

Enterprise Intelligence Branch



Enterprise Intelligence Branch

... supports the MHS strategic goals through delivery of timely, relevant, and actionable information to all levels of the organization.



Data Science Lab

[Data Discovery / Research Section]

- MHS Health Statistics
- Data Discovery
- Epidemiologic Support
- Statistical Support
- Big Data Analytic Reports
- Data Science Tools / Sandbox
- Predictive Analytics
- Research
- De Identified Datasets

Analytic Workbench

[Analytics / BI Section]

- Operational Analytic Datasets
- Operational Analytic Reports
- Enterprise Measurement
- Enterprise Dashboards
- Enterprise BI Reporting
- Deep Dive Analysis
- Analytic Tools / Sandbox
- Self Service Business Intelligence

Information Portal

[Clinical Decision Support Section]

- Data & Information Web Services
- Data Driven Alerts and Recommendations
- Evidence Based Medicine Rules
- Risk Assessment and Management (ie. ACG, etc.)
- Population Health Assessment and Management
- CPG Adherence Analysis

Formula for Improvement



-Information

-Knowledge

-Insight

-Leadership

Information to Knowledge to Insight

EHR Claims VA Enrollment ...

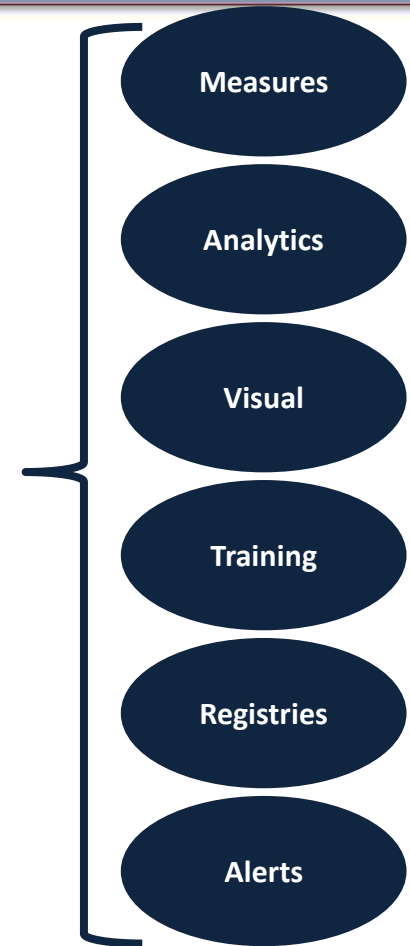
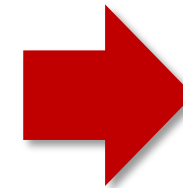
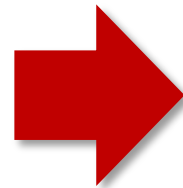


Transactional

Transformed

Metadata

Public ...



Information to Knowledge to Insight



Measures

Analytics

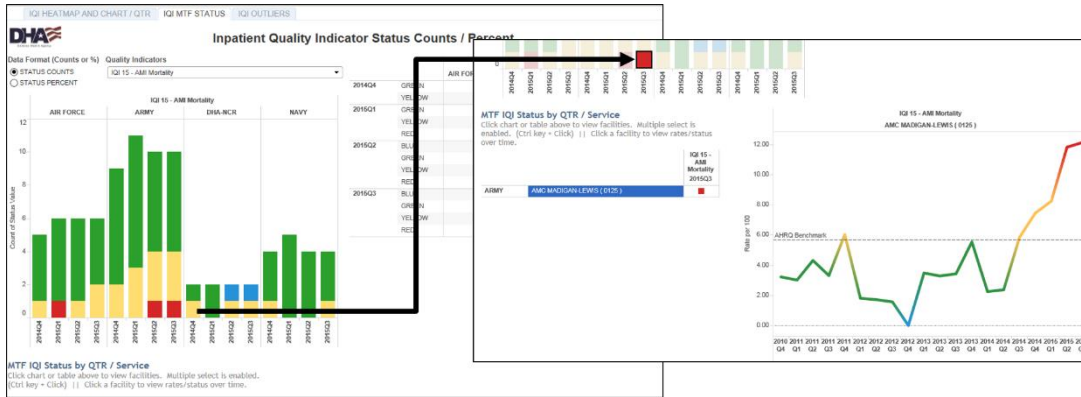
Visual

Training

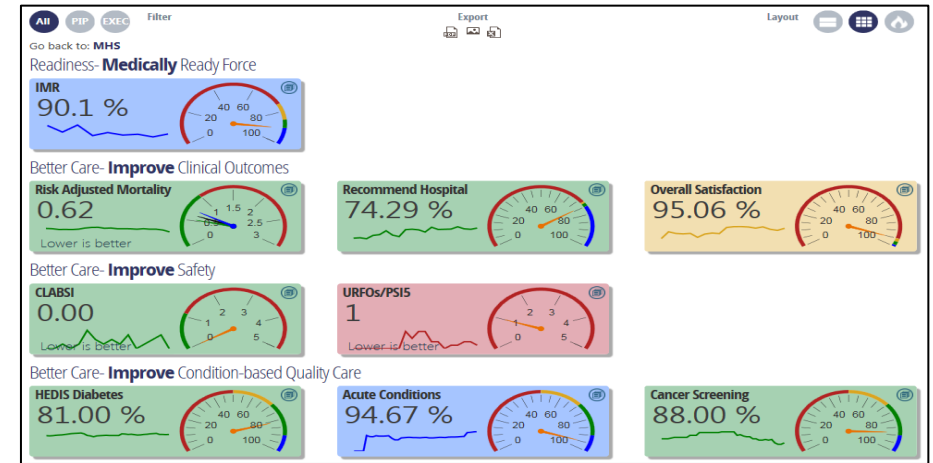
Registries

Alerts

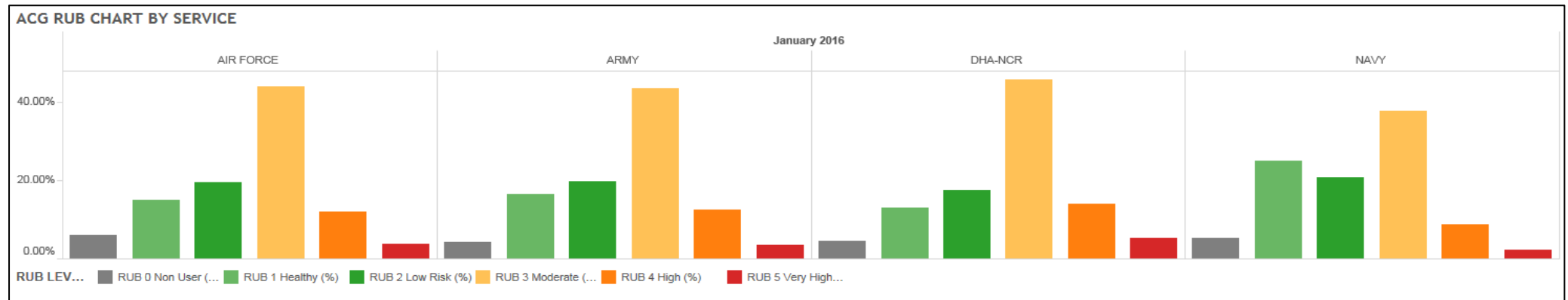
Patient Safety Indicators



MHS Dashboard



Adjusted Clinical Groups (ACG) Resource Use Band Distributions



Information to Knowledge to Insight



- Measures
- Analytics
- Visual
- Training
- Registries
- Alerts

Forums

Announcements | Blogs | **Discussion Forum** | Requested Features | Training Library | Kudos | Survey

Discussion Forum

[+ new discussion](#)

Recent | My discussions | Unanswered questions | ...

Immunization Registry and Methodology documents
When will the immunization registry be operational?
By Kenya Hester | Latest reply by David Carnahan

low back pain filters
Does any one have any low back pain filters for their system?
By Sherrie Bodily | Wednesday at 1:42 PM

Blogs

CarePoint application portal UpToDate Search UpToDate...

BROWSE

Set as Home Page

Categories: 14 SEP

Events

Ideas

Opinions

ACG: Finding AD Service Members Who Need Our Help
by David Carnahan in Ideas

Is there any greater calling than caring for those (and their families) who spend their lives protecting our country? I know we all have a deep sense of mission and providing great quality of care for ADSMs and their families is at the heart of our mission. I know how frustrating it can be to know what needs to be done. That's where we can enter the picture. I've always admired those who are willing to get their hands dirty for that person who needs our help even when it's not their job.

Monthly Webinars

Events Index

Search

Filter Events

Bookmarks

Lobby [0:00:00]

Mail Page

Set Alert on Announcements

Patient Registry

Rearrange Columns

Custom Filters

Appointment list view and ...

Registry Scroll Bars

ACG Exploration

PDF Tables and Filtering print

How to find all data for a specific patient

How to Clear Column Filters

DNIS Filter for All Lists - Fe...

Exporting Lists

Data Sources and Timeliness

Quicklook

Registry general comments

SESSION 2 - PATIENT DETAIL

Patient Detail view

Attendees (10)

Judith Rosen

Mixia (2)

Judith Rosen

Judith Rosen 2

Presenters (0)

Participants (8)

Bocki Clarke

Dora Reid

Karen Horvick

Maj Hugs-ICI Grand Forke

Maj Hugs-ICI

File Share

Name	Size
WC 20150813.pdf	1 MB
1MHSPHP_data_20150710.pdf	2 MB
AAP 2014 Well Child recomm...	4 MB
well child reminder card.pub	157 KB
Good afternoon Ms Mize.docx	22 KB
4G Transition 20150701.pdf	3 MB
TSWF MHSPP AIM 10 Septem...	5 MB
Validate 4G CarePoint acct wi...	300 KB

Download Files

Notes 7

Hi and Welcome to MHSPP Metrics Webinar!

Today's topic: Well child!

If your computer audio does not work, please dial in: 605-475-6720 code:8547972#

Many files are available for download in the file share pod.

Well Child Metrics webinar files:

- 8-step Ped PI
- AAP 2014 Well Child rec
- Good Afternoon Ms Mize
- WC 20150813 (the main presentation)
- Well Child reminder card

MHSPP 4G training references available for download, too:

1MHSPHP_data: Training session 1 reference. Discusses general use of 4G, manipulating columns and helps provide insight into the data you are looking at in the MHSPP.

2MHSPHP_patient_details: Training session 2 reference. Discusses patient detail view, exclusions, entering notes.

3MHSPHP_Queries-in-4G: Training session 3 reference. Discusses how to build advanced queries

4MHSPHP4-Metrics: Training session 4 reference. Discusses various metrics available in 4G.

4G-Transition: Transition summary reference slides. This webinar is for experienced

Information to Knowledge to Insight



- Measures
- Analytics
- Visual
- Training
- Registries
- Alerts

milSuite milBook milWiki milWire milTube milSearch Account Support

Streams Content People Places

Following in 1 stream

The MHS ACG Community

Activity Content People

CREATE: Status Update

What's going on?

RECENT ACTIVITY

Filtered by: Status Updates

Kevin Ridderhoff Well worth the investment. Thanks for sharing your passion and allowing us to dream of providing better care to our deserving patients! 6h

Unlike Reply you

ACG Academy Sessions

acg
JOHNS HOPKINS

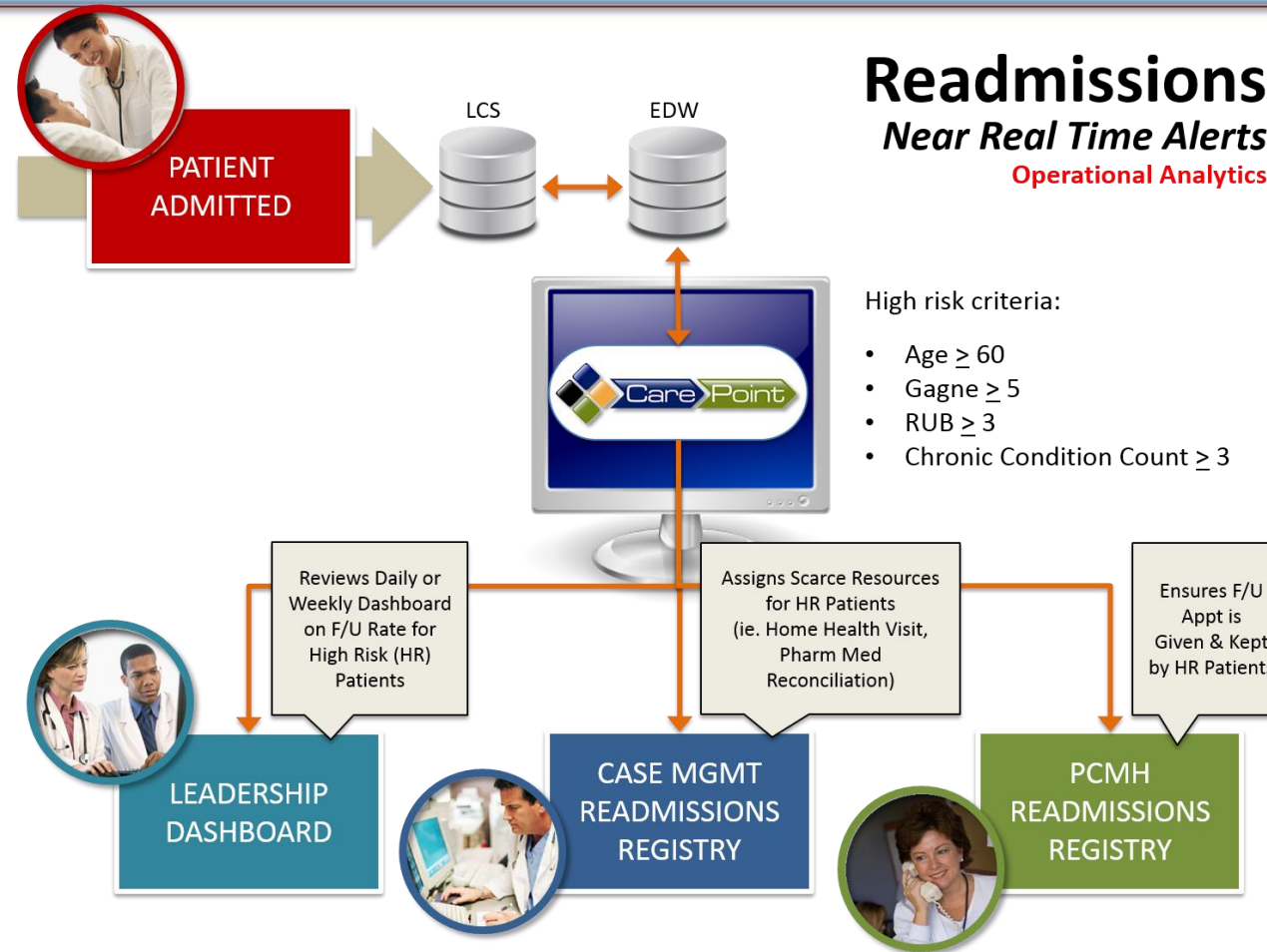
Risk-adjustment system improves population health globally

Chris Armijo, M.Ed, MHA Having independently work on a retrospective cohort study comparing the ACG identification model against my hospital's identification method, I felt fairly confident with my working knowledge of the ACG model. After finishing this Academy, I realized I had barely scratched the surface of the ACG methodology. I'm excited to meet with the newly formed "ACG Academy working group" next week research projects. Thank you **David Carnahan, MD, MSCE** and Susan Chao. show less 2h

Unlike Reply you

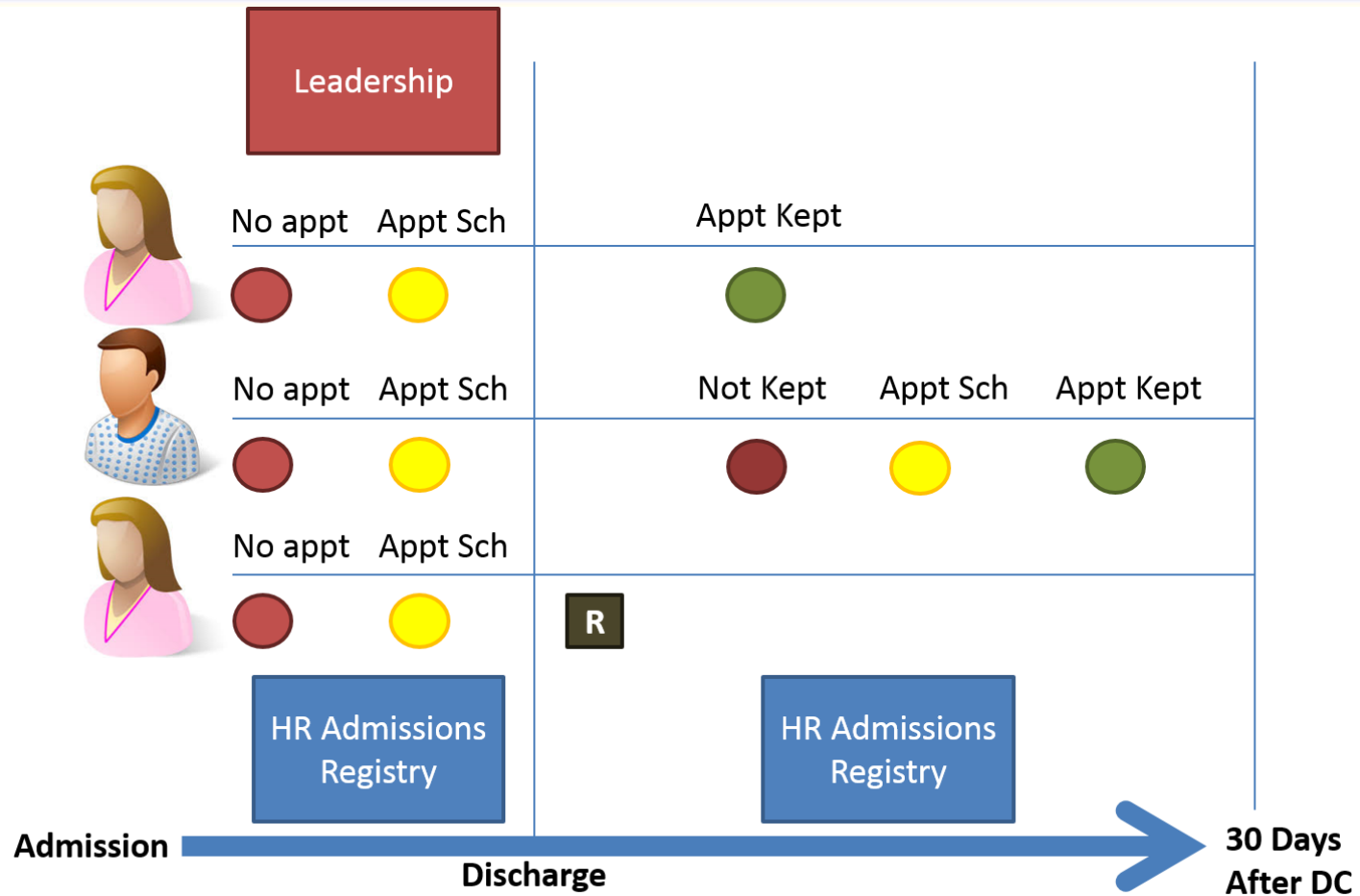
Information to Knowledge to Insight

- Measures
- Analytics
- Visual
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- Registries
- Alerts



Information to Knowledge to Insight

- Measures
- Analytics
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Information to Knowledge to Insight



Summary ACG Report

Comprehensive Patient Clinical Profile Report

Patient Id: Mckinney Angelo

AGE 57 GNDR M
PCM NAME KENNEDY OLGA BENCAT RTA

Prior Costs		Case Complexity	
Total Cost	\$269,713	Chronic Condition Count	13
Rx Cost	\$4,832	Active Ingredient Count	23
Resource Utilization Band	5	Frailty Flag	N
Illness Burden Index (IBI)	15.09	Frailty Concept(s)	
		Compassionate Allowance Conditions	Y

Predictive Values		Likelihood of Hospitalization	
Rank Probability High Total Cost	77%	Hospital Dominant Morbidity Types	1
Predicted Total Cost Range	\$50,000-\$75,000	Probability Hospital Admission (6 mos)	33%
Rank Probability High Rx Cost	76%	Probability Hospital Admission (12 mos)	54%
Predicted Rx Cost Range	\$5,000-\$10,000	Probability ICU/CCU Admission	30%
High Risk Unexpected Pharmacy	N	Probability Injury-related Admission	2%
Probability of Persistent High User	1%	Probability Long-term Admission (12+ days)	15%
		Probability of Readmission	17%

Utilization		Coordination of Care	
Outpatient Visits	102	Coordination Risk	LCI
ER Visits	1	# Unique Providers Seen	19
Inpatient Admissions w/o birth and injury	0	# Specialty Types Seen	6
Unplanned 30-day Readmissions	0	Generalist Seen	Y
Inpatient Days	0	Management Visit Count	75
Major Procedure Performed	N	% Visits Provided By Majority Source of Care	32

Comprehensive Patient Summary Report

Patient Name	XXXXXXXXXXXXXXXXXX	DOB	XX/XX/XX	Phone	XXX-XXX-XXXX	Age	30	Duty Status	
Address	55 Oak St.	PCM	MONTES PATRICIA M	Date Enrolled	11/09/12	11-Active Duty 12-Reserve on Active Duty 15-National Guard on Active Duty			
City	Santa Ana 35926-0028	Enrolled Clinic	LACKLAND_FHC_TEAM_Q						
Next PCM Appt	06/27/2016	Provider	VANDERWAL SHERYL DAWN	PHQ-2	3				
Last ER Visit		Tobacco User / Type	NO	PHQ-9	3				
Last Admission		BMI	03/17/2014 27	GAD-7	3				

Hemoglobin A1C	11/14/2013	5.40				PSA				
LDL	11/14/2013	80.00				eGFR	04/21/2016			
HDL	11/14/2013	53.00				Microalbumin				
Triglycerides						Bone Density				
HDL/LDL Ratio						EKG				
Glucose	04/21/2016					Spirometry				

Screening	Last Exam	Source	HEDIS Recommendation	Due?
Mammogram			> 50, every 2 yrs	
Pap Smear - HPV	11/20/13	ICDB	> 21, every 3 yrs or if over 30, pap + hpv every 5 yrs	
Chlamydia Screening			Sexually active women 16-24 yrs old, annual exam	
Colorectal Cancer Screening			> 50, colonoscopy q10y, flex sig q5y or annual FOBT	5
Diabetic Foot Exam			Annual for diabetics	
Eye Exam			q1y for diabetics unless last exam WNL, q2y	

Immunizations: DTAP N/A FLU HepA HepB RV N/A HPV N/A PCV IPV MMR PVC PPSV N/A Zoster N/A.
Tetanus every 10 years. Zoster starting age 60. Seasonal flu every year.
Pneumococcal: Recommended before age 65 for adults with chronic lung disease, diabetes, heart disease or liver disease, the second vaccine after the age of 65 if it has been 5+ years since the last vaccine.

MHSPHP Registries												
AMM	CHF	COPD	CVD Risk	Diabetes	Depression	Dyslipidemia	HTN	HU	Acute LBP	Recurrent LBP		
									X			
Adjusted Clinical Group (ACG) Data: ACG Calculation Date: 03/31/2015 - 04/01/201403/31/2015 - 04/01/2014												
Measure	IBI	RUB	Total Cost	OPV	CCC	CCI	IPD	Cancer tx	PRA	AIC	ERV	STS
Result	1	3	\$1,277	6	0	UCI	0	0	5	4	1	1

OPV-outpatient visits / CCC-chronic conditions / CCI-coordination of care issue / LCI=likely / PCI=possible / UCI=unlikely / IPD-inpatient

- Measures
- Analytics
- Visual
- Training
- Registries
- Alerts

Information to Knowledge to Insight



Opiates Management Registry / Patient Detail Dashboard / Reports

Summary View | Encounters View | Medications View | Labs View | **Opioid Management View** | Charts View

Last Drug Screening

Drug Screening	Date Tested	System	Source	Result
ETHANOL	11/08/2013	ICDB	COHORT LAB	<10

10 items per page 1 - 1 of 1 items

MEDD Daily Average

Description	Score	Date Covered From	Date Covered To
Latest MEDD	1260	11/07/2013	11/07/2013

10 items per page 1 - 1 of 1 items

Medications

Medication	Date Dispensed	System	Source	Strength	DaysSupply
DIAZEPAM (VALIUM EQ) --PO 5MG TAB	06/20/2014	Direct	PDTS	5 MG	30
PERCOCET (OR SUB)--PO 5MG/325MG	06/20/2014	Direct	PDTS	5 MG-325MG	30

Nalaxone Products

No items to display.

10 items per page

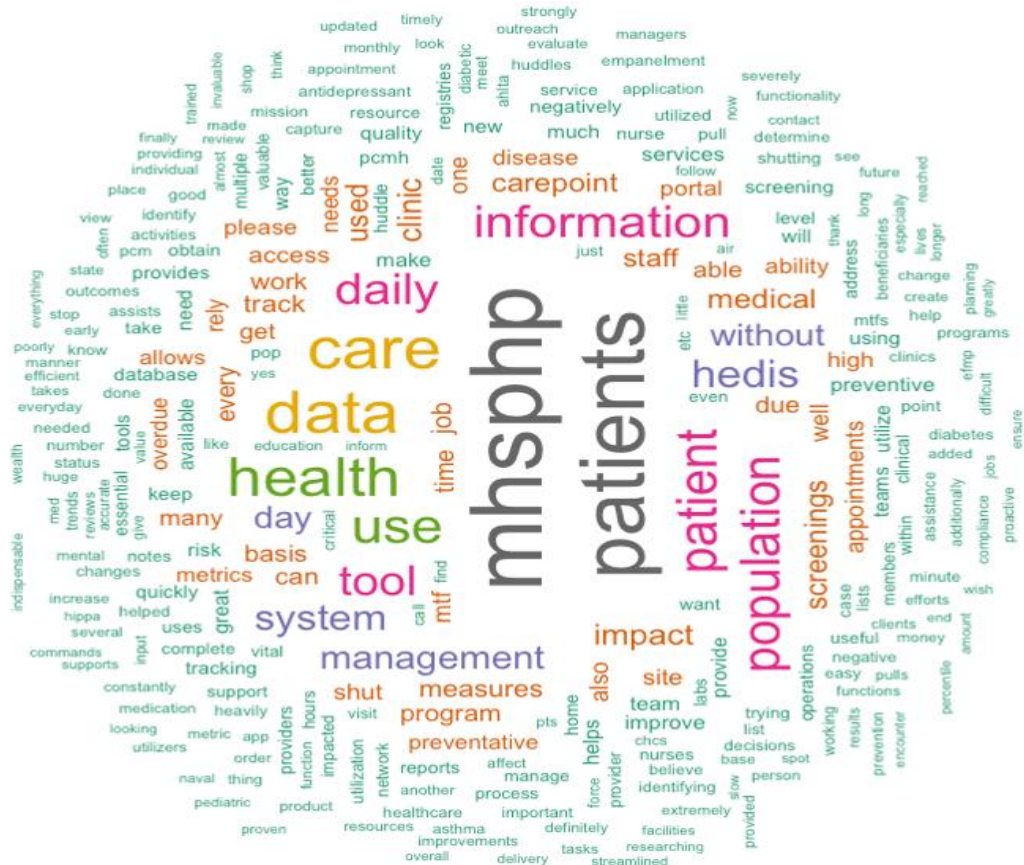
- Measures
- Analytics
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All Names and Data are Made Up for Demo Purposes

MHS Population Health Portal



MHSPHP ZBR Survey



If the MHSPHP were shut down, the operations of our MTF would be **NEGATIVELY** impacted.

- 408 responded in < 1 week (32% response rate)
75% Strongly Agreed
15% Agreed
- 150 comments
95% Comments Strongly Positive

Spotlight #1:

Wilford Hall Ambulatory Surgical Center



“We rely on the MHSPHP DAILY! The way it lists, sorts and filters the patient data is indispensable. We have our entire team using this database to track our patients. We have statistically improved our patient's care because of this oh-so-important tool. And the fact that it's constantly updating and improving only adds to its immense value. We can't live without it!”

Acute Conditions [LBP, Pharyngitis, URI]

Jan 2013 3	Feb 2013 3.3	Mar 2013 3.3	Apr 2013 3.6	May 2013 9.5	Jun 2013 8.7	Jul 2013 8.7	Aug 2013 9.4	Sep 2013 8.7	Oct 2013 8.9	Nov 2013 9.2	Dec 2013 9.4
Jan 2014 8	Feb 2014 8	Mar 2014 8.2	Apr 2014 8.2	May 2014 8.2	Jun 2014 8.6	Jul 2014 9.8	Aug 2014 10.2	Sep 2014 10.1	Oct 2014 10.5	Nov 2014 10.5	Dec 2014 10.4
Jan 2015 10.3	Feb 2015 10.4	Mar 2015 10.3	Apr 2015 10.6	May 2015 10.2	Jun 2015 10.3	Jul 2015 10.3	Aug 2015 10.3	Sep 2015 10.4	Oct 2015 10.7	Nov 2015 11.1	Dec 2015 11.2
Jan 2016 14.4	Feb 2016 14.4	Mar 2016 14.2	Apr 2016 14.3								

Spotlight #2:

New England Naval Clinic



“Working with my command’s Population Health Coordinator, we were able to use the data and registries within MHSPHP to improve the Antidepressant Medication Management and Mental Health Follow-up metrics from below the 25th percentile to above the 90th percentile within a year. We used the MHSPHP to identify patients who failed to meet the metric and attempted to determine what could have been done differently. Using this information, we formulated a successful action plan to improve mental health outcomes. It would not have been possible to do this kind of deep-dive analysis without the high level functionality of MHSPHP.”

Mental Health FU

Jan 2013 72.73 %	Feb 2013 73.03 %	Mar 2013 67.11 %	Apr 2013 62.34 %	May 2013 55.13 %	Jun 2013 65.88 %	Jul 2013 67.05 %	Aug 2013 65.48 %	Sep 2013 74 %	Oct 2013 75.51 %	Nov 2013 75.79 %	Dec 2013 79.55 %
Jan 2014 82.05 %	Feb 2014 81.68 %	Mar 2014 84.09 %	Apr 2014 82.40 %	May 2014 83.46 %	Jun 2014 84.13 %	Jul 2014 81.89 %	Aug 2014 82.35 %	Sep 2014 81.90 %	Oct 2014 86.61 %	Nov 2014 85 %	Dec 2014 84.27 %
Jan 2015 75.93 %	Feb 2015 77.36 %	Mar 2015 75 %	Apr 2015 76.47 %	May 2015 75.25 %	Jun 2015 77.32 %	Jul 2015 79.41 %	Aug 2015 85.86 %	Sep 2015 85.58 %	Oct 2015 84.69 %	Nov 2015 89.47 %	Dec 2015 91.95 %
Jan 2016 91.30 %	Feb 2016 89.11 %	Mar 2016 89.90 %	Apr 2016 90 %								

Spotlight #3:

Guthrie Ambulatory Health Clinic



“Fort Drum's operations would definitely be negatively impacted. One of the key components of the patient centered medical home (PCMH) model is preventative health screenings. The MHSPHP stream lines the data in a way that makes the information readily available to the care team, cutting down the time searching through the patients medical record in order to find the data and most importantly ensures that we are providing our beneficiaries with the highest quality care possible ...”

Cancer Screening [CRC, Cervical, Breast]

Jan 2013 8.8	Feb 2013 8.7	Mar 2013 8.7	Apr 2013 9	May 2013 9.2	Jun 2013 9.2	Jul 2013 9.3	Aug 2013 9.2	Sep 2013 9.3	Oct 2013 9.3	Nov 2013 9.1	Dec 2013 8.9
Jan 2014 11.1	Feb 2014 11.6	Mar 2014 12.3	Apr 2014 12.7	May 2014 12.5	Jun 2014 12.6	Jul 2014 12.1	Aug 2014 12.1	Sep 2014 12.4	Oct 2014 12.9	Nov 2014 12.7	Dec 2014 12.8
Jan 2015 12.3	Feb 2015 12.6	Mar 2015 12.6	Apr 2015 12.6	May 2015 12.6	Jun 2015 13.1	Jul 2015 13.5	Aug 2015 13.3	Sep 2015 13.4	Oct 2015 13.4	Nov 2015 13.7	Dec 2015 13.7
Jan 2016 13.8	Feb 2016 13.2	Mar 2016 13	Apr 2016 12.8								

Care Coordination & Demo Use Cases



Influenza Vaccination Rates

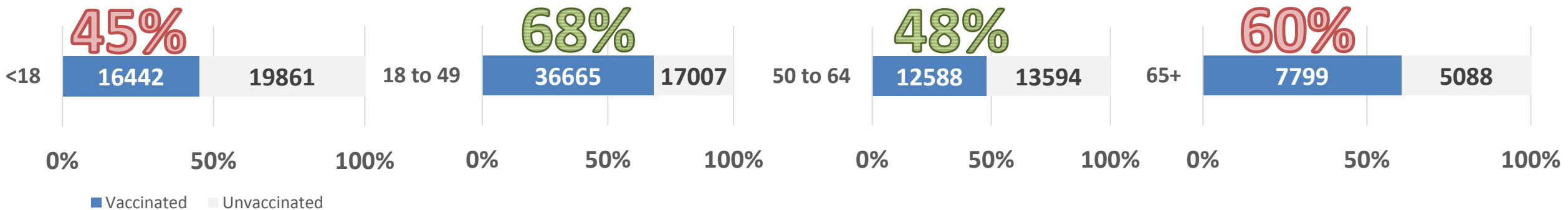


Vaccination

- Percent of children 6 months to 17 years who received an influenza vaccination during the past 12 months: 49.9%
- Percent of adults 18-49 years who received an influenza vaccination during the past 12 months: 31.2%
- Percent of adults 50-64 years who received an influenza vaccination during the past 12 months: 45.5%
- Percent of adults 65 years and over who received an influenza vaccination during the past 12 months: 70.0%

CDC Fast Stats

Immunizations for San Antonio



Registry Flexibility



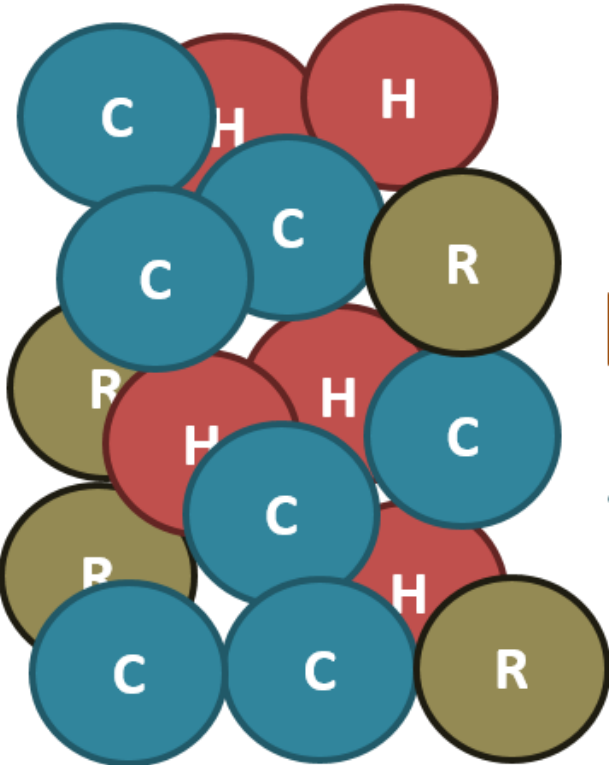
High Risk Conditions (PVX)

- Elderly ≥ 65
- Organ Transplant
- HIV
- Chronic Renal Failure
- Nephrotic Syndrome
- Leukemia
- Lymphoma
- Hodgkin Disease
- Multiple Myeloma
- Generalized Malignancy
- Asplenia
- Sickled Cell Disease
- Hemoglobinopathy

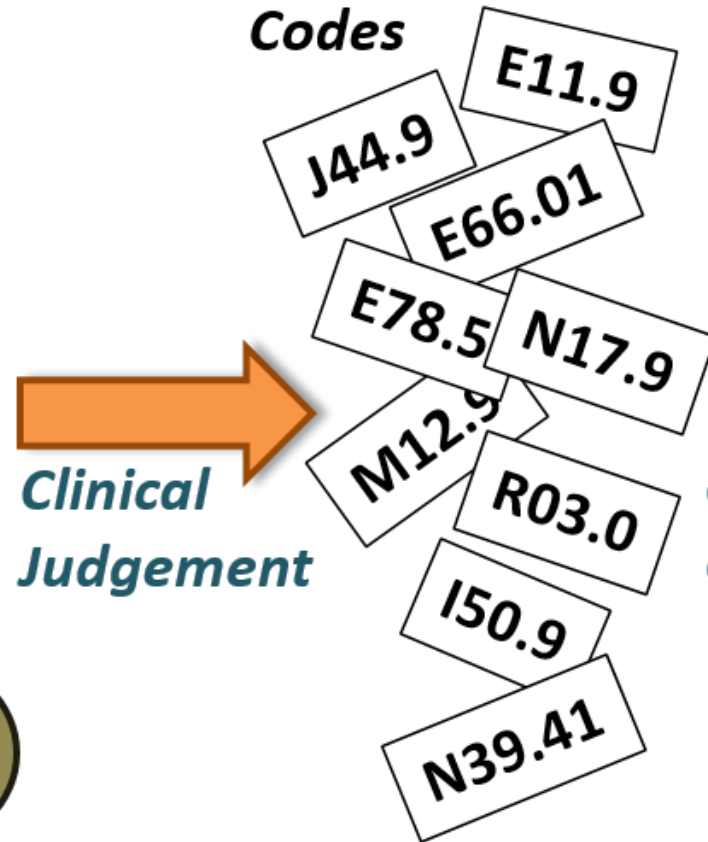
*Could you get this information in minutes if you asked for it?
How long would it take to get this to the clinicians at point of
care?*

Morbidity Perspective

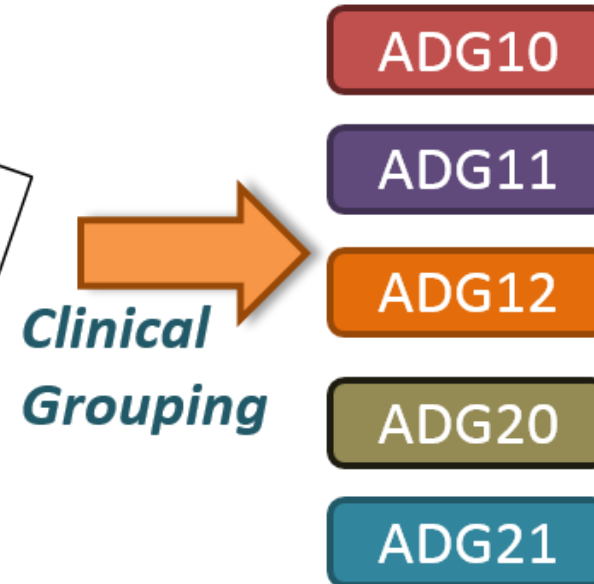
Healthcare Encounters



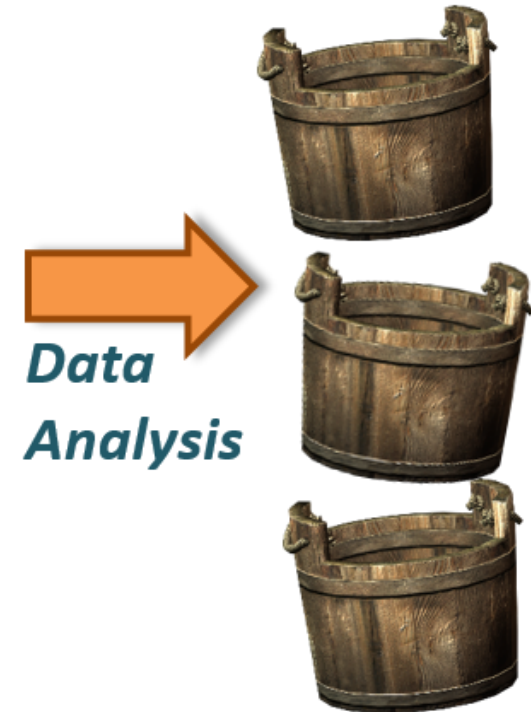
Diagnostic Codes



Morbidity Groups



ACGs



“Medically Ready Force...Ready Medical Force”

Resource Utilization Bands (RUB) *Versus* Illness Burden Index (IBI)



Cost of Individuals in ACG Group in Past Year Compared To Average Person in MHS

IBI

2015

2016



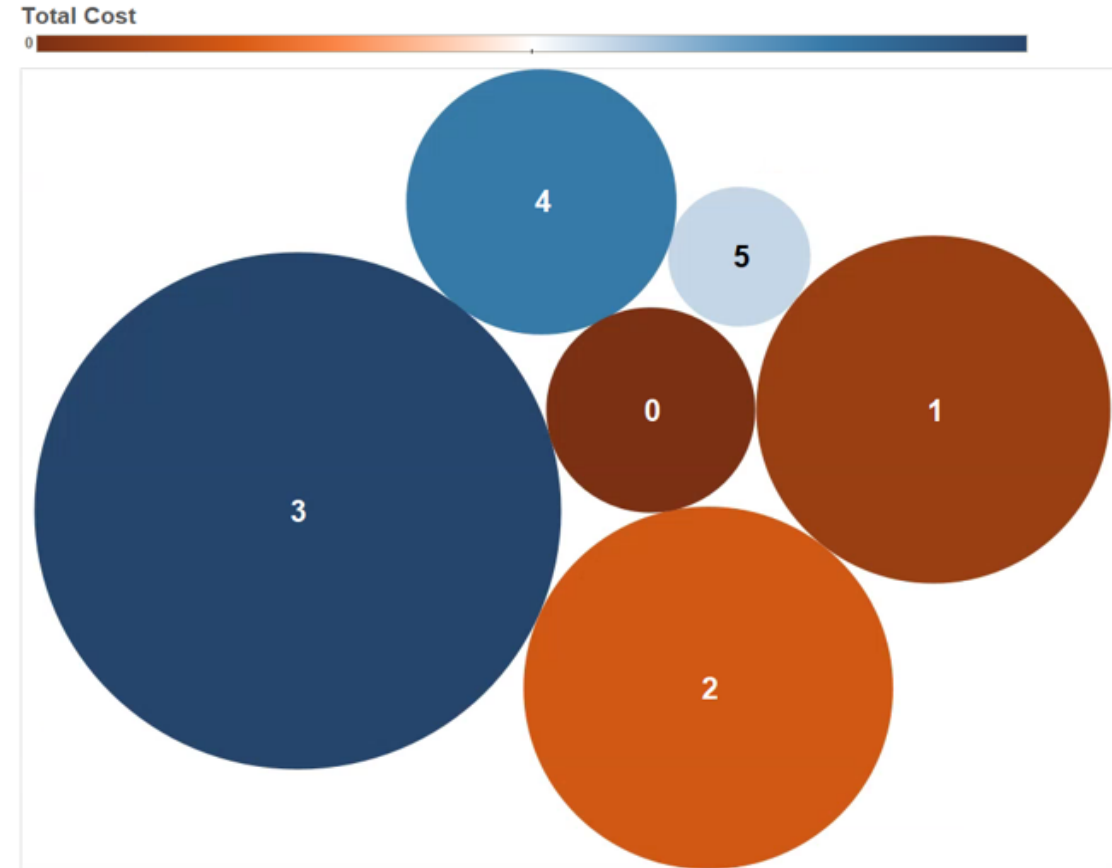
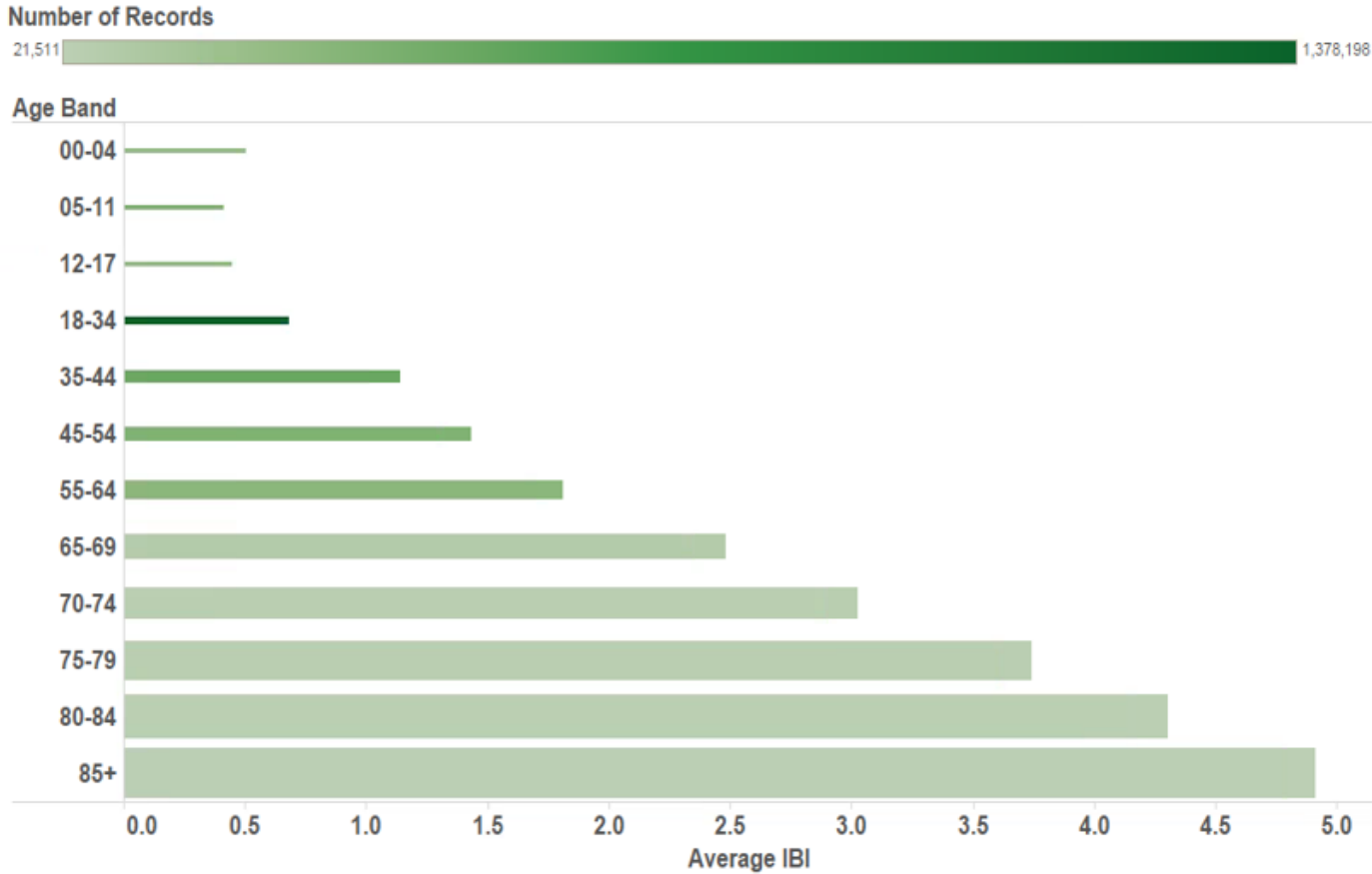
ACGs

RUB

2017

Expected Resource Use In Coming Year Based on Comorbidities (ACG)

Illness Burden Index & Resource Utilization Band

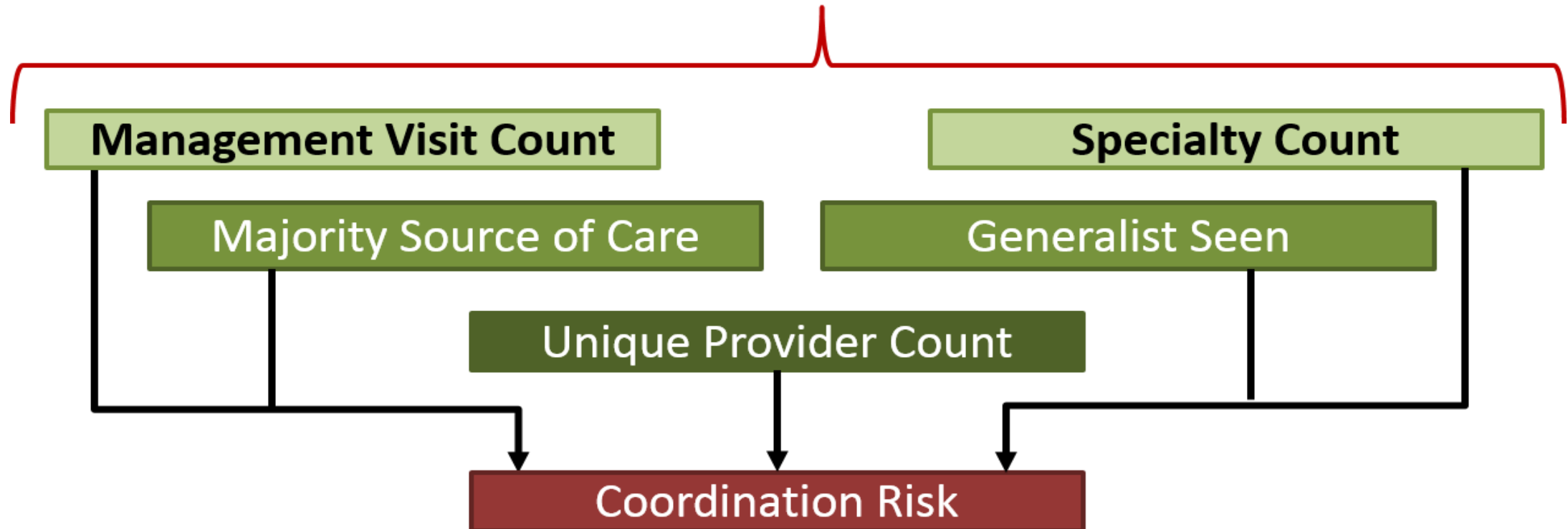


“Medically Ready Force...Ready Medical Force”

Care Coordination



ACG Coordination Markers



“Medically Ready Force...Ready Medical Force”

Coordination Markers



1 visit



1 visit



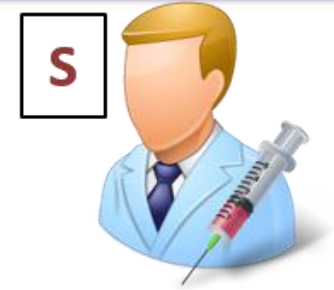
1 visit



1 visit



8 visits



1 visit



1 visit



MSOC = 20%
Specialty Count = 5
Generalist Seen = No
Unique Provider Count = 5

S = specialist
G = generalist

MSOC = 80%
Specialty Count = 2
Generalist Seen = Yes
Unique Provider Count = 3

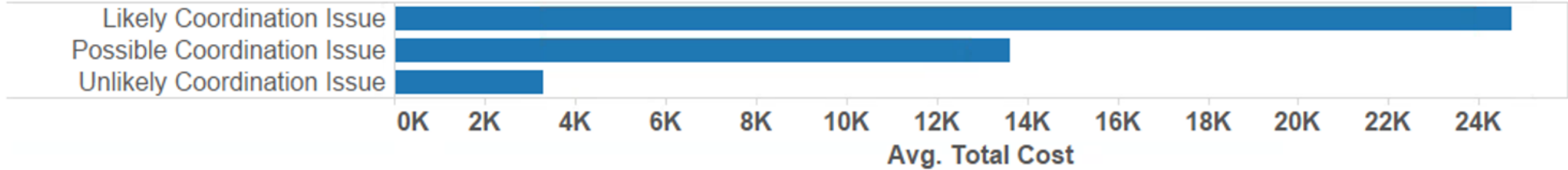


1 visit

Cost of Poor Coordination



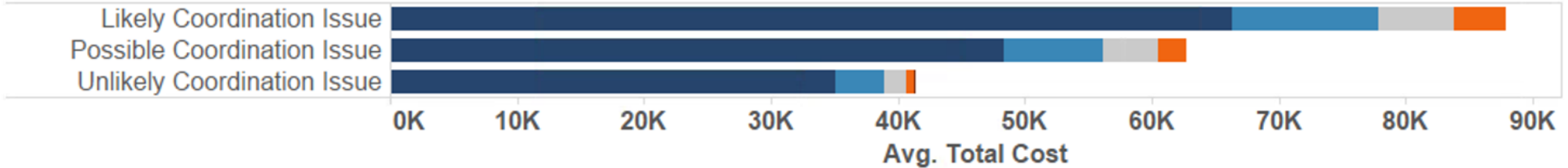
Coordination Risk



Resource Utilization Band



Coordination Risk



The Impact of Poor Coordination



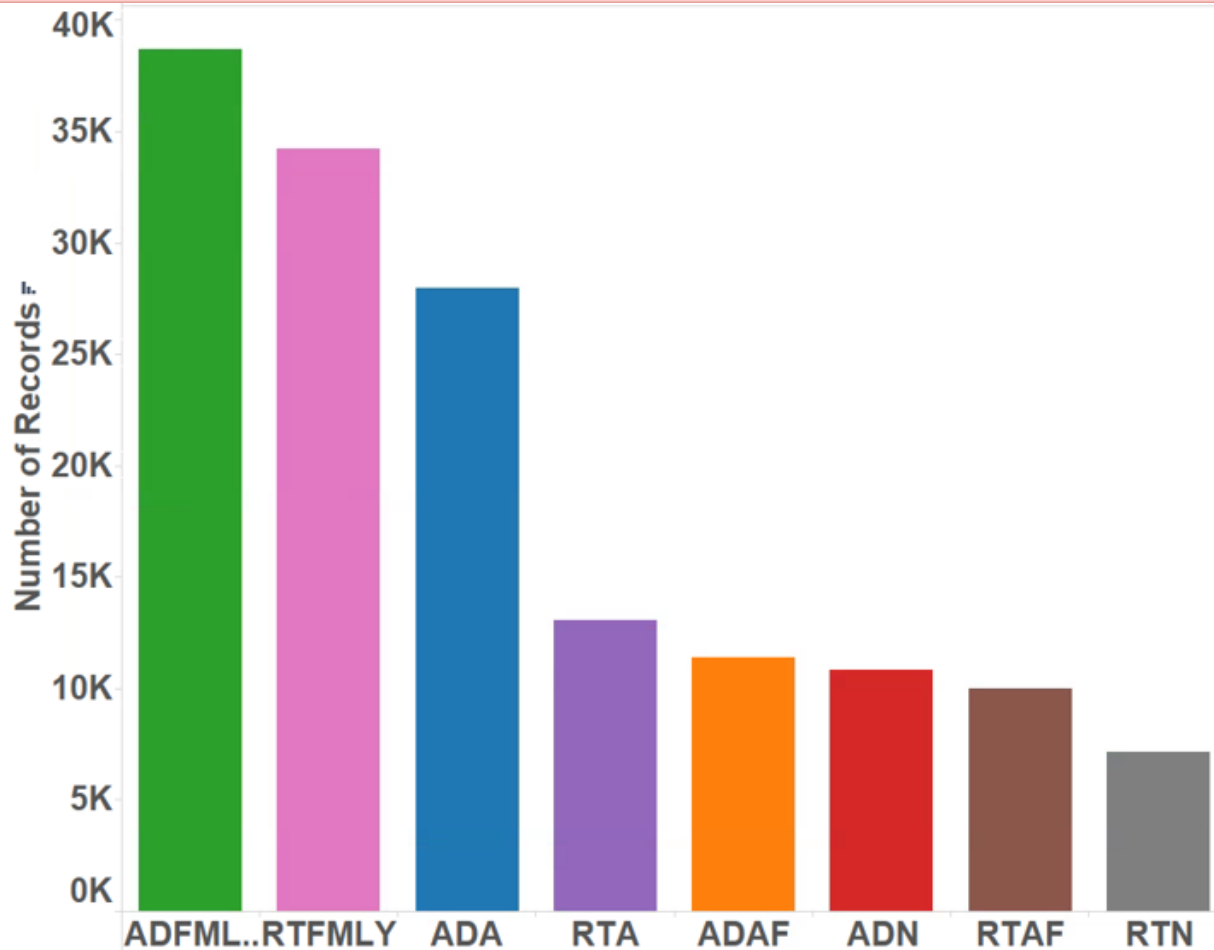
6 x *more*
Adverse Events

4 x *more*
ER visits

3 x *more*
Hospitalizations

8 x *more*
Costly

Coordination Issues for Active Duty & Families



- **38,000 ADFMFLY**
- **51,000 ADASM**
- **29,000 R-ADASM**
- **34,000 RTFMLY**

Care Coordination Demo



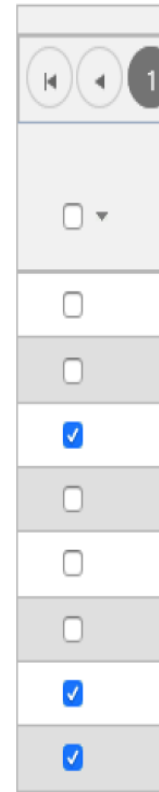
- How many Active Duty Service Members have been to the ER 5 or more times in the past year?
- How many ADSMs have been hospitalized 5 or more times in the past year?
- How many ADSMs have been diagnosed as having sleep problems?
- How many ADSMs are coming into the hospital/clinic TODAY with a previous diagnosis of depression?
- How many ADSMs do we suspect have coordination challenges?

Up Coming Attractions

- User Derived Tags
- Data Derived Tags
- Value Based Care Pathways (Navy)

High	2.45	05/27/2015	20
High	2.88	05/27/2015	20
High			
High			
High			
High			
High			
High			
Very High	6.61	05/27/2015	20

- Open Patient View
- Add / View Exclusions
- Add Test / Screening
- Add / View Notes
- Add Tags
- View Locally Entered Patient Data Summary



Enrollment data current as of 06/16/2015; Monthly metrics/registry patients current through 03/31/201!





Filter
Exclusions: Show All

1 - 25 of 5879 items

Gender	BenCat	Tags
M	RTA	Diagnosis X Glycemic X Virus X
F	RTN	
M	ADN	
M	ADA	
M	ADA	Allergy X X-Ray X
M	RTN	
F	RTFMLY	Epidermis X Cat Scan X Asthma X

Summary of MHSPHP Value



■ Analytics platform

- Predictive Analytics
- Data Discovery at Population Level
- Future SEMOSS implementation

■ Point of Care Tool

- PCMH Huddles
- Case / Utilization Management
- Disease/Pharmacy Management

■ Reporting platform

- New Tableau Reports
- Individual Summary Reports
- Future 'Public' Galleries

■ Enterprise Capability

- Scalable
- Flexible
- Responsive



Contact Information



Chief, Enterprise Intelligence

Chief, Analytics and BI