

PM SIG Meeting

Co-chairs:

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October 19, 2017

Agenda

- ▶ Welcome and Introductions
- ▶ Credits – PMI and CPHIMSS
- ▶ Future Agenda
- ▶ Presentation and Discussion
- ▶ Next Meeting – November 16, 2017
- ▶ Wrap up



Credits

- ▶ CAHIMSS & CPHIMSS
- ▶ PMI
 - ▶ PMI presentation credit is now a self tending logging activity.



Future Agendas

- ▶ November 17 - Dashboards
- ▶ December 17 - TBD
- ▶ January 18 - PMT Methods and Techniques
- ▶ Feb 18 - Value and Project Management
- ▶ March 18 - HIMSS National Meeting

Thanks....

Jan Lugibihl
HIMSS

And others who took the time to add ideas and
content.



Big Data Project for Emergency Medicine – Tips and Tricks for Project Managers

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October 2017

Disclaimer

This document is not formal research but an outline of ideas to be used for general discussion. It attempts to gather ideas and concepts from many sources (including the authors) and to present these ideas in a coherent manner to the SIG and Fellow membership.

Some references are provided where they may be interesting. Materials have been extracted and in some cases presented as published. In other cases, original materials were edited, as the author sees fit, to make a point or to better explain a concept.

The document, in the end, is designed as a learning tool to provide useful guidance, provide the basis of discussion, and may be get members excited about the topic.

Last, we sometimes focus on what we like to explore....

Learning Objectives

- ▶ Identify how hospital emergency departments will be participating in a big data program
- ▶ Learn about Emergency Health Care big data acquisition, mapping, implementation, and customer focused delivery
- ▶ Develop strategies for identifying and meeting benchmarking goals for care delivery improvement in the emergency setting

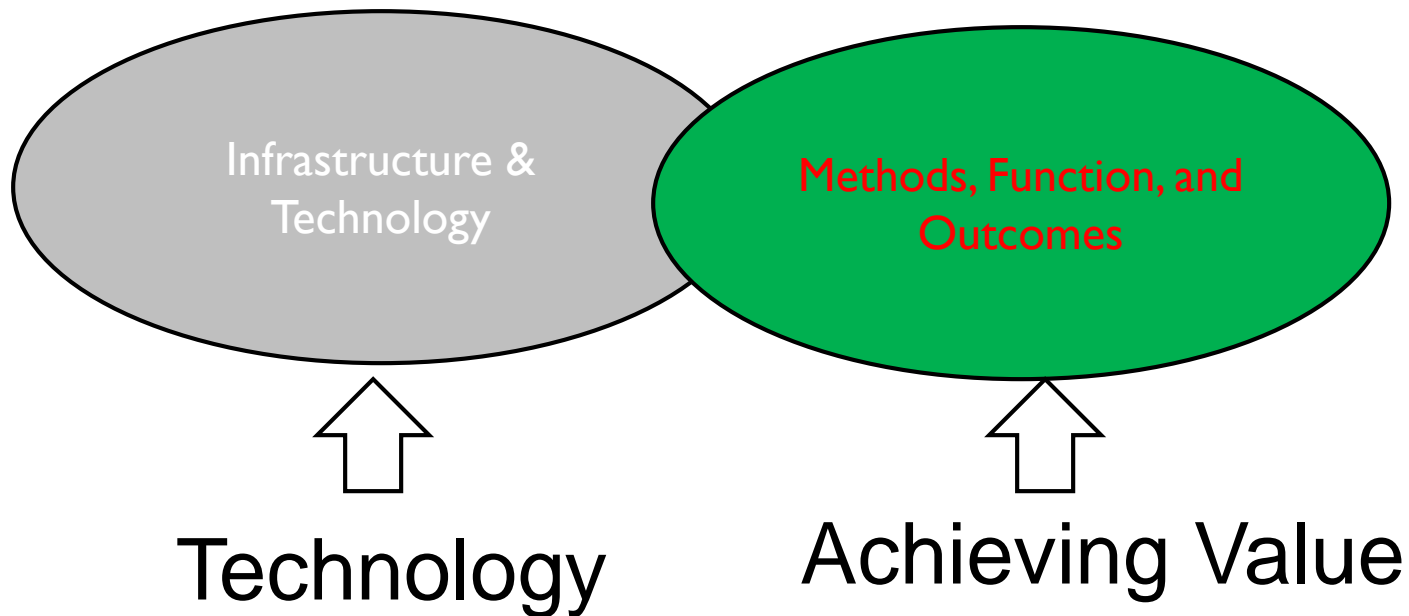
What is “Big Data”?

Possible Definitions and Characteristics

- **“Big Data” is the next step in the evolution of departmental/organizational metrics and analysis enabled by new hardware and software platforms.** (msn)
- **Big Data is high-volume, high velocity and/or high – variety information assets that demand cost –effective, innovative forms of information processing that enables enhanced insight, decision making, and process automation.** (ref: Gartner IT Glossary)

A “Big Data” Project

Key Project Components:



“Big Data” – An Evolution

CEDR Project

Data Evolution

Department
Operations:
Limited
transaction
data types
and volume

Division:
Aggregated
Data and
increased
volume

Organization:
Summary data,
integrated, and
large volume

Big Data:
Broad reaching,
dynamic, large
quantity of
aggregated
transaction and
reference data from
multiple sources

Metric Evolution

Base

Derivative

Indicator

Models and Analytics

Dash Boards

Balanced Score Cards

Cost Evolution

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Big Data - What is the value?

“Big data” approaches and techniques may add value:

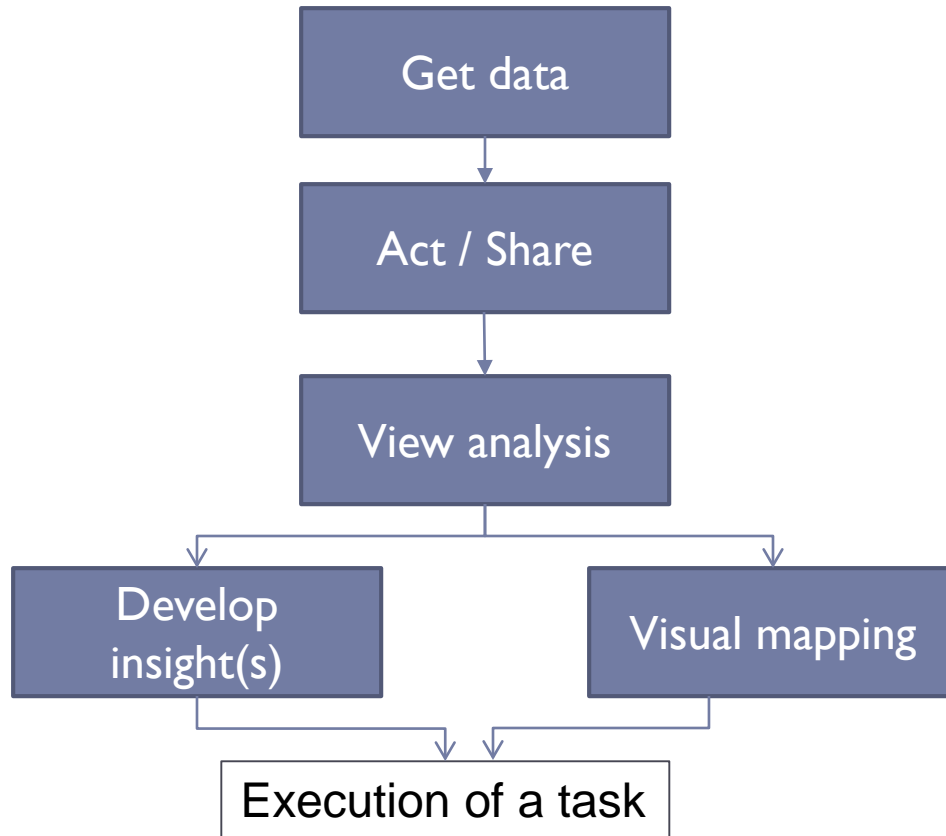
1. Population Health
2. Engaging Consumers in their Health Care
 1. Personalized Medicine
3. **Improve Business, Care, and Outcomes** (proactive decision making & knowledge management)
 1. Clinical Care
 2. Patient Safety
 3. Increased Efficiency
4. **More - TBD**

Big Data - Project Challenges

CEDR Considered Approaches to Achieve Value:

- ❑ Converting data into information and knowledge (analytics)
- ❑ Weaving Data/findings into strategic and operational models
- ❑ Providing analytics for operations, proactive planning, and decision making

Big Data - The Project Flow



Is this project over view any different than any metrics or functional type project?

Quality At ACEP

▶ Pawan Goyal, MD, FHIMSS, CPHIMS

Associate Executive Director, Quality

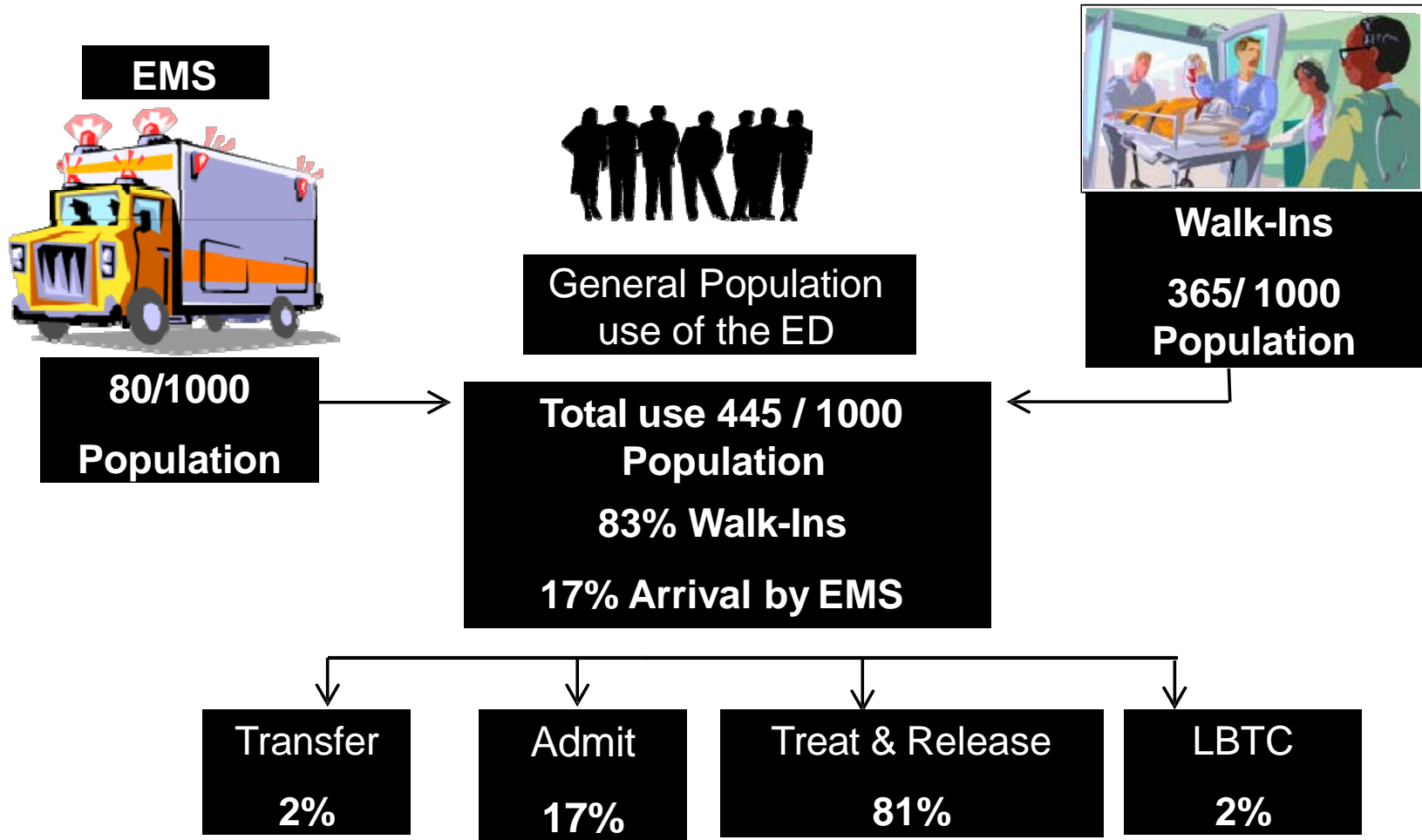
▶ American College of Emergency Physicians (ACEP)

▶ **Quality at ACEP:**

- ▶ - Health Information technology
- ▶ - Health Informatics
- Patient Safety
- Innovation
- Quality Policy
- Quality Collaboratives
- Performance Improvement
- Process Improvement



Patient Flow Predictable

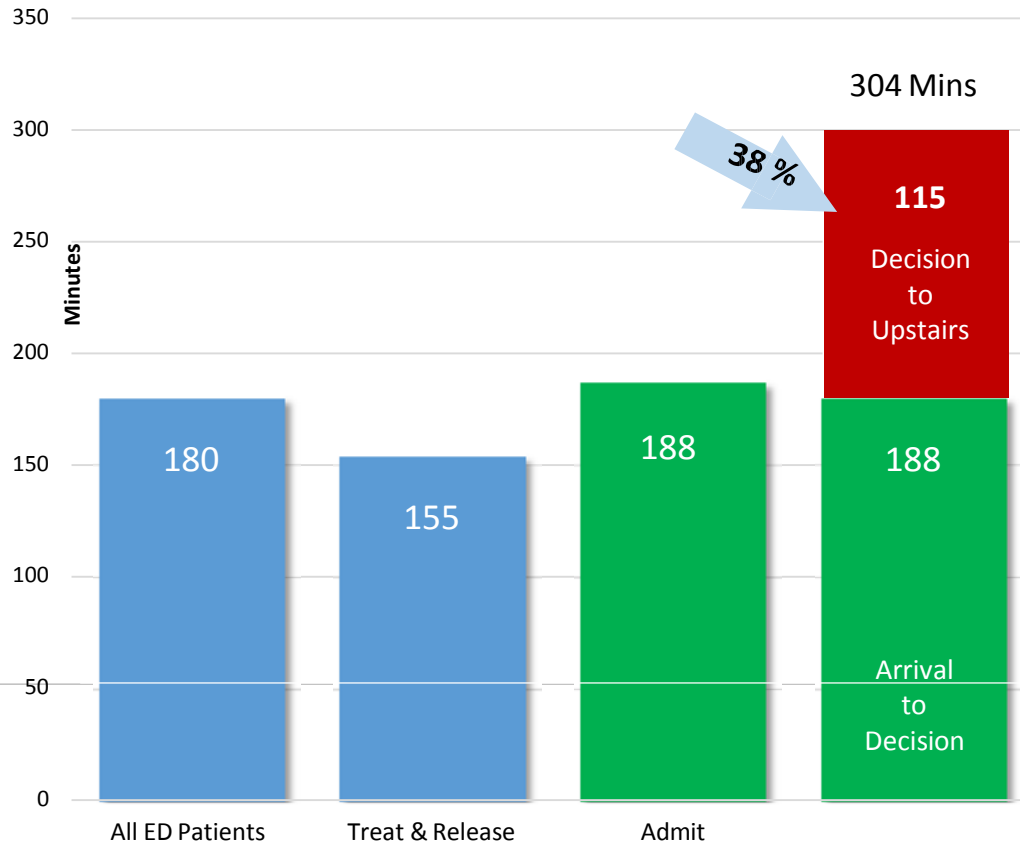


What is the ED Payor Mix?

Payor	% of ED Visits, 2012	% of ED Visits, 1995
Commercial	33%	42%
Medicaid, CHIP	30%	21%
Medicaid plus Medicare	4%	1%
Medicare	18%	15%
Self Pay	14%	17%
Worker Comp	1%	4%



ED Median Length of Stay



ED Design Challenges

- What Volume to Build for
- What Acuity to Build for
- How to Accommodate Primary Care Volumes that are Increasing in Many ED's
- Making Effective use of Urgent Care, FSED's, FQHC's, and primary care clinics to Accommodate Low Acuity Needs
- CDU's, Observation Services
- Follow Up Clinics



The ED Into the Future

- Plan forward
- Have a history of quality service and prevention
- Focus on safety and transparency
- Build a case for Value / Cost effectiveness
- Recognize our industry is built in cohorts
- Train leaders in the business of Emergency and Unscheduled Care

CEDR Project Challenges

Characteristics:

- ▶ Volume of data – scale of data
- ▶ Velocity of data – analysis of streaming data
- ▶ Variety of data – different forms of data ref: IBM
- ▶ Veracity - uncertainty of data

And

- ▶ Governance – data sources and uses
- ▶ Automation of manual transaction data –cost/reliability
- ▶ Tool Sets – new, new, new

CEDR Project Challenges

- Rate of increase of data volume with complex rules, relationships, ownership
- Multiple Sources of truth
- Privacy/Security/Confidentiality/HIPAA
- Collecting and processing data from various sources
- Adoption of new technology and approaches
- Analytic methods applied

CEDR - Project Challenges

CEDR Risk Mitigation Strategies:

- ▶ Detailed governance and plan developed with customers
- ▶ Data acquisition and management plan
- ▶ Appropriate analytics methods and approach
- ▶ Technology plan
- ▶ Multi-year budget
- ▶ Deployment and education plans

CEDR - Get the Data

▶ Choose data collection method

- ▶ PULL: Usually 8-10 weeks
- ▶ PUSH: A minimum of 10-12 weeks using standard data file format :
 - ▶ – Preferred CCDA/HL-7
 - ▶ Acceptable - .xml, flat file, .xls/.xlsx
 - ▶ Not acceptable – PDF, Scanned Images

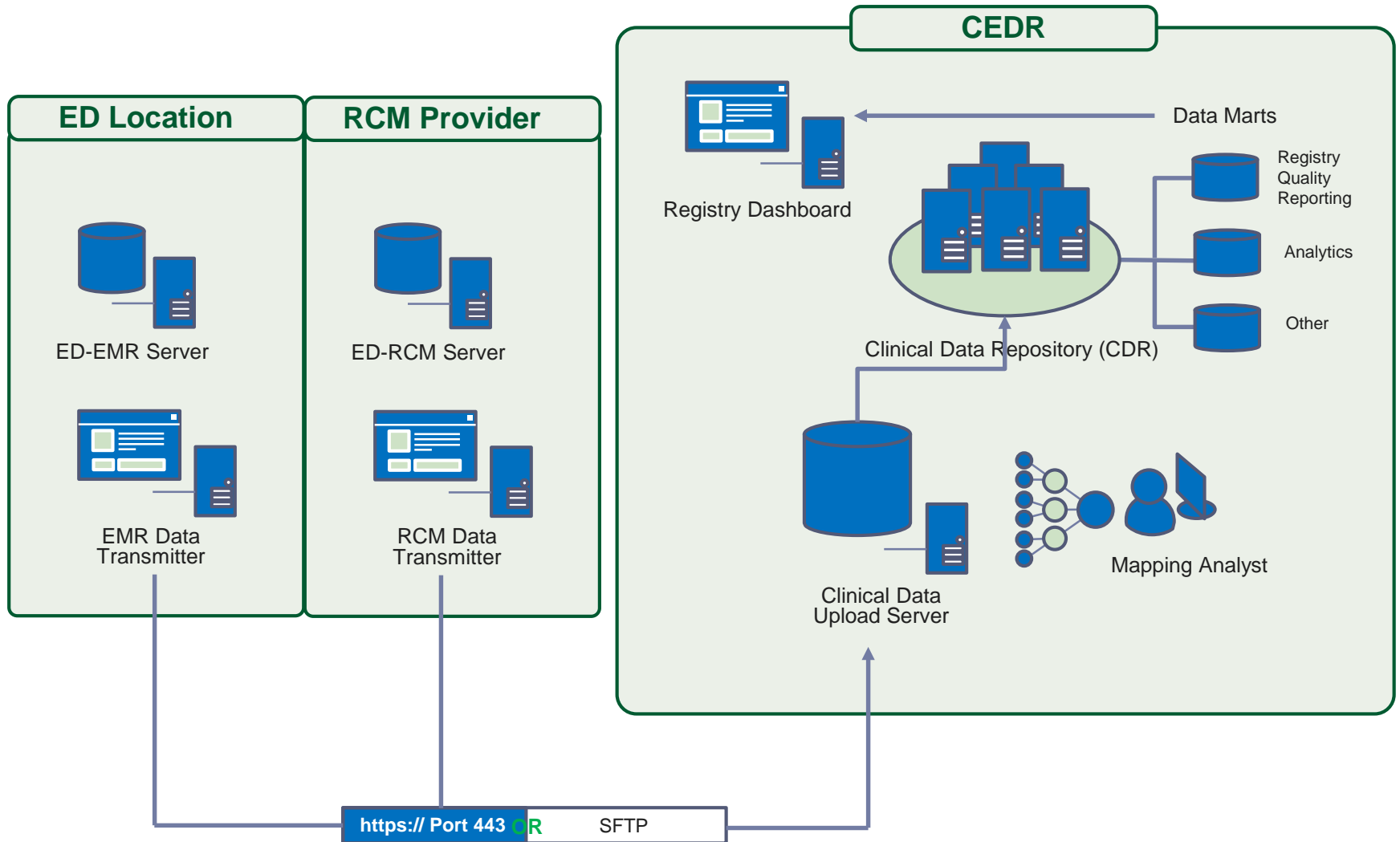
*The time it takes to complete the Push methodology varies significantly across hospitals, depending on the format and quality of the data, the amount of ED IT resources, and the level of engagement of the participating ED staff



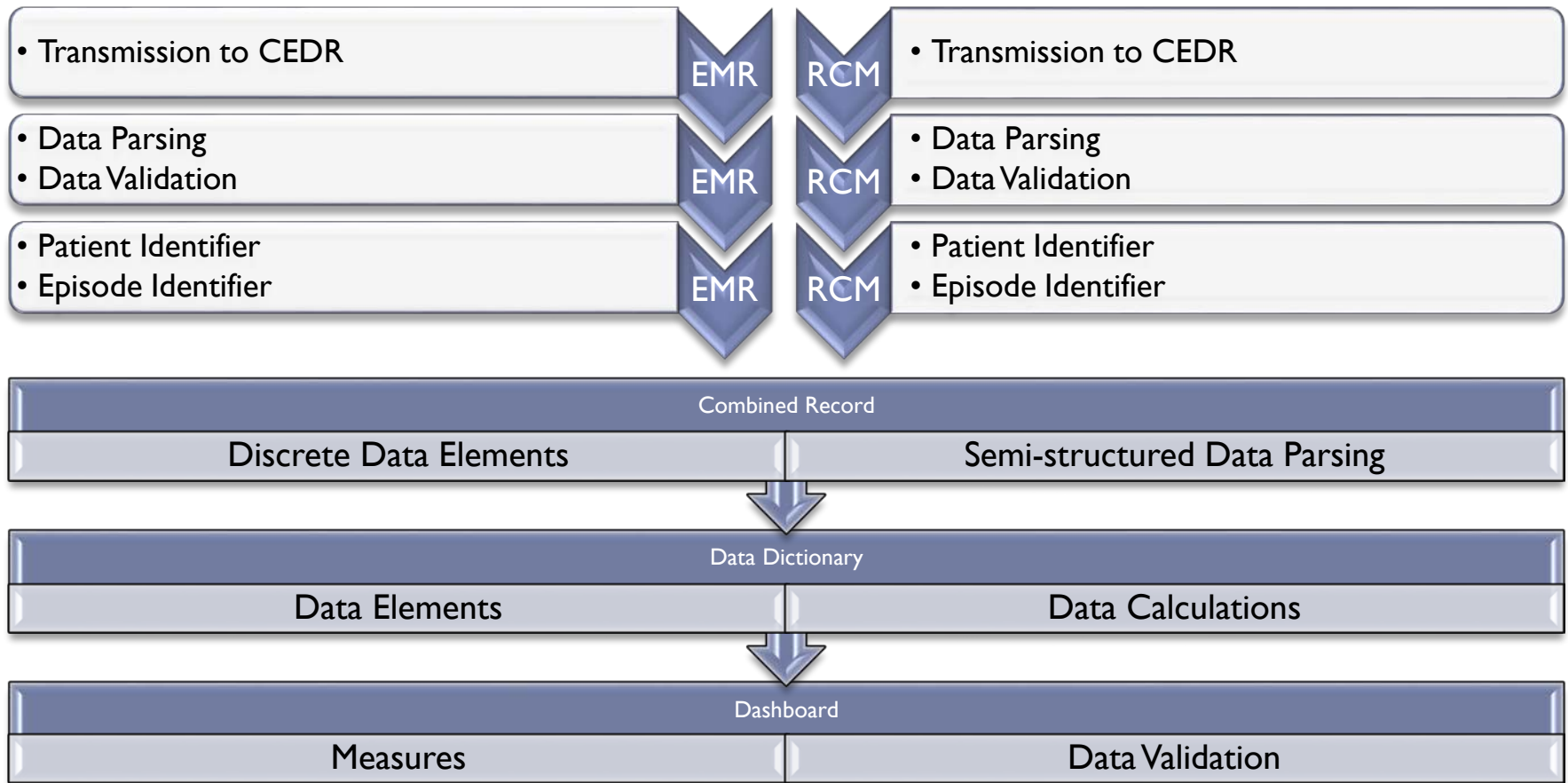
CEDR - Get the Data

- CEDR collects structured and unstructured data
- Natural language processing software is used to read unstructured data
- CEDR team will work with ED IT team to collect data
- ED Clinical Lead will ensure accurate data mapping and measures calculation

CEDR Data Flow



CEDR Data Mapping Process



CEDR Multiple Sources of Data

Multiple sources of Data that CEDR has worked with

- EPIC
- Cerner
- Meditech
- Allscripts
- PICIS
- Merge Financials
- Wellsoft
- T-system
- MEDHOST EDIS
- Paragon WebStation
- Soarian EDIS
- Medpoint
- Forerun



CEDR Hosting

- ▶ AWS Cloud environment is SSAE-16, PCI-DSS, FISMA, ISO 27001, SOC-I, II, III certified.
- ▶ Access to FIGmd Corporate Headquarters is controlled by video monitoring, Biometric scan systems at each door, visitor registration, and badge access.
- ▶ FIGmd, Inc. has designed HIPAA and Security Awareness Training Program for entire workforce.
- ▶ Limit uses & disclosures of PHI to the "minimum necessary"
- ▶ Internal Audits and Security reviews on going basis.
- ▶ All required policies and procedures are created and controls are in place.



CEDR HIPAA & Security Features

- ▶ CEDR standards exceed industry standards for data security and management
- ▶ All data is handled in accordance with HIPAA requirements
- ▶ Data is encrypted while in motion and at rest
- ▶ Stringent security policies exceeding industry standard
 - ▶ Registry staff can only access data in a clean environment
 - ▶ Physical restrictions regarding usage of smart phones in work areas
 - ▶ Portable drives are banned
 - ▶ Restricted access to public e-mail systems



CEDR Technical Output

- ▶ Groups will be given access to their dashboard to view their data
- ▶ Groups/EDs can query their data and generate reports
- ▶ Groups/EDs can measure performance across measures for multiple locations and providers
- ▶ Dashboard is accessible via an ACEP login
- ▶ Physicians can view their individual performances and determine which measures they want to report
- ▶ Administrators/ED Directors can view group level performances



CEDR Dashboard – Measure View

Registry Dashboard | <https://cedr.acep.org/Dashboard/Default.aspx> | Search

Most Visited | Getting Started | CEDR Dashboard

bmalcolm | **CEDR** CLINICAL EMERGENCY DATA REGISTRY

Dashboards > Physician Group | **Physician Group:** Demo Group 3 | Last updated on: No information available

2016Q4 | ROLLING | Measure Set: ACEP | ALL | FAVORITES

Physician | Exceeding: 6 | Below: 6

ID	MEASURE	DOMAIN	PERFORMANCE	STATUS	Actions
ACEP 19	Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older	Efficiency and Cost Reduction	81.44% (Registry Average: 75.38%)	Exceeding	Star, Info, Print
ACEP 21	Coagulation Studies in Patients Presenting with Chest Pain with No Coagulopathy or Bleeding	Efficiency and Cost Reduction	32.26% (Registry Average: 28.51%)	Below	Star, Info, Print
ACEP 23	Anti-coagulation for Acute Pulmonary Embolism Patients	Patient Safety	1.45% (Registry Average: 47.59%)	Below	Star, Info, Print
ACEP 24	Pregnancy Test for Female Abdominal Pain Patients	Patient Safety	43.50% (Registry Average: 54.04%)	Below	Star, Info, Print
ACEP 25	Tobacco Screening and Cessation Intervention	Community-Population Health	0.05% (CMS Benchmark: 89.05%) (Registry Average: 19.42%)	Below	Star, Info, Print
ACEP 26	Sepsis Management: Septic Shock: Lactate Level Measurement	Clinical Effectiveness	0.95% (Registry Average: 46.52%)	Below	Star, Info, Print
ACEP 27	Sepsis Management: Septic Shock: Antibiotics Ordered	Clinical Effectiveness	100.00% (Registry Average: 31.28%)	Exceeding	Star, Info, Print
ACEP 28	Sepsis Management: Septic Shock: Fluid Resuscitation	Clinical Effectiveness	98.52% (Registry Average: 97.03%)	Exceeding	Star, Info, Print
PQRS 116	Antibiotic treatment for adults with acute bronchitis: avoidance of inappropriate use	Efficiency and Cost Reduction	27.16% (Registry Average: 93.89%)	Below	Star, Info, Print
PQRS 317	Preventive Care and Screening: Screening for High Blood Pressure and Follow-Up Documented	Community-Population Health	81.65% (CMS Benchmark: 57.52%) (Registry Average: 45.02%)	Exceeding	Star, Info, Print
PQRS 415	ED Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18+ Years	Efficiency and Cost Reduction	95.75%	Exceeding	Star, Info, Print

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CEDR Dashboard – Measure Detail

The screenshot shows a web browser window displaying the CEDR Dashboard. The main content is a modal window for 'Demo Group 3' showing the performance of 'Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older'. The dashboard includes a sidebar with navigation options like 'Dashboards', 'Physician Group', and 'Administration'. The background shows a list of other measures with their respective performance metrics and registry averages.

Demo Group 3

Emergency Department Utilization of CT for Minor Blunt Head Trauma for Patients Aged 18 Years and Older

92.86 %
Registry Average 51.50 %

PERFORMANCE TREND | EDs | PROVIDERS | ALL

PERFORMANCE TREND

QUARTER	ALL	MET	NOT MET	%
2016Q4	14	13	1	92.86 %
2016Q3	14	13	1	92.86 %
2016Q2	12	11	1	91.67 %
2016Q1	12	11	1	91.67 %

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CEDR Customer Profile

	2015	2016	2017
Number of Providers	262	2,143	15,000+
Number of Patient Visits	458,263	3M +	15M +
Number of ED Engaged	14	70	800+
Number of EMR/EDIS	4	14	14
Performance Measures	27	42	42



Summary

- ▶ ***Big Data is a bigger and more complex metrics project.***

- ▶ ***Critical success factors are:***
 - ▶ Good project management techniques and tools
 - ▶ Continuous, collaborative communication with stakeholders
 - ▶ Having a strong governance process
 - ▶ Identification and recognition of created value
 - ▶ Appropriate use of new hardware and software capability



Questions and Discussion

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Wrap up and Thanks

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co-chairs

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