Wednesday, September 14, 2016
4:00 – 5:30 p.m.
Schools Insurance Group, Oak/Sycamore Rooms
550 Ellinwood Way, Pleasant Hill, CA 94523

Agenda

4:00 p.m.  1. Introduction of Members and Guests

4:03  2. Approval of Minutes from June 15, 2016

4:05  3. Comments from the Public
Members of the public may speak up to 3 minutes each on matters either on or not on this agenda.

4:08  4. Chair's Report
Kacey Hansen, EMCC Chair

4:16  5. Fire Chiefs’ Report
Fire Executive Chief Representative

4:19  6. Members' Reports

4:22  7. POLST Program
Donald Waters, Executive Director, Alameda-Contra Costa Medical Association, and David English, MD

4:37  8. Six Month Program Update for Assisted Outpatient Treatment Program
David Seidner, LMFT, Forensic Mental Health, Program Manager, CCC Behavioral Health

4:52  9. 5150 Summit Update Discussion
Derek Krause, San Ramon Valley Fire Protection District

5:07  10. EMS Medical Director's Report
David Goldstein, MD, Contra Costa EMS Medical Director

5:15  11. EMS Director's Report
Pat Frost, Contra Costa EMS Director

Please note: The December 7th EMCC meeting will take place in the Ball Auditorium at John Muir Medical Center Walnut Creek.

5:30  13. Adjournment

Reasonable accommodations can be made for persons with disabilities planning to attend the EMCC Meeting by contacting EMS Staff at least 24 hours in advance at (925) 646-4690.

Any disclosable public records related to an item on a regular meeting agenda and distributed by the County to a majority of members of the Emergency Medical Care Committee less than 96 hours prior to that meeting are available for public inspection at 1340 Arnold Drive, Suite 126, Martinez, during normal business hours.
Members Present Representing

Chair: Kacey Hansen Trauma Center (CC Contract)
Vice Chair: Gary Napper Public Managers’ Association
Executive Committee:
  Ross Fay Air Medical Transportation Provider
  Ellen Leng Alameda-Contra Costa Medical Association
Gale Bowen Contra Costa Sheriff-Coroner
Pat Frost EMS Agency Director (ex-officio)
Michael Johnson Alliance/American Medical Response
Derek Krause Contra Costa Fire Chiefs’ Association
Barbara Leal EMS Training Institution
Robert Lutzow District III
Jon Michaelson Public Provider Field Paramedic
Florence Raskin Hospital Council East Bay
David Samuelson Emergency Nurses Assoc. East Bay
Albert Sebilia American Red Cross
Kelley Stieler District I
Alvin Tang Emergency Dept. Physicians (CCC Receiving Hospital)
Allan Tobias District IV
Ross Wilson Private Provider Field Paramedic

Members Absent Representing

Deborah Campbell District V
David Goldstein EMS Agency Medical Director
Gerard Heidkamp Communications Center Managers’ Association
Steve Perea California Highway Patrol
Elaina Petrucci Gunn American Heart Association
John Speakman District II
Steve Simpkins Contra Costa Police Chiefs’ Association

STAFF PRESENT

Leticia Andreas Contra Costa EMS
Bruce Kenagy Contra Costa EMS

Others Present

Kim Adams Reach Air Ambulance
Bob Atlas Contra Costa Fire
Gary Giusti Mt. Diablo Adult Education
Joe Greaves Alameda Contra Costa Medical Association
Brian Hubbell Falck Ambulance
Jennifer LaRaught Falck Ambulance
Crystal Luna-Yarnell Contra Costa Behavioral Health
Jill Ray District II
Rebecca Rozen Hospital Council
David Seidner Contra Costa Behavioral Health
Kyle West American Medical Response

Vice Chair Napper called the meeting to order at 4:03 p.m.

1. Introduction of Members and Guests
2. Approval of March 9, 2016 Meeting Minutes
   Member Napper motioned to approve minutes, seconded by Member Leng. None opposed. Motion passed. Minutes approved.
3. Comments from the Public
   None.
4. Chair’s Report - Kacey Hansen, EMCC Chair
   - Chair Hansen shared that the John Muir Trauma Center celebrated its 30th anniversary, and passed out T-shirts.
   - Staff Andreas mentioned that memberships are expiring this year on September 30th, and nomination requests will be mailed out soon.
5. Fire Chiefs’ Report
   None.
6. Members’ Reports
   Member Samuelson: The Emergency Nurses Association (ENA) has been active in government affairs and monitoring legislation, specific to the EMCC. The FDA is moving to ban the use of standing orders regarding controlled substances in EMS, ENA on national level has been actively advocating for new bill 48365. Members will be travelling to Washington, D.C. to campaign for it. Member Frost requested that a link regarding this legislation be sent to the committee.
   Member Fay: Calstar has signed an agreement with Sutter Health to be their primary helicopter provider.
   Member Frost suggested to make legislative issues a standing item at the EMCC.
7. Quarterly Update on Alliance Ambulance Services - Bob Atlas, Assistant Fire Chief, Contra Costa County Fire Protection District
   - Communications have been fully integrated, and all ambulances are now dispatched through the CCFPD communications center and no longer through Sacramento. The communications center is staffed with a minimum total of 8 staff on duty.
   - The Alliance is meeting response time compliance at an average of 93-97%.
   - Ambulance branding continues; white ambulances are being cycled out.
- The mutual aid agreement between CCCFPD-EMS, Moraga-Orinda Fire Protection District, and San Ramon Valley Fire Protection District is now at county counsel for review. Member Frost requested for a draft be sent to EMS for review.
- CCCFPD is in beginning development the ALS inter-facility transport, non-emergency ambulance services as part of the ambulance service contract.
- - Guest Atlas elaborated that the CCCFPD is recurring EMS and Training System Chief as a permanent position as of July 1st,
and in the hiring process at this time. The current interim battalion chief position held by Chief Sonsteng will also transition -
into a full-time EMS Chief position.

<table>
<thead>
<tr>
<th>8.</th>
<th>Overview of Assisted Outpatient Treatment (AOT) - David Seidner, Program Manager, Contra Costa County Behavioral Health, and Crystal Luna-Yarnell, Program Manager, MHS Contra Costa ACtiOn Team</th>
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<td></td>
<td>An overview of the new AOT program was presented to the EMCC. Begins with a request for a civil investigation. The program is a joint project facilitated by Mental Health Systems and Contra Costa County Behavioral Health Division.</td>
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<td>- Once a referral is made by a qualified party to AOT a review is conducted and a care team will deploy once called, and the client may join the program voluntary or with court order. Should the client be court-ordered to AOT, they will do so through the Contra Costa ACTION Team.</td>
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<td>- Goal is based on a full-service, high fidelity, asserted community treatment model, based on shared case load, with a capacity of up to 75 clients. Different disciplines are represented on any one care team, and each team discusses every patient daily.</td>
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<td>- Program is being conducted as a 3-year pilot program and in the first 12 months of implementation. Funding consists of $2.25 million through the Mental Health Service Act (MHSA) for 75 6-month treatment slots in a 12-month period. The county is in control of regional funding. $400,000 have been set aside for evaluations.</td>
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<td>- Law enforcement receives 32 hours of training in crisis intervention, which includes behavioral health.</td>
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<th>9.</th>
<th>5150 Summit Proposal Discussion - Derek Krause, Operations Chief San Ramon Valley FPD; Pat Frost, Contra Costa EMS; EMCC Members</th>
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<td>A draft of the proposal was shared by Chief Krause. Involvement: Law enforcement; public and private ambulance providers; private hospitals and Contra Costa Regional Medical Center; various public and private insurance providers; others.</td>
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<td>- The goal is to develop and approve understanding each stakeholders perspective and role in the psychiatric emergency process; identify issues; collaborate on solutions and recommendations; establish benchmarks; formalize the outcomes of the summit.</td>
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<td>- Discussion starting points: Ambulance has no legal basis to detain a patient; no common understanding between police and ambulance services exists. Member Samuelson quoted California Bill 1300 which allows to transport and detain the mentally ill.</td>
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<td>- Member Frost has scheduled a meeting Anna Roth and Cynthia Belon to discuss the summit at a meeting in July. This summit is intended to be a multi-system collaboration to support information sharing across all parties involved.</td>
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<td>- Chair Hansen offered that John Muir Health would be happy to host such a summit.</td>
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<td>- Member Frost recommended that after the discussion with Roth and Belon, she would provide information to the executive committee and Member Krause to be able to draft an plan.</td>
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<th>10.</th>
<th>EMS Medical Director's Report - David Goldstein, MD, Contra Costa EMS Medical Director</th>
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<td>In Member Goldstein’s absence, Member Frost brought attention to the End-of-Life Directive authored by Member Goldstein which was recently distributed to stakeholders.</td>
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<th>11.</th>
<th>Ambulance Ordinance Update - Pat Frost, Contra Costa EMS Director</th>
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<td>The ordinance is still at county counsel, and likely to come out prior to the EMCC September meeting.</td>
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<td>- Suggested a special EMCC session in July or August to provide information and receive comments and feedback when the draft ordinance is available.</td>
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<td>- Most updates in the ordinance is focused on non-emergency ambulances services and to improve medical transportation and establish a more coordinated system between emergency and non-emergency.</td>
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<td>- EMS plans to provide an informational workshop to the EMCC and community to solicit feedback from the community. Staff Kenagy elaborated that the board is the sole authority to conduct the official public comment process.</td>
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<td>- The executive committee requested for a letter to be drafted by Member Frost to the board stating the EMCC’s expectations, and to be able to provide input. Vice Chair Napper reminded the EMCC that it functions as an advisory committee to the board.</td>
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<td>- Chair Hansen motioned for the letter to be drafted; Member Leng proposed the motion; seconded by Member Tobias; none opposed; motion passed.</td>
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<th>12.</th>
<th>CAAS / EMSA Complaint - Pat Frost, Contra Costa EMS Director</th>
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<td>EMS became aware of the action in February when both Contra Costa Fire Protection District and Contra Costa EMS Agency received a request for public information associated with EMS’ procurement process. In May Member Frost became aware that letter had been sent to the EMSA had requested this letter from the EMS Authority (EMSA) as part of a public records request. EMSA has not responded to the complaint yet. Member Frost advised that EMSA was fully aware of the Alliance model prior to procurement and had approved the emergency ambulance RFP. Any response to EMSA will be in conjunction</td>
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13. **EMS Director's Report - Pat Frost, Contra Costa EMS Director**
   - For 3 years in row, Contra Costa EMS has received the Mission Lifeline Bronze Award for our STEMI system.
   - Congratulated Kaiser Foundation Hospital in Antioch who received the 2016 Get-With-The-Guidelines Stroke Gold Award.
   - April and May patient transfer of care times: EMS had a successful meeting with Sutter Delta, which is now down to 26 minutes for transfer of care 90% of the time, prior to over 40 minutes. EMS is focusing on delays of greater than 60 minutes, standard in community is 20 minutes 90% of the time, which has been accepted as the statewide standard. Member Frost will send out the May reports by next week.
   - EMS is doing massive restructuring and upgrade of our data systems focusing on interfaces and readiness for bi-directional exchange of patient information with hospitals.
   - Opportunities to connect prehospital records with patient records in the hospital using EPIC Care Everywhere and EDIE (Pre-manage ED) is being explored.
   - EMS is upgrading its FirstWatch system to include enhanced analytics.
   - EMSA has just released a publication for strategy and data collection evaluation and quality:
     Recent legislation requires EMS will be a conduit for registries, POLST, Stroke registry and others in terms of providing information to the state.
   - West County transports: Consistent distribution of patient post DMC closure. Pattern of distribution has not changed, only the volume. Kaiser Richmond is seeing on a routine basis over 200 patients; Kaiser Richmond ED bed capacity was increased in January from 15 to 25.

14. **Proposed agenda items for September 14, 2016 meeting:** Legislative EMS Issues and Updates; 5150 Summit

15. **Adjournment at 5:34pm**
July 6, 2016

Honorable Board of Supervisors
County of Contra Costa
651 Pine Street, 1st Floor
Martinez, CA 94553

Re: Update of County Ambulance Ordinance

Dear Chair Andersen and County Supervisors:

The EMCC has been informed that an important update of the County Ambulance Ordinance will be submitted to the Board for public comment and approval before the end of 2016. Although the draft ordinance is still with county counsel, the EMCC looks forward to a thorough review of the draft in order to fulfill our charter as an advisory body to the Board.

In preparation for the Board's public comment process, the EMCC supports the EMS Agency recommendation to host a special EMCC meeting to discuss the changes associated with the draft ambulance ordinance. The date for that informational session is pending county counsel release of the draft ordinance.

The EMCC believes the informational session will help encourage informed stakeholder participation when the draft ambulance ordinance comes before the Board for consideration. We look forward to providing further input to the Board to assist them in evaluating the proposed updates to the ordinance.

Respectfully,

Kacey Hansen
Chairperson, EMCC

cc: EMCC Committee Members
    Dr. William Walker, Health Officer
    Patricia Frost, EMS Director

cc: BOS
   CAO - Enid Mendoza, Kevin Corrigan
   BGO
Contra Costa Behavioral Health Services Interim Report

Assisted Outpatient Treatment Program - Period Covered: February – July 2016

The Contra Costa County (County) Board of Supervisors (BOS) has authorized the program design and budget to implement Assisted Outpatient Treatment (AOT), and has requested an interim report after six months of operation.

AOT is civil court ordered treatment for persons with serious and persistent mental illness who demonstrate resistance to participating in services. The program design incorporated stakeholder input through a series of workgroup meetings, and consists of a partnership between, 1) the County’s court system to adjudicate petitions for mandating mental health treatment, 2) Contra Costa Behavioral Health Services (CCBHS) staff to determine eligibility, ensure mental health care is provided, and initiate petitions, as appropriate, and, 3) a community based organization, Mental Health Systems’ ACTiOn Team (MHS) to provide outreach, engagement and Assertive Community Treatment (ACT) level of care to individuals referred by CCBHS.

The program officially started on February 1, 2016 by opening a web site with a dedicated telephone line for referrals, and informing the community with promotional materials and approximately fifteen presentations to NAMI – Contra Costa, law enforcement agencies, and service providers that staff were hired, trained, and open for business. (Attachments 1,2,3)

Through the end of July, CCBHS has processed 101 qualified referral requests; 62 of the requests coming from family members, 16 from law enforcement, 16 from mental health service providers, and 7 from other sources. Geographical breakdown roughly approximates the respective populations of East, Central and West Contra Costa County. The rate of requests has been gradually increasing, with 26 of the requests still in the investigatory process. The length of time to determine AOT eligibility has ranged from a minimum of two weeks for cases currently open to CCBHS, to more than six weeks when information has to be obtained elsewhere. Of the 75 cases where a disposition has been established, 13 have been referred to MHS for outreach and engagement, 16 are receiving ACT services, and 3 petitions have been recently filed and are awaiting a first court appearance. 39 individuals were deemed not to be eligible, with 16 of these individuals connected to other appropriate mental health services, and one individual incarcerated. (Attachment 4)

The litigation, or court function of AOT, is new and in its early stages. A total of six court petitions have been filed, with three cases resulting in a settlement agreement where the individual is voluntarily participating in services, and three petitions have been recently been filed. The number of petitions filed appear to be low, as CCBHS and MHS staff appear to be successful in connecting individuals, whether eligible for AOT or not, to either the Adult Mental Health System of Care, or to Mental Health Systems’ ACTiOn Team, depending upon the acuity level of their illness. For those AOT petitions that have gone to court, CCBHS staff, County Counsel, the Public Defender’s Office and Superior Court staff have communicated and worked well together to benefit and complement the AOT program.
The above data reflects a start-up pattern consistent with other large counties who have implemented AOT; namely, program numbers start slow, accelerate at about the six month period, and then plateau. Also consistent is low court involvement, with the preponderance of referred individuals accepting mental health treatment.

CCBHS staff have worked hard to adapt to the role of expeditiously responding to referral requests, determining eligibility, and ensuring connection to the appropriate next steps; whether referral to MHS for outreach and engagement, engaging the court process, or ensuring individuals receive the right type of care, whether they are eligible for AOT or not. Staff report an increase over time in the quality of information and support supplied by qualified requestors. This is resulting in a greater rate of appropriate referrals that exhibit acute clinical need. Reported challenges include managing confidentiality while serving court summons to a service user in a treatment setting, adapting the original program design to day-to-day operations, and establishing a computerized data management system specific to AOT.

Mental Health Systems has achieved full staffing capacity to field a multi-disciplinary mobile team consisting of mental health clinicians, psychiatry, nursing, vocational and housing support, and peer and family partner providers. They have established a master-leased property that has the capacity to safely house up to seven non-crisis clients. Staff have undergone extensive trainings in the ACT model of treatment and various evidence based practices, such as various assessment tools and Motivational Interviewing. The ACTiOn Team has partnered with Contra Costa NAMI to develop supportive and collaborative relationships, and has provided a three part training series to assist family members have a better understanding of ethical, legal and cultural practices of care providers. Two written testimonials from family members have been received that attest to both the effectiveness of the care provided, as well as the support they have received during the process. Reported challenges include clarifying CCBHS’s role as it affects day-to-day clinical care decision-making by the MHS ACTiOn Team, introducing the ACT model of care to this County, and housing clients who are not yet ready to safely maintain themselves in housing that is available.

In March of this year Resource Development Associates (RDA) was authorized to provide an independent quantitative and qualitative evaluation of Contra Costa’s AOT Program, and to report on the program’s programmatic and cost effectiveness. Since then RDA, CCBHS and MHS staff have together identified the data sources, methodology and time line to gather, analyze and report on the research questions of 1) how faithful are ACT services provided to the ACT model, 2) what are the outcomes for people who participate in AOT, 3) what are differences between people who voluntarily participate in AOT versus those who are court ordered, and 4) what are the differences between those who participate in AOT versus those who participate in the County’s Full Service Partnership Programs. Recent and planned activities include a site visit to MHS by RDA in August that utilizes the Dartmouth University ACT Fidelity scale, collection of agreed upon data by RDA in September, analysis with participating partners in October, and a full report with data generated in November to CCBHS, the Mental Health Commission, and the Board of Supervisor’s Family and Human Services Committee.
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<th></th>
<th>Number</th>
<th>Percentage</th>
<th>County Demographic Percentage</th>
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<tr>
<td><strong>Gender</strong></td>
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</tr>
<tr>
<td>Male</td>
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<td>Female</td>
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<td><strong>Region</strong></td>
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<td>Central</td>
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<tr>
<td>East</td>
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<td>26</td>
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<td>Total</td>
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<tr>
<td><strong>Type of Qualified Requestor</strong></td>
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<tr>
<td>Family Members</td>
<td>62</td>
<td>61</td>
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<tr>
<td>Law Enforcement</td>
<td>16</td>
<td>16</td>
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<tr>
<td>Service Providers</td>
<td>16</td>
<td>16</td>
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<tr>
<td>Other</td>
<td>7</td>
<td>7</td>
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<tr>
<td>Total</td>
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<tr>
<td><strong>Outcomes</strong></td>
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<td>Case opened - determining AOT eligibility</td>
<td>26</td>
<td></td>
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<tr>
<td>Referred to MHS for outreach and engagement</td>
<td>13</td>
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<tr>
<td>Volunteered for ACT Services</td>
<td>16</td>
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<td>Court Involved petition pending</td>
<td>3</td>
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<tr>
<td>Connected to other mental health services</td>
<td>16</td>
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<tr>
<td>Not eligible for AOT</td>
<td>26</td>
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<td>Incarcerated</td>
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EMCC 5150 Summit Planning: Executive Report

The following is an update on the efforts to support an upcoming 5150 Summit. In July EMS met with Anna Roth CCRMC CEO and Cynthia Belon Director of Behavioral Health. They were both extremely supportive of the Summit and discussed the following:

**Timing:** A 5150 summit would be scheduled as a day-long summit sometime in January/February 2017. This timeline allows adequate time to plan a meaningful event. The timing would also provide an opportunity for the county to update stakeholders on upcoming 2017 behavioral health initiatives addressing patient populations associated with 5150.

**Location:** John Muir Medical Center Walnut Creek conference center has graciously offered to be the host site providing AV, refreshments and lunch for attendees

**Goals:** The 5150 Summit would be primarily educational directed at promoting a comprehensive understanding of the 5150 issues facing county stakeholders from the various disciplines.

**Proposed Agenda:**

- A review of data from the community with contributions from EMS, PES, Hospital Council, EHSD, Law enforcement would be important
- A review of the law and legalities associated with 5150, voluntary and involuntary holds and 5150 impact on stakeholders
- Presentations on stakeholder perspective from Law, EMS, PES, CCHS
- Case Study presentation and panel discussion (3 cases typical 5150 (substance abuse related), 5150 associated with Dementia, 5150 associated with youth)
- Evaluating strategies for alternatives to 5150

**Data:** I have also begun to work with Dr. Barger on pulling together the EMS data and Cynthia Belon for the CCRMC Psychiatric Emergency data. The summit would also require hospital and other stakeholders to present data to facilitate a 360 picture of EMS System and Community impacts. I have reached Rebecca Rozen Executive Director of the Hospital Council to assist us in acquiring hospital data.

**Next Steps:** Interested EMCC members are needed to recommend appropriate speakers and assist with the day. RN and Prehospital continuing education could also be made available for a nominal fee for those attending.
2016 EMS Trend Report

The forces shaping the present and future of EMS in the U.S.
Editors’ Note

As the EMS adage goes, “If you've seen one EMS system, you've seen one EMS system.” While that statement reflects the diversity of EMS systems across the country, it also creates the false sense that every EMS system is entirely different and that we can't learn from each other.

Clearly that is not the case. As we see in the premiere edition of the EMS Trend Report, EMS systems across the country share many traits. On the other hand, significant differences do exist in everything from clinical care to salaries to operational benchmarks. In this special report, see how your agency compares to others around the country. The issue also features analysis and reaction from EMS experts about the importance of performance measurement and paramedic degree requirements, as well a roundtable discussion about the most interesting findings of the EMS Trend Report, how those findings might be best applied and what we might expect to see in future years.

Share this trend report with other EMS leaders. Discuss the findings and send us your thoughts at editor@ems1.com.

Jay Fitch, Ph.D.
Fitch & Associates

Greg Friese, MS, NRP
EMS1.com
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> esosolutions.com/decipherdata
A key principle in physics says you can either know where an object is or how fast that object is moving, but you can never know both at exactly the same time. Trying to take the pulse of the nation’s EMS system presents the same challenge: While some things seem to stay stagnant, many aspects are changing so quickly that by the time they are measured and analyzed, they are no longer the same.

The 2016 EMS Trend Report is not only about measuring where EMS is today, but also how fast — or slow — it is moving, and in what direction.

Survey scope

Instead of attempting to survey thousands of self-selected agencies, a group that can change from year to year, we focused on a smaller but still representative group of EMS agencies that agreed to take the time year after year to provide detailed information.

We asked members of this group, which we’ll call the EMS Trend Report Cohort, about their clinical care, operations, finances and more in order to examine trends within the industry.

The agencies were not selected because they’re the “best” or the biggest. Instead, they represent a range of service delivery models and sizes in diverse geographic and demographic settings. They are diverse in many other ways as well, from clinical protocols to operational procedures.

Fitch & Associates, EMS1 and NEMSMA thank each organization that volunteered to participate in this effort. Without your willingness to share information for the betterment of patients and EMS systems everywhere, this project would not have been possible.

This inaugural report sets the foundation for evaluating changes and trends in the emergency care system, including standards of care, educational requirements and performance indicators.
Highlights from year one

Clinical care
While an expanding research base and move toward evidence-based care has likely created more consistency in clinical protocols used across the country, some significant differences clearly still remain. Certain procedures and equipment are used by only a minority of agencies in the survey. Others have seen rapid adoption or decreased use in recent years.

For example, more than half of the agencies in the EMS Trend Report Cohort now report using mechanical CPR devices, such as the LUCAS or AutoPulse. Yet at the same time, only a quarter report the routine use of impedance threshold devices for cardiac arrest patients. This being the first year of the trend report, it will be interesting to follow whether ITD use increases or decreases in future years, especially as the evidence of its effectiveness continues to be debated by experts in the field.

Perhaps not surprisingly, nearly every agency reported use of CPAP, a device that just 15 years ago was probably used only in a small number of systems. What procedure, medication or device will be the next to so dramatically change EMS care?

Currently, fewer than 5 percent of the EMS Trend Report Cohort agencies use ultrasound in the field. It will be interesting to track that number over the next few years to see if more agencies decide ultrasound is a useful prehospital tool.

What procedure, medication or device will be the next to dramatically change EMS care?

Another trend to follow will be the use of hypothermia in resuscitation. Fewer than half of the agencies reported that their protocols included therapeutic hypothermia for cardiac arrest.

The release of the most recent American Heart Association resuscitation guidelines, which recommended against prehospital administration of cold saline to induce hypothermia, occurred as this survey was being conducted. While the guidelines did not say to stop cooling in the prehospital environment, some agencies likely removed

Which therapies, procedures and devices are used/permited in your system?

Number of agencies

- Ultrasound
- AutoPulse
- (ITD) such as ResQPod
- Hypothermia in cardiac arrest resuscitation
- LUCAS
- CPAP
post-resuscitation hypothermia from their protocols completely, while others may have turned to an alternative method, such as ice packs.

**Finance**

The economy’s slow but steady recovery seems to be reflected in EMS budgets. The majority of the agencies in our survey reported either no change or small increases in budget dollars over the previous year, while less than 10 percent reported a decrease. At the same time, almost none increased the budget by more than 4 percent, and with rising expenses and call volumes in many areas, these minimal increases are forcing many EMS organizations to try to do more with less.

Personnel costs represent the largest chunk of the budget for most agencies, meaning that stagnant budgets are likely leading to only modest, if any, increases in salaries or benefits.

Historically, emergency telecommunications jobs were considered positions for field providers who could no longer perform those duties or as entry-level positions. But recognition of the critical role of 911 call-takers and dispatchers, and the stressors and demands of the job, has led to a professionalization of the role, and increases in pay along with it. In fact, agencies report higher typical starting salaries for telecommunicators than EMTs in the field; however, paramedics continue to earn more.

Interestingly, the survey respondents were evenly split on billing, with half using a third-party vendor for ambulance billing and half using in-house staff. The impact of ICD-10, along with future changes to Medicare and
Medicaid reimbursement policies, will likely drive how quickly and in which direction that answer shifts in future years.

Clinical measures
Certain indicators, such as return of spontaneous circulation in cardiac arrest and the ability to identify ST-elevation myocardial infarction, have been used to measure clinical performance for many years and remain in widespread use in EMS systems. In contrast, other measures have not yet been widely accepted, such as pain management, recognition of sepsis or heart failure and use of physical or chemical patient restraints. About half of respondents reported measuring a patient’s pain, for example, while the vast majority said they track their providers’ ability to identify STEMI. The clinical indicators used demonstrate that some agencies still struggle to measure the right things, due either to lack of access to data or simply tradition. Nearly every agency is tracking ROSC, while slightly fewer track survival-to-hospital discharge, even though the latter is considered a more patient-centered and appropriate measure of the performance of the emergency care system.

Clearly, more EMS agencies need to have access to outcome information and other data from hospital systems and other sources in order to appropriately measure and improve the quality of care they provide.

Response time
Response time analysis continues to be somewhat controversial in EMS. In recent years, an effort to focus on clinical and outcome measures has led many to argue that response time measures are outdated and irrelevant. However, response time is still an important measure for any EMS system, as it is critical in certain, rare situations (such
as sudden cardiac arrest), and response time goals are often embedded in contracts and budgets.

Survey respondents differed widely on how they measure response time — a problem given that many compare themselves to each other and to benchmarks, such as the National Fire Protection Association standards. This survey found that 26 percent of respondents, for example, started the clock for response time when the phone was answered in a dispatch center, while 47 percent started measuring when the unit was notified. About two-thirds of the organizations surveyed said they measure 90th percentile times, while the rest measured average response times. This lack of consistency can lead to unrealistic expectations that often impact budget and resource allocation decisions.

**Patient satisfaction**

The widespread adoption of the Institute for Healthcare Improvement’s Triple Aim has led to increased use of patient satisfaction as a measure in health care, including for determining levels of reimbursement.

EMS has joined this movement but lags behind its health care partners. About half of respondents are not formally surveying patients, relying instead on unsolicited
complaints or comments to assess patient satisfaction. About a quarter of agencies are using a third party to measure patient satisfaction. That number is expected to grow as more EMS agencies try to demonstrate community support.

**Paramedic education**

In recent years, the EMS community has debated whether more education should be required for paramedics. Some have argued that paramedics should, at minimum, hold an associate’s degree. Others have pushed further, saying that bachelor’s degrees should be necessary.

Among the EMS Trend Report Cohort, fewer than 10 percent of agencies require paramedics to have an associate’s degree at this time, and none require a bachelor’s. However, it will be interesting to see if that changes in future years, as more than 60 percent of respondents think an associate’s degree should be required. Whether reality catches up with those opinions will likely be determined by many factors. Paramedics with degrees likely have higher salary expectations, especially if there is a scarcity of qualified applicants for paramedic positions requiring a degree.

**Integrating EMS in health care**

Only 11 percent of EMS leaders surveyed disagreed with the statement that EMS is becoming more integrated into the overall health care system. The vast majority agreed with the statement, with 28 percent answering “strongly agree.”

While there was general agreement on this question, there was less consensus on whether the term “emergency medical services” still best describes the profession. A handful said “EMS,” while many preferred “mobile integrated health care” or simply “mobile health.” Others suggested “prehospital care” or simply “paramedicine.”

**Conclusion**

The 2016 EMS Trend Report establishes a baseline for evaluating trends in the EMS profession as organizations in the EMS Trend Report Cohort grow, innovate and mature over the years. With the EMS Agenda for the Future turning 20 in 2016, and an updated Agenda in the works, the EMS Trend Report will give our profession the opportunity to evaluate our current state and examine our progress toward achieving the goals we set for the next several decades.
Take a look at the survey results and consider what they might look like next year, in five years or in 20. When we look back at this first EMS Trend Report in 2036, what will it tell us about the next two decades of EMS?

About the survey
A wide variety of EMS systems throughout the United States represent an assortment of system models, designs and structures. To reach the largest number of agencies for this survey, numerous outlets were used to solicit voluntary participation. These included the EMS1.com website, email contacts from Fitch & Associates and the National EMS Management Association, social media platforms such as Facebook and Twitter and press releases from industry partners.

The survey was open for a 12-week period in 2015. Applicants were asked to complete a basic intake survey, after which staff at Fitch & Associates provided each applicant with an individualized survey link to complete the data entry process online. Applicants, especially those who did not fully complete the survey mechanism, were contacted with follow-up inquiries.

Staff at Fitch & Associates collected, aggregated and analyzed the data. Every effort was made to ensure that sufficient data points were reported by region and system configuration while still providing anonymity to the individual reporting agencies.

A total of 94 agencies — the “EMS Trend Report Cohort” — participated in the survey, representing a diverse cross-section of EMS. Not every department was able to provide answers for every question, so some questions reflect the responses of a subset of the agencies surveyed. More information about the survey respondents is available in the Survey Demographics section later in the report.

About the authors
For more than three decades, the Fitch & Associates team of consultants has provided customized solutions to the complex challenges faced by EMS agencies of every size and service model, both private and public. From system design, objective review and competitive procurements to comprehensive consulting services, Fitch & Associates helps communities ensure their emergency services are both effective and sustainable. For ideas to help your agency improve performance in the face of rising costs, call 888-431-2600 or visit www.fitchassoc.com.
How can we know if we’re improving EMS if we don’t ask the patients and the communities we serve?

The IHI Triple Aim has become a widely accepted framework for improvement efforts in health care, and one of its three parts is the patient experience. I’m surprised for a number of reasons that the 2016 EMS Trend Report found that the majority of agencies are not truly measuring patient satisfaction.

Risk management
The top reason I’m surprised is that improving the patient experience is basic risk management. Research and common sense both tell us that patients who are less satisfied with their providers will be more likely to complain and possibly to file lawsuits. Especially in EMS, where the public’s expectations of what actual medical care we can provide are often low, our attitude and the way we communicate with a patient might be the most important aspects of the care we provide. We could do everything technically right and save a life, but treat the patient’s family with disrespect and we’ll receive a complaint.

Patient care
We also need to understand that the patient experience is part of patient care. We can’t separate technical and clinical skills from communication and empathy. They are equal components of providing prehospital medical care.

Asking our patients and their families to provide feedback through a formal assessment of patient satisfaction should be a priority of every EMS agency.

By Jay Fitch, Ph.D.
It was discouraging to see that nearly half of the EMS Trend Report Cohort agencies only track complaints or don’t really measure patient satisfaction at all, and that only a quarter of the agencies use a third party to measure patient experience.

Tracking only complaints leads to a punitive view of improving the patient experience, looking only for the worst examples and often chastising the caregivers involved. Truly measuring patient satisfaction and trying to improve it often involves seeking out the good examples.

One of our clients noticed one practitioner consistently received great feedback from patients. Instead of focusing on punishing the bad apples, the organization’s leaders focused on what that one paramedic did differently and how they could replicate those actions throughout the agency.

Reimbursement
Perhaps measuring the patient experience has yet to catch on in EMS because people fail to see the financial incentive. Unlike hospitals, whose reimbursement levels could be impacted by patients’ responses to the Hospital Consumer Assessment of Healthcare Providers and System survey, EMS providers do not see an obvious tie between economics and patient satisfaction.

In fact, leaders might perceive an economic disincentive. There is a small cost to measuring patient satisfaction using an outside vendor, which is the best way to ensure an objective response that can help your organization improve.

Some agencies may have started measuring the patient experience only because they expect the Centers for Medicare and Medicaid
Services to expand use of patient satisfaction measures from hospital reimbursement to other areas, like ambulance transport. But predicting the precise future of health care reimbursement remains a murky proposition, and many agencies would rather wait and see.

Regardless of future financial incentives, EMS leaders should recognize that in some ways, measuring the patient experience is the best way to measure the performance of an EMS system. Many agencies rely on operational measures such as response time to assess their system, but we have come to realize that response time is only clinically important for a small number of critical conditions. On the clinical side, the most common measures are cardiac arrest survival or intubation success rates — metrics that examine important processes and outcomes, but look at only a tiny fraction of total calls.

Measuring patient and family satisfaction is a way to look at performance of the entire system on every call. Patients, families and bystanders will judge the overall experience with EMS from the time they dial 911 until they are in a bed in the emergency department and talking to hospital staff.

How we demonstrate not just clinical care, but people care — through our interactions, our ability to explain what's happening, our efforts to provide comfort — is just as important as our IV success rates or whether we obtained two sets of vitals.

How we act on each call, especially in the first and the last few minutes, can make a lasting impression on our patients and probably a difference in how they feel about their caregivers. Calling 911 is usually an anxiety-filled event, and when we take people from their homes to a strange and stressful environment like the emergency department, wheeling them in on their back, feet first — well, it can be a terrifying experience.

Whether or not the patient experience impacts an agency financially or not shouldn’t be the only motivator for asking patients for feedback and measuring satisfaction. At the end of the day, alleviating patients’ fears, reducing their anxiety and displaying compassion should be part of our core mission. And if we’re not actively measuring whether we’re achieving that mission, we’re probably not going to know when we fall short — or how to do it better.

About the author

Jay Fitch is the founding partner and president of the public safety consulting firm Fitch & Associates. Recognized as an EMS/public safety operations and design expert, Jay leads a number of the firm’s more complex projects. He has also spoken at international conferences and written textbooks and articles on topics including leadership, performance improvement and system design. Jay has received numerous honors, including the National Association of EMTs’ Lifetime Achievement Award. Contact Jay directly at jfitch@emprize.net.
The debate about the minimum education requirements for paramedics has been going on for decades. Many continue to argue vociferously that the possession of a degree is unnecessary and poses a threat to the viability of the profession.

As a long-term practitioner, professional educator and future recipient of field care services, I will reiterate what I have said for many years: The argument that higher education is unnecessary is shortsighted and continues to hinder our industry from expanding its role in health care and public safety.

Apparently many respondents to the 2016 EMS Trend Report agree: Nearly two-thirds of agency representatives believe that an associate’s degree is the minimum level of education needed to be a paramedic field provider.

This stands in stark contrast to the reality of minimum job requirements. Nearly three out of four survey participants indicate that only a high school diploma is required to practice.

Given the increasing complexity of field care being delivered in a dynamic and often uncontrolled environment, it’s critical that future paramedics earn a college degree in order to begin practice. Allow me to explain.
Higher education equals a better-prepared paramedic

In order to achieve a degree, a student must complete a basic series of English classes. Having command of English fundamentals is critical to paramedic student success. Many Americans read comfortably at the sixth or seventh grade level. Paramedic textbooks are written at the 12th grade or college freshman level. This doesn’t mean that paramedic students won’t be able to read the textbook, but it does make a challenging course of study that much more difficult for students with lower grade-level reading skills.

As an educator, I supplement my classes with narrated slideshows, online videos, interactive activities and the like. But it will never substitute for student self-directed reading and learning.

In medicine — and in society — we continue to communicate deeply through the written word in textbooks, trade journals or research papers. Paramedics need to be able to comprehend the content but also analyze it, question it and integrate it into their practice. College English classes can provide the tools necessary for true understanding of the printed word.

Paramedics must be able to communicate quickly, succinctly and accurately, both verbally and in writing. Many institutions require a communications or public speaking course as part of the associate’s degree track. The student learns how to choose words wisely, to articulate points of view with clarity and defend opinions with thoughtful arguments.

Math and accounting courses train the brain to work logically through difficult problems, making decisions whether to go this way or that way depending on what is known and unknown. Rational decision making is critical for making sound medical judgments without the crutch of protocols. Drug calculations become simpler to understand and execute as a paramedic’s math skills sharpen. Determining destination decisions when time, distance and mode are involved become less biased and more objective.

History and other liberal arts courses also contribute to the ability to think critically and reason logically. Knowing and understanding that what has happened in the past influences what will happen in the future is a key lesson for EMS leaders.

Coursework in philosophy and the arts forces students to think about diversity of opinion, ideas and concepts. The diversity of our patient population demands that paramedics remain open to divergent viewpoints and able to appreciate them rather than pass judgment.

Paramedicine has become more complex

EMS old-timers will tell you just how much the industry has changed. Greater understanding of anatomy, physiology and pathophysiology is required. Many systems have increased the number and complexity of the medications paramedics are authorized to administer. Technologies such as multi-lead ECGs, waveform capnography, infield labs, lactate monitoring and ultrasound require greater
proficiency in using and interpreting the data. Research is driving the EMS evolution. Transport mode and destination decisions are forms of treatment and are being scrutinized as such. Deciding when not to perform certain procedures is just as critical as when to do so. Data from well-designed studies, combined with a sound medical education and enriched by reflective practice brings forth a paramedic who manages patients beyond the reach of well-meaning but simplistic protocols.

Most EMS systems depend at least partially, if not entirely, on private health insurance and Medicaid/Medicare reimbursement. The EMS industry has taken a financial beating over the past decade, as it has not been able to demonstrate its concrete value to patients, public health and payors.

The rise of mobile health principles and community paramedicine programs appears to work not only from a financial perspective, but also from the viewpoint of pure clinical outcomes. Future paramedics have to be as well versed in public health concepts, short term and chronic care and non-urgent clinical issues as they are in emergency medicine. That translates to more studies to better understand and incorporate these knowledge areas. Courses taught by subject matter experts contribute to the greater body of knowledge that the paramedic needs to possess. Independent study or research projects, in the form of a capstone degree project, are an opportunity for paramedic students to broaden or gain knowledge in rapidly developing areas of health care.

Eagles or ostriches will drive the future growth of field medicine

As the data from the first year of the EMS Trend Report shows, most of the respondents believe that an associate’s degree should be required for paramedics to practice. The fact that most employers and regulatory agencies don’t require a degree for licensing paramedics is not a deterrent to what must happen; it’s merely reflective of what is happening today.

The industry has done an admirable job in adapting to the evolving world order of medicine and reimbursement, but it’s not sustainable without a strong foundation of well-prepared practitioners — both clinically and academically — to carry out new missions. Moreover, with more responsibilities and greater autonomy will likely come greater recognition and better benefits. That, in turn, will allow field providers to grow old in the EMS profession, contributing their expertise and experience rather than fleeing to greener pastures. To soar with eagles is to think like one — otherwise, it’s much easier to be an ostrich and try to ignore what must be done.

Many of the variables in the equation of health care provision and reimbursement are not within the reach of EMS leaders to change. Education, though, is one that leaders can change. Trends report data from next year and subsequent years will be revealing in how quickly the EMS profession increases degree requirements for new paramedics.
A panel of EMS leaders shares their top surprises, concerns and suggestions on how other leaders can apply the EMS Trend Report findings to improve their agencies

The first-year findings from the EMS Trend Report set a foundation to track change in EMS and ignite discussion among EMS leaders and field providers about our future. We asked EMS1 editorial advisors, columnists and contributors to review, react to and reflect on EMS Trend Report data. The panel includes:

- Dr. James MacNeal, EMS physician
- Sean Caffrey, EMS manager/administrator
- Chris Cebollero, EMS consultant
- Rob Wylie, fire chief
- Catherine R. Counts, EMT, graduate student

**Which EMS Trend Report finding surprised or interested you most?**

**Dr. James MacNeal:** It is interesting that such a large percentage of respondents think paramedics should have an associate's degree as a minimum requirement. These same respondents reported an extremely low number of associate's degree-prepared paramedics working for them.

It will be interesting to follow this trend over time as the next generation of paramedics enters the profession. While the associate's degree may seem to be a surrogate for achieving professional status for paramedics, it causes me some concern. Is it fair to ask an entry-level paramedic to take on two years of college debt to enter a career that pays less than minimum wage in some areas?

The perpetual chicken-or-egg situation is occurring here. Do we get the degree to justify better pay, or offer better pay so providers get the degree? My guess is that it will be a slow combination of both that will ultimately lead to a larger proportion of associate's degree-trained paramedics.

**Sean Caffrey:** I also found it most interesting that almost two-thirds (64 percent) of respondents believe that paramedics should
hold at least an associate's degree; however, less than 8 percent of organizations actually required that of their applicants. This is a clear disconnect that actually represents our own organizations holding us back as professionals.

It's also interesting to note we've been concerned about 24-hour shifts, and longer, for many years. We also have recent evidence that 12-hour shifts may, however, be among the worst of all in terms of fatigue and recovery. Interestingly, almost 40 percent of services report shift lengths of 24 hours or more, while half of all services surveyed use 12-hour shifts.

We have much work to do to better understand shift length and fatigue, including the research published in Prehospital Emergency Care, “Recovery between work shifts among Emergency Medical Services clinicians.”

Chris Cebollero: It was interesting to see the differences in how systems are conducting clinical care. More than half the agencies involved in the cohort are using an AutoPulse or LUCAS device. You can argue that these systems are trying to be on the cutting edge of care and trying to increase their cardiac arrest survival rates. But only a quarter of reporting agencies are using the impedance threshold device. This seems to be a disconnect in using resources in concert with each other to achieve a high rate of ROSC. If you decided to go with a mechanical CPR device, take the next steps and use the ITD to ensure maximum effectiveness.

Rob Wylie: The survey finding that surprised me the most was the lack of consistency in medical care practices. I realize that there is and always will be a significant divide in the service area types — for example, rural versus urban — but with the advent of available technology, such as software for patient tracking outcomes, along with increased grant availability and more professional certification and education requirements, I would have thought that the gaps would narrow. There will always be outliers, but I expected a more homogeneous prehospital health care system.

I was also surprised by the disparity in clinical measures being utilized by different agencies. With the widespread distribution of best practices, I expected more agreement on critical clinical measures that all agencies should track as a standard.

Catherine R. Counts: Two things stood out to me. First, almost half of the organizations were able to implement hypothermia protocols, which is a relatively quick uptake of a new clinical procedure versus other interventions. Note that the 2015 AHA guidelines do not recommend prehospital initiation of therapeutic hypothermia.

Is it fair to ask an entry-level paramedic to take on two years of college debt to enter a career that pays less than minimum wage in some areas?
Second, I am surprised that nearly half of respondents are surveying patient satisfaction—although I think we need to define the word “survey” to better understand the effort to collect and analyze satisfaction data.

Which additional finding was either most affirming or most concerning?

Sean Caffrey: I was pleased to see a very diverse list of organizations surveyed, an uncommon occurrence. Overall it shows that while we often pride ourselves on variation, we are generally similar as organizations and as a profession, dealing with similar issues and seeing similar trends. Despite the variation in agency type and geography, little in the survey was particularly surprising.

James MacNeal: The funding issues continue to concern me. As health care becomes more integrated, are we placing increasing demand on some of the lowest-paid members of the health care team with the least amount of training in care management and long-term care?

Chris Cebollero: It was interesting that there is still so much reliance on response times as a component of an effective EMS system. This old way of measuring system effectiveness has to finally be debunked and replaced. The EMS systems of today need to also focus on outcome measures, including measurement of patient satisfaction.

First responders are getting on-scene on average in four minutes. Care is at the patient’s side faster today than when response time compliance was put into place decades ago. The clock should then stop and the team needs to deliver the best patient care possible, focusing on outcomes, navigating the patient to the most appropriate treatment facility and ensuring that patients feel they received excellent care.

Rob Wylie: The most affirming finding was the overwhelming agreement by the respondents that EMS services are becoming more integrated with the overall health care system. The complexity of the regulatory environment, coupled with the pace of clinical change in medicine in general, dictates that we have a cohesive, comprehensive and symbiotic relationship between EMS response agencies, hospitals and the medical education system.

Catherine R. Counts: It is affirming that clinical measures are being used by agencies to measure appropriate application of care, but the amount of variation is worrisome.

How do the findings of the first year align with other trends in EMS and health care?

Catherine R. Counts: It makes sense to me
that there is variation in how “success” and “good care” are measured. The U.S. health care system as a whole can’t agree on what constitutes good care, so it’s no surprise that EMS can’t either.

James MacNeal: The likely increase in patient satisfaction scores tied to EMS reimbursement is a very scary prospect. Patients are often most anxious and least likely to understand the care that is being provided to them in the first minutes of their emergency. Poor experiences in the emergency department and in the hospital may translate to lower patient satisfaction scores for EMS by the time the patient receives the survey. In a model where EMS providers must have pancake breakfasts, fish fry dinners and bingo night (to raise needed funds), it is very scary thinking that if their patient satisfaction isn’t good, their reimbursement might be lowered more than the barely afloat level it is at already.

Chris Cebollero: It seems to me that the status quo is alive and well in EMS. The adage, “that’s the way we have always done it” comes to mind when looking at the first year of data. We now have the opportunity to challenge our processes, determine what the EMS systems of tomorrow will look like and transition to new models. Health care is changing daily. It is time for EMS to be in the forefront of change to help patients get healthier.

Rob Wylie: The findings of the first year point in a couple of directions. First, patient outcome-centered care. As we see the growth of community paramedicine to prevent patients who could otherwise be treated at home by highly trained medics — supervised by doctors, physician assistants or nurse practitioners/APRNs — from returning to the hospital.

Second, we have an opportunity to refocus more of the services we provide to be patient-centric. Why do we transport diabetics who return to a normal (blood sugar level) after treatment? Why are COPD patients transported when all they may need is an adjustment in their medications? Home-based care is less expensive, less invasive and in many instances more than adequate.

Sean Caffrey: The variation in clinical care was not particularly surprising. As with any medical practice, the level of care being provided and the adoption of new treatment modalities occur at various speeds throughout the health care system.

It was also interesting to see some clearly outdated items still around while some newer therapies had gained substantial adoption. This is comforting in the sense that it represents that we advance in a similar way to our colleagues throughout health care and that removing therapies is perhaps harder than adding them.
What specific actions, based on the trend report findings, do you recommend to EMS leaders?

Chris Cebollero: It is always a best practice to benchmark your system, processes and clinical care with the career field. This project lets EMS leaders look into the EMS mirror and gauge how successful their EMS system truly is. As leaders, we need to meet, exceed or set the standards for others to follow and hopefully come to some consensus on how “gold standard” EMS systems should operate. This is going to be a long road, but it begins with the sharing of data.

James MacNeal: Engage with your local hospitals now. Mobile integrated health care is not a right of EMS. Many hospitals don’t even know EMS providers can do these things. By getting in on the front end of this, EMS will be in a better position to control their destiny. Engage your medical director for EMS activities as well as hospital liaison duties. Integration is paramount to all of our success, but if you are not a full partner, bundled billing will be your nemesis.

Catherine R. Counts: Recognize that no EMS organization is an island, while at the same time no two organizations are exactly alike. Protocols and procedures can have variation across organizations, but said variation must come from a place of good intentions.

EMS is a changing field, but different organizations have the capacity to change at various rates. Don’t try a new idea just because a famous EMS agency or service did it. Do your own research and come to a decision that is best for your organization’s economic and cultural situation.

Rob Wylie: I am reminded of the adage, “The only two things emergency response agencies hate are change and the way things are.” We need to focus on best practices, evidence-based medicine and clinical measurements that truly gauge the value of the service we provide. “We’re too small” or “We’ve always done it this way” are crutches and excuses that do not hold water.

Look around at those that are doing it right. Educate your community and its leaders as to the kind of service your customers deserve and that those services cost money. Adopt evidence-based clinical measures that show the great work you are doing, not just how fast you are leaving the station after a 911 call.

Sean Caffrey: The IHI Triple Aim will continue to be the rallying cry of health care moving forward. We know health care is too expensive, far less effective than it should be and very disconnected from the patient.

EMS leaders must do a better job of measuring from the customer’s perspective. Obscure metrics, such as measuring response time intervals from the time of dispatch, something no patient would care about or benefit from, puts us in a position of peddling self-serving nonsense that will likely come back to haunt us. We must also do a much better job of measuring and providing good customer service. It won’t be long until we can read about ourselves in a Yelp or similar-style review.
What else would you add to the discussion?

James MacNeal: EMS providers need to be active learners and participants in the EMS system. Encourage your medical directors, nurses, emergency physicians and law enforcement personnel to spend time with you. You need to carry the torch of your profession and spread the word of our undying commitment to saving lives and serving our communities.

Chris Cebollero: As EMS leaders we often talk about how splintered the EMS career field is, or we wonder when some person or agency is going to unite all of EMS so we finally get the recognition and respect our career field deserves. It is through efforts such as this that will bring recognition to common care and operational practices.

Sean Caffrey: An overwhelming majority of respondents want paramedics to have a degree, many EMS organizations invest over half their budgets on staff and we claim to be very concerned with their safety. Our actions, or perhaps our need to get trucks on the street at any cost, however, show that we are not yet aligning our practices with our preaching — issues which are squarely under our control as EMS leaders.

Catherine R. Counts: The fact that Fitch, EMS1 and NEMSMA teamed up to do this report is fantastic. Although prior attempts at surveying EMS organizations have been made, the long-term goals of this survey set it apart from those efforts. By committing to seek out responses from the same organizations year after year (and with such a large response rate), this survey will only become more valuable both within and outside the EMS industry.

Concepts like mobile integrated health care and community paramedicine, paired with the continued focus on ensuring that health care is effective while being patient-centered, noted in this report and subsequent surveys will ensure that EMS is able to keep pace with the trends, changes or alternative markets coming our way.

Rob Wylie: I would recommend that all EMS leaders become involved in professional associations and organizations such as the National EMS Management Association, the International Association of Fire Chiefs, and the National Association of EMS Physicians (you don’t have to be an MD to join!).

Most of all, I would encourage leaders and their personnel to look hard at what their communities expect from them now, and then educate them as to what is possible with a collaboration and support in the future.

Find the need and create the solution! Become the “agency of first resort” in your community.
James MacNeal, MPH, DO, NRP, began his career in emergency medicine as a paramedic. He holds an American Board of Emergency Medicine/Emergency Medical Services certification and completed an EMS fellowship at Yale University. He is the MercyRockford Health System’s EMS medical director.

Chief Rob Wylie has been in the fire service for 29 years, serving first as a volunteer firefighter and then as a career firefighter, rising through the ranks to become the fire chief of the Cottleville FPD in St. Charles County, Missouri, in 2005. During his tenure, he has served as director of the St. Charles/Warren County Hazmat Team and as president of the Greater St. Louis Fire Chiefs Association. Wylie has served as a tactical medic and TEMS team leader with the St. Charles Regional SWAT team for the last 19 years and serves on the Committee for Tactical Casualty Care guidelines committee. Chief Wylie is a member of the Fire Chief/FireRescue1 Editorial Advisory Board.

Chris Cebollero is a nationally recognized emergency medical services leader, author and advocate. He is a member of the John Maxwell Team and available for speaking, coaching and mentoring. Currently he is the senior partner for Cebollero & Associates, a medical consulting firm, assisting organizations in meeting the challenges of tomorrow. Cebollero is a member of the EMS1 Editorial Advisory Board.

Catherine R. Counts is a doctoral candidate in the department of Global Health Management and Policy at Tulane University School of Public Health and Tropical Medicine, where she also previously earned her master’s degree in Health Administration. Counts has research interests in domestic health care policy, quality and patient safety, organizational culture and prehospital emergency medicine. She is a member of AcademyHealth, Academy of Management, the National Association of EMS Physicians and National Association of EMTs.

Sean Caffrey, MBA, CEMSO, NRP, currently serves as the EMS programs manager for the University of Colorado School of Medicine, Pediatric Emergency Medicine Section. He has been certified as a paramedic since 1991 and has worked in volunteer, private, hospital-based, fire-based and third service EMS systems in roles from provider through department head. Caffrey currently works in conjunction with the state EMS office in Colorado, is the vice president of the EMS Association of Colorado, is a board member of the National EMS Management Association and a member of NAEMT, NASEMSO and NAEMSP. His interests include EMS system design, pediatrics, public policy, professional development and research.
Surveys were sent to 100 agencies around the United States. Nearly three-fourths (74) of the agencies provided relatively complete information, and another 20 agencies provided partial information in varying degrees of completeness.
STRENGTH ISN’T ABOUT WHAT YOU’RE ABLE TO DO, IT’S ABOUT WHAT YOU’RE WILLING TO DO.

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Innovations to Reduce Non-Urgent Use of Emergency Services

Wednesday, August 17, 2016

For a variety of reasons, ranging from convenience to barriers in accessing primary care and other services, many patients call emergency medical services (EMS) for non-urgent (often chronic) conditions. Yet often these individuals end up being transported by ambulance to—and treated in—the emergency department (ED), even though their medical issues could be handled more effectively and efficiently in outpatient care settings.

Emergency medical service providers, community organizations, and other stakeholders are working together to implement innovative strategies to reduce non-urgent use of emergency services, connect patients to more appropriate care, and reduce costs.

The featured Innovations describe how an ambulance provider redesigned its emergency medical services system to create new care and referral pathways for 911 callers not facing true emergencies; a community paramedic program that significantly reduced unnecessary 911 calls from a local shelter and enhanced access to primary care for shelter residents; and a city EMS program that used a multipronged strategy to reduce unnecessary ambulance transports and ED visits, connecting non-emergent patients to primary care.
The **featured QualityTools** include resources for reducing inappropriate emergency department use and tools to support community paramedicine programs.

This issue also includes a **featured Perspective**, *Convening a Learning Community to Reduce Non-Urgent Use of Emergency Services*, based on an interview with the Innovations Exchange ES Learning Community's champion and expert faculty. Representatives of nine organizations in the Detroit, MI metropolitan area worked collaboratively to adapt a cluster of select innovations from the Innovations Exchange in their local context.

**Featured Innovations:**

- **New Care and Referral Pathways for Nonemergent 911 Callers and At-Risk Patients Reduce Emergency Department Visits and Readmissions, Generate Substantial Cost Savings**
- **Community Paramedic Works Onsite in Homeless Shelter, Significantly Reducing Unnecessary 911 Calls and Connecting Residents to Primary Care**
- **On-the-Scene Video Consultations With Emergency Physicians Reduce Unnecessary Ambulance Transports and Emergency Department Visits, Connect People to Medical Homes**

**Featured QualityTools:**

- **Mobile Integrated Healthcare and Community Paramedicine Program Toolkit**
- **Community Paramedic Evaluation Tool**
- **Quality Field Notes: Reducing Inappropriate Emergency Department Use**
- **ER Is for Emergencies**

**Featured Perspectives:**

- **Convening a Learning Community To Reduce Nonurgent Use of Emergency Services**
Convening a Learning Community To Reduce Nonurgent Use of Emergency Services

By the Innovations Exchange Team

Introduction:

In October 2014, the Agency for Health Care Research and Quality (AHRQ) Health Care Innovations Exchange established three learning communities (LCs) to improve the quality of health care delivery by addressing challenges in high-priority areas that AHRQ identified. The Innovations Exchange defined an LC as a select group of potential adopters and stakeholders who engage in a shared learning process to facilitate adaptation and implementation of innovations featured in the Innovations Exchange.

The LC that focused on reducing the use of emergency services for nonurgent conditions (the ES LC) included representatives of nine organizations in the Detroit, MI, metropolitan area. The ES LC’s work built upon a cluster of select innovations from the Innovations Exchange, adapted in the local context. To learn about the collaborative work of the ES LC, the Innovations Exchange interviewed its champions and expert faculty: Herbert Smitherman Jr., MD, MPH, FACP, President and CEO of the Health Centers Detroit Foundation, Detroit, MI, and Innovations Exchange Editorial Board Member; and Matt Zavadsky, MS-HSA, EMT, Director of Public Affairs for MedStar Mobile Healthcare, Fort Worth, TX. The ES LC members modeled their implementation efforts in part on the program that Mr. Zavadsky developed at MedStar Mobile Healthcare.

Innovations Exchange: What factors are driving interest in innovations aimed at reducing nonurgent use of emergency services?
Herbert Smitherman Jr., MD, MPH, FACP: It’s widely recognized that a significant amount of health care is being provided at high cost in emergency departments (EDs). Correcting this means serving people who need care in the right place, at the right time, in the right setting, and at the right level of care. Addressing nonurgent emergency service use requires a transition to more appropriate settings, such as outpatient care, primary care, substance abuse treatment, social services, and senior-based care settings. We’ve got to have more integration of care, which is what our LC was all about.

Matt Zavadsky, MS-HSA, EMT: The reality of Detroit’s experience with high levels of nonurgent use of emergency services is being replicated in every community in the Nation. It’s about the money. Our health care system has been unsustainable because of the lack of alignment of financial incentives. With the Affordable Care Act (ACA), shared-risk contracting, and other efforts to make health care more accountable, payers are no longer willing to accept an ED visit for strep throat. Hospital systems and accountable care organizations are financially on the hook, and so they are developing integrated delivery systems. In Detroit, the LC helped us figure out, given limited resources, how to achieve the triple aim of providing better care and achieving improved health outcomes at lower cost.

What are the main challenges to wider adoption of such innovations?

Smitherman: The two major challenges are poverty and a lack of health care coverage. Prior to the ACA, we were marginalizing large segments of the U.S. population, who as a result were getting care in one of the highest cost settings. With more people covered through the ACA, the next challenge was to expand our health care capacity in outpatient settings and reorganize the delivery system. In Detroit, we’ve been building more federally qualified health centers and primary care capacity, to make sure that when first responders react, and identify acute primary care and mental health needs, they can facilitate access to an appropriate mode of care. But we’ve had a fragmented payment system that leads to health care delivery silos.
Zavadsky: A significant challenge is the need to overcome the long tradition of simply leaving things the way they are. Everyone has benefited from the fee-for-service system—except the patient. Another challenge is the difficult process of bringing together the diverse stakeholders in a community and getting them to work together toward a common goal.

Smitherman: Getting stakeholders to work together in a coordinated way is critical if we’re going to bend the cost curve.

Zavadsky: Despite the challenges, there are reasons to be hopeful. Nationwide, there are about 17,000 licensed EMS agencies. Five years ago, only four agencies had emergency medical services (EMS)-based integrated care program like ours. Today there are about 240 mobile integrated health care and community paramedicine programs, based on data from a 2015 national survey conducted by the National Association of Emergency Medical Technicians, as well as my own contacts with people developing new programs. That’s still a small proportion overall, but the rapid increase in recent years shows that the programs are demonstrating value to community stakeholders.

How did the ES LC go about adopting the innovation?

Smitherman: Using the library of innovations available at the Innovations Exchange, the LC brought together the Nation’s best practices, including Mr. Zavadsky’s program. Then we found ways to scale up and spread these innovations to the Detroit area and other communities. We understood that we needed to reduce response times and connect people to needed services. With input from experts like Mr. Zavadsky and others, we identified our goals and considered how to design a program tailored to the Detroit community. Although every community is different in terms of local priorities, laws, resources, and other factors, the basic problem is the same. And there are a lot of similarities across communities in terms of the value of bringing together the stakeholders to develop solutions.

Our LC set out as a community of stakeholders to establish protocols to allow EMS to refer patients with nonurgent problems to primary care and social support services. We gave special attention to the top 25 individuals...
who were placing 911 calls, and to hot-spot locations in our community where many nonurgent EMS calls originated. We implemented our protocols using our SafetyPAD EMS information system and our electronic medical record system. When we made an EMS run, we could identify patients with nonurgent problems, refer them in real time, and make appointments for them to receive the community outpatient services they needed. By doing that, in many cases we eliminated the need for the next EMS call.

**What have been some of the successes and challenges in implementing the innovation?**

**Smitherman:** We’ve come a long way. We have more vehicles and staffing and a new emergency medical dispatch system. We’ve reduced the average EMS run time for urgent calls from 18 minutes to 9 minutes, in part because our EMS system is not busy with nonurgent runs. One ongoing challenge is keeping all of the stakeholders at the table and continuing to moving forward. But people are excited about the progress we’ve made. Foundations like what they see and are willing to fund this approach. Our program can serve as a model to help other communities solve these problems and make real progress.

**What was your experience with using the ES LC as a mechanism to support adoption of the innovation?**

**Zavadsky:** Any health care provider or emergency care provider has a responsibility to share best practices. Through the LC, we were given the opportunity to do that, and Detroit has had amazing success, due in large part to the collaboration by the participants in the LC. Two key factors made our model a logical fit for Detroit and the LC. First, as in Detroit, our model is an urban model, with an EMS system serving a large population, and with many patients who can’t find the resources they need. Second, we had figured out how to make the program financially sustainable, which is very appealing for communities that need to convince organizations to fund such an initiative. Many efforts to develop such programs have failed because they were not able to show value. Working with Detroit’s sophisticated health care system, Dr. Smitherman and his team were able
to make rapid progress in adopting the innovation. People in the LC were cautiously enthusiastic during our first meetings, but a lot of relationship and trust building occurred after that. Through honest dialog and collaboration, the LC was able to get the process started and achieve impressive results.

**What lessons can you share about using an LC as a dissemination and implementation strategy?**

**Zavadsky:** A key lesson of the Detroit process was the value of having a respected health care research organization such as AHRQ serve in a convener role and convince people to participate in the effort. If the individual players tried to do the same thing, half of the stakeholders might not agree to participate. The LC offered a way to bring outside experts into the community and address the underlying problems directly and frankly. Outsiders can say things that people who live in the community can’t say, like, “You’re doing what? Why? Here’s how we’ve done that.” In South Florida, for example, they’ve had marginal success, because the hospitals were not willing to collaborate, or people didn’t want to acknowledge the extent of the problem. Given such resistance, it’s more effective to have an outside organization lead the process.

Another important success factor was having a technology infrastructure for the LC that promotes collaboration and knowledge sharing through an online platform, webinars, and other tools for interaction. As the field continues to move forward and more communities establish such programs, it would be great to establish a clearinghouse for sharing protocols and other resources that other communities can use to develop such programs and achieve similar results.

Our experience In Fort Worth shows that EMS organizations in many communities would like to implement these kinds of programs. We’ve had inperson visits from EMS providers and other professionals from 190 communities seeking to address the same problem. We’ve also received hundreds of e-mails and phone calls asking about our program, and many
New Care and Referral Pathways for Nonemergent 911 Callers and At-Risk Patients Reduce Emergency Department Visits and Readmissions, Generate Substantial Cost Savings

Snapshot

Summary
Regional Emergency Medical Service Authority redesigned its 911 emergency medical services system to create new care and referral pathways for callers with low acuity medical emergencies and for hospitalized patients with exacerbations of chronic conditions who need postdischarge support. Known as the Community Health Program, the Health Care Innovation Award project consists of three related initiatives: a round-the-clock nurse triage line to handle nonemergent calls, transportation alternatives for paramedics in the field for nonemergent patients, and home visits from community paramedics for at-risk patients. The program has succeeded in redirecting many nonemergency patients to call the new triage line instead of 911; reduced
unnecessary ambulance transports, emergency department visits, and readmissions; and generated substantial cost savings, a positive return on investment, and high levels of patient satisfaction.

**Evidence Rating (What is this?)**

Moderate: The evidence consists primarily of estimates of the number of ambulance transports, emergency department visits, and readmissions avoided as a result of the program, along with associated cost savings; they are based on analyses by a team with expertise in relevant issues. Additional evidence includes post-implementation data on patient satisfaction with various components of the program and the number of monthly calls to the nurse triage line.

All Health Care Innovation Award projects are being evaluated by a CMS-contracted independent research firm. The estimates of preliminary outcomes may or may not be validated by this independent evaluation.

**Developing Organizations**

Regional Emergency Medical Services Authority Reno, NV
The program is operated in partnership with local government agencies, hospitals, urgent care facilities, physician offices/clinics, mental health facilities, and substance abuse treatment centers. Major partners include Northern Nevada Medical Center, Renown Health, Saint Mary's Regional Medical Center, West Care Community Triage Center, Community Health Alliance and Northern Nevada HOPES, the Washoe County Health District, and the State of Nevada Office of Emergency
Medical Services. The University of Nevada–Reno School of Community Health Sciences provided data, statistical and measurement support.

**Date First Implemented**

2016

**Problem Addressed**

Many 911 calls and resulting emergency department (ED) visits and inpatient admissions are avoidable. Many callers have low-acuity conditions that do not require emergency care. Some suffer from psychosocial problems that cannot be effectively treated in the ED, while others are experiencing exacerbations of chronic conditions that may be avoided through effective routine management of the conditions. These calls and the resulting ED visits and admissions drive up costs and divert valuable resources away from true (unavoidable) emergencies.

- **Many unnecessary or avoidable 911 calls, ED visits, and admissions:** Various studies have found that between 11 and 52 percent of 911 calls come from individuals who do not face serious health problems. Many ED visits are for conditions that should be treated in a primary care setting. In addition, some 911 callers have psychosocial problems that cannot be effectively treated in the ED, such as alcohol or drug dependency and depression. Other 911 callers are suffering from exacerbations of chronic conditions such as congestive heart failure (CHF) that could have been avoided with adequate ongoing care; these patients often end up being admitted to the hospital for lengthy, costly inpatient stays.
High costs, diverted resources, little lasting value for patients: Handling these patients raises the costs of health care and in some cases diverts scarce resources away from true emergencies, leading to longer response times. In addition, although paramedics who respond to these cases often resolve the immediate problem(s), they may lack the resources and knowledge to educate the individual about appropriate self-management and community-based resources (e.g., urgent care centers, public health clinics, home health services, behavioral health and substance abuse services) that could address their ongoing needs.

Description of the Innovative Activity

Regional Emergency Medical Service Authority (REMSA) redesigned its 911 emergency medical services (EMS) system to create new care and referral pathways for callers who do not need ED care and for hospitalized patients with exacerbations of chronic conditions who need postdischarge support. Known as the Community Health Program, the Health Care Innovation Award project consists of three related initiatives: a round-the-clock triage line to handle nonemergent calls, transportation alternatives for paramedics for nonemergent patients, and home visits from community paramedics (CPs) for at-risk patients.

Protocol-driven nurse triage line: Co-located with REMSA’s 911 medical communications center and staffed by trained registered nurses (RNs), this separate phone line is available 24 hours a day/7 days a week to Washoe County residents, regardless of insurance status. Nurses provide protocol-based triage and clinical assessment services, and referrals to needed health care and community-based
services and programs. If the RN determines that a caller is facing a medical emergency, he or she provides a “warm handoff” to the 911 medical dispatch team located in the same room; during the first 27 months of the program (October 2013 to December 2015), such handoffs occurred 1.7 percent of the time. Similarly, 911 medical dispatch staff can, with the caller’s permission, hand off obvious nonemergent cases to the triage line nurses. REMSA is working on a memorandum of understanding with city and county officials to change existing regulations which require that an ambulance and the fire department be dispatched whenever a 911 medical call is received. Once final approval is achieved, the agreement between REMSA and all three local fire departments will allow the ambulance and fire department to be released from responding once a 911 caller with a no-acuity condition consents to be transferred to the RN. To create awareness, REMSA invested in substantial marketing of the new line as an alternative to calling 911 for those facing nonemergent health issues. (The Planning/Development section provides more details on these marketing activities.)

- **Ambulance transportation alternatives (besides the ED):** Working within their existing scope of practice, REMSA paramedics conduct a formal, standardized in-the-field assessment to determine if a patient is facing a true emergency that requires ED care. If so, the patient is immediately transported to the ED. If not, the paramedics offer transportation via ambulance to an alternative facility, such as an urgent care center or clinic for minor acute problems, a detoxification center for substance abuse issues, or a mental health facility for behavioral health issues. Paramedics have information on each facility’s
service offerings and hours of operation and hence can determine if a particular facility is able to handle a patient before offering it as an option. Before transporting a patient anywhere beside the ED, paramedics obtain that patient’s consent, and any patient who wants to go to the ED is transported there. Early on, paramedics called the alternative facility to verify its ability to handle a particular patient. Once the leaders of these facilities understood and became used to the program, these calls were no longer necessary at most facilities. To date, award funding has covered the cost of the ambulance transports to alternative sites. Recognizing the value of the program in avoiding unnecessary ED visits, many private insurers have begun to pay for ambulance transports to alternative sites.

**In-home monitoring and support for at-risk patients:**
Specially trained community paramedics provide in-home monitoring and support to at-risk patients (primarily those recently released from the hospital), with the goal of reducing complications, ED visits, and hospital admissions/readmissions.

**Target population:** The program primarily targets recently hospitalized patients who face the highest risk of readmission. It initially focused only on those with CHF but now also serves chronic obstructive pulmonary disease patients, those who have suffered a heart attack or undergone heart surgery, and “super users” who have visited the ED or hospital more than 12 times in the past year. CPs also assist a local geriatrics practice with “evaluate-and-refer” patients; rather than sending patients who call the practice with seemingly urgent problems directly to the ED, the practice notifies an on-call CP who immediately visits the patient at home. As of
December 2015, the program had enrolled 1,952 patients, with CHF patients representing over 60 percent of those served.

- **Program services:** For hospitalized patients, the CP meets the patient briefly in the hospital to explain his or her role. (Local hospitals contact the REMSA program coordinator to alert them of high-risk patients about to be discharged.) After discharge, the CP typically visits the home at least once a week for the next 30 days and more often if necessary. The first visit generally occurs within 48 hours of discharge (and often within 24 hours). During this visit, the CP performs medication reconciliation and an assessment of the safety of the home environment, addresses identified hazards, verifies that the patient understands his/her diagnosis, and reviews the care plan to make sure the patient knows how to manage at home. For example, for CHF patients, the CP makes sure the patient knows how to follow the appropriate diet and to check his or her weight on a daily basis, and knows to call the doctor if a significant weight change occurs. Subsequent visits focus on the patient’s current status and progress since the last one and may include needed point-of-care laboratory testing and followup education to promote adherence to the care plan.

**Context of the Innovation**

A nonprofit organization founded in 1986, REMSA serves as the exclusive ambulance provider for Washoe County (which includes the cities of Reno and Sparks) and provides emergency helicopter transports to residents of northern Nevada and parts of northeastern California. Recognizing that the local 911 system received many calls from individuals with medical problems that could be handled outside the ED,
REMSA leaders began looking for ways to focus ambulance and EMS services on those truly facing medical emergencies, while at the same time avoiding unnecessary, expensive ambulance transports, ED visits, and inpatient admissions for those who could best be treated elsewhere.

After passage of the Affordable Care Act (ACA), REMSA leaders became aware of the newly created Health Care Innovation Award program, administered by the Centers for Medicare & Medicaid Services (CMS) Innovation Center, and applied for funding to support the creation of alternative care pathways for 911 callers not facing true emergencies.

**Results**

The program has succeeded in redirecting many nonemergency patients to call the triage line rather than 911; reduced unnecessary ambulance transports, ED visits, and readmissions; and generated substantial cost savings, a positive return on investment (ROI), and high levels of patient satisfaction.

- **Many calls to triage line (presumably instead of 911):**
  Since shortly after its launch, the triage line has averaged roughly 2,000 calls per month (2,500 during periods of heavy marketing). Call volumes are roughly 10 times what program leaders originally expected. Self-reported data indicate that some of these callers would have dialed 911 if the triage line did not exist. Since Nevada expanded its Medicaid program as part of ACA, a large influx of calls to 911 has occurred from newly insured beneficiaries (similar to many other Medicaid expansion states). As a result, it is difficult to determine the program’s precise impact on 911 call volumes. However, preliminary analysis from the
University of Nevada, Reno, suggests that transports of low-acuity, nonemergent patients to the ED have experienced a decrease over the past 2 years, even with the influx of 911 calls from new Medicaid enrollees.

- **Fewer costly transports, ED visits, and readmissions:** Preliminary analysis from the University of Nevada, Reno, estimates that, as of December 2015, the program has resulted in the avoidance of 777 ambulance transports, 4,948 ED visits, and 84 hospital readmissions. The median, all-cause, unplanned 30-day readmission rate for CHF patients enrolled in the CP program is 12.5 percent, well below the national average of 22 percent. At one large hospital, the 30-day readmission rate for Medicare CHF patients fell by 44 percent since introduction of the program, from roughly 18.2 percent in October 2013 to approximately 10.2 percent in November 2014.

- **Lower costs for payers:** The same preliminary analysis estimates that, as of December 2015, the program has generated savings of approximately $7.8 million for payers. (These savings are based on average payments that payers would have made for the avoided episodes detailed above, not net out program costs.)

- **Significant ROI:** During its third year, the program generated $1.53 in cost savings for every $1 spent, equivalent to a 53-percent ROI. Gross savings totaled $4.7 million, well above program costs of just under $3.1 million.

- **High patient satisfaction:** Patients express high levels of satisfaction with various components of the initiative. As of June 30, 2015, patients served by the CP program gave it an average rating of 4.9 on a 5-point Likert scale, while the nurse health line received an average rating of 4.2.

*Evidence Rating (What is this?)*
Moderate: The evidence consists primarily of estimates of the number of ambulance transports, emergency department visits, and readmissions avoided as a result of the program, along with associated cost savings; they are based on analyses by a team with expertise in relevant issues. Additional evidence includes post-implementation data on patient satisfaction with various components of the program and the number of monthly calls to the nurse triage line.

All Health Care Innovation Award projects are being evaluated by a CMS-contracted independent research firm. The estimates of preliminary outcomes may or may not be validated by this independent evaluation.

**Planning and Development Process**

Key steps included the following:

- **Securing funding:** REMSA applied for a CMS Health Care Innovation Award in January 2012 and subsequently secured the award in June of that year. REMSA was one of six awardees focused on improving paramedic and/or EMS services within a community.

- **Building partnerships:** Recognizing that this program required a change in the expectations and behaviors of all key stakeholders in the health care system, program leaders conducted a significant amount of outreach to local federally qualified health centers, hospitals, fire departments, EDs, physician practices, urgent care centers, mental health facilities, and substance abuse treatment centers. During the first 2 years of award funding, program leaders attended roughly 200 to 300 meetings and presentations that focused on partnership-building.
• **Marketing triage line:** REMSA ran a series of radio and television advertisements (in both English and Spanish) to raise awareness of the new triage and advice line. Advertisements emphasized that 911 should be used only for medical emergencies but also stressed the “prudent layperson” definition of an emergency to encourage the public to call 911 if in doubt as to whether an emergency situation exists. At the same time, the ads described the many situations where the advice line could be helpful, such as with suspected sprains, sore throats, toothaches, and other minor health problems. Intense advertising campaigns ran for a short period of time right after launch of the new line, often targeted at certain demographic groups. Calls to the triage line rapidly exceeded expectations, so that ongoing marketing efforts are relatively modest.

• **Training paramedics on transportation alternatives:** Every paramedic and emergency medical technician (EMT) at REMSA completed 4 hours of training that focused on protocols related to the in-field assessment for ruling out emergency medical conditions. Training also covered practical steps and strategies for identifying sites appropriate for handling nonemergent conditions, including how to determine which facilities offer the appropriate services, are open and convenient for the patient, and will accept the patient’s insurance (or treat uninsured patients). Initially conducted with existing employees as a one-time program, this training is now a formal part of the orientation process for all new REMSA employees.

• **Hiring and training RNs for triage line:** REMSA hired and trained RNs to staff the triage line, with all nurses going through 4 days of onsite training on the Emergency
Communication Nurse System™, a software-based set of protocols used in the United Kingdom, New Zealand, Australia, and other nations, and certified by the International Academies of Emergency Dispatch. Triage line nurses had to be licensed in both Nevada and California and also attend a separate 2-day training session on emergency medical dispatch.

- **Advanced training for community paramedics**: REMSA encouraged the “best and brightest” existing paramedics to become community paramedics by completing 150 hours of classroom training based on a modified version of a masters-level community paramedic training program in Minnesota. To date, two cohorts of existing paramedics have completed the training. Before the second group applied, REMSA leaders sought feedback from the first cohort on the qualities to look for in choosing candidates; in addition to intelligence and skill, they emphasized the need for empathy and patience.

**Resources Used and Skills Needed**

- **Staffing**: The program has five full-time CPs, seven full-time-equivalent RNs who staff the nurse triage line (with peak-load staffing during busy afternoon hours), and a full-time project director, clinical manager, information technology (IT) specialist, and outreach coordinator. The outreach coordinator initially focused on building partnerships in the community, and now this position focuses on business development and financial sustainability, including payer engagement. The IT specialist focuses primarily on data collection and analysis to assist in evaluating the program and meeting external reporting requirements. The University of Nevada, Reno,
also provides staff to support REMSA with statistical analyses and program evaluation activities.

- **Costs:** Detailed information on program costs is not available, but major expenditures consist of salaries and benefits for the staff described above. As noted, program operating costs during year 3 totaled just over $3 million, significantly less than the savings generated by the program.

**Funding Sources**

CMS awarded a 3-year, $10.8 million Health Care Innovation Award to REMSA to fund program development and operations, beginning July 1, 2012. The program subsequently received a no-cost extension of the award until June 30, 2016, granted to allow for additional work on financial sustainability. As noted, some private insurers have agreed to pay for certain components of the program, such as ambulance transports to sites other than the ED.

**Getting Started with This Innovation**

- **Assess community needs and create a plan to meet them:** The goal should be to identify and address existing service gaps in the community. Program leaders should create a detailed plan, including specific goals and target dates for reaching them.

- **Engage key stakeholders early:** Partnerships are absolutely essential to the program’s success. As part of the planning process, developers should think about which key stakeholders will be needed, including those who might oppose certain aspects of the program (such as giving more responsibility to paramedics and RNs). Developers should be proactive by reaching out to these stakeholders to explain the benefits of the proposed program and by
inviting them to be part of the planning and development process. Despite expanding the roles of both paramedics and RNs, REMSA achieved positive engagement from home health and nursing interests within the local community and encountered relatively little pushback from local fire departments.

- **Keep work within existing scope of practice:** Any restructuring of job responsibilities should focus on allowing RNs, EMTs, paramedics, and others work within (i.e., at the top of) existing scope-of-practice laws and regulations. Changing these laws and regulations can be difficult and often meets with significant resistance from other affected stakeholders.

- **Think about sustainability from the beginning:** While funding can help with upfront planning and implementation, the success of any program will ultimately be judged by whether it creates value that someone is willing to pay for on an ongoing basis. This mindset should be present from the early planning stages, with a focus on creating services and programs that save money and/or enhance quality. To that end, it is important to develop data collection and evaluation systems that allow for regular analysis of the program’s impact on key measures of value.

**Sustaining This Innovation**

- **Evaluate program’s impact on key metrics:** On an ongoing basis, programs should collect the data and perform the analyses necessary to gauge program impact on quality and costs, including 911 calls, ambulance transports, ED visits, admissions, and readmissions.

- **Regularly engage key stakeholders:** Program leaders should meet regularly with key partners and other
stakeholders, sharing data that shows how the program benefits them and the community at large. It is also important to elicit regular input from these stakeholders on how the program is working, including any problems they may be facing and ideas about how to address them.

- **Continually reach out to payer community:** It may take time for public and private payers to get used to paying for nontraditional services that generate savings elsewhere in the system (often at a later date), such as ambulance transports to alternative sites or nurse triage services. For example, REMSA leaders found that it took several years to convince private payers of the merits of paying for ambulance transports to urgent care centers, detoxification facilities, and other local facilities. Only after seeing data that documented substantial downstream cost savings did they come on board. Whenever possible, programs should share payer-specific data or information from a demographically similar population in order to give individual payers a sense of the real-world savings they can expect by supporting the program.

**Spreading This Innovation**

Other EMS providers offer individual components of this program, but few if any offer all three major elements or do so at the same size and scale as REMSA.

**Contact the Innovator**

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Recognition
On April 30, 2015, the REMSA Nurse Health Line achieved designation as an Accredited Center of Excellence from the International Academy of Emergency Dispatch.
Contact the Innovator

Developers

Regional Emergency Medical Services Authority Reno, NV
The program is operated in partnership with local government agencies, hospitals, urgent care facilities, physician offices/clinics, mental health facilities, and substance abuse treatment centers. Major partners include Northern Nevada Medical Center, Renown Health, Saint Mary's Regional Medical Center, West Care Community Triage Center, Community Health Alliance and Northern Nevada HOPES, the Washoe County Health District, and the State of Nevada Office of Emergency Medical Services. The

References/Related Articles


Footnotes

University of Nevada–Reno School of Community Health Sciences provided data, statistical and measurement support.

**Disclaimer:** *The inclusion of an innovation in the Innovations Exchange does not constitute or imply an endorsement by the U.S. Department of Health and Human Services, the Agency for Healthcare Research and Quality, or Westat of the innovation or of the submitter or developer of the innovation. Read Health Care Innovations Exchange Disclaimer.*