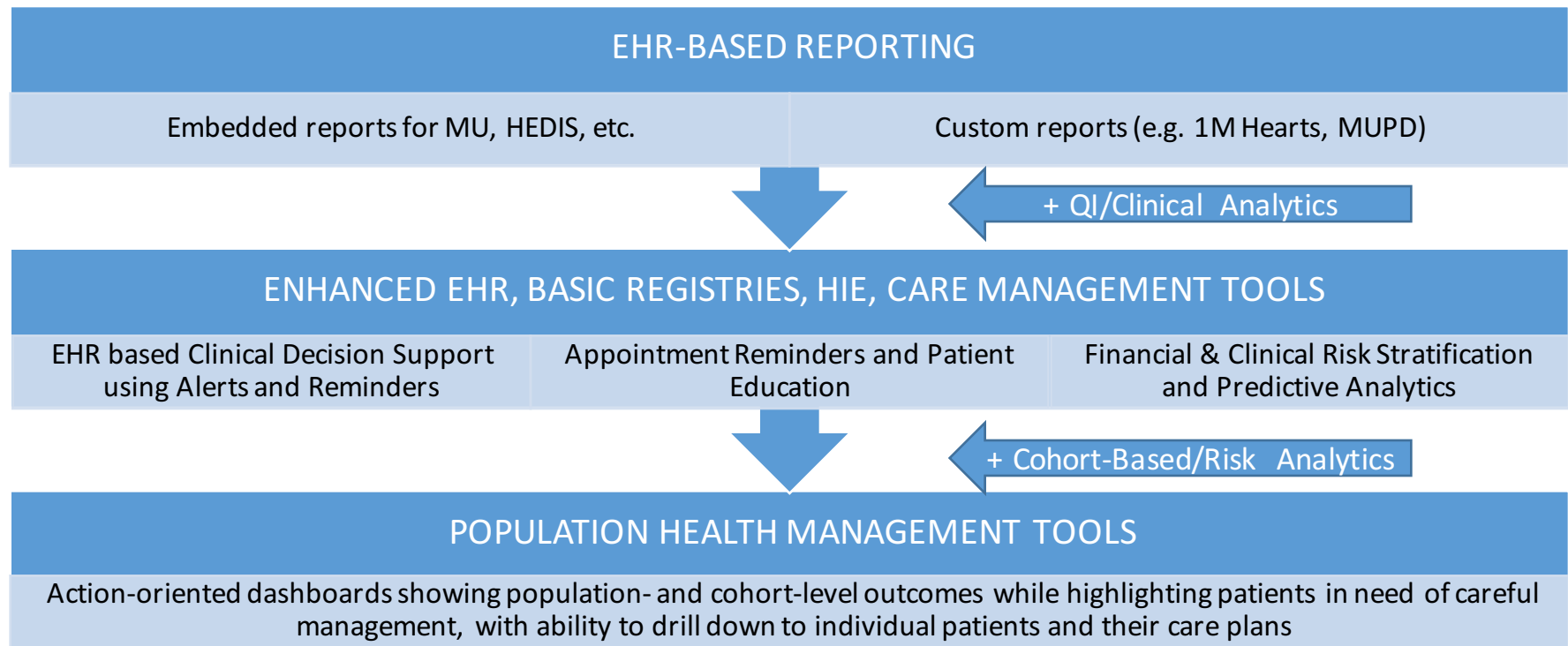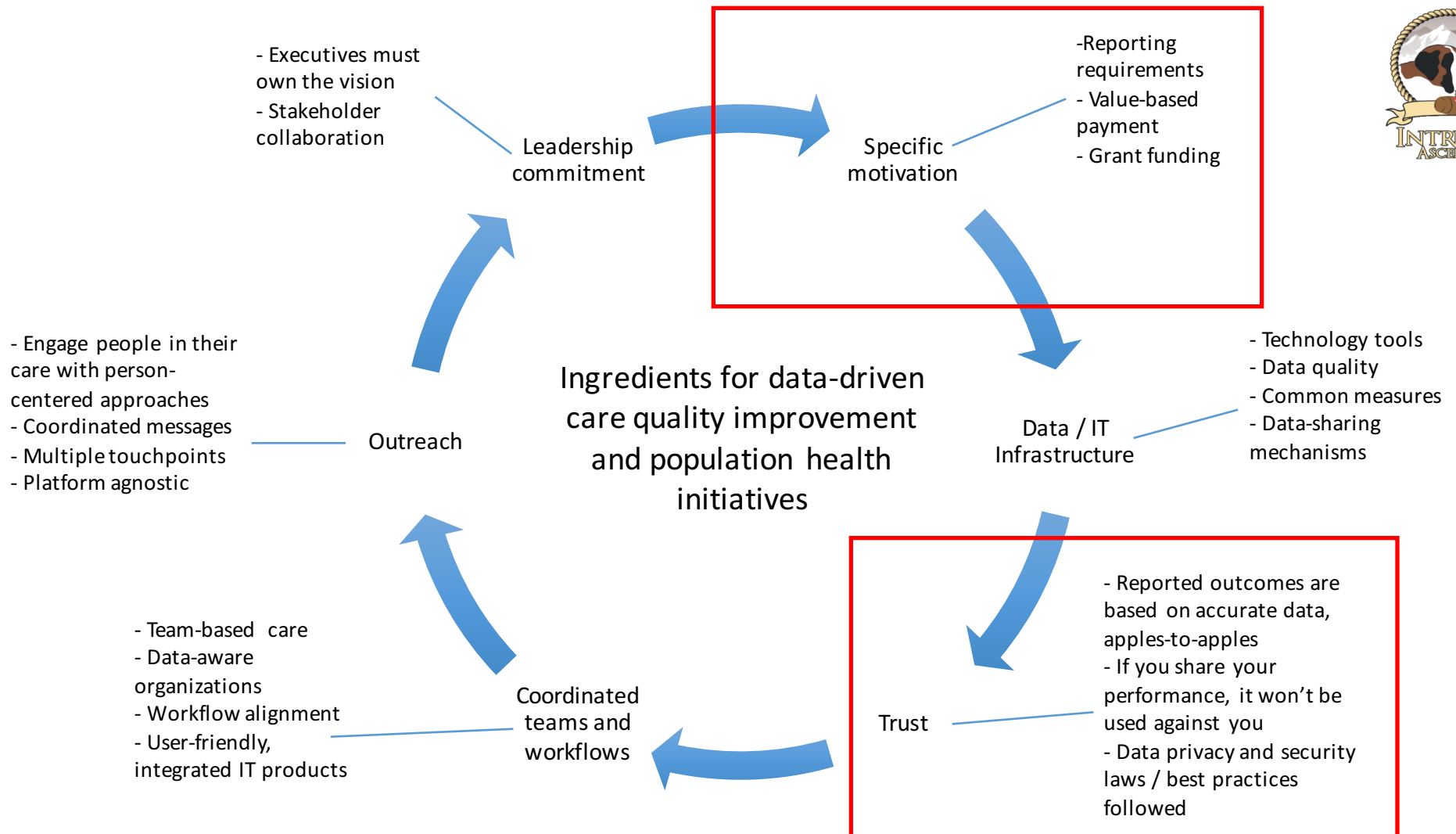
Most Common Organizational Barriers

- 31% of organizations report "Culture and Politics" as a serious barrier*

- 29% report "Fragmented Ownership" as a serious barrier*

- 27% report "Access to Skilled Resources" as a serious barrier*

These barriers can be addressed through a comprehensive organizational approach to data analytics, care management, and system transformation.

Typical Data Infrastructure Adoption Progression

EHR-BASED REPORTING

Embedded reports for MU, HEDIS, etc.	Custom reports (e.g. 1M Hearts, MUPD)

+ QI/Clinical Analytics

ENHANCED EHR, BASIC REGISTRIES, HIE, CARE MANAGEMENT TOOLS

EHR based Clinical Decision Support using Alerts and Reminders	Appointment Reminders and Patient Education	Financial & Clinical Risk Stratification and Predictive Analytics

+ Cohort-Based/Risk Analytics

POPULATION HEALTH MANAGEMENT TOOLS

Action-oriented dashboards showing population- and cohort-level outcomes while highlighting patients in need of careful management, with ability to drill down to individual patients and their care plans

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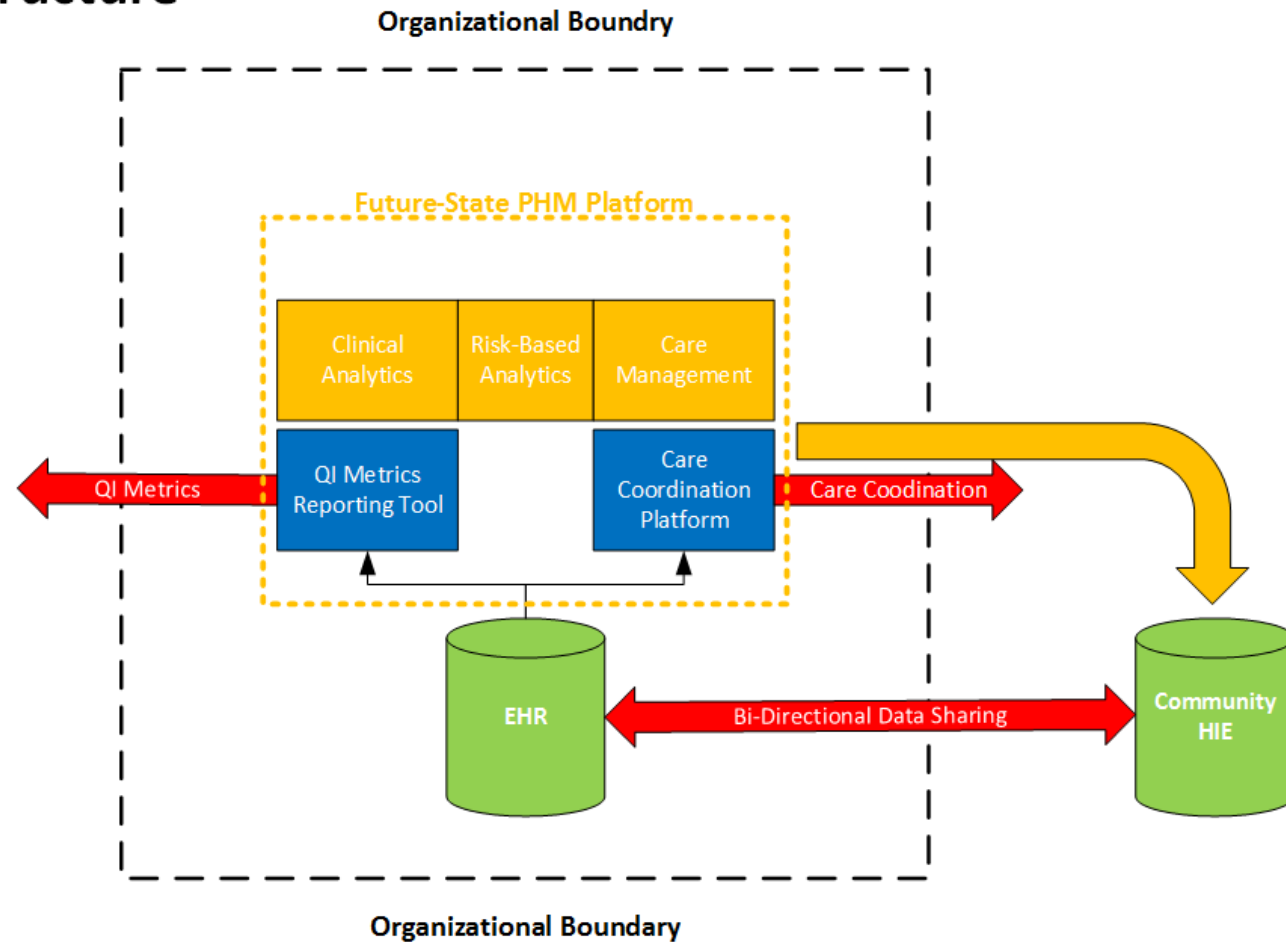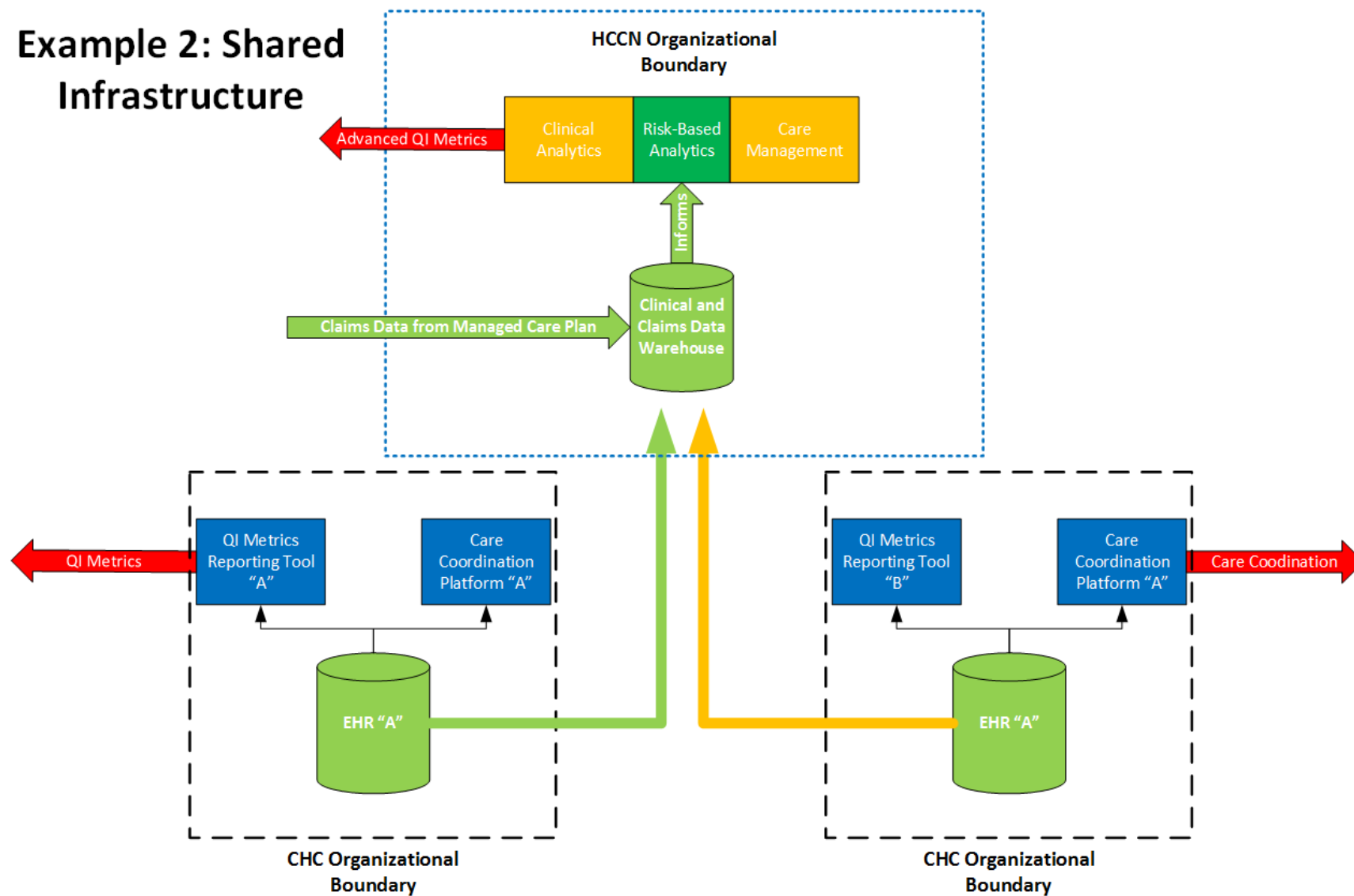- Platform agnostic

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Shared Resources Models

- Some non-vertically integrated organizations have successfully partnered with others to collectively utilize shared analytics functionality
    - Heath Center Controlled Networks
    - Health Center IT Collaboratives

- Others have worked with organizations occupying other healthcare system "Layers" to develop community resources
    - Regional HIE-based infrastructure
    - Managed Care Plan-based infrastructure

Example 1: Uni-Organizational Infrastructure

Organizational Boundry

Future-State PHM Platform

Clinical Analytics	Risk-Based Analytics	Care Management

QI Metrics Reporting Tool	Care Coordination Platform

QI Metrics

Care Coodination

EHR

Bi-Directional Data Sharing

Community HIE

Organizational Boundary

Example 2: Shared Infrastructure

HCCN Organizational Boundary

Advanced QI Metrics ←

| Clinical Analytics | Risk-Based Analytics | Care Management |

Informs ↑

Clinical and Claims Data Warehouse

Claims Data from Managed Care Plan →

CHC Organizational Boundary

QI Metrics ←

| QI Metrics Reporting Tool "A" | Care Coordination Platform "A" |

EHR "A"

CHC Organizational Boundary

| QI Metrics Reporting Tool "B" | Care Coordination Platform "A" |

→ Care Coodination

EHR "A"

In Summary

- Moving from simple EHR reporting and silo registries to an increasingly mature model focused on targeted and eventually predictive growth is becoming a two step process vendors consolidate services under the Population Health Management banner

- Full organizational commitment from the outset and comprehensive strategies are key
  - Align future visibility with strategy with your organization's specific motivations to determine the right set of services to look for in the market–
  - Avoid "Fragmented Ownership" of analytics resources through a comprehensive approach!
  - Understand market ambiguities and use broad vendor searches to survey the market
  - Understand if shared resources are right for your organization/context

- Establish clear goals and use the technology to get you there
  - What are the questions you want answered though analytics? Start with the end in mind and develop organization expertise incrementally.

Contact Information

Alex Horowitz

Principal Technology Strategist

Intrepid Ascent

alex@intrepidascent.com

John Weir

Consultant

Intrepid Ascent

john@intrepidascent.com