Innovation Opportunities for Emergency Medical Services:

A Draft White Paper from the

National Highway Traffic Safety Administration (DOT)

Office of the Assistant Secretary for Preparedness and Response (HHS)

Health Resources and Services Administration (HHS)

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Acknowledgements

The process to develop this draft white paper, accomplished jointly among three federal agencies, included review, consultation and analysis by many staff members.

Foreword

The Departments of Health and Human Services (Assistant Secretary for Preparedness and Response and Health Resources and Services Administration) and Transportation (National Highway Traffic Safety Administration) have jointly collaborated on the development of this ***draft white paper that presents one example of an analysis and model*** (Model) along with background materials of the potential for cost savings if emergency medical services (EMS) systems adopted protocols and strategies to innovatively triage and treat patients. Ideally this Model or others, could be pilot-tested in various local and regional jurisdictions throughout the United States. There are many ways for EMS systems to more appropriately care for their patients while maintaining financial sustainability.

It is anticipated this draft White Paper and Model could be helpful as local, regional and state EMS and health system planners prepare frameworks, options and funding strategies/proposals for innovative collaboration among EMS systems, primary care providers, hospitals, public safety answering points, public health and others. Readers are encouraged to review this White Paper and to provide the agencies with comments, suggestions or additional data.

Applying the Model – a Practical Summary for EMS Stakeholders

The following are steps that an EMS agency could take to "operationalize" the Model in Figure 3 for an individual community:

- Using the Model in Figure 3 (page 11) conduct an analysis of the data in an EMS jurisdiction to calculate the percent of low acuity patients that could be safely and appropriately managed in a non-emergency department setting if available. The example analysis used the 5 percent CMS standard analytic file (SAF) but potential local data sources may include:
    - EMS data linked with local emergency department (ED) data to determine the percent of EMS transports that are discharged from the ED within 24 hours: depending on the sophistication of the agency's data systems, one can either calculate patient acuity by applying the Billings algorithm (page 9) to electronically available data or conduct a chart review to determine the percent of low acuity patients.
    - State Medicaid data to conduct an analysis similar to what is proposed in the SAF example.
    - **NOTE**: the national example used in this paper found that approximately 15 percent of all Medicare ED transports could be safely treated outside of the ED if other options existed. Your numbers may be similar.

- Based on the dynamics in your community, determine how many of the patients treatable outside of the ED can be safely treated in clinics or urgent care, and how many can be treated and released by EMS providers.

Considerations for your system might include:

- The level of service (Basic Life Support-BLS versus Advanced Life Support-ALS) available and the education, skill and scope of practice of the clinicians.
- The availability of clinic-based services: in many cases, you may need to contract with providers to incentivize them to take unscheduled patients or extend hours.
- The culture of the urgent care centers and their willingness to accept patients, particularly those with Medicaid.
- The presence of Accountable Care Organizations (ACO) in your area and their willingness to partner with you since they are already incentivized to reduce ED visits and total cost of care.

- Develop a theoretical framework for how to appropriately triage patients away from the ED and how it will work in your community. Then, design a demonstration for your community that may, for example, include:

  - Expanding the fee for service model to reimburse EMS providers for assessment and treatment (including transportation) provided on site or for transport to a non-ED location.
  - Design an evidence-driven protocol for appropriate disposition of patients who call 911 (this requires broad-based community input and support).
  - A shared savings model where EMS providers are incentivized to avoid unnecessary ED transports.

- Utilize available mobile resources in your community to treat non-acute patients and reduce readmission or further use of hospital resources: partner with public health agencies, social service providers, hospitals and ACOs to provide mobile medical services in underserved communities.

- Develop a robust evaluation strategy to ensure the quality of patient care and patient safety is maintained or enhanced, and to assess other system impacts of the implementation of the new protocols/system changes including patient satisfaction.

Introduction

In 2009, there were over 136 million emergency department (ED) visits in the United States and 15.8 percent of them arrived by a 911-response ambulance.[i] ED overcrowding is a well-documented problem that results in costly, delayed, and often sub-optimal care. Emergency medical services (EMS) contributes to this problem by unnecessarily transporting non-acutely ill or injured patients to EDs when more appropriate and less costly care settings, including the home, may be available. Since Medicare was established in 1965, ambulance suppliers have been reimbursed for the transport of beneficiaries to and between hospitals, dialysis clinics, and skilled nursing facilities (SNF). As the scope of practice of the emergency medical technician expanded, CMS updated the reimbursement policy to account for the level of care provided while en route. Though the current rule includes eight separate levels of service, the model still requires the *transport* of a beneficiary to one of the aforementioned locations to qualify for reimbursement. When someone calls 911 for a non-acute event, there is a financial incentive for suppliers to transport them to an ED when alternative care by EMS providers may result in higher quality patient-centered care at a significantly lower cost.

An analysis funded by the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) indicates that approximately 15 percent of Medicare patients transported to the ED by ambulance can be safely cared for in other settings if available in a community. National models suggest that if these patients were transported to a physician's office, Medicare could save $559.871 million per year and if they were treated at home it is expected the savings would be significantly higher**.** Cost data for Medicaid are not available but expected to be even greater. In 2006, Medicare and Medicaid paid 20 percent and 21 percent respectively of ED charges.

The pre-hospital EMS system is uniquely positioned to care for 911 patients and assist less-emergent patients with transport to the most appropriate care setting based on medical and social needs. Such an approach may reduce the total cost of care, provide more patient-centered care and may reduce the burden on EDs, thus enhancing the quality of care received by all patients.

As the nation faces the possibility of increasing healthcare costs, there is significant opportunity for EMS systems to be *part of the solution* and help reduce the incidence of costly care for unscheduled patients. One could demonstrate that EMS services can reduce downstream emergency department and hospitalization costs while increasing patient care quality and safety by changing their service delivery. New initiatives may allow EMS systems to demonstrate several innovative strategies to reduce total cost of care and increase health outcomes, including: the triage of patients calling 911 without dispatch of an ambulance, treatment of patients without transport, transport of patients to a clinic or other provider for an unscheduled visit, and scheduled non-acute assessments and treatments, to name a few. Innovative financial models may include an expanded Fee-For-Service (FFS) system or an innovative model designed by the emergency care system.

Problem Statement and Background

ED overcrowding is a well-documented healthcare crisis that results in delayed and sub-optimal acute care.[ii] [iii] [iv] [v] There are several causes of ED overcrowding, though one actionable concern is the fee-for-service payment model for 911-based emergency medical services (EMS) that currently requires the transport of a patient to a hospital in order to qualify for reimbursement. The Medicare program spends $5.2 billion on 16.6 million ambulance transports annually and payments per beneficiary increased 19.1 percent from 2007 to 2010. [vi] Of those, approximately seven million beneficiaries were transported to EDs. In 2006, the HHS Office of the Inspector General found that 25 percent of ambulance transports were either unnecessary or inappropriate, while other research has found that between 11 and 61 percent of ambulance transports to EDs could have been safely treated elsewhere. [vii] [viii] [ix] [x] [xi] [xii] *The Medicare transport requirement incentivizes ambulance suppliers to deliver non-acutely ill or injured beneficiaries to EDs, one of the most expensive sites of care*[xiii].

In 2009, there were over 136 million ED visits in the United States and 15.8 perecent of them arrived by a 911-response ambulance. Among patients aged 65 and older, there were close to 20 million ED visits with 38.6 percent arriving by ambulance.[xiv] Among Medicare beneficiaries arriving by ambulance, 45 percent were not admitted to the hospital, but cost CMS $1.98 billion (with an additional 20 percent out-of-pocket costs to the beneficiary). Medicare and Medicaid beneficiaries account for a disproportionately high utilization rate of EDs. [xv] [xvi] Recent studies from the CDC reinforce conclusions that people utilize EDs more often because of a lack of access to other providers as opposed to the seriousness of their complaints. [xvii] Almost 60 percent of non-elderly adults surveyed on public healthcare plans cited that a "doctor's office or clinic was not open" and 40 percent of privately insured non-elderly adults cited "no other place to go." *EMS contributes to ED crowding and high system costs by transporting some patients to EDs when more appropriate and less costly care settings, including the home, may be adequate and available.*

EMS is an essential component of the United States healthcare system.[xviii] Ambulance transport to a hospital's emergency department is often the first and only access point to the healthcare system for many Americans. Medicare reimburses ambulances through a fee-for-service (FFS) transportation benefit, as defined in Part B. Regulations require that a patient is transported from the scene of injury or illness to a hospital in order to be reimbursed. However a recently released study from the RAND Corporation indicates that the role of the emergency department in determining admissions and downstream costs is rising dramatically and that EDs account for almost half of all hospital admissions. [xix] *There exists no financial incentive to treat a patient at the scene of their illness or injury or to transport them to a provider other than an emergency department.*

Given the low-acuity nature of many patients being transported, one may anticipate a better patient care experience when patients are either treated at the scene by EMS or taken to a clinic-based provider with shorter wait times than in the ED. Studies of patient-centered medical homes (PCMH) have found significant reductions in ED use, hospitalizations, and readmissions due to strong care coordination as well as increased quality of care. [xx] [xxi] One PCMH pilot program in Seattle realized a 29 percent reduction in ED use and an 11 percent reduction in

ambulatory sensitive care admissions (i.e. admissions resulting from conditions that can be treated in an ambulatory care setting), resulting in $17 per patient per year of savings. [xxii] *Encouraging the use of medically appropriate alternative care settings can reduce both ED visits and hospitalizations.*

The Balanced Budget Act of 1997 required that CMS convene stakeholders in the ambulance community and enter a negotiated rulemaking process to set a national prospective ambulance fee schedule. The schedule was finalized in 2002 and reimbursement is currently calculated by multiplying a nationally standardized base rate (or conversion factor) with the geographic practice cost index factor (GPCI), and a relative value unit (RVU). This amount is added to a calculated mileage payment for the transport. Previously, Medicare was charged a usual and customary rate for transport. This complicated fee-for-transport model, in place since the enactment of Medicare in 1965, *incentivizes a higher utilization of emergency and in-hospital services*.

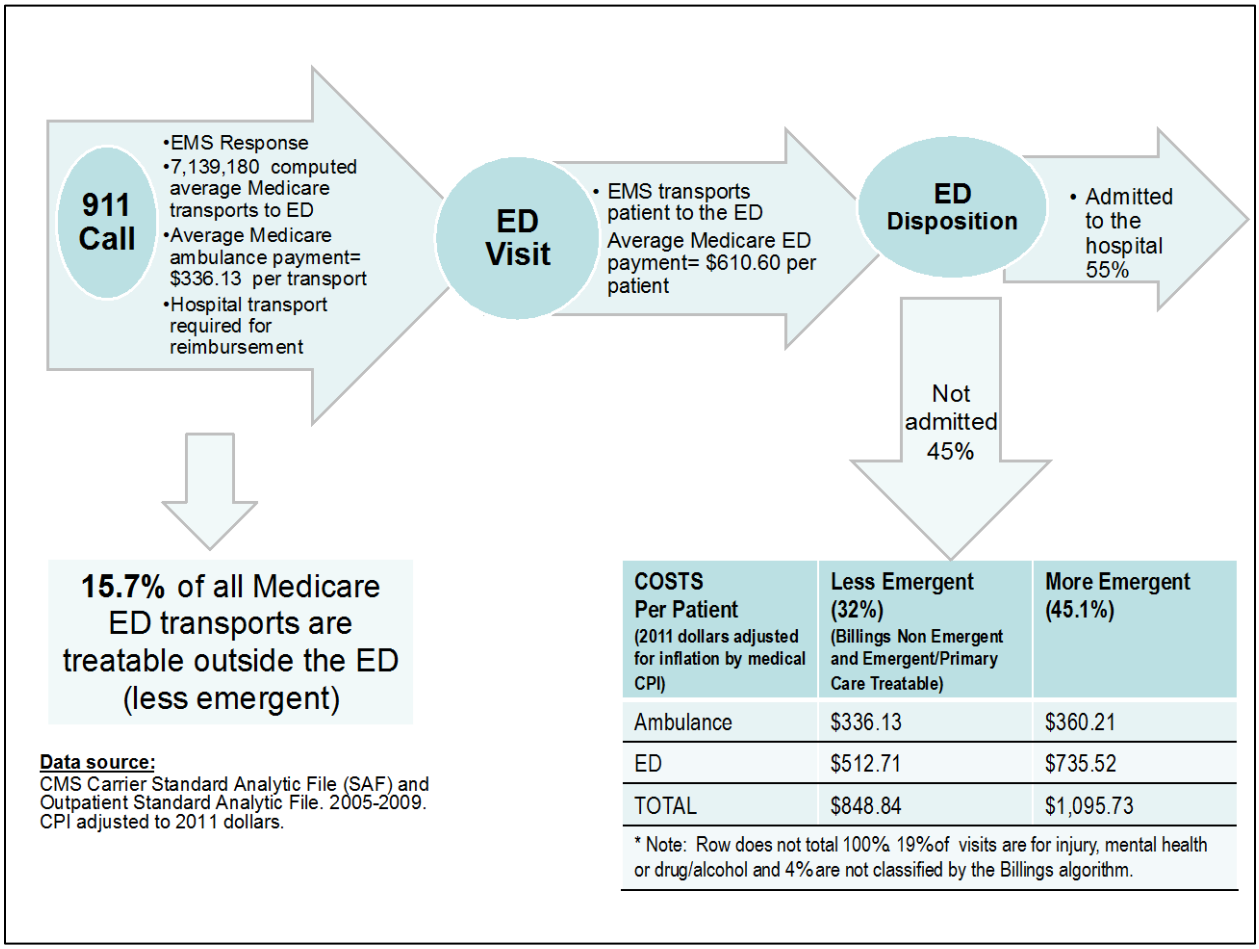
The National EMS Advisory Council (NEMSAC) found in its 2012 report on EMS Performance-based Reimbursement that the average payer-mix for an EMS agency is:[xxiii]

Medicare:	44%
Medicaid:	14%
Private Payer:	14%
Commercial Insurance:	21%
Other:	7%

Relative to the population distribution in the U.S., Medicare was billed for more ED visits resulting in admission and Medicaid was billed for more treat-and-release ED visits.[xxiv] Significant cost savings and increases in quality of care for acute and non-acute ED patients are possible if funding models are altered to incentivize fewer transports to EDs.[xxv] [xxvi] [xxvii]

The NEMSAC report recommended that the federal government adopt methods to reimburse EMS systems based on performance and actual costs of 24/7 readiness as opposed to fee-for-transport. Alternative models of delivering pre-hospital emergency care could include payments to transport to urgent care centers, physician offices, or mental health facilities. Models could also include expanded services provided by EMS personnel at the site of injury or illness, referrals to specialty care, bundled payments for acute care services, or shared-savings models, to name a few.

Figure 1, below, illustrates the current trajectory of a patient who calls 911 and the costs to the Medicare program. Note: one could predict a similar pattern for Medicaid patients for whom national average cost data are not available.



COSTS Per Patient (2011 dollars adjusted for inflation by medical CPI)	Less Emergent (32%) (Billings Non Emergent and Emergent/Primary Care Treatable)	More Emergent (45.1%)
Ambulance	$336.13	$360.21
ED	$512.71	$735.52
TOTAL	$848.84	$1,095.73

* Note: Row does not total 100% 19%of visits are for injury, mental health or drug/alcohol and 4%are not classified by the Billings algorithm.

Figure 1. Disposition and Cost of Medicare Patients Accessing the 911 EMS System

As shown in figure 1, a recent analysis of the CMS data show that 45 percent of EMS transports of Medicare beneficiaries to an ED did not result in a hospitalization. Of these, 32 percent were less emergent according to the Billings criteria of non-emergency and primary care treatable visits. Note that the model excludes all injuries, mental health and alcohol related visits, and additional visits that could not be classified using the Billings algorithm. *This translates to approximately 15 percent of all Medicare ED transports that could be considered avoidable ED visits.*

More information on the Billings algorithm is available on the next page.

The Billings Algorithm Explained

The Billings algorithm classifies ED utilization of patients into the following categories:

- **Non-emergent** - The patient's initial complaint, presenting symptoms, vital signs, medical history, and age indicated that immediate medical care was not required within 12 hours;

- **Emergent/Primary Care Treatable** - Based on information in the record, treatment was required within 12 hours, but care could have been provided effectively and safely in a primary care setting. The complaint did not require continuous observation, and no procedures were performed or resources used that are not available in a primary care setting (e.g., CAT scan or certain lab tests);

- **Emergent - ED Care Needed - Preventable/Avoidable** - Emergency department care was required based on the complaint or procedures performed/resources used, but the emergent nature of the condition was potentially preventable/avoidable if timely and effective ambulatory care had been received during the episode of illness (e.g., the flare-ups of asthma, diabetes, congestive heart failure, etc.); and

- **Emergent - ED Care Needed - Not Preventable/Avoidable -** Emergency department care was required and ambulatory care treatment could not have prevented the condition (e.g., trauma, appendicitis, myocardial infarction, etc.).

The algorithm was developed using a sample of 6,000 full ED records.
For more information, visit http://wagner.nyu.edu/faculty/billings/nyued-background

A Model for Innovation in Emergency Medical Services

It is important to demonstrate cost savings for any change to the existing delivery or reimbursement model. Unpublished research funded by the HHS Office of the Assistant Secretary for Preparedness and Response indicates that for **less emergent cases** (approximately 15 percent of Medicare transports to EDs), EMS agencies may be able to alter their service delivery model to more effectively:

1) Evaluate and treat the patient at the location of the 911 call,
2) Evaluate and transport the patient to a health care provider (physician) clinic, Federally Qualified Health Center (FQHC), or Rural Health Clinic (RHC), and
3) Evaluate and transport the patient to an urgent care center.

Calculations show between $283,464,058 and $559,871,117 in cost savings if all of the approximately 15 percent of preventable ED transports went to a physician's office (Figure 2).

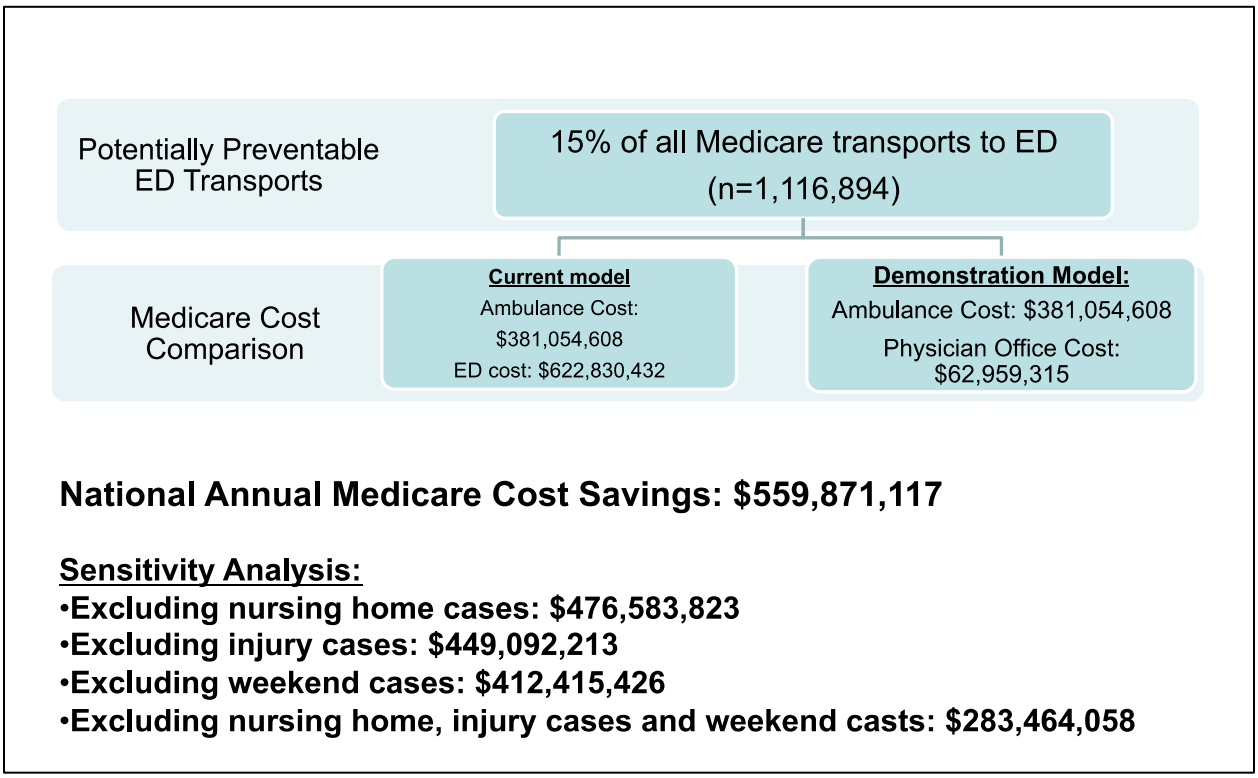


Figure 2: Calculated Cost Savings Transport to a Physician Office for Less Emergent Patients

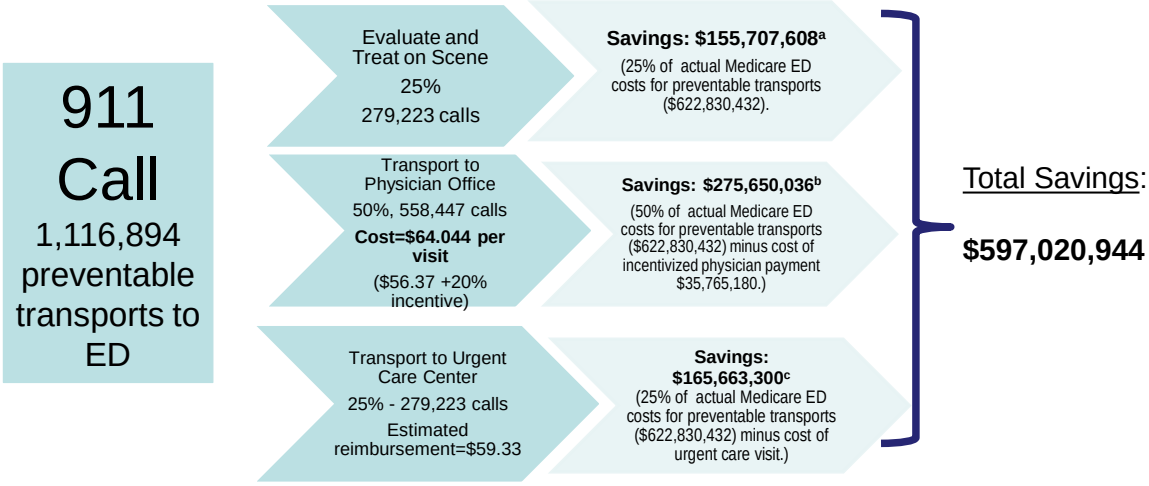
The cost analysis in Figure 2 assumes that EMS would continue to transport all patients to a health care setting, in this case a physician's office. However, prior experience with using trained personnel to triage patients by 911 dispatch centers and to determine the appropriate level of basic versus advanced life support has worked well.[xxviii] [xxix] [xxx] Therefore, EMS may be able to meet the needs of callers without dispatching an ambulance or triage and treat some patients rather than transport all of them to a clinic-based practitioner.

As noted, not all preventable ED transports will require treatment or transport to a clinic. In addition, clinics are often closed on nights and weekends. For the sake of calculating cost savings for the model, it is estimated that of the preventable ED transports:

- 25 percent of patients can be evaluated and treated by EMS without transport;
- 25 percent may not have a physician available (even with incentives provided for physicians to take unscheduled patients) and would go to urgent care; and
- 50 percent of patients would be transported to an appropriately staffed clinic.

Further explanation of these estimated figures is below. Note that they may be significantly altered in different communities based on demographics and other characteristics. Figure 3 presents the projected national Medicare cost savings of $597,020,944 annually (without a sensitivity analysis), of over 1 million preventable transports to the ED.

Figure 3: Theoretical Medicare Cost Savings: Preventable Transports



Note: Cost for ambulance fee constant throughout.

Calculations:
a=25% actual Medicare ED costs for less emergent patient using Billings algorithm (5% claims sample, 2005-2009)
b= product of 50% actual Medicare ED costs (5% claims sample, 2005-2009) subtracted from Medicare Physician Office Costs (estimated using low-acuity office visit $70.46 in 2012 minus 20% copay . $56.37 paid by Medicare. 20% incentive added for unscheduled visit.
C=Urgent care reimbursement is based on physician payment plus procedure code payment and is therefore variable. Published literature estimates an average difference of $2.96 between primary care and urgent care. Thus adding $2.96 to the average low acuity physician office cost, we estimate an average urgent care visit reimbursement of $59.33.

Based on the CMS SAF, a recent analysis shows 1,116,894 Medicare EMS transports (roughly 15 percent of transports) to the ED that are preventable (based on Billings criteria of non-urgent and primary care preventable). These translate to $622,830,432 in Medicare ED costs. If 25 percent of these patients were treated onsite by EMS and released, Medicare would only pay the ambulance costs saving $155,707,608 in ED costs.

It is reasonable that clinic based providers would need to be incentivized to accept unscheduled patients. Physician incentives range from 1 to 20 percent of a physician's total compensation with many incentives in the 5 percent range.[xxxi] Medicare pays $56.37 for a low acuity office visit. Adding 20 percent to this fee would yield a $64.04 incentivized payment. If 50 percent of ED preventable EMS calls were transported to clinical based providers, Medicare would save $275,650,036 in ED costs after subtracting an incentivized payment of $64.04 to the office.

Lastly, EMS may need to transport 25 percent of the avoidable transports to an urgent care center because a clinic-based provider is not available to accept the patient. Reimbursement for urgent care centers is based on procedure codes and therefore an exact fee is not available. However, a study of the average charges for urgent care centers when compared to primary care across all payers showed a $2.96 difference in payment.[xxxii] This analysis added $2.96 to the low acuity physician reimbursement of $56.37 to calculate an urgent care center payment of $59.33 for an urgent care visit. Accounting for these costs, Medicare saves $165,663,300 in ED costs.

While this overall Model shifts costs from ED's to clinic based providers and urgent care centers, there are demonstrable cost savings from Medicare beneficiaries alone. If the entire Model is successful with all of the avoidable ED transports triaged to more appropriate care, Medicare alone can save $597 million annually. Note: due to the lack of data, there is no analysis of savings for Medicaid but a similar theoretical model is projected for Medicaid beneficiaries.

Program Design Considerations

Currently when a 911 call is initiated, the responding ambulance generally transports the patient to the ED and care is provided en-route. A demonstration project could allow an EMS system to develop alternative treatment and triage protocol options that may include:

- Triage or self care instructions by call-taker without dispatching an EMS unit.
- Treatment provided in the home or location of patient.
- Transport to an appropriate clinic based health care provider.
- Transport to an urgent care center.
- Transport to an Emergency Department.
- Referral to an appropriate community service.
- Other community specific treatment or transport protocols.

Figure 4, below, illustrates the logic model for a possible demonstration project with the goal of improving health care safety, effectiveness, patient-centeredness, timeliness and efficiency by reducing unnecessary ambulance transports to the ED by 15 percent.

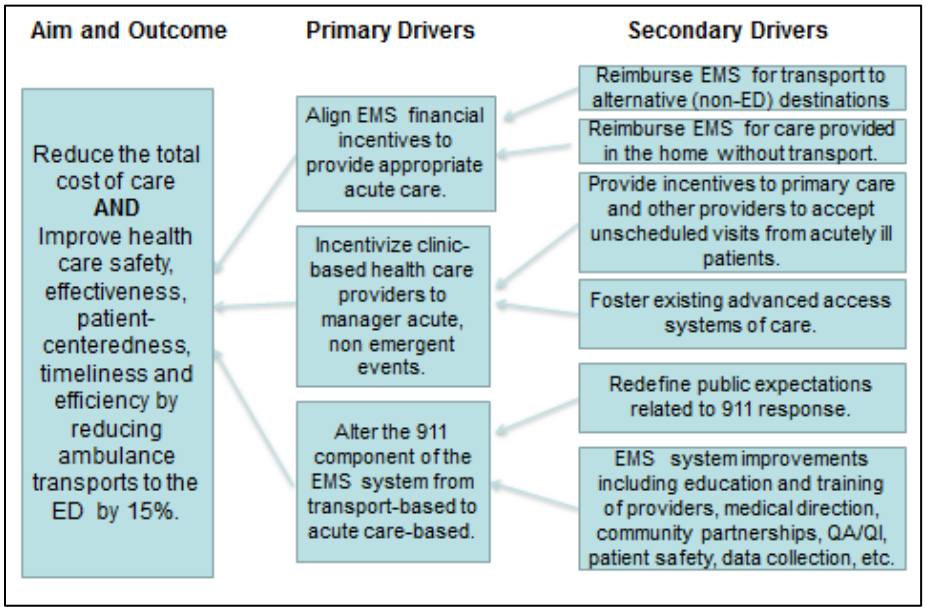


Figure 4 – Primary and Secondary Drivers of Innovation

One may anticipate that the primary drivers for reducing system costs by reducing ambulance transports to the ED by 15 percent will be to align financial incentives to EMS and to clinic

based providers. By incentivizing clinic based providers to take unscheduled patients and allowing EMS to receive reimbursement for providing treatment and transporting to a clinic provider, one can reduce downstream ED costs.

Demonstration projects should consider the following when determining new delivery and finance models:

- The operational components of the EMS system.
- Scope of practice for EMS providers and state licensure and certification related to provider roles, EMS service licensure and other legal authorizations such as the authority for treat and release.
- Reimbursement for EMS to treat at the most appropriate site when available.
- Incentives for clinic-based healthcare providers to accept unscheduled visits and extend office hours.
- Reimbursement for appropriate medical direction (including any increases).
- Development of data collection systems and impact on patient care quality metrics, measured both before and after the intervention.
- Continuous quality assurance and improvement function.
- Evaluation of impact on:
    - system cost analysis (pre/post) (EMS agency, physician services, ED costs, hospital costs, public health and other costs);
    - access to primary, specialty, and emergency care;
    - patient safety, outcomes and satisfaction; and
    - education, licensure and workforce issues.

Physician medical direction is an important component of all EMS systems and is currently supplied to EMS providers through written protocols and in real time via telephone or radio. Innovative approaches may require additional physician interaction and supervision of field providers; this practice is not currently reimbursed by Medicare, but may be under a demonstration.

Possible Demonstration Approaches

Several possible approaches for local EMS demonstration projects are presented based on the national analysis above. These are not mutually exclusive, nor are they exhaustive of the myriad innovative options that may be appropriate for local EMS systems.

Incremental approach

An initial step to a more comprehensive transformation of the local EMS system might be to encourage EMS agencies, and their partners, to identify viable alternatives to transporting patients to the ED. Several short-term options may be relatively easy to manage, have a short

time to impact, and lower costs through improvements to the emergency care system. These include:

- Expand the current fee for service model for EMS agencies with reimbursement for treatments at home as well as transport to alternative care settings. The focus may be to incentivize EMS agencies and physician offices to change service delivery for less emergent patients and reduce ED utilization.

- An alternative option would maintain the current FFS structure and integrate pre-hospital emergency services into the shared-savings model of an Accountable Care Organization (ACO). The current delivery model for EMS is predicated on a single financial incentive to transport acute or non-acute patients to the hospital. If one or more EMS agencies partnered with an ACO, their incentive would be to lower the total cost of care for beneficiaries, and agencies would be able to innovate in how triage, transport, or disposition decisions are made in the field. Under the ACO model, an EMS agency would be incentivized, through shared savings, to make the most appropriate (and often least costly) treatment and transport decision with the patient. This option would require some start-up funding, mainly in order to integrate data systems, educate EMS providers, ensure more appropriate online medical direction, and prepare for a thorough evaluation.

More innovative and long-term approach

This would provide novel strategies to emergency care reimbursement or variations to current approaches for entire regions which may include a broader array of health care providers in the emergency care system and models such as bundled payments, shared savings, or patient-centered medical homes. There may be new ways to incentivize less costly emergency care for EMS agencies, hospitals, physicians, urgent care centers, and clinics.

Possible Participants and Beneficiaries

There is significant interest in health services sectors to reduce ED utilization and save money. Demonstrations may directly target the unscheduled care system as a source of overutilization and overspending. Participants could include Accountable Care Organizations or other entities that bear financial risk and are incentivized to reduce utilization of costly services. Regionalized systems of emergency care, including EMS agencies, hospitals, physician groups, home health nurses, and local public health departments could partner under a convener to execute a geographically defined model. This could also be integrated into models being developed for patient-centered medical homes. State Departments of Health may also organize regional providers.

All Medicare, Medicaid, and CHIP beneficiaries (including dual eligible beneficiaries) may realize an increase in the quality and a decrease in the total cost of their unscheduled or acute care. In addition, providers of primary care services, including Federally Qualified Health Centers and Rural Health Clinics, as well as local or regional EMS agencies will benefit financially from a shift in reimbursement policy.

The following care providers may be included in a demonstration project:

- EMS providers and medical directors.
- Primary care, emergency, and other specialty care physicians.
- Primary care, emergency, and other specialty care physician assistants and nurse practitioners.
- Urgent care centers and providers.
- Hospitals and Emergency Departments.
- Accountable Care Organizations.
- Federally Qualified Health Centers (FQHC).
- Rural Health Clinics (RHC).

Demonstrations may also choose to engage local community and other care providers such as Fire Department personnel and other health workers. It may also be important to engage state partners including regulators of medicine and emergency medical services, state Medicaid Administrators, and state Public Health Departments.

Significant Assumptions for Consideration

Factors That May Increase Cost Savings

The Model does not include data from Medicaid and CHIP where more substantial savings are anticipated, particularly since a significant portion of Medicaid patients are "treat and release" from the ED. [xxxiii] One major assumption of the cost savings presented is that all patients that were admitted to the hospital were not emergent. However, a percentage of these admissions may be avoided if the patient is transported to a specialist physician's office. An 11 percent reduction in ambulatory sensitive care admissions has been demonstrated in a PCMH model. [xxxiv]

Another assumption made in the Model is that patients with injury, mental health issues, or drug/alcohol issues are excluded from the less emergent analysis. In actuality, an unknown percentage of these patients may also be safely triaged away from EDs.

Factors That May Decrease Cost Savings

Clinic provider incentives—it is anticipated that an applicant may have to provide incentives to clinic providers who do not traditionally accept unscheduled or off-hours patients. This may be in the form of a per-patient-per-month payment or a lump sum. An ACO may not require any additional incentive if they believe more access to their primary care physicians will result in fewer ED visits and overall cost savings. A traditional fee-for-service practice may be incentivized by bonus payments when seeing a patient same day or after normal office hours.

The EMS community should carefully consider the following major assumptions from the nation model:

Assumption	Impact on Cost Savings
EMS providers can triage 15 percent of Medicare ED transports away from the ED	**Neutral to potential increase in savings** 15 percent as a number for less emergent ED visits is a very conservative estimate. Data are not available for the Medicaid population and it is anticipated that a far greater percent of those are less emergent visits. It is anticipated that cost savings will be greater than is calculated.
Clinic based health care providers will accept unscheduled patients	**Decrease cost savings** While the amount of incentive that would be required to have physician offices accept unscheduled patients from EMS is estimated, there is no literature to support the exact amount of incentive that may be required. Applicants will need to negotiate the exact amount of such incentives. If greater incentives are required to induce providers to take unscheduled visits, that may decrease cost savings.
Admitted patients are emergent	**Increase cost savings** Due to the lack of availability of specialty consult in many ED's, it is anticipated there are a number of unnecessary hospital admissions that may be avoided if transport to a specialty physician's office is possible. This is supported by the patient centered medical home literature where as much as 11 percent of ambulance sensitive conditions avoided hospitalization.
There will be cost savings in addition to those realized by ED utilization reduction	**Increase cost savings** Patients are often admitted to inpatient floors from the ED because of a lack of confidence that the patient will follow up with a PCP. It is anticipated there will be a more substantial cost savings from a reduction in admissions that is not calculated in this proposal.
Injured, mental health and alcohol related visits must be seen in the ED	**Increase cost savings** There are low acuity calls for these groups that may be handled with a visit to the specialty provider or treatment at site of injury.

Note that the financial models presented in figures 2 and 3 assume that only those patients that were *not* admitted to the hospital were potentially avoidable. However, as shown in the patient centered medical home literature there are ambulatory sensitive hospitalizations that may be avoidable.

Conclusion

There is significant potential for innovation in healthcare systems that may transform the delivery of emergency medical services, reduce the total cost of care, and increase health for a population well beyond CMS beneficiaries. Innovations may also change the model of acute care to one that is more patient-centered as many of those experiencing an acute event can be evaluated in their home (or current location) and triaged to an appropriate care setting that is congruent with their level of severity. Encouraging clinic based health care providers to accept more unscheduled visits will ensure greater continuity of care for patients.

The provision of unscheduled care, including EMS agencies, emergency departments, physicians, and urgent care centers, has not experienced significant innovation in delivery or finance models since the establishment of Medicare. Americans deserve a full *systems approach* to transforming the unscheduled care in a patient-centered manner that will save money, reduce the burden on the emergency departments, and increase the quality of care provided to beneficiaries.

Finally, the information presented in this draft "White Paper" is a theoretical model that will serve as a stimulus to engage local, regional, and state EMS systems and health care providers to seek funding to test the model. The challenge is for interested and innovative system managers to address the details and the intricacies – develop, modify, improve, or disprove the model.

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