

Contra Costa County Data Infrastructure Project



Out of Chaos... Organization?

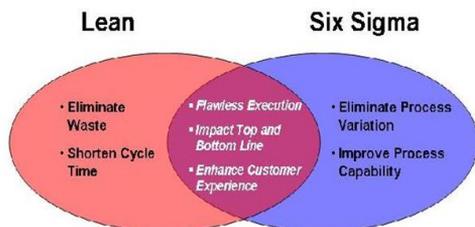
Patricia Frost RN, MS
Director Contra Costa
Emergency Medical Services

EMS System Data Environment

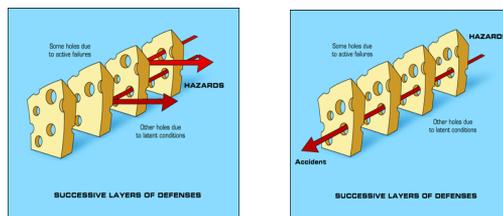
- 86,134 EMS Responses
- 64527 Transports
- 25 EMS Data System Sources
 - 9 Emergency Receiving Hospitals
 - 9 Fire Districts
 - 3 Fire-EMS Dispatch
 - 3 Emergency Ambulance Providers
 - 1 Base Hospital
- National, State and Local Platforms
- Clinical/QI (Core Metrics)
- Trauma System (Local and Region)
- STEMI System (Local)
- Stroke System (Local and State)
- EMS Disaster Communications
 - ReddiNet and Radio Testing



Contra Costa Health Services IHI and Lean Six Sigma Culture



Systems are Perfectly Designed to Produce Success and Failure



Intelligent Design-Coordination (Processes)-Protocols (Standard Work)

Contra Costa EMS Experience Patient Care Data and HIE

- MEDS (AMR)
 - 2004
- First Watch
 - 2006
- Zoll (Fire)
 - 2007
- HL7-Ready Platforms
 - January 2014
- CARES
- Trauma One
- California Stroke Registry
- LifeNet & CodeSTAT



The Problem

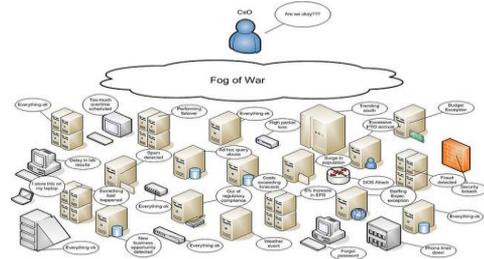
Staff working for the Data Systems



With Lots of Heavy Lifting



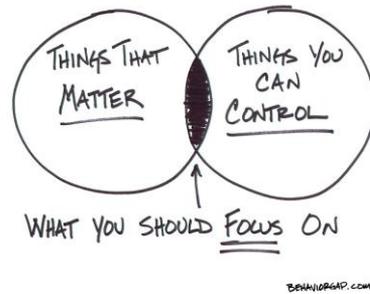
Drowning in Data...Starving for Information



Fragile Data Systems Single (People) Points of Failure



Objective: Develop the Reliable Data Infrastructure to Focus on the "What Matters"



Began with the Simple Questions... What Do We Currently Do?



And Is There An Easier Way?

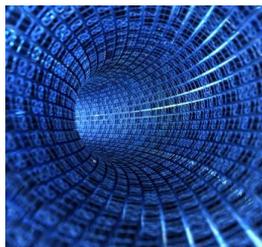
CCEMS Project Deliverables



- Workflow assessment and recommendation
- Pilot dashboard development supporting EMS System data integration
- Explore CCHS EPIC Health Information Exchange Opportunities

Pre-hospital Data Integration Assessment and Implementation Support

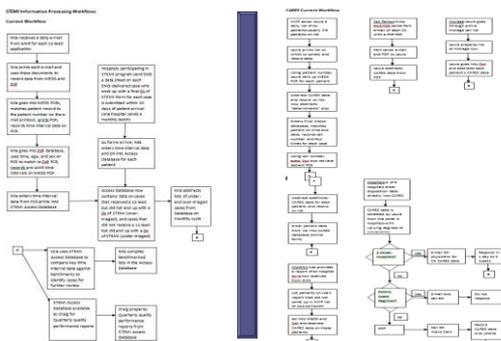
- **Data Silos:** 13 individual information systems
- **Staff Intensive Data Workflows:** Report Access and Automation Gaps
- **Internal and External Costs:** Supporting Data Management
- **Unique Opportunity:** By 2016 hospitals countywide on EPIC.



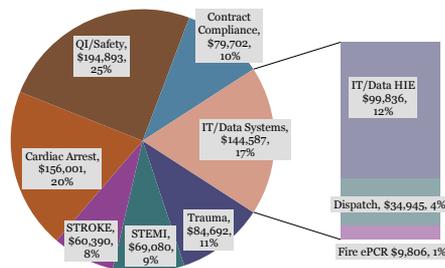
Information Processing Workflow

Program	Current Flow	Current Staff	Opportunity
Trauma	20 steps	2-3 EMS staff, 1 hospital, 20+ MICN/ED staff & field personnel	9 steps
Stroke	22 steps	2-3 EMS staff, 7 hospital staff, field personnel	7 steps
STEMI	13 steps	2-3 EMS staff, 6 hospitals, ED staff, field personnel	4 steps
CARES	28 steps	4-5 EMS staff, 9 hospitals, ED staff, field personnel	16 steps

Findings: Unsustainable Workflows



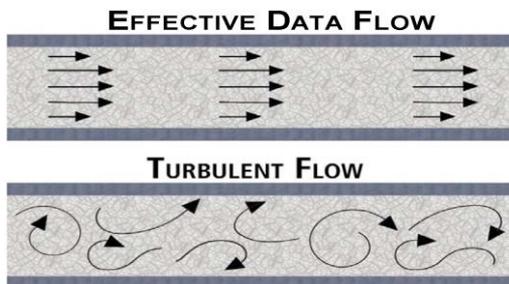
Findings: Unsustainable Costs Data Management & Oversight by Program Annual Expenditure : \$ 984,238



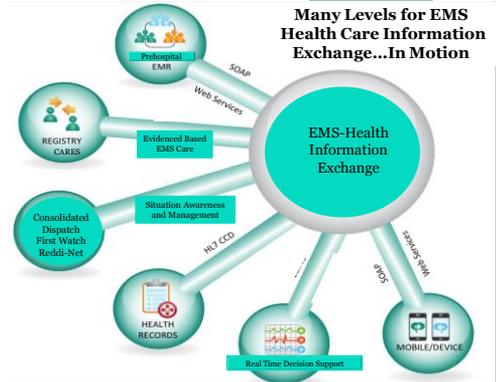
So What Have We Learned So Far?



Planning for Efficient Data Flow Is a Challenging but Solvable Problem



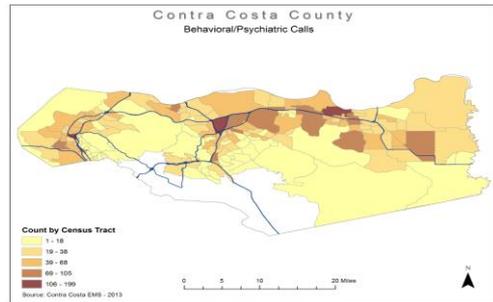
Right Tools for the Job Needed



EMS as a Valued Partner Delivery of Population Based Health Care



Matching Patient Need to Health Care Resource Mobile Mental Health Services



Understanding Workflows Essential

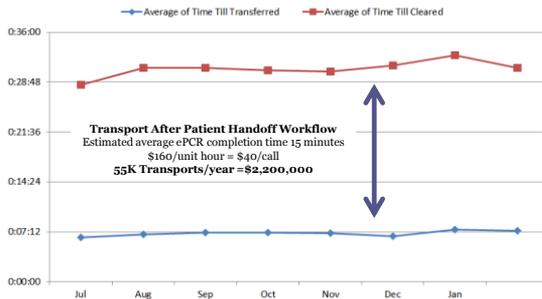


We Have Had Successes STEMI 12 lead System-Wide HIE

- **What We Did (Consensus)**
 - Entire STEMI System Wired
 - 6 STEMI Centers
 - Single Spec for 12 lead monitors
 - All ALS First Responders
 - All ALS Transport Providers
- **What It Took (\$\$\$\$\$)**
 - AFG Regional Grant for over 2 million
 - 850K of matching EMS funding
 - National Vendor Savings 350K
 - Each STEMI Center buying own transmission platform (LifeNet: 10K per year)

\$ 5,000 per false activation
False Activation Rate 26-41%
Potential STEMI Center Savings \$25,000 - \$80,000/year/hospital
Total (6 SRC): \$150,000 - \$480,000/ Annual system savings

EMS-ED ePCR Workflow Costs



EPIC-EMS/ED Interface Exploration Patient Disposition Access

View | Refresh | Export

ID	Type	Unit Code	Patient	Disposition	Unit
1001	Discharge	001000	Smith, Dan (001000)	DISCHARGE	EMERGENCY DEPARTMENT
1002	Discharge	001000	Johnson, Thomas (001000)	DISCHARGE	EMERGENCY DEPARTMENT
1003	Discharge	001000	Carson, David (001000)	DISCHARGE	EMERGENCY DEPARTMENT
1004	Admission	001000	Miller, Robert (001000)	ADMISSION	EMERGENCY DEPARTMENT
1005	Discharge	001000	White, Carl (001000)	DISCHARGE	EMERGENCY DEPARTMENT
1006	Admission	001000	Lambert, Victor (001000)	ADMISSION	EMERGENCY DEPARTMENT
1007	Discharge	001000	Green, Paul (001000)	DISCHARGE	EMERGENCY DEPARTMENT
1008	Discharge	001000	Evans, Mary (001000)	DISCHARGE	EMERGENCY DEPARTMENT
1009	Discharge	001000	Smith, Dan (001000)	DISCHARGE	EMERGENCY DEPARTMENT
1010	Discharge	001000	Miller, Robert (001000)	DISCHARGE	EMERGENCY DEPARTMENT
1011	Discharge	001000	Smith, Dan (001000)	DISCHARGE	EMERGENCY DEPARTMENT

Forging Ahead... Data Pathways for Valued-Based Health Outcomes



ARE WE THERE YET?

No.



SUCCESS

Because you too can own this face of pure accomplishment



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