Mobile Integrated Healthcare Program

Measurement Strategy Overview

Aim

A clearly articulated goal statement that describes how much improvement by when and links all the specific outcome measures; what are we trying to accomplish?

Develop a uniform set of measures which leads to the optimum sustainability and utilization of patient centered, mobile resources in the out-of-hospital environment and achieves the Triple Aim® — improve the quality and experience of care; improve the health of populations; and reduce per capita cost.

Measures Definition:

1. **Core Measures (BOLD)**
   a. Measures that are considered *essential* for program integrity, patient safety and outcome demonstration.

2. **CMMI Big Four Measures (RED)**
   a. Measures that have been identified by the CMS Center for Medicare and Medicaid Improvement (CMMI) as the four primary outcome measures for healthcare utilization.

3. **MIH Big Four Measures (PURPLE)**
   a. Measures that are considered *mandatory* to be reported in order to classify the program as a bona-fide MIH or Community Paramedic program.

4. **Top 17 Measures (Isolated)**
   a. The 17 measures identified by operating MIH/CP programs as essential, collectable and highest priority to healthcare partners.
   b. These measures are isolated in this document for ease of reference.

Notes:

1. All financial calculations are based on the *national average Medicare payment* for the intervention described. Providers are encouraged to also determine the *regional average Medicare payment* for the interventions described.
2. Value may also be determined by local stakeholders in different ways such as reduced opportunity cost, enhanced availability of resources. Program sponsors should develop local measures to demonstrate this value as well.
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- **S1:** Executive Sponsorship
- **S2:** Strategic Plan
- **S3:** Healthcare Delivery System Gap Analysis
- **S4:** Community Resource Capacity Assessment
- **S5:** Integration/Program Integrity
- **S6:** Organizational Readiness Assessment – Medical Oversight
- **S7:** Organizational Readiness Assessment - Health Information Technology (HIT)
- **S8:** HIT Integration with Local/Regional Healthcare System
- **S9:** Public & Stakeholder Engagement
- **S10:** Specialized Training and Education

### Outcome Measures for Community Paramedic Program Component
- **Q1:** Primary Care Utilization
- **Q2:** Medication Inventory
- **Q3:** Care Plan Developed
- **Q4:** Provider Protocol Compliance
- **Q5:** Unplanned Acute Care Utilization (e.g., emergency ambulance response, urgent ED visit)
- **Q6:** Adverse Outcomes
- **Q7:** Community Resource Referral
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- **Q9:** Alternative Case Management Referral

- **E1:** Patient Satisfaction
- **E2:** Patient Quality of Life

- **U1:** Ambulance Transports
- **U2:** Hospital ED Visits
- **U3:** All - cause Hospital Admissions
- **U4:** Unplanned 30-day Hospital Readmissions
- **U5:** Length of Stay

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For Discussion Purposes Only

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Measure Categories

Structure: Describes the acquisition of physical materials and development of system infrastructures needed to execute the service (Rand). For example:

- Community Health Needs Assessment
- Community Resource Capacity Assessment
- Executive Sponsorship, Strategic Plan & Program Launch Milestones
- Organizational Readiness Assessment – Health Information Technology Systems
- Organizational Readiness Assessment – Medical Oversight
- Plan for Integration with Healthcare, Social Services and Public Safety Systems

Outcomes: Describes how the system impacts the values of patients, their health and wellbeing (IHI). For example:

Quality of Care Metrics
- Patient Safety
- Care Plan Acceptance and Adherence
- Medical Home
- Medication Inventories

Utilization Metrics
- All-cause Hospital Admissions
- Emergency Department Visits
- Unplanned 30-day Hospital Readmissions

Cost of Care Metrics
- Expenditure Savings by Intervention

Experience of Care Metrics
- Patient Quality of Life
- Patient Satisfaction

Definitions: Throughout the document, hyperlinks for certain defined terms are included.
**Balancing:** Describes how changes designed to improve one part of the system are impacting other parts of the system, such as, impacts on other stakeholders such as payers, employees, or community partners (IHI). For example:

- Partner (healthcare, behavior health, public safety, community) satisfaction
- Practitioner (EMS/MIH) satisfaction
- Public and stakeholder engagement
- PCP and other healthcare utilization

**Process:** Describes the status of fundamental activities associated with the service; describes how the components in the system are performing; describes progress towards improvement goals (Rand/IHI). For example:

- Clinical & Operational Metrics
- Referral & Enrollment Metrics
- Volume of Contacts, Visits, Transports, Readmissions
### Structure/Program Design Measures

*Describes the development of system infrastructures and the acquisition of physical materials necessary to successfully execute the program*

<table>
<thead>
<tr>
<th>Name</th>
<th>Description of Goal</th>
<th>Components</th>
<th>Scoring</th>
<th>Evidence-base, Source of Data</th>
</tr>
</thead>
</table>
| Specialized Training & Education | **S10:** Specialized original and continuing education for community paramedic practitioners | A specialized educational program has been used to provide foundational knowledge for community paramedic practitioners based on a nationally recognized or state approved curriculum. | 0. Not known  
1. There is no specialized education offered.  
2. There is specialized education offered, but it lacks key elements of instruction.  
3. There is specialized education offered meeting or exceeding a nationally recognized or state approved curriculum. | North Central EMS Institute Community Paramedic Curriculum or equivalent. |
### Outcome Measures for Community Paramedic Program Component

**Describes how the system impacts the values of patients, their health and well-being**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Name</th>
<th>Description of Goal</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Formula</th>
<th>Evidence-base, Source of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Care &amp; Patient Safety Metrics</td>
<td><strong>Q1:</strong> Primary Care Utilization</td>
<td>Increase the number and percent of patients utilizing a Primary Care Provider (if none upon enrollment)</td>
<td>Number of enrolled patients with an established PCP relationship upon graduation</td>
<td>Number of enrolled patients without an established PCP relationship upon enrollment</td>
<td>Value 1/Value 2</td>
<td>Agency records</td>
</tr>
<tr>
<td></td>
<td><strong>Q2:</strong> Medication Inventory</td>
<td>Increase the number and percent of medication inventories conducted with issues identified and communicated to PCP</td>
<td>Number of medication inventories with issues identified and communicated to PCP</td>
<td>Number of medication inventories completed</td>
<td>Value 1/Value 2</td>
<td>Agency records</td>
</tr>
<tr>
<td></td>
<td><strong>Q5:</strong> Unplanned Acute Care Utilization (e.g.: emergency ambulance response, urgent ED visit)</td>
<td>Minimize rate of patients who require unplanned acute care related to the CP care plan within 6 hours after a CP intervention</td>
<td>Number of patients who require unplanned acute care related to the CP care plan within 6 hours after a CP intervention</td>
<td>All CP visits in which a referral to Acute Care was NOT recommended</td>
<td>Value 1/Value 2</td>
<td>Agency records</td>
</tr>
<tr>
<td>Domain</td>
<td>Name</td>
<td>Description of Goal</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Formula</td>
<td>Evidence-base, Source of Data</td>
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</tr>
<tr>
<td>Experience of Care</td>
<td>E1: Patient Satisfaction</td>
<td>Optimize patient satisfaction scores by intervention.</td>
<td>To be determined based on tools developed</td>
<td>To be determined based on tools developed</td>
<td></td>
<td>Recommend an externally administered and nationally adopted tool, such as, HCAPHS; Home Healthcare CAPHS (HHCAPHS)</td>
</tr>
<tr>
<td></td>
<td>E2: Patient Quality of Life</td>
<td>Improve patient self-reported quality of life scores.</td>
<td>To be determined based on tools developed</td>
<td>To be determined based on tools developed</td>
<td></td>
<td>Recommended tools (EuroQol EQ-5D-5L, CDC HRQoL, University of Nevada-Reno)</td>
</tr>
</tbody>
</table>

For Discussion Purposes Only 8 Top 17 Isolated as of 4-7-15
<table>
<thead>
<tr>
<th>Domain</th>
<th>Name</th>
<th>Description of Goal</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Formula</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Utilization</strong></td>
<td><strong>U1: Ambulance Transports</strong></td>
<td>Reduce rate of <em>unplanned</em> ambulance transports to an ED by enrolled patients</td>
<td>Number of <em>unplanned</em> ambulance transports up to 12 months post-graduation</td>
<td>Number of <em>unplanned</em> ambulance transports up to 12 months pre-enrollment</td>
<td>(Value 1-Value 2)/Value 2</td>
<td>Monthly run chart reporting and/or pre-post intervention comparison</td>
</tr>
<tr>
<td></td>
<td><strong>U2: Hospital ED Visits</strong></td>
<td>Reduce rate of ED visits by enrolled patients by intervention</td>
<td>ED visits up to 12 months post-graduation</td>
<td>ED visits up to 12 months pre-enrollment</td>
<td>(Value 1-Value 2)/Value 2</td>
<td>Monthly run chart reporting and/or pre-post intervention comparison</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>OR</strong></td>
<td></td>
<td></td>
<td>Value 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of ED Visits avoided in CP intervention patient</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td><strong>U3: All - cause Hospital Admissions</strong></td>
<td>Reduce rate of all-cause hospital admissions by enrolled patients by intervention</td>
<td>Number of hospital admissions up to 12 months post-graduation</td>
<td>Number of hospital admissions up to 12 months pre-enrollment</td>
<td>(Value 1-Value 2)/Value 2</td>
<td>Monthly run chart reporting and/or pre-post intervention comparison</td>
</tr>
<tr>
<td></td>
<td><strong>U4: Unplanned 30-day Hospital Readmissions</strong></td>
<td>Reduce rate of all-cause, unplanned, 30-day hospital readmissions by enrolled patients by intervention</td>
<td>Number of actual 30-day readmissions</td>
<td>Number of anticipated 30-day readmissions</td>
<td>(Value 1-Value 2)/Value 2</td>
<td>Monthly run chart reporting and/or pre-post intervention comparison</td>
</tr>
</tbody>
</table>

For Discussion Purposes Only

Top 17 Isolated as of 4-7-15
<table>
<thead>
<tr>
<th>Domain</th>
<th>Name</th>
<th>Description of Goal</th>
<th>Value 1</th>
<th>Value 2</th>
<th>Formula</th>
<th>Evidence-base, Source of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of Care Metrics -- Expenditure</td>
<td>C1: Ambulance Transport Savings (ATS)</td>
<td>Reduce <strong>Expenditures</strong> for unplanned ambulance transports to an ED <strong>pre and post enrollment or per event</strong></td>
<td>Ambulance transport utilization change in measure period X average payment per transport for enrolled patients MINUS Expenditure per CP patient contact</td>
<td>Number of patients enrolled in the CP program</td>
<td>Value 1 / Value 2</td>
<td>Monthly run chart reporting and/or pre-post intervention comparison</td>
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<td></td>
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<td></td>
<td>CMS Public Use Files (PUF) for ambulance supplier expenditures or locally derived number</td>
</tr>
<tr>
<td></td>
<td>C2: Hospital ED Visit Savings (HEDS)</td>
<td>Reduce expenditures for ED visits <strong>pre and post enrollment or per event</strong></td>
<td>ED utilization change in measure period X average payment per ED visit for enrolled patients MINUS Expenditure per CP patient contact</td>
<td>Number of patients enrolled in the CP program</td>
<td>Value 1 / Value 2</td>
<td>Monthly run chart reporting and/or pre-post intervention comparison</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Medical Expenditure Panel Survey (MEPS), or individually derived payer data</td>
</tr>
<tr>
<td></td>
<td>C3: All-cause Hospital Admission Savings</td>
<td>Reduce expenditures for <strong>all-cause hospital admissions</strong> <strong>pre and post enrollment or per event</strong></td>
<td>Hospital admission change in measure period X average payment per admission for enrolled patients MINUS Expenditure per CP patient contact</td>
<td>Number of patients enrolled in the CP program</td>
<td>Value 1 / Value 2</td>
<td>Monthly run chart reporting and/or pre-post intervention comparison</td>
</tr>
<tr>
<td></td>
<td>(ACHAS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Medical Expenditure Panel Survey (MEPS), or individually derived payer data</td>
</tr>
<tr>
<td>Domain</td>
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<td>Value 1</td>
<td>Value 2</td>
<td>Formula</td>
<td>Evidence-base, Source of Data</td>
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</tr>
<tr>
<td><strong>C6:</strong> Total Expenditure Savings</td>
<td>Total expenditure savings for all CP interventions</td>
<td>Individual savings for each enrollee (ATS+HEDS + (ACHAS or UHRS)+USNFS)) MINUS the Cost of CP interventions for intervention per enrollee, including alternative sources of care expenditures</td>
<td></td>
<td></td>
<td>sum of Value 1</td>
<td>Monthly run chart reporting and/or pre-post intervention comparison</td>
</tr>
<tr>
<td><strong>Balancing Metrics</strong></td>
<td><strong>B1:</strong> Practitioner (EMS/MIH) Satisfaction <strong>Desirable Measure</strong></td>
<td>Optimize practitioner satisfaction scores</td>
<td>To be determined based on tools developed</td>
<td></td>
<td></td>
<td>Recommend externally administered</td>
</tr>
<tr>
<td></td>
<td><strong>B2:</strong> Partner Satisfaction <strong>Desirable Measure</strong></td>
<td>Optimize partner (healthcare, behavior health, public safety, community) satisfaction scores</td>
<td>To be determined based on tools developed</td>
<td></td>
<td></td>
<td>Recommend externally administered</td>
</tr>
<tr>
<td></td>
<td><strong>B3:</strong> Primary Care Provider (PCP) Use</td>
<td>Optimize Number of PCP visits resulting from program referrals during enrollment</td>
<td>Number of PCP visits during enrollment</td>
<td></td>
<td>Value 1</td>
<td>Network provider or patient reported</td>
</tr>
</tbody>
</table>
Definitions

Specific Metric Definitions:

*Expenditure:* The amount **PAID** for the referenced service. Expenditures should generally be based on the national and regional amounts paid by Medicare for the covered services provided.

Examples:

<table>
<thead>
<tr>
<th>Service</th>
<th>Cost to Provide the Service by the Provider</th>
<th>Amount Charged <em>(billed)</em> by the Provider</th>
<th>Average Amount Paid by Medicare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulance Transport</td>
<td>$350</td>
<td>$1,500</td>
<td>$420</td>
</tr>
<tr>
<td>ED Visit</td>
<td>$500</td>
<td>$2,000</td>
<td>$969</td>
</tr>
<tr>
<td>PCP Office Visit</td>
<td>$85</td>
<td>$199</td>
<td>$218</td>
</tr>
</tbody>
</table>

National CMS Expenditure by Service Type:

<table>
<thead>
<tr>
<th>Service</th>
<th>Average Expenditure</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Ambulance Transport</td>
<td>$419</td>
<td>Medicare Tables from CY 2012 as published</td>
</tr>
</tbody>
</table>

**Triple Aim**

- Improve the quality and experience of care
- Improve the health of populations
- Reduce per capita cost
Driver Diagram: A Driver Diagram is a strong one-page conceptual model which describes the projects’ theory of change and action. It is a central organizing element of the operations/implementation plan and includes the aim of the project and its goals, measures, primary drivers and secondary drivers. The aim statement describes what is to be accomplished, by how much, by when and where?

- **Aim** – A clearly articulated goal statement that describes how much improvement by when and links all the specific measures. What are we trying to accomplish? CMMI/IHI.
- **Primary Drivers** – System components that contribute directly to achieving the aim; each primary driver is linked to clearly defined outcome measure(s). CMMI.
- **Secondary Drivers** – Actions necessary to achieve the primary driver; each secondary driver is linked to clearly defined process measure(s). CMMI.

General Definitions

- **Adverse Outcome**: Death, temporary and/or permanent disability requiring intervention
- **All Cause Hospital Admission**: Admission to an acute care hospital for any admission DRG
- **Average Length of Stay**: The average duration, measured in days, of an in-patient admission to an acute care, long term care, or skilled nursing facility
- **Care Plan**: A written plan that addresses the medical and psychosocial needs of an enrolled patient that has been agreed to by the patient and the patient’s primary care provider
- **Case Management Services**: Care coordination activities provided by another social service agency, health insurance payer, or other organization.
- **Core Measure**: Required measurement for reporting on MIH-CP services
- **Critical Care Unit Admissions or Deaths**: Admission to critical care unit within 48 hours of CP intervention; unexpected (non-hospice) patient death within 48 hours of CP visit
- **Desirable Metric**: Optional measurement
- **Enrolled Patient**: A patient who is enrolled with the EMS/MIH program through either; 1) a 9-1-1 or 10-digit call; or 2) a formal referral and enrollment process.
- **Evaluation**: determination of merit using standard criteria
- **Financial Sustainability Plan**: a document that describes the expected revenue and/or the economic model used to sustain the program.
- **Guideline**: a statement, policy or procedure to determine course of action
- **Hotspotter/ High Utilizers**: Any patient utilizing EMS or ED services 12 times in a 12 month period, or as defined by local program goals.
- **Measure**: dimension, quantity or capacity compared to a standard
- **Medication Inventory**: The process of creating the most accurate list possible of all medications a patient is taking — including drug name, dosage, frequency, and route — and comparing that list against the physician’s admission, transfer, and/or discharge orders, with the goal of providing correct medications to the patient at all transition points within the hospital.
- **Metric**: a standard of measurement
- **Payer Derived**: measure that must be generated by a payer from their database of expenditures for a member patient
- **Pre and Post Enrollment**: The beginning date and ending date of an enrolled patient.
- **Repatriation**: Returning a person to their original intended destination, such as an emergency department, following an intervention
- **Social & Environmental Hazards and Risks**: include trip/fall hazards, transportation, electricity, food, etc.
- **Standard**: criteria as basis for making a judgment
- **Unplanned**: Any service that is not part of a patient’s plan of care.

For Discussion Purposes Only 13 Top 17 Isolated as of 4-7-15