Mobile Integrated Health Care

Christopher Hanson, PA-C, CMHP
Innovation Strategist
Overview

Emergency Medical Services (EMS) Evolution

Mobile Integrated Health Care (MIH)

Implementation

Next Steps
Traditional EMS

- Stand-alone
- One-size-fits-all
- Single procedure
Traditional EMS


<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>• 248% growth in Part B</td>
<td>• 125% growth in Part B</td>
</tr>
<tr>
<td>ambulance transports</td>
<td>ambulance transports</td>
</tr>
<tr>
<td>• Compared to 108% Part B</td>
<td>• Compared to 74% Part B</td>
</tr>
<tr>
<td>growth</td>
<td>growth</td>
</tr>
</tbody>
</table>
EMS Transition

System processes → Patient outcomes
Mobile Integrated Health Care (MIH)

MIH Attributes
- Tailored to the needs of the community
  - Bridging care delivery gaps
- EMS integration

MIH Components
- EMS
- Advanced triage
- Case management
- Alternate destination
- Community paramedicine

MIH Care Models
- Public health
- Primary care
- Value-based care
TMF’s Initial MIH Work

**Community Paramedics Reduce Hospital, Ambulance Use**

06/29/2018

Issue: July 2018

Kristine 'Kris' S. Calderon, PhD, CHES; Donna Zimmerman, RN, BSN; Joshua Clouse, BSBM, CP-C, Lic-P; Matt Zavadsky, MS-HSA, EMT; Michelle Stehling, RD, LD

Assessment of infrastructure and challenges in U.S. mobile integrated healthcare (MIH) programs

Christopher Hanson, PA-C; Kris Calderon, PhD; Jill Nault-Conners, PhD; Matt Zavadsky, MHA; Kevin Munjal, MD; Russell Kohl, MD; Jay Crosson, PhD

Welcome to TMF Health Quality Institute’s Mobile Integrated Health Care – Community Paramedicine Learning and Action Network
Implementation

Workflow Process Mapping

Stakeholder Engagement

Measurement
Workflow Process Mapping

Internal
- Organizational Readiness Assessment
- National Association of EMTs
- MIH Structural Metrics

External
- Community Needs
- Health Care Delivery Gap Analysis
Stakeholder Engagement

Success = \[ \sum_{\text{Insight}} \left( \frac{\text{Value Created}}{\text{Resources Consumed}} \right) \]
## Stakeholders

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Partners</th>
<th>Payers</th>
<th>Patients</th>
</tr>
</thead>
</table>
| **Partners** | • Not just hospitals  
• Inter-professional cooperation reduces conflict | **Payers** | • Creation of novel reimbursement programs  
• Requires identification of value to all parties | **Patients** | • Maintains patient-centered focus  
• Ensures patient values are included |
Measurement

MIH Outcomes Measures

34 measures in five domains:
- Quality and safety
- Experience of care
- Utilization
- Cost
- Balancing measures

Developed by a multi-stakeholder group, including the National Committee for Quality Assurance, and convened by the National Association of Emergency Medical Technicians.

HIT Optimization

Coordination and integration
- Automating data flows
- Sharing raw and analyzed results

Measurement plan must include plan for regular re-assessment and modification based on results.
Challenges

Financial Sustainability
- Novel approaches
- Mindset change
- Data development

Program Referrals
- Triage
- “Stem the tide”

Interoperability
- Electronic health records (EHR) and electronic patient care reporting (ePCR) issues
- Software
- Measurement plan
Results

Learning and Action Network (LAN)
- 621 users
- 123 accounts
- 1,082 sessions
- 21 program profiles, 11% of MIH programs

St. Charles County, Missouri Ambulance District

2019 Missouri SQUIRE

<table>
<thead>
<tr>
<th>ID</th>
<th>Measure</th>
<th>Description</th>
<th>Value</th>
<th>Goal</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Primary Care Utilization</td>
<td>Number of enrolled patients with an established PCP relationship upon graduation</td>
<td>24</td>
<td>Increase the number and percent of patients utilizing a Primary Care Provider (if none upon enrollment).</td>
<td>100.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of enrolled patients without an established PCP relationship upon enrollment</td>
<td>0</td>
<td>(Higher Values Desirable)</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>Patient Quality of Life</td>
<td>Overall Score on Enrollment</td>
<td>31</td>
<td>Improve patient self-reported quality of life scores.</td>
<td>40.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overall Score on Graduation</td>
<td>43.5</td>
<td>(Higher Values Desirable)</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>Ambulance Transports</td>
<td>Number of unplanned ambulance transports up to 12 months post-enrollment</td>
<td>21</td>
<td>Reduce rate of unplanned ambulance transports to an ED by enrolled patients.</td>
<td>-58.8%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of unplanned ambulance transports up to 12 months pre-enrollment</td>
<td>51</td>
<td>(Higher Reduction Desirable)</td>
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</tr>
</tbody>
</table>
# Results

## Plano, Texas, Fire Department

<table>
<thead>
<tr>
<th>ID</th>
<th>Measure</th>
<th>Description</th>
<th>Value</th>
<th>Goal</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>E2</td>
<td>Patient Quality of Life</td>
<td>Overall Score on Enrollment</td>
<td>46</td>
<td>Improve patient self-reported quality of life scores.</td>
<td>73.9%</td>
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<tr>
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<td>Overall Score on Graduation</td>
<td>80</td>
<td>(Higher Values Desirable)</td>
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<tr>
<td>U1</td>
<td>Ambulance Transports</td>
<td>Number of unplanned ambulance transports up to 12 months post-enrollment</td>
<td>54</td>
<td>Reduce rate of unplanned ambulance transports to an ED by enrolled patients.</td>
<td>-40.0%</td>
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<td></td>
<td></td>
<td>Number of unplanned ambulance transports up to 12 months pre-enrollment</td>
<td>90</td>
<td>(Higher Reduction Desirable)</td>
<td></td>
</tr>
<tr>
<td>U2</td>
<td>Hospital ED Visits (90 days)</td>
<td>ED visits up to 12 months post-graduation</td>
<td>54</td>
<td>Reduce rate of ED visits by enrolled patients by intervention.</td>
<td>-40.0%</td>
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<tr>
<td></td>
<td></td>
<td>ED visits up to 12 months pre-enrollment</td>
<td>90</td>
<td>(Higher Reduction Desirable)</td>
<td></td>
</tr>
<tr>
<td>U4</td>
<td>Unplanned 30-day Hospital Readmissions</td>
<td>Number of actual 30-day readmissions</td>
<td>21</td>
<td>Reduce rate of all-cause, unplanned, 30-day hospital readmissions by enrolled patients by intervention.</td>
<td>-81.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of anticipated 30-day readmissions</td>
<td>112</td>
<td>(Higher Reduction Desirable)</td>
<td></td>
</tr>
<tr>
<td>C6</td>
<td>Total Expenditure Savings</td>
<td></td>
<td></td>
<td>Total expenditure savings for all CP interventions</td>
<td>$820,632.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Higher Value Desirable)</td>
<td></td>
</tr>
</tbody>
</table>

## Program Period

<table>
<thead>
<tr>
<th>Program</th>
<th>Period</th>
<th>Paid amount ambulance</th>
<th>Paid amount readmission</th>
<th># SNF claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart of TX</td>
<td>1/1/2016-8/31/2016</td>
<td>n.d.</td>
<td>$137,444,836</td>
<td>11,623</td>
</tr>
<tr>
<td>Heart of TX</td>
<td>1/1/2018-8/31/2018</td>
<td>n.d.</td>
<td>$122,570,637</td>
<td>11,406</td>
</tr>
<tr>
<td>% change</td>
<td></td>
<td>n.d.</td>
<td>-10.8%</td>
<td>-1.9%</td>
</tr>
</tbody>
</table>
## Results

### Metropolitan EMS, Little Rock, Arkansas

<table>
<thead>
<tr>
<th>Program</th>
<th>Period</th>
<th>Paid amount ambulance</th>
<th>Paid amount readmission</th>
<th># SNF claims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little Rock (T1)</td>
<td>3/1/2015 - 2/28/2016</td>
<td>$ 2,087,824.00</td>
<td>$ 40,208,679.94</td>
<td>3,155</td>
</tr>
<tr>
<td>Little Rock (T2)</td>
<td>3/1/2016 - 2/28/2017</td>
<td>$ 2,727,952.11</td>
<td>$ 48,947,738.59</td>
<td>4,509</td>
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<tr>
<td>Little Rock (T3)</td>
<td>3/1/2017 - 2/28/2018</td>
<td>$ 2,804,307.10</td>
<td>$ 43,820,177.16</td>
<td>4,328</td>
</tr>
</tbody>
</table>

% change  

| % change | 31% | 22% | 43% |
% change | 3% | -10% | -4% |

### Mercy Hospital, Ada, Oklahoma

<table>
<thead>
<tr>
<th>ID</th>
<th>Measure</th>
<th>- Description</th>
<th>Value</th>
<th>Goal</th>
<th>Result</th>
</tr>
</thead>
</table>
| u1   | Ambulance Transports             | Number of unplanned ambulance transports up to 12 months post-enrollment     | 10    | Reduce rate of unplanned ambulance transports to an ED by enrolled patients.  
{Higher Reduction Desirable} | -80.4%   |
|      |                                  | Number of unplanned ambulance transports up to 12 months pre-enrollment      | 51    |                                              |          |
| u2   | Hospital ED Visits (90 days)     | ED visits up to 12 months post-graduation                                   | 21    | Reduce rate of ED visits by enrolled patients by intervention.  
{Higher Reduction Desirable} | -88.9%   |
|      |                                  | ED visits up to 12 months pre-enrollment                                     | 190   |                                              |          |
| u3   | All-cause Hospital Admissions    | Number of hospital admissions up to 12 months post-graduation                | 11    | Reduce rate of all-cause hospital admissions by enrolled patients by intervention  
{Higher Reduction Desirable} | -91.9%   |
|      |                                  | Number of hospital admissions up to 12 months pre-enrollment                  | 136   |                                              |          |
| u4   | Unplanned 30-day Hospital Readmissions | Number of actual 30-day readmissions                                       | 6     | Reduce rate of all-cause, unplanned, 30-day hospital readmissions by enrolled patients by intervention  
{Higher Reduction Desirable} | -60.0%   |
|      |                                  | Number of anticipated 30-day readmissions                                   | 15    |                                              |          |
Results

Engagement

Partnerships

• National Association of Emergency Medical Technicians
  – LAN development
  – EMS 3.0
• National Association of EMS Physicians
  – Educational offerings
  – Data platform development

Publications

• EMS World
• MIH structure study

Presentations

• North American Primary Care Research Group, International Conference on Practice Facilitation 2019
• Multiple state and local presentations
Spreading TMF’s MIH Work

• MedStar, Fort Worth
• Plano Fire-Rescue
• Catholic Health Initiatives St. Joseph Health, Bryan
• Texoma Medical Center, Denison
• Texas Hospital Association
• The University of Texas at Austin, Dell Medical School and School of Public Health
• Williamson County EMS

National Partners: National Association of Emergency Medical Technicians (NAEMT), National Association of EMS Physicians (NAEMSP)

• Monthly workgroups
• State hospital associations
• Implementation in Ada, Miami, Grove and Oklahoma City
• Statewide gap analysis
• Health workforce development
• Community paramedicine curriculum and protocols
• Oklahoma Hospital Association
• MyHealthAccess engagement
Spreading TMF’s MIH Work

- Partnership for Patients, U.S. Department of Health & Human Services
- Comprehensive Primary Care Plus (CPC+)
- Quality Payment Program (QPP)
- Bundled Payments for Care Improvement (BPCI) Advanced
- Civil Money Penalty Reinvestment Program
Next Steps

Education
- EMS industry practice and policy
- EMS and MIH scientific literature
- Stakeholder education

Engagement
- Include EMS in multi-stakeholder collaborations
- Promote quality and performance improvement opportunities

Integration
- Incorporate EMS into health care fabric
- Develop unique workflows to take advantage of the benefits of an MIH model
Resources

• TMF MIH Learning and Action Network: https://mihcp.tmf.org

• National Association of Emergency Medical Technicians: https://www.naemt.org
  – Measurement Strategy Overview

• National Association of EMS Physicians: https://naemsp.org