

Project Sonar



A Care Management Platform for Chronic Disease
Mini-Summit XI at National VBP/P4P Summit
Lawrence R. Kosinski, MD, MBA, AGAF, FACG
February 18th, 2016

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Managing partner, Illinois Gastroenterology Group (IGG)
48 Member Physician Group in Chicago



Member, Advocate Sherman Hospital Board of Directors



Member AGA Governing Board
Chairman - AGA Crohn's Disease and UC Task Force



Founder SonarMD, LLC.



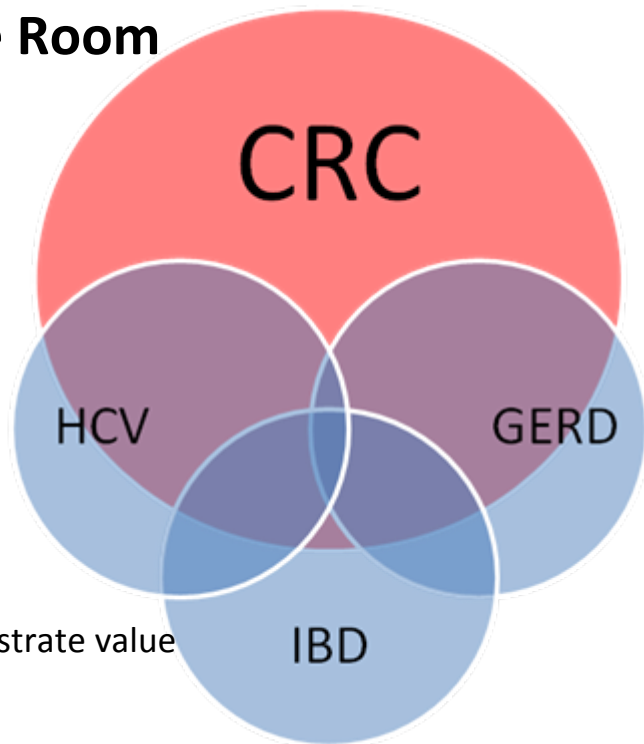
GI Service Line – The Gastroenterologist's View

Colon Cancer Screening is the Elephant in the Room

- Colonoscopy drives >50% of GI revenue
- Declining Revenues/Compressed Margins
- Alternative Screening Tools are Developing

Corrective Actions

- We seek out payment bundles
 - Which can commoditize our main revenue stream
 - Which our payers may not be able to implement
- We create process based Registries
 - Which really don't provide value
 - In Colonoscopy there may not enough clinical variation to demonstrate value



IGG Top 10 ICDs by GI Practice Reimbursement

ICD9	Diagnosis Description	%
V76.51	Special screening for malignant neoplasms, colon	24%
211.3	Benign neoplasm of colon	15%
555.2	Crohn's Disease	14%
556.6	Ulcerative Colitis	11%
V12.72	Personal history of colonic polyps	11%
530.81	GERD	8%
578.1	Rectal Bleeding	6%
787.91	Diarrhea	4%
280.9	Iron deficiency anemia, unspecified	4%
V16.0	Family history of malignant neoplasm of gastrointestinal tract	4%
	Total	100%
	54% of the costs are related to colorectal cancer Screening and Surveillance	
	25% of the costs are related to IBD	

We're only seeing the tail on the Elephant!

And it's a pretty small tail



We have to think like the payers

Crohn's Cost of Care Analysis

21,000 Patient Payer database

Two years of experience

- \$240M in annual expenses for Crohn's Disease
- \$11,000 per patient per year

>50% of all expenses paid are for Hospital Services

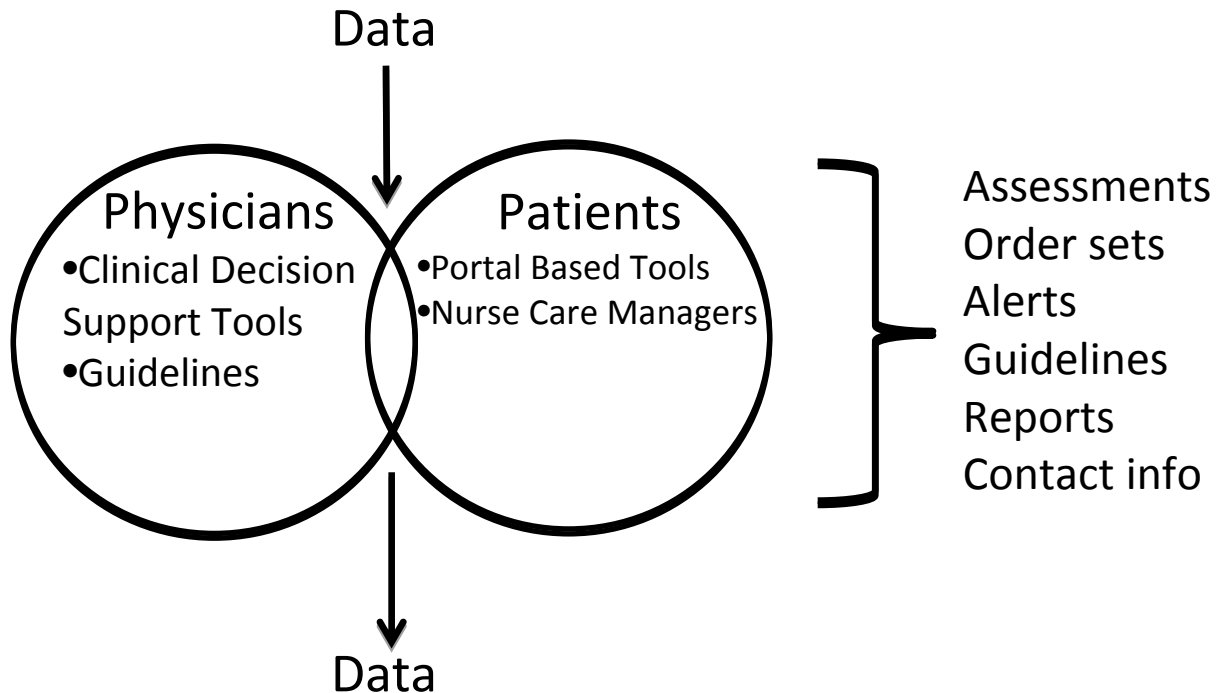
- Likely to be primarily complication related
- This is the fastest growth area of expense
- Less than 1/3 of patients admitted to the hospital for a complication were seen by a physician in the 30 days prior to the admission

Biologics 10% of total expenditures

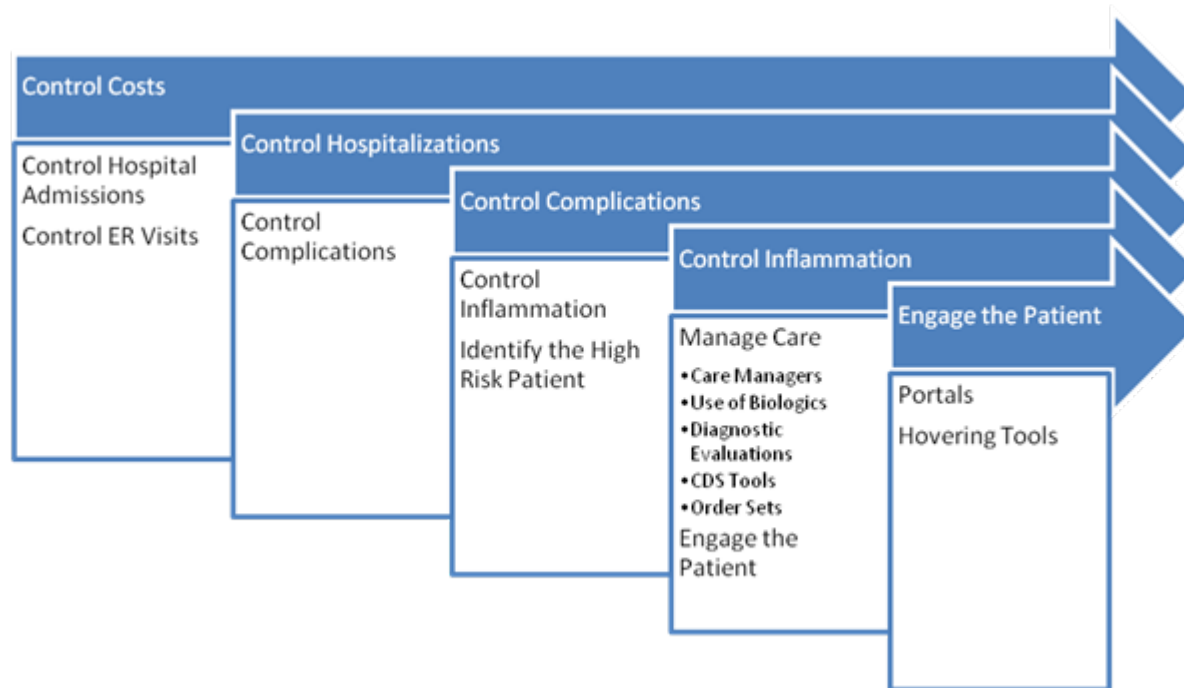
Gastroenterologists receive 10% of all Professional Payments and only 3.5% of Total Payments

- But we are the most knowledgeable of its management
- Is there an opportunity to improve care at the Provider level?
- A potential for a shared savings program exists

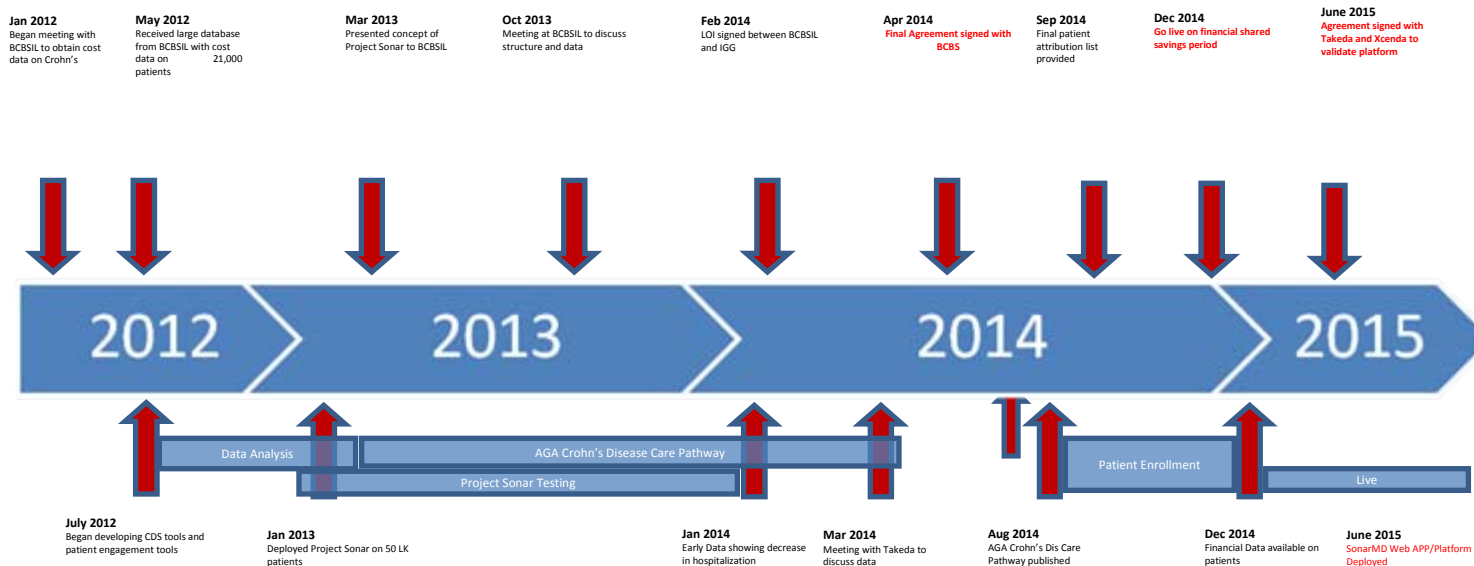
PROJECT SONAR – A Care Management Platform for Patients with Chronic Disease



AGA Crohn's Disease Care Pathways Project



Project Sonar Timeline



Project Sonar Summary

- One of the First Intensive Medical Homes for a Specialty Group in US
 - Partnership between IGG and Blue Cross Blue Shield Illinois
 - Deployed for use in patients with Crohn's Disease
- Major Components of an IMH
 - Team-based Care of a Population
 - Nurse care manager (NCM) team
 - Committed team of Physicians
 - Guideline driven care model
 - AGA Crohn's Disease Care Pathway
 - Clinical Decision Support (CDS) Tools integrated into the IGG EMR
 - Patient Engagement Tools
 - Communicate with patients through structured data "Pings" to assess symptomatology using Patient Portal
 - Identify opportunities for early interventions
 - Reduce potentially avoidable ER, IP utilization
 - Powerful Data Analytics



BCBS Intensive Medical Home Program Details

Attribution Period

- The payer attributes our patients to us
- They were our existing patients that are under this payer for at least 12 months

Enrollment Period

- A Supervisit is performed on each attributed patient during this period
- A risk assessment is performed
- A treatment plan based on the risk assessment using the AGA Crohn's Disease Care Pathway

Performance Period

- Each patient is "touched" on a monthly basis
- Hospitalizations are be closely monitored
- ER Visits are tracked
- Biologic Use is monitored to match risk assessmets

Intensive Medical Home Business Model

Payments

- Supervisit Payment
- Supplemental PMPM Payment used to establish Clinical Infrastructure

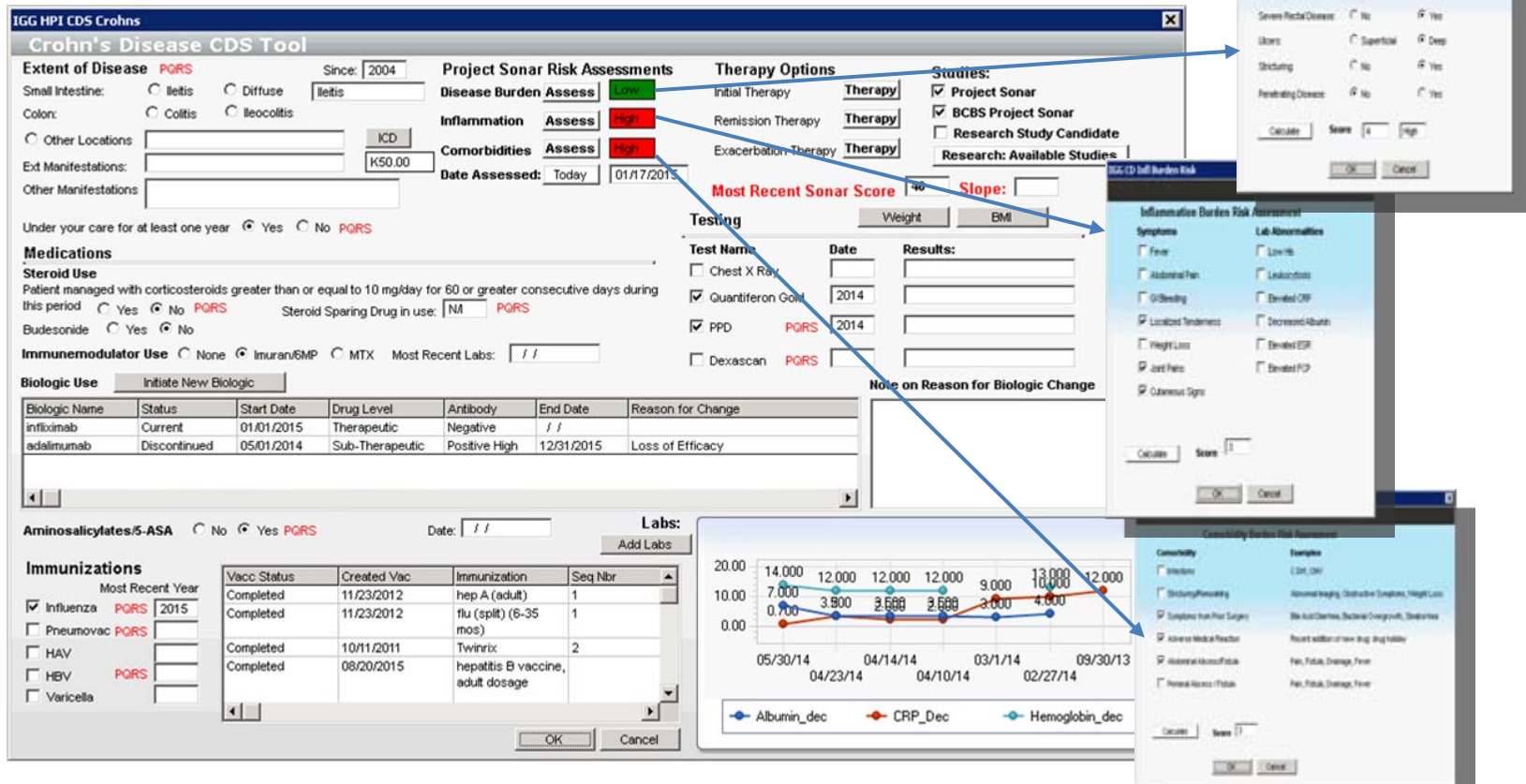
Team-based care

- Nurse Care Manager
- Physician Champion

Performance Measurements

- Quarterly Claims Data
- Quarterly Pharma Data
- Performance determines future PMPM Payments

Proprietary CDS Tools Tie it all Together



The Patient Experience is Essential

Initial Visit Details

- Health and Wellness Goals
- Action Plan
- Barriers to Attaining Goals
- Plan to Address Barriers
- Depression Screen

Ongoing Patient Experience

- All Patients assigned a Nurse Care Manager
- All Patients “touched” at least Monthly
- All Patients have a Personal Representative

The screenshot displays the Project Sonar Supervisor interface, which is a web-based tool for managing patient care. The interface is organized into several sections:

- Top Navigation:** Includes tabs for Alerts, MD#, History, Summary, Supervision, Finalize RV, Checklist, and Prebook.
- Health Care Team:** Lists the provider (Lawrence R. Kosinski MD) and other team members (PCP, NCM).
- Health Conditions:** A table listing conditions such as Polyp(s), colon; Overweight, colon; Cancer, Colon; Angiodysplasia; Flatulence, Belching, etc.
- Past Medical Hx:** A table listing past medical history, including Asthma attack, Atrial fibrillation, Barrett's, Barrett's Esophagus, Cancer - Esophagus, and Chronic cholecystitis.
- Past Surgical Hx:** A table listing past surgical history, including Appendectomy, Colonoscopy, and Endoscopy.
- Past Endo Hx:** A table listing past endoscopy history.
- Medications:** A list of medications including Omeprazole 20 mg capsule, delayed release; Prilosec 40 mg capsule, delayed release; Xanax 2 mg tablet; Asacol 800 mg tablet, delayed release; and Lunesta 2.5 mg, 0.025 mg tablet.
- Allergies:** A list of allergies including MORTON, COCAINE, MEFENOLONE HCL, PENICILLIN V, ASPIRIN, SEASONAL, CORTICOSTEROID, and PENICILLINS.
- Vital Signs:** A table for recording vital signs (Date, Time, Pulse, Respiration, BP, HR, Lb, Height, Weight, BMI, etc.).
- Depression Screen PHQ-2:** A section for screening for depression using the PHQ-2 questionnaire.
- Action Plan:** A section for creating an action plan, including a score of 3 indicating a 90% likelihood of depression.
- Plan to Address Barriers:** A section for planning to address barriers to achieving goals.
- Orders:** A section for creating orders, including a link to My Run Orders.



Project Sonar

Patient Engagement and Hovering Tool

Patient Engagement Tool

IGG CD CDAI Calculator

Sonar Score 04/14/2014

For the last seven days please describe each of the following:

Number of loose stools per day: ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+

Abdominal pain or cramps: ☐ None ☐ Mild ☐ Moderat ☐ Severe

General Well Being: ☐ Generally Well ☐ Slightly Under ☐ Poor ☐ Very Poor ☐ Terrible

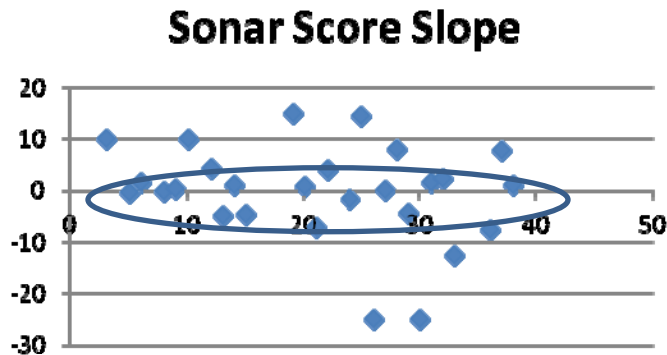
Select all the symptoms you have had below:

☐ Arthritis or Joint Pain ☐ Eye Pain ☐ Painful Skin Rash or Bumps ☐ Fever over 100 Degrees

☐ Are you on any drugs for diarrhea

Total

Web-based Patient Engagement Tools



Name	DOB	Sex	Last Flag	BMI	Origin	Score	Notes	History	Edit
Shawn White	03/05/1986 (26)	M	24/06/2015	✓	6.64	6.64			
Shawn White	03/05/1986 (26)	M	24/06/2015				Notes: 03022015-017 From SonarMD data and shared, connective behavior adjustment and Pilot case with results, feedback and not video		
Shawn White	03/05/1986 (26)	M	24/06/2015						
Shawn White	03/05/1986 (26)	M	24/06/2015		6.12	6.12			
Shawn White	03/05/1986 (26)	M	24/06/2015	✓	6.63	6.63			
Shawn White	03/05/1986 (26)	M	24/06/2015	✓	-0.92	-0.92			
Shawn White	03/05/1986 (26)	M	24/06/2015		2.26	2.26			
Shawn White	03/05/1986 (26)	M	24/06/2015		-3.58	-3.58			
Shawn White	03/05/1986 (26)	M	24/06/2015	✓	-4.69	-4.69			
Shawn White	03/05/1986 (26)	M	24/06/2015	✓	-16.53	-16.53			




$$CDAI = \text{Sum}((2S)+(5P)+(7G)+(20\text{Sum}(c) + (30D))$$

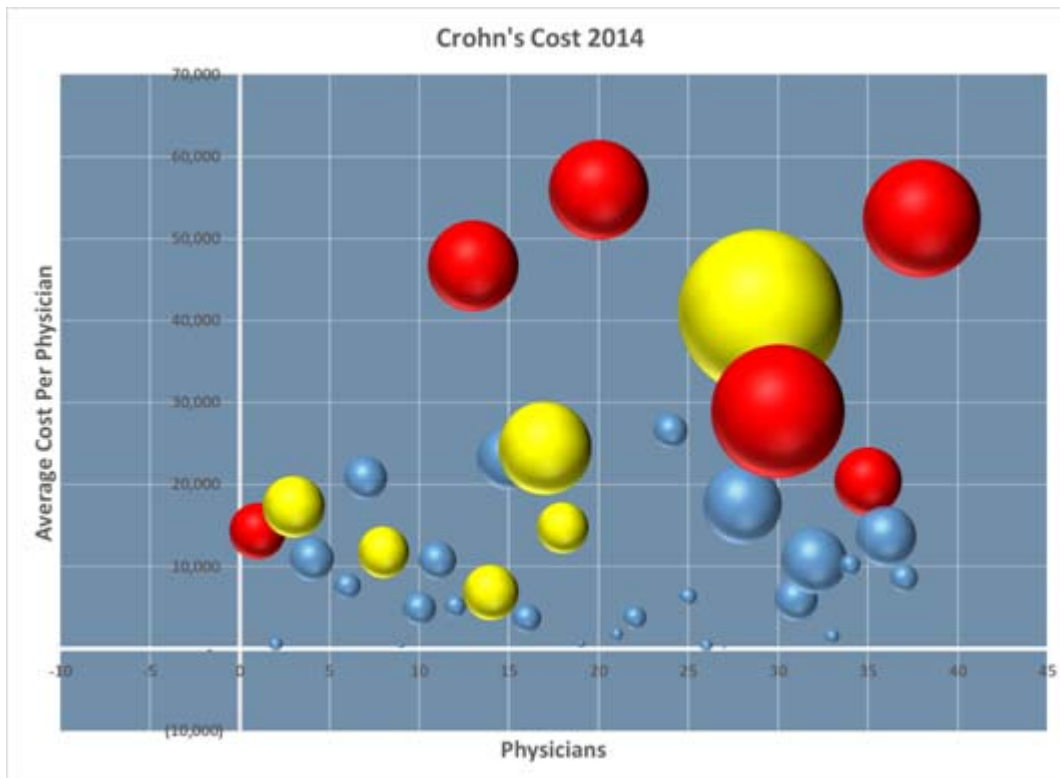
Algorithm for automated responses drives behavior

What patients tell you (subjective) is different from what really happens (objective) reporting
Portal Response Rate 27% Application Response Rate 66%

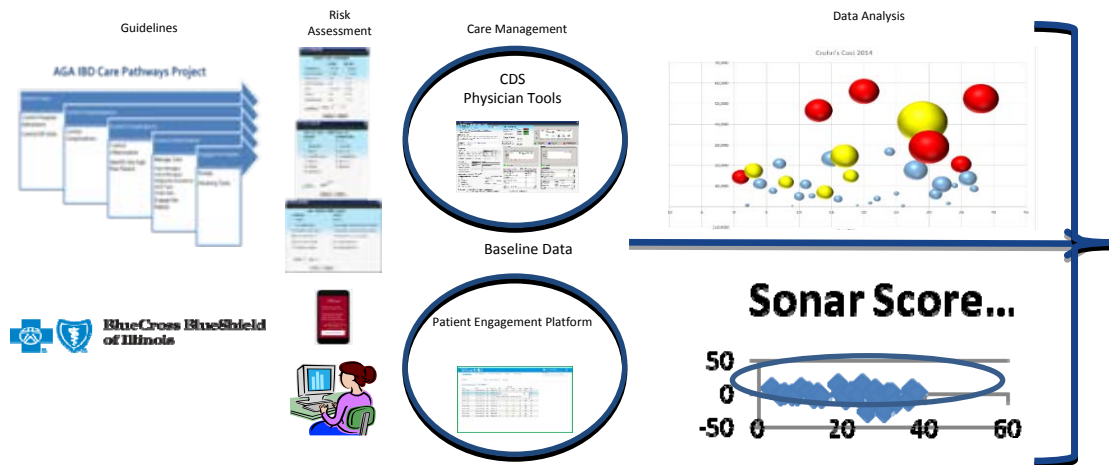
Cost/Patient by Physician

Legend of effects

-  Hospitalization
-  HOPD Infusions
-  No specific driver



Putting it all Together



Predictive Analytics

CDCP Risk Factor	Odds Ratio	95% Confidence Limits	
Inflammation risk: albumin	19.4	3.9	97.8
Inflammation risk: joint pain	5.7	2.2	14.5
Comorbidity risk: inflammation	11.5	1.5	87.8
Comorbidity risk: stricturing	5.4	2.2	13.4

Project Sonar Financial Summary - Claims from Dec 1, 2014 - Sept 30, 2015

Crohn's Payments	Total Crohn's Payments	Average Per Patient Payment	Total Normalized Crohn's Payments	Normalization Difference	Inpatient Payments	Emergency Room Payments	Infusable Biologics	Injectable Biologics
Pre-Period	\$ 2,118,308.65	\$ 13,936.24	\$ 1,932,069.37	\$ (186,239.28)	\$ 210,967.47	\$ 52,363.19	\$ 892,443.30	\$ 560,980.84
Study Period	\$ 1,884,758.63	\$ 12,399.73	\$ 1,741,326.02	\$ (143,432.62)	\$ 90,410.85	\$ 24,465.00	\$ 972,485.87	\$ 423,561.72
Difference	\$ (233,550.02)	\$ (1,536.51)	\$ (190,743.36)	\$ 42,806.66	\$ (120,556.62)	\$ (27,898.19)	\$ 80,042.57	\$ (137,419.12)
Percentage Difference	-11.03%	-11.03%	-9.87%	-22.98%	-57.14%	-53.28%	8.97%	-24.50%

Publications

- **Advances in Inflammatory Bowel Disease: December 2015**

- Validation of the American Gastroenterology Association's Crohn's Disease Care Pathway Risk Assessment Metrics against Crohn's Related Costs
 - Validated by Xcenda in conjunction with Takeda
 - Accepted for Poster Presentation
- Project Sonar: Improvement in Patient Engagement Rates Using a Mobile Application Platform
 - Demonstrated the value of the platform as compared to the use of the patient portal
 - Accepted for Poster Presentation

- **DDW 2016 Abstracts**

- Project Sonar: Reduction in Cost of Care in an attributed cohort of patients with Crohn's Disease
 - 11% decrease in cost of care
 - 57% decrease in inpatient costs
 - 53% decrease in Emergency Room costs
- Project Sonar: Psychosocial Effects on Cost of Care for IBD
 - 12% increase in cost for patients identified at enrollment as having depression symptoms
 - The difference remains constant over the study period despite an 11% decline in total cost

Conclusions

Project Sonar is a successful example of Population Health

- Hospitalization rate cut by more than 50%
- Cost to Payer decreased 10% based upon lower utilization
- Improved Patient Satisfaction

Why were we successful?

- Providers practicing according to guidelines
 - Using CDS Tools
 - Team-based Care Model
 - Appropriate use of Risk Assessments
- We engage the patients
 - Every patient is proactively “touched” once a month
 - We intervene before they even realize that they are in need of care

About SonarMD, LLC

- Software and Platform Development Company
 - Founded in Jan 2014 to develop a scalable platform for Project Sonar
 - Partnered-with/Powered-by Mutare Health
 - Designed to expand Project Sonar out of IGG
- Components of the Platform
 - Web-based Patient Engagement Platform
 - Clinical Decision Support Tools (CDS)
 - Powerful Data Analytics
 - Risk Assessment
 - Predictive Modeling
 - Demonstrate value to patients, payers, purchasers, providers





Clinical Integration Network

Qualified Clinical Data Registry (QCDR)

◦ PQRS Reporting (4-9% Medicare)

◦ Alternative Payment Models (5%)

SonarMD Consortium

- Payers
- Other Risk-takers
- Pharma Companies
- Device Manufacturers
- Other Entities
 - Bundlers
 - Conveners



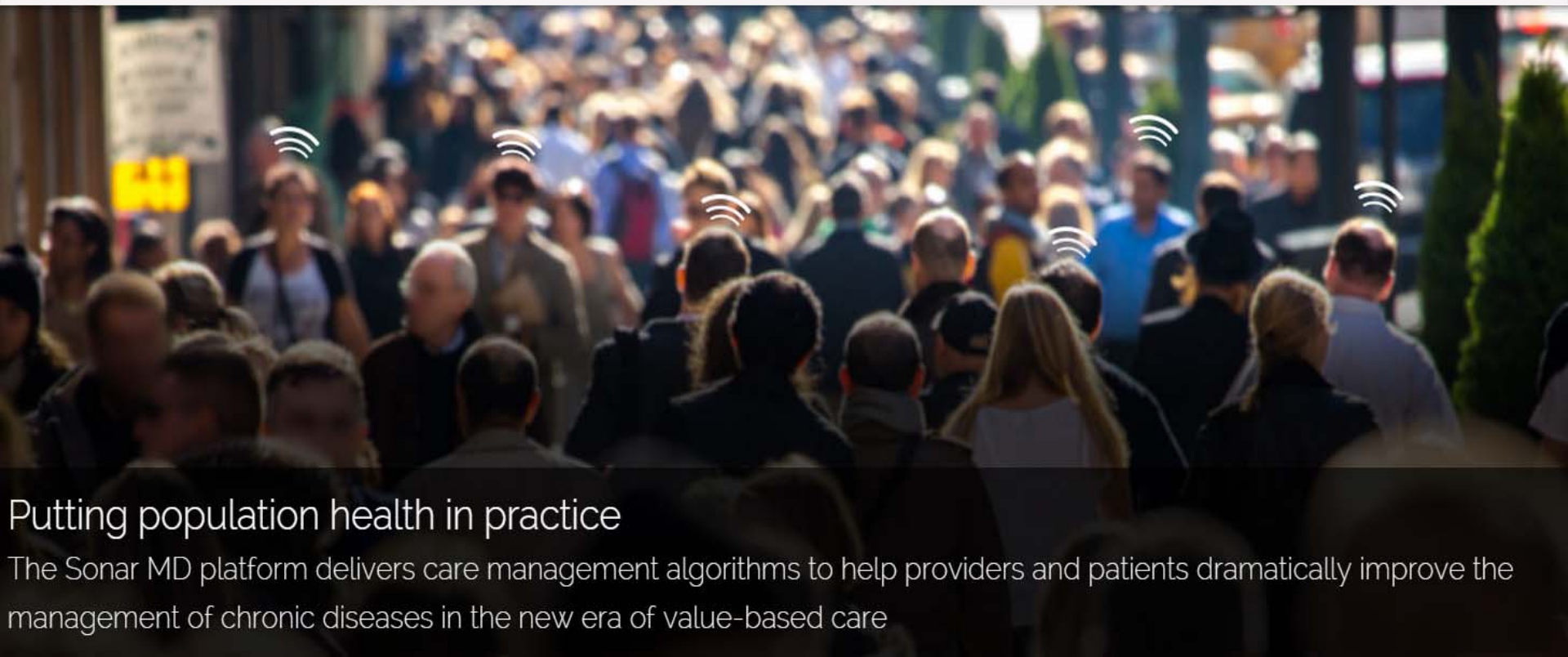
SonarMD Medical Group

- SonarMD Platform Participation
- IMH Participation where obtained
- Pharma Studies
- Preferred Drug Pricing
- New lines of business (Obesity)

- IMH Programs
- Value Based Initiatives
- Research Projects
- CER
- ACE Programs
- Bundled Payments
- Episodes of Care

Sonar Health Network





Putting population health in practice

The Sonar MD platform delivers care management algorithms to help providers and patients dramatically improve the management of chronic diseases in the new era of value-based care

Discussion