eHEALTH INITIATIVE

Real Solutions. Better Health.

ACO in the Real World – With or Without HIE

September 25, 2012

eHEALTH INITIATIVE

Real Solutions. Better Health.

Welcome!

Jason Goldwater

Vice President of Research and Programs

eHealth Initiative

What Does eHI Do?

- Work with our members to influence policy
- Convene multi-stakeholders to build consensus
- Members contribute through virtual forums:
  - Meaningful Use and Health Reform Policy
  - Health Information Exchange
  - HIT Infrastructure for Accountable Care
  - Data Analytics and Research
- Inform and mobilize through reports, weekly newsletters, educational events and policy alerts

REGISTER Now for Upcoming Events

- 2012 HIE Survey Preliminary Results Webinar on September 27th
- eHI Annual Conference - February 12-13, 2013, Wyndham Orlando Resort, Orlando, Florida

WWW.eHealthInitiative.org

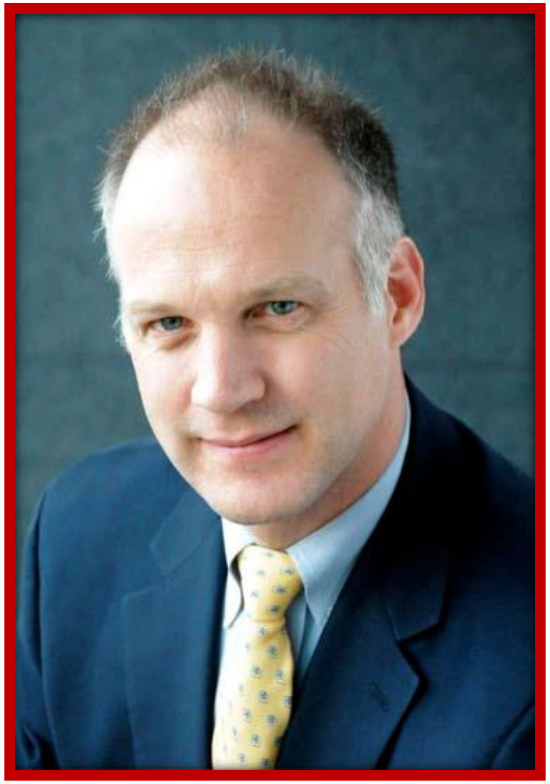
Housekeeping Issues

- All lines are muted
  - To ask a question or make a comment, please submit via the chat feature and we will address as many as possible after the presentations.
- Today's webinar is being recorded
  - Members can access slides and replays of any webinar for free from eHI's store
  - Non-members can purchase access to any webinar replay for $25.00
  - eHI Store
    - http://www.ehealthinitiative.org/store.html

Thank You to Our Sponsor

Agenda

- **Welcome**
  - **Jason Goldwater**, Vice President of Research and Programs, **eHealth Initiative**
- **Backdrop on HIT for ACO and Captive Verses Collaborative ACO types**
  - **John Haughton**, Chief Medical Information Officer, **Covisint**
- **Current State of the Market – Solution Buckets and HIT Acquisition Strategies for ACOs**
  - **John Stanley**, Principal, **Impact Advisors**
- **Case Study – Collaborative ACO – Chautauqua**
  - **John Haughton**, Chief Medical Information Officer, **Covisint**
- **Fulfilling Need Comparative Benchmarks and Opportunity Prioritization**
  - **Arthur L. Wilmes**, FSA, MAA, Principal, Consulting Actuary, **Milliman**
- **Question & Answers and Closing**

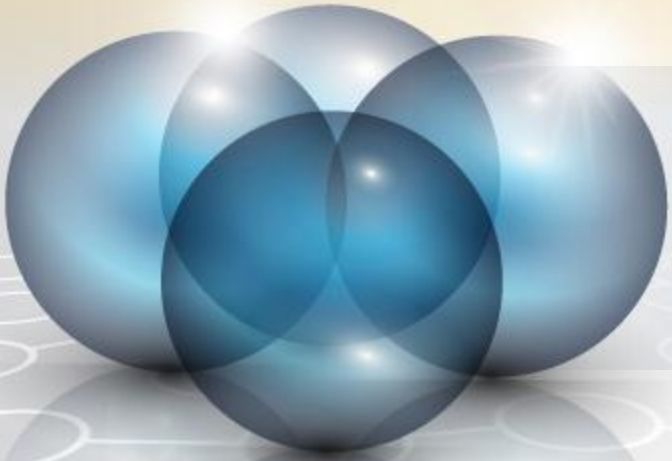


John Haughton

Chief Medical Information Officer

Covisint

covisint | a Compuware Company



ACO:
Captive and Collaborative With and Without HIE

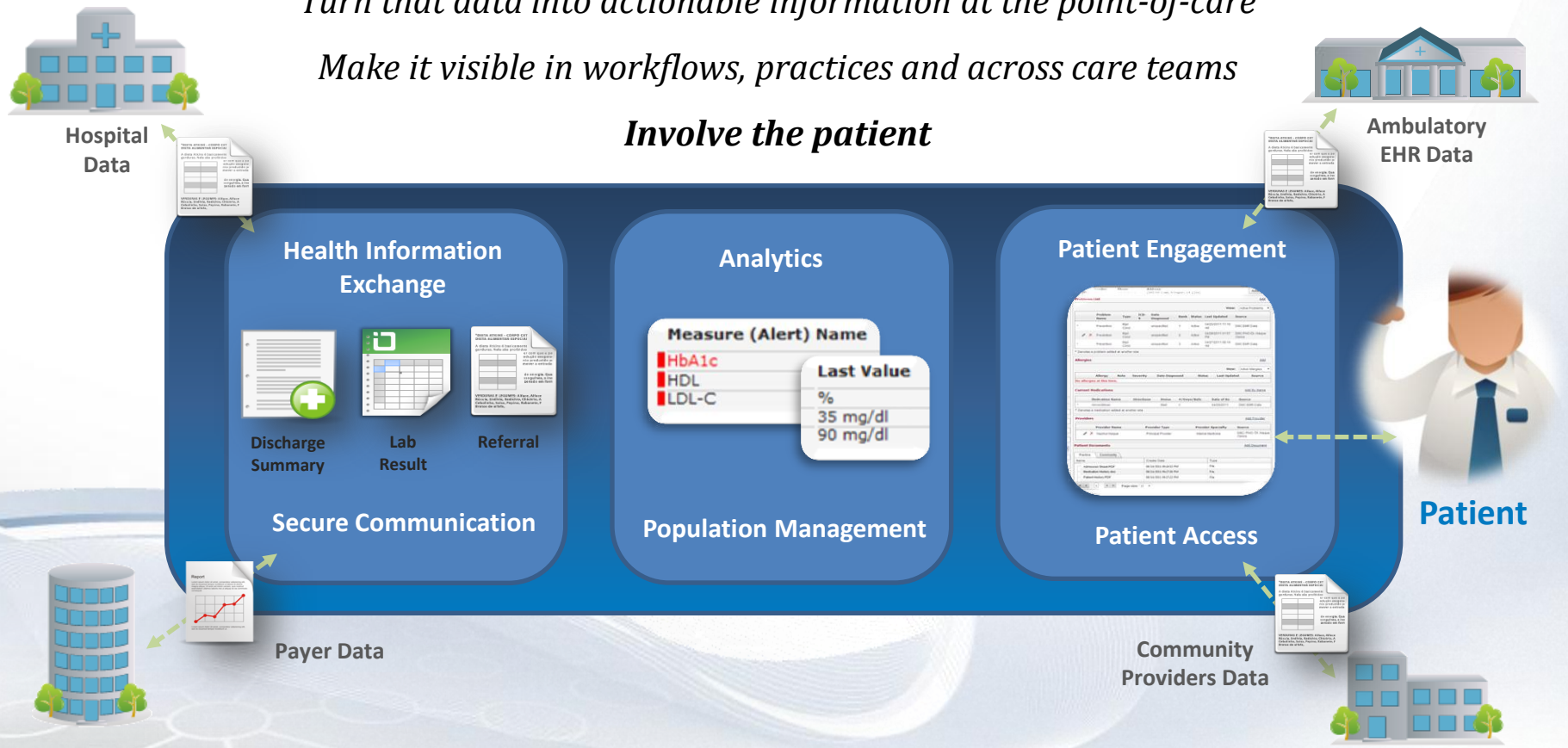
ACO – General Needs for Success

Aggregate data from multiple sources

Turn that data into actionable information at the point-of-care

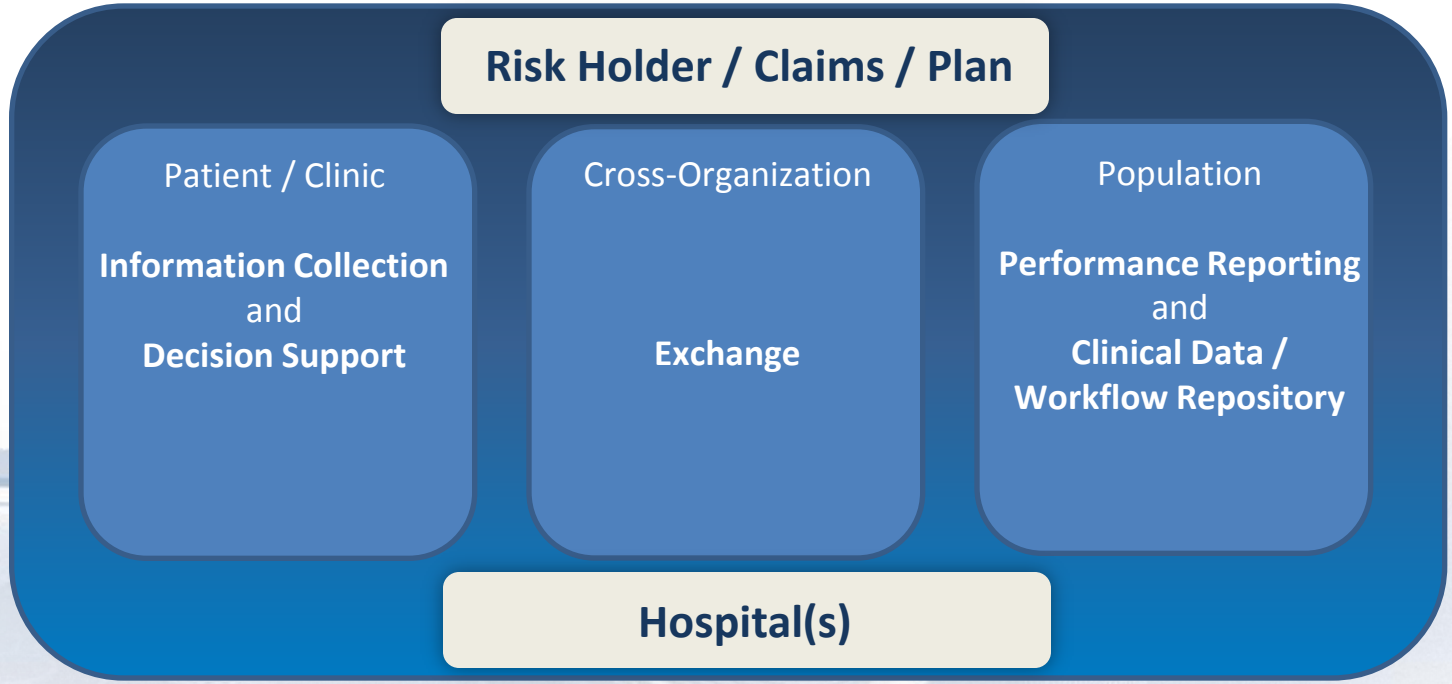
Make it visible in workflows, practices and across care teams

Involve the patient



Connected Care

Patient / Care Team / Population



Connected Care: Success Factors

- **Your Existing HIT Infrastructure and Capabilities**
  HIS, EMR, Warehouse, Legacy Applications and Reporting

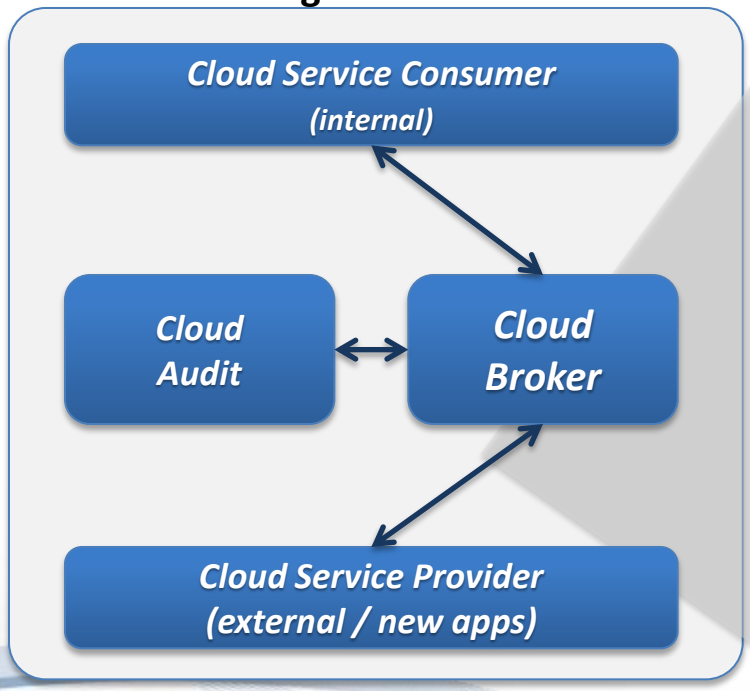
- **Trusted , Scalable Access to Complementary HIT Functions & Data**
  External Application Aggregation and Brokering through a Reliable Partner

  - Transaction and Access Audit
  - Clean, Portable, Useful Data, Secured at Rest and in Transit
  - Rock Solid Identity and Role Management
  - Scalable, Responsive Infrastructure
  - Connected Cloud Provider HIT Applications to fill in functional gaps

- **Engagement with "Community" Assets and Collaborative Capabilities**
  Coordinated Access to Claims, Outside Provider Data and Care Delivery

Connected Care: New Need – Trusted Cloud Broker

Future Facing Functional Need



Term	Definition	Source
Cloud Broker	A cloud broker is an entity that **manages the use, performance and delivery of cloud services and negotiates relationships between cloud providers and cloud consumers**	**NIST**
Cloud Services Broker	A cloud services brokerage is a business model in which a company or other entity **adds value to one or more (generally public or hybrid, but possibly private) cloud services on behalf of one or more consumers of those services**	**Gartner**

Source: NIST / GSA

Cloud Broker Services

1 – Service Intermediation
2 – Service Aggregation
3 – Service Arbitrage

Examples of Broker Services

1 – Managing access to cloud services, identity management, performance reporting, enhances security, etc.
2 – Integration of multiple services into 1+ new services, data integration, secure data
3 – Broker has ability to choose services from multiple agencies

Connected Care: Key Enablers

Integrated Patient Information

Clinical Applications

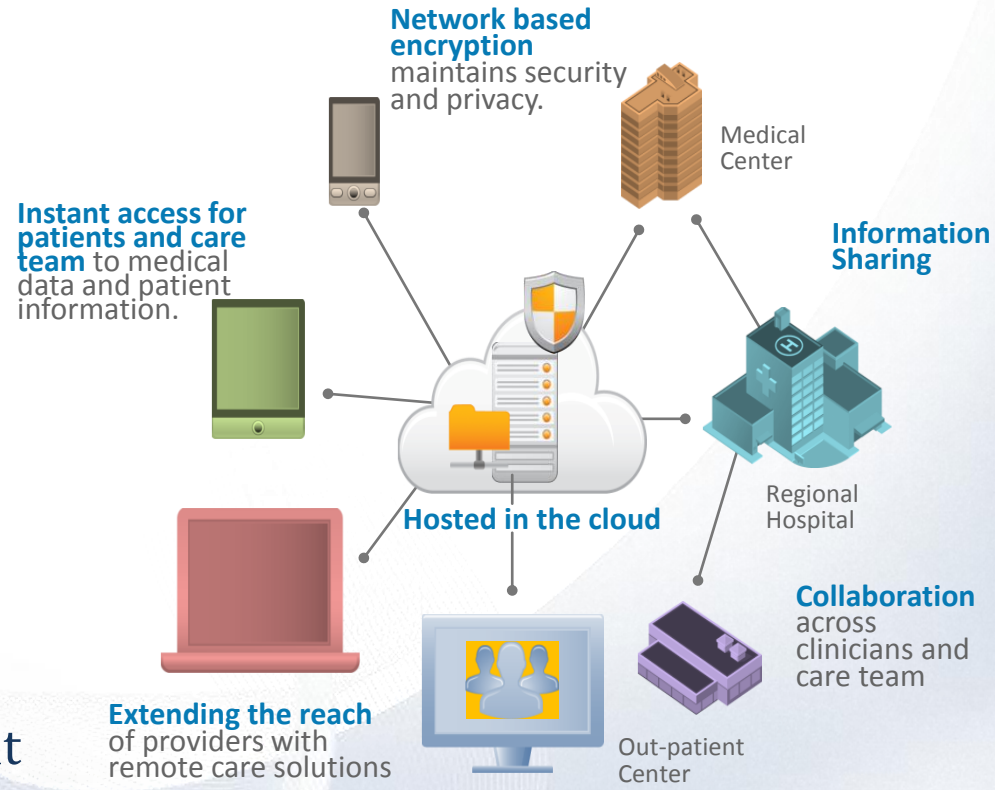
Decision Support

Data Analytics

Care Management

Clinical Information and Point of Care Automation

Patient and Care Team Engagement



Manage and Improve Care: Success Factors

- **Prioritize**
  Understand Objectives, Map Opportunities – Population AND Patient

- **Deploy Quickly, Adding to What You Have**
  - Run analytics (community map); Fill applications – providers, patients, evidence;
  - Implement key connections
  - Use External Application Aggregation and Brokering through a Reliable Partner

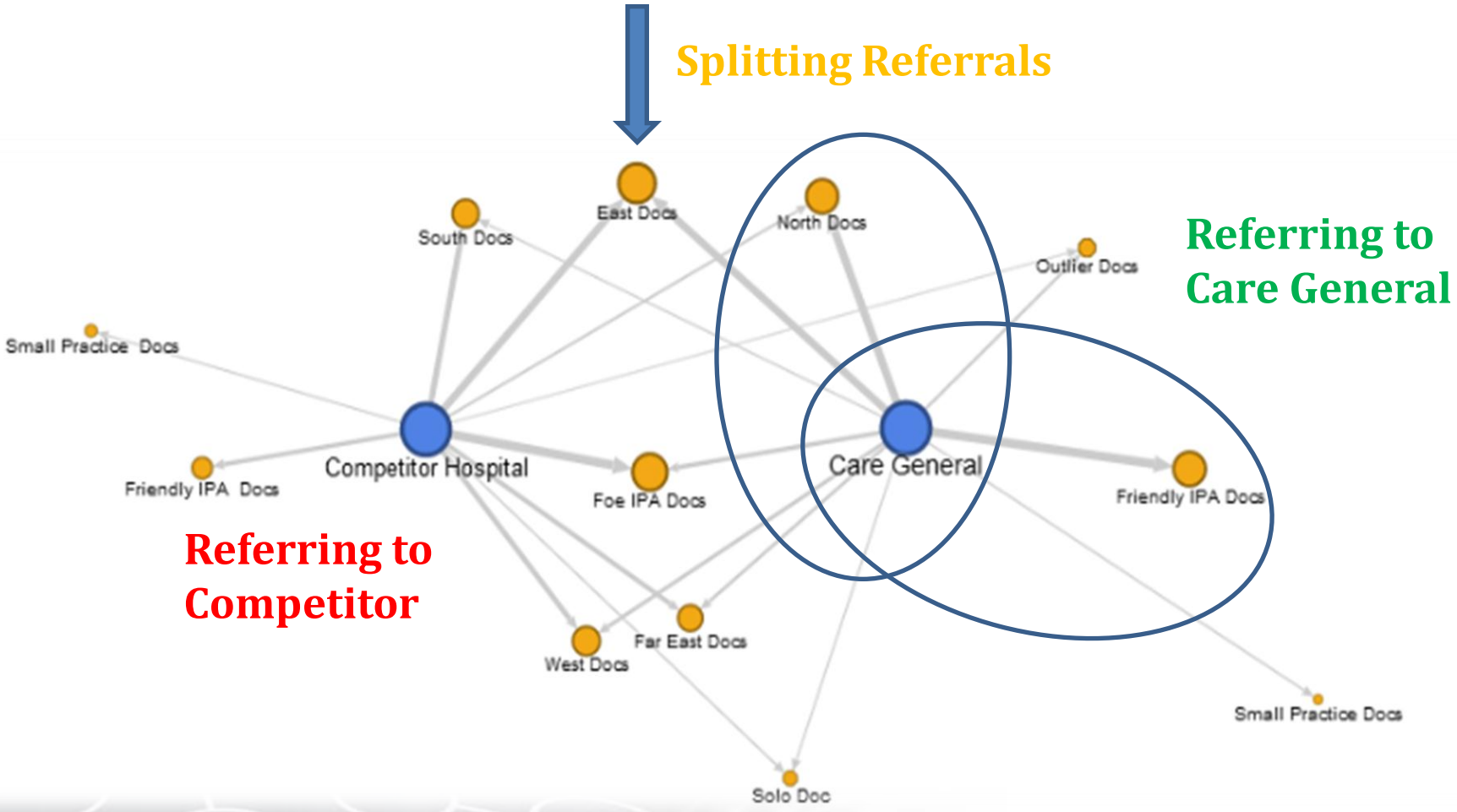
- **Expand Engagement with "Community" Assets and Collaborative Resources**
  - Coordinated Access to Payer and Outside Provider Data & Care Delivery
  - Create Full Community Views, updated at the point of care

Manage & Improve Care: Population Objective and Opportunity

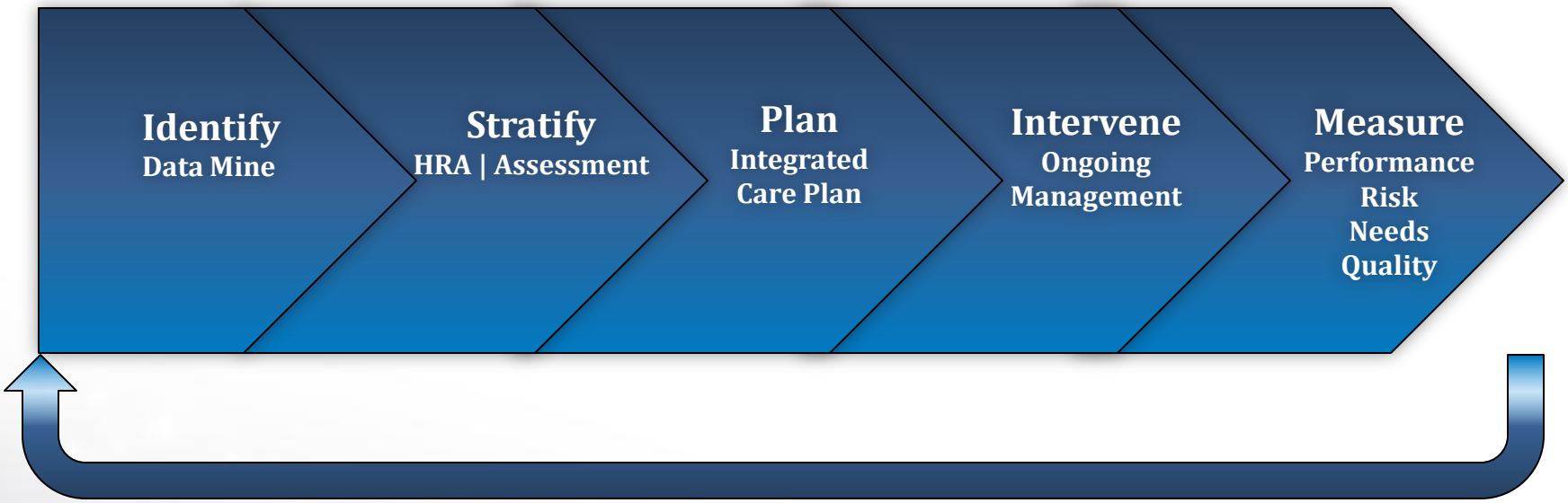
	National					NY State-wide					Health Referral Region: PA - Erie					Health Referral Region: NY - Buffalo				
Demographics			**National Data (Fee for Service)**	*Tightly Mgd*	*Loosely Mgd*			**State Data (Fee for Service)**	*Tightly Mgd*	*Loosely Mgd*			**HRR Data (Fee For Service)**	*Tightly Mgd*	*Loosely Mgd*			**HRR Data (Fee For Service)**	*Tightly Mgd*	*Loosely Mgd*
# Medicare FFS			25,832,920					1,490,506					75,552					87,752		
% Medicaid eligible			14.4					20.5					14.2					15.3		
Avg Age			76.5					77.3					77.2					77.5		
Avg HCC (risk score)			1.15					1.28					1.21					1.20		
% with Diabetes			26.90					31.20					27.70					27.90		
% with COPD			11.10					11.10					12.60					13.60		
Readmit rate			19.3%					21.7%					18.7%					19.2%		
Hosp days per 1000			1,859	*1,200*	*1,500*			2,473	*1,200*	*1,500*			1,845	*1,200*	*1,500*			2,220	*1,200*	*1,500*
ALOS			5.3	*4.0*	*4.5*			6.5	*4.0*	*4.5*			4.9	*4.0*	*4.5*			6.2	*4.0*	*4.5*
Admits			352	*300*	*333*			379	*300*	*333*			373	*300*	*333*			361	*300*	*333*
Total $ / pt / yr			$ 9,103					$ 10,613					$ 8,224					$ 7,930		
Service Category	**% with Claims**	**ALOS or Visits per Episode**	**Services per 1,000**	**$ per Service**	**$ per person**	**% with Claims**	**ALOS or Visits per Episode**	**Services per 1,000**	**$ per Service**	**$ per person**	**% with Claims**	**ALOS or Visits per Episode**	**Services per 1,000**	**$ per Service**	**$ per person**	**% with Claims**	**ALOS or Visits per Episode**	**Services per 1,000**	**$ per Service**	**$ per person**
Inpatient hospital																				
Acute inpatient	21.5%	5.3 days	352 admits	$9,069	$3,192	22.3%	6.5 days	379 admits	$11,511	$4,366	23.0%	4.9 days	373 admits	$7,660	$2,860	22.3%	6.2 days	361 admits	$8,504	$3,068
Post-acute care																				
Skilled nursing	6.5%	25.5 days	92 admits	$8,976	$827	6.9%	26.5 days	96 admits	$2,194	$897	8.3%	24.8 days	113 admits	$7,596	$859	8.6%	23.0 days	114 admits	$7,413	$847
Inpatient rehab	1.1%	13.3 days	12 admits	$16,226	$190	1.0%	13.3 days	11 admits	$2,849	$211	1.9%	12.4 days	20 admits	$14,456	$293	0.7%	14.9 days	8 admits	$16,034	$124
Inpatient LTCH	0.3%	26.2 days	4 admits	$32,705	$129	0.1%	28.2 days	1 admits	$348,148	$32	0.3%	24.2 days	3 admits	$32,550	$110		#VALUE!		#VALUE!	
Home Health	10.1%	19.5 visits	196 episodes	$2,786	$545	10.0%	21.4 visits	161 episodes	$9,999	$467	10.5%	14.7 visits	156 episodes	$2,232	$348	10.4%	16.0 visits	173 episodes	$2,339	$406
Total PAC	13.9%				$1,691	14.1%				$1,607	15.5%				$1,610	15.1%				$1,387
Other benefits/services																				
OP services	70.3%		4,044 events	$267	$1,082	62.3%		3,617 events	$260	$940	80.1%		5,853 events	$205	$1,202	73.9%		4,574 events	$207	$947
Emergency room			531 visits					508 visits					595 visits					546 visits		
E&M	90.3%		12,043 visits	$68	$820	90.2%		14,997 visits	$75	$1,130	90.8%		10,752 visits	$64	$691	89.5%		11,248 visits	$61	$685
Procedures	64.5%		4,385 events	$134	$590	66.9%		6,178 events	$127	$786	65.2%		4,379 events	$117	$513	61.9%		3,732 events	$131	$488
Imaging	72.3%		4,254 events	$86	$367	73.9%		4,680 events	$114	$535	73.2%		4,185 events	$57	$240	70.0%		4,082 events	$80	$328
Lab tests	73.0%		8,888 events	$26	$229	73.3%		11,369 events	$28	$315	58.6%		6,602 events	$23	$151	58.7%		5,715 events	$24	$138
Other tests	50.5%		1,576 events	$40	$64	61.7%		2,337 events	$49	$113	46.0%		1,302 events	$31	$41	51.0%		1,571 events	$34	$53
Part B drugs/vac.	55.8%				$252	54.5%				$224	53.6%				$210	55.8%				$196
DME	28.5%		1,653 events	$117	$193	26.0%		1,497 events	$108	$162	29.7%		1,812 events	$112	$203	26.6%		1,579 events	$110	$174
ASC proced.	10.6%		187 events	$415	$78	4.8%		89 events	$459	$41	7.6%		142 events	$376	$53	7.8%		139 events	$431	$60
Hospice	2.9%	62.9 days	33 admits	$9,438	$309	1.7%	52.2 days	19 admits	$8,881	$165	2.5%	56.4 days	28 admits	$7,538	$211	2.4%	52.7 days	26 admits	$8,443	$217
Other	59.9%				$238	60.4%				$229	63.5%				$240	62.5%				$189
Total Medicare Expend.					**$9,103**					**$10,613**					**$8,224**					**$7,930**

Analyzing Opportunity

Only One Group Really Matters for Driving Referrals!



Patient or Population: 5 Simple Steps + Feedback



Provide Comparative Analysis

Performance Report By Condition and Measure

Condition: HTN

Site: Independent Practice 1

Instructions:
- **Measures are listed in Visit Planner order**
- **Click on Organization Name for a list of all patients with the condition**
- **Click on Measure Name in blue for a display of results for each group in the organization and comparative benchmarks**
- **Click on Measure Denominator for a bar graph of the percent of patients with a measure test/assessment by month and in last 12 months**
- **Display of measure data is based on last measure result during the time interval. For measures without a specified time interval, averages are based on the last measure result at any point in time.**

To view one level lower in the organization click here	Measure	Measure Denominator	% of Patients at Goal	Parent Org % of Patients at Goal	State % Patients at Goal	Measure Average	Parent Measure Average	Stat Measur Avera
Independent Practice 1	Body Mass Index; patients aged 20 and older Goal: < 25 Calculated Interval: Per Visit	710	12.68%	13.73%	12.11%	29.54	30.94	33.30
	BMI for Age Percentile; patients aged 2 to 20 Goal: >= 5 Percentile & <= 84 Percentile Interval: 356 days	0	0.00%	0.00%	0.00%	-	-	-
	Blood Pressure Goal: < 130/80 mmHg Interval: Per Visit	710	22.96%	27.25%	30.91%	-	-	-
	Smoking Status Assessed; patients aged 11 and older Goal: = Former, Never Interval: Per Visit	710	55.35%	65.18%	29.71%	-	-	-
	Smoking Cessation Activity Recommended; patients aged 11 and older Goal: = Y Interval: Per Visit	63	19.05%	24.26%	12.95%	-	-	-

Last Measure Result Averages by Provider

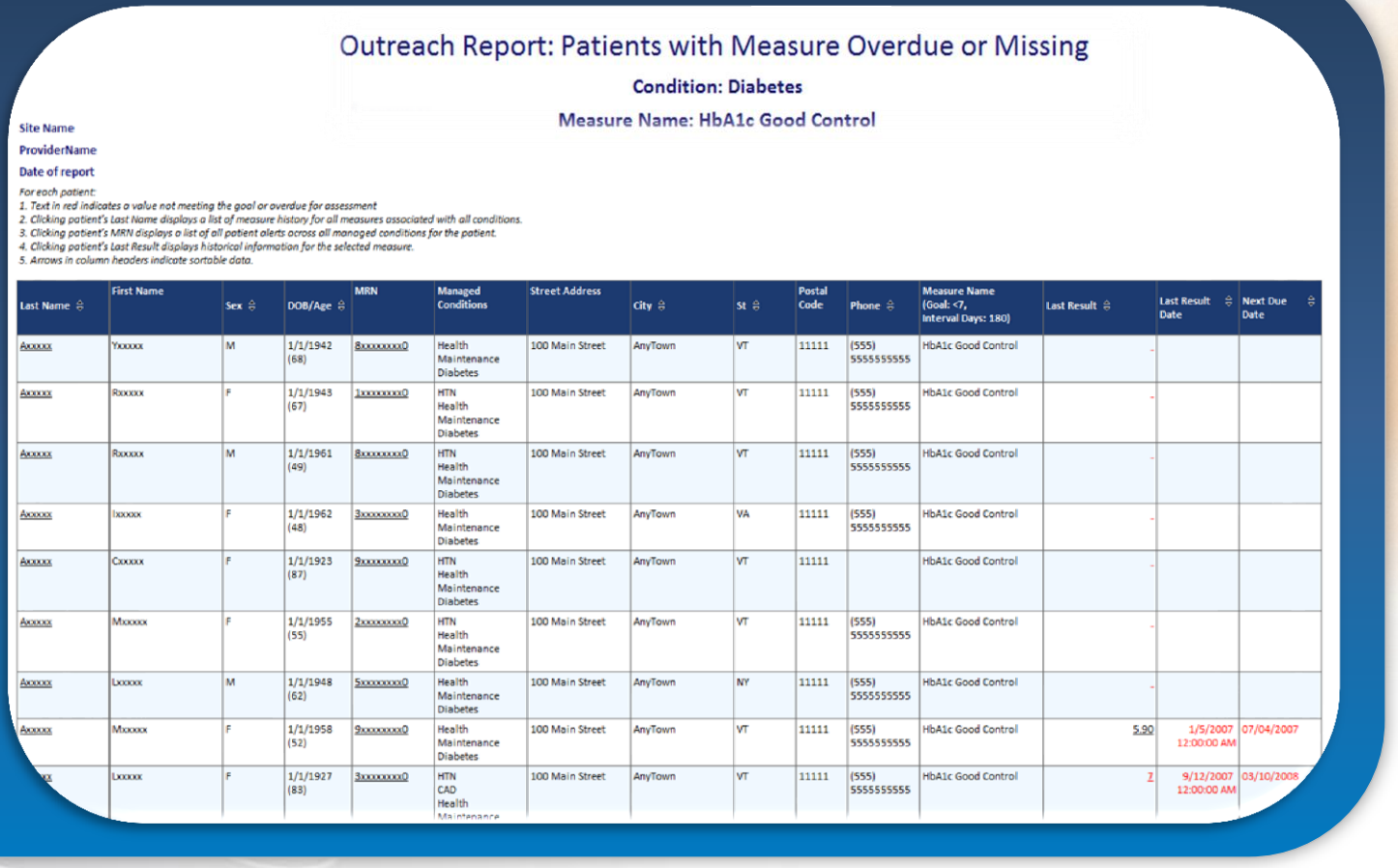
Report Current As Of:9/21/2010 3:17:01 AM
Condition: HTN
Measure: Body Mass Index; patients aged 20 and older
Denominator: Patients with at least one Body Mass Index; patients aged 20 and older measure
Site: FAHC - Aesculapius Medical Center
Patient Status: Active

Provider Name	% Patients At Goal	# of Patients	Average
Axxxxx, Exxxxx	12.50%	8	21.60
Ixxxxx, Lxxxxx	23.40%	47	27.74
Ixxxxx, Dxxxxx	20.27%	528	28.81
Exxxxx, Exxxxx	15.82%	335	29.07
Axxxxx, Nxxxxx	20.91%	373	29.15
Axxxxx, Exxxxx	0.00%	7	29.50
Oxxxxx, Yxxxxx	15.66%	415	29.67
Lxxxxx, Nxxxxx	19.61%	413	29.68
Axxxxx, Exxxxx	16.64%	601	29.68
Exxxxx, Lxxxxx	17.58%	512	38.79
Axxxxx, Axxxxx	14.42%	430	45.12
Exxxxx, Axxxxx	18.12%	563	65.12
FAHC - Aesculapius Medical Center	17.72%	4232	36.57
FAHC	11.35%	10951	33.98

Include benchmarks or organize for comparison

Identify Care Opportunities

Drive population management activities



Outreach Report: Patients with Measure Overdue or Missing

Condition: Diabetes

Measure Name: HbA1c Good Control

Site Name
ProviderName
Date of report

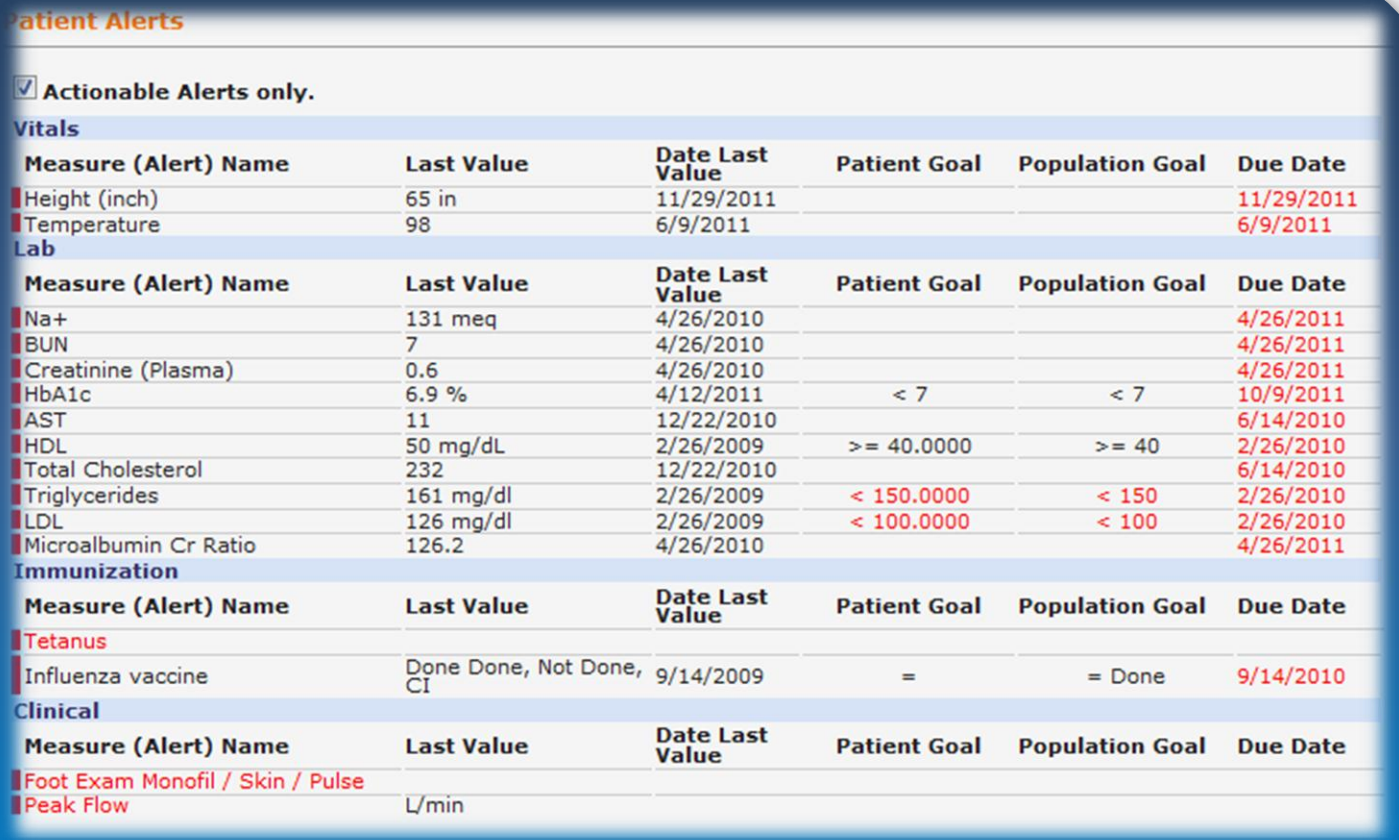
For each patient:
1. Text in red indicates a value not meeting the goal or overdue for assessment
2. Clicking patient's Last Name displays a list of measure history for all measures associated with all conditions.
3. Clicking patient's MRN displays a list of all patient alerts across all managed conditions for the patient.
4. Clicking patient's Last Result displays historical information for the selected measure.
5. Arrows in column headers indicate sortable data.

Last Name	First Name	Sex	DOB/Age	MRN	Managed Conditions	Street Address	City	St	Postal Code	Phone	Measure Name (Goal: <7, Interval Days: 180)	Last Result	Last Result Date	Next Due Date
Axxxxx	Yxxxxx	M	1/1/1942 (68)	8xxxxxxxx0	Health Maintenance Diabetes	100 Main Street	AnyTown	VT	11111	(555) 5555555555	HbA1c Good Control	-		
Axxxxx	Rxxxxx	F	1/1/1943 (67)	1xxxxxxxx0	HTN Health Maintenance Diabetes	100 Main Street	AnyTown	VT	11111	(555) 5555555555	HbA1c Good Control	-		
Axxxxx	Rxxxxx	M	1/1/1961 (49)	8xxxxxxxx0	HTN Health Maintenance Diabetes	100 Main Street	AnyTown	VT	11111	(555) 5555555555	HbA1c Good Control	-		
Axxxxx	Ixxxxx	F	1/1/1962 (48)	3xxxxxxxx0	Health Maintenance Diabetes	100 Main Street	AnyTown	VA	11111	(555) 5555555555	HbA1c Good Control	-		
Axxxxx	Cxxxxx	F	1/1/1923 (87)	9xxxxxxxx0	HTN Health Maintenance Diabetes	100 Main Street	AnyTown	VT	11111		HbA1c Good Control	-		
Axxxxx	Mxxxxx	F	1/1/1955 (55)	2xxxxxxxx0	HTN Health Maintenance Diabetes	100 Main Street	AnyTown	VT	11111	(555) 5555555555	HbA1c Good Control	-		
Axxxxx	Lxxxxx	M	1/1/1948 (62)	5xxxxxxxx0	Health Maintenance Diabetes	100 Main Street	AnyTown	NY	11111	(555) 5555555555	HbA1c Good Control	-		
Axxxxx	Mxxxxx	F	1/1/1958 (52)	9xxxxxxxx0	Health Maintenance Diabetes	100 Main Street	AnyTown	VT	11111	(555) 5555555555	HbA1c Good Control	5.90	1/5/2007 12:00:00 AM	07/04/2007
x	Lxxxxx	F	1/1/1927 (83)	3xxxxxxxx0	HTN CAD Health Maintenance	100 Main Street	AnyTown	VT	11111	(555) 5555555555	HbA1c Good Control	7	9/12/2007 12:00:00 AM	03/10/2008

Identify Care Gaps

Apply evidenced based medicine criteria to derive patient level compliance

Maximize point of care efficiency



Patient Alerts

☑ Actionable Alerts only.

Vitals

Measure (Alert) Name	Last Value	Date Last Value	Patient Goal	Population Goal	Due Date
Height (inch)	65 in	11/29/2011			11/29/2011
Temperature	98	6/9/2011			6/9/2011

Lab

Measure (Alert) Name	Last Value	Date Last Value	Patient Goal	Population Goal	Due Date
Na+	131 meq	4/26/2010			4/26/2011
BUN	7	4/26/2010			4/26/2011
Creatinine (Plasma)	0.6	4/26/2010			4/26/2011
HbA1c	6.9 %	4/12/2011	< 7	< 7	10/9/2011
AST	11	12/22/2010			6/14/2010
HDL	50 mg/dL	2/26/2009	>= 40.0000	>= 40	2/26/2010
Total Cholesterol	232	12/22/2010			6/14/2010
Triglycerides	161 mg/dl	2/26/2009	< 150.0000	< 150	2/26/2010
LDL	126 mg/dl	2/26/2009	< 100.0000	< 100	2/26/2010
Microalbumin Cr Ratio	126.2	4/26/2010			4/26/2011

Immunization

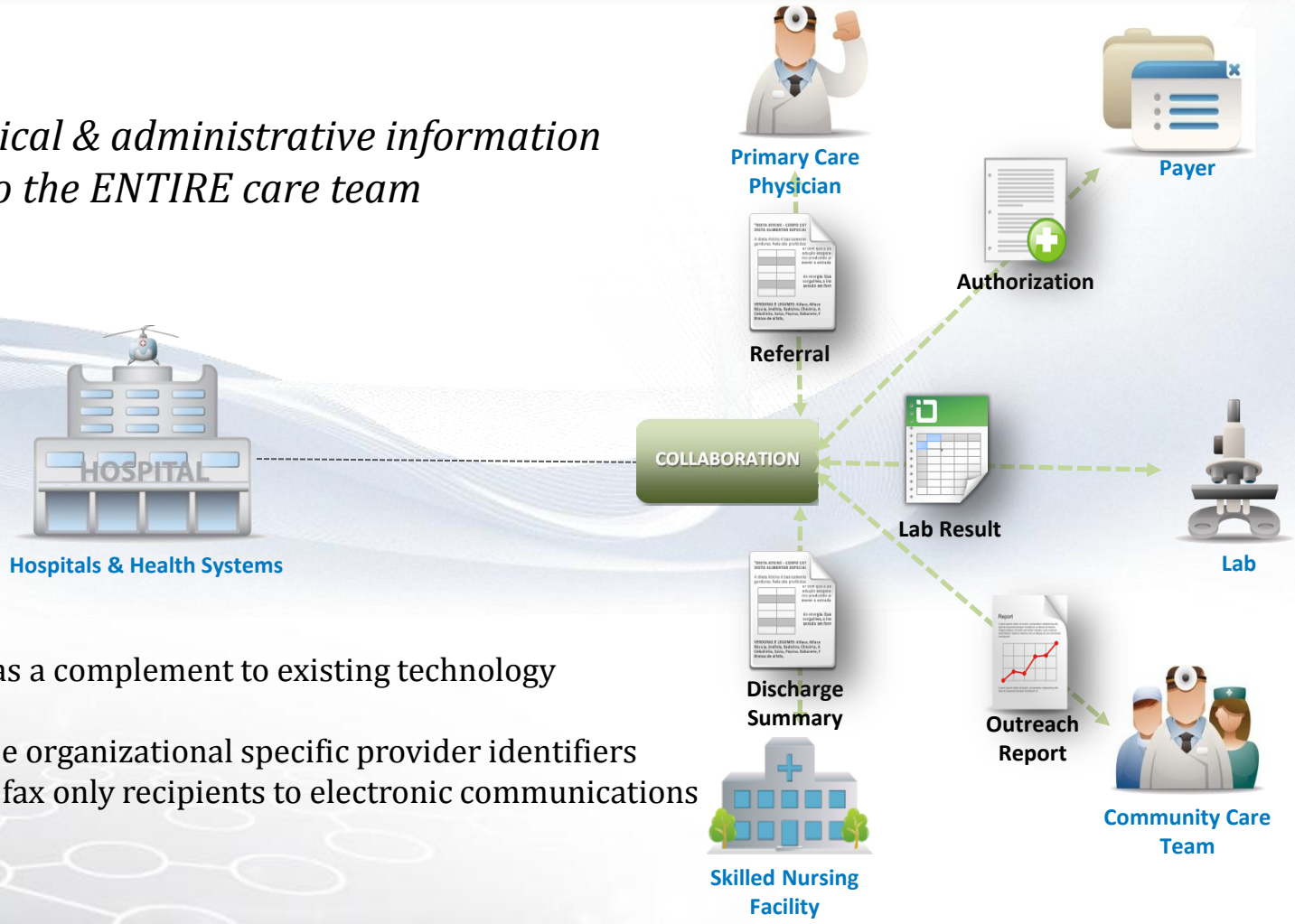
Measure (Alert) Name	Last Value	Date Last Value	Patient Goal	Population Goal	Due Date
Tetanus					
Influenza vaccine	Done Done, Not Done, CI	9/14/2009	=	= Done	9/14/2010

Clinical

Measure (Alert) Name	Last Value	Date Last Value	Patient Goal	Population Goal	Due Date
Foot Exam Monofil / Skin / Pulse					
Peak Flow	L/min				

Communication

Deliver clinical & administrative information to the ENTIRE care team



- Easily deploy as a complement to existing technology investments
- Continue to use organizational specific provider identifiers
- Easily convert fax only recipients to electronic communications

ACO With or Without HIE – "YES"

- **Choices**
  a. Use the existing EMRs/HIS (e.g. Epic or Cerner for all)
  b. Use the public HIE (is it sustainable, does it have a broad enough reach?)
  c. Create a new system from scratch (Private HIE or custom solution)

  d. All of the above

Reality #1: Systems and affiliation are dynamically changing.
Use what's in place.
Add to it for appropriate linkages, business solutions & clinical needs.
Plan for future changes.

2 ACO Types – Captive and Collaborative

- **Captive ACO = Organization Centric**

  New infrastructure is an ADJUNCT to fulfill the needs and mission of the ACO

  - Starts with core HIS +/- ambulatory EHR
  - Needs to communicate with the community providers for real time management of the continuum of care

- **Collaborative ACO = Attributed Population Centric**

  New infrastructure is CENTRAL/CORE to fulfill the needs and mission of the ACO

  - Core ACO system *IS* the infrastructure for collaboration

Note: A small population ACO within a large system, may functionally behave as a "Collaborative ACO"

2 ACO Types – Captive

Captive ACO = Organization Centric

New infrastructure is an ADJUNCT to fulfill the needs and mission of the ACO

- One core system / organization of care
- Starts with internal communication, coordination and HIT system
  - HIS with ambulatory EMR
  - Needs to communicate with the community providers for real time management of the continuum of care
    - Shared care plans (including payer data to understand in and out of network activities)
    - Simple communication for electronic or paper providers
    - Integration into various workflows in the community

2 ACO Types – Collaborative

Collaborative ACO = Attributed-Population Centric

New infrastructure is CENTRAL / CORE to fulfill the needs and mission of the ACO

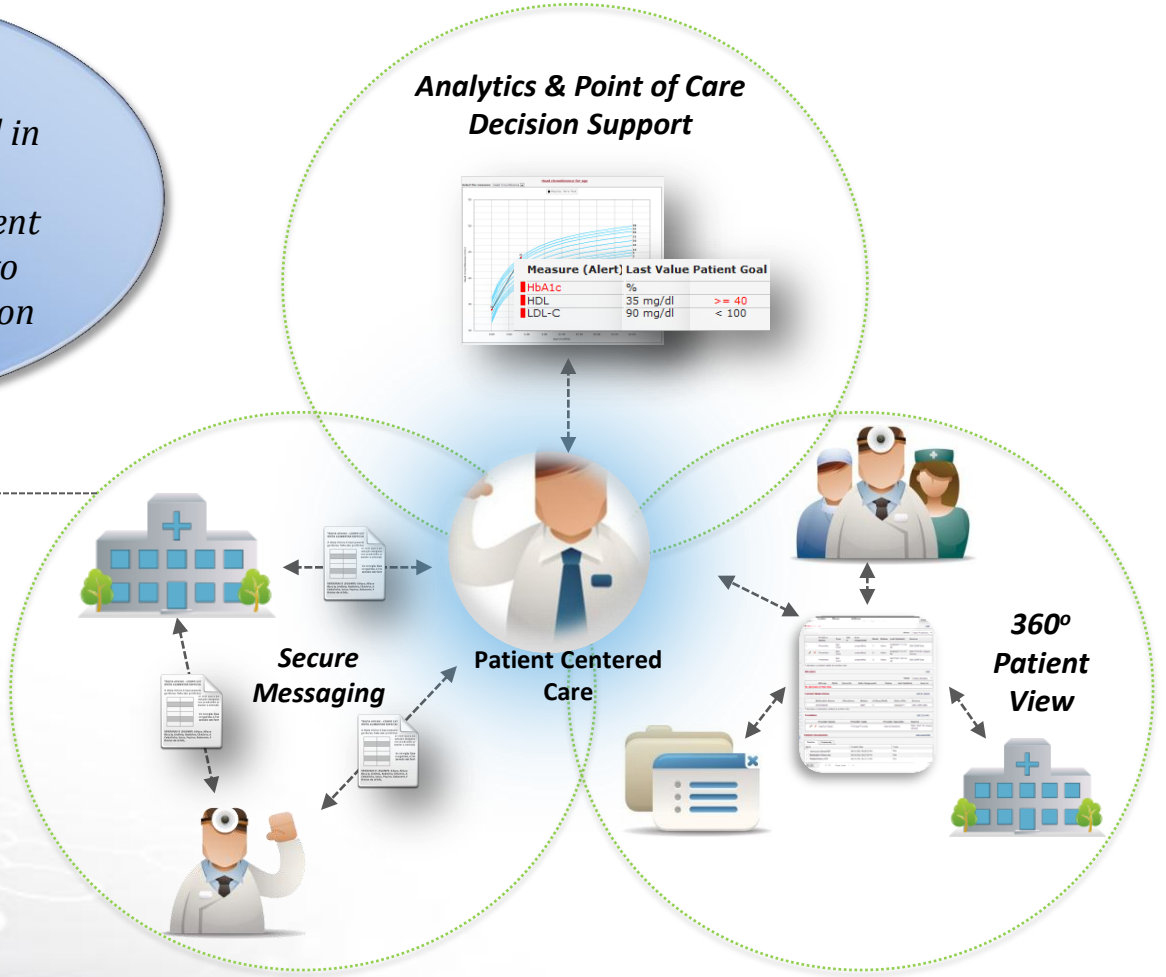
- Core system is the infrastructure for collaboration.
- Connects with various systems in the community
- Like Captive system, but doesn't have core, anchor, HIS. Rather, connects to multiple systems.

ACO Healthcare: Comprehensive & Integrated

"I need an Accountable Care infrastructure grounded in analytics to drive performance improvement and interconnectivity to enable health information exchange."

Hospitals & Health Systems

- Decrease duplicate procedures
- Increase operational efficiencies
- Improve communication among care team, including the patient
- Reduced unanticipated re-admissions
- Reduced ER utilization
- Increased physician affinity



eHEALTH INITIATIVE

Real Solutions. Better Health.

John Stanley

Principal

Impact Advisors

2012 Healthcare Trends:

Accountable Care and the Imperative for HIE, Analytics, and Patient Engagement

September 2012

Impact advisors

Today's Reality: High Cost/Low Quality

Country	Life expectancy	Infant mortality rate	Mortality amenable to health care (per 100 000 people in 2007)	Physicians per 1000 people	Nurses per 1000 people	Per capita expenditure on health (USD PPP)	Healthcare costs as a percent of GDP	% of government revenue spent on health	% of health costs paid by government
USA	78.1	6.8	96	2.4	10.6	7437	16	18.5	45.1
France	81		55	3.3	7.7				78.3
Germany	79.8	3.7	76	3.5	10.5				76.4
Canada	81.4	5.2	77	2.2	9	3844	10	16.7	70.2
Norway	80	3	64	3.8	16.2	4885	8.9	17.9	84.1
Sweden	81	2.5	61	3.6	10.8	3432	8.9	13.6	81.4
Italy	80.5	3.5	60	4.2	6.1	2771	8.7	14.1	76.6
Australia	81.4	4.2	57	2.8	10.1	3353	8.5	17.7	67.5
UK	80.1	4.9	83	2.5	9.5	3051	8.4	15.8	81.3
Japan	82.6	2.6	61	2.1	9.4	2750	8.2	16.8	80.4

Lowest

Low

Highest

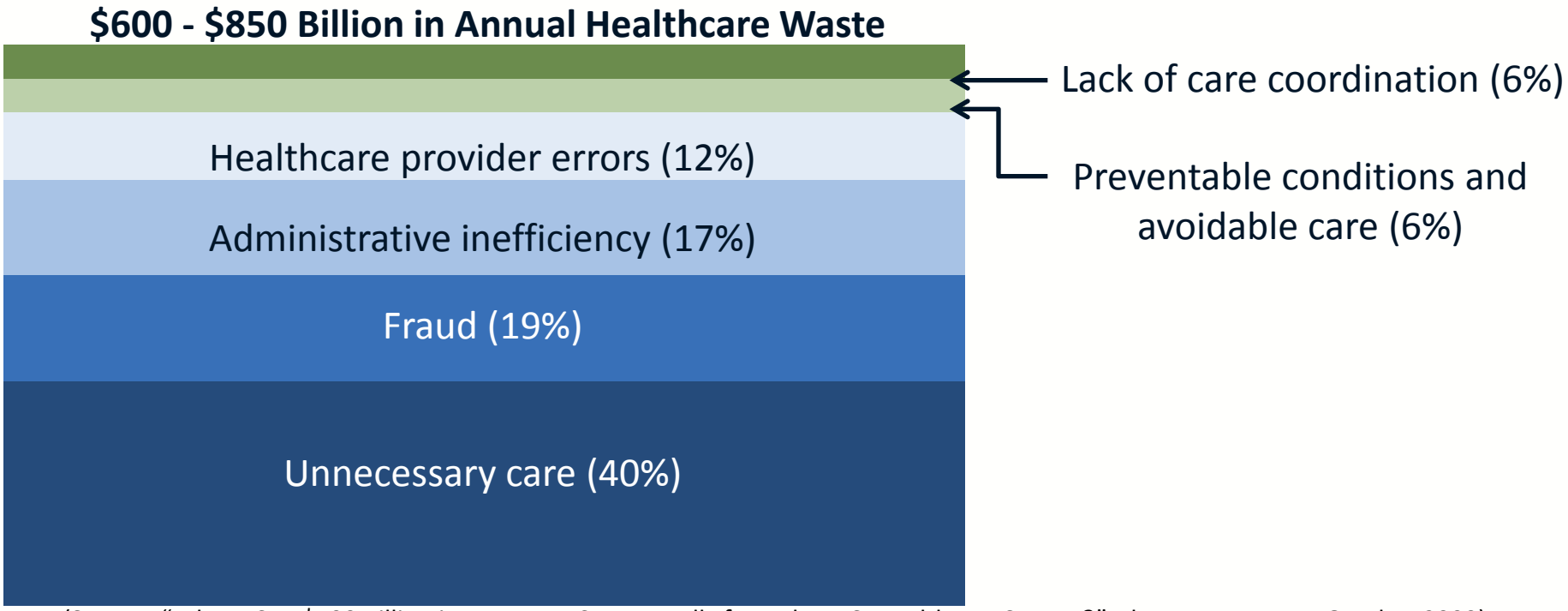
Highest

(Source: Commonwealth Fund, reported at: http://en.wikipedia.org/wiki/Health_systems#Cross-country_comparisons)

Today's Reality: Waste & Inefficiency

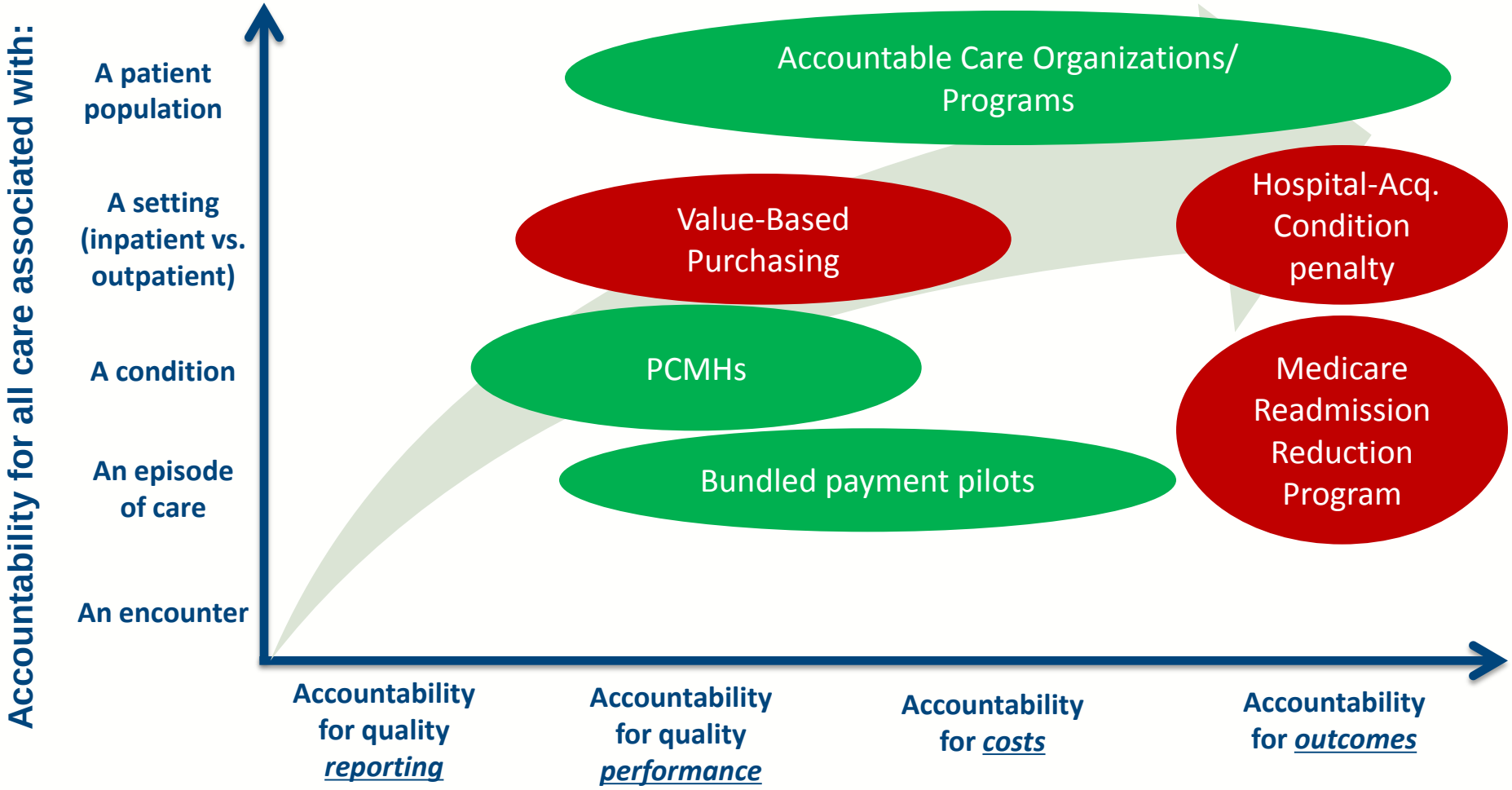
One-third of healthcare spending does not improve outcomes

WASTE = $600 - $850 billion



(Source: "Where Can $700 Billion in Waste Be Cut Annually from the U.S. Healthcare System?", Thomson Reuters, October 2009)

Raising the Bar: Accountability for Outcomes and Cost



Keys to Remaining Competitive

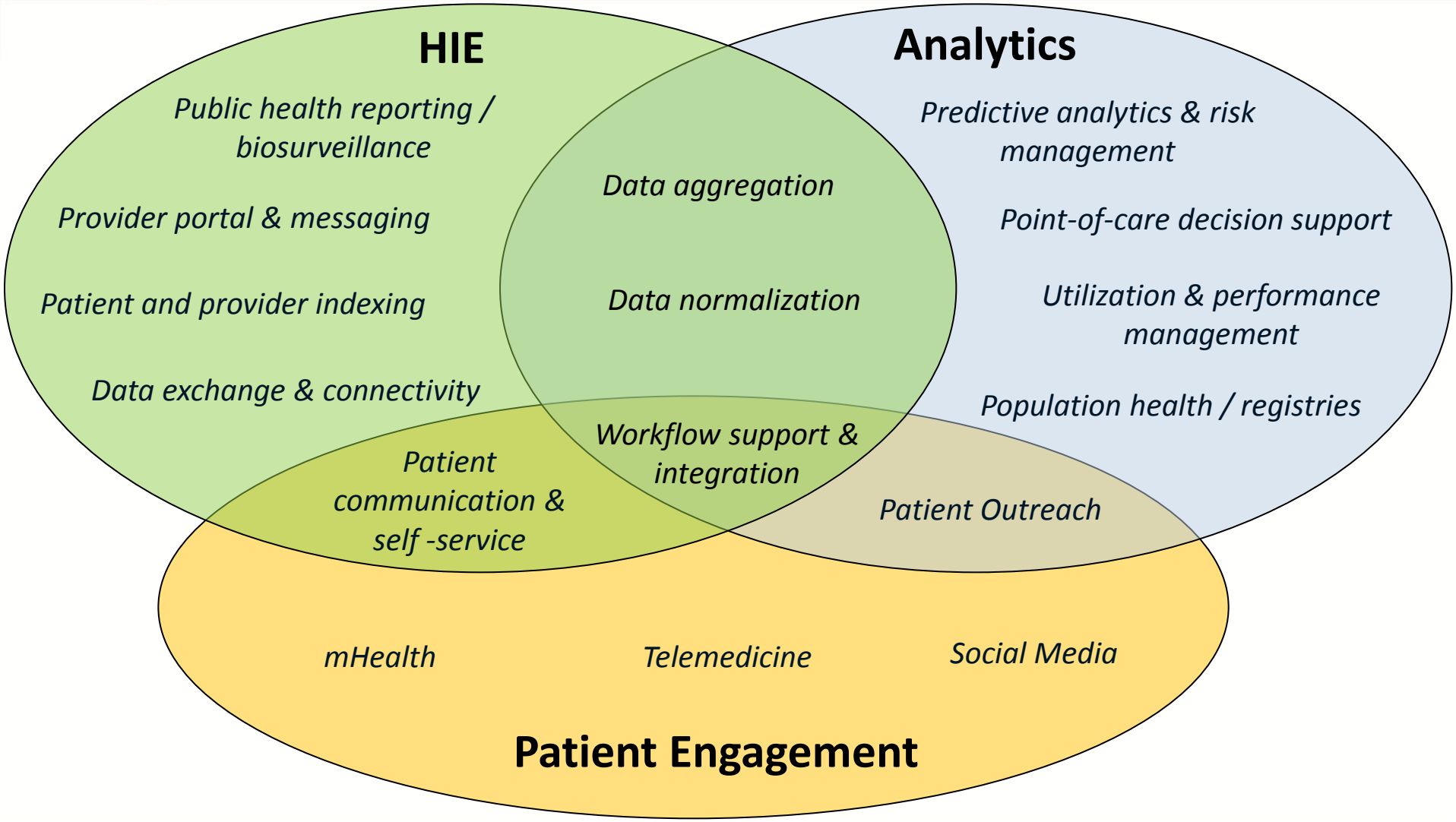
To thrive, organizations must:

- Deliver proactive, population-based care – not reactive, episode-based care.
- Share structured, patient-specific information and coordinate care between non-affiliated providers and across settings.
- Capture, codify data and use information to improve care, quality and efficiency.
- Engage patients in managing their health and utilization.

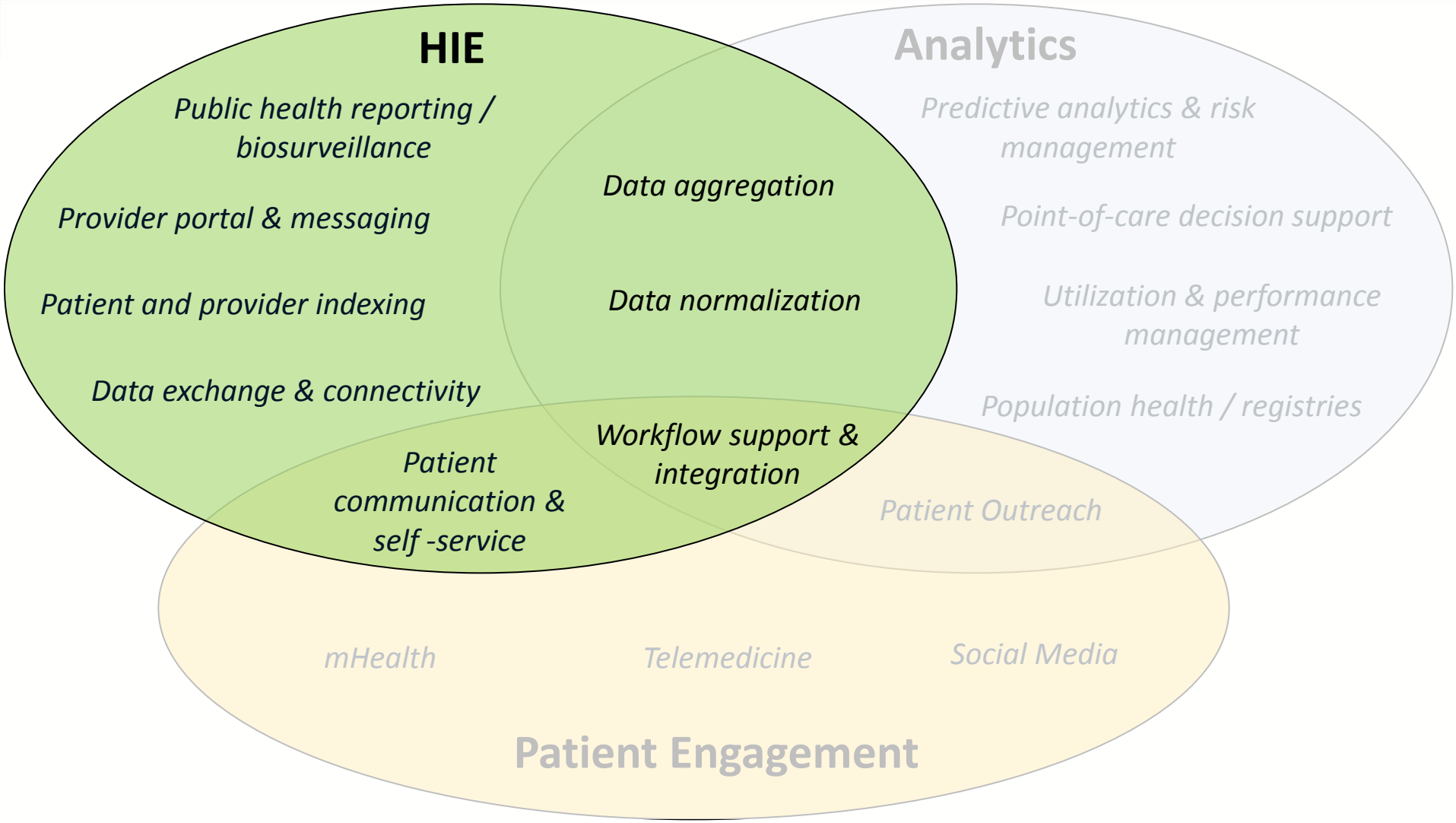
Critical IT Capabilities to Support Change

Health Information Exchange (HIE)	Technologies and services that facilitate access to and retrieval of patient data from multiple settings of care – including discrete and structured data across organizational boundaries.
Analytics	Solutions that analyze performance on key clinical and financial metrics, provide real-time alerts to inform care and business decisions, effectively predict and manage risk, and help detect and understand trends across patient populations.
Patient Engagement	Methods to engage patients in their care, empower them with knowledge, and improve patient / provider communication.

Capabilities are Rapidly Converging



Overview of HIE Capabilities

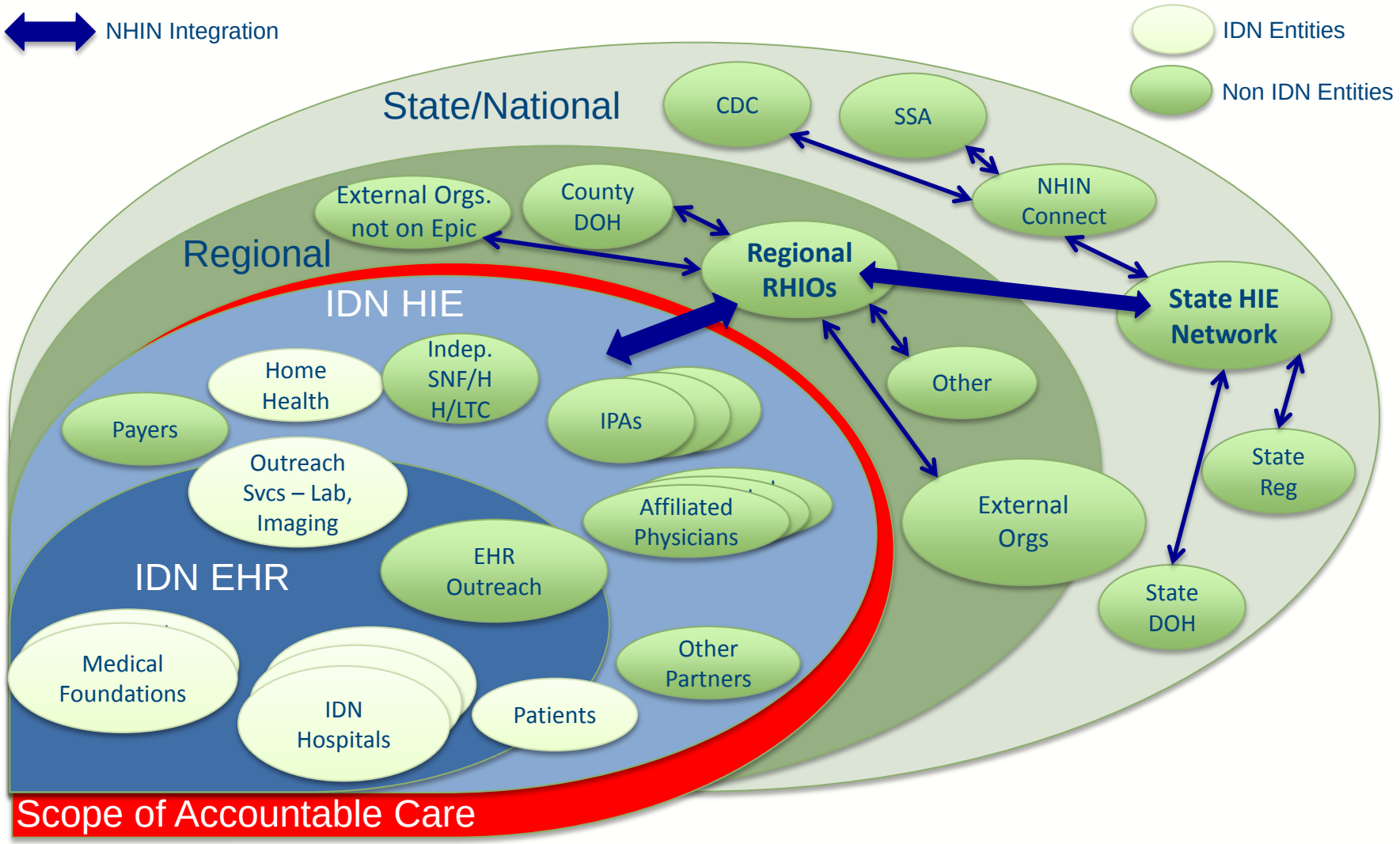


Why (an Enterprise) HIE?

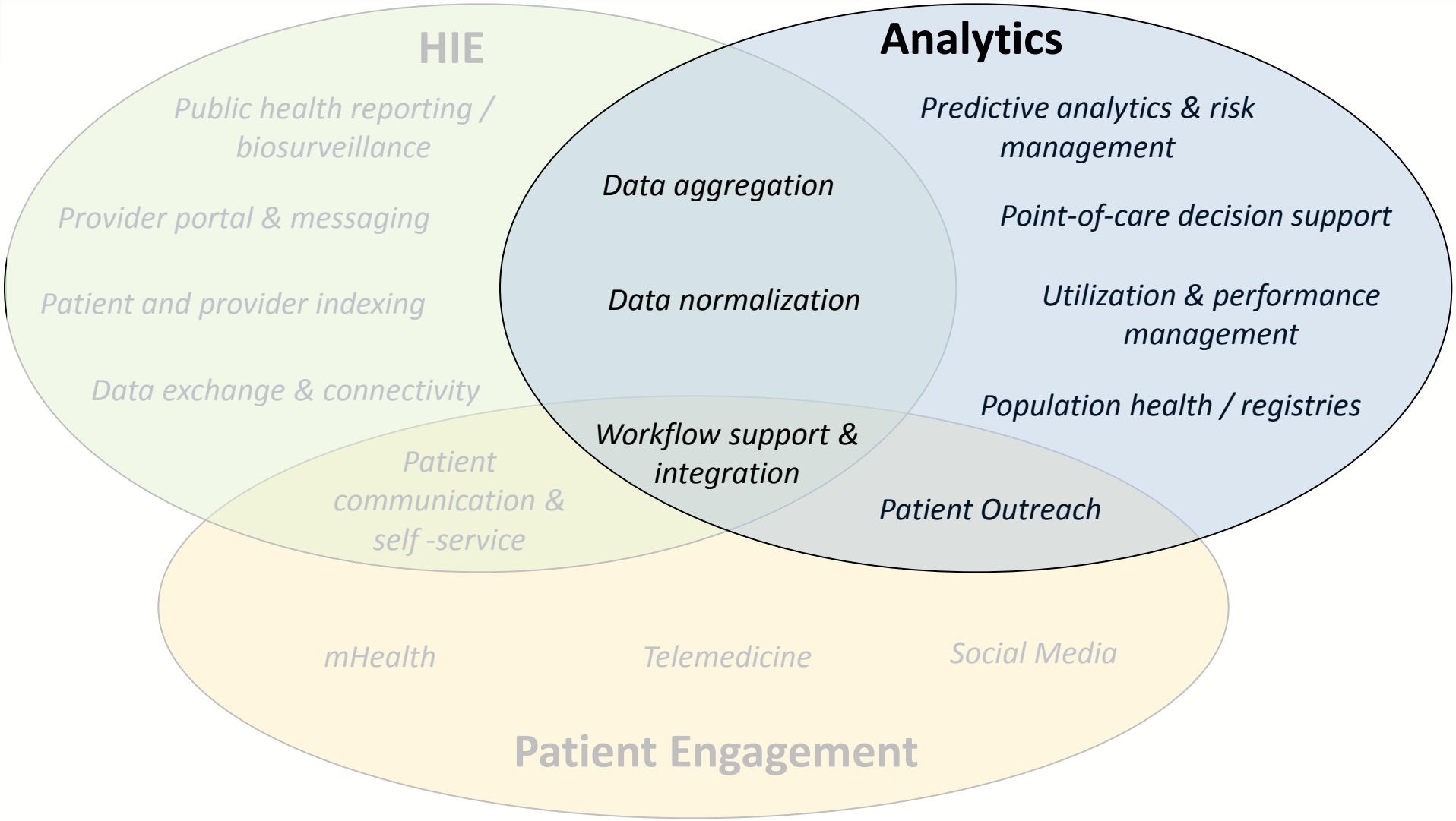
Leading healthcare organizations view HIE as a strategic opportunity to:

- **Link & Empower Physicians** - Ensure physician loyalty, create opportunities for revenue growth, and establish the nucleus for coordinated care in the community.
- **Be the Connected Healthcare Leader –** The leaders will be the first to connect and coordinate providers across transitions of care
- **Prepare for New Payment Models –** Organized clinical data is absolutely critical to changing care models, such as (ACO) or (PCMH).
- **Own the Data –** Lead with an enterprise healthcare solution and guarantee that it's the right fit for an organizations strategy and clinical workflow.
- **Provide Safer and More Efficient Care –** Enable physicians to make the right care decisions and focus on patient wellness.

Enterprise HIE Vision:
Private Execution and Public Integration



Overview of Analytics Capabilities



Enabling Population Health/Risk Management

Patient population and risk management requires robust analytic and reporting capabilities

- Point-of-care capabilities
  - Guideline- or algorithm-based prompts embedded in workflow.
  - Customized and personalized care recommendations.
- Outreach capabilities
  - Analysis of patient clinical data against evidence-based guidelines.
  - Population management (automated communications, stratification of cohorts).
  - Tracking of patients in need of preventive care.
- Reporting capabilities
  - Robust reporting and analytics – real time and longitudinally.
- Disease management capabilities
  - Ideally DM would be inherent in EHRs, but most enterprise EHR vendors are still 2-3 years away.

Purchasing Plans: A Tidal Wave

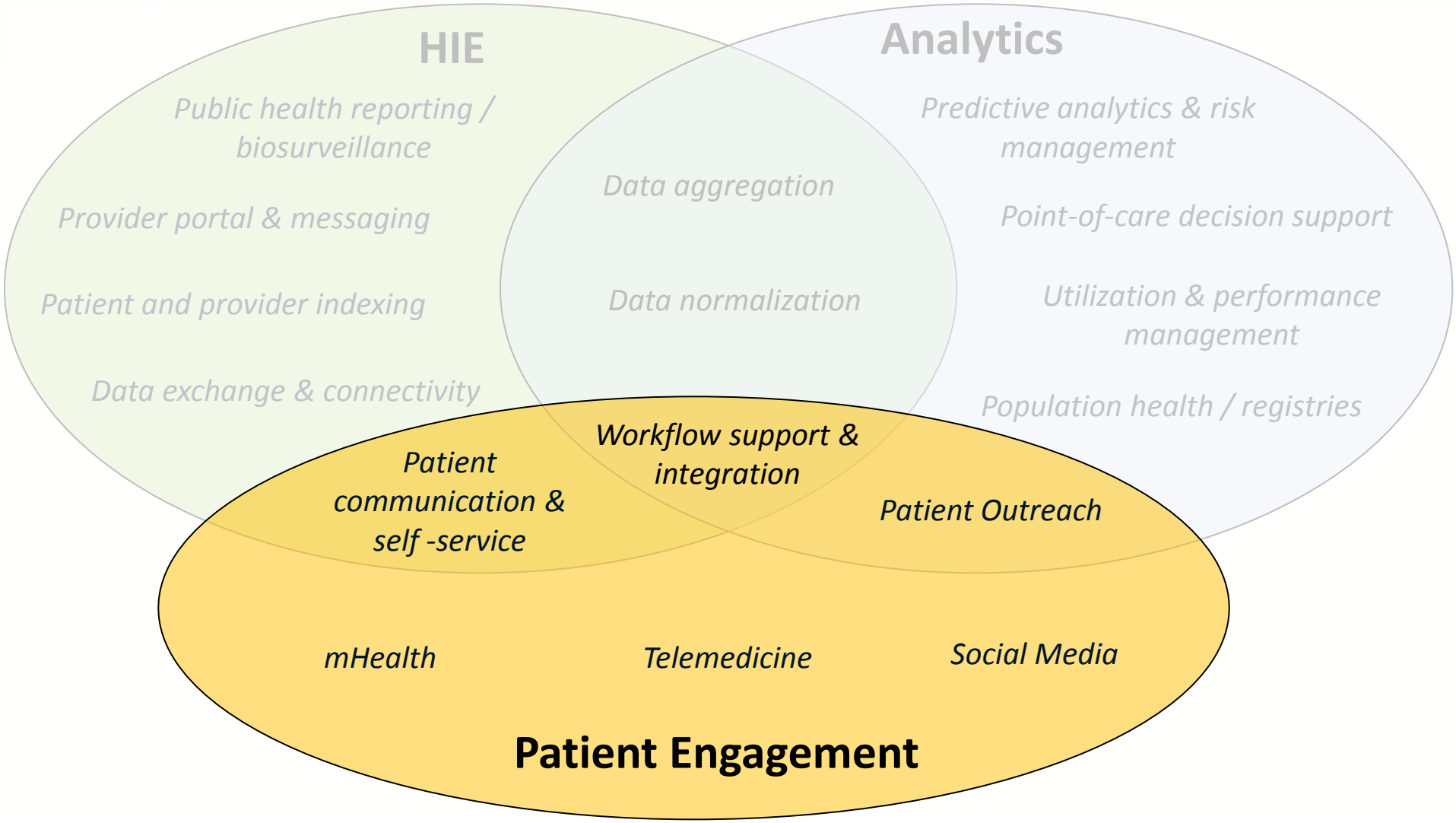
- The use of "advanced health data analytics solutions" by hospitals will increase from 10% in 2011 to 50% in 2016 – a 37.9% compound annual growth rate. (U.S. Hospital Health Data Analytics Market, Frost & Sullivan, August 7, 2012)

- According to KLAS, a "tidal wave" of analytics purchases is expected in the next three years
  - Products offering predictive modeling and ACO analytics are likely to be seen as market leaders
  - 33% of providers considering analytics are looking at EHR vendors as an option ("Business Intelligence Perception 2012: A Wave is Coming", KLAS, May 2012)

Hospital Wish List for Analytics Solution	%
Enterprise healthcare BI	27%
Predictive analytics	22%
ACO analytics	16%
Healthcare data integration / DW	9%
Population health	9%

"Business Intelligence Perception 2012: A Wave is Coming", KLAS, May 2012

Overview of Patient Engagement Capabilities



Changing Paradigms

- Consumers increasingly "own" their care and treatment decisions – and the costs of them.
  - They *want* to engage, but on their terms and with a clear ROI
- Accountable Care and patient-centered care models demand technology be employed to supplement the care team
  - Manage patients and populations "by exception" to reduce unnecessary office visits
  - Improve communication and coordination
- Patient engagement is critical in Meaningful Use Stage 2
  - Some measures based on patient behavior
    - Patients who *actually view* their e-health information (not just patients who *can* view it)
    - Patients *who send* a secure message to their provider
  - Requirements are not fully under the provider's control

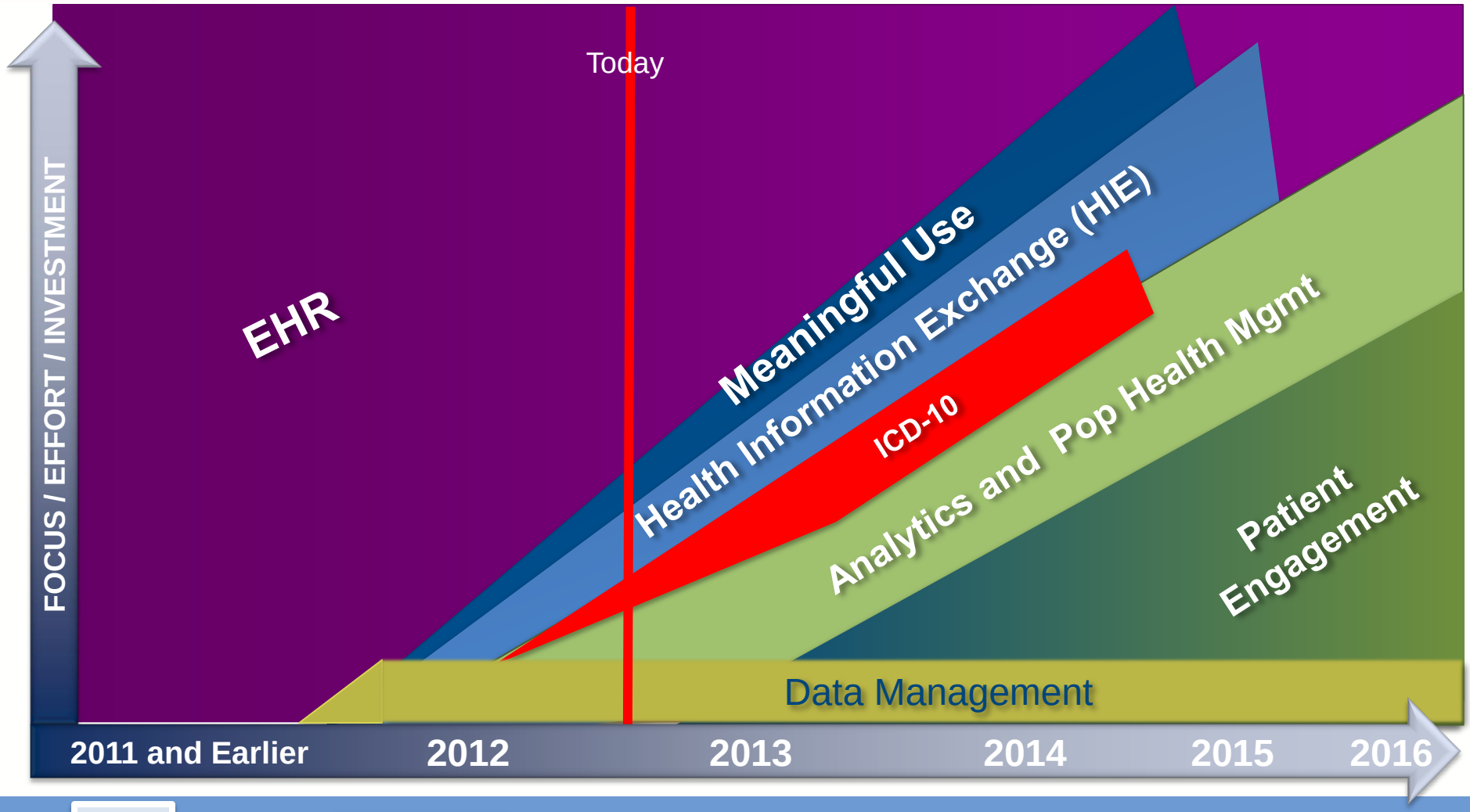
The Next Frontiers

- Mobile health
  - Increasing patient receptivity…and demand
  - Explosion of mobile health apps and solutions
    - 14,690 medical apps
    - 18,385 health and fitness apps*
- Telemedicine
  - Rapid expansion of remote monitoring / telehealth
    - Global market will grow from $13.2 billion in 2011 to $32.5 billion by 2018**
- Social Health Networking
  - "Patients Like Me"
- Social Medicine
  - "Patients Like Mine"

* http://148apps.biz accessed 9/20/12

** "Telehealth and Telemedicine – Global Opportunity Assessment, Competitive Landscape and Market Forecasts to 2018", GlobalData, 8/2/12

Strategic Timeline for Healthcare IT Transformation



Market Drivers

- ARRA
- ACA
- *PCMH Pilot*
- *Accountable Care Risk-Based Product Definition*
- *Insur. Exchange*
- *Population/Risk Mgmt*
- *Value Based Purchasing*

CONTACT INFORMATION

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Principal

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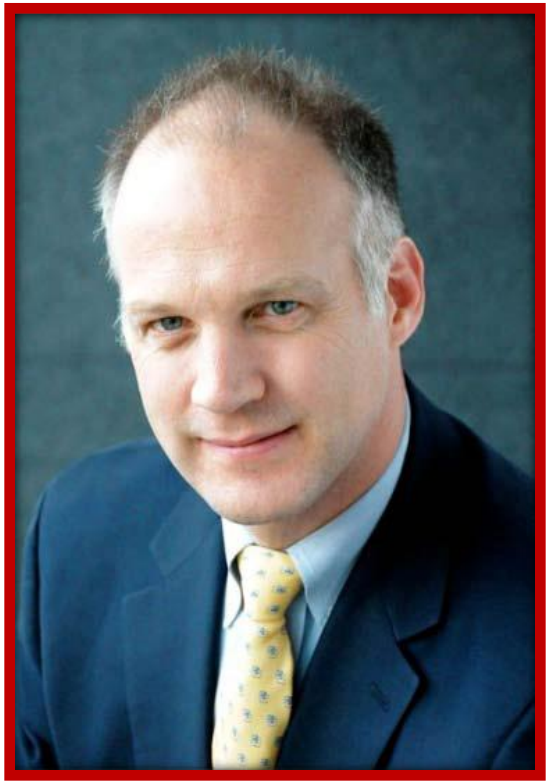


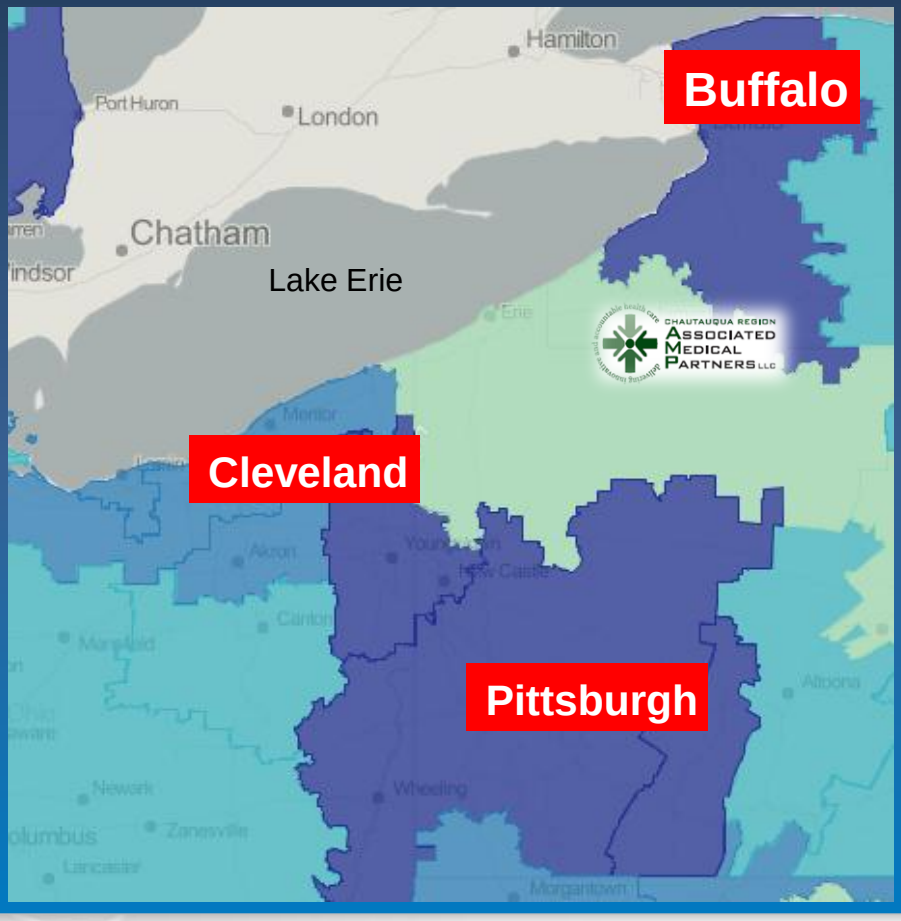
John Haughton

Chief Medical Information Officer

Covisint

Chautauqua: 3 Referral Centers in 3 States

Case Study – Collaborative ACO July 1 Start



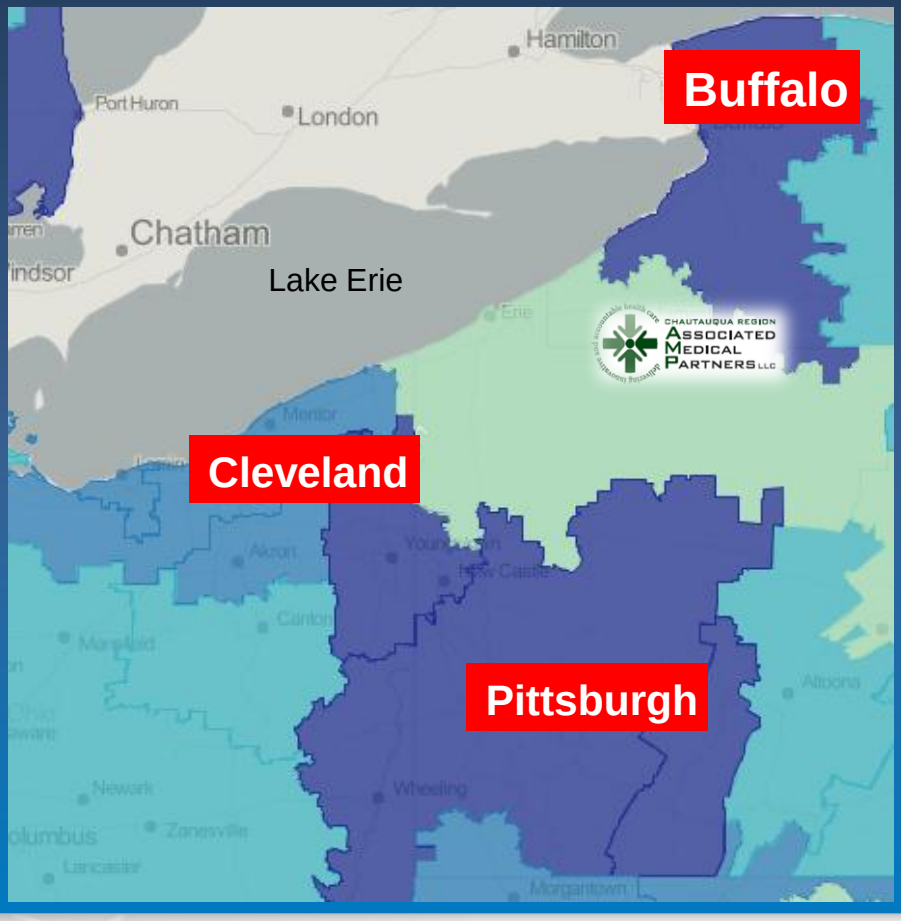
Chautauqua – July 1 Start ACO

- ✓Lucille Ball
- ✓10,000 Maniacs
- ✓ Longest running book club & day camp in the country
- ✓ Participation in quality programs for years (RWJ– pursuing perfection; Beacon, medical home, etc); Health Home Program (NY); CMS 3026 Community Care Transitions Grant
- ✓ Mature public HIE in Western NY (HealtheLink);
- ✓Evolving affiliations

- ✓7 hospitals
- ✓3 referral directions across 3 states
- ✓13 hospitalists
- ✓3 imaging centers
- ✓80 primary care physicians
- ✓85 specialists
- ✓15 OB/GYN sites
- ✓6 SNFs with 15 providers
- ✓4 hospice and home health sites
- ✓50 pharmacies
- ✓60 providers – 15 sites (podiatry, nutrition, therapy, etc.)
- ✓5 Behavioral Health sites 15 providers
- ✓HIV – 1 site, 1 physician

Chautauqua: 3 Referral Centers in 3 States

Case Study – Collaborative ACO July 1 Start



Chautauqua: 3 Referral Centers in 3 States

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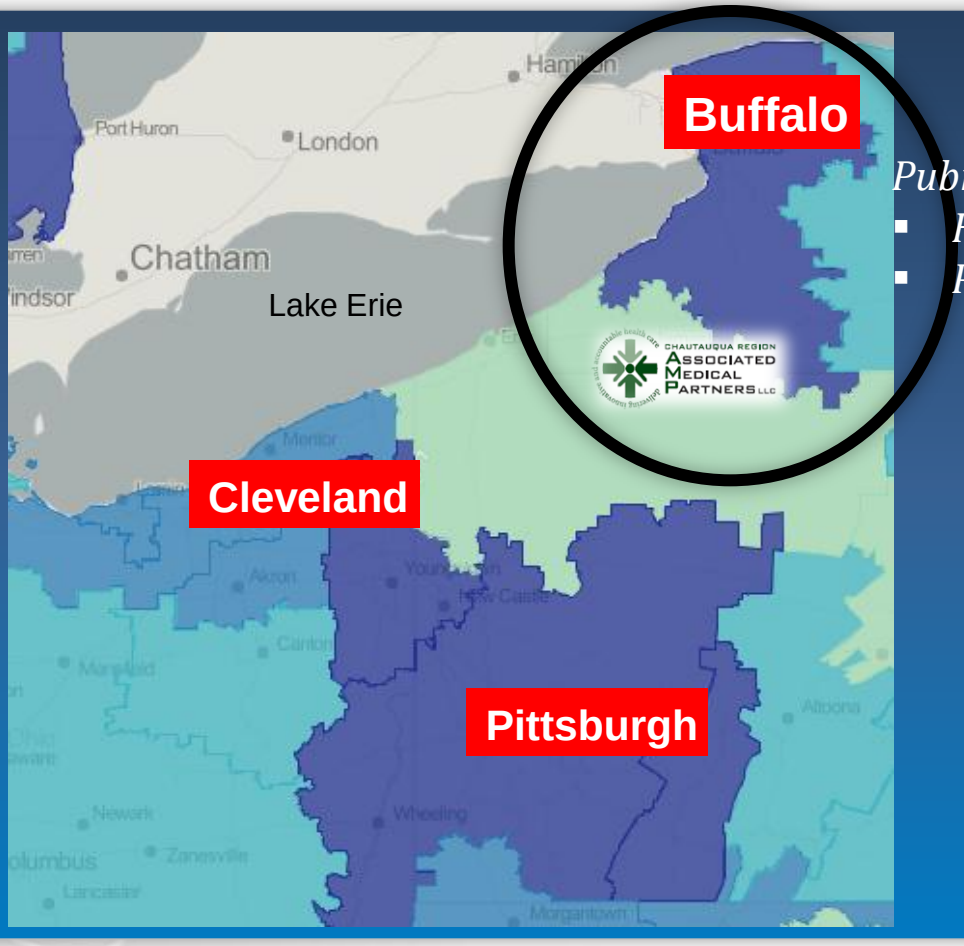
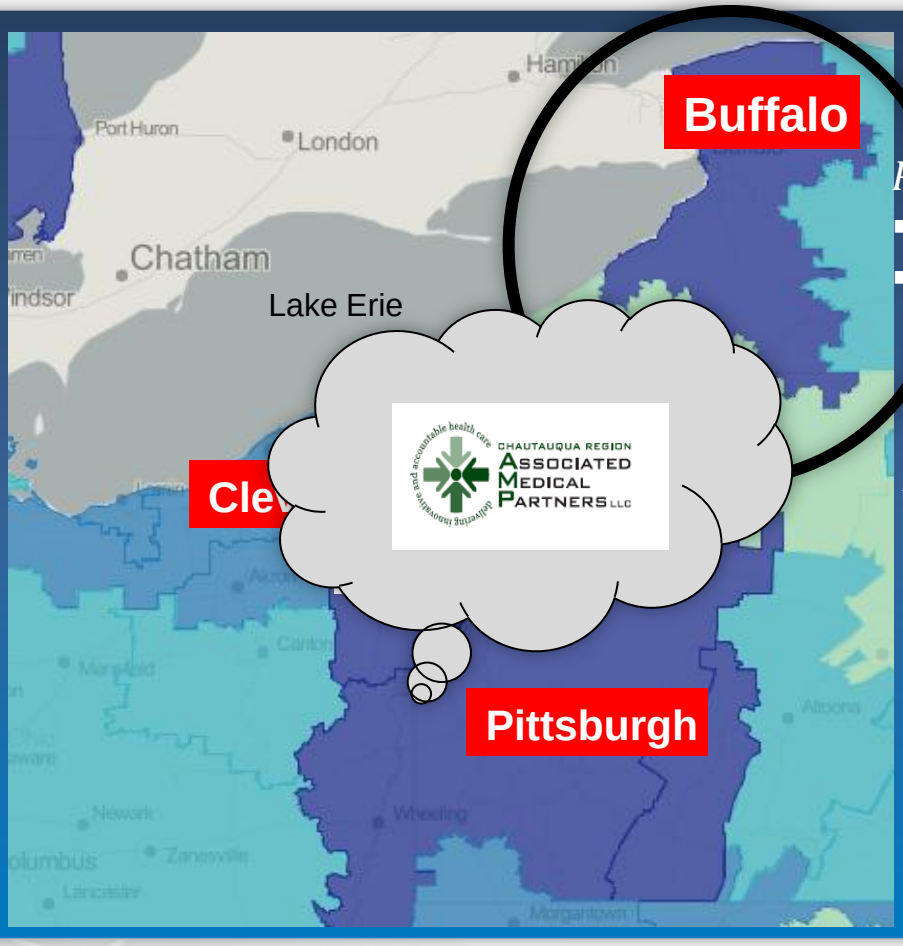


Pubic HIE

- *HealtheLink*
- *Partial Cover*

Chautauqua: 3 Referral Centers in 3 States

Case Study – Collaborative ACO July 1 Start



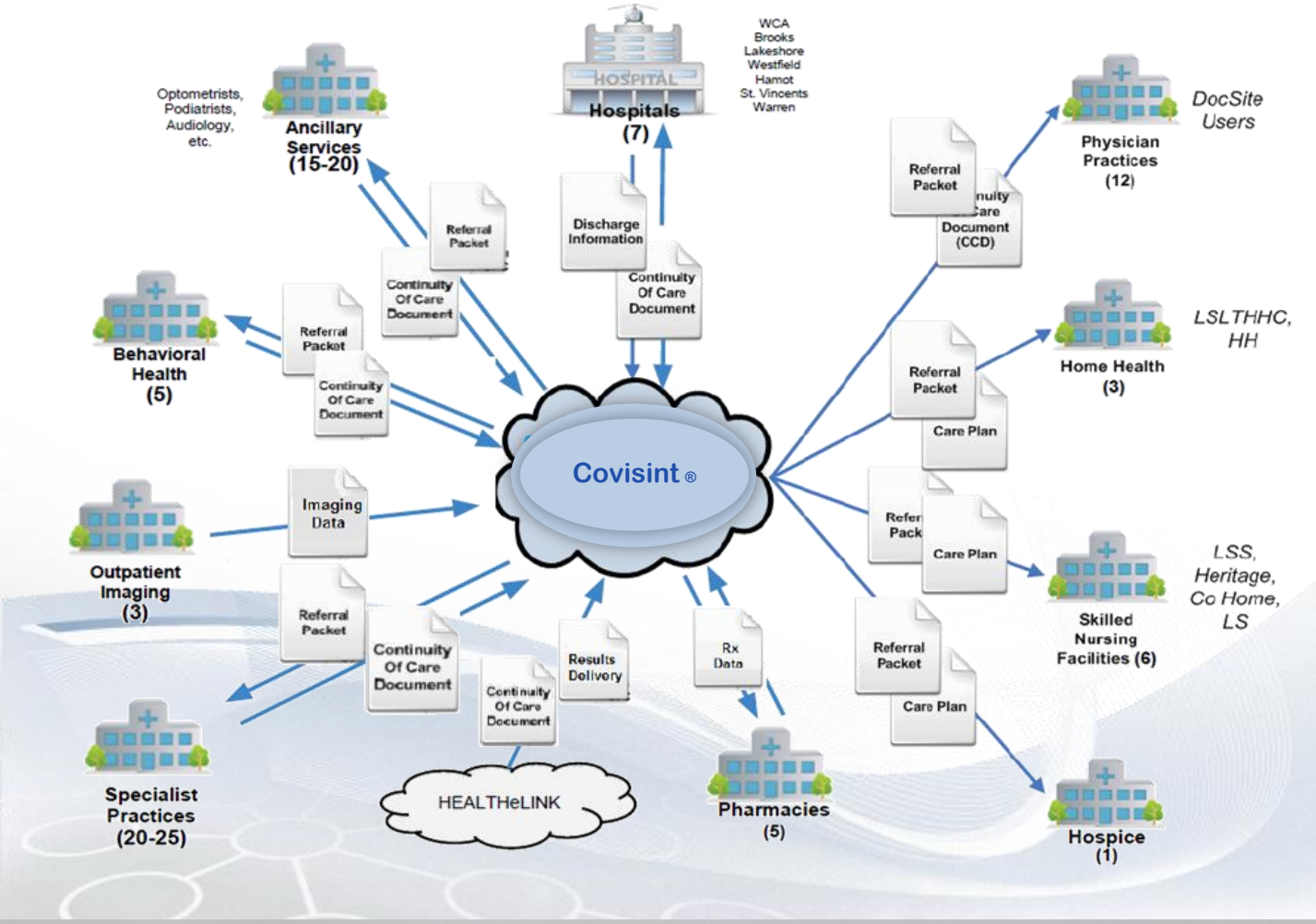
Pubic HIE

- *HealtheLink*
- *Partial Cover*

ACO HIT Solution
Create a private exchange for care collaboration, analytics and communication.

ACO: 7,500 attributed Seniors in an area with 140,000 residents of all ages.

Private Network (HIE) + Public HIE + Local applications = Workable System
(shared plans, referrals, communication, quality reporting, alerts and reminders)



Refers to 3 systems:

- U. Pitt
- Cleveland Clinic
- Buffalo

Crosses State Lines
(NY, OH, PA)

Limit to revenue sent out of county

Change Happens

CHAUTAUQUA REGION ASSOCIATED MEDICAL PARTNERS LLC

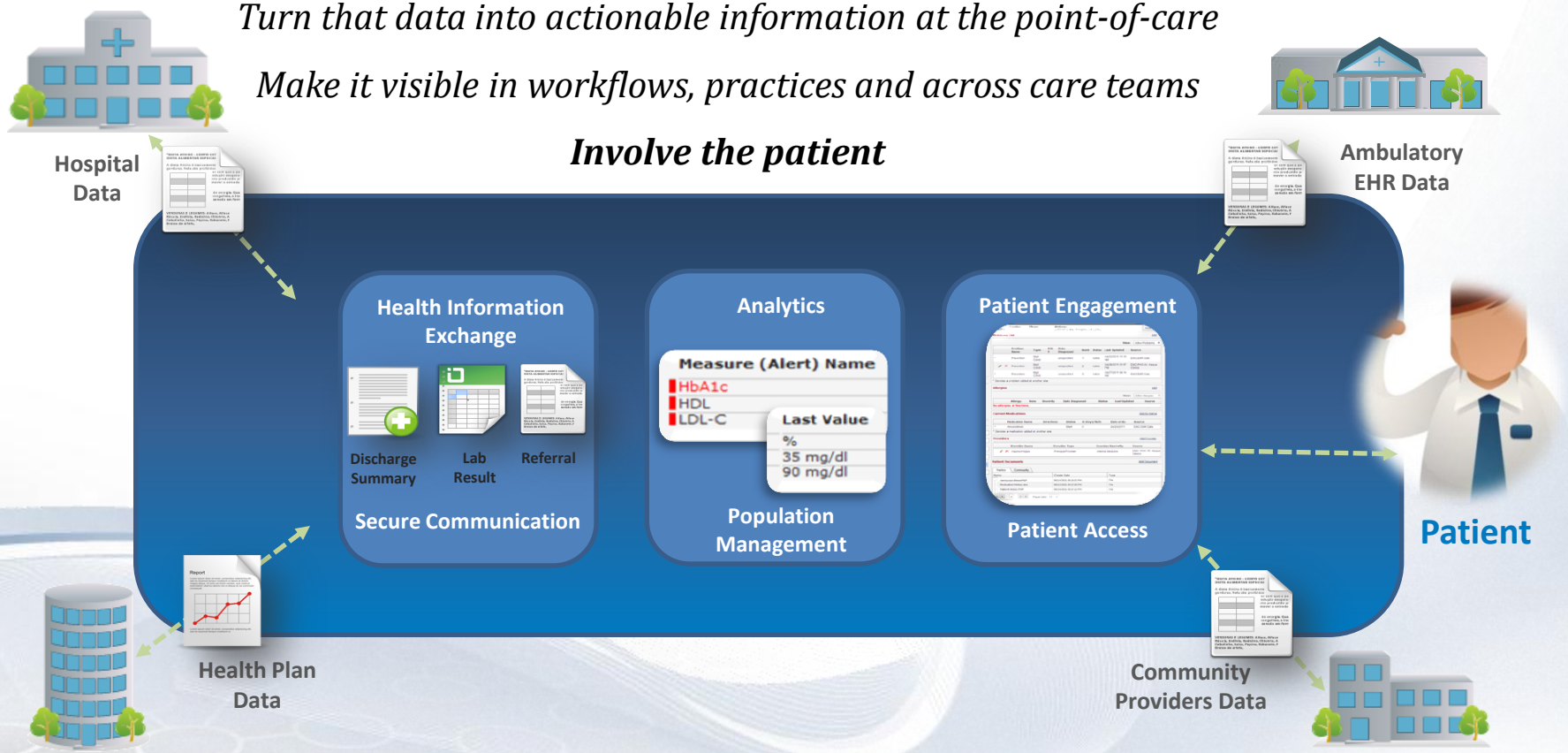
ACO – General Needs for Success

Aggregate data from multiple sources

Turn that data into actionable information at the point-of-care

Make it visible in workflows, practices and across care teams

Involve the patient



eHEALTH INITIATIVE
Real Solutions. Better Health.

Arthur (Art) L. Wilmes,
FSA, MAA, Principal,
Consulting Actuary
Milliman

Operational Intelligence (OI):
Multidimensional Analysis and Patient Stratification

Presented by
Milliman, Inc.

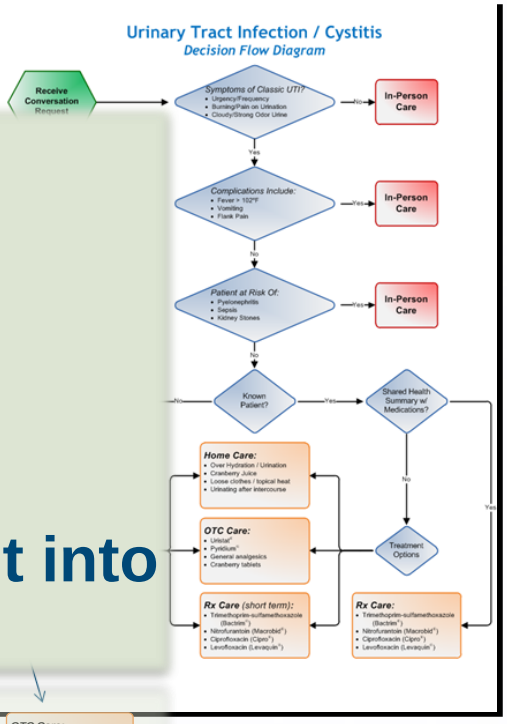
Milliman

What are the Primary Questions Confronting an ACO?

- How do I optimize care management?
- Did I 'beat' the financial targets (benchmarks)?
- How do I minimize my downside risks?
- How do I maximize my quality scores?
- How do I align and influence provider performance?

Real Time Monitoring and Analytics (OI) Are Necessary

- Real time monitoring
- Real time situation detection
- Multidimensional analysis
- Real time visibility and insight into clinical operations



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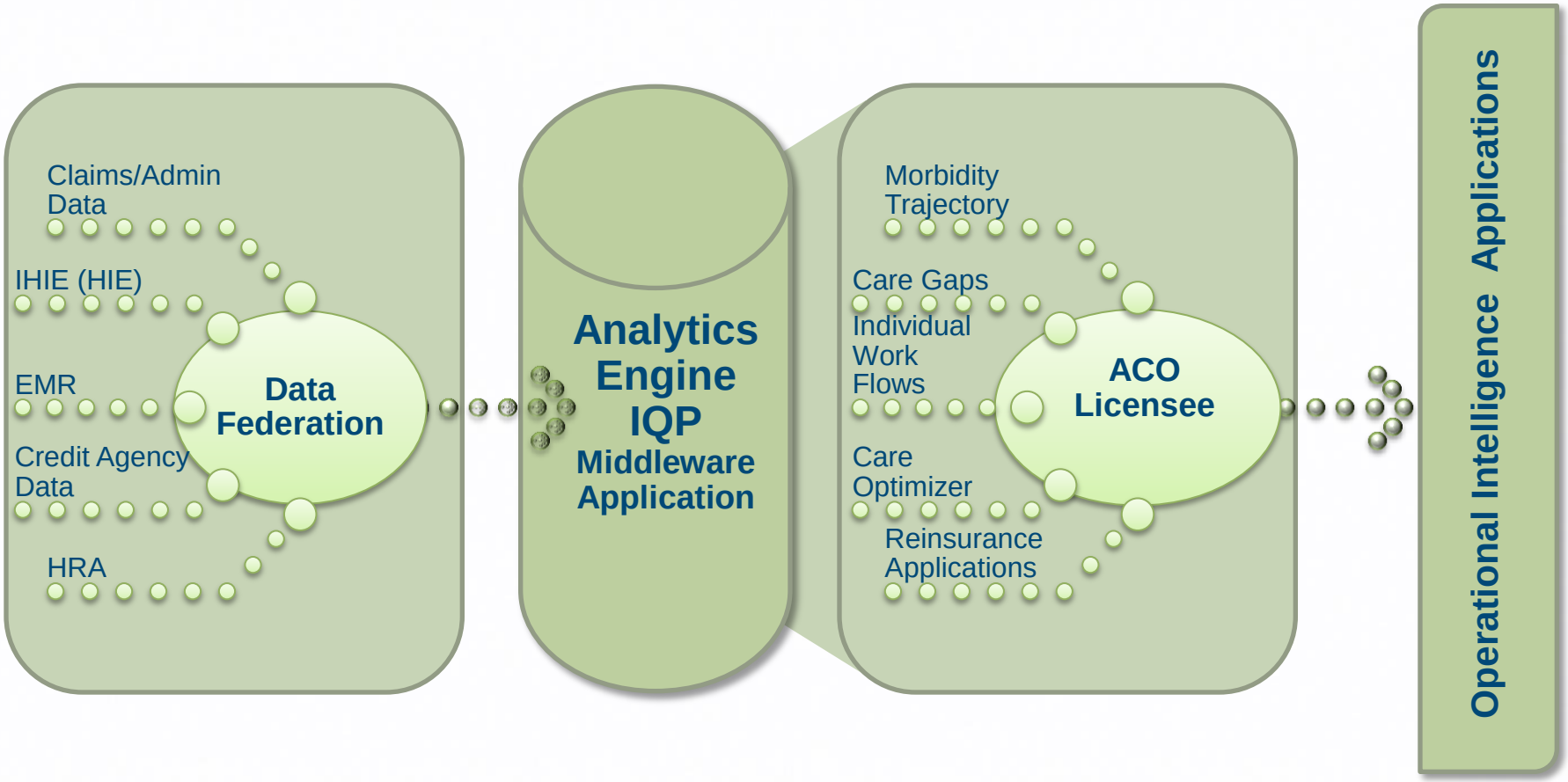
Data Compiled for OI Applications



How do I optimize care management?

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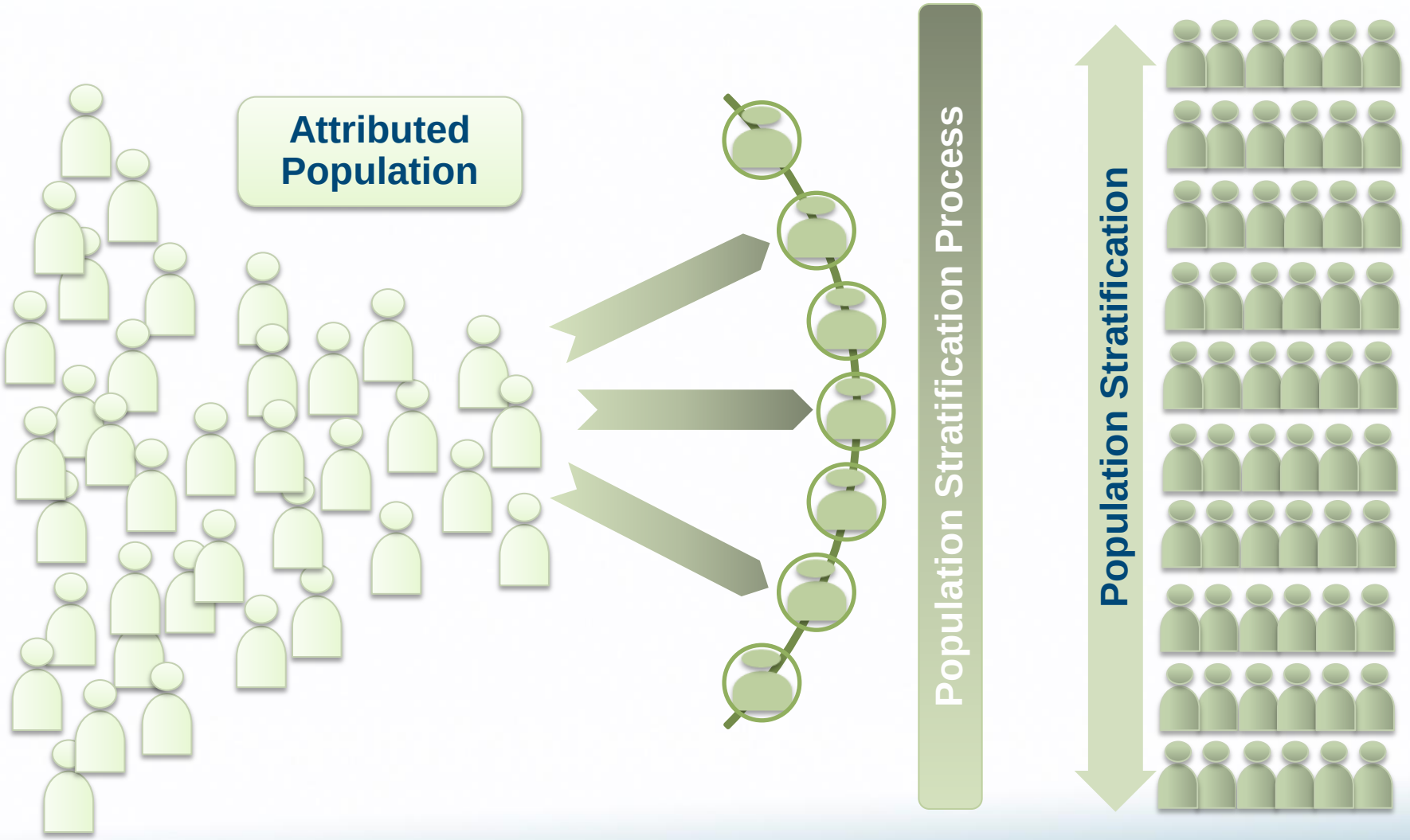
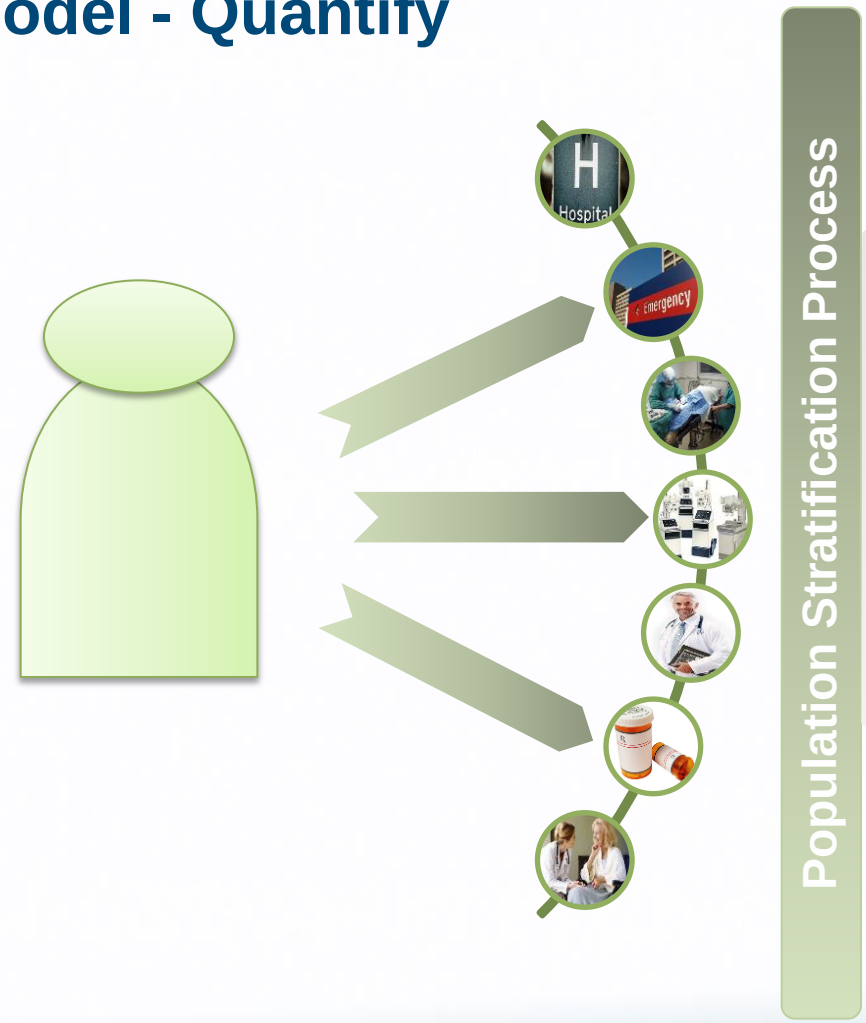
Step 1 - Population Stratification - Identify



Step 2 -Individual Predictive Resource Model - Quantify



Primary Diagnosis = Ischemic Heart Disease

Benefit	Estimated 3 months: Annualized Utilization Per 1,000	Cost Per Service	Allowed PMPM	Paid PMPM
Facility Inpatient				
Medical	176.6	$ 17,457.41	$ 256.95	$ 240.30
Surgical	236.5	47,222.16	930.54	897.63
Psychiatric	1.0	13,987.45	1.13	1.13
Alcohol & Abuse	1.9	9,429.04	1.52	1.38
Mat Norm Delivery	-	-	-	-
Mat Csect Delivery	1.9	39,449.52	6.35	6.09
Well Newborn	-	-	-	-
Other Newborn	-	-	-	-
Maternity Non-Delivery	1.0	111,844.83	9.00	8.99
SNF	3.9	11,574.89	3.72	3.70
Subtotal	422.7	$ 34,324.25	$ 1,209.20	$ 1,159.22
Facility Outpatient				
Emergency Room	544.6	$ 944.61	$ 42.87	$ 37.45
Surgery	563.5	5,598.02	262.88	244.66
Radiology General	571.5	1,575.29	75.02	63.54
Radiology - CT/MRI/PET	180.9	2,513.19	37.88	34.16
Pathology/Lab	1,693.5	431.04	60.83	52.40
Drugs	461.1	4,134.04	158.87	144.10
Cardiovascular	668.9	1,201.37	66.96	59.65
Physical Therapy	254.4	331.61	7.03	6.06
Psychiatric	31.8	246.23	0.65	0.49
Alcohol & Drug Abuse	-	-	-	-
Other	2,003.6	1,281.92	214.04	198.33
Preventive	1,103.2	130.12	11.96	10.40
Subtotal	8,076.9	$ 1,395.06	$ 938.99	$ 851.23
Professional				
Inpatient Surgery	902.4	$ 739.20	$ 55.59	$ 49.71
Inpatient Anesthesia	84.3	1,940.63	13.64	13.06
Outpatient Surgery	843.4	534.46	37.56	33.00
Office Surgery	619.4	131.78	6.80	5.63
Outpatient Anesthesia	90.0	438.64	3.29	3.08
Maternity	15.0	553.28	0.69	0.59
Inpatient Visits	1,891.0	106.25	16.74	14.81
Office/Home Visits	5,864.1	84.45	41.27	24.50
Urgent Care Visits	46.9	90.10	0.35	0.22
Office Administered Drugs	751.5	170.97	10.71	9.14
Allergy Testing	4.7	245.72	0.10	0.09
Allergy Immunotherapy	149.0	37.52	0.47	0.40
Miscellaneous Medical	919.3	117.09	8.97	7.59
Preventive Other	2,204.0	20.02	3.68	3.04
Preventive Immunizations	462.0	24.11	0.93	0.85
Preventive Well Baby Exams	-	-	-	-
Preventive Physical Exams	225.8	136.69	2.57	2.15
Vision Exams	71.2	80.91	0.48	0.29
Hearing and Speech Exams	47.8	46.67	0.19	0.17
ER Visits and Observation Care	894.9	198.61	14.81	13.00
Consults	669.1	184.91	10.31	7.63
Physical Therapy	760.9	27.49	1.74	1.31
Cardiovascular	6,458.2	68.99	37.13	31.02
Radiology IP	732.8	39.94	2.44	2.21
Radiology OP - General	1,464.6	42.40	5.18	4.18
Radiology OP - CT/MRI/PET	343.0	108.24	3.09	2.71
Radiology Office - General	1,318.4	198.35	21.79	17.95
Radiology Office - CT/MRI/PET	64.7	329.02	1.77	1.46
Pathology/Lab - Inpatient & Outpatient	595.0	33.62	1.67	1.44
Pathology/Lab - Office	4,951.4	16.36	6.75	5.34
Chiropractor	239.9	34.96	0.70	0.36
Outpatient Psychiatric	250.2	75.22	1.57	1.26
Outpatient Alcohol & Drug Abuse	2.8	138.62	0.03	0.03
Subtotal	33,937.6	$ 110.67	$ 313.00	$ 258.25
Other				
Prescription Drugs (Prescription Drug MM Basis)	28,765.1	$ 120.09	$ 287.86	$ 230.99
Private Duty Nursing/Home Health	283.8	180.85	4.28	3.87
Home Health	272.2	182.72	4.14	3.75
Hospice	11.6	136.74	0.13	0.12
Ambulance	396.7	458.85	15.17	13.41
DME/Supplies	999.0	114.64	9.54	8.21
Prosthetics	1.0	123.29	0.01	0.01
Glasses/Contacts	1.9	83.15	0.01	0.01
Non-Standard Benefits	91.7	213.97	1.63	1.13
Subtotal	30,539.0	$ 125.15	$ 318.50	$ 257.62
Total Medical Cost	72,976.3	$ 457.08	$ 2,779.69	$ 2,526.32
Total Medical Cost Excluding Hospice	72,964.8	$ 457.13	$ 2,779.56	$ 2,526.20

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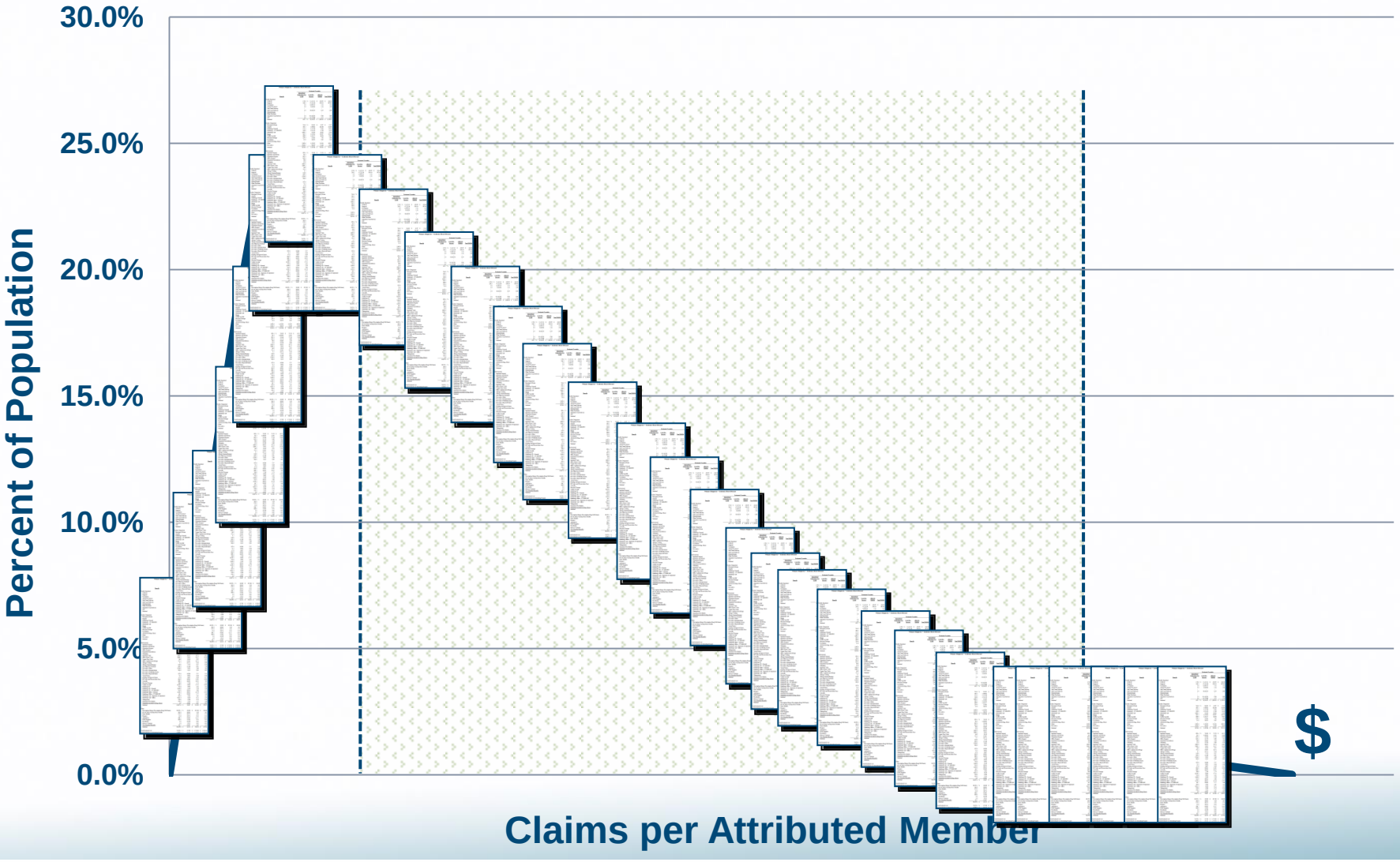
Step 2.5 - Connecting the Clinical to the Actuarial/Financial



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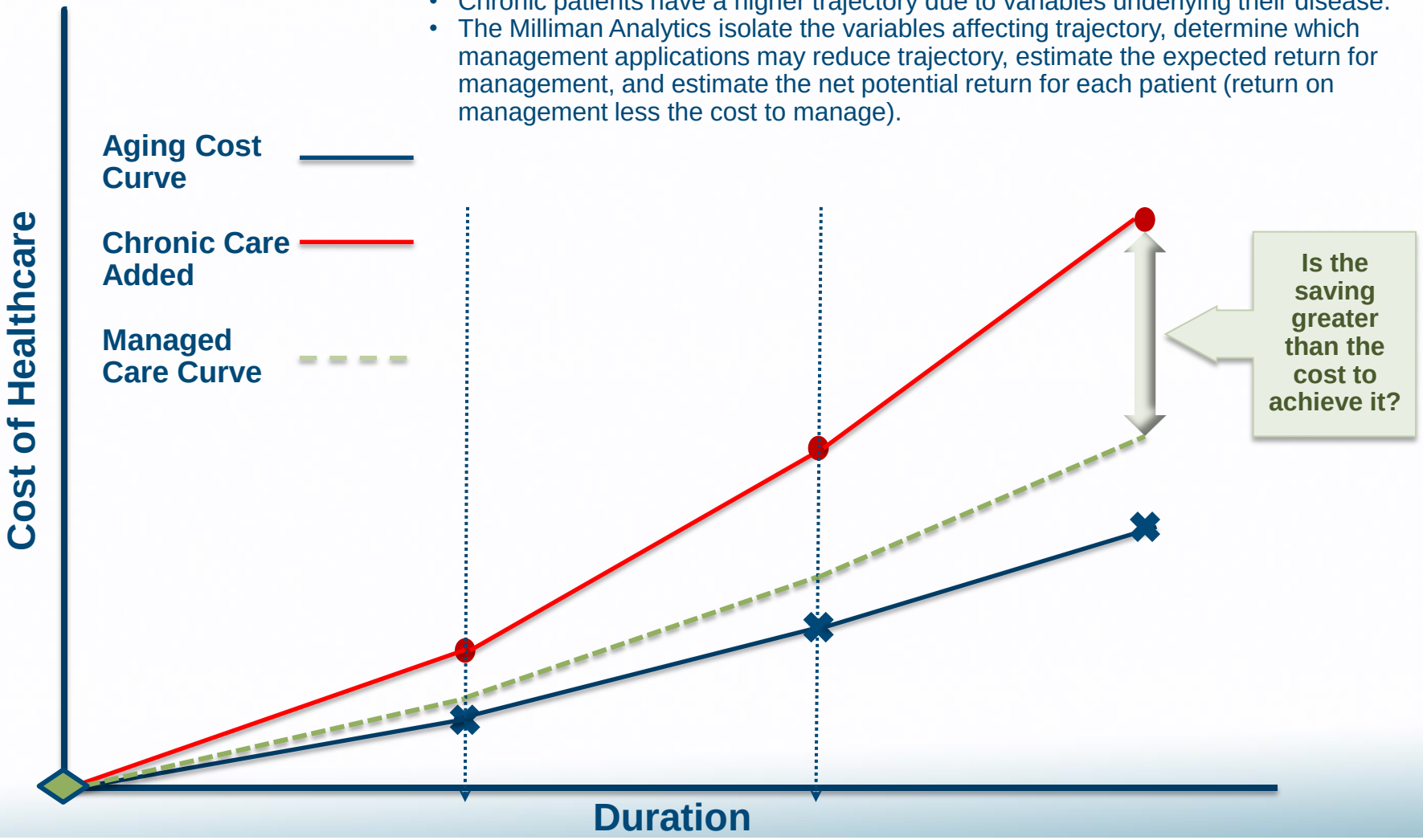
Managing Individual Illness Trajectory

- Patients have an illness ***trajectory*** due to the natural aging process.
- Chronic patients have a higher trajectory due to variables underlying their disease.
- The Milliman Analytics isolate the variables affecting trajectory, determine which management applications may reduce trajectory, estimate the expected return for management, and estimate the net potential return for each patient (return on management less the cost to manage).



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Step 3 - Individual Management Workflow – Loss Reduction

Primary Diagnosis = Ischemic Heart Disease

Benefit	Estimated 3 months: Annualized Utilization Per 1,000	Cost Per Service	Allowed PMPM	Paid PMPM
Facility Inpatient				
Medical	176.6	$ 17,457.41	$ 256.95	$ 240.30
Surgical	236.5	47,222.16	930.54	897.63
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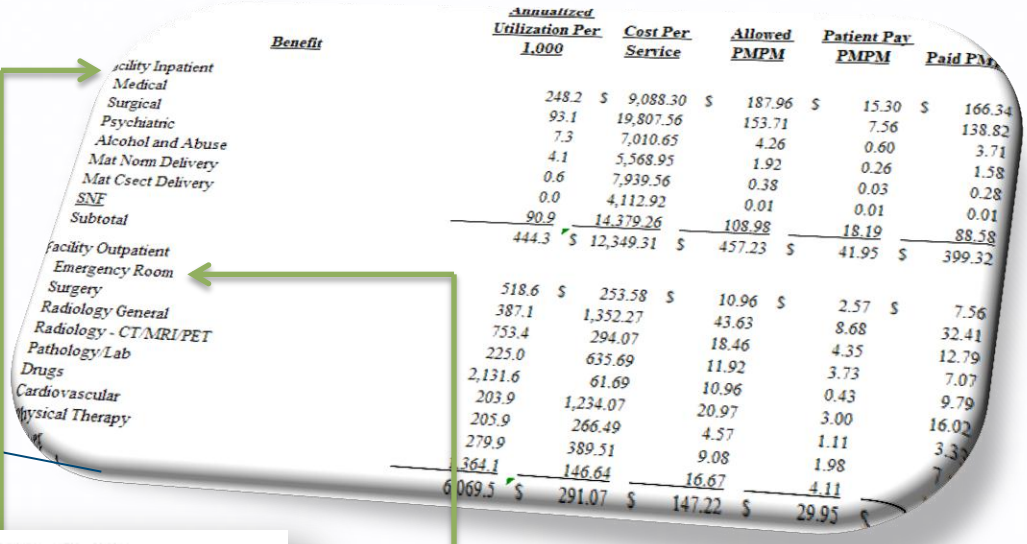
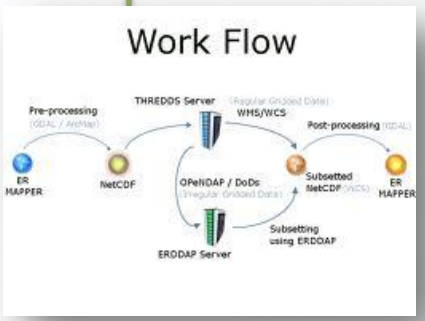
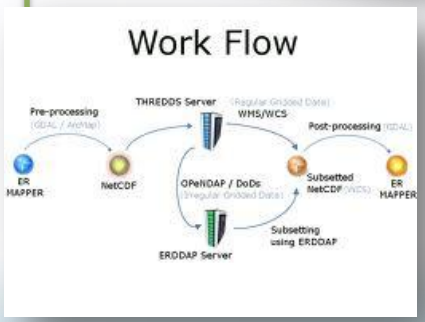
Radiology OP - General	1,464.6	42.40	5.18	4.18
Radiology OP - CT/MRI/PET	343.0	108.24	3.09	2.71
Radiology Office - General	1,318.4	198.35	21.79	17.95
Radiology Office - CT/MRI/PET	64.7	329.02	1.77	1.46
Pathology/Lab - Inpatient & Outpatient	595.0	33.62	1.67	1.44
Pathology/Lab - Office	4,951.4	16.36	6.75	5.34
Chiropractor	239.9	34.96	0.70	0.36
Outpatient Psychiatric	250.2	75.22	1.57	1.26
Outpatient Alcohol & Drug Abuse	2.8	138.62	0.03	0.03
Subtotal	33,937.6	$ 110.67	$ 313.00	$ 258.25
Other				
Prescription Drugs (Prescription Drug MM Basis)	28,765.1	$ 120.09	$ 287.86	$ 230.99
Private Duty Nursing/Home Health	283.8	180.85	4.28	3.87
Home Health	272.2	182.72	4.14	3.75
Hospice	11.6	136.74	0.13	0.12
Ambulance	396.7	458.85	15.17	13.41
DME/Supplies	999.0	114.64	9.54	8.21
Prosthetics	1.0	123.29	0.01	0.01
Glasses/Contacts	1.9	83.15	0.01	0.01
Non-Standard Benefits	91.7	213.97	1.63	1.13
Subtotal	30,539.0	$ 125.15	$ 318.50	$ 257.62
Total Medical Cost	72,976.3	$ 457.08	$ 2,779.69	$ 2,526.32
Total Medical Cost Excluding Hospice	72,964.8	$ 457.13	$ 2,779.56	$ 2,526.20







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Step 4 - Care Plan Protocol

Time Period	Care Component	Risk Level 1	Risk Level 2	Risk Level 3	Risk Level 4
First Day	Home Visit	Initial Home Visit	Initial Home Visit	Initial Home Visit	Initial Home Visit
First Week	Home Health Nurse Interaction	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Interaction Mode	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Patient Data Transmission	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Visit by HF Specialist	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Pharm Tech	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	MSW	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Risk Reassessment	zzzzzz	zzzzzz	zzzzzz	zzzzzz
Subsequent Weeks	Home Health Nurse Interaction	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Interaction Mode	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Patient Data Transmission	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Visit by HF Specialist	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Pharm Tech	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	MSW	zzzzzz	zzzzzz	zzzzzz	zzzzzz
	Risk Reassessment	zzzzzz	zzzzzz	zzzzzz	zzzzzz

Step 5 – Resource Model (Cost to Manage)

Time Period	Care Component	Time Requirement in Hours	Employee Cost per Hour	Number of Hours per Week per Employee
First Day	Home Visit	zzzzzz	zzzzzz	zzzzzz
First Week	Home Health Nurse Interaction	zzzzzz	zzzzzz	zzzzzz
	Interaction Mode	zzzzzz	zzzzzz	zzzzzz
	Patient Data Transmission	zzzzzz	zzzzzz	zzzzzz
	Visit by HF Specialist	zzzzzz	zzzzzz	zzzzzz
	Pharm Tech	zzzzzz	zzzzzz	zzzzzz
	MSW	zzzzzz	zzzzzz	zzzzzz
	Risk Reassessment	zzzzzz	zzzzzz	zzzzzz
Subsequent Weeks	Home Health Nurse Interaction	zzzzzz	zzzzzz	zzzzzz
	Interaction Mode	zzzzzz	zzzzzz	zzzzzz
	Patient Data Transmission	zzzzzz	zzzzzz	zzzzzz
	Visit by HF Specialist	zzzzzz	zzzzzz	zzzzzz
	Pharm Tech	zzzzzz	zzzzzz	zzzzzz
	MSW	zzzzzz	zzzzzz	zzzzzz
	Risk Reassessment	zzzzzz	zzzzzz	zzzzzz

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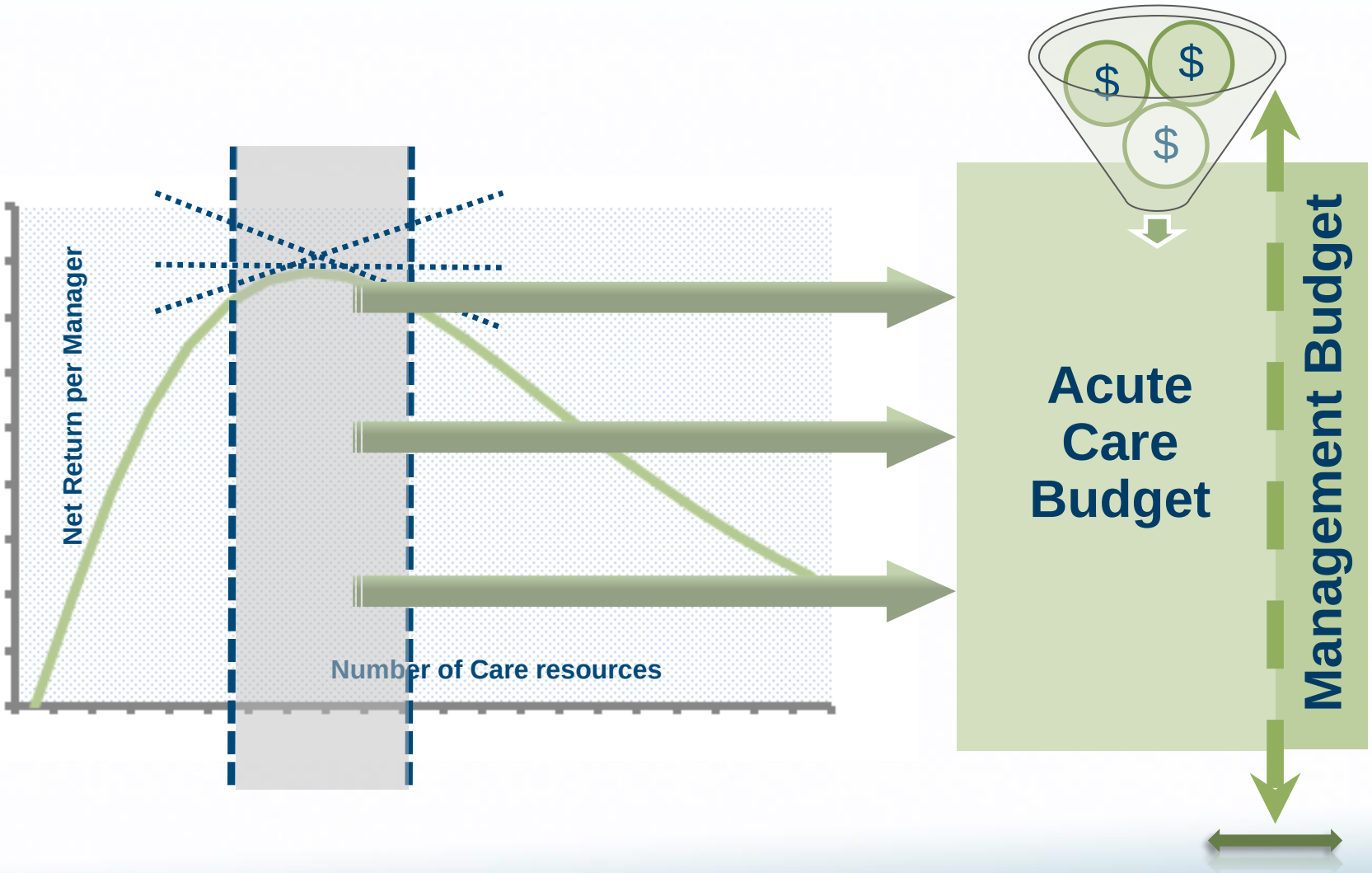
Step 6: How Do I Optimize Care Management?



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Did I ‘beat’ the financial targets (benchmarks)?

How do I minimize my downside risks?

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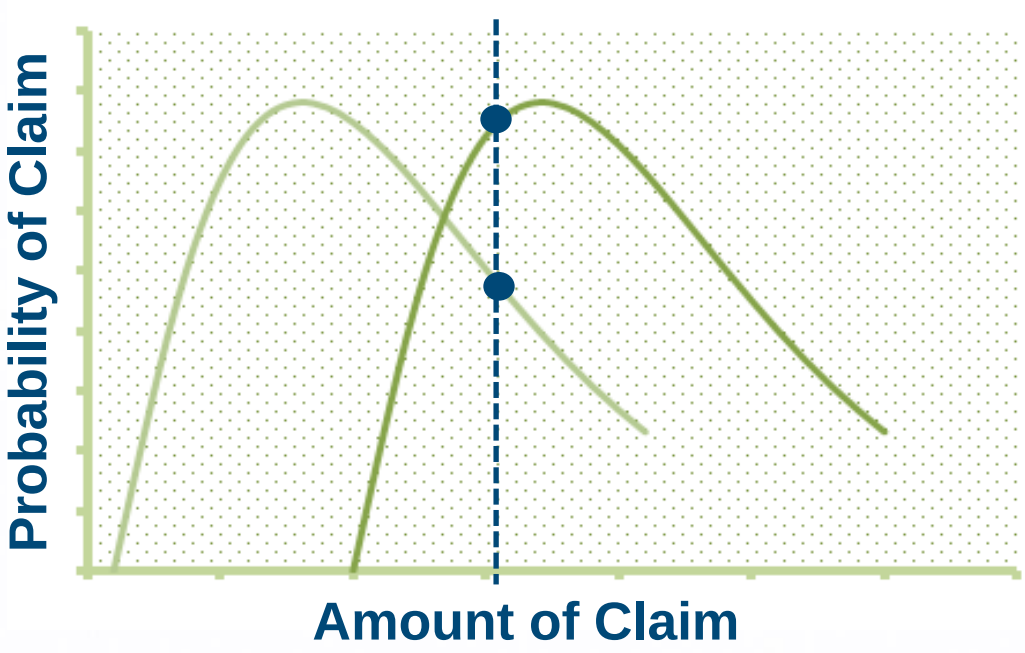
Did We Move the Cost Curve? (How Are We Doing?)



- The goal of care management is to 'move the cost curve'
- Problem: A specific claim amount could be:
  - Below average claim for a high individual CPD, or
  - Above average claim for a lower individual CPD
  - How do you distinguish?
- Multidimensional analysis can be used for CPD estimates
- Understand which CPD underlies the claim

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How do I maximize my quality scores?

How do I align and influence provider performance?

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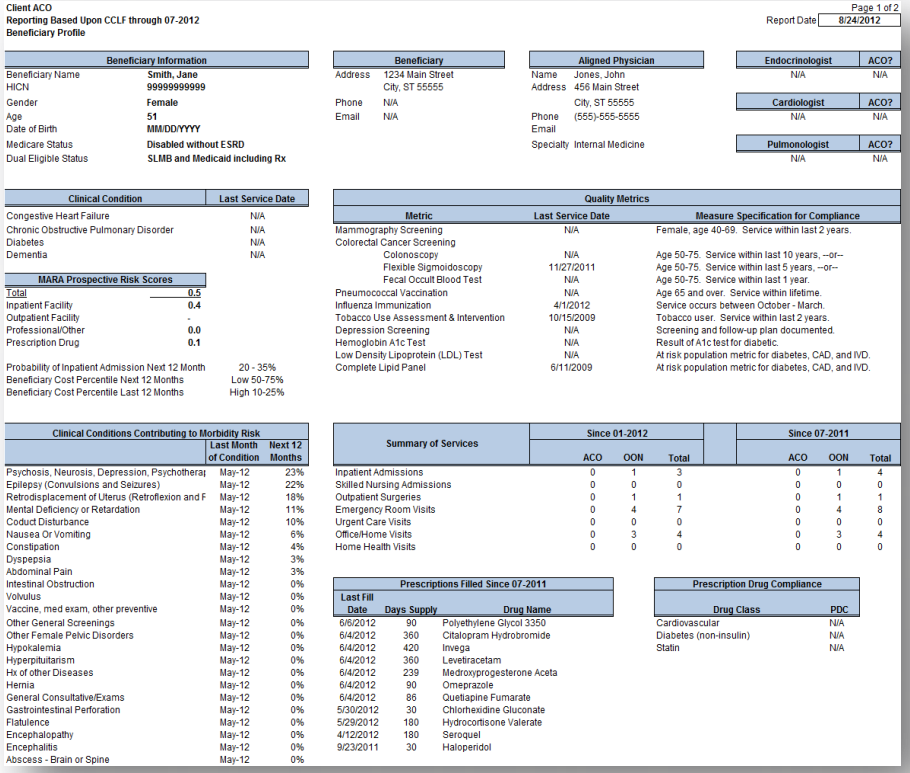
Beneficiary Profiles



Client ACO
Reporting Based Upon CCLF through 07-2012
Beneficiary Profile

Page 1 of 2
Report Date 8/24/2012

Beneficiary Information

Beneficiary Name	Smith, Jane
HICN	99999999999
Gender	Female
Age	51
Date of Birth	MM/DD/YYYY
Medicare Status	Disabled without ESRD
Dual Eligible Status	SLMB and Medicaid including Rx

Beneficiary

Address	1234 Main Street
	City, ST 55555
Phone	N/A
Email	N/A

Aligned Physician

Name	Jones, John
Address	456 Main Street
	City, ST 55555
Phone	(555)-555-5555
Email	
Specialty	Internal Medicine

Endocrinologist	ACO?
N/A	N/A

Cardiologist	ACO?
N/A	N/A

Pulmonologist	ACO?
N/A	N/A

Clinical Condition

	Last Service Date
Congestive Heart Failure	N/A
Chronic Obstructive Pulmonary Disorder	N/A
Diabetes	N/A
Dementia	N/A

MARA Prospective Risk Scores

Total	0.5
Inpatient Facility	0.4
Outpatient Facility	-
Professional/Other	0.0
Prescription Drug	0.1

Probability of Inpatient Admission Next 12 Month	20 - 35%
Beneficiary Cost Percentile Next 12 Months	Low 50-75%
Beneficiary Cost Percentile Last 12 Months	High 10-25%

Quality Metrics

Metric	Last Service Date	Measure Specification for Compliance
Mammography Screening	N/A	Female, age 40-69. Service within last 2 years.
Colorectal Cancer Screening		
Colonoscopy	N/A	Age 50-75. Service within last 10 years, --or--
Flexible Sigmoidoscopy	11/27/2011	Age 50-75. Service within last 5 years, --or--
Fecal Occult Blood Test	N/A	Age 50-75. Service within last 1 year.
Pneumococcal Vaccination	N/A	Age 65 and over. Service within lifetime.
Influenza Immunization	4/1/2012	Service occurs between October - March.
Tobacco Use Assessment & Intervention	10/15/2009	Tobacco user. Service within last 2 years.
Depression Screening	N/A	Screening and follow-up plan documented.
Hemoglobin A1c Test	N/A	Result of A1c test for diabetic.
Low Density Lipoprotein (LDL) Test	N/A	At risk population metric for diabetes, CAD, and IVD.
Complete Lipid Panel	6/11/2009	At risk population metric for diabetes, CAD, and IVD.

Clinical Conditions Contributing to Morbidity Risk

	Last Month of Condition	Next 12 Months
Psychosis, Neurosis, Depression, Psychotherap	May-12	23%
Epilepsy (Convulsions and Seizures)	May-12	22%
Retrodisplacement of Uterus (Retroflexion and F	May-12	18%
Mental Deficiency or Retardation	May-12	11%
Coduct Disturbance	May-12	10%
Nausea Or Vomiting	May-12	6%
Constipation	May-12	4%
Dyspepsia	May-12	3%
Abdominal Pain	May-12	3%
Intestinal Obstruction	May-12	0%
Volvulus	May-12	0%
Vaccine, med exam, other preventive	May-12	0%
Other General Screenings	May-12	0%
Other Female Pelvic Disorders	May-12	0%
Hypokalemia	May-12	0%
Hyperpituitarism	May-12	0%
Hx of other Diseases	May-12	0%
Hernia	May-12	0%
General Consultative/Exams	May-12	0%
Gastrointestinal Perforation	May-12	0%
Flatulence	May-12	0%
Encephalopathy	May-12	0%
Encephalitis	May-12	0%
Abscess - Brain or Spine	May-12	0%

Summary of Services

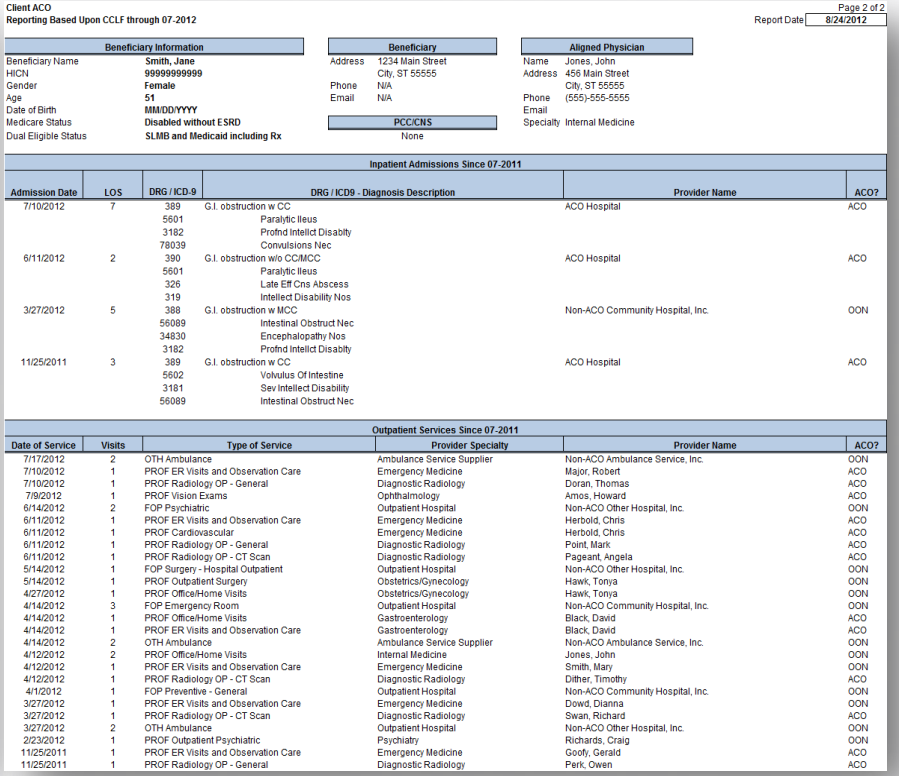
	Since 01-2012			Since 07-2011		
	ACO	OON	Total	ACO	OON	Total
Inpatient Admissions	0	1	3	0	1	4
Skilled Nursing Admissions	0	0	0	0	0	0
Outpatient Surgeries	0	1	1	0	1	1
Emergency Room Visits	0	4	7	0	4	8
Urgent Care Visits	0	0	0	0	0	0
Office/Home Visits	0	3	4	0	3	4
Home Health Visits	0	0	0	0	0	0

Prescriptions Filled Since 07-2011

Last Fill Date	Days Supply	Drug Name
6/6/2012	90	Polyethylene Glycol 3350
6/4/2012	360	Citalopram Hydrobromide
6/4/2012	420	Invega
6/4/2012	360	Levetiracetam
6/4/2012	239	Medroxyprogesterone Aceta
6/4/2012	90	Omeprazole
6/4/2012	86	Quetiapine Fumarate
5/30/2012	30	Chlorhexidine Gluconate
5/29/2012	180	Hydrocortisone Valerate
4/12/2012	180	Seroquel
9/23/2011	30	Haloperidol

Prescription Drug Compliance

Drug Class	PDC
Cardiovascular	N/A
Diabetes (non-insulin)	N/A
Statin	N/A



Client ACO
Reporting Based Upon CCLF through 07-2012

Page 2 of 2
Report Date 8/24/2012

Beneficiary Information

Beneficiary Name	Smith, Jane
HICN	99999999999
Gender	Female
Age	51
Date of Birth	MM/DD/YYYY
Medicare Status	Disabled without ESRD
Dual Eligible Status	SLMB and Medicaid including Rx

Beneficiary

Address	1234 Main Street
	City, ST 55555
Phone	N/A
Email	N/A

PCC/CNS
None

Aligned Physician

Name	Jones, John
Address	456 Main Street
	City, ST 55555
Phone	(555)-555-5555
Email	
Specialty	Internal Medicine

Inpatient Admissions Since 07-2011

Admission Date	LOS	DRG / ICD-9	DRG / ICD9 - Diagnosis Description	Provider Name	ACO?
7/10/2012	7	389	G.I. obstruction w CC	ACO Hospital	ACO
		5601	Paralytic Ileus		
		3182	Profnd Intellct Disablty		
		78039	Convulsions Nec		
6/11/2012	2	390	G.I. obstruction w/o CC/MCC	ACO Hospital	ACO
		5601	Paralytic Ileus		
		326	Late Eff Cns Abscess		
		319	Intellect Disability Nos		
3/27/2012	5	388	G.I. obstruction w MCC	Non-ACO Community Hospital, Inc.	OON
		56089	Intestinal Obstruct Nec		
		34830	Encephalopathy Nos		
		3182	Profnd Intellct Disablty		
11/25/2011	3	389	G.I. obstruction w CC	ACO Hospital	ACO
		5602	Volvulus Of Intestine		
		3181	Sev Intellect Disability		
		56089	Intestinal Obstruct Nec		

Outpatient Services Since 07-2011

Date of Service	Visits	Type of Service	Provider Specialty	Provider Name	ACO?
7/17/2012	2	OTH Ambulance	Ambulance Service Supplier	Non-ACO Ambulance Service, Inc.	OON
7/10/2012	1	PROF ER Visits and Observation Care	Emergency Medicine	Major, Robert	ACO
7/10/2012	1	PROF Radiology OP - General	Diagnostic Radiology	Doran, Thomas	ACO
7/9/2012	1	PROF Vision Exams	Ophthalmology	Amos, Howard	ACO
6/14/2012	2	FOP Psychiatric	Outpatient Hospital	Non-ACO Other Hospital, Inc.	OON
6/11/2012	1	PROF ER Visits and Observation Care	Emergency Medicine	Herbold, Chris	ACO
6/11/2012	1	PROF Cardiovascular	Emergency Medicine	Herbold, Chris	ACO
6/11/2012	1	PROF Radiology OP - General	Diagnostic Radiology	Point, Mark	ACO
6/11/2012	1	PROF Radiology OP - CT Scan	Diagnostic Radiology	Pageant, Angela	ACO
5/14/2012	1	FOP Surgery - Hospital Outpatient	Outpatient Hospital	Non-ACO Other Hospital, Inc.	OON
5/14/2012	1	PROF Outpatient Surgery	Obstetrics/Gynecology	Hawk, Tonya	OON
4/27/2012	1	PROF Office/Home Visits	Obstetrics/Gynecology	Hawk, Tonya	OON
4/14/2012	3	FOP Emergency Room	Outpatient Hospital	Non-ACO Community Hospital, Inc.	OON
4/14/2012	1	PROF Office/Home Visits	Gastroenterology	Black, David	ACO
4/14/2012	1	PROF ER Visits and Observation Care	Gastroenterology	Black, David	ACO
4/14/2012	2	OTH Ambulance	Ambulance Service Supplier	Non-ACO Ambulance Service, Inc.	OON
4/12/2012	2	PROF Office/Home Visits	Internal Medicine	Jones, John	OON
4/12/2012	1	PROF ER Visits and Observation Care	Emergency Medicine	Smith, Mary	OON
4/12/2012	1	PROF Radiology OP - CT Scan	Diagnostic Radiology	Dither, Timothy	ACO
4/1/2012	1	FOP Preventive - General	Outpatient Hospital	Non-ACO Community Hospital, Inc.	OON
3/27/2012	1	PROF ER Visits and Observation Care	Emergency Medicine	Dowd, Dianna	OON
3/27/2012	1	PROF Radiology OP - CT Scan	Diagnostic Radiology	Swan, Richard	ACO
3/27/2012	2	OTH Ambulance	Outpatient Hospital	Non-ACO Other Hospital, Inc.	OON
2/23/2012	1	PROF Outpatient Psychiatric	Psychiatry	Richards, Craig	OON
11/25/2011	1	PROF ER Visits and Observation Care	Emergency Medicine	Goofy, Gerald	ACO
11/25/2011	1	PROF Radiology OP - General	Diagnostic Radiology	Perk, Owen	ACO

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Real Time Situation Detection

Trigger Threshold Governs Actions

Event Class	Trigger	Thresholds	Action
Symptoms			
	Shortness of Breath	Any	Discuss with HFS/NP
	Paroxysmal nocturnal dyspnea	Any	Discuss with HFS/NP
	Orthopnea	Any	Discuss with HFS/NP
	Chest Pain	Any	Discuss with HFS/NP
	Arm, Neck, or Jaw Pain, or other discomfort	Any	Discuss with HFS/NP
	Arrhythmias (Palpitations):	Any	Discuss with HFS/NP
	Dependent Edema	Any	Discuss with HFS/NP; Check Weights
	Risk of falls	Reported Dizziness or Falls	Check blood pressure in supine, sitting, and standing for signs of postural hypotension. Refer to HFS/NP to evaluate Medications.
Biometrics			
	Blood Pressure	Not reported/Transmitted	Reinforce message on importance of transmitting data.
		Systolic > 120 and diastolic > 80	Refer to HFS/NP to evaluate Medications; Message on lifestyle;
		Systolic <90	Refer to HFS/NP to evaluate Medications
	Weight and Measurement	Not reported/Transmitted	Reinforce message on importance of transmitting data.
		Two (2) lbs. in one day or five(5) lbs. in five days.	Consult with HFS/NP
		Ankle and 10 cm below knee (2 cm increase)	Consult with HFS/NP
	Heart rate	Not reported/Transmitted	Reinforce message on importance of transmitting data.
		Heart rate < 50 or >100 at rest	Refer to HFS/NP to evaluate Medications

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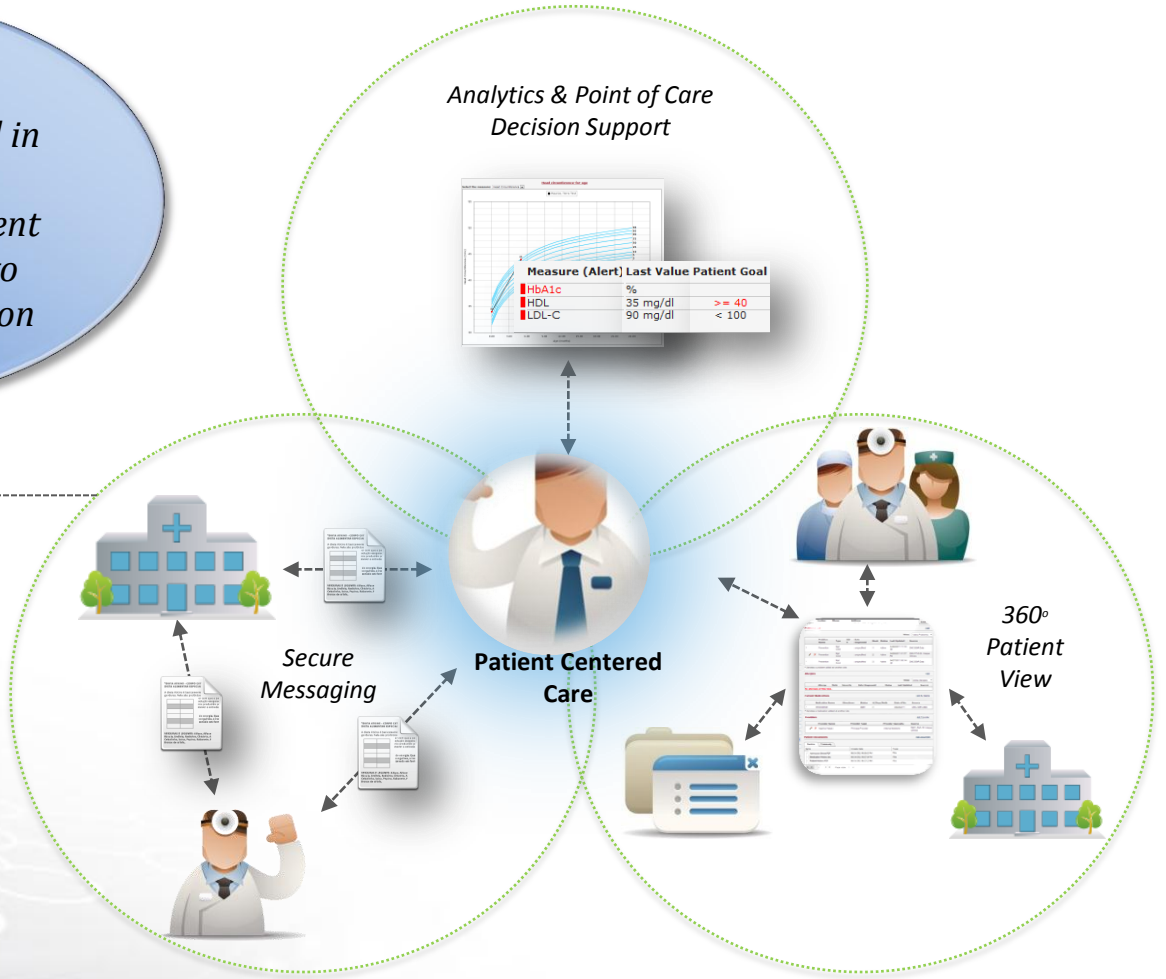
ACO Healthcare: Comprehensive & Integrated

"I need an Accountable Care infrastructure grounded in analytics to drive performance improvement and interconnectivity to enable health information exchange."

Hospitals & Health Systems

- Decrease duplicate procedures
- Increase operational efficiencies
- Improve communication among care team, including the patient
- Reduced unanticipated re-admissions
- Reduced ER utilization
- Increased physician affinity



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Questions??

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John Haughton
John Stanley
Arther Wilmes

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