# 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.

Note : The measures below are **Core Measures**; **CMMI Big Four Measures** are highlighted in **RED**; **MIH Big Four Measures** are highlighted in purple.

Note: All financial calculations are based on the average regional Medicare payment for the intervention described.

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| Outcome Measures for Community Paramedic Program Component*Describes how the system impacts the values of patients, their health and wellbeing* |

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| **Domain** | **Name** | **Description of Goal** | **Value 1** | **Value 2** | **Formula** | **Notes** |
| **Utilization Metrics** | Ambulance Transports | Reduce rate of unplanned ambulance transports to an ED by *enrolled patients* | Number of *unplanned* ambulance transports up to 12 months post-graduation | Number of *unplanned* ambulance transports up to 12 months pre-enrollment | (Value 1-Value 2)/Value 2 | Monthly run chart reporting and/or pre-post intervention comparison.  |
|  | **Hospital ED Visits** | Reduce rate of ED visits by *enrolled patients* by intervention | ED visits up to 12 months post-graduation | ED visits up to 12 months pre-enrollment | (Value 1-Value 2)/Value 2 |  |
| ORNumber of ED Visits avoided in CP intervention patient |  | Value 1 |
|  | **All- cause Hospital Admissions** | Reduce rate of all-cause hospital admissions by *enrolled patients* by intervention  | Number of hospital admissions up to 12 months post-graduation | Number of hospital admissions up to 12 months pre-enrollment | (Value 1-Value 2)/Value 2 |  |
|  | **Unplanned 30-day Hospital Readmissions** | Reduce rate of all-cause, unplanned, 30-day hospital readmissions by *enrolled patients* by intervention | Number of actual 30-day readmissions | Number of anticipated 30-day readmissions | (Value 1-Value 2)/Value 2 |  |
|  | Length of Stay | Reduce average length of stay by enrolled patients by DRG | ALOS by DRG for enrolled patients at end of implementation year X | ALOS by DRG for patients NOT enrolled at the end of implementation year X | (Value 1-Value 2)/Value 2 |  |

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| **Domain** | **Name** | **Description of Goal** | **Value 1** | **Value 2** | **Formula** | **Evidence-base, Source of Data** |
| **Cost of Care Metrics -- Expenditure Savings** | Ambulance Transport Savings(ATS) | Reduce expenditures for unplanned ambulance transports to an ED *pre and post* *enrollment or per event* | (Ambulance transport utilization change in measure period X average payment per transport for enrolled patients) MINUS Expenditure per CP patient contact  | Number of patients enrolled in the CP program | Value 1 / Value 2 |  |
|  | Hospital ED Visit Savings(HEDS) | Reduce expenditures for ED visits *pre and post* *enrollment or per event* | ED utilization change in measure period X average payment per ED visit for enrolled patientsMINUS Expenditure per CP patient contact (ASK AHRQ for Part B payment calculations) | Number of patients enrolled in the CP program  | Value 1/ Value 2 | Consider an actual statistician for calculation. |
|  | All-cause Hospital Admission Savings(ACHAS) | Reduce expenditures for all-cause hospital admissions *pre and post* *enrollment or per event* | Hospital admission change in measure period X average payment per admission for enrolled patients MINUS Expenditure per CP patient contact  | Number of patients enrolled in the CP program | Value 1/ Value 2 |  |
|  | Unplanned 30-day Hospital Readmission Savings(UHRS) | Reduce expenditures for all-cause, unplanned, 30-day hospital readmissions *pre and post* *enrollment or per event* | Hospital readmission change in measure period X average payment per readmission for enrolled patients | Number of patients enrolled in the CP program | Value 1/ Value 2 |  |
| **Domain** | **Name** | **Description of Goal** | **Value 1** | **Value 2** | **Formula** | **Evidence-base, Source of Data** |
|  | **Total Expenditure Savings** | Total expenditure savings for all CP interventions | Individual savings for each enrollee (ATS+HEDS + (ACHAS or UHRS)) MINUS the Cost of CP interventions for intervention per enrollee, including alternative sources of care expenditures. |  | Sum of Value 1 | Payer derived. |
|  | **Total Cost of Care** | Reduce total healthcare expenditures for enrolled patients | Total cost of care for enrolled patients for 12 months post enrollment MINUS total cost of care for enrolled patients pre-enrollment  |  | Payor generated number.  | Desired measure. |

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| **Domain** | **Name** | **Description of Goal** | **Value 1** | **Value 2** | **Formula** | **Evidence-base, Source of Data** |
| **Quality of Care & Patient Safety Metrics** | Primary Care Utilization | Increase the number and percent of patients *utilizing* a Primary Care Provider (if none upon enrollment) | Number of enrolled patients with an established PCMH relationship upon graduation | Number of enrolled patients without an established PCMH relationship upon enrollment | Value 1Value 1/Value 2 |  |
|  | Medication Inventory | Increase the number and percent of medication inventories conducted with issues identified and communicated to PCMH | Number of medication inventories with issues identified and communicated to PCMH | Number of medication inventories completed | Value 1Value 1/Value 2 |  |
|  | Care Plan Developed | Increase the number and percent of patients who have an identified and documented plan of care with outcome goals | Number of patients with a plan of care communicated with the patient’s PCMH | All enrolled patients | Value 1Value 1/Value 2 |  |
|  | Provider Protocol Compliance | Eliminate protocol deviation without specific medical direction supporting the deviation | Number of protocol deviations without medical direction support | All patient encounters/interventions | Value 1Value 1/Value 2 |  |
|  | Unplanned Acute Care Utilization (e.g.: emergency ambulance response, urgent ED visit) | Minimize rate of patients who require unplanned acute care related to the CP care plan within 6 hours after a CP intervention | Number of patients who require unplanned acute care related to the CP care plan within 6 hours after a CP intervention | All CP visits in which a referral to Acute Care was NOT recommended | Value 1/Value 2 | Do we measure a rate or just the portion of repatriation events |
|  | Adverse Outcomes | Minimize portion of *critical care unit admissions or deaths* (within 24/48 hours) from a cause related to CP intervention | Number of deaths from a cause related to CP intervention | All patient encounters/interventions | Value 1/ Value 2 |  |
| Number of critical care admissions related to CP intervention | All patient encounters/interventions |

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| **Domain** | **Name** | **Description of Goal** | **Value 1** | **Value 2** | **Formula** | **Evidence-base, Source of Data** |
|  | Community Resource Referral (Q) | Increase portion of patients referred to community resources for reconciliation of immediate social and environmental hazards and risks | Number of referrals to community resources (3 referrals for 1 patient = 3 referrals) | Number of enrolled patients with an identified need | Value 1/ Value 2 |  |
|  | Behavioral Health Services Referral (Q) | Increase portion of patients referred to a behavioral health professional for behavioral health intervention | Number of patients connected to behavioral health resources | Number of enrolled patients with an identified need | Value 1/ Value 2 |  |
|  | Alternative Case Management Referral (Q) | Increase portion of patients referred to alternative case management services | Number of patients connected to alternative case management resources | Number of enrolled patients with an identified need | Value 1/ Value 2 |  |

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| **Domain** | **Name** | **Description of Goal** | **Value 1** | **Value 2** | **Formula** | **Evidence-base, Source of Data** |
| **Experience of Care Metrics** | **Patient Satisfaction** | Optimize positive patient satisfaction scores by intervention | To be determined based on tools developed | To be determined based on tools developed |  | Recommend an externally administered and nationally adopted tool, such as, HCAPHS; HH CAPHS |
|  | **Patient****Quality of Life** | Improve patient self-reported quality of life scores | To be determined based on tools developed | To be determined based on tools developed |  | Recommended tools (EuroQol EQ-5D-5L, CDC HRQoL, University of Nevada-Reno) |

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| **Domain** | **Name** | **Description of Goal** | **Value 1** | **Value 2** | **Formula** | **Evidence-base, Source of Data** |
| **Balancing Metrics** | Provider (EMS/MIH) Satisfaction | Optimize positive provider satisfaction scores |  |  |  | Recommend externally administered |
|  | Partner Satisfaction | Optimize partner (healthcare, behavior health, public safety, community) satisfaction scores |  |  |  | Recommend externally administered |
|  | Primary Care Provider (PCP) Use | Number of PCP visits resulting from program referrals during enrollment | Number of PCP visits during enrollment |  | Value 1 |  |
|  | Specialty Care Provider (SCP) Use | Number of SCP visits resulting from program referrals during enrollment | Number of SCP visits during enrollment |  | Value 1 |  |
|  | Behavioral Care Provider (BCP) Use | Number of BCP visits resulting from program referrals during enrollment | Number of BCP visits during enrollment |  | Value 1 |  |
|  | Social Service Provider (SSP) Use | Number of SSP visits resulting from program referrals during enrollment | Number of SSP visits during enrollment |  | Value 1 |  |
|  | System Capacity - PCP | Number and percent of patients ***unable*** to receive PCP services that they would otherwise be eligible to receive as a result of lack of PCP system capacity | Number of patients referred to PCP services that were unable to receive PCP services due to lack of PCP capacity | Number of patients referred to PCP services | Value 1Value 1/Value 2 |  |
| **Domain** | **Name** | **Description of Goal** | **Value 1** | **Value 2** | **Formula** | **Evidence-base, Source of Data** |
|  | System Capacity - SCP | Number and percent of patients ***unable*** to receive SCP services that they would otherwise be eligible to receive as a result of lack of SPC system capacity | Number of patients referred to SCP services that were unable to receive SPC services due to lack of SPC capacity | Number of patients referred to SCP services | Value 1Value 1/Value 2 |  |
|  | System Capacity - BCP | Number and percent of patients ***unable*** to receive BCP services that they would otherwise be eligible to receive as a result of lack of BCP system capacity | Number of patients referred to BCP services that were unable to receive BCP services due to lack of BCP capacity | Number of patients referred to BCP services | Value 1Value 1/Value 2 |  |
|  | System Capacity - SSP | Number and percent of patients ***unable*** to receive SSP services that they would otherwise be eligible to receive as a result of lack of SSP system capacity | Number of patients referred to SSP services that were unable to receive SSP services due to lack of SSP capacity | Number of patients referred to SSP services | Value 1Value 1/Value 2 |  |
|  | Public & Stakeholder Engagement | Optimize public and stakeholder engagement and integration |  |  |  |  |

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| Structure/Program Design Measures*Describes the development of system infrastructures and the acquisition of physical materials**necessary to successfully execute the program* |

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| **Name** | **Description of Goal** | **Components** | **Scoring** | **Evidence-base, Source of Data** |
| Healthcare Delivery System Gap Analysis(HDSGA) | Program is designed to serve unmet needs in the local community | 1. Describe the community served and how the community was defined (?)
2. List the organizations that participated in the HDSGA
3. Provide a prioritized description of the significant health needs of the community; describe the process and criteria used in identifying certain health needs as significant and prioritizing such significant health needs; describe prevalence of health needs per capita
4. Describe the potential measures and resources to address the needs identified
5. Describe process and methods used to conduct the HDSGA; describe community input received
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| Community Resource Capacity Assessment | Program is designed to address gaps in resource capacity | 1. Describe the community’s:
	1. Primary care availability and capacity (1 – 5 Score)
	2. Mental health outpatient and inpatient availability and capacity (1 – 5 Score)
	3. Substance abuse outpatient and inpatient availability and capacity (1 – 5 Score)
	4. Social services availability and capacity (1 – 5 Score)
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| CMS Integration/Program Integrity | Program integrates with regional CMS QIO contractor |  |  |  |
| Organizational Readiness Assessment – Medical Oversight | Organization is committed to strong medical oversight, effective clinical quality improvement , comprehensive education and continuing education program [EDIT] | 1. Designated medical director with description of defined role (Yes/No)
	1. Verified by medical director signature
2. Designated protocol for Primary Care Physician engagement in care coordination for patients enrolled in MIH/CP program
	1. Including on-line medical consultation if necessary
	2. Verified by medical director signature
3. Designated quality improvement program and description (Yes/No)
4. Designated original and continuing education process and description (Yes/No)
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| Organizational Readiness Assessment - HIT | Organization has advanced health information technology systems and infrastructure |  |  | IHI |
| Plan for Integration with Healthcare, Social Services and Public Safety Systems |  |  |  | HRSA Tool1-5 Score |
| Public & Stakeholder Engagement | Optimize public and stakeholder engagement and integration |  |  |  |
| Executive Sponsorship & Strategic Plan |  | 1. Driver diagram (Yes/No)
	1. AIM, primary drivers, secondary drivers and measures
2. Operations plan & implementation milestones (Yes/No)
3. Knowledge of improvement science (Yes/No)
	1. Rapid cycle testing
4. Financial Sustainability Plan (Yes/No)
5. Organizational Structure
	1. Manager reports directly to Executive Leadership (Yes/No)
 |  | Institute of Healthcare Improvement |

# Definitions

**Triple Aim**

* Improve the quality and experience of care
* Improve the health of populations
* Reduce per capita cost

**Measure Categories**

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

*Utilization Metrics*

* Ambulance Transports/1,000
* Emergency Department Visits/1,000
* All-cause Hospital Admissions
* Unplanned 30-day Hospital Readmissions

*Cost of Care Metrics*

* Expenditure Savings by Intervention

*Quality of Care Metrics*

* Medical Home
* Medication Inventories
* Care Plan Acceptance and Adherence
* Quality (Q)-
* Patient Safety (S)- AHRQ (Berwick) definition- Attempts to reduce adverse events

*Experience of Care Metrics*

* Patient Satisfaction
* Patient Quality of Life

*Population Health Metrics*

* Access to Care in Underserved Populations

**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:

* Provider (EMS/MIH) satisfaction
* Partner (healthcare, behavior health, public safety, community) satisfaction
* Public and stakeholder engagement

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

**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:

* Volume of Contacts, Visits, Transports, Readmissions
* Referral & Enrollment Metrics
* Clinical & Operational Metrics

**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**

* Metric: a standard of measurement
* Measure: dimension, quantity or capacity compared to a standard
* Evaluation: determination of merit using standard criteria
* Standard: criteria as basis for making a judgment
* Guideline: a statement, policy or procedure to determine course of action
* Core Metric: Required measurement
* Desirable Metric: Optional measurement

**Metric Definitions**

* Enrolled Patient: A patient who is enrolled with the EMS/MIH program through either; 1) a 9-1-1 or 10-digit call; 0r 2) a formal referral and enrollment process.
* Pre and Post Enrollment: The beginning date and ending date of an enrolled patient.
* Recommended Care Plan: Includes lifestyle recommendations, follow up appointments, medication adherence and care setting (i.e., hospice plan of care)
* Critical Care Unit Admissions or Deaths: Transport to an ED within 6 hours of alternative destination; admission to critical care unit within 48 hours of CP visit; unexpected (non-hospice) patient death within 48 hours of CP visit
* Social & Environmental Hazards and Risks: include trip/fall hazards, transportation, electricity, food, etc.
* Alternative Case Management Services (Q): [ADD TEXT]
* Repatriation: Returning a person to their original intended destination, such as an emergency department, following an intervention
* Unplanned: Any service that is not part of a patient’s plan of care.
* Hotspotter/ High Utilizers: Any patient utilizing EMS or ED services 12 times in a 12 month period.

Measurement Methods

* Insert paragraph which describes periodicity, measurement sources and use of run charts