FIRST PASS

FirstWatch customer Chuck Walker, Clinical Services Coordinator for Sunstar Paramedics, uses FirstPass to enhance their QI process

Many of our FirstPass Customer Partners:

Advanced Medical Transport, IL | Alachua CO Fire Rescue, FL | Alameda County EMS - LEMSA Regional Host, CA | Alameda County EMS - Alameda County Fire, CA | Alameda County EMS - Albany Fire, CA | Alameda County EMS - City of Alameda Fire, CA | Alameda County EMS - Berkeley Fire, CA | Alameda County EMS - Fremont Fire, CA | Alameda County EMS - Hayward Fire, CA | Alameda County EMS - Livermore Pleasanton Fire, CA | Alameda County EMS - Oakland Fire, CA | Alameda County EMS - Piedmont Fire, CA | Allina Health EMS, MN | American Ambulance Visalia, CA | AMR Blount County, TN | AMR CSA 17, CA | AMR Imperial County, CA | AMR Portland, OR | AMR San Bernardino, CA | AMR San Diego, CA | AMR Santa Barbara, CA | AMR Santa Clara, CA | AMR Santa Cruz, CA | AMR Ventura, CA | Anchorage Fire, AK | Austin - Travis County EMS, TX | Baltimore City Fire Department, MD | Bay Medic Ambulance, CA, CA | Bell Ambulance, WI | Brewster Ambulance Service, MA | Broken Arrow Fire, OK | Brunswick County, NC | Calvert County EMS, MD | Cetronia Ambulance Corps, PA | Charles County EMS, MD | CHRISTUS EMS, TX | City of Baton Rouge/Parish of East Baton Rouge EMS, LA | Citywide Mobile Response, NY | Clackamas County Fire - Regional System, OR | Clackamas County Fire - Canby Fire Dist, OR | Clackamas County Fire - Clackamas Fire Dist 1, OR | Clackamas County Fire - Colton Rural Fire Prot Dist 70, OR | Clackamas County Fire - Gladstone Fire Dept., OR | Clackamas County Fire - Hoodland Fire Dist 74, OR | Clackamas County Fire - Lake Oswego Fire Dept., OR | Clackamas County Fire - Molalla Fire Dist., OR | Clallam County Fire District 3, WA | Collier County EMS, FL | Community Ambulance, NV | Community Ambulance (Henderson NV), NV | Community Ambulance, MidGA, GA | CONFIRE JPA (San Bernardino), CA | Contra Costa BLS Transport, CA | Contra Costa County EMS (Regional Host), CA | Cox Health, MO | Cy-Fair, TX | DC Fire and EMS, DC, DC | Durham County EMS, NC | Eagle Ambulance, CA | Eastern PA EMS Council - Regional Host, PA | El Dorado County EMS, CA | Empress Emergency Medical Service, NY | EMSA, OK | Falck Alameda County, CA | Falck Northwest, OR | Falck Rocky Mountain, CO | Falck San Diego, CA | Falcon Ambulance, CA | Fire Department New York, NY | Gaston County EMS, NC | Gold Cross Ambulance, WI0 | Guilford County EMS, NC | Hackensack UMC EMS, NJ | Hall Ambulance Service, CA | Hall Ambulance - Kern County EMS, CA | Hamilton Paramedic Service, ON - Canada | Harris County Emergency Corp., TX | Harris County ESD No 11, TX | Huntsville Emergency Medical Services Inc. (HEMSI), AL | Mercy Flights (Regional Host), OR | Mercy Flights - Jackson County Fire Dist. 3, OR | Mercy Flights - Medford Fire Department, OR | Jamaica/Flushing Hospital, NY, NY | Jersey City EMS, NJ | JFK EMS, NJ | Johnson County, KS | Kanawha County Ambulance, WV | Kirkland Fire Department, WA | Lake EMS, FL | Las Vegas Fire Rescue, NV | Lassen County EMS, CA | Leon County EMS, FL | Life EMS MT, MI | LifeLine EMS, CA | LifeNet EMS, TX | Loudoun County FD, VA | MAAS, GA | Maimonides Medical Center, NY | Manatee County, FL | Mayo Clinic Medical Transport, MN | McCormick/AMR Ambulance, CA | Medical Center EMS Bowling Green, KY | MedStar, TX | Menlo Park Fire Department, CA | Mercy Medical Transportation, CA | Middlesex London, ON - Canada | Milwaukee Fire Department, WI | MONOC, NJ, NJ | Montgomery County FRS, MD | Mount Sinai Health System, NY | Mountain Valley EMS - LEMSA, CA | Mountain Valley EMS - Mercy Ambulance, Mariposa, CA | Mountain Valley EMS - American Legion Ambulance, CA | Mountain Valley EMS - Ebbetts Pass Fire, CA | Napa County EMS, CA | New Castle County EMS, DE | New Hanover EMS, NC | Niagara EMS, Canada | NorCal Ambulance, CA | North Collier Fire & Rescue, FL | North Shore Fire Rescue, WI | Northwell Health (MT), NJ | Northwell SkyHealth, NJ | NYC 911 - Lenox Hill, NY | NYC 911 Queens & Manhattan, NY | NYC 911 Staten Island, NY | NYU Langone Health, NY | Onslow County EMS, NC | Ontario Fire Dept., CA | Orange County Fire & EMS (VA), VA | Pasco County Fire Rescue, FL | PatientCare EMS (Sioux Falls), SD | Pinellas County Fire/EMS - Regional Host, FL | Portage Public Safety Fire Division, MI | Prince George's County Elite, MD | Prince George's County Fire/EMS, MD | Prince William County, VA | ProEMS, MA | Reedy Creek Improvement District, FL | Region of Waterloo EMS, CAN, Canada | Regions EMS, MN | Richmond University Medical Center, NY | Riggs Ambulance, CA | Riverside County EMS - LEMSA, CA | Robert Wood Johnson, NJ | Royal Ambulance, CA, CA | Robert Wood Johnson - Barnabas, NJ | San Diego Fire-Rescue, CA | San Marcos Hays County EMS, TX | San Mateo County EMS (New), CA | Santa Barbara County EMS, CA | St. Charles County Ambulance District, MO | Sedgwick County EMS, KS | SeniorCare Emergency Medical Services, NY | South King County Washington Training Consortium, WA | SNOPAC (Snohomish Regional Fire and Rescue), WA | Solano County EMS - Medic Amb, CA | AMR Sonoma County - REDCOM, CA | Spokane Fire Dept., WA | Stanislaus County EMS - AMR, CA | Stanislaus County EMS - LEMSA, CA | Stanislaus County EMS - Modesto Fire, CA | Stanislaus County EMS - Oak Valley, CA | Stanislaus County EMS - Pro-Transport, CA | Stanislaus County EMS - Stanislaus Fire, CA | Stanislaus County EMS – Patterson Fire, CA | Stanislaus County EMS - West Side Ambulance, CA | Stockton Fire Dept., CA | Sumter County Fire & EMS, FL | Three Rivers Ambulance, IN | Trinity EMS, MA | Tucson Fire Department, AZ | UC Health EMS, CO | UHEMS (Formerly UMDMJ), NJ | UMC-Lubbock, TX | Vancouver Fire Dept./AMR, WA | Washington Township Fire, OH | Western Berks Ambulance, PA | Westmed Ambulance, CA | Williamson County Communications Center TX, TX | Williamson County EMS (Clinical Protocols), TX | Winnipeg Fire Paramedics, Canada | Wyckoff Hospital EMS, NY | Yolo County EMS, CA

LET US SHOW YOU HOW FIRSTPASS CAN HELP.

FIRST WATCH®

A word from our Improvement Guide

Almost every EMS system has something with the word quality in it: a quality plan, a peer review QI committee or a quality improvement manager. Yet when you ask EMS leaders what their quality program has made better, shoulders shrug and the subject changes. Somewhere along our path we seem to have forgotten the improvement part of quality improvement. So how do we put the missing 'I' back into Quality Improvement?

Improvement success comes from making the Model for Improvement a regular part of the EMS organization, and it comes from effectively measuring your efforts. In these EMS organizations, the principles and practices associated with the science of improvement have been integrated into their DNA. They monitor their performance data in all vital areas of their operations, so they are able to spot problems before they get out of control.

There is no one right process or theory for how to do this, but we must expose and train our employees to these ideas in order to make improvement thinking automatic. We cannot simply say "we will now be a performance improvement oriented organization."

At FirstWatch it is our goal to help provide you with the tools to help your organization and employees become successful, improvement oriented systems, and to also help you understand how our FirstWatch real-time, quality improvement tools can fit into your organization's overall Quality Improvement program. The next time someone asks you those "What have you improved lately" questions, you can answer with confidence, and data!

- Mike Taigman, FirstWatch Improvement Guide

Automate performance measurement so you can focus on what matters most - your patients.

What is FirstPass?

The traditional approach to Quality Improvement in EMS is labor intensive, time consuming and often confusing, leaving little time to actually improve care. EMS agencies need the ability to monitor and analyze patient care data, identifying deviations rapidly, consistently and automatically.

FirstPass® is a Performance Improvement system that makes it easy for you to see your systems overall performance for clinical care and billing. It helps you quickly identify big areas that need improvement and then helps you figure out what improvement action will produce the best result. It also makes call review, protocol compliance monitoring, and pre-billing review fast and easy. With FirstPass you can let the computer do the initial review of all of your calls, saving your staff for the things computers can't do.

FirstPass does not only tell you when a call is flagged because it did not meet protocol, but it also tells you WHY the call flagged.

How does it work?

FirstPass provides continuous monitoring of ePCR and other data. It quickly reviews each call based on your specifications and flags calls for review when based on the ePCR something is amiss, clinical issues, urgent patient safety issues, or missing data elements.

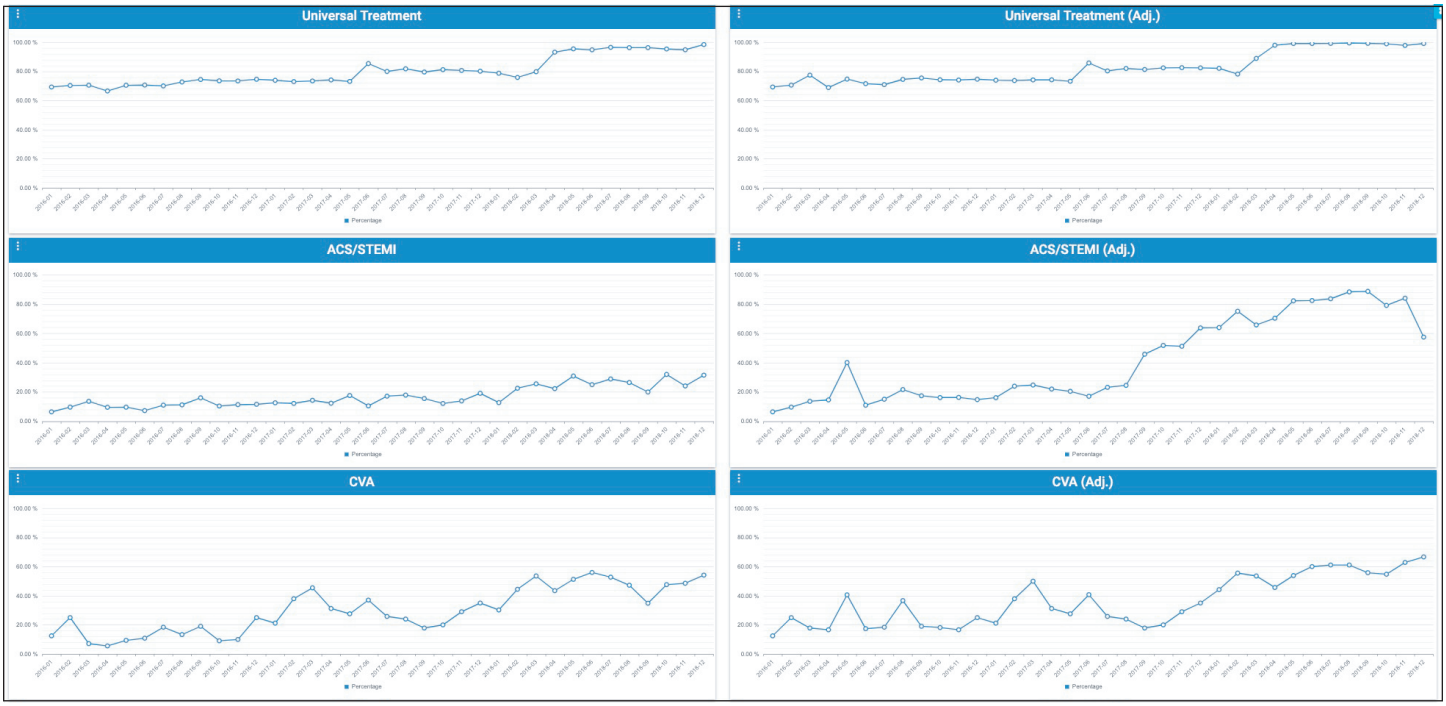
We offer a standard bundle of FirstPass protocols including ACS/STEMI, Stroke, Trauma, Airway Management, Cardiac Arrest, and Universal. All of these or other protocols that you'd like to monitor will be customized to meet your needs.

Each of your FirstPass protocols feeds data into a dashboard that displays all of your system performance on one constantly updating page. The display allows you to see how you've performed over time for the things that matter most. With one click you can drill into each protocol to see the performance of all of the sub components that make up a protocol. This allows you to fine-tune your performance improvement efforts like never before.

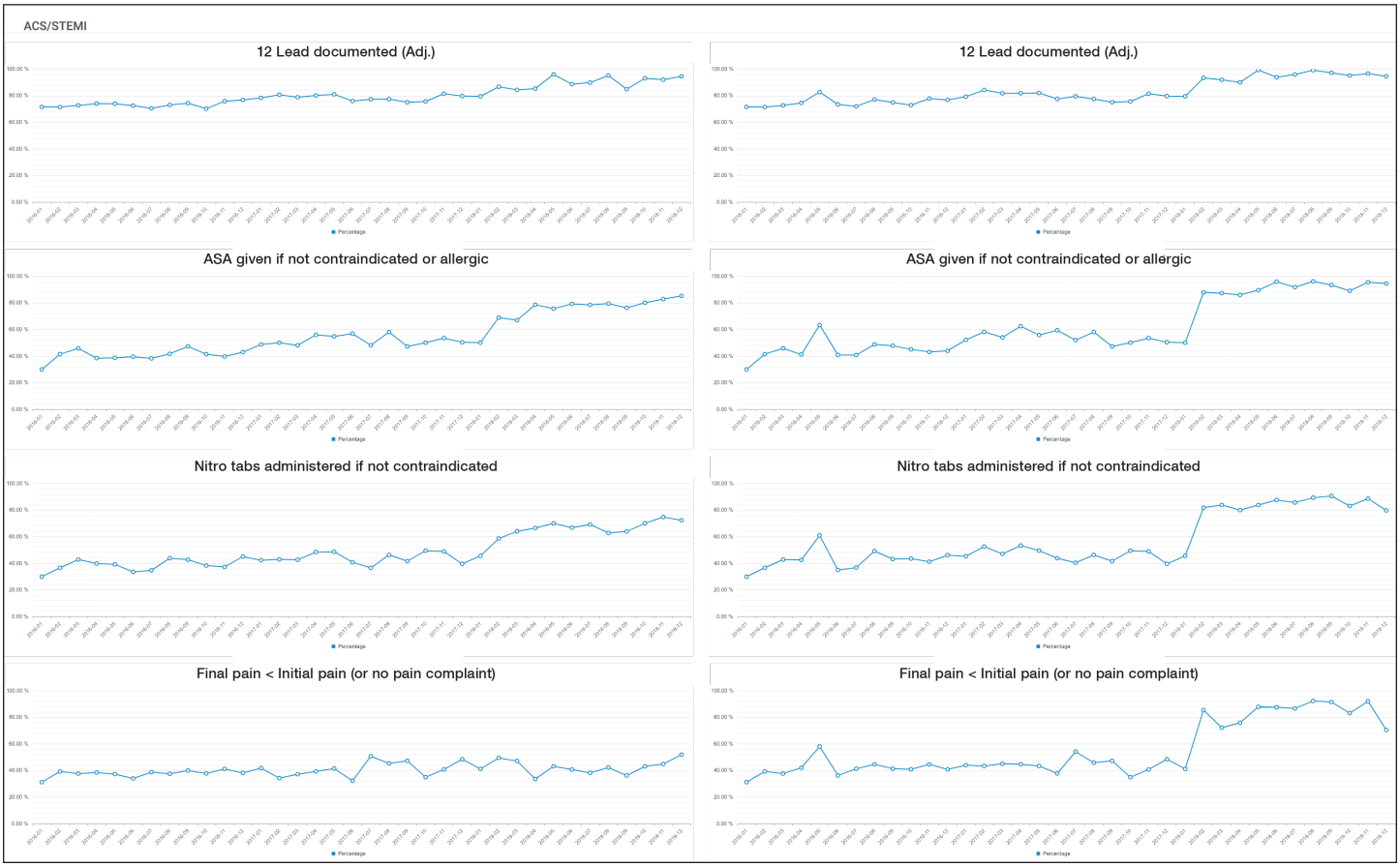
FirstPass v3 Interface

ENHANCEMENT MODULE

The FirstPass Dashboard has run charts or control charts that display your system's performance to your protocols over time. This makes it easy to see if the training, protocol change, or other improvement you've implemented resulted in actual improvement. These charts make it easy for your team to know where to focus your quality improvement efforts.



Drill down into charts for a view of individual test performance.



FirstPass v3 Interface

ENHANCEMENT MODULE

FirstPass makes it easy to see how an individual provider's performance compares to their previous performance and the system overall for each individual test.

FIRST WATCH | Dashboard | FirstPass | Reports | MIKE TAIGMAN DEMO

Clinical Review 8194459 | CLOSE CALLS

Flow

Owner: [None] | Status: [Clinical Review] | Overall Exception(Adj All Tests): [None] | Resolution: [None]

Assigned To: [None]

SAVE | SAVE & CLOSE

Protocol: Refusal * | Filter: All | Date range: 12/18/2017 - 12/18/2018 | LOAD | Show Test ID?

Protocol	Test	Pass/Flagged	Adj. Pass/Fl...	Provider	System %	Test Exception
Refusal	Two complete sets of vitals at least four minutes apart	⚑		65.69% (102)	82.56% (36529)	[None]
Refusal	Final GCS = 15	✓		77.34% (128)	93.90% (45498)	[None]
Refusal	Chief Complaint documented	✓		79.69% (128)	97.03% (45498)	[None]
Refusal	Hx, Current Meds and Allergies documented	✓		78.13% (128)	96.15% (45498)	[None]
Refusal	Patient Witness Signature Obtained	✓		76.56% (128)	90.58% (45498)	[None]
Refusal	Narrative > 150 characters	✓		89.06% (128)	98.49% (45498)	[None]
Refusal	Free text "Decisional Capacity" present	⚑		75.00% (128)	92.58% (45498)	[None]

The FirstPass gives you the ability to send direct feedback to crew members regarding a specific call.

Feedback to Crew

EXIT

* TO: Todd Stout

From reviewer: Mike Taigman

Incident #: 8195913

Response Date: 12/21/2018 11:55:32 PM

* Subject: Please Call Me Regarding Incident 8195913

159 characters remaining

* Reviewer Comment:

This looks like a complex patient. Noticed that aspirin was not documented and there's nothing that says that the patient was allergic or took it prior to arrival. Looking over your last 100 chest pain cases it seems like we are missing this about 24% of the time. I'd like to talk with you about how to close the gap.

FirstPass Standard Reports

Provider Protocol Compliance

Display compliance of protocols and compare them against the system for the same time frame selected. Individual tests can be selected to view the incidents used for compliance reporting.

12 of 36 Find | Next

Provider Protocol Compliance

Date Range: 7/17/2017 to 7/23/2017

Completed By	Avg Adj Percent	Test	Total Incidents	Test %	System Test %	RAW Protocol %	Adjusted Protocol %
Provider	1	Universal	1	100.00%	90.04%	100.00%	100.00%
Provider	1	Cardiac Arrhythmias	2	91.67%	97.22%	0.00%	50.00%
		Pain Management	5	98.00%	94.30%	80.00%	80.00%
		Universal	8	87.50%	90.04%	25.00%	25.00%
Provider	1	Universal	4	95.83%	90.04%	75.00%	75.00%
Provider	1	Universal	2	100.00%	90.04%	100.00%	100.00%
Provider	1	Pain Management	1	100.00%	94.30%	100.00%	100.00%
		Universal	4	91.67%	90.04%	75.00%	75.00%
Provider	1	Pain Management	1	100.00%	94.30%	100.00%	100.00%
		Universal	3	100.00%	90.04%	100.00%	100.00%
Provider	1	ACS	1	66.67%	67.93%	0.00%	0.00%
		Cardiac Arrhythmias	5	96.67%	97.22%	60.00%	100.00%
		Pain Management	3	100.00%	94.30%	100.00%	100.00%
		Universal	10	96.67%	90.04%	80.00%	80.00%

Completed By	Avg Adj Percent	Test	Total Incidents	Test %	System Test %	RAW Protocol %	Adjusted Protocol %
Provider	1	Universal	1	100.00%	90.04%	100.00%	100.00%
Provider	1	Cardiac Arrhythmias	2	91.67%	97.22%	0.00%	50.00%
		Pain Management	5	98.00%	94.30%	80.00%	80.00%
		Universal	8	87.50%	90.04%	25.00%	25.00%
Provider	1	Universal	4	95.83%	90.04%	75.00%	75.00%
		Two sets of vital signs > four minutes apart		100.00%	83.06%		
		If ALS SpO2 measured and if <95% O2 administered		100.00%	97.50%		
		AVPU or GCS documented		100.00%	94.71%		
		At least one Pain Scale if patient alert		100.00%	96.41%		
		Impression documented		100.00%	91.69%		
		Medical History, Medications, and Allergies documented		75.00%	76.88%		

Expand Provider Name to view compliance to individual test within each protocol

FirstPass Standard Reports

Summary of Tests by Protocol

This displays the system protocol compliance. When the protocol is expanded, the individual protocol test information and compliance is displayed. When expanded, this displays the protocol and the associated tests with their system-wide compliance.

1 of 1 Find | Next

Summary of Tests by Protocol

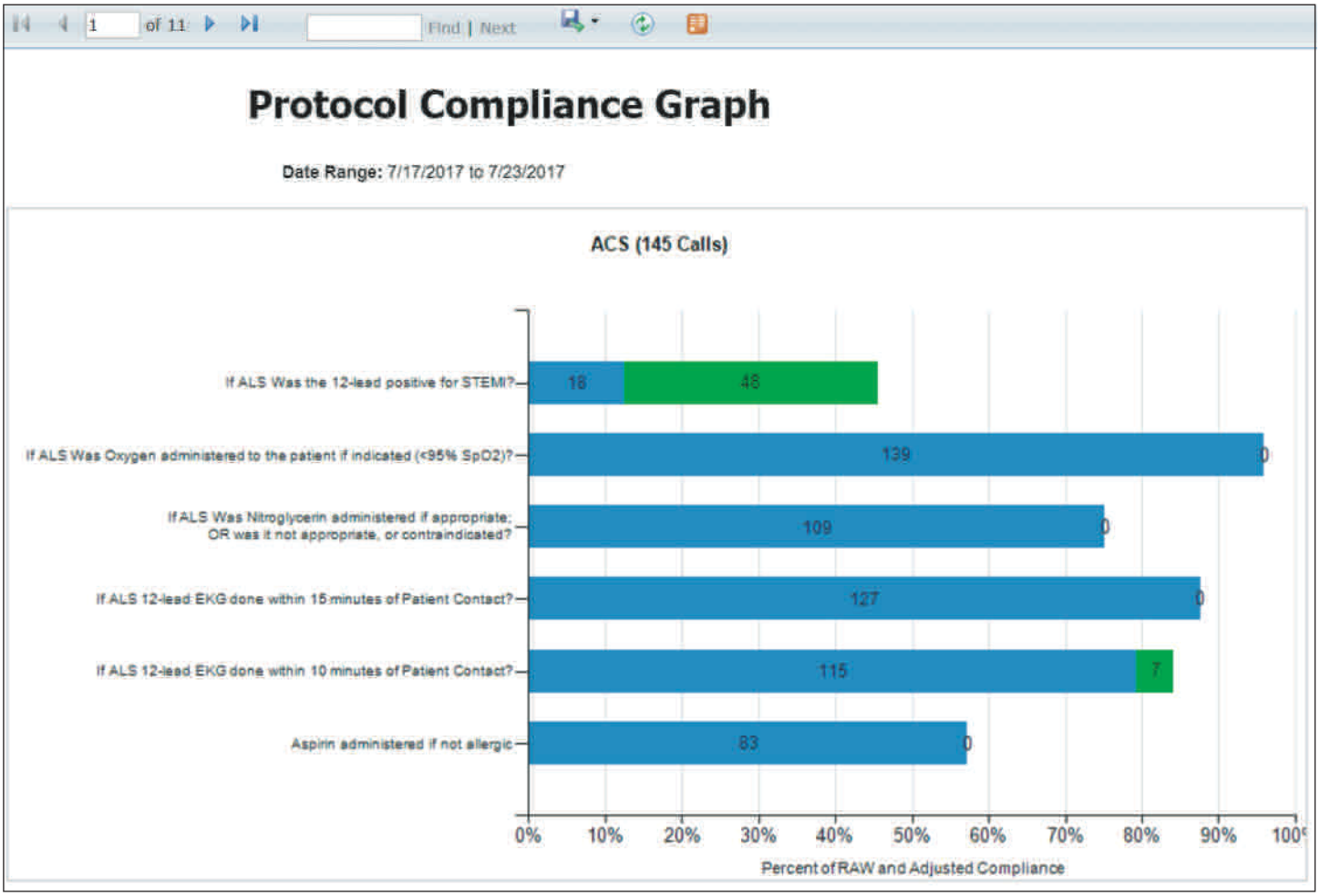
Date Range: 7/17/2017 to 7/23/2017

Protocol	Test	Total	Yes		No	
⊞ ACS		145	98.50	67.93%	46.50	32.07%
⊞ AMS		133	124.67	93.73%	8.33	6.27%
⊞ Behavioral		114	99.00	86.84%	15.00	13.16%
⊟ Cardiac Arrest		17	11.88	69.85%	5.13	30.15%
	Was CPR performed if HR absent or <30?		14	82.35%	3	17.65%
	If ALS, was IV/IO access established within two attempts		17	100.00%	0	0.00%
	If ALS Was an Advanced Airway established within two attempts?		9	52.94%	8	47.06%
	If ALS If Advanced airway placed, was ETCO2 documented to confirm placement?		17	100.00%	0	0.00%
	If patient transported, did ROSC occur?		7	41.18%	10	58.82%
	If ALS If patient transported with Advanced Airway, was ETCO2 measured after patient was in the ambulance?		15	88.24%	2	11.76%
	If ALS If patient transported with an advanced airway, was ETCO2 measured upon arrival at the hospital?		14	82.35%	3	17.65%
	If patient transported, did they have pulses upon arrival at the ED?		2	11.76%	15	88.24%
⊞ Cardiac Arrhythmias		180	175.00	97.22%	5.00	2.78%
⊞ Pain Management		632	596.00	94.30%	36.00	5.70%
⊞ Respiratory Emergencies		125	117.40	93.92%	7.60	6.08%
⊞ STEMI		4	3.33	83.33%	0.67	16.67%
⊞ Stroke/CVA		16	14.67	91.67%	1.33	8.33%
⊞ Trauma		31	26.80	86.45%	4.20	13.55%
⊞ Universal		2119	1,908.00	90.04%	211.00	9.96%

FirstPass Standard Reports

Protocol Compliance Graph

This is a graphical representation of the tests for each protocol. The bar graph can be clicked to provide a detailed summary of all incidents that failed a particular test within a protocol. Drill through the graph to display incident information for each incident that failed within a protocol.



Drill-down:

Number of Incidents: 127			Protocol: ACS		Test: If ALS Was the 12-lead positive for STEMI?				
Incident Number	Run ID	RAW Test Result	Inc Date	Status	Problem	Unit	Chief Complaint	Crew 1	Crew 2
074491	43817518	FAIL	7/17/2017 4:18:32 AM	Under PI review	06D1 Breathing Problems	4M03	Syncope/Fainting		
074502	43818402	FAIL	7/17/2017 6:30:44 AM	Under PI review	32B3 Unknown Problems	4M07	Syncope/Fainting		
1202	43820381	FAIL	7/17/2017 9:11:00 AM	Under PI review	UNC - Unconscious Patient	11Y2			
1251	43820188	FAIL	7/17/2017 9:22:00 AM	Under PI review	CARD - Cardiac Condition	11X2	Syncope/Fainting		
1730	43821537	FAIL	7/17/2017 11:13:39 AM	Complete - Passed	DIFF BREATHING WITH CHEST PAIN	46Y2	Chest Pain		

FirstPass Standard Reports

Protocol Summary Report

Provides a count of incidents and displays the raw pass and count percentage as well as the adjusted pass count and percentage of incidents in FirstPass. Adjusted refers to incidents that were reviewed and found to have passed due to predetermined exception criteria.

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Protocol Summary

Criteria:

Date Range: 7/17/2017 to 7/23/2017

Protocol(s): All

Protocol	Total Incidents	RAW Pass Count	Adj Pass Count	RAW Protocol Compliance	Adj Protocol Compliance
ACS	145	57	57	39.31%	39.31%
AMS	132	77	91	58.33%	68.94%
Behavioral	113	62	62	54.87%	54.87%
Cardiac Arrest	14	0	0	0.00%	0.00%
Cardiac Arrhythmias	178	137	168	76.97%	94.38%
Pain Management	612	402	404	65.69%	66.01%
Respiratory Emergencies	124	75	110	60.48%	88.71%
STEMI	4	1	1	25.00%	25.00%
Stroke/CVA	16	11	13	68.75%	81.25%
Trauma	31	9	19	29.03%	61.29%
Universal	2,015	1,319	1,319	65.46%	65.46%
Total	3,384	2,150	2,244		

FirstPass Standard Reports

Call Review Status Report

This report displays which incidents in FirstPass have been assigned to individual reviewers and displays how long they have been in the queues for review. It is designed to track the time an incident is assigned in FirstPass and includes each of the users which can review incidents.

FirstPass Call Review Status

Date Range: 12/1/2018 to 12/31/2018

Status: All

Report set to auto-refresh every: **00:10:00**

Assigned To	Assigned At	Days Assigned	Status	Incident #	Incident Date/Time	Primary Protocol	Crew 1	Crew2
[redacted]		37	Protocol Flagged	6190629	2018-12-10 14:08:31	Pain Management	[redacted]	[redacted]
		37	Review	6191327	2018-12-10 16:18:51	Trauma	[redacted]	[redacted]
		37	Protocol Flagged	6190688	2018-12-10 14:15:43	Pain Management	[redacted]	[redacted]
		37	Protocol Flagged	6190313	2018-12-10 13:25:27	Pain Management	[redacted]	[redacted]
		37	Protocol Pass	6190154	2018-12-10 13:05:43	Pain Management	[redacted]	[redacted]
		37	Protocol Flagged	6191182	2018-12-10 15:48:37	Patient Refusal	[redacted]	[redacted]
		37	Protocol Pass	6190540	2018-12-10 13:57:53	Chest Pain	[redacted]	[redacted]
		37	Protocol Pass	6190449	2018-12-10 13:44:43	Chest Pain	[redacted]	[redacted]
		37	Protocol Pass	6191184	2018-12-10 15:43:51	Pain Management	[redacted]	[redacted]
		37	Protocol Flagged	6191608	2018-12-10 17:12:51	Pain Management	[redacted]	[redacted]
		37	Protocol Pass	6191746	2018-12-10 17:40:41	Pain Management	[redacted]	[redacted]
		37	Protocol Pass	6191804	2018-12-10 17:56:31	Bronchodilator	[redacted]	[redacted]
		37	Protocol Flagged	6191817	2018-12-10 18:00:02	Bronchodilator	[redacted]	[redacted]
		37	Protocol Flagged	6191670	2018-12-10 17:26:09	Pain Management	[redacted]	[redacted]
		37	Protocol Flagged	6191930	2018-12-10 18:23:05	Pain Management	[redacted]	[redacted]
		37	Protocol Flagged	6192115	2018-12-10 19:17:47	Pain Management	[redacted]	[redacted]
		37	Review	6191164	2018-12-10 15:43:51	Trauma	[redacted]	[redacted]
		37	Protocol Flagged	6192110	2018-12-10 19:17:07	Pain Management	[redacted]	[redacted]
		37	Protocol Flagged	6192013	2018-12-10 18:47:30	Pain Management	[redacted]	[redacted]
		37	Protocol Flagged	6191055	2018-12-10 15:16:19	Pain Management	[redacted]	[redacted]

FirstPass FAQs

How is FirstPass different from FirstWatch?

FirstPass is an add-on, enhancement module that sits on top of FirstWatch. FirstWatch is the foundation for which the data is derived, where you define the things you want to look at and calls are pulled based on user-defined filters. FirstPass then takes that data through a very structured process of algorithms and logic to evaluate specific quality oriented protocols, tests and outcomes. A queue based tool, FirstPass allows members of QI, risk management and the medical director's office to all access and work through one singular quality improvement tool.

Can FirstPass be customized to fit my system's protocols?

Providing that the data source (CAD, ePCR, ProQA, Hospital Data etc.) FirstWatch is interfaced with captures relevant data that can be used to evaluate against your systems protocols, FirstPass can have a high degree of customization. Once a customer defines what they want to measure, we can build custom protocols that look for quality metrics driven by customer focused initiatives as well as regional or state level mandates. While FirstPass is highly customizable, we recommend starting with our "Bundle of Care" approach. This initial set of evidence-based protocols is designed to encompass recognized standards of care, the affordable care act and overall best practices. The Bundle of Care is made up of the following protocols: **ACS/STEMI, Stroke, Trauma, Airway Management, Cardiac Arrest, and Universal OR Billing. Additional metrics to consider might be: Pain Management, Patient Care Aspect, High Risk/Low Frequency Event or Non Transports/Refusals.**

How will my QI department benefit from using FirstPass?

The overarching goal of FirstPass is to provide automated data analysis for clinical indicators and quality measures – all in real-time, at your fingertips. With FirstPass, QI teams can now spend more time working to improve patient outcomes rather than filtering through every patient record to locate potential outliers that could indicate opportunities for improvement in patient care. FirstPass automates a process that is traditionally time, resources and labor intensive; you will now know right away when a call is outside the expected parameters occurs. Real-time feedback and knowledge of what is happening within your system at all times allows for collaboration amongst crew members, managers, QI analysts, the Medical Director and any other stakeholders involved. Ultimately, this will result in rewarding success to crew members for a job well done and improving patient outcomes by focusing on areas of improvement and continuing education in a timely and continuous manner. Additionally, FirstPass comes with real-time reporting tools; examples include Provider Protocol Compliance, System Protocol Compliance and Summary of Test by Protocol.

How is FirstPass connected to Healthcare Reform and the new focus on Quality Outcomes?

Healthcare is moving to quality measurement, bringing with it improved patient care – and financial implications. Simply stated, the components of the Affordable Care Act are directly related to controlling cost through a focus on quality of care. The same quality measures that are driving change in healthcare will soon be coming to EMS. Progressive EMS agencies are monitoring, measuring and managing quality to improve patient care and ensure success when financial incentives become realities. FirstPass helps agencies to define, automate and streamline their measures and monitor in a timely, consistent and reliable manner. This will allow systems to make corrections and demonstrate timely and effective care through the tracking of patient satisfaction and outcomes in real-time.

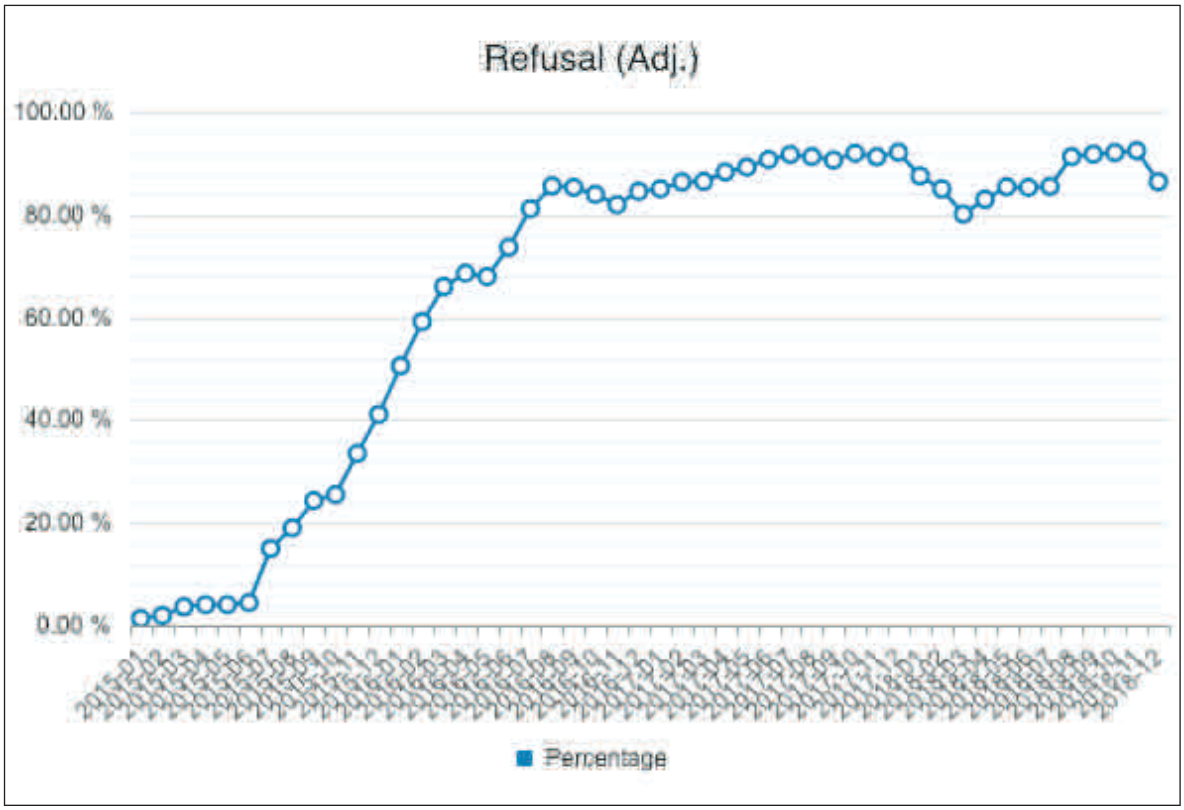
Customer Highlight: Pinellas

Pinellas County employee Provider Protocol Compliance report compares employee compliance to overall system compliance, including their raw and adjusted protocol compliance percentages.

Pinellas Provider Protocol Compliance

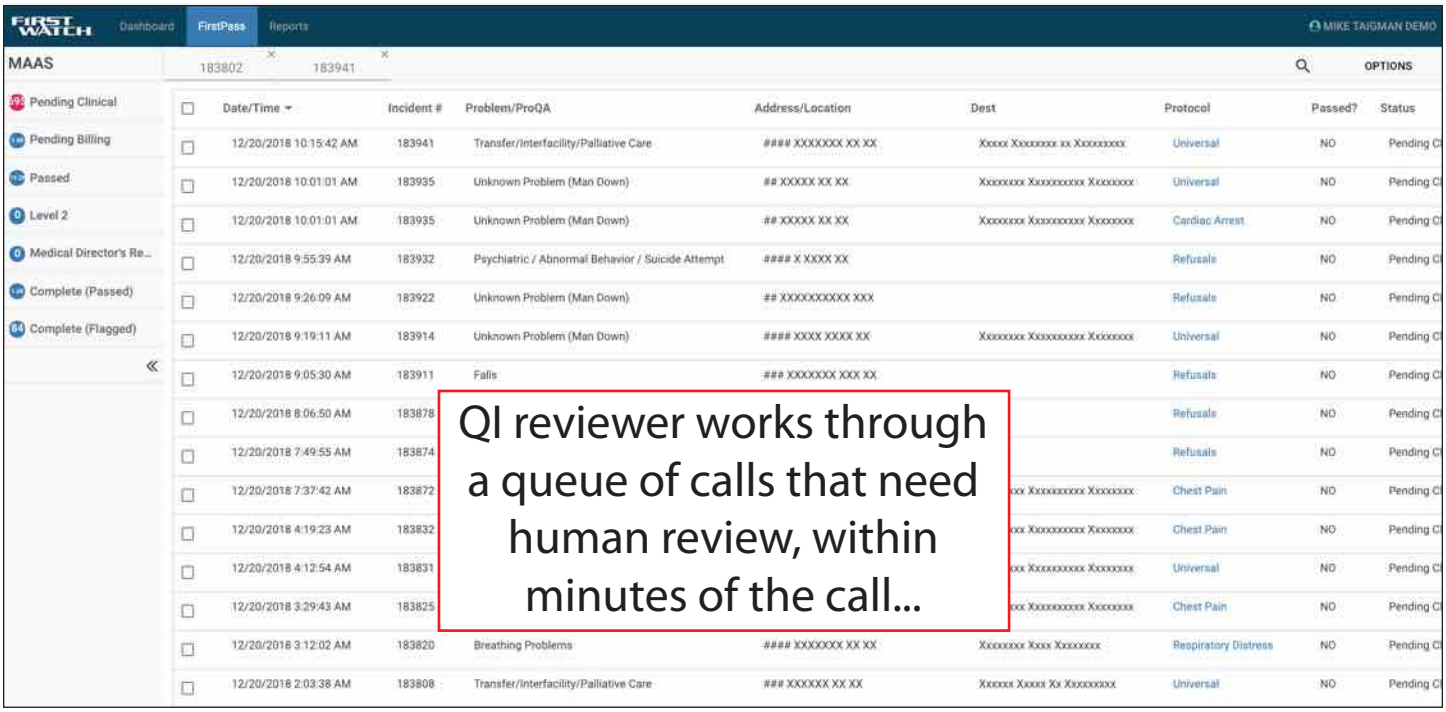
Completed By	Avg Adj Percent	Test	Total Incidents	Test %	System Test %	RAW Protocol %	Adjusted Protocol %
	60.18%	ACS	2	90.00%	81.74%	50.00%	50.00%
		12 Lead Performed		100.00%	97.69%		
		Aspirin administered or allergic		100.00%	83.02%		
		NTG administered or Allergic or BP <90		100.00%	81.11%		
		Final pain score < Initial Pain Score		50.00%	49.73%		
		STEMI, Alert called and 12 lead transmitted		100.00%	97.15%		
		Airway Management	1	80.00%	75.32%	0.00%	0.00%
		Ventilation assistance provided		100.00%	74.63%		
		Single airway type used		100.00%	91.54%		
		Confirmation of placement with ETCO2		100.00%	100.00%		
		Airway re-confirmed		0.00%	33.33%		
		Multiple ETCO2 values		100.00%	77.11%		
		Cardiac Arrest	1	85.71%	81.09%	0.00%	100.00%
		PT Transported to hospital		100.00%	79.81%		
		ETCO2 Monitored		100.00%	91.55%		
		ROSC obtained		100.00%	30.05%		
		Extraglottic airway used		100.00%	69.01%		

Using FirstPass, Pinellas County has dramatically improved their performance over time.

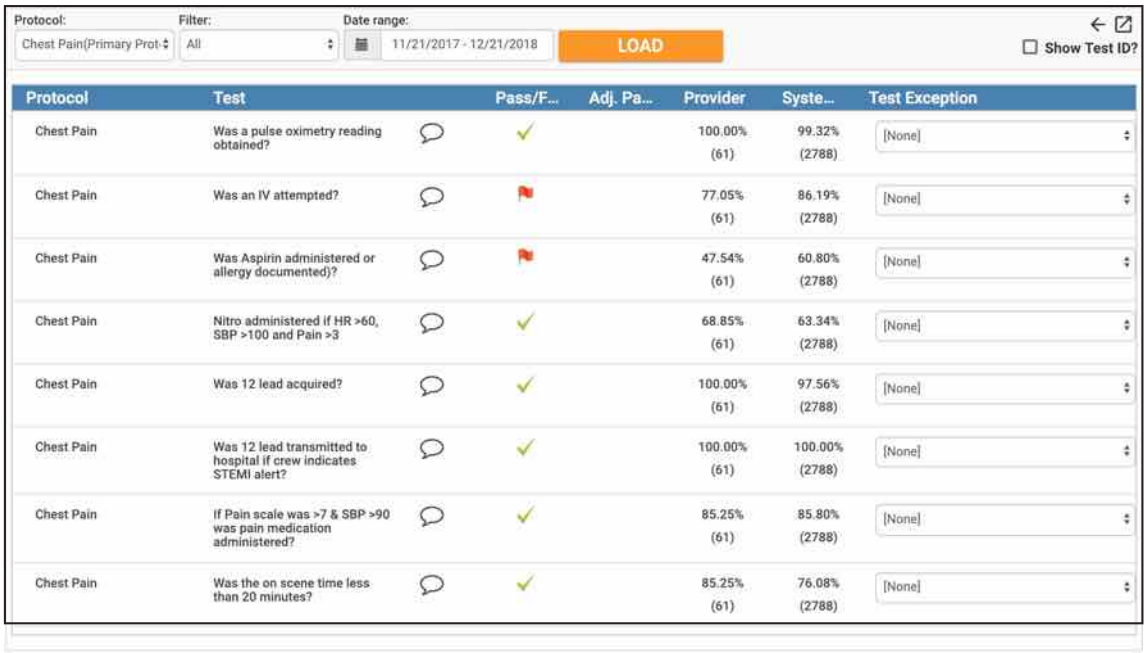


Customer Highlight: Metro Atlanta Ambulance Service

Metro Atlanta uses FirstWatch and the FirstPass Quality Improvement (QI) module to monitor our ZOLL Dispatch and ePCR data, which automatically scans those records and compares them to goal times and clinical, operational and billing rules. The graphic below shows the FirstPass module's main screen, with queues (on the left) showing calls that have passed or flagged a series of detailed, automated tests, based on their medical director's specific protocols.



The graphic below shows the specific tests that are automatically performed by FirstPass for their Chest Pain protocol. Their QI staff reviews the calls that were flagged and is able to provide feedback to crews quickly, often during the same shift, while the call is still fresh in their mind.



Protocol	Test	Pass/F...	Adj. Pa...	Provider	Syste...	Test Exception
Chest Pain	Was a pulse oximetry reading obtained?	✓		100.00% (61)	99.32% (2788)	[None]
Chest Pain	Was an IV attempted?	⚑		77.05% (61)	86.19% (2788)	[None]
Chest Pain	Was Aspirin administered or allergy documented)?	⚑		47.54% (61)	60.80% (2788)	[None]
Chest Pain	Nitro administered if HR >60, SBP >100 and Pain >3	✓		68.85% (61)	63.34% (2788)	[None]
Chest Pain	Was 12 lead acquired?	✓		100.00% (61)	97.56% (2788)	[None]
Chest Pain	Was 12 lead transmitted to hospital if crew indicates STEMI alert?	✓		100.00% (61)	100.00% (2788)	[None]
Chest Pain	If Pain scale was >7 & SBP >90 was pain medication administered?	✓		85.25% (61)	85.80% (2788)	[None]
Chest Pain	Was the on scene time less than 20 minutes?	✓		85.25% (61)	76.08% (2788)	[None]

Customer Highlight: Metro Atlanta Ambulance Service

Calls where the treatment was appropriate, but not documented as expected, can be identified and marked as appropriate, and the adjusted pass/fail information is reflected in our Employee Scorecard Report, along with simpler Operations measures, including: Chute Time, Response Time, Scene Time, Hospital Offload Time, and Task Times.

Employee Scorecard

Employee Scorecard — MetroAtlanta Ambulance Service

Date Range: __/__/2015 to __/__/2015

Last, First

Operations	Individual Scores Compliance %	Count of Calls	Goals Compliance %
Chute Time (1 min)	100.00%		90%
911 Response Time (11:59)	100.00%		90%
Total Scene Time - Trauma (10 min)	100.00%		90%
Total Scene Time - Medical (15 min)	100.00%		90%
Hospital Offload (20 min)	100.00%		90%
911 Time on Task (55 min)	100.00%		90%
FirstPass Protocols			
Billing	100.00%		90%
Refusals	100.00%		90%
Transfers	100.00%		99%
Universal	100.00%		92%
Altered Mental Status	100.00%		94%
Cardiac Arrest	100.00%		90%
Chest Pain	100.00%		96%
Respiratory Distress	100.00%		97%
Adult Seizures	100.00%		91%
Pediatric Seizures	100.00%		90%

The Employee Scorecard is a custom report that combines operational performance (chute times, time on task, etc.) as well as clinical performance (FirstPass protocol compliance) and displays it by medic. The summary page is the first page of the report and shows the overall system compliance for all elements. It is designed to be paged by provider for feedback purposes, and uses both CAD and ePCR data.

Customer Highlight: Metro Atlanta Ambulance Service

Billing in FirstPass

FIRST WATCH | Dashboard | FirstPass | Reports

Pending Billing 7697

CLOSE CALLS

Flow

Owner: [None] | Status: [Pending Billing] | Exception Reason: [None] | Resolution: [None]

SAVE

SAVE & CLOSE

SUMMARY

Protocol: Billing(Primary Protocol) | Filter: All | Date range: 01/15/2019 - 01/15/2019 | LOAD

Show Test ID?

Protocol	Test	Pass/...	Provider	Syste...	Test Exception
Billing	Was patient name documented?	✓	100.00% (1)	99.19% (123)	[None]
Billing	Was the patient's home address documented?	✓	100.00% (1)	91.87% (123)	[None]
Billing	Was the patient's DOB documented?	✓	100.00% (1)	99.19% (123)	[None]
Billing	Was the patient's SSN documented?	✓	100.00% (1)	68.29% (123)	[None]
Billing	Was a payor captured?	⚑	0.00% (1)	59.35% (123)	[None]
Billing	Was a patient TNPP signature obtained?	✓	100.00% (1)	93.50% (123)	[None]
Billing	Was a receiving facility signature obtained?	✓	100.00% (1)	98.37% (123)	[None]

FIRST WATCH | RescueNet

Incident Drill-down

INCIDENT

ReCount_ID:	72 (C)
Run Number:	7697
Date of Service:	2019-01-15
Chief Complaint:	General Illness - Other
Location:	DE-IDENTIFIED

CREW INFO

Agency:	
Vehicle:	4876
Crew #1:	[redacted]
Crew #2:	[redacted]
Crew #3:	

RESPONSE INFO

Call Type:	Medical
Resp. Priority:	Emergency
Nature Of Call:	Breathing Problems
Resp. Delay:	Vehicle Delayed: Tran
Trans. Delay:	Delayed on Scene

DISPOSITION

Outcome:	Treated, Tx by EMS
Pri Impression:	Circ and resp sys, other signs w/rupture, specified
Sec Impression:	
Transport Priority:	Non-Scheduled
Transport Destination:	Wellstar Kennestone Hospital
Specialty Alert	None

TIMES

Recvd:	01/15/2019 11:45:23
Dispatch:	01/15/2019 11:45:48
En route:	01/15/2019 11:45:50
At scene:	01/15/2019 11:50:41
At patient:	01/15/2019 11:52:00
Transport:	01/15/2019 12:03:31
At dest:	01/15/2019 12:48:09
Available:	01/15/2019 13:22:08
Cancelled:	

NARRATIVE

DE-IDENTIFIED

PATIENT INFORMATION

Name:	DE-IDENTIFIED	Phone:	DE-IDENTIFIED
Sex:	Male	Home Addr:	DE-IDENTIFIED
DOB:	DE-IDENTIFIED		SMYRNA, GA DE-IDENTIFIED
Age:	72 y/o	SSN:	DE-IDENTIFIED

What's the quality of your billing?

Do you know your organization's compliance in obtaining your needed billing information?

Can you get your billing compliance at the field employee level?

If you create a billing protocol in FirstPass, you will!

You have the data. Now what you need is a way to understand what it means quickly and confidently.

KEY BENEFITS

- *Real-time Automated Performance Improvement - use one tool to monitor protocol compliance, documentation, and improvement success*
- *Measure Protocol Compliance - prioritize and monitor the protocols that are most important to your system*
- *Enhance Documentation Quality - real-time review of completion of required ePCR fields*
- *Provide Meaningful Feedback - ask questions and provide medics with feedback before they end their shift*
- *Save Time & Resources - Let the computer do the work, and save the human for what is most important*
- *Monitor Medic Performance - Track individual performance to overall system objectives*

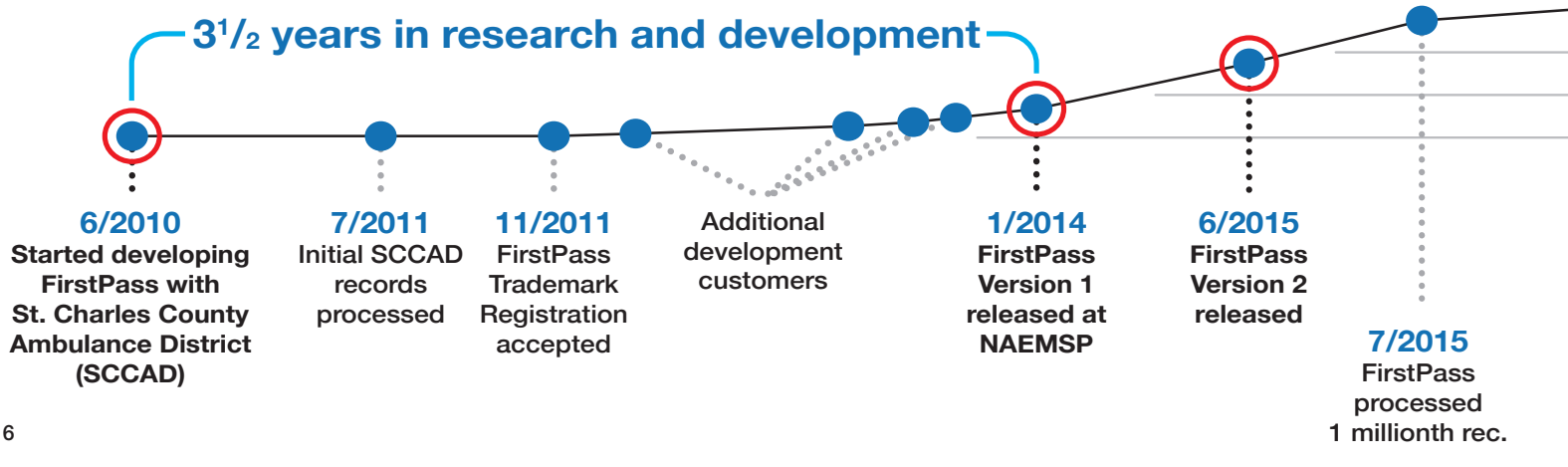
186+
Live Sites

45.3 Million +
Records Processed

1,738+
Protocols

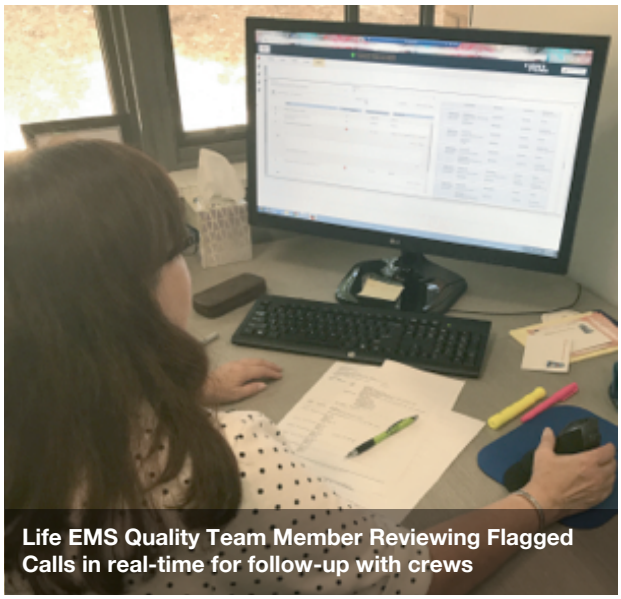
8,488+
Tests

FirstPass® by the Numbers



"By using FirstPass, our team has saved a minimum of 20 hours a week by reviewing only those charts flagged as needing to be reviewed. FirstPass has created significant efficiencies for us with a long term annual savings of a half FTE."

~ FirstPass User, Tony Sorensen, Life EMS



Life EMS Quality Team Member Reviewing Flagged Calls in real-time for follow-up with crews

HEMSI Medics

"We use our FirstPass billing protocol everyday. We love it because it saves us both time and money. Without FirstPass, we would definitely need to hire an additional full time employee just to keep up with reviewing more than 50,000 ePCR records per year. I don't know what we would do without FirstPass!" —FirstPass User, Jon Howell, HEMSI

1.4 Billion +

Tests Run

27 +

ePCR System Interfaces

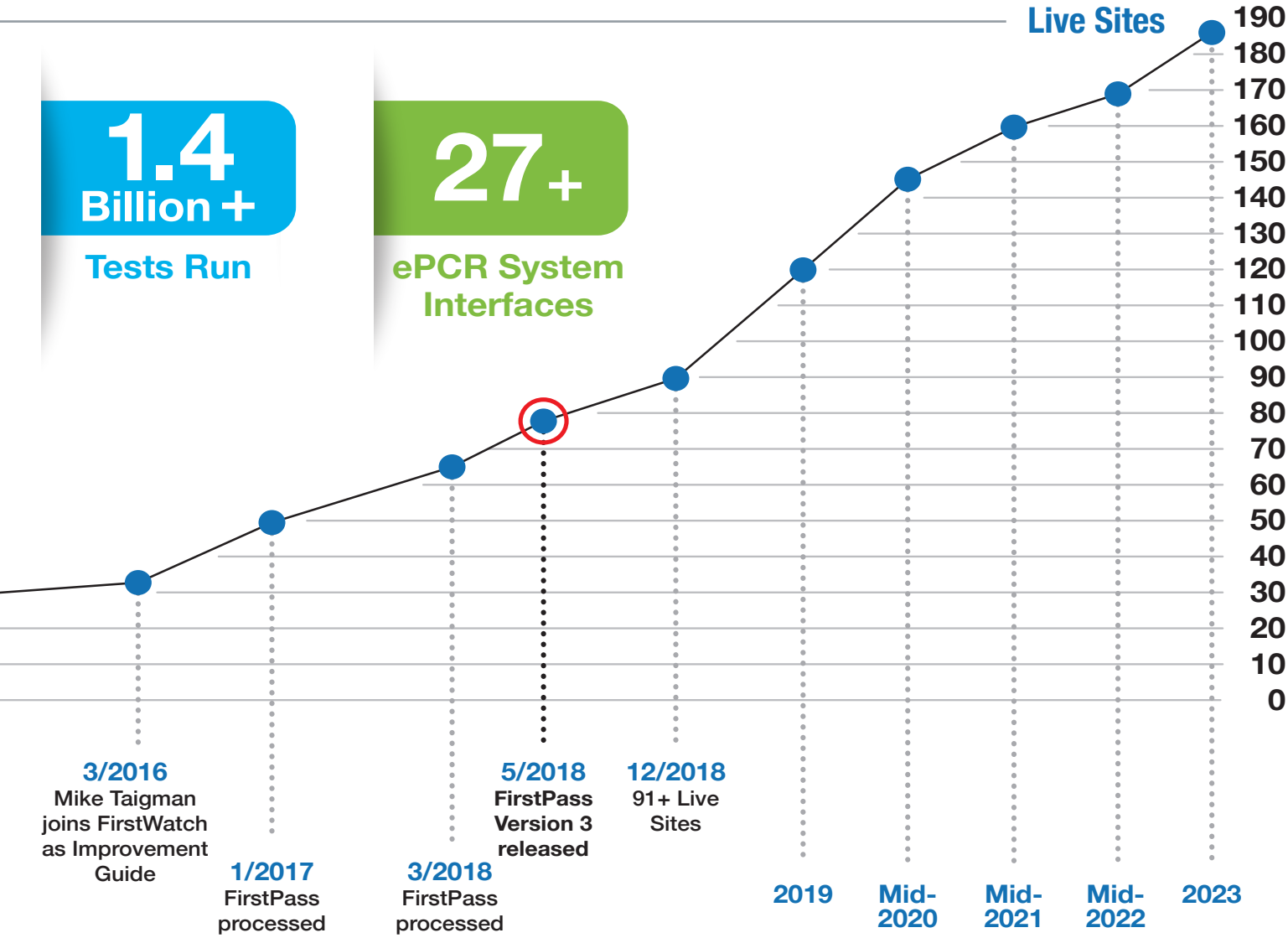


PHOTO COURTESY ROB LAWRENCE/RICHMOND AMBULANCE AUTHORITY

TOTAL QUALITY MANAGEMENT

Richmond Ambulance Authority uses technology to enhance its QA/QI process

By **Michael Gerber**, MPH, NRP and **Rob Lawrence**, MCMI

Richmond, Va., Ambulance Authority (RAA) is well known for being a high-performance EMS system and for its community education efforts and implementation of a culture of safety.

But the agency has also recently taken a huge leap forward in the areas of quality assurance (QA) and quality improvement (QI). RAA, which serves as the sole provider of emergency ambulance service for the Virginia capital, has implemented the "Total Quality Management" (TQM) system. The system links quality management efforts in the clinical, operations and billing arenas in order to comprehensively improve RAA's service and efficiency.

Each month, RAA's TQM committee meets to discuss any potential areas for improvement. The director of reimbursement might mention a specific documentation issue that's causing delays in billing or collections. The chief clinical officer may discuss intubation rates and educational programs being implemented to improve them.

The idea behind TQM is that everything is interconnected. Dispatch and operations impact clinical care, clinical documentation impacts reimbursement, reimbursement impacts operations, and so on. Like many agencies, RAA has a clinical services committee that focuses solely on clinical issues, where the medical director is joined by the clinical officer, the QA/QI coordinator, the training staff and other paramedics. But the TQM meeting adds another layer.

Attendees at the TQM meetings include the chief operating officer, the director of operations, the chief clinical officer, the quality manager, the director of reimbursement, the compliance officer and the operations and communications supervisors.

Believing that each aspect of agency performance is connected and part of the cycle of providing high-quality services, RAA uses its TQM approach to measure and analyze outcomes and processes and make adjustments to training and policies to achieve its desired outcomes.

USING TECHNOLOGY TO FILL THE GAPS

Previously, RAA's clinical and documentation QI process focused on reviewing specific types of patient care reports (PCRs), such as all cardiac arrests; specific high-risk, low-frequency procedures (e.g., cricothyrotomy); and a certain percentage of other calls. The agency also would choose to review specific topics or themes during certain months—perhaps looking at reports written by new hires one month and field training officers the next.

The billing team would then review the report to identify documentation issues related to reimbursement.

Like most departments, RAA performed these focused PCR reviews because trying to review every PCR provides a limited return on a significant investment of manpower and resources. Either several reviewers read the reports with little consistency or guidance on what to look for, or one person attempts to review every PCR but eventually gets so far behind they scramble to catch up and can't provide effective feedback to providers or correct documentation errors in time to impact billing. Practitioners often didn't receive the feedback until several weeks after the call, when they might not even remember the patient.

In Richmond, agency leaders felt the process wasn't as effective as it could be. They began searching for other solutions, and found one right in their own headquarters.

In the dispatch center, supervisors had already seen how technology could provide real-time feedback and lead to improvements. At any time during the day, dispatchers can look at a monitor that shows whether they're meeting certain performance standards. RAA uses FirstWatch, a California-based data and technology firm, to monitor computer-aided dispatch (CAD) data and provide almost instant analysis.

In the dispatch center, that has helped drive improvements in areas like call processing times, where no dispatcher wants to be the one not meeting the goal that day.

On the clinical side, RAA recently began using FirstPass, a tool developed by FirstWatch to automatically evaluate PCRs for adherence to protocols. FirstPass works by running each PCR through a series of tests based on certain criteria as soon as the data is available. The tests are based on treatment bundles and tailored to the agency's protocols.

The software also compares each PCR to a universal protocol that checks reports for certain demographic and basic clinical data, such as baseline vital signs, signatures and other information RAA wants to collect for every patient.

Certain types of reports are screened further. For example, if the patient complaint is for chest pain or another cardiac-related problem, FirstPass will look for documentation of a 12-lead ECG. If none is documented, the incident is flagged. For chest pain patients, FirstPass will also look for appropriate documentation of specific treatments, such as aspirin or nitroglycerine administration. FirstPass's clinical care bundles are evidence-based but also tailored to RAA's protocols and training. RAA is also working with the FirstPass team to develop even more sophisticated analysis and reporting tools.

THE TQM PROCESS

When paramedic and RAA's QA/QI Director of Operations Tom Ludin arrives each morning, he checks to see which reports were flagged by the FirstPass system. He can immediately review the PCR to determine if it was a documentation error, an omission in patient care or if there was a reasonable deviation from protocol. If the answer isn't clear, he can talk to the crew who treated the patient first to help make his decision while the crew still recalls the details of the call.

"It gives a lot of opportunity to look through and see where improvements are needed," says Ludin. "We can't fix it if we don't know it's a problem."

FirstPass not only allows for every PCR to be reviewed for at least minimal criteria, it also creates a system for measuring overall performance of the agency and individual providers. In many systems, simple

For more information, visit JEMS.com/rs and enter xx.

database searches and spreadsheet computations can determine how often 12-lead ECGs are documented as having been performed on chest pain patients. But FirstPass creates an easy way to then track why that happened. On a continuous basis, supervisors can determine whether providers require re-education in clinical areas, documentation, or both.

"Ninety-nine percent of the calls pass the criteria. I never look at most of those," says Ludin.

After Ludin reviews a PCR that failed a FirstPass test, he decides whether there was a deviation from protocol or a documentation error and emails the provider who wrote the report within one business day. That provider then has a chance to review the call and explain what happened, or correct the PCR, and Ludin and his colleagues determine whether any further action—such as remedial training—is required.

But while FirstPass allows RAA to check each PCR for certain criteria, it doesn't replace having a real person dedicated to QA/QI.

"FirstPass is a tool," Ludin says, explaining that he still uses his own database queries and other methods for other aspects of the quality management process.

For example, Ludin reads a random selection of PCRs each month so he can look for any issues the computer might not catch. As an accredited dispatch center, RAA already reviews the 9-1-1 calls for critical cases and a random selection of other calls each month—Ludin uses the same list to determine which PCRs he will review.

Having a TQM system means that when issues are discovered by one department, the entire agency helps find a solution. This will become even more critical for EMS agencies when the next revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) is adopted by payers later this year.

With ICD-10, the number of billing codes will greatly expand, and the importance of good documentation will increase. Having a TQM program is helping RAA prepare for these changes by bringing billing and clinical services to the table together. When the billers find an issue with documentation, they can ask the clinical supervisors about it and determine if it's a documentation error or a misunderstanding by the billers over what service was actually provided. If systemic problems are discovered, the clinical supervisors can conduct training or change the minimum required information to complete a PCR.

CLOSING THE QI LOOP

RAA keeps its quality management as nonpunitive as possible, focusing instead on finding ways to motivate its staff to make corrections and solve problems. Just publicly displaying some performance measures, either at the individual level or system-wide level, has led to improvements. Clinical lapses aren't necessarily tied to performance evaluations, unless supervisors feel there are no efforts made to improve.

"You're not evaluated on your QA/QI results," Ludin says. "Instead it's your responsiveness to training."

When it was recently discovered that intubation rates were slipping after an influx of newly qualified paramedics, RAA's training coordinators instituted a system-wide effort to improve—even though they knew not every single paramedic had unsuccessful intubations. In the Login Room, they set up intubation manikins and equipment, as well as some literature and videos on airway management. At the beginning of each shift, every ALS provider took 10 minutes to practice intubation before heading out on the ambulance to run calls.

After the recent intubation refresher stations, RAA's training staff received positive feedback from the providers, including one paramedic who credited the training with helping make his first live intubation successful.

RAA was also an early EMS adopter of self-reporting. Several years ago, operational medical director Joseph Ornato, MD, signed off on a self-reporting protocol that encourages providers to come forward when they make an error or omission.

But this isn't to say that RAA doesn't let providers know they value high performance. Each year when employees submit preferences for which shifts they want to work, RAA ranks them using a combination of seniority and compliance to certain standards. With FirstPass now in effect, that might include compliance to clinical protocols and PCR documentation in the future.

THE FUTURE OF QA/QI

Technology adds one more tool to the TQM process, allowing personnel to spend more time doing what they do best—analyzing the problems and finding solutions—instead of spending hours determining whether the right boxes were checked. Software can't replace having dedicated providers and educators, but it can make the system more efficient and more robust, allowing agencies to focus on areas where improvement is necessary and ultimately provide better care for their patients. JEMS

The TQM system links quality management efforts in the clinical, operations and billing arenas in order to comprehensively improve RAA's service and efficiency. Photo courtesy The RedFlash Group/RAA

Michael Gerber, MPH, NRP, is a paramedic, instructor, author and consultant in Washington, D.C. He has more than a decade of experience in EMS and the fire service. He can be reached at mgerber@redflashgroup.com.

Rob Lawrence, MCMI, is chief operating officer at RAA and was named an EMS 10 Innovator for his work on the Rider Alert program in 2011. Rob is a graduate of the U.K.'s Royal Military Academy, Sandurst, and spent his first career as an active-duty Army officer in the British Royal Army Medical Corps, after which he held various senior leadership roles in U.K. ambulance services before moving to Richmond, Va., to join RAA.

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Better EMS Performance

with Mike Taigman

Improve EMS performance like a champion

Learn how one EMS agency improved EMS provider performance with an Olympic-themed competition

Jan 6, 2017

By Mike Taigman and Tony Sorensen

My most vivid Olympic memory is the 1996 women's gymnastics all-around competition. The Russians had dominated the sport and going into the final rotation it looked like it would be possible for the U.S. to win for the first time in Olympic history. The last U.S. event was the vault. U.S. team member Dominique Moceanu had fallen twice when Kerri Strug, the last U.S. competitor, lined up to vault. Strug under-rotated the landing of her first attempt and injured her ankle.

With the point difference smaller than a blood cell, she asked the coach, "Do we need this?"

He said, "Kerri, we need you to go one more time. We need you one more time for the Gold. You can do it; you better do it."

She limped to the end of the runway and then landed the vault on both feet long enough to register a 9.712 before collapsing in pain, cementing the Olympic gold medal for the U.S.

OLYMPIC INSPIRATION FOR EMS IMPROVEMENT

Inspired by champions like Strug, the team from Life EMS Ambulance, established in Grand Rapids, Mich. in 1980 and proudly serving over 3,700 square miles of west Michigan with

paramedic response, decided to have some fun and see if they could make some meaningful improvements at the same time. Their theory was that if they focused on a handful of measurable opportunities for improvement, added in a dose of friendly competition, and offered prizes for the winners, that they would make meaningful improvements.

Their quality improvement-focused version of the Olympics was held last summer in the months before, during and after the Rio Olympics. The Life EMS Ambulance organization is naturally segmented into three teams — central, north/east, and south — for friendly competition. They created four events:

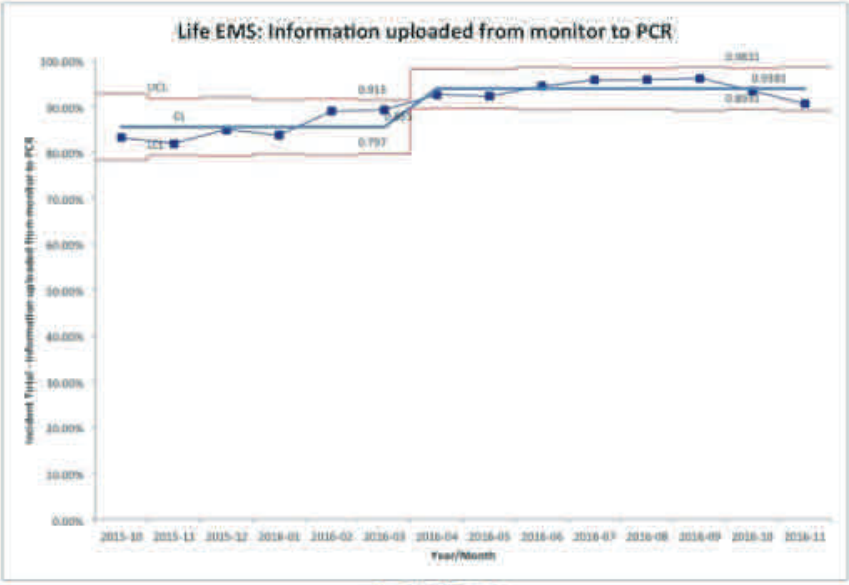
1. **Vital Sign Sprint**: Did we obtain two sets of vital signs on each patient?
2. **Breath Stroke**: Did we use capnography on patients receiving ventilatory assistance?
3. **Last Normal Backstroke**: Did we record the last seen normal time for patients with CVA?
4. **Data Sync Dive**: Was the data from the monitor uploaded into the ePCR?

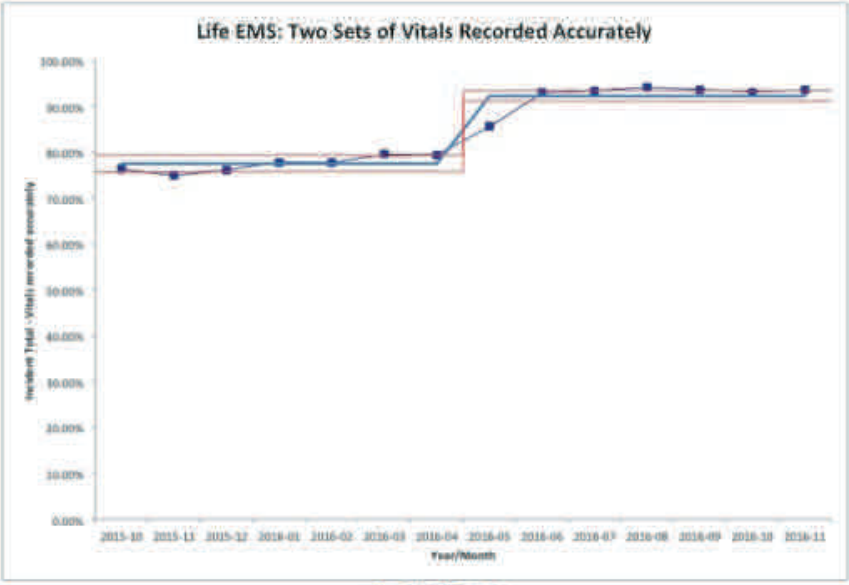
Their aim was to make tangible improvements in these four areas. Baseline data provided a starting point. The company provided feedback on team performance every two weeks in company newsletters. Individual employees got regular feedback on their performance through **FirstPass**, a clinical quality measurement and protocol monitoring tool. Gold medal winners got $25 gift cards, silver got a pizza party and bronze got an ice cream social.

A spirit of camaraderie, competition and fun spread throughout the organization. Crew members started coaching each other on ways to improve.

SIGNIFICANT AND SUSTAINED PERFORMANCE IMPROVEMENT

Life EMS Ambulance saw signifcant and sustained improvement in two of the target areas. These two charts are Shewhart charts, which are a type of statistical process control charts to display data for performance improvement.





The other two target areas saw no change. They had no decrease in performance anywhere in their system. And probably the most surprising thing is that they saw widespread sustained improvement in several areas that were not on the target list. These included improvements to:

- Time to 12-lead ECG acquisition.
- Time to nitroglycerin administration and time to aspirin administration for patients with acute coronary syndrome.
- Recording of two pain scores.

- ROSC for people with cardiac arrest.

- Temperature and ETCO2 assessed for possible sepsis patients.

7 PERFORMANCE IMPROVEMENT LESSONS

The team at Life EMS ambulance learned valuable lessons about quality improvement that are applicable to any EMS agency. Here is what they learned:

1. A friendly competition focused on quality improvement can result in improvements.
2. These improvements appear to be sustainable, at least in the few months after the competition ended.
3. Not everything that is focused on for measurement will improve with the rst e ort.
4. Providing regular feedback, close in time to the actual patient care, to the team and individuals on performance helps people keep on track.
5. Focused improvement in a few areas has the potential to over ow and cause improvement in other areas.
6. It's possible to have a lot of fun while engaged in serious improvement work.
7. A dedicated and talented team of front line medics are able to implement widespread improvements in a short period of time.

There are some performance improvement theorists that suggest competition might not be a good idea — that competition has the potential to erode self-esteem, especially in young people. The leadership team addressed this concern by ensuring that 80-90 percent of the focus was on improving care for their patients with a lighthearted playful sense of competition.

Other experts will tell you the use of rewards like prizes undermines the joy in work. Their theory is that when people are too focused on the prize they might actually care less about the work they are doing and any improvements will be short lived. For this competition, the prizes were not luxury Caribbean cruises or fancy sports cars. Prizes were modest, but real. And we know that the prizes were not the primary focus, because the improvements have sustained well past the awarding of gift cards, pizza and ice cream.

Who could possibly top the Olympics? Bond. James Bond. Yes, their next quality improvement competition will have a 007 theme. The target areas will be:

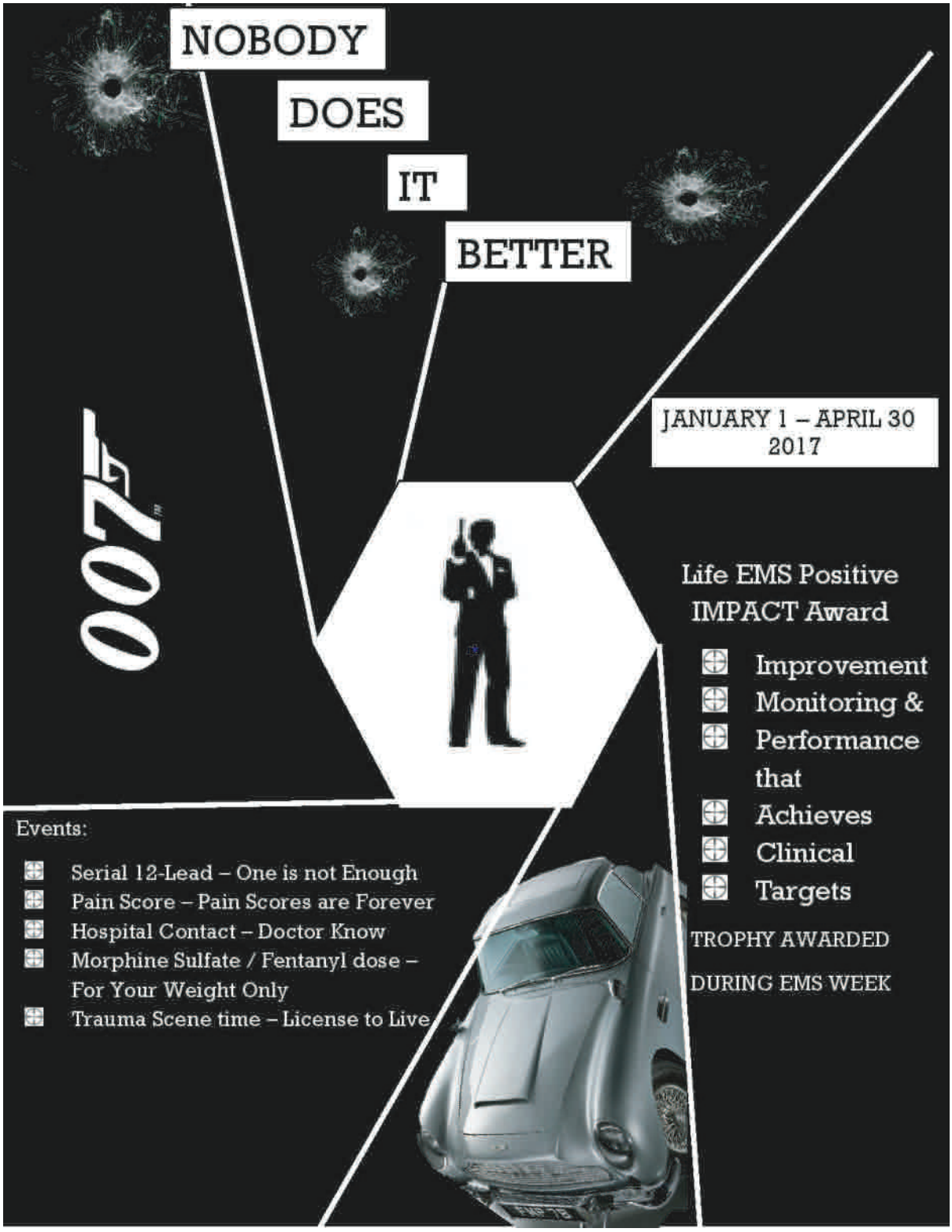
- Serial 12 lead EKG's … One is not enough.

- Pain scores are forever.

- Doctor Know … for base physician contact.

- Morphine and fentanyl weight-based dosing … for your weight only.

- Trauma scene time … license to live.



About the co-author

Tony Sorensen is the vice president of resource performance for Life EMS Ambulance and a paramedic I/C with 31 years of EMS experience in both rural and urban systems. In addition to his EMS clinical experience he has taught MFR, EMT, EMT-S and paramedic programs through Montcalm County EMS, Montcalm Community College and Life EMS Ambulance. Tony is active in

many local, regional and state level EMS activities. He is the past president of the Society of Michigan EMS Instructor Coordinators and the current president of the Michigan EMS Practitioners Association. Tony also represents MiEMSPA as a member of the State of Michigan EMS Coordination Committee. He has held leadership positions with Montcalm County, State of Michigan EMS Section as the EMS Education Coordinator.

About the author

Mike Taigman uses more than four decades of experience to help EMS leaders and field personnel improve the care/service they provide to patients and their communities. Mike is the Improvement Guide for FirstWatch, a company which provides near-real time monitoring and analysis of data along with performance improvement coaching for EMS agencies.

He holds a Master's Degree in Organizational Systems and is an Associate Professor in the Emergency Health Services Management graduate program at the University of Maryland Baltimore County. He's also the facilitator for the EMS Agenda 2050 project. Email Mike Taigman at mtaigman@firstwatch.net.

Tags > EMS Advocacy • EMS Management • Leadership

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PHOTO JAMES ZABON/COURTESY REDFLASH GROUP

A CULTURE OF QUALITY

Pinellas County (Fla.) EMS implements an effective QI process

By **Mike Taigman** & **Michael Gerber**, MPH, NRP

Has your quality improvement function actually made anything better? The honest answer for many EMS systems is, "No." For those that can say yes, better documentation is often cited as their evidence—not the kind of improvement that inspires thank you letters and cookies from grateful patients.

The EMS system in Pinellas County, Fla., is one that's made measurable clinical improvements to the care that's provided to their patients and their community.

Its success can be credited to deep collaboration between more than 1,800 frontline EMTs and paramedics working in 19 different organizations across this western Florida coastal community: 18 municipal fire departments providing ALS first response and Sunstar Paramedics, the contracted ALS ambulance service.

These agencies, along with the Pinellas County EMS and Fire Administration and the EMS medical director, work together in a unique way that delivers real benefit to patients.

Getting nearly 2,000 EMS clinicians on the same page about providing consistent, high-quality care is remarkable and doesn't happen by accident.

Since 2008, Pinellas County EMS providers had been using electronic patient care reports (PCRs) and manually tracking performance indicators. A few years later, they looked for ways to automate and improve the system.

In 2014, the clinical leaders from each of the 19 organizations, and Angus Jameson, MD, their new EMS medical director, decided that they wanted to transform their quality improvement (QI) system into one that's truly patient-centered, inclusive, comprehensive, respectful of all providers and free from fear.

They began by building trusting relationships through transparency, open sharing of data, and implementation of Just Culture, defined by the Center for Patient Safety as an organizational culture that "supports open communication of errors in a non-punitive environment."[1] (See Table 1, page 43.)

To help facilitate the process, the Pinellas team turned to FirstPass, software that was created by data analytics organization FirstWatch. The software allows them to monitor the care delivered and documented on more than 200,000 EMS calls a year, provide feedback and coaching to each EMT and paramedic in near real-time, and improve overall performance.

Table 1: Just Culture matrix used to guide individual and systemwide improvement efforts.

Human Error	At-Risk Behavior	Reckless Behavior
Root cause is human error or inadvertent action—oversight, lapse or mistake.	Root cause is at-risk behavior by a clinician where the risks was unrecognized or believed to be insignificant or justified.	Root cause is a conscious disregard of substantial and unjustifiable risk by a clinician.
Improvement Efforts	**Improvement Efforts**	**Management**
Individual/Team:	Individual/Team:	Individual/Team:
>> Quality assurance review >> Medical case review >> Remedial training	>> Clinical restriction (case basis) >> Quality assurance review >> Medical case review >> Remedial training	>> Clinical restriction or suspension (case basis) >> Quality assurance review >> Administrative proceeding >> Corrective action plan >> Probation >> Revocation of clinical privileges
System:	System:	
>> Continuing medical education >> Protocol improvement >> Situational awareness >> Best practices implementation >> Patient care safety systems >> Process improvement >> Medical equipment & supply improvements	>> Supporting culture expects healthy behaviors, corrects and minimizes at risk behaviors >> Continuing medical education >> Situational awareness Note: Repeated at-risk behavior is reckless.	
Console	**Coach**	**Correct**

Management of individual quality assurance reviews or medical case reviews is based upon this framework. A flowchart for Just Culture implementation and decision making is contained in the EMS medical director's Medical Quality Management Plan to ensure the proper application of the framework on a case-by-case basis.

SELECTING A QI PROJECT

One of the challenges in the Pinellas system is having a large number of organizations, each with its own leadership structures and policies.

An important piece of the county's EMS QI system is a written Medical Quality Management Plan that clarifies the roles of the county medical director and the roles of the individual departments.

In addition, prior to implementation, each organization made sure to communicate clearly the purpose of FirstPass and what it was being used to look for—and why.

For example, one of Pinellas County EMS's first improvement projects focused on patient interactions that didn't result in transport to the hospital. This was chosen after Jameson and others noticed that the county had a relatively high refusal rate and the documentation of this potentially risky decision was often minimal.

Many of the patient care reports simply stated, "No ambulance needed," or, "Cancelled on scene," even when crews had been with the patient for more than 15 minutes.

A protocol existed for managing patient refusals, but providers frequently didn't follow it and there was wide variation across the county in how these patients were handled.

To address the issue, Jameson collaborated with all clinical leaders on an update to the Pinellas County EMS refusal protocol that included current legal perspectives. The performance improvement team also began working to build trust with each provider organization, their clinical leaders and their frontline paramedics.

With a strong commitment to a nonpunitive approach, they collaborated and worked hard to demonstrate a focus on improving care for patients, rather than punishing providers. They made their expectations crystal clear and were very transparent with systemwide and department-level performance data.

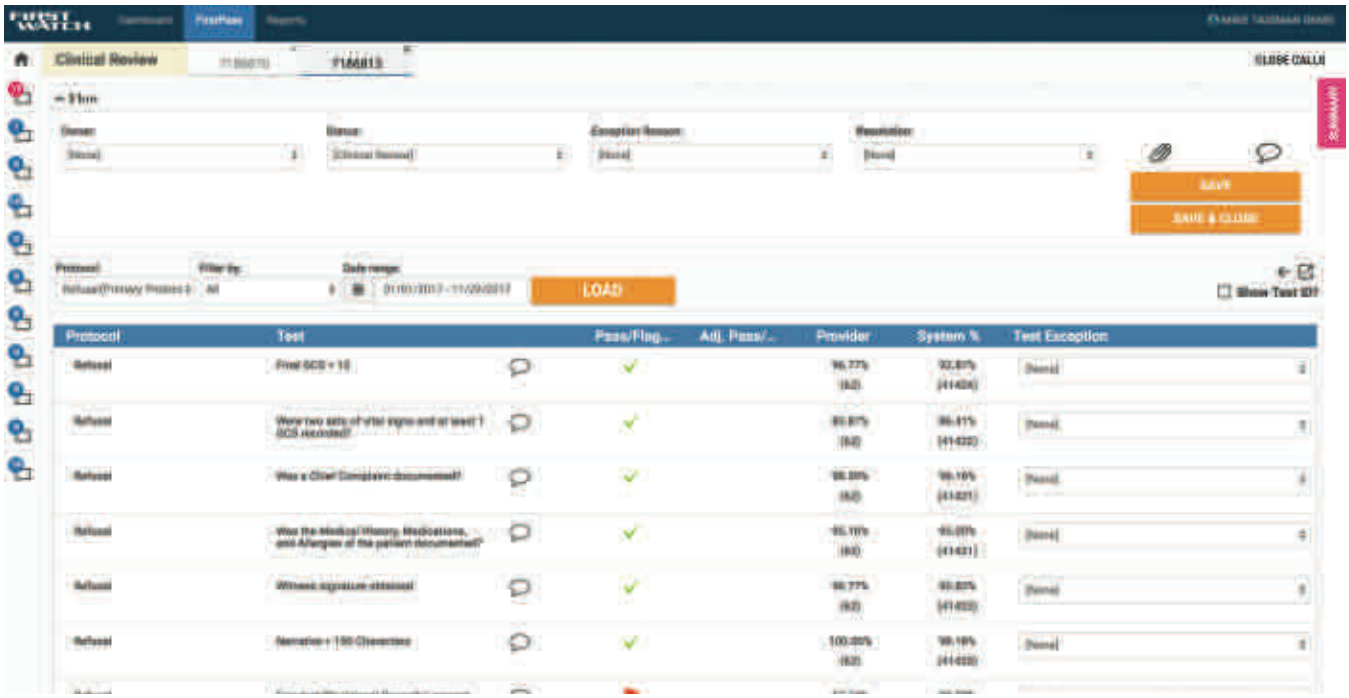
Before they started providing performance feedback, they reviewed all of the quality measures and baseline data in detail. Paramedics were also provided detailed examples of how to manage a variety of different situations involving patient refusal of transport.

In addition, the team defined performance measures for patient refusals and designed a communication plan to share information with the entire system.

The measures were built into their FirstPass QI system so that PCRs from every nontransport would be checked for compliance with their guidelines within seconds of submission of the report. The automated system checked each report using these criteria:

>> Was the patient's final Glasgow coma score 15?
>> Were two sets of vital signs recorded?
>> Was a chief complaint documented?
>> Was the patient's history, medications, and allergies documented?
>> Was a witness signature obtained?
>> Was the narrative greater than 150 characters?

Figure 1: PCR flagged by QI software



The patient care report in this case was flagged because it was missing a second set of vital signs. You can also see that this paramedic documents two sets of vital signs and at least one Glasgow coma scale 81.48% of the time, while the entire system meets this criterion 86.43% of the time.

For more information, visit JEMS.com/rs and enter 21.

>>Was their "decisional capacity" described in the narrative?

The 150-character test was designed to address the providers' tendency to write a three-word narrative as the only description on calls where crews had spent significant time with patients. "Decisional capacity" describes the ability of someone to consent to or refuse care.

Paramedics in Pinellas County were also trained to conduct a comprehensive EMS Cognitive Evaluation that could be used to help determine if a patient has the decisional capacity to refuse transport.

REVIEWING PAST PERFORMANCE

At the beginning of the improvement project, Pinellas County performed a baseline analysis of the system's past performance based on these criteria and found that overall adherence to the guidelines was low, hovering around 10%.

On some individual criterion within the bundle of care—narratives longer than 150 characters, acquiring witness signatures, a final Glasgow score of 15, and documenting chief complaint, history, meds, allergies—performance exceeded 80%.

But field providers were obtaining two sets of vital signs less than 10% of the time and "decisional capacity" was described in the PCR less than 20% of the time.

Analyzing this earlier data allowed the medical director and 19 organizations to focus improvement efforts on the two parts of their refusal bundle that needed the most attention.

The FirstPass system automatically reviews all PCRs for compliance to the appropriate protocols, including refusals. (See Figure 1)

The Pinellas County EMS system produces thousands of patient refusal PCRs each month. When one or more of the seven criteria listed previously aren't met, the report is flagged for review by the

appropriate individual within the PCR author's department—often the EMS supervisor or quality improvement manager, depending on the organization's policies.

Because the PCRs are reviewed by the software immediately, feedback and coaching can be provided while the call is still fresh in the minds of the EMTs and paramedics.

In addition, the compliance with the entire bundle and with each of the criteria can be measured and tracked at the individual, department and systemwide levels.

Because the PCRs are reviewed by the software immediately, feedback & coaching can be provided while the call is still fresh in the minds of the EMTs & paramedics.

COMMUNICATION & FEEDBACK

Pinellas County also implemented a campaign to ensure that each EMT and paramedic in the system understood the clinical and legal risks associated with patient refusals, how to conduct and evaluate a proper EMS cognitive evaluation, the rationale for obtaining two sets of vital signs, the importance of good documentation and the seven tests included in the refusal bundle of care.

The campaign was conducted via email, Facebook and newsletters, as well as in the classroom. Conversations about patient refusals were built into new employee orientation and field training officer programs.

"We didn't just turn this system on full throttle overnight," one EMS captain said. "We rolled it out over 18 months of planning and lots of beta testing. Full implementation felt for some people like we went from 0 to 1,000 mph, but they have been impressed by how much improvement we've made so quickly."

Once the campaign was well underway, the clinical leadership teams began providing feedback to crews whenever a call was flagged in FirstPass. Each department handles the coaching and feedback process in a way that works for them. One department prefers group emails and communication over individual feedback, while another department schedules weekly one-on-one meetings with every medic on its team.

Even though they customize the feedback process, all 19 departments provide feedback quickly and carry the same patient-centered non-punitive message; they also coordinate efforts with the county medical director and follow the same policies to determine when it is necessary to notify Jameson.

DRAMATIC RESULTS

The results of their efforts to improve care for patients who refuse transport have been dramatic (See Figure 2, p. 63.).

"For the longest time, QA was viewed as the, 'What have you done wrong today club,'" an EMS captain said. "With our change to Just Culture combined with the nearly instantaneous feedback facilitated by FirstPass, we can concentrate on what [we] are doing right. I send out a thank-you letter signed by the chief for every medic that has 100% performance on our clinical protocols. I used to send out 12 to 20 a month, now it's between 170 and 180 a month."

Transitioning to a true quality management system, rather than a quality assurance system that only looks for mistakes and slaps providers on the wrist, has also allowed for evaluation not just of adherence to clinical protocols but also whether those protocols are, in fact, the best for the system.

That goes not only for refusals, but for other patient care bundles being continuously assessed in the system, including cardiac arrest, major trauma, acute coronary syndrome and others.

"Once we have the system reliably providing care in alignment with the protocols and documenting it properly, it's possible to evaluate trends and really see how well the protocol is serving our patients," Jameson said. "We fine-tuned our chest pain protocol to optimize recognition of STEMI faster and to better manage pain as early as possible."

By tracking performance over time, building a non-punitive just culture, using near real-time analysis tools, and having a truly patient-centered, collaborative approach, the departments delivering EMS in Pinellas — *Continued on page 62*

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- Coach your team to optimal performance.
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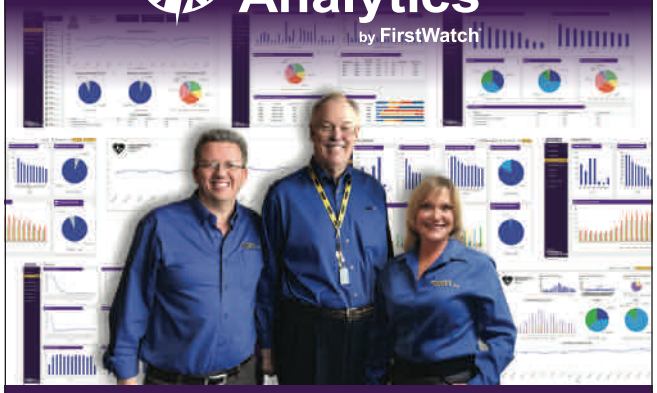

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— *Continued from page 45*

County have the data to show some of the biggest improvement their system has ever seen—and they're just getting started. JEMS

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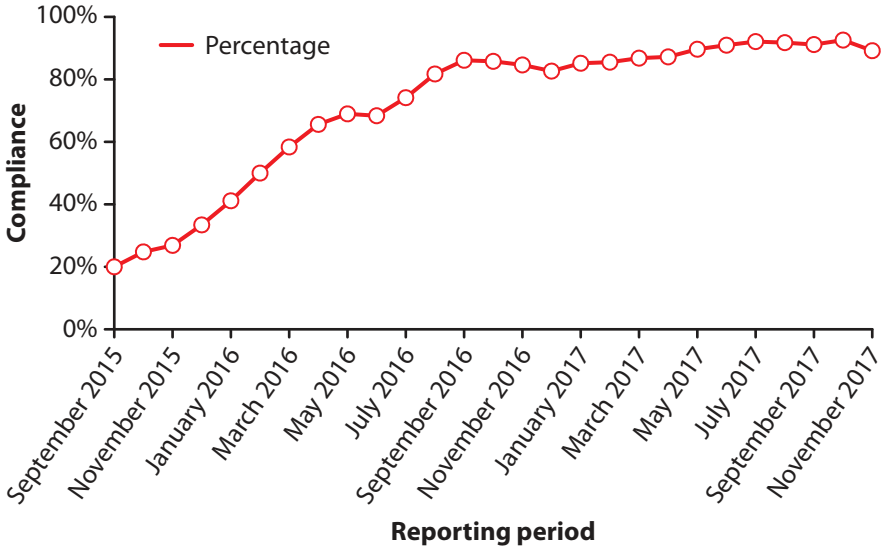
REFERENCE

1. Just/Accountable Culture. (n.d.) *Center for Patient Safety.* Retrieved Dec. 11, 2017, from www.centerforpatientsafety.org/just-culture/.

Figure 2: Pinellas County EMS compliance with patient refusal bundle of care



Pinellas County EMS saw its compliance with the patient refusal bundle of care improve dramatically after implementing a focused quality improvement program.

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FIRST WATCH Core System Feature

IDV

What does IDV stand for?

IDV stands for Interactive Data Visualization and like the name suggests, its intended to enable users to create dashboard visualizations offering interactive drill-downs into their FirstWatch data.

For more IDV FAQs, please visit: FirstWatch.net/IDV

FIRST WATCH

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