



Knowledge and Compassion
Focused on You

March 9, 2017

Monitoring MedStar Quality Measures

Karol G. Wicker, MHS
Sr. Dir., Clinical Data & Analytics
MedStar Institute for Quality & Safety

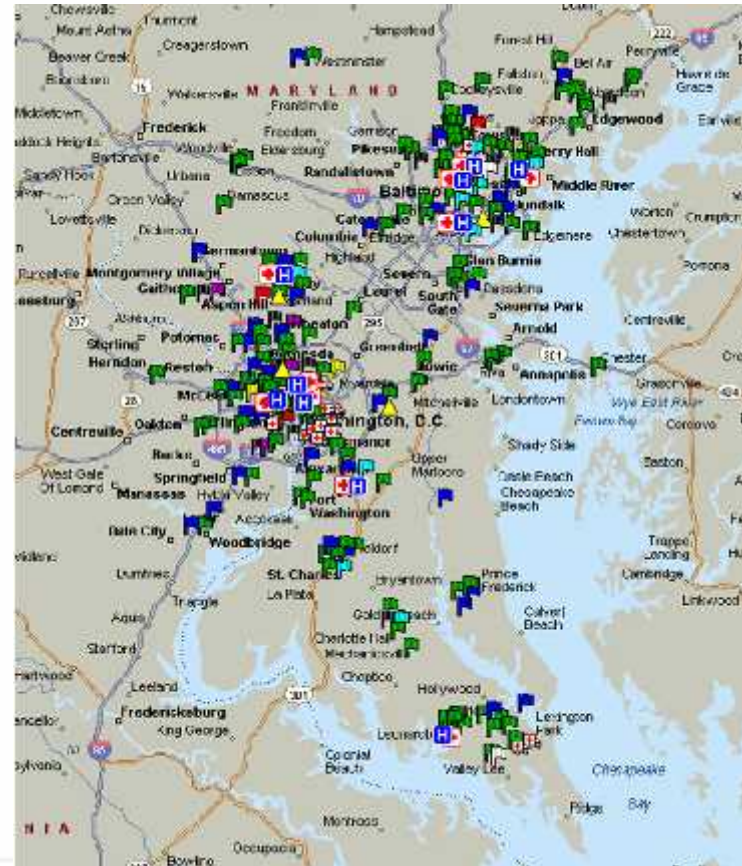
Paul G. Shapin MBA, CDP
Assistant Vice President
MedStar Health, IS Decision Support

Topics

- About MedStar Health
- Clinical Quality Data & Analytics Trajectory
- Dashboard Examples
- Lessons Learned
- Big Picture of Analytics at MedStar

MedStar Health

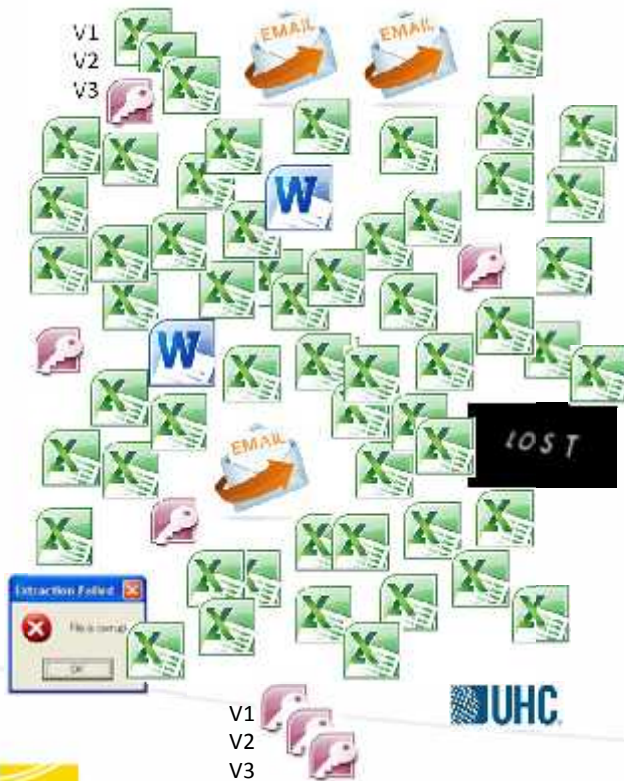
- \$5 billion, not-for-profit, distributed care delivery network
 - Largest healthcare provider in Maryland and the Washington, D.C., region
 - 33,000 associates, 1,800 employed physicians, and 4,700 affiliated physicians
 - 10 hospitals
- More than 200,000 inpatient admissions & observation stays
- Over 4.3 million home health, emergency department, physician office, and ambulatory outpatient visits



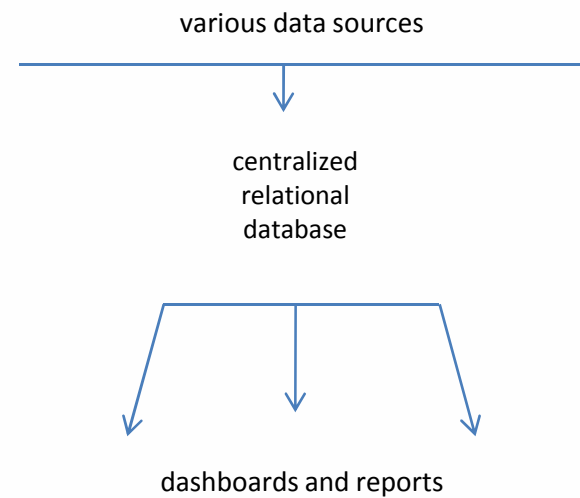
MedStar Health Clinical Quality Data & Analytics

- System-level unit established July 2014
- Primary Audience
 - Corporate Executive Team
 - Physician Leadership Team
 - Chief Nursing Officers
- Focus
 - Pay for performance metrics
 - Publicly reported metrics

July 2014



November 2015



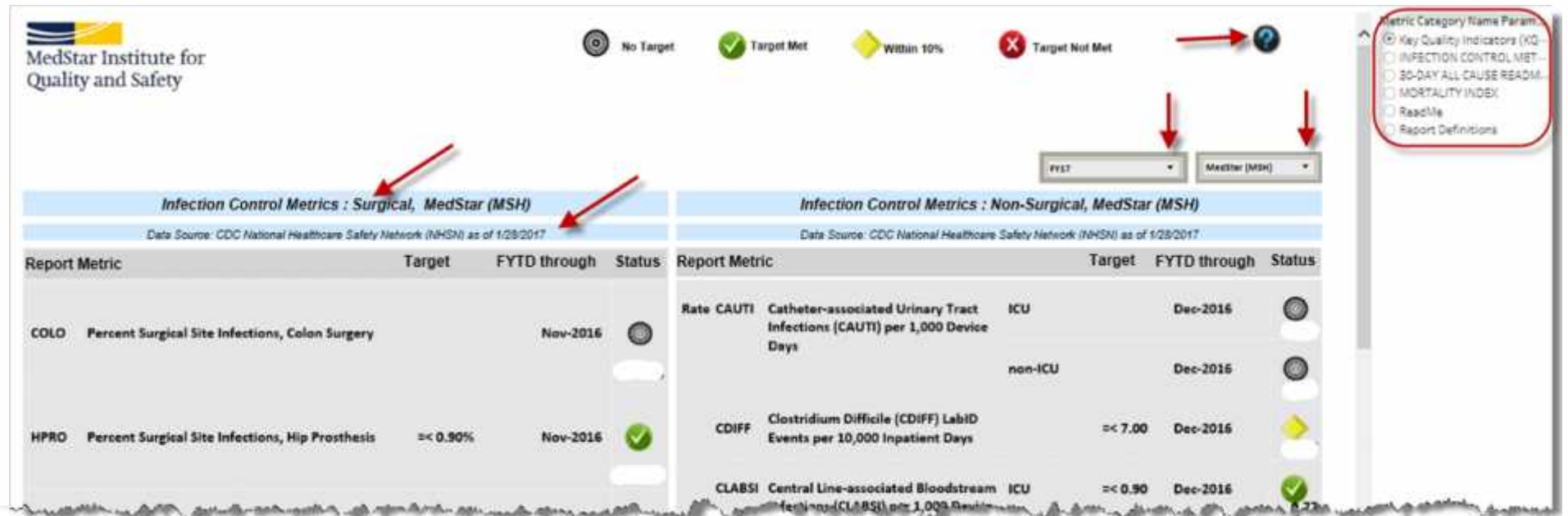
Secure; Accurate; Timely; Efficient; Actionable

Quality Measures: Tracking Now

- Core Measures
- Infections
- Mortality
- Readmissions
- Ambulatory Care Metrics

EXAMPLES

Key Quality Indicator (KQI) Dashboard



KQI Reports



INFECTION CONTROL METRICS

CAUTI SIR ICU

FY16

For Peer Review Only. Do Not Distribute.

Catheter-Associated Urinary Tract Infections (CAUTI) Standardized Infection Ratio (SIR) in Intensive Care Units (ICU), by Facility and Time Period

Data Source: CDC National Healthcare Safety Network (NHSN) as of 12/28/2016

CAUTI SIR ICU (FY2016 Target ≤ 0.58)

		July 2015	August 2015	September 2015	Q1 FY16 (Jul-Sep 2015)	October 2015	November 2015	December 2015	Q2 FY16 (Oct-Dec 2015)
	obs / exp SIR	0 0.33 0.00	1 0.40 2.48	1 0.47 2.14	2 1.20 1.66	0 0.42 0.00	1 0.42 2.37	1 0.42 2.40	2 1.26 1.58
	obs / exp SIR	1 0.28 3.55	0 0.21 0.00	0 0.26 0.00	1 0.75 1.33	0 0.30 0.00	0 0.36 0.00	0 0.33 0.00	0 1.00 0.00
	obs / exp SIR	2 2.59 0.77	1 2.64 0.38	0 2.34 0.00	3 7.57 0.40	0 2.37 0.00	0 2.51 0.00	1 2.27 0.44	1 7.14 0.14

- Metric Category Name Pa
- ☐ Key Quality Indicator
 - ☒ INFECTION CONTROL
 - ☐ 30-DAY ALL CAUSE RE
 - ☐ MORTALITY INDEX
 - ☐ ReadMe
 - ☐ Report Definitions



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Obs	obs / exp SIR	0 0.33 0.00	0 0.30 0.00	1 0.28 3.88	1 1.30 0.77	1 0.45 2.20	0 0.39 0.00	1 0.31 3.21	2 1.15 1.73
Obs	obs / exp SIR	3 2.72 1.10	3 2.21 1.96	2 2.53 0.79	1 0.89 1.13	0 0.28 0.00	0 0.35 0.00	0 0.24 0.00	0 0.85 0.00
Obs	obs / exp SIR	0 0.29 0.00	0 0.28 0.00	0 0.24 0.00	8 7.48 1.07	2 2.56 0.78	1 2.80 0.39	2 2.51 0.80	5 7.66 0.65
Obs	obs / exp SIR	0 0.14 0.00	0 0.14 0.00	0 0.13 0.00	0 0.82 0.00	0 0.20 0.00	0 0.21 0.00	0 0.18 0.00	0 0.59 0.00
Obs	obs / exp SIR	0 0.08 0.00	0 0.04 0.00	0 0.14 0.00	0 0.40 0.00	0 0.10 0.00	0 0.11 0.00	0 0.09 0.00	0 0.30 0.00
Obs	obs / exp SIR	0 0.32 0.00	0 0.39 0.00	0 0.42 0.00	0 0.23 0.00	0 0.05 0.00	1 0.07 15.38	0 0.05 0.00	1 0.17 5.83
Obs	obs / exp SIR	0 0.65 0.00	0 0.58 0.00	0 0.68 0.00	0 1.13 0.00	1 0.47 2.12	1 0.30 3.33	0 0.54 0.00	2 1.11 1.80
Obs	obs / exp SIR	5 2.92 1.05	4 2.80 1.43	3 2.58 1.18	0 1.91 0.00	0 0.55 0.00	0 0.80 0.00	1 0.46 2.15	1 1.81 0.62
MedStar	obs / exp SIR	8 7.80 0.77	7 7.18 0.98	7 7.49 0.93	10 8.30 1.21	3 3.75 0.80	2 3.43 0.58	3 3.25 0.92	8 10.44 0.77
					30 22.45 0.89	7 8.42 0.83	5 8.05 0.62	7 7.43 0.94	19 23.81 0.79

CAUTI SIR ICU (FY2016 Target = 0.58) Fiscal Year 2016 To-Date

MedStar									
76	Obs	7	2	17	0	0	2	3	7
92.56	Exp	4.92	3.49	29.83	2.88	1.39	0.74	4.22	37.56
0.82	SIR	1.42	0.57	0.57	0.00	0.00	2.72	0.71	0.93

Red-shaded cells indicate value greater than target

Created by Quality & Safety Data and Analytics, 2/22/2017

- Key Quality Indicator
- INFECTION CONTROL
 - 30-DAY ALL CAUSE RE
 - MORTALITY INDEX
 - Readline
 - Report Definitions

Legend:

Obs = Number of Observed ICU CAUTI's

Exp = Number of Expected ICU CAUTI's

SIR (Standardized Infection Ratio) = (Obs / Exp)

ND = No Data, Data Not Available



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KQI Report Definitions

Central Line-Associated Bloodstream Infections (CLABSI)

A bloodstream infection in a patient who had a central line. Includes infections in patients with temporary central lines (tunneled or non-tunneled), or permanent central lines (tunneled or implanted, including ports).

- Full taxonomy of CLABSI inclusions and exclusions available on the CDC's National Healthcare Safety Network website at: http://www.cdc.gov/nhsn/OPAs/techManual/4PSC_CLABSIcurrent.pdf

Metric	Report Numerator	Report Denominator	Included in QSPAC?
CLABSI Rate ICU	Number of CLABSI's in ICUs	Number of central line days in ICUs	Rate is per 1000 central line days in the ICU. Adult and pediatric ICUs only.
CLABSI Rate non-ICU	Number of CLABSI's in non-ICUs	Number of central line days in non-ICUs	Rate is per 1000 central line days in the non-ICU. Adult and pediatric medical, surgical, medical/surgical, and telemetry units and any other non-ICU that the hospital reports to NHSN (excluding NICU).

Central Line-Associated Bloodstream Infections (CLABSI)

A bloodstream infection in a patient who had a central line. Includes infections in patients with temporary central lines (tunneled or non-tunneled), or permanent central lines (tunneled or implanted, including ports).

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Metric	Report Numerator	Report Denominator	Included in QSPAC?
CAUTI SIR ICU	Number of observed infections in ICUs	Number of expected infections in ICUs	Standardized infection ratio (SIR) = observed/expected. Adult and pediatric ICUs only.
CAUTI SIR non-ICU	Number of observed infections in non-ICUs	Number of expected infections in non-ICUs	Standardized infection ratio (SIR) = observed/expected. Adult and pediatric medical, surgical, and medical/surgical units.
CAUTI Rate ICU	Number of observed infections in ICUs	Number of Catheter Days in ICUs	Rate is per 1 indwelling catheter days in the ICU. Adult and pediatric ICUs only.
CAUTI Rate non-ICU	Number of observed infections in non-ICUs	Number of Catheter Days in non-ICUs	Rate is per 1 indwelling catheter days in the non-ICU. Adult and pediatric medical, surgical, medical/surgical, telemetry, and any other non-ICU that the hospital reports to NHSN.

Clostridium Difficile (CDiff) and Methicillin-resistant Staphylococcus aureus (MRSA) Bacteremia LabID Events

Laboratory-identified (LabID) events that are healthcare facility-onset events as determined by review of Lab data and not clinical information. Healthcare facility-onset = LabID Event specimen collected more than 3 days after admission to the facility (i.e., on or after day 4). For CDiff only: surveillance not performed in NICU, Special Care Nursery (SCN), babies in LDRP, well-baby nurseries, or well-baby clinics.

Metric Category Name Para...

- ☐ Key Quality Indicators (K...
- ☐ INFECTION CONTROL ME...
- ☐ 30-DAY ALL CAUSE READ...
- ☐ MORTALITY INDEX
- ☐ Readfile
- ☒ Report Definitions

MedStar Institute for Quality and Safety

Performance on Adult Primary Care Metrics
by Provider

Provider Group: [Redacted] **Metric:** [All] **Practice Name:** [All] **Provider:** [All]

Performance by Provider
Provider Group: [Redacted]
Metric: All

Provider	NPI	Metric	Num	Denom	Rate
[Redacted]	[Redacted]	NQF 0028 Tobacco Use: Screening and Cessation Intervention	721	728	99.04%
[Redacted]	[Redacted]	NQF 0034 Colorectal Cancer Screening	545	715	76.22%
[Redacted]	[Redacted]	NQF 0041 Influenza Immunization	666	915	72.79%
[Redacted]	[Redacted]	NQF 0043 Pneumonia Vaccination Status for Older Adults	397	510	77.84%

Produced by MedStar Institute for Quality & Safety | Source: Meridios | Last Updated: All | For more information, contact: CCC-Quality&SafetyData@Medstar.net

Masked for confidentiality reasons

Provider Performance

MedStar Institute for Quality and Safety

Summary Statistics | Distribution Plots | Group, Practice & Provider | Group & Provider | Provider

Provider Group | Practice Name

Masked for confidentiality reasons

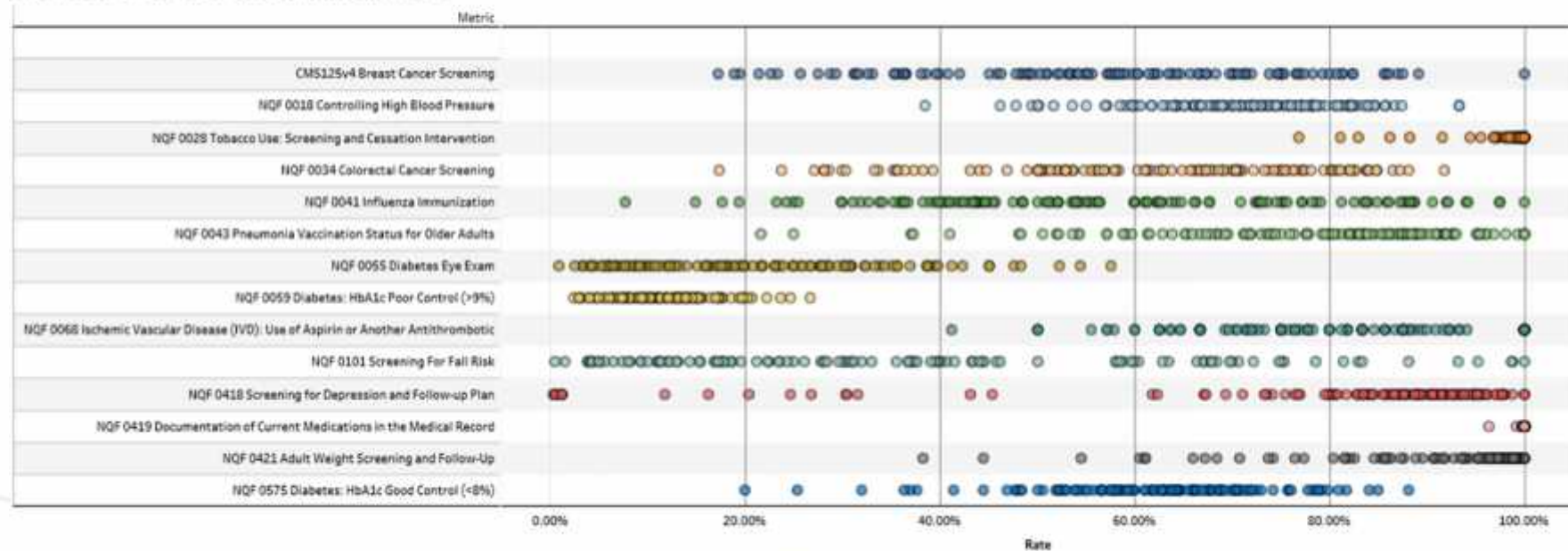
Descriptive/summary statistics by metric

Metric	# Providers	Mean Provider Performance	Standard deviation	Median Provider Performance	Lowest Provider Compliance Rate	Highest Provider Compliance Rate	Patients Meeting Criteria (Numerator)	Eligible Patients (Denominator)	Rate of Patients Meeting
NQF 0044 Pneumonia Vaccination Status for Older Adults	113	77.18%	15.25%	82.09%	21.57%	100.00%	20,618	25,590	80.60%
NQF 0055 Diabetes Eye Exam	107	21.60%	13.22%	19.84%	0.95%	87.34%	3,076	12,758	24.11%
NQF 0059 Diabetes: HbA1c Poor Control (>9%)	109	11.94%	4.89%	11.52%	2.39%	26.67%	1,547	12,995	11.90%
NQF 0068 Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic	110	80.63%	14.38%	81.82%	41.18%	100.00%	1,034	1,335	77.46%
NQF 0101 Screening For Fall Risk	110	37.92%	26.60%	32.47%	0.46%	100.00%	10,825	27,151	39.87%
NQF 0418 Screening for Depression and Follow-up Plan	122	77.03%	27.26%	87.67%	0.30%	100.00%	51,874	65,901	78.20%
NQF 0419 Documentation of Current Medications in the Medical Record	126	99.95%	0.34%	100.00%	96.32%	100.00%	123,166	123,243	99.94%
NQF 0473 Adult Weight Screening and Follow-up	104	30.16%	11.76%	37.42%	35.31%	100.00%	60,637	74,940	81.17%
NQF 0575 Diabetes: HbA1c Good Control (<8%)	112	92.24%	11.99%	94.94%	30.00%	99.10%	6,271	14,034	94.64%

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Masked for confidentiality reasons

Distribution of provider performance by metric



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Lessons Learned

- Understand the needs of your audience
- Meet them where they are
- Process, structure, and organization matter

The Bigger Picture

Browser window showing the MedStar Health Report Portal interface.

URL: <http://tableau.medstar.net/#/site/MedStarProduction/views/MSHReportPortal/ReportPortal?hide=2>

Page Title: MSH Report Portal: Report ...

Navigation Bar: MedStar Production | Content | Users | Groups | Schedules | Tasks | Shapin, Paul G.

Breadcrumbs: Home > MSH Information Services Production > MSH Report Portal > Report Portal

Report Category

- Balanced Scorecard (2) →
- Finance (3) →
- Hospital Statistics (10) →
- Labor / Productivity (2) →
- Market Analysis (2) →
- Meaningful Use (2) →
- Operations (4) →
- Physician Practice (5) →
- Quality (2) →

Select a Category From the Left

MedStar Health

Back to Tableau Server

Comments (0)

Add a comment

Tags

Edit Tags

←

http://tableau.medstar.net/#/site/MedStarProduction/views/MSHReportPortal/ReportPortal?hide=4

MSH Report Portal: Report ...

FileEditViewFavoritesToolsHelp

DirectoryAOLA PrimeFapEISAppleBankTC16 LIVEWebesPGSCernerEABIHomeFeedsRead mail

+ab|eou

MedStar ProductionContentUsersGroupsSchedulesTasks...

Shapin, Paul G

HomeMSH Information Services ProductionMSH Report PortalReport Portal

←Undo→Redo↶Revert↻Refresh⏸PauseOriginal ViewSubscribeEditShareDownloadFull Screen

Report Category

Select a report to view...

Balanced Scorecard (2)→

Finance (3)→

Hospital Statistics (10)→

Labor / Productivity (2)→


Market Analysis (2)→


Meaningful Use (2)→

Operations (4)→

Physician Practice (5)→

Quality (2)→


Quality Indicators


Physician Performance

←Back to Tableau Server

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MedStar Health

Comments (0)

Add a comment

Tags

Edit Tags

Browser window showing the MedStar Production MSH Report Portal. The URL is <http://tableau.medstar.net/#/site/MedStarProduction/views/MSHReportPortal/ReportPortal?hide=4>.

The page displays a navigation menu on the left with categories and a main content area with report thumbnails.

Report Category

- Balanced Scorecard (2)
- Finance (3)
- Hospital Statistics (10)
- Labor / Productivity (2)
- Market Analysis (2)
- Meaningful Use (2) **Selected**
- Operations (4)
- Physician Practice (5)
- Quality (2)

Select a report to view...

- Patient Portal Utilization Rolling 90 Days
- Patient Portal Utilization YTD

Back to Tableau Server

Comments (0)

Add a comment

Tags

Edit Tags

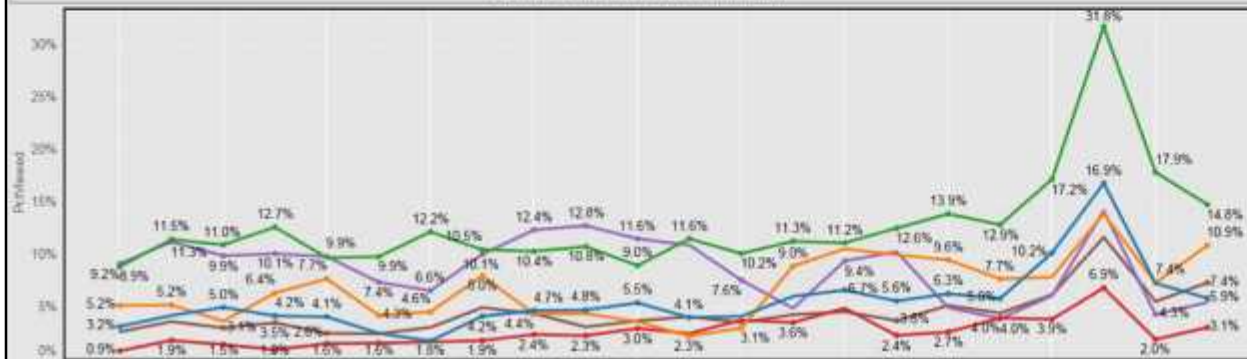
Percentage Viewing Based on Meaningful Use Criteria

Select a Facility From The Middle View to Monitor a Trend

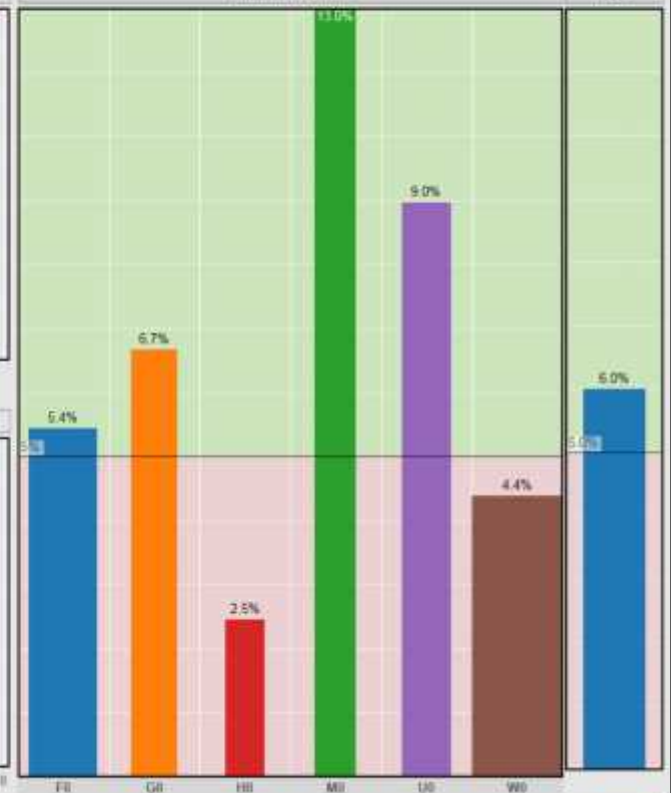
Action Week
8/16/2016

8/17/2016

Percentage of Patients Viewing their Information



Cumulative Percent



ASN %

Number of Viewing Patients



Produced by the MedStar Information Services Department using the Planning Mart and Influence Health Databases

Report Category

Select a report to view...

Balanced Scorecard (2) →

Finance (3) →

Hospital Statistics (10) →

Labor / Productivity (2) →

Market Analysis (2) →

Meaningful Use (2) →

Operations (4) →

Physician Practice (5) →

Quality (2) →

Back to Tableau Server

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IP / OSV Analysis (Weekly)

IP / OSV Analysis (Monthly)

Payer Charge Variances

Diversion Stats

Observation Stats

Stat Drill-down

EIS

Hospital Key Stats - FYTD

ED Statistics

Length of Stay Stats

Comments (0)

Add a comment

Tags

Edit Tags

MSH Report Portal: Report ...

Home

MSH Information Services Production

MSH Report Portal

Report Portal

Undo Redo Revert Refresh Pause

Original View Subscribe Edit Share Download Full Screen

MedStar Production Content Users Groups Schedules Tasks

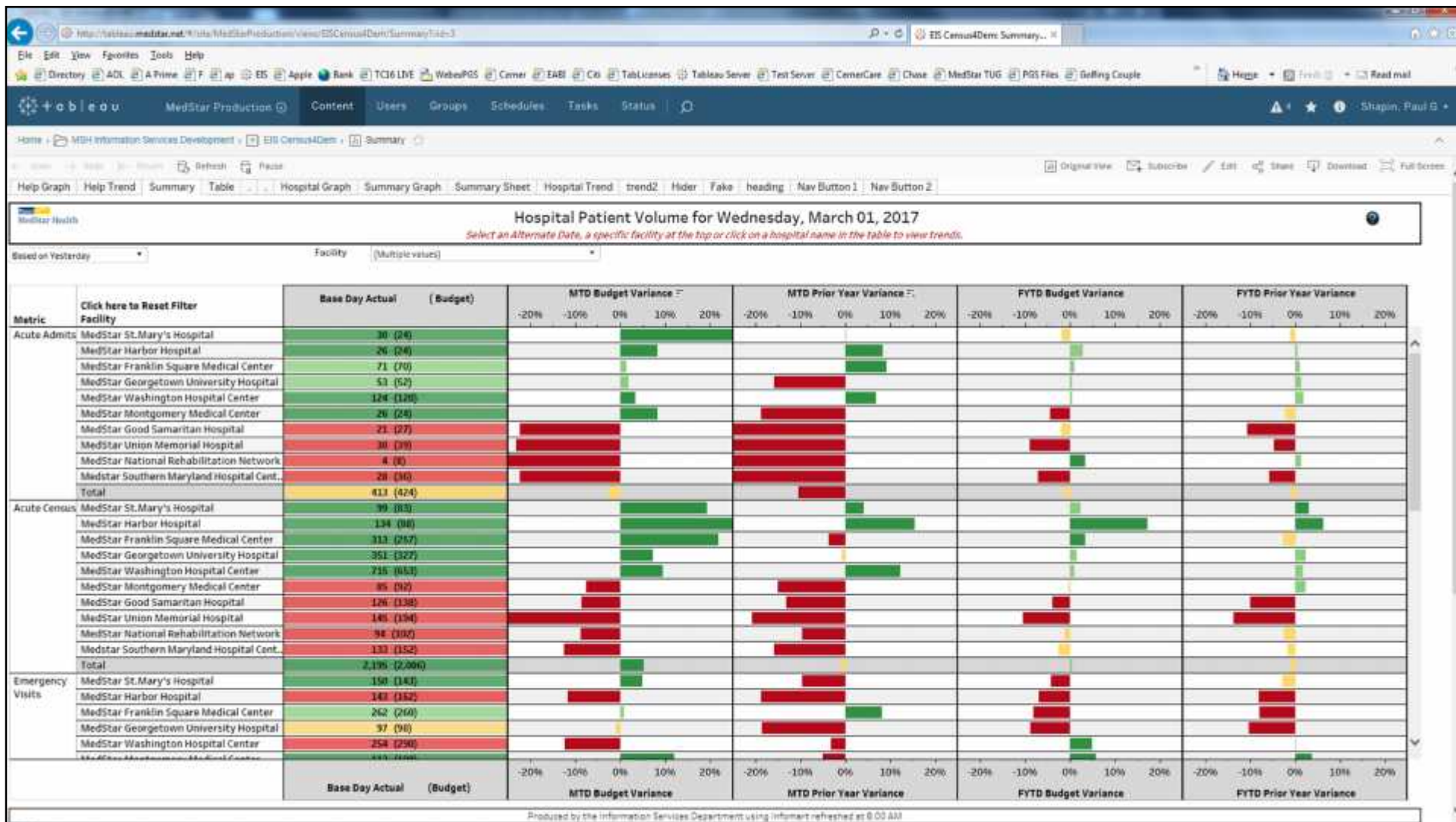
Shapin, Paul G

File Edit View Favorites Tools Help

Directory AOL A Prime F ap EIS Apple Bank TC16 LIVE WebexPG5 Cerner EABI

Home Feeds Read mail

http://tableau.medstar.net/#/site/MedStarProduction/views/MSHReportPortal/ReportPortal?hide=4



Design Standards

- Header With Title, Logo and **Call to Action in Red**
- Quick Filters at Top
- Footer with Authoring Department and Data Sources



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But Wait There's More!



Characteristic	Information Portal (Dashboards)	Analytics Workbench (Ad Hoc)	Data Science Laboratory
Consumers	Decision Makers	Business Information Analysts	Researchers
Developers	Technical Specialists and Business Information Analysts	Business Information Analysts	Data Scientists
Data Sources	EDW or Domain Specific Data Marts	Mostly EDW or Domain Specific Data Marts	Structured and Unstructured Data
Time to Deliver	Days to Weeks	Minutes to Hours	Days to Months

"Everyone is
entitled to their
own **opinions**,
but not
their own
facts."

Daniel Patrick Moynihan
American sociologist and
US Senator (D-NY)
(1927-2003)



ProCon.org



MedStar Health

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Technology Stack

MS SQL Server



Tableau Desktop



Tableau Server



Questions?

Karol Wicker

Karol.G.Wicker@MedStar.net

Paul Shapin

Paul.G.Shapin@MedStar.net