





*Evolving to Protect:  
A Mobile Health Program*

# Strategic Overview

April 2, 2015

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*Trained Paramedics Provide Ongoing Support to Frequent 911 Callers, Reducing Use of Ambulance and Emergency Department Services. Agency for Healthcare Research and Quality*

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## Executive Summary

In the face of the sweeping changes ushered in by the Patient Protection and Affordable Care Act (ACA) and, more importantly emerging customer demand and community need, the City of Santa Fe Fire Department (SFFD), a cornerstone of the region's public safety and emergency medical response system, is seeking to reimagine and expand the role Emergency Medical Technicians (EMTs) play in fostering and protecting our citizens' right to responsive and effective healthcare. This historic transformation, implemented through the Community Protection Initiative (CPI), (a mobile integrated health program) promises to untie the hands of EMTs who are often made complicit in the over utilization of emergency resources and to deliver on the Institute for Healthcare Improvement's "Triple Aim":

1. Improve the health of populations,
2. Improve the patient's experience of care
3. Reduce per capita costs

This Triple Aim will be achieved through working assertively and proactively with vulnerable populations to improve their physical and behavioral health. Proven strategies will be employed including: improved assessment and triage capability, advocacy, connection to existing community resources with follow up, and education to increase patients' medical literacy and ability to make informed choices

CPI will respond to the current healthcare environment and patient's needs by providing primary, secondary, and tertiary prevention measures (or pre-event, event, and post-event prevention). CPI will allow SFFD to develop prevention services for what accounts for 85% of our calls for help from our neighbors, family and friends: medical and social problems.

Vulnerable individuals (such as the mentally ill, those who struggle with addiction, and the elderly) fall through our community's safety net daily and land on our gurneys. The result of these individuals not obtaining the specialized interventions and care they need to stay well is all too often a cycle of ever-increasing number of emergency department visits, deteriorating patient health and stress and strain on our community's emergency systems, not to mention the enormous financial cost



*IHI Triple Aim*



### CPI Strategic Overview

born by the individual and community at large (0.3% of the city's census population accounted for 18% of SFFD's 10,638 calls for medical service in 2013). SFFD EMTs are uniquely and somewhat obviously positioned to change this equation. EMTs are trained, skilled health clinicians universally and deeply trusted across cultural, racial, age, gender, religious, and socioeconomic classes. Importantly, they have access to and pre-existing relationships with the individuals in our community who are caught in this downward health and cost spiral. They also have the infrastructure, organizational capacity and patient data needed to make these proposed changes a reality. CPI will harness the power of the SFFD and its EMTs to create a Santa Fe where emergency response means a chance to truly be healed and not just another trip to the emergency department.

In the first year, CPI will provide the following services:

1. Home Visits to High Utilizers:

- Goal: Connection to existing community resources.

Questions will be asked about:

- insurance status,
- (meaningful) connection to a PCP,
- (meaningful) connection to a mental health professional,
- (meaningful) connection to a substance abuse program, and
- access to food, clothing, shelter, and other basic necessities.

CPI's healthcare team (physician, social worker, pharmacist, and EMT) will develop a care plan, and educate and assist the patient in following the care plan. A central part of this plan will be locating and contacting the appropriate providers of needed services.

- Goal: Facilitating pharmacist-conducted medication reconciliations.

A list will be made including:

- name of medication (including prescriptions, OTC, vitamins, herbals, etc.),
- dosage,
- frequency,
- prescribing doctor,
- pharmacy, and
- last fill-date.



This list will be sent to CPI's pharmacist for review. Pharmacist's comments and suggestions will be faxed to the patient's PCP. Any changes would be made by the patient's PCP, *not* CPI staff.

- Goal: Improving home safety.

A checklist will be used to check for common household hazards and to educate the resident about home safety including:

- falls,
- fire, and
- others hazards.

## 2. Fall Prevention for Seniors:

- Goal: Reduce the likelihood of fall injuries among seniors (as well as other common household injuries).

A checklist will be used to check for common household hazards and to educate the resident about home safety including:

- falls,
- fires, and
- other hazards.

## 3. Opioid Overdose Prevention:

- Goal: To reduce opioid overdose harm and death.

New Mexico Department of Health Overdose Prevention training will be provided to EMS patients identified as being at risk for opioid overdose.

## 4. School Outreach:

- Goal: To deliver a safety message centered around diet, active lifestyle, and healthy choices to school-aged children.

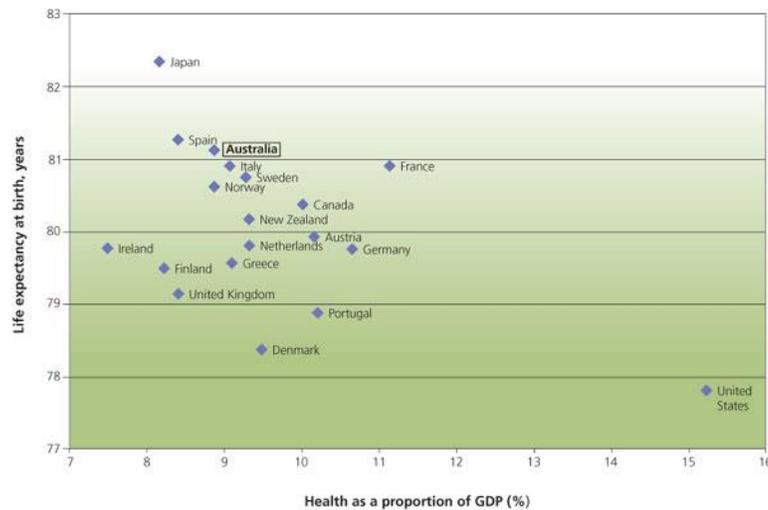
Assembly-style presentation will be conducted to present age-appropriate information.

In order to measure our success, we will use a Results Based Accountability framework. Performance measures will be: change in utilization of the 911 system by high utilizers enrolled in the program, improvement in participants' health literacy, and impacts on key social determinants of health, as well as the number of fall safety assessments performed for seniors, and the number of overdose prevention trainings conducted.



## Market Opportunity

According to the World Bank, healthcare expenditures were 17.9% of our nation's Gross Domestic Product (GDP) and, according to the Brookings Institution, is expected to grow at about GDP+1.2. A 2013 report found the American health care industry to be the most expensive in the world yet the World Health Organization consistently ranks us low in key performance indicators. We have to ask ourselves if we are getting our money's worth.



These facts and others set the stage for the emergence of the ACA, which is creating the largest change in the healthcare landscape since the creation of the Centers for Medicare and Medicaid in the 1960s. This new healthcare law is aimed at controlling costs while improving outcomes. In many circles, this goal is discussed as a value vs. volume proposition where the effectiveness of medicine is now being judged not by how much medical care is provided but by its ability to prevent disease and injury as well as support overall population health and wellness. A growing body of evidence reinforces this theory that the status quo offering of reactionary care is inefficient and expensive and that the fee-for-service model actually incentivizes volume of care over outcomes.



In our community, we see this play out in the hundreds of individuals who despite using significantly more health care resources like paramedic care, 911 services, ambulance transport and emergency department (ED) services, and incurring massive cost, do not seem to be getting better. Quite the contrary, their medical issues instead become more entrenched. As mentioned previously, an infinitesimally small percentage of our population consumes healthcare resources at a disproportionate rate in Santa Fe: 0.3% of the city's census population accounted for 18% of SFFD's 10,638 calls for medical service in 2013. Clearly there is no shortage of need for the intensive services being proposed. A large body of evidence, including a report from the Office of the Surgeon General shows that reactionary care is inefficient and expensive and that the fee-for-service model incentivizes volume of care over outcomes. CPI will act on the evidence for prevention to add a key service to our community's healthcare system.

A Santa Fe County health assessment was recently performed for Christus St. Vincent Regional Medical Center, Santa Fe County Community Services Division, and Santa Fe County Health Policy and Planning Commission titled, "Santa Fe County in 2013: A Community Health Profile". This report provides a clear picture of some of the County's overarching health issues and CPI has been informed, to a large extent, by the findings of this report.

The direct social and financial benefits of CPI are multifold. Program data has shown the likelihood for significant increases in the positive health outcomes that patients experience, sizeable cost savings generated from citizen's improved health, and decreased utilization of emergency resources. More and more often the potential for revenue is being realized through billing Medicaid for a bundle of services, on a per patient per month basis, or for individual services like prevention efforts, health assessments, linkage of patients to community resources and other interventions which CPI can perform. Innovative programs which show Triple Aim results like increased consumer satisfaction, cost savings and decreased over-utilization of emergency resources are already proving their worth in other locales. New models and attempts to better utilize and coordinate the work of EMTs and emergency services are sprouting up all over the country. Redeployment of EMTs is now a reality in many states including California, Texas, Colorado, Arizona and Nevada. While



only a handful of programs currently qualify for Medicaid reimbursement, those that do are credited with generating significant savings.

Innovative economic opportunities are surfacing as the public and private sector become more aware of the positive health outcomes and savings generated by such programs. For example, Minnesota credits mobile integrated health (a broad term used for describing these initiatives) for keeping Medicaid high utilizers out of the ER and contributing to the \$10.5 million in first year savings from the state's State Innovation Model shared savings demonstration. In the short-term, economic savings will accrue "at a distance" (CMS, HSD, etc.), however, the Santa Fe community stands to gain from many other benefits.



## CPI Strategic Overview

## Rationale for CPI

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Because the legacy of reactionary care has created such far-reaching, negative cost and health implications in our community, the entire community will feel the benefit of CPI's proactive and prevention oriented approach. CPI will strengthen our community's safety net and, in doing so, achieve the Triple Aim. Value will be offered to individual patients, patients' families, our city, insurance companies, and the emergency system. CPI's focus will be on primary, secondary, and tertiary prevention of the health problems plaguing our community.

### *Primary prevention*

When a fire engine drives down the street diamond plate shining, flag waving, hoses perfectly stacked, it is a one-vehicle parade; children and adults alike wave. Few things can capture a child's attention in quite the same way a fire engine does. SFFD uses this power in its primary prevention efforts. Every October, members of the SFFD canvas the schools with the message of "stop-drop-and-roll", "stay low and crawl", "escape drills in the home" (EDITH), and more. Primary prevention is the act of reducing individual and community-wide risk prior to an undesirable event taking place. Primary prevention is what many think of when they hear the word "prevention". The community benefits from these efforts through better-educated and safer children. The insurance companies understand the economic benefits of reducing fire fatalities and thus, many of these efforts are supported by these companies.

The entire community benefits from primary prevention and the SFFD has proudly provided this important service for many years. CPI will significantly extend this prevention message from exclusively reviewing fire safety to include the most important aspects of injury and illness prevention.

Although an initial emphasis will be placed on such topics as the impact of proper nutrition, exercise, and healthy decision-making to school-aged children, curriculum tailored to meet the needs of other key populations like the elderly will be developed. For multiple reasons, it is crucial that seniors and pre-seniors, be engaged in discussions about how to age in a way that



maintains their health and independence. Our community cannot afford the medical and economic costs of reactionary care.

SFFD CPI EMTs are well positioned to deliver the aforementioned benefits of primary prevention across the life-span.

### *Secondary prevention*

Every day in Santa Fe, approximately 31 calls are made to 911 from individuals seeking medical assistance. SFFD EMTs can frequently be seen driving in ambulances and fire trucks on their way to help someone. Their efforts are an act of secondary prevention and intervention. Secondary prevention is the act of reducing the resulting damage once an undesirable event has happened.

As protectors of the public, we think that, “no business is good business” and so, in order to continually improve on the safety of our public, we initially consider every emergency as a failure of primary prevention efforts (knowing full-well that emergencies are inevitable and that a plan must be in place for when they do occur).

Our current secondary prevention efforts consist of a force of EMTs carefully trained to provide the necessary care to those suffering from medical and trauma emergencies. But many of the calls that come in through Santa Fe’s 911 system are not for medical or trauma emergencies and, without the correct tools, the system often perpetuates the patient’s presenting problem. The National Center for Health Statistics (NCHS) reports that, among adults aged 18-64 whose visit to an ED in the last 12 months did not result in a hospital admission, the number one reason patients sought help at the ED was because of “lack of access to other providers”<sup>1</sup>. The RAND Corporation estimates that up to 27% of patients seen in the ED could be cared for in an alternate setting<sup>2</sup>.

It is clear that people are over utilizing 911 and emergency services due to a lack of information and viable options to get their needs met in a more appropriate way. CPI proposes to offer medical professionals with higher

<sup>1</sup> Centers For Disease Control — *Emergency Room Use Among Adults Aged 18–64*. 2012.

<sup>2</sup> Rand Corp — *Some Hospital Emergency Department Visits Could Be Handled by Alternative Care Settings*.



levels of licensure on SFFD ambulances (for example, nurse practitioner or physician assistant), so that many of the non-emergent calls which come in through the 911 system, could be treated and released without transport. This expanded level of field triage and service provision would also add a higher level of decision-making and intervention opportunity to the many calls for service which do not result in transport to the hospital.

Under this model (which is already being provided in other jurisdictions such as the Mesa Fire and Medical Department), patients and EMTs benefit from a higher level of safety, oversight, and support during visits at whatever location their efforts take them to. Patients reap rewards from this type of care because they avoid costly care; have more options for healing presented to them and the opportunity to have their concerns and health addressed in a more holistic manner. Insurance companies are primary beneficiaries from the CPI model in that their costs are significantly reduced by not having to pay the much higher costs of treating non-emergencies in the ED. The local ED is also positively impacted by better patient flow, and fewer bed-hours going to non-emergent care.

### *Tertiary prevention*

Many of SFFD's calls are from individuals who have been diagnosed with a serious medical or behavioral health condition and who are having a difficult time managing their health. The SFFD also responds to community members who have very recently been seen at the hospital and, despite all the resources that may have been offered to them, have difficulty preventing a return trip to the ED. Tertiary prevention is sometimes referred to as "recovery and rehabilitation" and refers to actions taken to help those who have had an undesirable event return to their normal lives. Statistics show that this is an area of enormous need. In 2013, 0.3% of Santa Fe's census population accounted for 18% of the department's 10,638 calls for medical help. These individuals have serious difficulties managing their conditions due to a variety of influences including lack of family and community support, addictions, serious mental illness, poverty, developmental delay, advanced age and other compounding factors.



CPI will focus intensely on this population and provide intensive physician- and social worker-directed field case management and navigation. Such actions as linking high utilizers to a primary care physician (PCP), educating them about their disease or mental illness, working with them to obtain and manage their medications, finding counseling and other supports, providing follow up visits and even helping them reintegrate back into their families has shown to be highly effective.

Much work has emerged in the field of “high utilizers” and it is clear that patients who use the emergency system at a high rate benefit from help overcoming barriers to accessing social and health services. Tertiary prevention services not only provide a lifeline for this very vulnerable population, but the domino effect of these actions creates a chain of positive results realized by the entire community. When high utilizing patients are properly connected to the resources they are lacking, their health is stabilized, their excessive use of the emergency system decreases, and the emergency response system can act more effectively on behalf of anyone experiencing a life-threatening emergency. This phenomenon is poignantly conveyed by Boston surgeon, New Yorker contributor, and Harvard Medical School professor Atul Gawande in his article, “The Hot Spotters” (Appendix D1).

Direct beneficiaries are: patients (actual or potential), the City of Santa Fe, SFFD, CMS, HSD, the Centennial managed care organizations, and CHRISTUS St. Vincent Emergency Department.

### *Cost Savings*

Although the primary objective of the CPI is to improve health outcomes for Santa Fe’s most vulnerable residents, CPI will also generate significant healthcare cost savings by reducing unnecessary ambulance transport, inappropriate ED usage and preventable hospital admissions.

In 2013, 251 individuals were transported by ambulance to the ED four or more times, resulting in almost 2,000 ED visits. Many of these visits could have been prevented with prompt primary care. Nationwide, 14 percent of ED visits result in an admission to the hospital. The likelihood of admission



is significantly higher for patients who are transported to the ED by ambulance.

Mobile integrated health programs targeting high utilizers of emergency services have been shown to dramatically reduce unnecessary ED utilization. In Fort Worth Texas, MedStar’s “EMS Loyalty” program reduced ED utilization by participating clients by 84% in one year. If CPI produced results comparable to those of MedStar, annual ED utilization by the first CPI cohort would decline from 153 visits to 25 visits (based on a very conservative cohort of 20). At an average cost of \$1,300 per visit<sup>3</sup>, this decline in usage would reduce their annual ED costs from \$199,092 to \$31,855. Assuming 14 percent of ED visits result in hospital admissions, the decline in ED utilization would reduce annual admissions from 21 to 3 and hospitalization costs from \$259,370 to \$41,499<sup>4</sup>.

Because the majority of ED super-utilizers are now covered by New Mexico Medicaid, the ER diversion savings would accrue primarily to the Medicaid program (see table below). Approximately 30% of super-utilizers are uninsured. Medical costs that these individuals cannot pay must be absorbed by the hospitals and ultimately passed through to consumers in higher healthcare and insurance costs.

Based on very conservative numbers, during its first three years, CPI is expected to produce \$2.11 million in direct savings to the healthcare delivery system, but the true value of the program is likely to be considerably higher.

For example:

- Reducing the burden of non-urgent care on the emergency medical system increases its capacity to respond to truly urgent healthcare needs.
- Prompt preventative care for behavioral health issues can prevent incarceration and other negative outcomes for patients and the community.

<sup>3</sup> Assumes \$300 in ambulance transport expenses and \$1,000 ED costs.

<sup>4</sup> Estimate assumes \$2788 per patient per day hospital admission cost (based on 2012 New Mexico Non-Profit hospital costs reported kff.org), an 8% healthcare inflation rate and an average stay of 4.5 nights.



- Checking in on seniors, monitoring medications and remediating household hazards can prevent catastrophic falls and forestall institutional care.
- Helping patients to establish medical homes with local providers can connect them to the resources they need to use the entire health care system more efficiently and effectively

Community Protection Initiative, Hospital and Ambulance Cost Savings Years 1 through 3								
Year	1		2		3		Total	
	Pre-CPI	Post-CPI	Pre-CPI	Post-CPI	Pre-CPI	Post-CPI	Pre-CPI	Post-CPI
Patients	20	20	40	40	50	50	110	110
Annual ED Visits <sup>1</sup>	153	25	306	49	383	61	842	135
EMS&ED Costs <sup>2</sup>	\$199,092	\$31,855	\$398,183	\$63,709	\$497,729	\$79,637	\$1,095,004	\$175,201
Hospital Admissions <sup>3</sup>	21	3	43	7	54	9	118	19
Hospital Costs <sup>4</sup>	\$259,370	\$41,499	\$518,741	\$82,999	\$648,426	\$103,748	\$1,426,537	\$228,246
Total Costs	\$458,462	\$73,354	\$916,924	\$146,708	\$1,146,155	\$183,385	\$2,521,541	\$403,447
Total Savings	\$385,108		\$770,216		\$962,770		\$2,118,095	

1. 7.7 ED visits/patient (weighted average of annual visits for CSV ED patients with >4 annual ED visits), CPI reduces ED visits 84% (Based on Medstar cited in Agency for Healthcare Research and Quality Service Delivery Innovation Profile, 2013) 2. \$1,300/patient/visit 3. In 2012, 14% of US ED visits resulted in admission (Agency for Healthcare Research and Quality, 2014) 4. New Mexico Non-profit Hospitals: Average Cost per Inpatient Day 2011, Kaiser State Health Facts, assumes 8% annual healthcare inflation; average length of hospital stay New Mexico Health Regions 2 and 3, 2012, NMDOH HIDD.



## CPI Strategic Overview

## Program Overview

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CPI will deliver services where it is most convenient for the community and where it will make the biggest impact, in their living rooms, at their places of assembly, and on the street. Year 1 operations will include:

- Non-emergency visits to high utilizers
- Targeted prevention services for leading causes of death (falls and overdoses)
- Improved integration of 911 services
- School presentations

### *Non-Emergency Visits to High Utilizers*

Using SFFD's data of individuals who have used the 911 system four or more times in the last year (253 distinct patients in 2013), CPI will start by serving approximately 50% of these patients (120). Each patient will be enrolled in CPI by voluntarily signing a consent form which will be kept on file. CPI personnel (either an EMT, LISW, or both) will conduct an initial intake interview including health history, medication reconciliation (performed by a Clinical Pharmacist), home safety assessment (if the patient is not homeless), and needs assessment. A follow-up appointment will be scheduled for the following week. The case notes will be reviewed by the Director of Social Services and the Medical Director and, together with the EMT conducting the interview, a plan of care will be developed. For patients who have a PCP, the PCP will be offered to be intimately engaged in developing the plan and, in all instances, the PCP will approve the plan of care. Patients who do not have a PCP, will be connected with one as part of the plan of care. Once a PCP is secured, the plan of care will be shared with, reviewed and approved by the patient's PCP. CPI personnel will execute all aspects of the plan which are in their scope of practice. The patients' participation in the program will last 3 months. After these 3 months, CPI will remain a resource for these individuals to contact with any needs they may have but the goal is for the patient to have gained the medical literacy, the empowerment, and the resources needed to improve their health and to decrease their utilization to a significant degree. A HIPPA-compliant report



showing the cohort’s utilization history and documenting all CPI interventions and accomplishments will be generated and available for public review. CPI will expand the capacity for this service in years 2 and 3.

### *Targeted Prevention*

The latest community health profile for Santa Fe titled, “Santa Fe County in 2013: A Community Health Profile”, prepared for Santa Fe County Community Services Division, Santa Fe County Health Policy and Planning Commission, and Christus St. Vincent Regional Medical Center provides extensive information about the health of the residents of the Santa Fe community. This report identifies falls as the leading cause of unintentional injury deaths among Santa Fe’s elderly. It also identified poisonings/overdoses as the largest cause of overall unintentional injury deaths in Santa Fe. By partnering with the New Mexico Department of Health (DOH), CPI will provide targeted prevention services to those at risk for these two mortal problems.

Opioid Overdose: CPI will identify individuals at risk for opioid overdose by monitoring real-time 911 data and provide them NM DOH’s Harm Reduction services. The ability to track real-time overdose risk and intervene in a timely fashion will allow CPI to respond to time-sensitive threats such as “bad batches” and individual stressors (such as loss of a partner, loss of a job, etc.) which may place an individual at an increased risk for opioid death. CPI staff will follow up with these patients to explain realistic options, provide overdose prevention services, and conduct naloxone rescue kit training. Harm reduction has been key, not only in preventing overdose deaths, but also reducing the incidence of diseases such as hepatitis and HIV and also the sequelae of serious infections and other medical problems associated with sharing and reusing needles. These programs also incentivize addicts to return their used needles for clean ones reducing the number of “dirty” needles in circulation and on our streets.



Fall Prevention: The importance of preventing falls among the elderly cannot be understated. Falls are not only potentially fatal but, sometimes worse, can rob the elderly of their independence in performing activities of daily living resulting in institutionalized care and in an enormous economic impact. CPI will identify seniors at risk for falls by monitoring 911 data and taking referrals from EMTs working on 911 trucks. There is an abundance of evidence on the importance of fall prevention programs. By using evidence-based interventions, CPI will assure that common risk hazards (such as throw rugs, extension cords, loose steps, and lack non-slip bathmats, and grab bars) are corrected in our seniors' homes.

### *School Presentations*

CPI will build on the cooperative relationship SFFD has developed for many years with the Santa Fe Public Schools (SFPS). Whereas in the past we have limited our prevention message to fire, CPI will use the strong community branding it has earned to endorse the importance of nutrition, physical activity, and healthy choices. CPI will follow evidence-based practices including those suggested by the Office of Disease Prevention and Health Promotion's Healthy People 2020 to advance the health message in our community. Year 1 will focus on presenting to all first graders in one public school in each of the four City districts. When system status permits, CPI staff will accompany SFFD field crews to schools to involve each fire house with the children of their district. CPI will provide support to SFFD field crews who decide to go above and beyond and participate in other SFPS activities. Each year, CPI will expand the capacity for primary prevention. In Year 2, CPI hopes to reach all SFPS first-graders in the city. Year 3, CPI will provide targeted messages to other populations. Two examples are:

- Organizing age-appropriate educational opportunities to show high school students the dangers of impaired driving before prom weekend
- Speaking at senior centers and/or churches about healthy aging and maintaining independence



## Partners and Stakeholders

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Our country’s healthcare system has many times been compared to an orchestra without a director. We have extremely talented and well-meaning providers, we have some of the most technologically advanced procedures in the world and yet, these rarely come together in cohesive and harmonic way for the patient. Many patients have several doctors, receive care at several clinics, and fill prescriptions at several pharmacies. Communication and cooperation is vital to the future of healthcare. This coordination is best done at a “medical home” for a patient; a primary care office which treats and coordinates “whole person care” for individuals. The patients CPI will assist are those whose care, as evidenced by their episodic care for chronic conditions, is not being coordinated. To this end, CPI has spent months talking to and learning from the hospital, the Federally Qualified Health Centers, the New Mexico Department of Health, hospice agencies, local business, neighborhood associations, and insurance companies. These interactions have informed the design of CPI. As CPI develops, strengthening these relationships (and developing new ones) is mission critical. A list of stakeholders and partners can be found in Appendix C.



### CPI Strategic Overview

## Financial Plan

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### *General*

Because of the evolving nature of community health initiatives and the small number of initiatives similar in scope and scale to CPI, it is not possible to secure historical data from programs that are currently in service.

Accordingly, we have constructed these elements of the Plan ourselves using data to the extent possible from sources that performed services similar to those we will deploy.

Cost figures utilize SFFD historical expense data where applicable. Other cost figures are derived from quotes and/or price lists from vendors serving the applicable disciplines.

The landscape for payment of mobile integrated healthcare programs is evolving rapidly. Payers generally recognize the potential cost savings that will be derived from the services CPI will provide, but payment models will not be refined for some time.

Mobile integrated health programs will benefit substantially from the current shift of payment practices in healthcare as the nation moves from historical fee-for-service models towards ones that are outcome oriented and that reward accountability.

The capital CPI seeks is true start-up financing so that it can scale its offering robustly rather than in a piecemeal fashion. Achieving financial self-sufficiency is a central element of our program — we intend to do so as soon as possible. We are committed to disciplined data collection and expect to be able to demonstrate definitive information on the money our program generates as we evolve.

As we grow, we will continue the conversations we have already begun with partners we expect will utilize our offerings. These include:

- Medicaid-contracted Centennial Managed Care Organizations
- Private insurers
- Medicare
- Healthcare Assistance Fund (formerly, “Indigent Fund”)
- Hospice Agencies and other private providers



We believe that we will develop the capacity to attract grants from both governmental and charitable sources. We think that these sources may have special utility in allowing us to provide services to populations that are currently healthy, but who would benefit from learning more about healthy lifestyles, accident avoidance and a range of prevention topics.

### *Specific*

Appendix A shows the total program costs for 36 months. The costs are organized in three categories:

- **Wages and Benefits:** These figures represent salaries necessary for making CPI successful. The figures represent “fully burdened” costs.
- **Operations:** These figures cover all normal and recurring business expenses. One-time and recurring expenses are separated into two different categories.
- **Other:** These figures cover professional services for oversight, program development, and evaluation of results.



# Timeline and Milestones

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## Q4 2014

- Complete business plan X
- Recruit director of social services X
- Recruit Mobile Integrated Health-EMTs (X2)
- Recruit pharmacist X
- Recruit medical director
- Recruit administrative assistant
- Adopt City resolution regarding CPI X
- Update Strategic Overview X

## Q1 2015

- Secure capability to quickly query 911 data for high utilizers X
- Develop protocols and forms for CPI activities (social) X
- Develop protocols and forms for CPI activities (medical)
- Develop protocols and forms for CPI activities (pharmacy) X
- Develop Results Based Accountability framework for CPI X
- Obtain letters of support from key stakeholders X
- Present Strategic Overview for consideration of CPI in FY 15-16 City budget X
- Further develop partnerships with community resources (ongoing) X
- Begin contract negotiations with MCOs X

## Q2 2015

- Obtain inclusion of CPI in FY 15-16 budget
- Organize stakeholder meeting
- Begin purchasing equipment
- Develop CPI internet presence
- Query usage data to identify first cohort of high utilizers and of fall prevention candidates
- Schedule school presentations and obtain any necessary materials
- Develop training curriculum for providers



- Finalize and approve all protocols and guidelines
- Organize program handbook
- Recruit and hire providers

### Q3 2015

- Commence high utilizer cohort
- Commence Fall Prevention program
- Commence Opioid Overdose Prevention program
- Complete health promotion presentations for first graders in one school in each Council district
- Seek local grants
- Hold biweekly meetings with CPI staff for quality improvement and support

### Q4 2015

- Continue operations
- Finalize MCO contracts and begin collecting payments
- Continue biweekly meetings

### Q1-Q4 2016

- Grow high utilizer cohort
- Expand school outreach to all public school first graders in the city
- Continue collecting payments and seeking grants
- Develop report with data on 12 months of program activities

### Q1-Q4 2017

- Grow high utilizer cohort
- Expand health promotion presentations to other populations (seniors, pre-seniors)



# Appendices

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**Community  
Protection  
Initiative**

CPI Strategic Overview

# Appendix A:

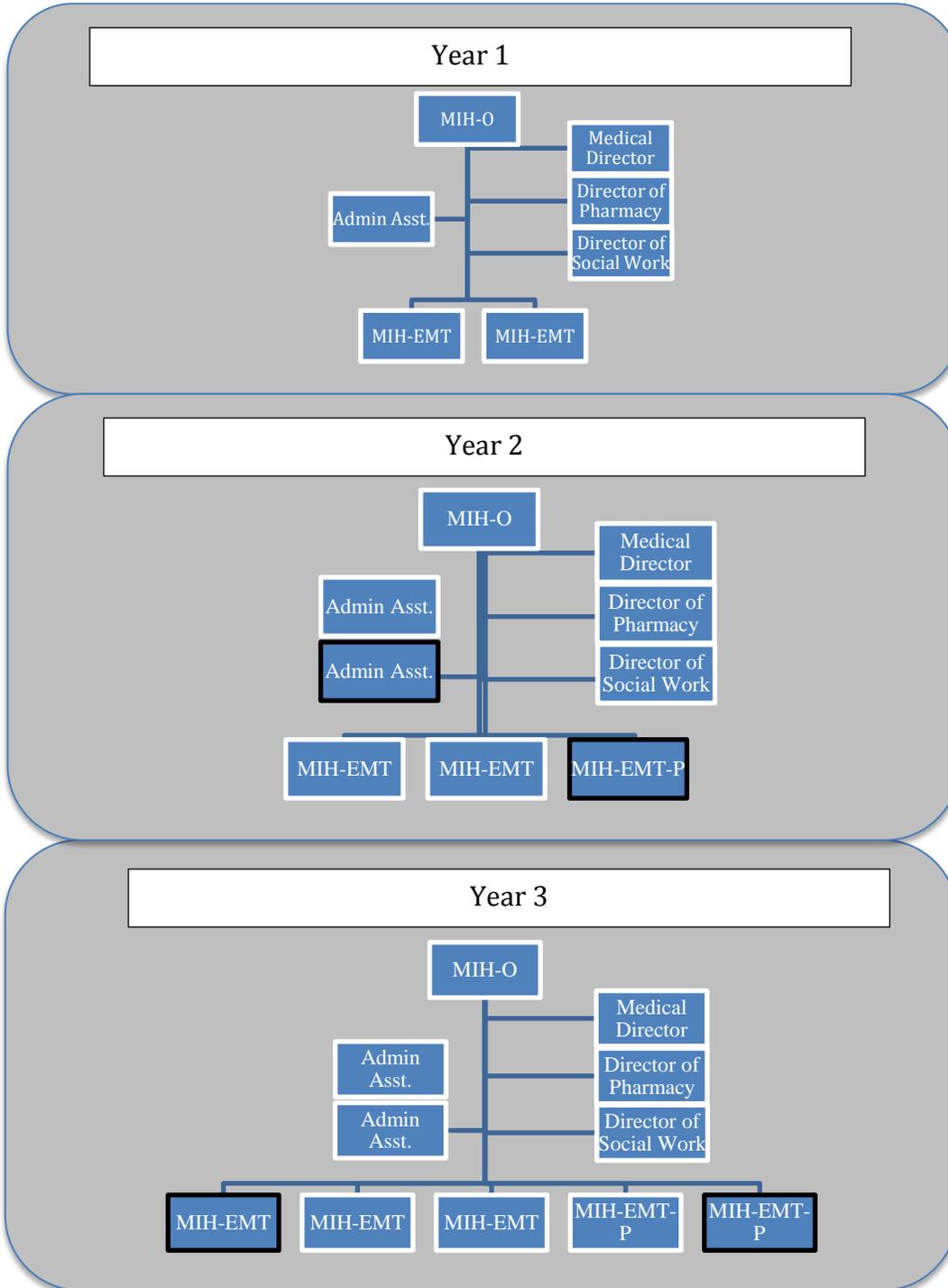
## Appendix A: SFFD CPI – 36 Month Costs

 <b>Community Protection Initiative</b>	Year 1		Year 2		Year 3	
	Recurring	One Time	Recurring	One Time	Recurring	One Time
<b>Wages and Benefits</b>						
MIH-O	\$ 129,700	\$ -	\$ 133,000	\$ -	\$ 137,000	\$ -
MIH-EMT	\$ 84,400	\$ -	\$ 86,800	\$ -	\$ 87,000	\$ -
MIH-EMT	\$ 84,400	\$ -	\$ 86,800	\$ -	\$ 87,000	\$ -
Admin Asst.	\$ 57,400	\$ -	\$ 59,400	\$ -	\$ 61,400	\$ -
MIH-PM	\$ -	\$ -	\$ 92,900	\$ -	\$ 95,900	\$ -
Admin Asst.	\$ -	\$ -	\$ 57,400	\$ -	\$ 59,400	\$ -
MIH EMT	\$ -	\$ -	\$ -	\$ -	\$ 84,400	\$ -
MIH-PM	\$ -	\$ -	\$ -	\$ -	\$ 92,900	\$ -
<b>Wages and Benefits Subtotal</b>	<b>\$ 355,900</b>	<b>\$ -</b>	<b>\$ 516,300</b>	<b>\$ -</b>	<b>\$ 705,000</b>	<b>\$ -</b>
<b>Operations</b>						
Field-Medical Equipment	\$ -	\$ 12,000	\$ -	\$ 8,000	\$ -	\$ 8,000
Field-Medical Consumables	\$ 40,000	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -
Field-Non-medical Field Equip (schools)	\$ 3,000	\$ -	\$ 4,500	\$ -	\$ 6,000	\$ -
Field-Uniforms	\$ 2,000	\$ -	\$ 3,000	\$ -	\$ 4,000	\$ -
IT/Comms-Radios	\$ -	\$ 7,200	\$ -	\$ 2,400	\$ -	\$ 2,400
IT/Comms-Tablets	\$ -	\$ 400	\$ -	\$ 400	\$ -	\$ 400
IT/Comms-Cell	\$ 3,300	\$ -	\$ 4,400	\$ -	\$ 6,600	\$ -
IT/Comms-Fax/Print/Copy	\$ -	\$ 5,000	\$ -	\$ -	\$ -	\$ -
IT/Comms-Office Computers	\$ -	\$ 7,000	\$ -	\$ -	\$ -	\$ 1,500
IT/Comms-Field Toughbooks	\$ -	\$ 12,000	\$ -	\$ 4,000	\$ -	\$ 4,000
IT/Comms-Software (pt and office)	\$ -	\$ 30,000	\$ -	\$ -	\$ -	\$ -
IT/Comms-Software Support	\$ 30,000	\$ -	\$ 30,000	\$ -	\$ 30,000	\$ -
Office-Space	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Office-Equipment	\$ -	\$ 6,400	\$ -	\$ -	\$ -	\$ -
Office-Consumables	\$ 2,400	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
Office-Postage&Courier	\$ 2,400	\$ -	\$ 2,400	\$ -	\$ 2,400	\$ -
Development-Training	\$ 25,000	\$ -	\$ 30,000	\$ -	\$ 35,000	\$ -
Development-Travel	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -
Fleet-Vehicles	\$ -	\$ 75,000	\$ -	\$ 25,000	\$ -	\$ 25,000
Fleet-Maint/Fuel	\$ 10,800	\$ -	\$ 14,300	\$ -	\$ 17,800	\$ -
<b>Subtotal</b>	<b>\$ 138,900</b>	<b>\$ 155,000</b>	<b>\$ 131,000</b>	<b>\$ 39,800</b>	<b>\$ 144,200</b>	<b>\$ 41,300</b>
10% contingency	\$ 13,890	\$ 15,500	\$ 13,100	\$ 3,980	\$ 14,420	\$ 4,130
<b>Operations Subtotal</b>	<b>\$ 152,790</b>	<b>\$ 170,500</b>	<b>\$ 144,100</b>	<b>\$ 43,780</b>	<b>\$ 158,620</b>	<b>\$ 45,430</b>
<b>Other Services</b>						
Medical Director	\$ 40,000	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
Director of Social Work	\$ 40,000	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
Director of Pharmacy	\$ 20,000	\$ -	\$ 40,000	\$ -	\$ 40,000	\$ -
Professional Services: Health Reports	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000
Professional Services: Other	\$ -	\$ 20,000	\$ -	\$ 20,000	\$ -	\$ 20,000
<b>Other Services Subtotal</b>	<b>\$ 100,000</b>	<b>\$ 40,000</b>	<b>\$ 120,000</b>	<b>\$ 40,000</b>	<b>\$ 120,000</b>	<b>\$ 40,000</b>
	<b>\$608,690</b>	<b>\$210,500</b>	<b>\$780,400</b>	<b>\$83,780</b>	<b>\$983,620</b>	<b>\$85,430</b>
<b>TOTAL</b>	<b>\$ 819,190</b>		<b>\$ 864,180</b>		<b>\$ 1,069,050</b>	



# Appendix B:

## Appendix B: SFFD CPI – Staffing Plan



### CPI Strategic Overview

## Appendix C:

### *Partners and Stakeholders (page 1 of 3)*

**Highlighted** = contacted

**Underlined** = not yet contacted

#### **Community:**

- Neighborhood Network (Ted Carlin, member in charge of public safety issues)
- Santa Fe Forward (Morty Simon and Carol Oppenheimer)
- Christ Church (Joni Brenneisen, Faithful Presence Coordinator)
- Program participants

#### **Government and Schools:**

- City of Santa Fe:
  - Community Services (Ike Pino, Director)
    - Senior Services (Ron Vialpando, Assistant Director)
    - Youth and Family Services (Terrie Rodriguez, Division Director)
  - Grant Writing (David Chapman)
  - Civic Housing (Rudy Gallegos, Deputy Director)
  - Attorney's Office (Kelly Brennan, Interim City Attorney)
  - Risk Management (Barbara Boltrek, Risk and Safety Manager)
  - Human Resources (Sandra Perez, Interim Director)
  - International Association of Fire Fighters Local 2059
- Santa Fe County:
  - Health and Human Services (Rachel O'Connor, Director)
  - Santa Fe County Health Policy and Planning Commission (various)
  - Santa Fe County Fire Department (David Sperling, Chief)
  - International Association of Firefighters Local 4366
- Santa Fe Public Schools:
  - non-Instructional Programs (Theresa Baca, Director)
- State of New Mexico Human Services Department:
  - Medical Assistance Division (Julie Weinberg, Director)
  - Medical Assistance Division (Dr. Anne Foster, Medical Director)
- State of New Mexico Department of Health:
  - Epidemiology and Response:
    - Emergency Medical Services Bureau (Kyle Thronton, Bureau Chief)
      - Trauma Program (Liana Lujan, Manager)
      - Licensing (Ute Fennicks, Manager)
      - Data Management (Stuart Castle, Manager)
    - Injury Prevention:
      - Falls Prevention (Courtney Cameron)
      - Opioid Overdose Prevention (Melissa Heinz-Bennet)
      - Harm Reduction (Dominick Zurlo, Program Manager)
    - Public Health:
      - Public Health Office (Susan Gonzales, Regional Director)



# Appendix B:

## Partners and Stakeholders (page 2 of 3)

### Hospital:

- Christus St. Vincent Regional Medical Center:
  - Emergency Room (Dr. Frantz Melio; Dr. John Beeson, Chief Medical Officers)
  - Inpatient Services (Dr. Frantz Melio; Dr. John Beeson, Chief Medical Officers)
  - Outpatient Services (Dr. Frantz Melio, Chief Medical Officer)
  - Community Health/High Utilizer Group Services (Kristin Carmichael, Director)
  - Case Management (Cynthia Barclay; Marla Burkette-Ruiz, Case Managers)
- HealthFront group (David Rosen, President)
- Presbyterian – Santa Fe (to be contacted)

### Federally Qualified Health Centers/Community Clinics:

- La Familia Medical Center (Dr. Wendy Johnson, Medical Director)
  - Healthcare for the Homeless (Liz Reynolds, Director)
  - Project ECHO (Jennifer Trainor, Nurse Practitioner)
- Southwest Care Center (Dr. Trevor Hawkins, Chief Medical Officer)
  - Primary Care (Dr. Trevor Hawkins)
  - Pharmacy (Kate Morton, Clinical Pharmacist)
  - Administration (Wenoah Veikley, Chief Operating Officer)

### Primary Care Providers (private practice):

- Dr. Patrick Samora
- Dr. Daniel Radunsky
- Others

### Other Medical Providers:

- Urgent Care Centers:
  - Aspen Medical Center (Joana Anaya, Operations Manager)
  - Ultimed Urgent Care (Lesa Fraker, Medical Director)
  - Concentra Urgent Care (Kristy Dew)
  - Adobe Family Practice (Robert Walantis, Owner)
  - Santa Fe Family Health Center (Iris Landeroff)
- Specialists:
  - Cardiology
  - Endocrinology
  - Pulmonology
  - Pediatrics
  - Obstetrics
- Hospice:
  - Ambercare (Valerie Leinberg, Community Liaison)
  - Gentiva (Monique Fellows, Executive Director)
  - PMS (Ellen Swicegood, Home Health Administrator)
  - Del Corazon (Adrienne Attabery, Community Educator)
  - Heritage (Mark Williams)



# Appendix C:

## Partners and Stakeholders (page 3 of 3)

### Other Medical Providers (cont.):

- Mental Health/Substance Abuse Providers/Resources:
  - PMS (Dr. Rollin Oden, Community Guidance Center)
  - Interfaith Community Shelter (Joseph Jordan-Berenis, Executive Director)
  - [Life Link](#)
  - [St. Elizabeth's Shelter](#)

### Payors:

- NM Human Services Department, Medical Assistance Division (Julie Weinberg, Director)
- NM Human Services Department Managed Care Organizations:
  - BCBS (Dr. Eugene Sun, Vice President; Dr. Duane Ross Medical Director)
  - Molina (Dr. Latha Shankar)
  - Presbyterian (Dr. Ron Parton, Vice President and Chief Medical Officer)
  - United (Dr. William Orr, Medical Director)

### Businesses:

- Santa Fe Chamber of Commerce (Simon Brackley, President and Chief Operating Officer)
- Home Depot
- Walmart



# Appendix D:

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## *Relevant Articles*

### Appendix D1 The Hot Spotters

This January, 2011 New Yorker article by well-known medical writer/surgeon, Atul Gawande, highlighted the disproportionate economic impact of the extremely ill on our healthcare system and described promising interventions. It's broad dissemination has had a profound impact.

### Appendix D2 Mobile Integrated Healthcare Practice: A Healthcare Delivery Strategy to Improve Access, Outcomes, and Value

This December, 2012 article authored by a panel of doctors explains the evolution of medical care to a decentralized, de-institutionalized model by combining existing mobile infrastructures with multi-disciplinary and inter-professional teams to deliver 24-hour mobile care to deliver timely and effective care.

### Appendix D3 Agency for Healthcare Research and Quality report on Medstar Mobile Healthcare

This January, 2012 report looks at Medstar Mobile Healthcare's Mobile Integrated Healthcare practices. Explanation of services provided, program data, and operations are provided as well as adoption considerations.



# THE HOT SPOTTERS

*Can we lower medical costs by giving the neediest patients better care?*

BY ATUL GAWANDE

This January, '11 New Yorker article by well known medical writer/surgeon, Atul Gawande, highlighted the disproportionate economic impact of the extremely ill on our healthcare system and described promising interventions. Its broad dissemination has had a profound impact.

If Camden, New Jersey, becomes the first American community to lower its medical costs, it will have a murder to thank. At nine-fifty on a February night in 2001, a twenty-two-year-old black man was shot while driving his Ford Taurus station wagon through a neighborhood on the edge of the Rutgers University campus. The victim lay motionless in the street beside the open door on the driver's side, as if the car had ejected him. A neighborhood couple, a physical therapist and a volunteer firefighter, approached to see if they could help, but police waved them back.

"He's not going to make it," an officer reportedly told the physical therapist. "He's pretty much dead." She called a physician, Jeffrey Brenner, who lived a few doors up the street, and he ran to the scene with a stethoscope and a pocket ventilation mask. After some discussion, the police let him enter the crime scene and attend to the victim. Witnesses told the local newspaper that he was the first person to lay hands on the man.

"He was slightly overweight, turned on his side," Brenner recalls. There was glass everywhere. Although the victim had been shot several times and many minutes had passed, his body felt warm. Brenner checked his neck for a carotid pulse. The man was alive. Brenner began the chest compressions and rescue breathing that should have been started long before. But the young man, who turned out to be a Rutgers student, died soon afterward.

The incident became a local scandal. The student's injuries may not have been survivable, but the police couldn't have known that. After the ambulance came, Brenner confronted one of the officers to ask why they hadn't tried to rescue him.

"We didn't want to dislodge the bullet," he recalls the policeman saying. It was a ridiculous answer, a brushoff, and Brenner couldn't let it go.

He was thirty-one years old at the time, a skinny, thick-bearded, soft-spo-

ken family physician who had grown up in a bedroom suburb of Philadelphia. As a medical student at Robert Wood Johnson Medical School, in Piscataway, he had planned to become a neuroscientist. But he volunteered once a week in a free primary-care clinic for poor immigrants, and he found the work there more challenging than anything he was doing in the laboratory. The guy studying neuronal stem cells soon became the guy studying Spanish and training to become one of the few family physicians in his class. Once he completed his residency, in 1998, he joined the staff of a family-medicine practice in Camden. It was in a cheaply constructed, boxlike, one-story building on a desolate street of bars, car-repair shops, and empty lots. But he was young and eager to recapture the sense of purpose he'd felt volunteering at the clinic during medical school.

Few people shared his sense of possibility. Camden was in civic free fall, on its way to becoming one of the poorest, most crime-ridden cities in the nation. The local school system had gone into receivership. Corruption and mismanagement soon prompted a state takeover of the entire city. Just getting the sewage system to work could be a problem. The neglect of this anonymous shooting victim on Brenner's street was another instance of a city that had given up, and Brenner was tired of wondering why it had to be that way.

Around that time, a police reform commission was created, and Brenner was asked to serve as one of its two citizen members. He agreed and, to his surprise, became completely absorbed. The experts they called in explained the basic principles of effective community policing. He learned about George Kelling and James Q. Wilson's "broken-windows" theory, which argued that minor, visible neighborhood disorder breeds major crime. He learned about the former New York City police commissioner William

Bratton and the Compstat approach to policing that he had championed in the nineties, which centered on mapping crime and focussing resources on the hot spots. The reform panel pushed the Camden Police Department to create computerized crime maps, and to change police beats and shifts to focus on the worst areas and times.

When the police wouldn't make the crime maps, Brenner made his own. He persuaded Camden's three main hospitals to let him have access to their medical billing records. He transferred the reams of data files onto a desktop computer, spent weeks figuring out how to pull the chaos of information into a searchable database, and then started tabulating the emergency-room visits of victims of serious assault. He created maps showing where the crime victims lived. He pushed for policies that would let the Camden police chief assign shifts based on the crime statistics—only to find himself in a showdown with the police unions.

"He has no clue," the president of the city police superiors' union said to the Philadelphia *Inquirer*. "I just think that his comments about what kind of schedule we should be on, how we should be deployed, are laughable."

The unions kept the provisions out of the contract. The reform commission disbanded; Brenner withdrew from the cause, beaten. But he continued to dig into the database on his computer, now mostly out of idle interest.

Besides looking at assault patterns, he began studying patterns in the way patients flowed into and out of Camden's hospitals. "I'd just sit there and play with the data for hours," he says, and the more he played the more he found. For instance, he ran the data on the locations where ambulances picked up patients with fall injuries, and discovered that a single building in central Camden sent more people to the hospital with serious falls—fifty-seven elderly in two years—

than any other in the city, resulting in almost three million dollars in health-care bills. “It was just this amazing window into the health-care delivery system,” he says.

So he took what he learned from police reform and tried a Compstat approach to the city’s health-care performance—a Healthstat, so to speak. He made block-by-block maps of the city, color-coded by the hospital costs of its residents, and looked for the hot spots. The two most expensive city blocks were in north Camden, one that had a large nursing home called Abigail House and one that had a low-income housing tower called Northgate II. He found that between January of 2002 and June of 2008 some nine hundred people in the two buildings accounted for more than four thousand hospital visits and about two hundred million dollars in health-care bills. One patient had three hundred and twenty-four admissions in five years. The most expensive patient cost insurers \$3.5 million.

Brenner wasn’t all that interested in costs; he was more interested in helping people who received bad health care. But in his experience the people with the highest medical costs—the people cycling

in and out of the hospital—were usually the people receiving the worst care. “Emergency-room visits and hospital admissions should be considered failures of the health-care system until proven otherwise,” he told me—failures of prevention and of timely, effective care.

If he could find the people whose use of medical care was highest, he figured, he could do something to help them. If he helped them, he would also be lowering their health-care costs. And, if the stats approach to crime was right, targeting those with the highest health-care costs would help lower the entire city’s health-care costs. His calculations revealed that just one per cent of the hundred thousand people who made use of Camden’s medical facilities accounted for thirty per cent of its costs. That’s only a thousand people—about half the size of a typical family physician’s panel of patients.

Things, of course, got complicated. It would have taken months to get the approvals needed to pull names out of the data and approach people, and he was impatient to get started. So, in the spring of 2007, he held a meeting with a few social workers and emergency-room doctors from hospitals around the city. He showed them the cost statistics and use

patterns of the most expensive one per cent. “These are the people I want to help you with,” he said. He asked for assistance reaching them. “Introduce me to your worst-of-the-worst patients,” he said.

They did. Then he got permission to look up the patients’ data to confirm where they were on his cost map. “For all the stupid, expensive, predictive-modeling software that the big vendors sell,” he says, “you just ask the doctors, ‘Who are your most difficult patients?’ and they can identify them.”

The first person they found for him was a man in his mid-forties whom I’ll call Frank Hendricks. Hendricks had severe congestive heart failure, chronic asthma, uncontrolled diabetes, hypothyroidism, gout, and a history of smoking and alcohol abuse. He weighed five hundred and sixty pounds. In the previous three years, he had spent as much time in hospitals as out. When Brenner met him, he was in intensive care with a tracheotomy and a feeding tube, having developed septic shock from a gallbladder infection.

Brenner visited him daily. “I just basically sat in his room like I was a third-year med student, hanging out with him for an hour, hour and a half every day, trying to figure out what makes the guy tick,” he recalled. He learned that Hendricks used to be an auto detailer and a cook. He had a longtime girlfriend and two children, now grown. A toxic combination of poor health, Johnnie Walker Red, and, it emerged, cocaine addiction had left him unreliably employed, uninsured, and living in a welfare motel. He had no consistent set of doctors, and almost no prospects for turning his situation around.

After several months, he had recovered enough to be discharged. But, out in the world, his life was simply another hospitalization waiting to happen. By then, however, Brenner had figured out a few things he could do to help. Some of it was simple doctor stuff. He made sure he followed Hendricks closely enough to recognize when serious problems were emerging. He double-checked that the plans and prescriptions the specialists had made for Hendricks’s many problems actually fit together—and, when they didn’t, he got on the phone to sort things out. He teamed up with a nurse practitioner who could make home visits to check blood-sugar levels and blood pressure, teach Hendricks about what he could do to stay



*“Can you imagine how being the only one here makes me feel?”*

healthy, and make sure he was getting his medications.

A lot of what Brenner had to do, though, went beyond the usual doctor stuff. Brenner got a social worker to help Hendricks apply for disability insurance, so that he could leave the chaos of welfare motels, and have access to a consistent set of physicians. The team also pushed him to find sources of stability and value in his life. They got him to return to Alcoholics Anonymous, and, when Brenner found out that he was a devout Christian, he urged him to return to church. He told Hendricks that he needed to cook his own food once in a while, so he could get back in the habit of doing it. The main thing he was up against was Hendricks's hopelessness. He'd given up. "Can you imagine being in the hospital that long, what that does to you?" Brenner asked.

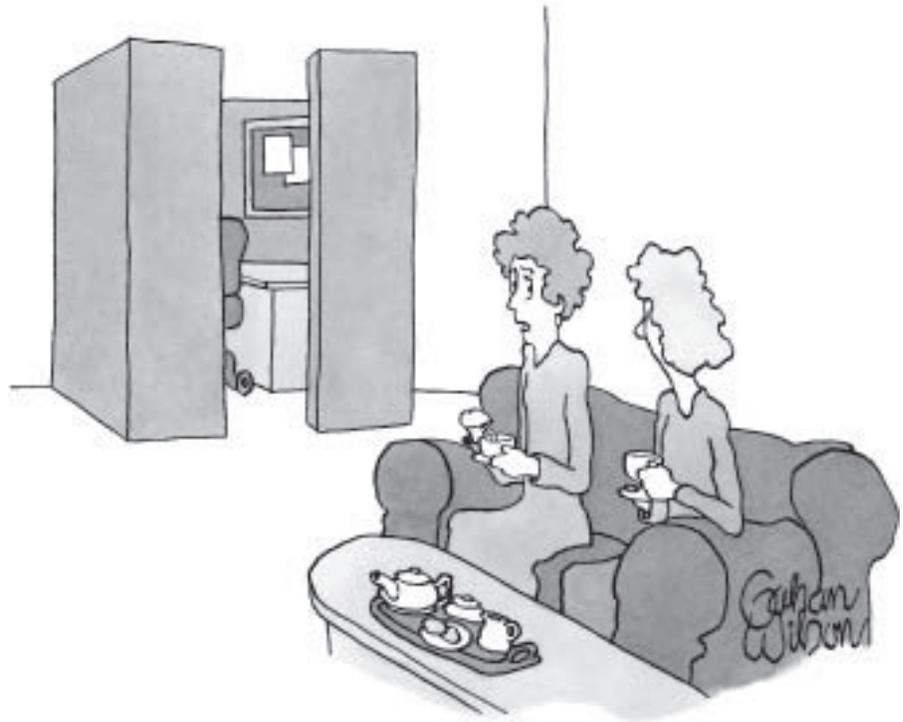
I spoke to Hendricks recently. He has gone without alcohol for a year, cocaine for two years, and smoking for three years. He lives with his girlfriend in a safer neighborhood, goes to church, and weathers family crises. He cooks his own meals now. His diabetes and congestive heart failure are under much better control. He's lost two hundred and twenty pounds, which means, among other things, that if he falls he can pick himself up, rather than having to call for an ambulance.

"The fun thing about this work is that you can be there when the light switch goes on for a patient," Brenner told me. "It doesn't happen at the pace we want. But you can see it happen."

With Hendricks, there was no miraculous turnaround. "Working with him didn't feel any different from working with any patient on smoking, bad diet, not exercising—working on any particular rut someone has gotten into," Brenner said. "People are people, and they get into situations they don't necessarily plan on. My philosophy about primary care is that the only person who has changed anyone's life is their mother. The reason is that she cares about them, and she says the same simple thing over and over and over." So he tries to care, and to say a few simple things over and over and over.

I asked Hendricks what he made of Brenner when they first met.

"He struck me as odd," Hendricks said. "His appearance was not what I expected of a young, clean-cut doctor." There was that beard. There was his man-



*"Harry seldom leaves his retirement cubicle."*

ner, too. "His whole premise was I'm here for you. I'm not here to be a part of the medical system. I'm here to get you back on your feet."

An ordinary cold can still be a major setback for Hendricks. He told me that he'd been in the hospital four times this past summer. But the stays were a few days at most, and he's had no more cataclysmic, weeks-long I.C.U. stays.

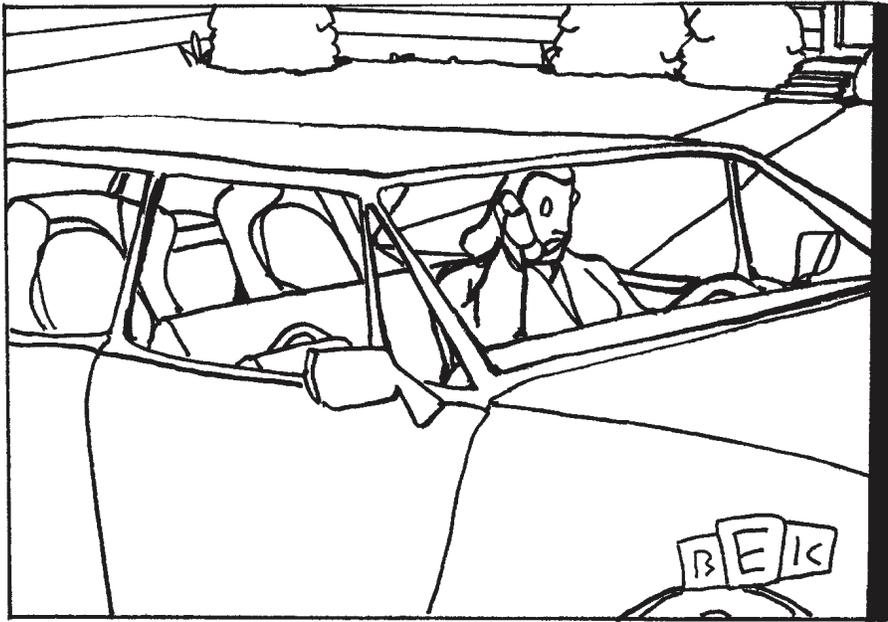
Was this kind of success replicable? As word went out about Brenner's interest in patients like Hendricks, he received more referrals. Camden doctors were delighted to have someone help with their "worst of the worst." He took on half a dozen patients, then two dozen, then more. It became increasingly difficult to do this work alongside his regular medical practice. The clinic was already under financial strain, and received nothing for assisting these patients. If it were up to him, he'd recruit a whole staff of primary-care doctors and nurses and social workers, based right in the neighborhoods where the costliest patients lived. With the tens of millions of dollars in hospital bills they could save, he'd pay the staff double to serve as Camden's elite medical force and to rescue the city's health-care system.

But that's not how the health-insur-

ance system is built. So he applied for small grants from philanthropies like the Robert Wood Johnson Foundation and the Merck Foundation. The money allowed him to ramp up his data system and hire a few people, like the nurse practitioner and the social worker who had helped him with Hendricks. He had some desk space at Cooper Hospital, and he turned it over to what he named the Camden Coalition of Healthcare Providers. He spoke to people who had been doing similar work, studied "medical home" programs for the chronically ill in Seattle, San Francisco, and Pennsylvania, and adopted some of their lessons. By late 2010, his team had provided care for more than three hundred people on his "super-utilizer" map.

I spent a day with Kathy Jackson, the nurse practitioner, and Jessica Cordero, a medical assistant, to see what they did. The Camden Coalition doesn't have enough money for a clinic where they can see patients. They rely exclusively on home visits and phone calls.

Over the phone, they inquire about emerging health issues, check for insurance or housing problems, ask about unfilled prescriptions. All the patients get the team's urgent-call number, which is



*"I thought that driving around all day picking kids up and dropping them off, then waiting for them, would be more fulfilling."*

• •

covered by someone who can help them through a health crisis. Usually, the issue can be resolved on the spot—it's a headache or a cough or the like—but sometimes it requires an unplanned home visit, to perform an examination, order some tests, provide a prescription. Only occasionally does it require an emergency room.

Patients wouldn't make the call in the first place if the person picking up weren't someone like Jackson or Brenner—someone they already knew and trusted. Even so, patients can disappear for days or weeks at a time. "High-utilizer work is about building relationships with people who are in crisis," Brenner said. "The ones you build a relationship with, you can change behavior. Half we can build a relationship with. Half we can't."

One patient I spent time with illustrated the challenges. If you were a doctor meeting him in your office, you would quickly figure out that his major problems were moderate developmental deficits and out-of-control hypertension and diabetes. His blood pressure and blood sugars were so high that, at the age of thirty-nine, he was already developing blindness and advanced kidney disease. Unless something changed, he was perhaps six months away from complete kidney failure.

You might decide to increase his in-

sulin dose and change his blood-pressure medicine. But you wouldn't grasp what the real problem was until you walked up the cracked concrete steps of the two-story brownstone where he lives with his mother, waited for him to shove aside the old newspapers and unopened mail blocking the door, noticed Cordero's shake of the head warning you not to take the rumpled seat he's offering because of the ant trail running across it, and took in the stack of dead computer monitors, the barking mutt chained to an inner doorway, and the rotten fruit on a newspaper-covered tabletop. According to a state evaluation, he was capable of handling his medications, and, besides, he lived with his mother, who could help. But one look made it clear that they were both incapable.

Jackson asked him whether he was taking his blood-pressure pills each day. Yes, he said. Could he show her the pill bottles? As it turned out, he hadn't taken any pills since she'd last visited, the week before. His finger-stick blood sugar was twice the normal level. He needed a better living situation. The state had turned him down for placement in supervised housing, pointing to his test scores. But after months of paperwork—during which he steadily worsened, passing in and out of hospitals—the team was finally

able to get him into housing where his medications could be dispensed on a schedule. He had made an overnight visit the previous weekend to test the place out.

"I liked it," he said. He moved in the next week. And, with that, he got a chance to avert dialysis—and its tens of thousands of dollars in annual costs—at least for a while.

Not everyone lets the team members into his or her life. One of their patients is a young woman of no fixed address, with asthma and a crack-cocaine habit. The crack causes severe asthma attacks and puts her in the hospital over and over again. The team members have managed occasionally to track her down in emergency rooms or recognize her on street corners. All they can do is give her their number, and offer their help if she ever wanted it. She hasn't.

Work like this has proved all-consuming. In May, 2009, Brenner closed his regular medical practice to focus on the program full time. It remains unclear how the program will make ends meet. But he and his team appear to be having a major impact. The Camden Coalition has been able to measure its long-term effect on its first thirty-six super-utilizers. They averaged sixty-two hospital and E.R. visits per month before joining the program and thirty-seven visits after—a forty-percent reduction. Their hospital bills averaged \$1.2 million per month before and just over half a million after—a fifty-six-percent reduction.

These results don't take into account Brenner's personnel costs, or the costs of the medications the patients are now taking as prescribed, or the fact that some of the patients might have improved on their own (or died, reducing their costs permanently). The net savings are undoubtedly lower, but they remain, almost certainly, revolutionary. Brenner and his team are out there on the boulevards of Camden demonstrating the possibilities of a strange new approach to health care: to look for the most expensive patients in the system and then direct resources and brainpower toward helping them.

Jeff Brenner has not been the only one to recognize the possibilities in focussing on the hot spots of medicine. One Friday afternoon, I drove to an industrial park on the outskirts of Boston, where a rapidly growing data-analysis company called

Verisk Health occupies a floor of a nondescript office complex. It supplies “medical intelligence” to organizations that pay for health benefits—self-insured businesses, many public employers, even the government of Abu Dhabi.

Privacy laws prevent U.S. employers from looking at the details of their employees’ medical spending. So they hand their health-care payment data over to companies that analyze the patterns and tell them how to reduce their health-insurance spending. Mostly, these companies give financial advice on changing benefits—telling them, say, to increase employee co-payments for brand-name drugs or emergency-room visits. But even employers who cut benefits find that their costs continue to outpace their earnings. Verisk, whose clients pay health-care bills for fifteen million patients, is among the data companies that are trying a more sophisticated approach.

Besides the usual statisticians and economists, Verisk recruited doctors to dive into the data. I met one of them, Nathan Gunn, who was thirty-six years old, had completed his medical training at the University of California, San Francisco, and was practicing as an internist part time. The rest of his time he worked as Verisk’s head of research. Mostly, he was in meetings or at his desk poring through “data runs” from clients. He insisted that it was every bit as absorbing as seeing sick patients—sometimes more so. Every data run tells a different human story, he said.

At his computer, he pulled up a data set for me, scrubbed of identifying information, from a client that manages health-care benefits for some two hundred and fifty employers—school districts, a large church association, a bus company, and the like. They had a hundred thousand “covered lives” in all. Pay-outs for those people rose eight per cent a year, at least three times as fast as the employers’ earnings. This wasn’t good, but the numbers seemed pretty dry and abstract so far. **Then he narrowed the list to the top five per cent of spenders—just five thousand people accounted for almost sixty per cent of the spending**—and he began parsing further.

“Take two ten-year-old boys with asthma,” he said. “From a disease standpoint, they’re exactly the same cost, right? Wrong. Imagine one of those kids never fills his inhalers and has been in urgent

care with asthma attacks three times over the last year, probably because Mom and Dad aren’t really on top of it.” That’s the sort of patient Gunn uses his company’s medical-intelligence software program to zero in on—a patient who is sick and getting inadequate care. “That’s really the sweet spot for preventive care,” Gunn said.

He pulled up patients with known coronary-artery disease. There were nine hundred and twenty-one, he said, reading off the screen. He clicked a few more times and raised his eyebrows. One in seven of them had not had a full office visit with a physician in more than a year. “You can do something about that,” he said.

“Let’s do the E.R.-visit game,” he went on. “This is a fun one.” He sorted the patients by number of visits, much as Jeff Brenner had done for Camden. In this employed population, the No. 1 patient was a twenty-five-year-old woman. In the past ten months, she’d had twenty-nine E.R. visits, fifty-one doctor’s office visits, and a hospital admission.

“I can actually drill into these claims,” he said, squinting at the screen. “All these claims here are migraine, migraine, migraine, migraine, headache, headache, headache.” For a twenty-five-year-old with her profile, he said, medical payments for the previous ten months would be expected to total twenty-eight hundred dollars. Her actual payments came to more than fifty-two thousand dollars—for “headaches.”

Was she a drug seeker? He pulled up her prescription profile, looking for narcotic prescriptions. Instead, he found prescriptions for insulin (she was apparently diabetic) and imipramine, an anti-migraine treatment. Gunn was struck by how faithfully she filled her prescriptions. She hadn’t missed a single renewal—“which is actually interesting,” he said. That’s not what you usually find at the extreme of the cost curve.

The story now became clear to him. She suffered from terrible migraines. She

took her medicine, but it wasn’t working. When the headaches got bad, she’d go to the emergency room or to urgent care. The doctors would do CT and MRI scans, satisfy themselves that she didn’t have a brain tumor or an aneurysm, give her a narcotic injection to stop the headache temporarily, maybe renew her imipramine prescription, and send her home, only to have her return a couple of weeks later and see whoever the next doctor on duty was. She wasn’t getting what she needed for adequate migraine care—a primary physician taking her in hand, trying different medications in a systematic way, and figuring out how to better keep her headaches at bay.

As he sorts through such stories, Gunn usually finds larger patterns, too. He told me about an analysis he had recently done for a big information-technology company on the East Coast. It provided health benefits to seven thousand employees and family members, and had forty million dollars in “spend.” The firm had already raised the employees’ insurance co-payments considerably, hoping to give employees a reason to think twice about unnecessary medical visits, tests, and procedures—make them have some “skin in the game,” as they say. Indeed, almost every category of costly medical care went down: doctor visits, emergency-room and hospital visits, drug prescriptions. Yet employee health costs continued to rise—climbing almost ten per cent each year. The company was baffled.

Gunn’s team took a look at the hot spots. The outliers, it turned out, were predominantly early retirees. Most had multiple chronic conditions—in particular, coronary-artery disease, asthma, and complex mental illness. One had badly worsening heart disease and diabetes, and medical bills over two years in excess of eighty thousand dollars. The man, dealing with higher co-payments on a fixed income, had cut back to filling only half his medication prescriptions for his high cholesterol and diabetes. He made few doctor visits. He avoided the E.R.—until a heart attack necessitated emergency surgery and left him disabled with chronic heart failure.

The higher co-payments had backfired, Gunn said. While medical costs for most employees flattened out, those for early retirees jumped seventeen per cent. The sickest patients became much more



expensive because they put off care and prevention until it was too late.

The critical flaw in our health-care system that people like Gunn and Brenner are finding is that it was never designed for the kind of patients who incur the highest costs. Medicine's primary mechanism of service is the doctor visit and the E.R. visit. (Americans make more than a billion such visits each year, according to the Centers for Disease Control.) For a thirty-year-old with a fever, a twenty-minute visit to the doctor's office may be just the thing. For a pedestrian hit by a minivan, there's nowhere better than an emergency room. But these institutions are vastly inadequate for people with complex problems: the forty-year-old with drug and alcohol addiction; the eighty-four-year-old with advanced Alzheimer's disease and a pneumonia; the sixty-year-old with heart failure, obesity, gout, a bad memory for his eleven medications, and half a dozen specialists recommending different tests and procedures. It's like arriving at a major construction project with nothing but a screwdriver and a crane.

Outsiders tend to be the first to recognize the inadequacies of our social institutions. But, precisely because they are outsiders, they are usually in a poor position to fix them. Gunn, though a doctor, mostly works for people who do not run health systems—employers and insurers. So he counsels them about ways to tinker with the existing system. He tells them how to change co-payments and deductibles so they at least aren't making their cost problems worse. He identifies doctors and hospitals that seem to be providing particularly ineffective care for high-needs patients, and encourages clients to shift contracts. And he often suggests that clients hire case-management companies—a fast-growing industry with telephone banks of nurses offering high-cost patients advice in the hope of making up for the deficiencies of the system.

The strategy works, sort of. Verisk reports that most of its clients can slow the rate at which their health costs rise, at least to some extent. But few have seen decreases, and it's not obvious that the improvements can be sustained. Brenner, by contrast, is reinventing medicine from the inside. But he does not run a health-care system, and had to give up his practice to sustain his work. He is an outsider on the inside. So you might wonder whether

medical hot-spotting can really succeed on a scale that would help large populations. Yet there are signs that it can.

A recent Medicare demonstration program, given substantial additional resources under the new health-care-reform law, offers medical institutions an extra monthly payment to finance the coordination of care for their most chronically expensive beneficiaries. If total costs fall more than five per cent compared with those of a matched set of control patients, the program allows institutions to keep part of the savings. If costs fail to decline, the institutions have to return the monthly payments.

Several hospitals took the deal when the program was offered, in 2006. One was the Massachusetts General Hospital, in Boston. It asked a general internist named Tim Ferris to design the effort. The hospital had twenty-six hundred chronically high-cost patients, who together accounted for sixty million dollars in annual Medicare spending. They were in nineteen primary-care practices, and Ferris and his team made sure that each had a nurse whose sole job was to improve the coordination of care for these patients. The doctors saw the patients as usual. In between, the nurses saw them for longer visits, made surveillance phone calls, and, in consultation with the doctors, tried to recognize and address problems before they resulted in a hospital visit.

Three years later, hospital stays and trips to the emergency room have dropped more than fifteen per cent. The hospital hit its five-per-cent cost-reduction target. And the team is just getting the hang of what it can do.

Recently, I visited an even more radically redesigned physician practice, in Atlantic City. Cross the bridge into town (Atlantic City is on an island, I learned), ignore the Trump Plaza and Caesars casinos looming ahead of you, drive a few blocks along the Monopoly-board streets (the game took its street names from here), turn onto Tennessee Avenue, and enter the doctors' office building that's across the street from the ninety-nine-cent store and the city's long-shuttered supermarket. On the second floor, just past the occupational-health clinic, you will find the Special Care Center. The reception area, with its rustic taupe upholstery and tasteful lighting,

looks like any other doctors' office. But it houses an experiment started in 2007 by the health-benefit programs of the casino workers' union and of a hospital, Atlanti-care Medical Center, the city's two largest pools of employees.

Both are self-insured—they are large enough to pay for their workers' health care directly—and both have been hammered by the exploding costs. Yes, even hospitals are having a hard time paying their employees' medical bills. As for the union, its contracts are frequently for workers' total compensation—wages plus benefits. It gets a fixed pot. Year after year, the low-wage busboys, hotel cleaners, and kitchen staff voted against sacrificing their health benefits. As a result, they have gone without a wage increase for years. Out of desperation, the union's health fund and the hospital decided to try something new. They got a young Harvard internist named Rushika Fernandopulle to run a clinic exclusively for workers with exceptionally high medical expenses.

Fernandopulle, who was born in Sri Lanka and raised in Baltimore, doesn't seem like a radical when you meet him. He's short and round-faced, smiles a lot, and displays two cute rabbit teeth as he tells you how ridiculous the health-care system is and how he plans to change it all. Jeff Brenner was on his advisory board, along with others who have pioneered the concept of intensive outpatient care for complex high-needs patients. The hospital provided the floor space. Fernandopulle created a point system to identify employees likely to have high recurrent costs, and they were offered the chance to join the new clinic.

The Special Care Center reinvented the idea of a primary-care clinic in almost every way. The union's and the hospital's health funds agreed to switch from paying the doctors for every individual office visit and treatment to paying a flat monthly fee for each patient. That cut the huge expense that most clinics incur from billing paperwork. The patients were given unlimited access to the clinic without charges—no co-payments, no insurance bills. This, Fernandopulle explained, would force doctors on staff to focus on service, in order to retain their patients and the fees they would bring.

The payment scheme also allowed him to design the clinic around the things that sick, expensive patients most need

and value, rather than the ones that pay the best. He adopted an open-access scheduling system to guarantee same-day appointments for the acutely ill. He customized an electronic information system that tracks whether patients are meeting their goals. And he staffed the clinic with people who would help them do it. One nurse practitioner, for instance, was responsible for trying to get every smoker to quit.

I got a glimpse of how unusual the clinic is when I sat in on the staff meeting it holds each morning to review the medical issues of the patients on the appointment books. There was, for starters, the very existence of the meeting. I had never seen this kind of daily huddle at a doctor's office, with clinicians popping open their laptops and pulling up their patient lists together. Then there was the particular mixture of people who squeezed around the conference table. As in many primary-care offices, the staff had two physicians and two nurse practitioners. But a full-time social worker and the front-desk receptionist joined in for the patient review, too. And, outnumbering them all, there were eight full-time "health coaches."

Fernandopulle created the position. Each health coach works with patients—in person, by phone, by e-mail—to help them manage their health. Fernandopulle got the idea from the *promotoras*, community health workers, whom he

had seen on a medical mission in the Dominican Republic. The coaches work with the doctors but see their patients far more frequently than the doctors do, at least once every two weeks. Their most important attribute, Fernandopulle explained, is a knack for connecting with sick people, and understanding their difficulties. Most of the coaches come from their patients' communities and speak their languages. Many have experience with chronic illness in their own families. (One was himself a patient in the clinic.) Few had clinical experience. I asked each of the coaches what he or she had done before working in the Special Care Center. One worked the register at a Dunkin' Donuts. Another was a Sears retail manager. A third was an administrative assistant at a casino.

"We recruit for attitude and train for skill," Fernandopulle said. "We don't recruit from health care. This kind of care requires a very different mind-set from usual care. For example, what is the answer for a patient who walks up to the front desk with a question? The answer is 'Yes.' 'Can I see a doctor?' 'Yes.' 'Can I get help making my ultrasound appointment?' 'Yes.' Health care trains people to say no to patients." He told me that he'd had to replace half of the clinic's initial hires—including a doctor—because they didn't grasp the focus on patient service.

In forty-five minutes, the staff did a rapid run-through of everyone's patients.

They reviewed the requests that patients had made by e-mail or telephone, the plans for the ones who had appointments that day. Staff members made sure that all patients who made a sick visit the day before got a follow-up call within twenty-four hours, that every test ordered was reviewed, that every unexpected problem was addressed.

Most patients required no more than a ten-second mention. Mr. Green didn't turn up for his cardiac testing or return calls about it. "I know where his wife works. I'll track her down," the receptionist said. Ms. Blue is pregnant and on a high-blood-pressure medication that's unsafe in pregnancy. "I'll change her prescription right now," her doctor said, and keyed it in. A handful of patients required longer discussion. One forty-five-year-old heart-disease patient had just had blood tests that showed worsening kidney failure. The team decided to repeat the blood tests that morning, organize a kidney ultrasound in the afternoon if the tests confirmed the finding, and have him seen in the office at the end of the day.

A staff member read out the hospital census. Of the clinic's twelve hundred chronically ill patients, just one was in the hospital, and she was being discharged. The clinic's patients had gone four days without a single E.R. visit. On hearing this news, staffers cheered and broke into applause.

Afterward, I met a patient, Vibha Gandhi. She was fifty-seven years old and had joined the clinic after suffering a third heart attack. She and her husband, Bharat, are Indian immigrants. He cleans casino bathrooms for thirteen dollars an hour on the night shift. Vibha has long had poor health, with diabetes, obesity, and congestive heart failure, but things got much worse in the summer of 2009. A heart attack landed her in intensive care, and her coronary-artery disease proved so advanced as to be inoperable. She arrived in a wheelchair for her first clinic visit. She could not walk more than a few steps without losing her breath and getting a viselike chest pain. The next step for such patients is often a heart transplant.

A year and a half later, she is out of her wheelchair. She attends the clinic's Tuesday yoga classes. With the help of a walker, she can go a quarter mile without stopping. Although her condition is



*"I've decided to leave my family to devote more time to myself."*

## EGUSI SOUP

The first time I met my father, he ordered hot-pepper fish soup in the hotel bar and told me his favorite soup was egusi served with semo, eba, or pounded yam. His wife makes good egusi, he tells me, with stockfish, dry fish, and crayfish, with local Nsukka Maggi; with goat meat or beef meat, and, of course, pounded egusi, protein-rich seeds of a large-seeded variety of watermelon, fried in palm oil first—be careful the oil doesn't splash—and you must remove the bones from the dry fish and break into big pieces, add chili and pepper to taste. For maximum flavor, add curry powder and thyme.

*I like a lot of chili, do you like things hot, he asks me? Then, at the end, she throws in bitter leaf or ugwu or celosia.*

*It helps if you have a cow's tongue, something like that, or a beef- or ox-tail.*

I told my father of a villager quoted by Achebe who told his wife never to give him egusi soup; so every evening the man gets to eat his favorite soup, egusi, I say. I see what you mean, I see what you mean, he says, laughing his laugh that is a little like mine. Then he put down his bowl and his spoon as if he were from a fable or a fairy tale, a bear or a woodcutter, a wolf in a frock and vanished like a cow jumping over the moon, or the dish running away with the spoon.

—Jackie Kay

still fragile—she takes a purseful of medications, and a bout of the flu would send her back to an intensive-care unit—her daily life is far better than she once imagined.

"I didn't think I would live this long," Vibha said through Bharat, who translated her Gujarati for me. "I didn't want to live."

I asked her what had made her better. The couple credited exercise, dietary changes, medication adjustments, and strict monitoring of her diabetes.

But surely she had been encouraged to do these things after her first two heart attacks. What made the difference this time?

"Jayshree," Vibha said, naming the health coach from Dunkin' Donuts, who also speaks Gujarati.

"Jayshree pushes her, and she listens to her only and not to me," Bharat said.

"Why do you listen to Jayshree?" I asked Vibha.

"Because she talks like my mother," she said.

Fernandopulle carefully tracks the statistics of those twelve hundred patients. **After twelve months in the program, he found, their emergency-room visits and hospital admissions were reduced by more than forty per cent. Surgical procedures were down by a quarter. The patients were also markedly healthier.** Among five hundred and three patients with high blood pressure, only two were in poor control. Patients with high cholesterol had, on average, a fifty-point drop in their levels. A stunning sixty-

three per cent of smokers with heart and lung disease quit smoking. In surveys, service and quality ratings were high.

But was the program saving money? The team, after all, was more expensive than typical primary care. And certain costs shot up. Because patients took their medications more consistently, drug costs were higher. The doctors ordered more mammograms and diagnostic tests, and caught and treated more cancers and other conditions. There's also the statistical phenomenon known as "regression to the mean": the super-high-cost patients may have been on their way to getting better (and less costly) on their own.

So the union's health fund enlisted an independent economist to evaluate the clinic's one-year results. According to the data, these workers made up a third of the local union's costliest ten per cent of members. To determine if the clinic was really making a difference, the economist compared their costs over twelve months with those of a similar group of Las Vegas casino workers. The results, he cautioned, are still preliminary. The sample was small. One patient requiring a heart transplant could wipe away any savings overnight. Nonetheless, compared with the Las Vegas workers, the Atlantic City workers in Fernandopulle's program experienced a twenty-five-per-cent drop in costs.

And this was just the start. The program, Fernandopulle told me, is still discovering new tricks. His team just recently figured out, for instance, that one reason some patients call 911 for problems the clinic would handle better is that they don't have the clinic's twenty-four-hour call number at hand when they need it. The health coaches told the patients to program it into their cell-phone speed dial, but many didn't know how to do that. So the health coaches began doing it for them, and the number of 911 calls fell. High-cost habits are sticky; staff members are still learning the subtleties of unsticking them.

Their most difficult obstacle, however, has been the waywardness not of patients but of doctors—the doctors whom the patients see outside the clinic. Jeff Brenner's Camden patients are usually uninsured or on welfare; their doctors were happy to have someone else deal with them. The Atlantic City casino workers and hospital staff, on the other

hand, had the best-paying insurance in town. Some doctors weren't about to let that business slip away.

Fernandopulle told me about a woman who had seen a cardiologist for chest pain two decades ago, when she was in her twenties. It was the result of a temporary, inflammatory condition, but he continued to have her see him for an examination and an electrocardiogram every three months, and a cardiac ultrasound every year. The results were always normal. After the clinic doctors advised her to stop, the cardiologist called her at home to say that her health was at risk if she didn't keep seeing him. She went back.

The clinic encountered similar troubles with some of the doctors who saw its hospitalized patients. One group of hospital-based internists was excellent, and coordinated its care plans with the clinic. But the others refused, resulting in longer stays and higher costs (and a fee for every visit, while the better group happened to be the only salaried one). When Fernandopulle arranged to direct the patients to the preferred doctors, the others retaliated, trolling the emergency department and persuading the patients to choose them instead.

"'Rogues,' we call them," Fernando-pulle said. He and his colleagues tried warning the patients about the rogue doctors and contacting the E.R. staff to make sure they knew which doctors were preferred. "One time, we literally pinned a note to a patient, like he was Paddington Bear," he said. They've ended up going to the hospital, and changing the doctors themselves when they have to. As the saying goes, one man's cost is another man's income.

The Atlanticare hospital system is in a curious position in all this. Can it really make sense for a hospital to invest in a program, like the Special Care Center, that aims at reducing hospitalizations, even if its employees are included? I asked David Tilton, the president and C.E.O. of the system, why he was doing it. He had several answers. Some were of the it's-the-right-thing-to-do variety. But I was interested in the hard-nosed reasons. The Atlantic City economy, he said, could not sustain his health system's perpetually rising costs. His hospital either fought the pressure to control costs and went down with the local economy or learned how to benefit from cost control.

And there *are* ways to benefit. At a minimum, a successful hospital could attract patients from competitors, cushioning it against a future in which people need hospitals less. Two decades ago, for instance, Denmark had more than a hundred and fifty hospitals for its five million people. The country then made changes to strengthen the quality and availability of outpatient primary-care services (including payments to encourage physicians to provide e-mail access, off-hours consultation, and nurse managers for complex care). Today, the number of hospitals has shrunk to seventy-one. Within five years, fewer than forty are expected to be required. A smart hospital might position itself to be one of the last ones standing.

Could anything that dramatic happen here? An important idea is getting its test run in America: the creation of intensive outpatient care to target hot spots, and thereby reduce over-all health-care costs. But, if it works, hospitals will lose revenue and some will have to close. Medical companies and specialists profiting from the excess of scans and procedures will get squeezed. This will provoke retaliation, counter-campaigns, intense lobbying for Washington to obstruct reform.

The stats-and-stethoscope upstarts are nonetheless making their dash. Rushika Fernandopulle has set up a version of his Special Care program in Seattle, for Boeing workers, and is developing one in Las Vegas, for casino workers. Nathan Gunn and Verisk Health have landed new contracts during the past year with companies providing health benefits to more than four million employees and family members. Tim Ferris has obtained federal approval to spread his program for Medicare patients to two other hospitals in the Partners Healthcare System, in Boston (including my own). Jeff Brenner, meanwhile, is seeking to lower health-care costs for all of Camden, by getting its primary-care physicians to extend the hot-spot strategy citywide.



We've been looking to Washington to find out how health-care reform will happen. But people like these are its real leaders.

During my visit to Camden, I attended a meeting that Brenner and several community groups had organized with residents of Northgate II, the building with the highest hospital billing in the city. He wanted to run an idea by them. The meeting took place in the building's ground-floor lounge. There was juice in Styrofoam cups and potato chips on little red plastic plates. A pastor with the Camden Bible Tabernacle started things off with a prayer. Brenner let one of the other coalition members do the talking.

How much money, he asked, did the residents think had been spent on emergency-room and hospital visits in the past five years for the people in this one building? They had no idea. He wrote out the numbers on an easel pad, but they were imponderable abstractions. The residents' eyes widened only when he said that the payments, even accounting for unpaid bills, added up to almost sixty thousand dollars per person. He asked how many of them believed that they had received sixty thousand dollars' worth of health care. That was when the stories came out: the doctors who wouldn't give anyone on Medicaid an office appointment; the ten-hour emergency-room waits for ten minutes with an intern.

Brenner was proposing to open a doctor's office right in their building, which would reduce their need for hospital visits. If it delivered better care and saved money, the doctor's office would receive part of the money that it saved Medicare and Medicaid, and would be able to add services—services that the residents could help choose. With enough savings, they could have same-day doctor visits, nurse practitioners at night, a social worker, a psychologist. When Brenner's scenario was described, residents murmured approval, but the mention of a social worker brought questions.

"Is she going to be all up in my business?" a woman asked. "I don't know if I like that. I'm not sure I want a social worker hanging around here."

This doctor's office, people were slowly realizing, would be involved in their lives—a medical professional would be after them about their smoking, drinking,

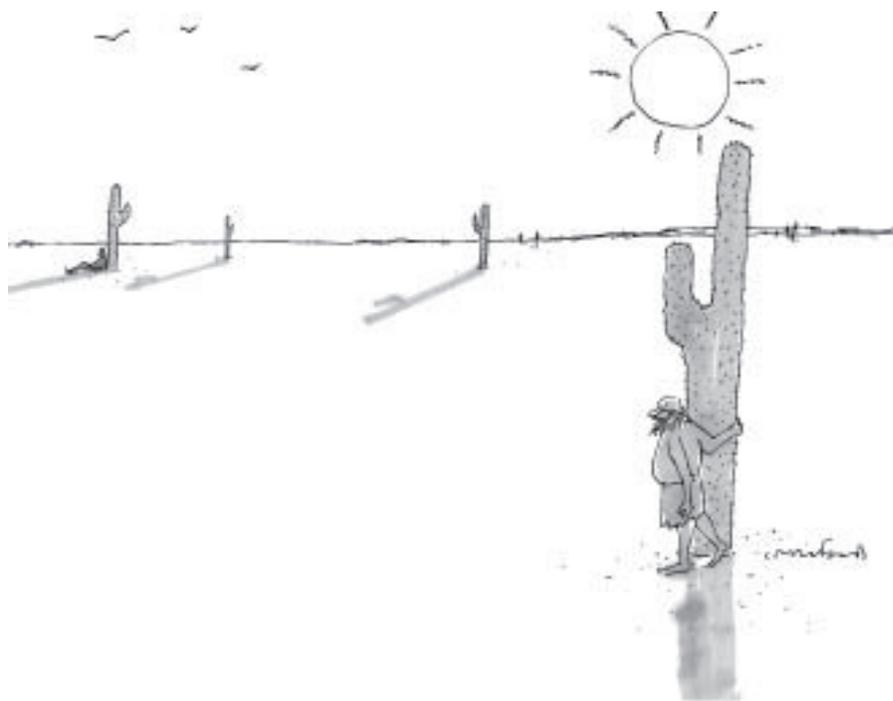
diet, medications. That was O.K. if the person were Dr. Brenner. They knew him. They believed that he cared about them. Acceptance, however, would clearly depend upon execution; it wasn't guaranteed. There was similar ambivalence in the neighborhoods that Compstat strategists targeted for additional—and potentially intrusive—policing.

Yet the stakes in health-care hot-spotting are enormous, and go far beyond health care. A recent report on more than a decade of education-reform spending in Massachusetts detailed a story found in every state. Massachusetts sent nearly a billion dollars to school districts to finance smaller class sizes and better teachers' pay, yet every dollar ended up being diverted to covering rising health-care costs. For each dollar added to school budgets, the costs of maintaining teacher health benefits took a dollar and forty cents.

Every country in the world is battling the rising cost of health care. No community anywhere has demonstrably lowered its health-care costs (not just slowed their rate of increase) by improving medical services. They've lowered costs only by cutting or rationing them. To many people, the problem of health-care costs is best encapsulated in a basic third-grade lesson: you can't have it all. You want higher wages, lower taxes, less debt? Then cut health-care services.

People like Jeff Brenner are saying that we *can* have it all—teachers *and* health care. To be sure, uncertainties remain. Their small, localized successes have not yet been replicated in large populations. Up to a fourth of their patients face problems of a kind they have avoided tackling so far: catastrophic conditions. These are the patients who are in the top one per cent of costs because they were in a car crash that resulted in a hundred thousand dollars in surgery and intensive-care expenses, or had a cancer requiring seven thousand dollars a week for chemo and radiation. There's nothing much to be done for those patients, you'd think. Yet they are also victims of poor and disjointed service. Improving the value of the services—rewarding better results per dollar spent—could lead to dramatic innovations in catastrophic care, too.

The new health-reform law—Obama-care—is betting big on the Brenners of the world. It says that we can afford to subsidize insurance for millions, remove



*"I said, 'You're starting to get on my nerves'!"*



the ability of private and public insurers to cut high-cost patients from their rolls, *and* improve the quality of care. The law authorizes new forms of Medicare and Medicaid payment to encourage the development of "medical homes" and "accountable care organizations"—doctors' offices and medical systems that get financial benefits for being more accessible to patients, better organized, and accountable for reducing the over-all costs of care. Backers believe that, given this support, innovators like Brenner will transform health care everywhere.

Critics say that it's a pipe dream—more money down the health-care sinkhole. They could turn out to be right, Brenner told me; a well-organized opposition could scuttle efforts like his. "In the next few years, we're going to have absolutely irrefutable evidence that there are ways to reduce health-care costs, and they are 'high touch' and they are at the level of care," he said. "We are going to know that, hands down, this is possible." From that point onward, he said, "it's a political problem." The struggle will be to survive the obstruction of lobbies, and the partisan tendency to view success as victory for the other side.

Already, these forces of resistance have become Brenner's prime concern. He

needs state legislative approval to bring his program to Medicaid patients at Northgate II and across Camden. He needs federal approval to qualify as an accountable care organization for the city's Medicare patients. In Camden, he has built support across a range of groups, from the state Chamber of Commerce to local hospitals to activist organizations. But for months—even as rising health costs and shrinking state aid have forced the city to contemplate further school cuts and the layoff of almost half of its police—he has been stalled. With divided branches at both the state and the federal level, "government just gets paralyzed," he says.

In the meantime, though, he's forging ahead. In December, he introduced an expanded computer database that lets Camden doctors view laboratory results, radiology reports, emergency-room visits, and discharge summaries for their patients from all the hospitals in town—and could show cost patterns, too. The absence of this sort of information is a daily impediment to the care of patients in Boston, where I practice. Right now, we're nowhere close to having such data. But this, I'm sure, will change. For in places like Camden, New Jersey, one of the poorest cities in America, there are people showing the way. ♦

This December, 2012 article authored by a panel of doctors explains the evolution of medical care to a decentralized, de-institutionalized model by combining existing mobile infrastructures with multi-disciplinary and inter-professional teams to deliver 24-hour mobile care.

# Mobile Integrated Healthcare Practice: A Healthcare Delivery Strategy to Improve Access, Outcomes, and Value

Eric Beck, DO, NREMT-P; Alan Craig, MScPI, ACP; Jeffrey Beeson, DO, RN, EMT-P; Scott Bourn, PhD, RN, EMT-P; Jeffrey Goodloe, MD, NREMT-P; Hawnwan Philip Moy, MD; Brent Myers, MD, MPH; Edward Racht, MD; David Tan, MD; Lynn White, MS

**The U.S. health care system is often described as one that fails to achieve optimal health outcomes while generating exorbitant costs for patients, payors and society. [1]**

The Institute of Medicine (IOM) estimates that \$750 billion—30% of the U.S. annual health care budget—is wasted on unnecessary services, inefficient delivery, excessive administrative costs and prevention failures. [2] Barriers to patient access, fragmentation of acute and chronic care, ineffective management of chronic illness, and complex, outdated reimbursement processes leave patients, clinicians and payors frustrated at historic levels. In *Crossing the Quality Chasm*, released in 2001, the Institute of Medicine (IOM) Committee on the Quality of Health Care in America described an urgent need to redesign the healthcare delivery system. The IOM emphasized the need to expand information technology and to create payment policies based on innovation, outcomes and performance improvement, rather than on the delivery of care itself. [3] Renewed focus on bringing healthcare to the

patient, specifically by delivering care outside of traditional settings, has underscored the need for realignment of financial incentives and reimbursement policy. [4]

## **A special problem: 24/7 coordinated out-of-hospital care**

The discontinuities of health service are notably evident in the care of patients at home; this is particularly true for the chronically ill, frail elderly and mobility impaired. Multiple single-purpose providers offer niche care and often only during restricted hours of operation, neither of which match the actual needs of this patient population.

As a result, patients are routinely referred to hospital emergency departments (EDs) by their healthcare providers, outside of normal business hours, despite the common knowledge that the ED is an imprecise match to their needs. Further, care gaps such as a lack of post-acute transitional care make preventable re-admissions a virtual inevitability that is both expensive and disappointing to patients, caregivers and the health care system.

## Mobile Integrated Healthcare Practice

In attempts to correct some of these shortcomings, we propose here a novel delivery strategy for an inter-professional practice of medicine—Mobile Integrated Healthcare Practice (MIHP)—intended to serve a range of patients in the out-of-hospital setting by providing 24/7 needs-based at-home integrated acute care, chronic care and prevention services.

This strategy draws upon the recent experience of disparate experimental mobile health care programs, each addressing specific, often narrow aspects of care as they seek to demonstrate cost savings by reducing short-term re-hospitalization rates or by servicing high system utilizers such as patients with mental illness, substance abuse or other specific social needs. When operated as part of an Emergency Medical Services (EMS) system, these programs have commonly been called “Community Paramedicine” and have emerged as local pilot projects. However, they have typically been confined to defining new roles for existing EMS paramedics and emergency medical technicians, and have not endeavored to demonstrate improved resource integration or value to patients.

Similarly, the Home Health industry has developed targeted readmission reduction programs and transitional care services based on traditional home health practice. The home health profession has been very successful in providing needed care to patients in the home setting but very few programs offer these services 24/7. In addition, current home health delivery must conform to specific regulatory and reimbursement requirements that may limit a more broad application of services.

Despite early enthusiasm for these programs, important questions are now arising about their efficiency, their place in the broader health care system, reimbursement methodologies and financial sustainability. As single-provider / single agency niche programs, they often do not fully engage other elements of the existing healthcare infrastructure. They may fail to effectively or efficiently integrate diverse professional expertise or available care options, and have no shared or

recognizably similar features.[5] Further, most of the experimental programs lack sustainable financial frameworks, funded instead internally as “add-on” programs, or by short-term grants. Many such programs still operate as a fee-for-service volume-based model, as opposed to a value-based population health model. Only those programs which have partnered to reduce the financial exposure of existing payers have found a path to scalability and stability.

With a shared unifying strategy framework, it will be easier to reproduce, scale and quantify impacts arising from these out-of-hospital programs. Moreover, failing to meaningfully engage the full range of stakeholders will marginalize these efforts and frustrate inter-professional integration.

We propose MIHP as that strategy framework.

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*With a shared unifying strategy framework, it will be easier to reproduce, scale and quantify impacts arising from out-of-hospital programs.*

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A Mobile Integrated Healthcare Practice will:

- Focus on patient-centered navigation and offer transparent population-specific care by integrating existing infrastructure and resources, bringing care to patients through technology, communications, and health information exchange
- Define its operations through population-based needs assessment and tools
- Leverage multiple strategic partnerships operating under physician medical oversight
- Improve access to care and health equity through 24-hour care availability
- Deliver evidence based practice using multidisciplinary and inter-professional teams in which providers utilize the full scope of their individual practices and support healthcare delivery innovation

We identified a series of features essential to a comprehensive and accountable MIHP program. These include:

- Cataloging of provider competencies and scopes of practice
- Medical oversight, both in program design and in daily operation
- Population needs and community health assessment
- Strategic partnerships with stakeholders, engaging a spectrum of healthcare providers including, but not limited to: physicians, advanced practice nurses, physician assistants, nurses, emergency medical services personnel, social workers, pharmacists, clinical and social care coordinators, community health workers, community paramedics, therapists, and dietitians
- Patient access through patient-centered mobile infrastructure
- Coordinating communications, including biometric data
- Telepresence technology, connecting patients to resources, and permitting consultation between in-home providers and those directing care
- Capacity for patient navigation
- Transportation and mobility
- Shared/Integrated health record
- Financial sustainability
- Quality/outcomes performance measurement

Population needs that could be well suited for the MIHP strategy include: chronic disease management; unscheduled acute care evaluation and treatment; primary, secondary and tertiary prevention strategies; population health surveillance; culturally competent social services; patient navigation; care coordination; patient advocacy and education.

**Currently, access to the U.S. healthcare system is fragmented, often based on a patient's perception of their condition: emergent (e.g., 9-1-1/emergency department), urgent (e.g., nurse advice line/urgent care), or routine (e.g., medical home/walk-in clinic/primary care). Utilizing communication centers that coordinate care using integrated health records, health information exchanges, telepresence technology, real-time call processing and mobile care services can allow patients unparalleled, even around the clock, access to coordinated care.**

Philosophically, the MIHP framework is structured to provide patient-centered care, with every effort made to ensure patients receive the right care, by the right provider, at the right place, in the right time and at the right cost. MIHP is a strategy for improving population health indexed to meaningful and measureable clinical and patient experience goals. If the barriers to appropriate timely and cost effective in-home health care are to be removed, an easily reproducible strategy framework must be offered and adopted to facilitate integration among health care providers.

Most importantly, this model must remain patient-centered, with an emphasis on ease of access to care, developing new non-traditional portals of entry, continuity of care and transparency. It is through the synergy of these attributes that care can be improved—safer, more timely, and of higher quality and satisfaction.

MIHP is proposed as a restructuring of care, not a new way to spend additional health care money. In fact, most experimental initiatives in mobile care arena have demonstrated a consistent inability to establish economic sustainability because they operate as “additions” to health care spending. In contrast, the MIHP strategy is designed to support and augment other patient-centered delivery models including the Patient Centered Medical Home, the Chronic Care Model and the Accountable Care Organization by providing an optimized mix of care, likely at costs lower than traditional models. In most cases, it is likely that MIHP could be funded within one of these

models as a cost-optimization strategy based on shared savings.

The essence of the MIHP strategy is that each MIHP program will be unique, defined by local gap analysis and population needs assessment. This process is well validated in public health,[6] and many evidence-based tools are now available to assess local area health care needs, infrastructure and resources.[7-9] Population assessments should be informed by the analysis of health data on specific known health or social issues, by identified gaps in current services, and the insights of stakeholders, including patients and their families.

A needs analysis should lead to development of a local strategic plan which will define how best to incorporate existing community resources, services and personnel into a MIHP program. It is expected that a successful MIHP program will use new partnerships with community stakeholders (patients, payors, ACOs, hospitals, EMS systems, civic leaders and organizations), rather than a “single provider—single agency” design. The strategic plan should include ongoing evaluation based on defined performance measures with quantifiable clinical significance.

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*EMS systems are easily scalable to absorb the additional loads arising from such a new mobile health strategy with minimal marginal cost.*

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After considering the range of existing mobile health assets, we conclude that the most common existing mobile health care system—the Emergency Medical Services (EMS) system—is well suited to host the MIHP and coordinate service delivery by multiple providers.

In most communities, EMS systems and personnel are uniquely positioned to support MIHP. EMS systems in the US already treat five to ten percent of the U.S. population each year in response to requests for “emergency” care. With less than three percent of such contacts involving life-threatening

injury or illness, most of this care would be more accurately described as “unscheduled health care”. More often than not, this care poorly navigates patients, with emergency departments serving as the only care option available. This mismatch is complicated in many communities by longstanding economic models in which EMS is entirely reliant on billings which arise only when an EMS transport to hospital actually occurs.[4]

The infrastructure required to provide such care, and the skill to deliver it in the spartan, often chaotic out-of-hospital environment makes EMS ideally suited as a focal resource in MIHP. EMS currently exists in virtually every community, is linked to all levels of care through its 24/7 capability for mobility and readiness, with an equipped workforce expert in planning, coordination and communications.

EMS systems also possess capital-intensive, difficult-to-replicate readiness infrastructure ideally suited to MIHP such 24/7 vehicle fleets, robust voice and data communications systems, portable biometric devices, electronic medical record systems and treatment equipment. Since much of this infrastructure possesses redundancies and excess capacity essential to emergency preparedness, EMS systems are easily scalable to absorb the additional loads arising from such a new mobile health strategy with minimal marginal cost.

When linked with request-for-service information from dispatch systems, geographic information systems and population health data, the existing EMS infrastructure provides a powerful tool for launching and supporting MIHP.

Even the experiences of EMS systems themselves demonstrate the mismatch and inefficiencies of traditional care models. Previous studies have reported that up to 34% of Medicare patients transported by EMS to an ED could have been safely treated in an alternative setting.[10] A draft white paper jointly published by the US Departments of Transportation and Health and Human Services cites that approximately 15% of all Medicare EMS transports to an emergency department could be considered avoidable visits if EMS triaged or transported to a clinic-based

provider. [11] Further, in most EMS systems, between 20 and 30% of EMS emergency responses do not result in a transported patient for a variety of reasons, including patient refusal of care against medical advice, on-scene treatment without transport, and calls where the incident failed to produce a treatable patient. [12]

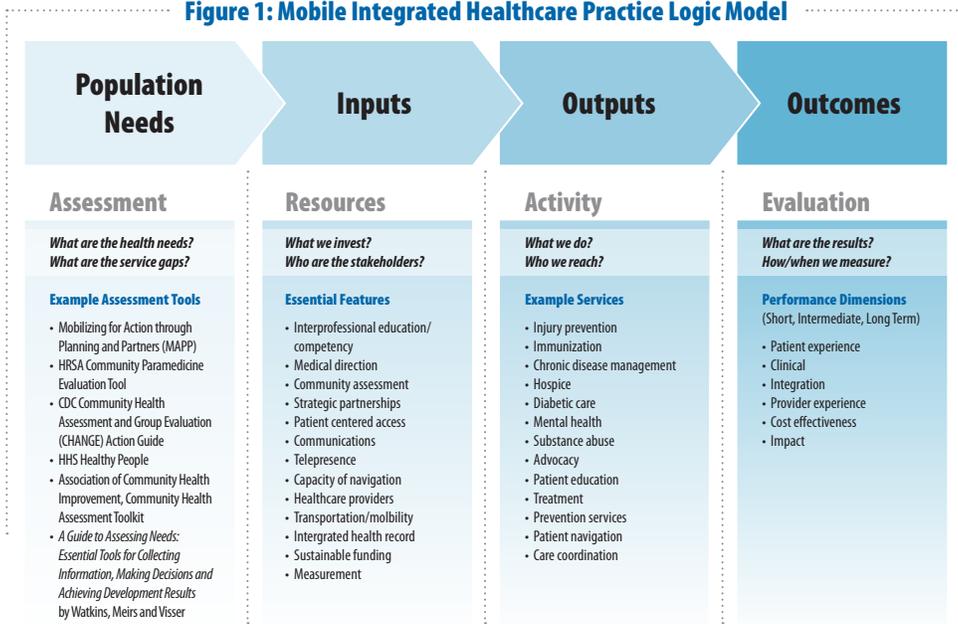
In some communities, regulatory change will be required to maximally leverage the EMS system in a historically unconventional role for non-emergent healthcare delivery. The classic role and expectation of EMS providers, regulatory constraints, payment structures and a skill set focused on intervention in specific medical emergencies have all prevented EMS from fully participating in more comprehensive health care delivery. In nearly all communities, EMS providers—and EMS systems themselves—operate in obsolete and restrictive regulatory frameworks designed 40 years ago or more. For instance, many state’s regulations prohibit EMS resource from assisting any patient other than those who chose to call 9-1-1 as their point of entry to care. In addition, most EMS systems are funded by fees charged for transportation to the hospital rather

than for effective clinical services,[4, 13, 14] an incentive structure which actually contributes to waste and missed opportunities in health care delivery.

We recognize that EMS may not play a central role in certain austere environments such as those where emergency medical service is provided solely by volunteers or other scenarios. In these settings, local public health agencies, hospitals and primary care practitioners may need to play a pivotal role in the design of MIHP, but the infrastructure provided by those systems will be of value.

**Finally, MIHP will require evolution in the skills of its care providers. Regardless of an individual professional’s previous training and experience, it is anticipated that MIHP will require additional competencies to address the highly inter-professional nature required within MIHP, how MIHP integrates care, and how its technologies facilitate patient care goals. [15] Competencies and curricula for MIHP must support the philosophy, essential features and tenets of this new practice model.**

**Figure 1: Mobile Integrated Healthcare Practice Logic Model**



## Conclusion

Mobile Integrated Healthcare Practice is a strategy framework to redesign current mobile healthcare through inter-professional collaboration and repurposing of existing healthcare infrastructure. MIHP programs are characterized by leverage of resources such as the existing EMS system in new partnerships with the larger healthcare community to support timely care and effective patient navigation in 24/7 care brought to the patient.

The MIHP approach differs from existing out of hospital care programs in its synchronized multi-provider patient-driven partnerships, defined by local needs and resources. It responds to the growing evidence that “single-provider/single agency” care models will not optimize expertise for patient results, will be too limited in capacity, and are unlikely to be financially sustainable.

We urge stakeholders, relevant national organizations, agencies and patients to develop working groups with content expertise to further define the components of MIHP, design needs analysis tools, formulate performance metrics, and define provider competencies and curricula based on the MIHP tenets of practice.

**Figure 2: MIHP Performance Dimensions**

Patient Experience	Clinical	Integration	Provider Experience	Value	Impact
Patient Safety	Physiology	Technology, HIE	Provider Satisfaction	Savings	Population Health
Patient Satisfaction	Disease/Health Status	Coordination	Practice Efficiency	Navigation	
Patient Self Management	Health Literacy	Interprofessional Practice	Practitioner Clinical Efficacy		
Access/Timeliness of Care	Prevention				
Health Equity					

Mobile Integrated Healthcare Examples of MIHP		EMS	Call Center	Hospital	Primary Care	Mental Health/Detox	Cardiology	Pharmacy	Telemonitoring	Assisted Living	Hospice
Location	Impacts										
<b>American Medical Response</b> Arlington, TX	Reducing CHF readmissions	◆		◆	◆						
	Decrease utilization of EMS by high utilizers	◆		◆	◆						
<b>University of Chicago Medicine</b> Chicago, IL	Reducing CHF Admissions	◆		◆	◆		◆	◆	◆	◆	
	Reducing Hospice Revocation	◆			◆						◆
<b>MedStar Mobile Healthcare</b> Fort Worth, TX	Decrease utilization of EMS by high utilizers	◆	◆	◆	◆						
	Reducing CHF readmissions	◆	◆	◆	◆		◆				
	Decrease utilization by patients who fall	◆	◆	◆	◆						
<b>Wake County EMS</b> Raleigh, NC	Decrease utilization by patients with substance abuse and mental illness	◆	◆	◆		◆					
	Reducing CHF, AMI, COPD, and pneumonia readmissions	◆		◆	◆		◆				

This January, 2012 report looks at Medstar Mobile Helathcare's Mobile Integrated Healthcare practices. Explanations of services provided, program data, and operations are provided as well as adoption considerations.



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Service Delivery Innovation Profile

## Trained Paramedics Provide Ongoing Support to Frequent 911 Callers, Reducing Use of Ambulance and Emergency Department Services

[Innovation](#)

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[What They Did](#) | [Did It Work?](#) | [How They Did It](#) | [Adoption Considerations](#)

### Snapshot

#### Summary

The Area Metropolitan Ambulance Authority (more commonly known as MedStar), an emergency medical service provider serving the Fort Worth, TX, area, uses mobile health care paramedics to provide in-home and telephone-based support to patients who frequently call 911 and to other patient populations who are at risk for potentially preventable admissions or readmissions. Working as part of MedStar's Mobile Integrated Healthcare Practice, these paramedics conduct an indepth medical assessment, develop a customized care plan based on that assessment, and periodically visit or telephone the patient and family to support them in following the plan. Support generally continues until they can manage on their own. Four additional similar programs serve individuals with congestive heart failure, patients who can be managed transitionally at home versus an overnight observational admission in the hospital, in-home hospice patients who are at risk for hospice revocation, and as a support for home health agencies to prevent unnecessary visits to the emergency department. These programs have significantly reduced the number of 911 calls, the number of potentially preventable emergency department visits and hospital admissions, the number of overnight observational admissions, and the number of hospice revocations, leading to declines in emergency medical services and emergency department charges and costs, and freeing up capacity in area emergency departments.

See the Results section for updated data on the decline in ambulance and emergency department usage, charges, and costs, as well as results related to congestive heart failure and hospice patient admissions; the Planning and Development section for information about paramedic training, a hospice partnership, and a pilot test with home health patients; the Resources section for updated staffing information; the Funding section for updated information about program funders; and the Recognition section for awards presented to MedStar.

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

**Moderate:** The evidence consists of pre- and post-implementation comparisons of 911 calls from program participants, along with estimates of the cost savings generated and emergency department capacity freed up as a result of the reduction in calls.

#### Developing Organizations

Area Metropolitan Ambulance Authority, d/b/a MedStar Mobile Healthcare  
Fort Worth, TX

#### Use By Other Organizations

As of December 2013, approximately 104 other EMS programs from across the U.S. and five international communities have visited MedStar in the past 36 months to learn more about these programs.

#### Date First Implemented

2009

#### Patient Population

The program serves people who frequently call 911 in situations not considered to be an emergency, patients who call 911 with low-acuity medical complaints, patients at risk for potentially preventable admissions or readmissions, and patients at risk for hospice status revocation.

#### Problem Addressed

Inappropriate calls to emergency medical service (EMS) providers and unnecessary use of the emergency department (ED) occur frequently. Typically, a handful of "super users" accounts for a disproportionate share of the problem. These individuals generally lack health insurance and a medical home and face multiple barriers to care, causing them to repeatedly turn to EMS providers and local EDs with problems that could have been prevented or do not require immediate care by EMS or ED staff. Other patient populations responsible for inappropriate calls to the ED include those with non-urgent (also known as low-acuity) problems, those with chronic conditions (such as congestive heart failure, or CHF) that can be managed in an

#### Contact the Innovator



Matt Zavadsky

#### Look for Similar Items by Subject

- Setting of Care:**
  - Ems/emergency transport
- Patient Care Process:**
  - Assessment
  - Improving patient self-management
- Quality Improvement Goals and Mechanisms:**
  - Avoidable hospitalizations
- Organizational Processes:**
  - Referrals
  - Staffing
- Developer:**
  - Area Metropolitan Ambulance Authority, d/b/a MedStar Mobile Healthcare
- Funding Sources:**
  - Area Metropolitan Ambulance Authority

outpatient setting, those who are admitted on an "observational" basis but whose needs are social or environmental rather than medical, and those with terminal illness who may prefer to die at home. These inappropriate calls result in higher costs and the diversion of valuable resources away from true emergencies.



- **High utilization, dominated by a few (often uninsured) users:** A few super users often account for a disproportionate share of 911 calls and ED visits. In 2009, MedStar found that 21 patients had been transported to local EDs a total of 800 times over a 12-month period, generating more than \$950,000 in ambulance charges and even larger ED expenses. Most of these individuals did not have health insurance and relied on EMS and local EDs for health services. Other cities have found similar problems. For example, the Tucson Fire Department identified 50 individuals who accounted for more than 300 nonemergency 911 calls over a 12-month period.<sup>1</sup>
- **Calls often for non-urgent needs or for needs that the ED is not equipped to handle:** Various studies have found that between 11 and 52 percent of 911 calls come from individuals who do not face serious health problems.<sup>2</sup> Many ED visits by super users and other patients are for conditions that should be treated in a primary care setting, including acute upper respiratory infections, viral infections, otitis media, and acute pharyngitis. Still other patients may routinely call 911 and visit the ED with exacerbations of chronic conditions (such as CHF) that could be avoided with adequate ongoing care, or with psychosocial problems that cannot be effectively treated in the ED, such as alcohol or drug dependency and depression. In some cases, patients are observationally admitted for reasons that may be social or environmental in nature. In other cases, patients at the end of life may be taken to the ED (resulting in a revocation of their hospice status) when they would have preferred in-home, less aggressive measures.
- **High costs, diverted resources, little lasting value for callers:** Handling nonemergency calls raises the costs of providing EMS and ED services and diverts scarce resources away from true emergencies, leading to longer response times. In addition, although those who respond to these cases can resolve the immediate problem(s), they lack the resources and knowledge to educate the individual about appropriate self-management and the many community-based resources (e.g., home health care, behavioral health services, public health clinics, substance abuse services) that could better address their needs in the future.

## What They Did

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### Description of the Innovative Activity

MedStar uses a registered nurse (RN) in its 911 center to work with 911 callers who call with very low acuity calls to find more appropriate resources than an ambulance response to an ED. In addition, mobile health care paramedics provide in-home and telephone-based support to patients who (a) frequently call 911 or call 911 for low-acuity medical complaints, (b) are at risk for CHF-related readmission, (c) can be referred to monitored home care as opposed to observational admission, or (d) are at risk for hospice status revocation. The paramedics conduct an in-depth medical assessment, develop a customized care plan based on that assessment, and periodically visit or telephone the patient and family to support them in following the plan. Support generally continues until they can manage on their own. Key program elements are described below:

- **Identification of eligible individuals:** MedStar identifies eligible individuals in various ways, including a pre-defined 911 call intake protocol, internal analysis (a monthly report lists those with 10 or more 911 calls in the past month) and referrals from ED case workers at local hospitals, other first-responder agencies, and MedStar employees working in the field. Currently, the high-user program serves those who have called 911 at least 15 times in the past 90 days or who meet other criteria used by hospitals to identify and refer frequent ED users. (Those close to this threshold may be tagged as someone to monitor for enrollment at a later date.) For the CHF program, staff at local cardiac intensive care units (ICUs) identify and refer patients who are at risk for bounce-back to the ED within 30 days or who could benefit from ongoing support; these patients need not meet the 15-call threshold. In June 2012, MedStar added a 911 Nurse Triage program to the Patient Navigation program, using an RN in the communication center to receive low-acuity 911 calls and help navigate callers safely to a patient-centered medical home.
- **Brief enrollment visit:** Anyone deemed eligible for the program receives a telephone call or visit from a mobile health care paramedic, either at home or in the hospital. The paramedic explains the benefits of the program to the patient and his or her family members and other caregivers. Those interested sign a consent form authorizing the sharing of relevant information with appropriate parties.
- **In-depth medical assessment:** The mobile health care paramedic conducts a 1.5- to 2-hour in-home visit with the patient, family members, and caregivers. The visit includes a full medical assessment, including checking vital signs, blood glucose levels, oxygen saturation levels, and other key indicators. During the visit, the paramedic reviews the following:
  - Current medication use, making note of any potential problems (e.g., taking two or more medications for the same condition, potential drug-drug interactions) to be discussed with the prescribing physician(s).
  - Any chronic conditions the patient may have, focusing on appropriate self-management of those conditions and related comorbidities.
  - Existing support and resources available to the patient and family, including financial resources, insurance coverage, and access to nonemergency medical care (including primary care and home health care), mental health services, transportation, and other relevant social services.
  - Assessment of the patient's ability to manage his or her own health care. Patients are given the EuroQol (EQ-5D) Health Assessment Questionnaire to rate current health status and ability to manage his or her health care needs. This same assessment is given to the patient at the end of enrollment to see how the assessment has changed.
- **Individualized care plan based on assessment:** The mobile health care paramedic who conducted the review works with the patient and family to develop an individualized care plan that outlines their needs and responsibilities related to managing the patient's health and health care on an ongoing basis. As part of this process, the mobile health care paramedic may talk with other providers who serve the patient (as identified in the assessment), including primary care clinicians and mental health care providers. The resulting plan includes concrete steps to be taken by the paramedic to help in accessing needed resources, such as securing insurance coverage or other financial resources and linking the patient and family to county hospital-affiliated clinics and other local agencies and resources that serve low-income and uninsured individuals (e.g., transportation, home health care, hospice, Meals on Wheels). The plan also includes mutually agreed on goals for the patient and family to manage the patient's health, such as checking his or her blood pressure or blood glucose levels, eating an appropriate diet, exercising more regularly, taking medications appropriately, and scheduling and attending needed appointments. The patient and family members receive a copy of the care plan, and the plan is also entered into

the patient's electronic medical record (EMR) where it can be accessed by mobile health care paramedics and other authorized providers as appropriate.

- **Ongoing support via home visits and telephone calls:** Based on the needs identified in the care plan, a mobile health care paramedic conducts periodic 30- to 60-minute home visits with patients, with the frequency of visits determined by need. (The same paramedic may not conduct each visit, but all have access to the patient's information, and most know all patients enrolled.) Visits initially occur two or three times a week, with the frequency tapering off to one or two visits a week over time. The mobile health care paramedic may make telephone calls instead of in-person visits if the patient is making adequate progress. Visits provide an opportunity to ensure that the patient and family are following the plan. As appropriate, the paramedic will intervene, providing referrals and support in accessing needed services. For many patients, visits also provide an opportunity for much needed social interaction. All mobile health care paramedic contacts with patients are entered into the patient's EMR, including current vital signs, medications, and other relevant information. Patients are also given a 10-digit telephone number to call to request a mobile health care paramedic home or telephone visit as an alternative to calling 911.
- **Special protocols for patients with CHF:** Mobile health care paramedics who work with CHF patients are able to take point-of-care blood values (e.g., blood urea nitrogen [BUN], potassium levels) at the patient's side and use standing order protocols to adjust doses of diuretic medications based on a patient's weight gain and other indicators. The paramedic, in consultation with the patient's primary care physician and EMS medical director, can also use intravenous diuretic therapy in the home with a 3- to 5-hour reassessment home visit and an appointment with the primary care physician within 1 day.
- **Multiple paths for leaving the program:** At some point, patients receiving services (designated "active" patients) formally leave the program. This process can occur in several ways, as outlined below:
  - **"Graduating" from the program:** Most patients successfully graduate, which occurs when both the patient and the mobile health care paramedic believe that the patient can effectively manage his or her own health and health care without proactive support. Part of that assessment is the use of the EuroQol (EQ-5D) Assessment of Health Status. Graduation typically occurs in about 30 to 60 days, with the shortest time being 2 weeks and the longest time being 6 to 8 months. Graduates can call a special 24-hour nonemergency number that will trigger a paramedic or ambulance visit within an hour to check on their well-being and an intervention as necessary. Before graduating, some individuals may be placed on "watch" status, which means they are almost ready to graduate, but their 911 use remains elevated or has recently increased, suggesting they still need some support.
  - **Designation as a system abuser:** Those who do not change their habits and continue to call 911 repeatedly may be transitioned into another program. These individuals are either designated as "pending system abusers," meaning they do not have any medical issues that require ongoing care, or as "system abusers," meaning they have ongoing medical issues. If an abuser calls 911, the mobile health care paramedic responds to the call (in addition to the regular response team) to conduct a full medical evaluation and then works with the medical director to determine the right course of action. System abusers are assigned to a designated home hospital; whenever they call 911, the ambulance takes them to that facility so they can be monitored by providers familiar with their condition.
- **Regular case discussions with hospital caseworkers:** Once or twice a month, MedStar's Mobile Healthcare Program coordinator meets with hospital, ED, and cardiac ICU caseworkers to discuss patients enrolled in the program. The caseworkers provide information on recent ED visits or hospitalizations, including diagnoses, treatments and tests performed, medications prescribed, and discharge and followup instructions. This information, which is entered into the EMR, helps the mobile health care paramedics determine the appropriate level of ongoing support and identify those who may be abusing the system by seeking care (e.g., medications) at multiple facilities. The Mobile Healthcare Program coordinator also shares relevant information with hospital-based caseworkers about recent contacts that the mobile health care paramedics have had with patients.
- **Ongoing monitoring via electronic database:** The coordinator regularly reviews an electronic database to check on the progress of individual patients and update classifications as appropriate. This information is regularly shared with the associate medical director.

### Context of the Innovation

The Area Metropolitan Ambulance Authority, also known as MedStar, operates as the sole provider of emergency and nonemergency ambulance service for 15 cities in Tarrant County, TX, including Fort Worth. More than 880,000 people live in this area, making roughly 117,000 calls to 911 a year that are handled by a fleet of 54 MedStar ambulances. The impetus for this program came from MedStar's current medical director (associate director at the time), who in preparing for another busy summer season in 2009, began thinking about how the organization could better serve 911 callers who repeatedly use the system for non-urgent situations. He knew many of these individuals personally and felt that the current approach did not serve them or the community well.

### Did It Work?

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### Results

**These programs have significantly reduced the number of 911 calls and redirected some low-acuity calls to other, more appropriate dispositions, leading to declines in EMS and ED charges and costs, and freeing up capacity in area EDs.**

- **Significant decline in ambulance and ED use:** Information provided in December 2013 indicates that for the 911 Nurse Triage Program between June 1 and November 30, 2013, 485 patients who called 911 with low-acuity medical conditions were successfully referred to dispositions other than an ambulance to the ED. Between the formal launch in July 2009 and November 2013, 911 calls from the program's 141 enrollees fell by 66.2 percent during enrollment and by 86.7 percent for the 12 months following graduation from the programs (updated December 2013).
- **Corresponding declines in EMS and ED charges and costs:** The decline in calls has led to a corresponding drop in MedStar's charges and health care system expenditures for ambulance services, with the program leading to savings of \$321,500 in ambulance and ED charges (\$2,572 per patient). Data on 50 patients with 12-month pre-enrollment and post-graduation data available revealed that annualized EMS transport charges for these patients fell by more than \$1.18 million, representing \$23,637 annual savings per patient enrolled (updated December 2013). Based on information provided by area EDs, MedStar estimates similarly large declines in ED charges and costs for patients transported by MedStar to area EDs, with charges falling by nearly \$9 million and costs by more than \$1 million. (The large difference between charges and costs stems from the many uninsured patients being served and the low rate of reimbursement by public payers, particularly Medicaid. Consequently, full charges are set at a level that allows adequate collections to cover costs.)

- **Freed-up ED capacity:** MedStar estimates that the decline in the number of patients being transported by ambulance has freed up more than 14,000 bed hours at area EDs, allowing these capacity-constrained facilities to better serve those facing real emergencies.
- **Avoidance of CHF readmissions:** Under the new CHF enrollment protocol launched in June 2012, 24 patients at risk for CHF-related readmissions have been enrolled in the program. For these 24 patients, there have not been any 30-day readmits and, in fact, only one cardiac-related ED visit. The diuresis protocol has been used 14 times in the most recent 6 months. (Updated December 2013.)
- **Positive results from the hospice pilot test:** Of the 112 patients who have been enrolled in the hospice program, only 5 have required admission to the hospital. In two of those cases, the patient was directly admitted from the field to a hospice bed in the hospital, so no revocation of hospice status occurred because of the ED visit. (Updated December 2013.)

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

**Moderate:** The evidence consists of pre- and post-implementation comparisons of 911 calls from program participants, along with estimates of the cost savings generated and emergency department capacity freed up as a result of the reduction in calls.

**How They Did It**

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**Planning and Development Process**

Key steps included the following:

- **Quick analysis to document the problem:** To test his theory, the then associate medical director ran a quick analysis and found that 21 patients accounted for more than 800 calls in 2008, with the vast majority being for primary care and other non-urgent needs.
- **Pilot test with a subset of patients:** MedStar reviewed information on the 21 identified individuals and enrolled 9 of them in a 60-day pilot test of the program. These individuals had a long history with and were very familiar to MedStar staff. During the trial, two paramedics on "light duty" (owing to their recovering from an injury) who had experience in primary care served as the mobile health care paramedics. The test proved quite successful, leading to a 77-percent reduction in monthly 911 calls.
- **Funding plan to support rollout:** Because home visits and other services provided as part of the program are not eligible for reimbursement by third-party payers, MedStar lacked a funding source to cover the costs of shifting paramedic time from their traditional duties to program activities. To address this issue, MedStar leaders decided to "marry" the Mobile Healthcare Program to a new critical care transport program, a service not previously offered by MedStar that involves transporting critically ill patients from facilities that cannot adequately care for them (usually in outlying areas) to those that can (often tertiary facilities in urban areas).
- **Paramedic training:** The Mobile Healthcare Paramedics complete a specialized 80-hour classroom and 80 hours of field training. The program focuses on the core concepts of patient navigation, motivational interviewing techniques, and the resources available in the community to help patients better manage their health care. (Updated December 2013.)
- **Partnerships with community-based organizations:** MedStar leaders forged partnerships with community-based organizations serving the same population, including hospitals, EDs, the county health department, the local Medicaid office, mental health organizations, home health and hospice agencies, and Meals on Wheels. They first met with organizational leaders to explain the program and gain their buy-in, and then discussed how the mobile health care paramedics could coordinate with them on an ongoing basis, including how each party should make referrals to the other.
- **Expansion to patients with CHF and other chronic conditions:** In September 2010, the program expanded to serve CHF patients. The CHF program continues to evolve, as MedStar leaders have worked with local cardiologists to develop the aforementioned standing order protocols that allow mobile health care paramedics to adjust medication doses. Now that the CHF model has been "perfected," MedStar leaders hope to use the same basic approach to support those with other conditions that frequently lead to EMS and ED use, such as chronic obstructive pulmonary disease, asthma, pneumonia, and diabetes.
- **Hospice partnership:** MedStar has formalized the successful pilot to help ensure that hospice patients stay in hospice without voluntary disenrollment or involuntary program revocation by the hospice agency. Ninety-seven patients identified by the hospice agency as at-risk for voluntary disenrollment or revocation have been enrolled in the program with only 11 (11.3 percent) actually disenrolling from hospice. (Updated December 2013.)
- **Pilot test with home health patients:** In partnership with local home health agencies, MedStar is conducting a pilot test in which mobile health care paramedics support patients and families receiving in-home care by providing back-up services to the home health agency for night and weekend coverage. Additionally, new home health enrollees who the agency feels might be at risk for calling 911 and being readmitted to the hospital are identified in MedStar's 911 computer-aided dispatch system. If the patient calls 911, the ambulance and mobile health care paramedic respond to the scene, and the home health agency is immediately notified of the response. Once on scene, the mobile health care paramedic works with the home health agency to determine the most appropriate outcome for the patient. (Updated December 2013.)

**Resources Used and Skills Needed**

- **Staffing:** The program has 5.5 full-time equivalents allocated to it. Managers and directors (e.g., medical directors, operations managers) participate in program-related duties as part of their regular job responsibilities. One mobile health care paramedic is on duty at all times (7 days a week, 24 hours a day), with one additional mobile health care paramedic working 10 hours each weekday to assist with home visits (updated December 2013). Mobile health care paramedics, however, do not spend all of their shift time on the Mobile Integrated Healthcare Program, as some time goes to critical care transports and other duties.
- **Costs:** The program required an upfront outlay of roughly \$46,000 to buy and equip a response vehicle for the mobile health care paramedics. This vehicle houses specialized equipment and computer technology, including monitors. Other upfront costs included the time spent by paramedics in training, while ongoing costs include uniforms and supplies for the paramedics. Ongoing costs are \$560,000 annually.

**Funding Sources**

Area Metropolitan Ambulance Authority  
 The program was initially funded internally by MedStar, but the agency has recently engaged in fee-for-service agreements with a local accountable care organization for the Observation Admission Avoidance Program, a hospice agency for the Hospice Revocation program, and with three local hospitals for the 911 Nurse Triage program. MedStar has initiated expanded enrollment of Medicaid and unfunded patients in partnership with two local hospitals under an 1115a

Waiver Delivery System Reform Incentive Payment program with the local regional health care plan to expand the program resources to enroll 5,500 additional patients over 3 years. That funding amount is \$3.5 million over 3 years. In addition, the home health partnership is funded by the home health agency at a fee per patient contact (updated December 2013).

The 911 Nurse Triage program is being jointly funded by MedStar and three area hospital systems, with the hospital systems sharing equally in the cost of the nurse and MedStar providing the technology and infrastructure.

#### **Tools and Other Resources**

More information on the program can be found at [www.medstar911.org/community-health-program](http://www.medstar911.org/community-health-program) .

#### **Adoption Considerations**

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#### **Getting Started with This Innovation**

- **Consider the financial implications:** This program can present financial challenges, because it provides services (e.g., in-home visits) that are often not covered by payers and, if successful, eliminate some EMS transports that potentially would have been reimbursed. MedStar has thus far found revenue losses to be fairly minimal, because most people served by the program lack insurance or are covered by a payer that either does not reimburse or pays very little for ambulance transports in nonemergency situations. As noted, MedStar leaders decided to couple the program with a new revenue-producing one (critical care transports) to make the finances work.
- **Identify community needs:** The population served by this program will have different needs in every community. Consequently, potential adopters need to survey the local environment to understand the situation faced by heavy users of 911 services and the community resources available to serve them.
- **Begin with a small pilot test:** Testing the program with a small group of patients provides an opportunity to build relationships with patients and potential community partners. Over time, the various organizations serving these individuals will come to realize that they can and should depend on each other.

#### **Sustaining This Innovation**

- **Continue investing in partnerships:** Ongoing communication based on transparency, honesty, and respect is critical to keeping partners together. In particular, the various organizations must honor their commitments to each other. MedStar has forged good relationships with virtually all key stakeholders, including four competing hospitals that have a tense relationship with each other, but freely share data and collaborate with MedStar.
- **Approach payers about funding support:** Third-party payers may be interested in supporting the program once they understand how it can benefit them. To that end, MedStar leaders plan to meet with representatives of the three largest payers in the area to find out what aspects of the program would be most meaningful and beneficial to them (e.g., its ability to reduce EMS transports, ED visits, and hospitalizations). MedStar will then hire an independent party to evaluate and document the program's impact on these metrics, later sharing that analysis with the payers as part of a conversation about reimbursement.
- **Prepare for reimbursement changes:** As accountable care organizations, pay-for-performance systems, and other new payment and care delivery programs become a reality, health systems and other large provider organizations will increasingly take responsibility for covering EMS transport services (rather than traditional insurers). Consequently, those adopting this program should consider partnering with organizations that plan to participate in these new initiatives.

#### **Use By Other Organizations**

As of December 2013, approximately 104 other EMS programs from across the U.S. and five international communities have visited MedStar in the past 36 months to learn more about these programs.

#### **More Information**

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#### **Contact the Innovator**

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#### **Innovator Disclosures**

Mr. Zavadsky reported receiving travel expenses for various national conferences where he spoke on patient navigation programs relevant to the work described in the profile; in addition, information on funders is available in the Funding Sources section.

#### **Recognition**

In September 2013, EMS World and the National Association of Emergency Medical Technicians (NAEMT) named MedStar the Paid EMS Service of the Year. This award recognizes outstanding performance by a paid EMS service. More information on this honor is available at: <http://emsworld.epubxp.com/i/160224/87> .

In March 2013, MedStar was awarded an EMS-10 Innovator award by the Journal of Emergency Medical Services. These awards recognize individuals (and for the first time with this award organizations) who have contributed to EMS in an exceptional and innovative way. More information on this award is available at: <http://www.jems.com/EMS10> .

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**Footnotes**

<sup>1</sup> Referred services and alpha trucks: Norma Battaglia leads Tucson Fire Department toward response efficiency. JEMS. 2009 Apr;34(4):4-5.

<sup>2</sup> Dale J, Williams S, Foster T, et al. Safety of telephone consultation for "non-serious" emergency ambulance service patients. Qual Saf Health Care. 2004;13:363-73. [PubMed]

[Comment on this Innovation](#)

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**Original publication:** January 18, 2012.  
Original publication indicates the date the profile was first posted to the Innovations Exchange.

**Last updated:** January 29, 2014.  
Last updated indicates the date the most recent changes to the profile were posted to the Innovations Exchange.

**Date verified by innovator:** January 03, 2013.  
Date verified by innovator indicates the most recent date the innovator provided feedback during the annual review process. The innovator is invited to review, update, and verify the profile annually.

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# Appendix E:

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## *Prevention Overview*

### Appendix E1

#### Excerpt from: National Prevention, Health Promotion, and Public Health Council

#### 2014 Annual Status Report

This annual report issued by the Office of the Surgeon General is prepared by the National Prevention Council. The report provides a great overview of the landscape of prevention efforts in our country and gives a framework for the future of the field.

### Appendix E2

#### Excerpt from: Preventive Care: A National Profile on Use, Disparities, and Health Benefits

This report by the Partnership for Prevention brings attention to the importance of high-value preventive care which could save thousands of lives annually. Basic prevention efforts such as prophylactic use of aspirin by adults to prevent heart disease, smoking cessation support, and appropriate screenings for cancer can make the difference between life and death and urges communities to implement the policies and practices necessary to make improvements.

### Appendix E3

#### Excerpt from: Economic Argument for Disease Prevention: Distinguishing Between Value and Savings

This February, 2009 report by the Partnership for Prevention focuses on the economics of prevention and the return on investment of prevention strategies.



# NATIONAL PREVENTION STRATEGY

This annual report issued by the Office of the Surgeon General is prepared by the National Prevention Council. The report provides a great overview of the landscape of prevention efforts in our country and gives a framework for the future of the field.



2014

# National Prevention, Health Promotion, and Public Health Council

ANNUAL STATUS REPORT

July 1, 2014



# National Prevention, Health Promotion, and Public Health Council Members

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*United States Public Health Service*

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# National Prevention Council: An Overview

The 2014 Annual Status Report highlights achievements of the National Prevention, Health Promotion, and Public Health Council (National Prevention Council). The National Prevention Council leverages the work of 20 executive departments and agencies to align and integrate health and prevention into policies, practices, and programs. The Council engages leadership from across sectors to improve the health of the Nation and advance the [National Prevention Strategy's](#) goal to “increase the number of Americans who are healthy at every stage of life.” The Council’s work is informed by the [Advisory Group on Prevention, Health Promotion, and Integrative and Public Health](#) and by partners across the country working to advance the National Prevention Strategy. This report presents the Council’s progress implementing the National Prevention Strategy and highlights implementation efforts by public and private partners.

## National Prevention Council Commitments:

- Identifying opportunities to consider prevention and health within National Prevention Council departments and encouraging partners to do so voluntarily as appropriate.
- Increasing tobacco free environments within National Prevention Council departments and encouraging partners to do so voluntarily as appropriate.
- Increasing access to healthy, affordable food within National Prevention Council departments and encouraging partners to do so voluntarily as appropriate.

The National Prevention Council, created through the Affordable Care Act and chaired by the U.S. Surgeon General, provides coordination and leadership among 20 executive departments and agencies with respect to prevention, wellness, and health promotion activities. Such high-profile involvement demonstrates an unprecedented commitment to coordinated Federal action to address prevention and wellness. The National Prevention Council released the Nation’s first National Prevention Strategy in June 2011 with input from the Prevention Advisory Group, stakeholders, and the public.



FIGURE 1. National Prevention Strategy Framework

The National Prevention Strategy guides our Nation in identifying the most effective and achievable means for improving health and well-being. It prioritizes prevention by integrating recommendations and actions across multiple settings to improve health and save lives. Since many of the strongest predictors of health and well-being fall outside of the health care setting, the Strategy envisions a prevention-oriented society where all sectors recognize the value of health for individuals, families, and society and work together to achieve better health for all Americans.

The National Prevention Strategy identifies four Strategic Directions—the foundation for all prevention efforts—and seven targeted Priorities designed to improve health and wellness for all Americans (figure 1). It provides evidence-based recommendations for each Strategic Direction and Priority and supports [Healthy People 2020](#), a 10-year set of science-based National health objectives.

In June 2012, the Council released the [National Prevention Council Action Plan](#), which demonstrates how departments are implementing prevention efforts in line with their respective missions and identifies three shared commitments to accelerate prevention through the high-impact efforts of all National Prevention Council departments (see box). The National Prevention Council continues to advance its commitments by integrating health and wellness into policies, practices, and programs to achieve better health for all Americans.

In this report, National Prevention Council departments, agencies, and offices highlight innovative and collaborative accomplishments that are advancing the National Prevention Strategy and National Prevention Council Action Plan to impact the health of individuals, families, and communities across the country.

# Advisory Group on Prevention, Health Promotion, and Integrative and Public Health

The Advisory Group on Prevention, Health Promotion, and Integrative and Public Health (Prevention Advisory Group) brings a non-Federal perspective to the implementation of the National Prevention Strategy. The Presidentially appointed Prevention Advisory Group advises the National Prevention Council in developing public, private, and non-profit partnerships that will leverage opportunities to improve our Nation's health. Since its inception, the Prevention Advisory Group has successfully engaged in work that embraces the vision of the National Prevention Strategy with the intention of increasing the number of Americans who are healthy at every stage of life.

In 2013, the Prevention Advisory Group brought together leaders in health and education to develop recommendations for a public-private, multi-sector collaborative to support schools in creating the conditions for health for all students. As a result of these recommendations, a National steering committee was created to identify opportunities for the health and education sectors to contribute in ensuring that all children have the opportunity to be healthy and succeed academically and developmentally. For more about the Prevention Advisory Group, including their recommendations to the National Prevention Council, visit [www.surgeongeneral.gov/nationalpreventionstrategy](http://www.surgeongeneral.gov/nationalpreventionstrategy).

See Appendix A for examples of National Prevention Council initiatives (health-related and health-relevant metrics) that align with recommendations made by the Prevention Advisory Group.

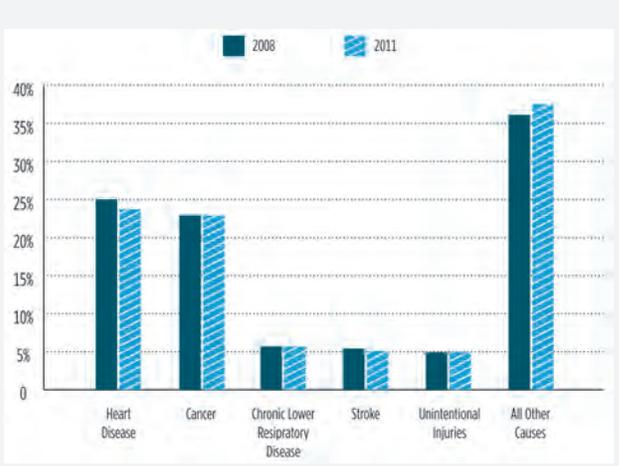
# The Health of the Nation: Leading Causes of Death

Although life expectancy and survival rates have improved dramatically in the United States over the past century, a National Research Council report released in 2013 found that Americans live shorter lives and experience more injuries and illnesses than people in other high-income countries (e.g., Australia, Canada, France, Japan). When compared with the global average, health outcomes in the United States are worse in the following categories: adverse birth outcomes, injuries and homicides, adolescent pregnancy and sexually transmitted infections, drug-related mortality, obesity and diabetes, heart disease, chronic lung disease, and disability.<sup>5</sup> Each year, these conditions account for millions of premature deaths among Americans. Most of these early deaths can be avoided, adding extra years of productivity and well-being for millions of people.

The National Prevention Strategy responds to these challenges by aligning and coordinating prevention efforts across disciplines, sectors, and institutions. This report showcases how the Federal Government and its partners are addressing ongoing public health challenges through innovation and collaboration to ensure all Americans live long and healthy lives.

U.S. data demonstrate that the five leading causes of death in 2011 remained the same as in 2008 (figure 2). Progress has been related to heart disease, the number one cause of death in both men and women. The proportion of deaths due to heart disease decreased by 1.3 percentage points from 25 percent in 2008 to 23.7 percent in 2011.<sup>6</sup>

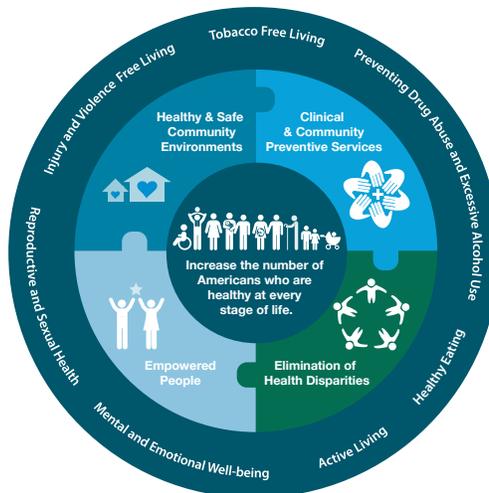
FIGURE 2. Leading Causes of Death, 2008 and 2011



<sup>5</sup> National Research Council. U.S. Health in International Perspective: Shorter Lives, Poorer Health. Washington, DC: The National Academies Press, 2013.

<sup>6</sup> [http://www.cdc.gov/nchs/data/dvs/2011\\_Final\\_Mortality\\_Data\\_Release.pdf](http://www.cdc.gov/nchs/data/dvs/2011_Final_Mortality_Data_Release.pdf). Accessed June 20, 2014.

# The Future of Prevention



National leadership is critical to creating a prevention-oriented society. The National Prevention Council will continue to prioritize prevention by collaborating across multiple settings to advance the National Prevention Strategy and improve the health of the Nation.

Achieving the National Prevention Strategy's vision and goal will require partnership from all sectors in American society. By acting together to implement the Strategic Directions and Priorities of the National Prevention Strategy, we can increase the number of Americans who are healthy at every stage of life.

The National Prevention Strategy's vision is *Working together to improve the health and quality of life for individuals, families, and communities by moving the Nation from a focus on sickness and disease to one based on prevention and wellness.*

The National Prevention Strategy's overarching goal is *Increase the number of Americans who are healthy at every stage of life.*

This report by the Partnership for Prevention brings attention to the importance of high-value preventive care which could save thousands of lives annually. Basic prevention efforts such as prophylactic use of aspirin by adults to prevent heart disease, smoking cessation support, and appropriate screenings for cancer can make the difference between life and death and urges communities to implement the policies and practices necessary to make improvements.

# Preventive Care:

*A National Profile on Use, Disparities, and Health Benefits*



Shaping Policies • Improving Health

# Preventive Care:

## *A National Profile on Use, Disparities, and Health Benefits*

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## Report Highlights

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This report demonstrates that there is significant underuse of effective preventive care in the United States, resulting in lost lives, unnecessary poor health, and inefficient use of health care dollars. All of the services examined in this report are extremely cost effective: they all provide an excellent return on investment. It is a national imperative to make these and other cost-effective preventive services affordable and accessible for all Americans.

Following up on the National Commission on Prevention Priorities' rankings that demonstrate the most valuable preventive services for the U.S. population, this report

- **Documents the use of preventive care** across the United States;
- **Estimates the health benefits** for the U.S. population of increasing the use of preventive services from current utilization rates to 90 percent;
- **Quantifies disparities in use of preventive care** by comparing the use of services by racial and ethnic groups to the white, non-Hispanic population; and
- **Gives special attention to cancer screenings** by estimating the lives that would be saved if breast, cervical, and colorectal cancer screening rates increased from current screening rates to 90 percent among racial and ethnic groups.

*Highlights of the report's findings follow:*

### LOW USE OF PREVENTIVE CARE COSTS LIVES

Utilization rates remain low for preventive services that are very cost effective and have been recommended for years. Increasing the use of just 5 preventive services would save more than 100,000 lives each year in the United States.

- 45,000 additional lives would be saved each year if we increased to 90 percent the portion of adults who take aspirin daily to prevent heart disease. Today, fewer than half of American adults take aspirin preventively.
- 42,000 additional lives would be saved each year if we increased to 90 percent the portion of smokers who are advised by a health professional to quit and are offered medication or other assistance. Today, only 28 percent of smokers receive such services.
- 14,000 additional lives would be saved each year if we increased to 90 percent the portion of adults age 50 and older who are up to date with any recommended screening for colorectal cancer. Today, fewer than 50 percent of adults are up to date with screening.
- 12,000 additional lives would be saved each year if we increased to 90 percent the portion of adults age 50 and older immunized against influenza annually. Today, 37 percent of adults have had an annual flu vaccination.

- 3,700 additional lives would be saved each year if we increased to 90 percent the portion of women age 40 and older who have been screened for breast cancer in the past 2 years. Today, 67 percent of women have been screened in the past 2 years.
  - Breast and cervical cancer screening rates were lower in 2005 compared to five years earlier for every major racial and ethnic group: White, Hispanic, African American and Asian women all experienced declines.
- 30,000 cases of pelvic inflammatory disease would be prevented annually if we increased to 90 percent the portion of sexually active young women who have been screened in the past year for chlamydial infection. Today, 40 percent of young women are being screened annually.

## **RACIAL AND ETHNIC DISPARITIES IN USE OF PREVENTIVE CARE**

In several important areas, use of preventive care among racial and ethnic groups lags behind that of non-Hispanic whites.

- Hispanic Americans have lower utilization compared to non-Hispanic whites and African Americans for 10 preventive services.
  - Hispanic smokers are 55 percent less likely to get assistance to quit smoking from a health professional than white smokers.
  - Hispanic adults age 50 and older are 39 percent less likely to be up to date on colorectal cancer screening than white adults.
  - Hispanic adults age 65 and older are 55 percent less likely to have been vaccinated against pneumococcal disease than white adults.
- Asian Americans have the lowest utilization of any group for aspirin use as well as breast, cervical and colorectal cancer screening.
  - Asian men age 40 and older and women age 50 and older are 40 percent less likely to use aspirin to prevent heart disease than white adults.
  - Asian adults age 50 and older are 40 percent less likely to be up to date on colorectal screening than white adults.
  - Asian women ages 18 to 64 are 25 percent less likely to have been screened for cervical cancer in the past 3 years than white women.
  - Asian women age 40 and older are 21 percent less likely to have been screened for breast cancer in the past two years than white women.
- Despite higher screening rates among African Americans for colorectal and breast cancer compared to Hispanic and Asian Americans, increasing screening in African Americans would have a bigger impact on their health because they have higher mortality for those conditions.

- If the 42 percent of African Americans age 50 and older up to date with any recommended screening for colorectal cancer increased to 90 percent, 1,800 additional lives would be saved annually. This is a rate of 26 per 100,000 African Americans age 50 and older, substantially more than the corresponding rates of 17, 15, and 15 per 100,000 additional lives saved for whites, Hispanics, and Asians, respectively.

## CONCLUSION

Low utilization rates for cost-effective preventive services reflect the lack of emphasis that our health care system currently gives to providing these services. Among the 12 preventive services examined in this report, 7 are being used by about half or less of the people who should be using them. Racial and ethnic minorities are getting even less preventive care than the general U.S. population.

Expanding the delivery of preventive services of proven value would enable millions of Americans to live longer, healthier, and more fulfilling lives. There is the potential to save more than 100,000 lives annually by increasing use of just 5 preventive services. It would also lead to more effective use of the nation's resources because the United States would get more value—in terms of premature death and illness avoided—for the dollars it spends on health care services.

# The Economic Argument for Disease Prevention: Distinguishing Between Value and Savings

A Prevention Policy Paper Commissioned by  
Partnership for Prevention

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Blue Cross and Blue Shield of Texas



## Introduction: The Problem and the Potential

The rising costs of health care pose a formidable challenge for policymakers. Health care already accounts for 16% of the gross domestic product (GDP) and is projected to increase to 25% by 2025.<sup>1</sup> According to the Congressional Budget Office, spending on health care is likely to accelerate because of an aging population, a rising burden of chronic diseases, and higher costs for pharmaceuticals and other treatments.<sup>2,3</sup> Increased spending will only exacerbate current stresses on the economy, employers, government programs, and the public. Many patients are foregoing health care, especially when they encounter higher medical costs. In addition, at a time when jobs and incomes are at risk,<sup>4,5</sup> the recession is likely to accelerate the growth of the number of uninsured Americans. Because of the depth and gravity of this crisis, policymakers are under mounting pressure to solve it.

An option of longstanding interest is prevention—interventions that prevent or delay the occurrence of the very diseases that drive these costs. There are three kinds of prevention. *Primary prevention* can be accomplished by modifying unhealthy behaviors (e.g., smoking, physical inactivity), which cause many diseases and account for 38% of all deaths in the United States,<sup>6</sup> administering immunizations to prevent infectious diseases, and reducing exposure to harmful environmental factors. *Secondary prevention* can reduce the severity of diseases, such as cancer and heart disease, through screening programs that detect the diseases or their risk factors at early stages, before they become symptomatic or disabling. *Tertiary prevention*—the effort to avoid or defer the complications of diseases after they have developed—is the current focus of medical care.

The *health* benefits of prevention are intuitive—it is wiser to prevent a disease than to face its consequences at a more advanced stage—but for many years policymakers, politicians, and professionals have also advanced the *economic* argument that prevention saves money. Enthusiasm for prevention has become prominent in health care reform discussions in Congress and was a theme during the 2008 presidential election. Prevention is seen as the touchstone of a redesigned system focused on improving health outcomes.<sup>7</sup> Prevention advocates have emphasized that it will save money, arguing that prevention is not only good for health but also a means to control spending.<sup>8,9</sup> The Trust for America's Health reported that prevention programs could save the country more than \$16 billion annually within five years, a return of \$5.60 per dollar invested.<sup>10</sup> The Commonwealth Fund estimated that reduced tobacco use and a decline in obesity would lower national health expenditures by \$474 billion over 10 years.<sup>11</sup>

Whether prevention does save money has been a running debate for decades. As long ago as 1986, in the book *Is Prevention Better than Cure?*, Rutgers economist Louise Russell argued that prevention rarely reduces costs.<sup>12</sup> The issue resurfaced recently as policymakers embraced prevention as a means for controlling spending. In October 2007, Russell reprised her message that prevention rarely saves money in a report for the National Coalition for Health Care,<sup>13</sup> and she did so again in a recent commentary.<sup>14</sup> Cohen et al, in a February 2008 *New England Journal of Medicine* article directed at the 2008 presidential candidates, argued that prevention is inherently no more cost effective than conventional medical care.<sup>15</sup> In April 2008, an article in the same journal described primary prevention as having the “lowest potential” among policy options for cost savings.<sup>16</sup> These findings were picked up by the news media. An April 2008

*Washington Post* article used the headline, “Some candidates disagree, but studies show it’s often cheaper to let people get sick.”<sup>17</sup> An August 2008 *Newsweek* article warned that “the conventional wisdom is wrong: preventive-care programs usually result in higher payouts, not lower ones.”<sup>18</sup> An October 2008 *New York Times* op-ed called prevention a “campaign myth.”<sup>19</sup>

The purpose of this paper is to help make sense of these diverse perspectives, offer a clearer answer to the policymaker’s question of whether and when prevention saves money, and clarify what saving money really means. We argue for refocusing the question on value—in health and economic terms—to properly weigh the merits of prevention, and we review the evidence about the benefits and costs of prevention. Finally, we note that the logic for emphasizing value is not just for prevention but for all of health care.

## Conclusions

The unsustainable growth in health care spending in the United States underscores the urgency of adopting a new perspective that strives to maximize economic value throughout the health sector. The untenable prospect of continuing to spend more than other countries for less favorable results calls for a new approach focused on producing better health outcomes and spending health care dollars more wisely. As part of that approach, there is every reason to invest in a well-defined package of preventive services that are recognized as effective in preventing disease and offer good economic value. This February, 2009 report by the Partnership for Prevention focuses on the economics of prevention and the return on investment of prevention strategies.<sup>1</sup> The few services that yield net savings—be they prevention or disease treatment—are obvious priorities, but the greatest gains will occur by shifting spending to services that maximize value while eschewing services with the lowest health benefit per cost. As a matter of economic security and ethics, it grows more troubling to continue debating the economic value of prevention while excusing the remainder of medical care from such scrutiny.

# Appendix F:

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## *Existing Programs*

### Appendix F1 Medstar Mobile Healthcare Fort Worth, TX

Medstar is a leader in healthcare delivery innovation. The portions of their program which are germane to CPI (High Utilizer services and Hospice Revocation Prevention) are summarized in the following pages. Data on their program's impact on the health of their patients is also included.

### Appendix F2 Various

Mobile Integrated Healthcare, Community Health, and Community Paramedic programs have been initiated by several communities across the United States. In this appendix, we provide a few examples: Kent Fire Department (Kent, WA), McKinney Fire Department (McKinney, TX), North Memorial (Robinsdale, MN), Reno EMS Agency (Reno, NV), and Wake County EMS (Wake County, NC).

# Program Overview – High Utilizer 9-1-1/Emergency Department Patients

## Background

MedStar Mobile Healthcare has been operating a Community Health Program (CHP) using Mobile Healthcare Practitioners (MHP) since July 2009. Patients who have graduated from the CHP have experienced an 84.3% reduction in emergency department (ED) use for the 12 months post-graduation compared to the 12 months pre-enrollment. MedStar works together with the patient and numerous healthcare and community-based providers to reduce the incidence of preventable ambulance responses and ED visits.

Medstar is a leader in healthcare delivery innovation. The portions of their program which are germane to CPI (High Utilizer services and Hospice Revocation Prevention) are summarized in the following pages. Data on their program's impact on the health of their patients is also included.

## Program Components

### Patient Education & Scheduled Home Visits:

An enrolled patient receives a series of home visits conducted by a specially trained MedStar Mobile Healthcare Practitioner (MHP). These home visits are designed to:

1. Educate the patient and patient's family on the appropriate ways to manage their healthcare needs. The patient is also assessed for possible enrollment in various healthcare and community-based programs to help meet the patient's clinical, social and/or behavioral health needs. This includes:
  - a. Medication compliance
  - b. Healthy lifestyle changes
  - c. Nutritional support
  - d. Home environment/safety needs
  - e. Behavioral health support
2. Educate the patient how to utilize their primary/specialty care network to help manage their medical needs. This includes:
  - a. When to call for an appointment
  - b. How to call for an appointment
  - c. Important information to share with care providers
  - d. How to utilize transportation services

During the intake visit, the patient is also asked to assess their own health status using the EQ-5D-3L process by EuroQol.

### Unscheduled Home Visits:

The patient is provided a 10-digit, non-emergency access number for the MedStar Mobile Healthcare Provider in the event they would like a phone consultation or an unscheduled home visit between scheduled visits.

### 9-1-1 Responses:

Enrolled patients are tracked in MedStar's 9-1-1 computer aided dispatch (CAD) program. In the event of a 9-1-1 call to the residence, the normal EMS system response is initiated, but the MHP is also dispatched to the scene. Once on-scene, the MHP may be able to intervene and prevent an unnecessary ambulance trip to the emergency department by employing the use of the alternative protocols available to the patient enrolled in this program.

Record Keeping:

Patients enrolled in the program have a continual electronic medical record (EMR) that allows all care providers mobile access to the patient's entire course of assessments and treatments during enrollment, including care notes, vital signs, ECG tracings and treatments initiated. These records can be electronically provided to any care giver with access to a fax or email account.

Care Coordination:

MedStar hosts monthly meetings with all case workers, community service agencies and other care providers to review the program and enrolled patients in an effort to help meet any needs of the enrolled patients and to improve program resource coordination.

Graduation:

After the patient has demonstrated the ability to better manage their healthcare needs, the patient is graduated from the program, provided a graduation certificate, a patient satisfaction survey and the patient is asked to re-assess their own health status using the EQ-5D-3L process by EuroQol. This data is tracked to help measure program effectiveness and identify area of potential improvement.

**Expenditure Savings Analysis (1) High Utilizer Program - All Referral Sources**

*Based on Medicare Rates*

Analysis Dates: **January 1, 2010 - July 31, 2014**

Number of Patients Enrolled (2): **95**

Category	9-1-1 Transports to ED		
	Base	Avoided	Savings
Ambulance Charge	\$1,668	1657	\$2,763,876
Ambulance Payment (3)	\$427	1657	\$707,539
ED Charges	\$904	1657	\$1,497,928
ED Payment (4)	\$774	1657	\$1,282,518
ED Bed Hours (5)	6	1657	9,942

<b>Total Charge Avoidance</b>	<b>\$4,261,804</b>
<b>Total Payment Avoidance</b>	<b>\$1,990,057</b>

Per Patient Enrolled	CHP
<b>Charge Avoidance</b>	<b>\$44,861</b>
<b>Payment Avoidance</b>	<b>\$20,948</b>

**Notes:**

1. Comparison for enrolled patients based on use for 12 months prior to enrollment vs. 12 months **post program graduation.**
2. Patients with data 12 months pre and 12 months post graduation
3. Average Medicare payment rec'd by MedStar
4. Base expenditures derived from AHRQ reports
5. Provided by John Peter Smith Health Network





## Community Healthcare Program

### A New Approach to Emergency Medical Services

#### The Right Care at the Right Time

The City of McKinney is one of the first cities in the nation to offer the Community Healthcare Program (CHP), a new approach to healthcare designed to better serve the needs of McKinney residents. CHP targets those who now rely heavily on the Emergency Medical System (EMS) for routine medical services. The program provides ongoing personal care for qualified residents that improves patient outcomes, drastically reduces costs to residents and decreases reliance on emergency services in the city.



#### The Right Resources

Advanced Practice Paramedics (APPs) from the McKinney Fire Department are community healthcare advocates. In consultation with a patient's healthcare providers, APPs visit patients at home, in the hospital and after release to provide individualized services. They offer consultation, medical knowledge and a



common connection to all professionals on the resident's medical team. Sometimes more importantly, they offer a personal, compassionate approach. As a result, patients have less need for EMS and hospital emergency room services.

#### Integrated With Other Healthcare / Social Service Providers

The McKinney Fire Department has forged partnerships with healthcare providers, social service agencies and other key providers to create a service that better meets the needs of McKinney residents. McKinney's APPs can encourage residents toward healthcare options that are more appropriate than the emergency room.

#### The Six Cs of McKinney's Community Healthcare Program

- Community - Meet a current unfulfilled need
- Complimentary - Enhance, not duplicate services
- Collaborative - Interdisciplinary
- Competence - Qualified practitioners
- Compassion - Respect for individuals
- Credentialed - Legally authorized



*FIRE DEPARTMENT-COMMUNITY, ASSISTANCE, REFERRALS, & EDUCATION SERVICES*



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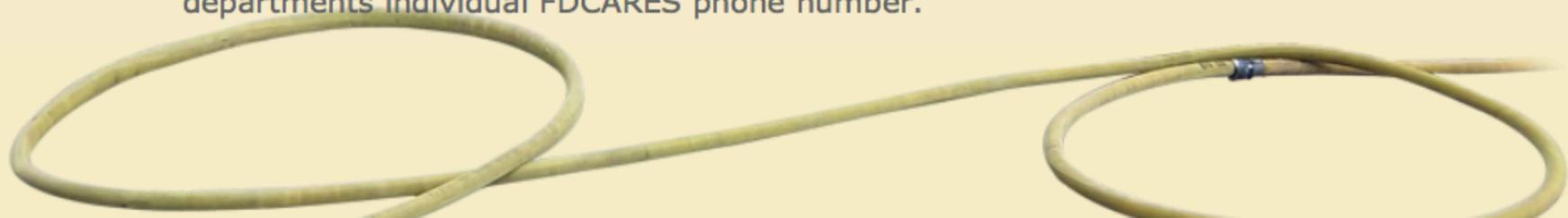
The FDCARES program is an evolving and growing community assistance program that is based in the arena of solving issues for people before an emergency takes place. There are many issues facing the growing, aging, and health needs of society. Solving of the individual issues for members of our community in an effort to prevent injury and or illness is "injury and illness prevention".

The FDCARES program has been developed to interact directly with members of our community in an effort to prevent injury and illness. This direct interaction will also aid in preventing the need for future emergency services for these individuals as well. Emergency service prevention has a ripple effect. It will assist in preventing ambulance transportations, emergency room visits, and associated costs to both the individuals as well as insurance providers. This prevention can also keep emergency service providers available for more acute type incidents as well as keep hospital emergency rooms from being overcrowded and alleviate the need for patient diversions.

Frequently when a member of our community finds themselves in need of the emergency 911 system for low acuity type assistance it is because they have nowhere else to turn. This first call to 911 is often times a predictor of future 911 use as emergency providers are able to correct the immediate problem that is taking place. What hasn't taken place to this point is corrective action that could have prevented this individual's current need for emergency services or prevent future needs for the same service.

There are many different social services available ranging from local churches, to local government services, to County services, to State and Federal government services. Although many of these social services can be very busy, there appears to be some disconnect from these various services and many members of society. Many people are not aware that there are services available to assist them with their independent issues, let alone that there is something that can be done to assist them at all and that will directly, in a positive manner affect their life. The FDCARES program will connect members of our community to these social services.

The FDCARES program is here to assist the members of our community with their individual needs. These needs are frequently identified by fire department emergency responders who have been called through the 911 system for assistance. These fire department members using their regular incident reporting system, notifies the EMS/FDCARES division of community member needs and patient follow-up takes place from there. Community members who are aware of their own needs will also be able to contact the FDCARES division directly for assistance by dialing the local area fire departments individual FDCARES phone number.



## About North Memorial

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[Community Health Needs Assessment](#)

# North Memorial Celebrates First Anniversary of Community Paramedics Program

**December 4, 2013**

North Memorial is celebrating a year of breaking new ground in health care with the launch of its community paramedic program. More than a decade in the making – it took 15 years to execute and an extra year to fund – North Memorial's community paramedic program is the first of its kind in Minnesota and one of the first in the nation. What sets North Memorial apart from similar community paramedic programs popping up around the country? Thanks to efforts led by North Memorial administrators, Minnesota is the only state that has "certified" paramedics and receives reimbursement. It's a program that gets back to the basics with a model of delivering health care from which thousands of Minnesota patients will benefit.

### Preparing the Way

North Memorial's community paramedic program takes emergency-trained paramedics and puts them in the slow lane for a day or two a week. Instead of racing to the scene of accidents or emergencies, the medics make scheduled visits to the homes of frail and elderly patients, or those with chronic conditions like diabetes. Visits are coordinated through doctor offices and clinics, and supervised by emergency systems medical directors, as a way to prevent expensive emergency department treatments.

When experts examine the trend of skyrocketing healthcare costs, they often look at emergency department usage as a place of overspending. "So many patients end up in the ER because of simple but frightening mistakes like mixing up medications or not getting timely treatment for an infection," says Mark Bixby, MD, medical director of Clinical Services at North Memorial. "Many of these patients are not home-bound, so they don't

### COMMUNITY PARAMEDICS IN THE NEWS

#### **NBC Nightly News**

[Instead of the ER: Paramedics making house calls to chronic patients](#)

#### **WCCO 4 News**

[House Calls Return As Cost-Cutting Move For North Memorial](#)

#### **KARE 11 News**

[North Memorial Community Paramedic Program Gets National Attention](#)

#### **Minneapolis Star Tribune**

[Minneapolis Paramedic Trades in Sirens for Honda](#)

#### **Minneapolis Star Tribune Jobs**

[On the Job with Barb Andrews](#)

#### **Northwest Community Television Channel 12 News**

[Paramedics Will Soon Make House Calls](#)

### MEDIA CONTACT

A media relations

## Community Health Programs

REMSA's Community Health Programs offer new care and referral pathways which assure patients who have entered the 9-1-1 emergency medical services system with urgent and non-urgent low acuity medical conditions receive the safest, and most appropriate, levels of quality care. In addition, post-discharge patients with conditions such as congestive heart failure will receive in-home follow-up care. In cooperation with the community's health care partners, these programs will safely improve patient-centered care, improve patient satisfaction, and reduce ambulance transports, emergency department visits, hospital readmissions, and overall health care costs.



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# Wake County, North Carolina

## Advanced Practice Paramedics

[Administrative](#) →[Field Staff](#)[Field Training Officer](#)[Advanced Practice Paramedics](#)[District Chief](#)

In January 2009 Wake County EMS began a new “Advanced Practice Paramedic” (APP) program designed to add a new and efficient enhancement to the existing EMS delivery model.

The APP program has three main objectives:

Reduce the occurrence of, or minimize, medical crises for persons with specific medical conditions known to benefit from close medical monitoring. Increasing the overall well-being of the patient can prevent the need for EMS response and decrease the time and money spent by patients and other taxpayers for emergency room visits and hospital stays.

Studies show that diabetics, high blood pressure patients with congestive heart failure, those with increased risk of falls (such as people over 65 years of age), some substance abusers, and children with asthma may all significantly benefit by home visits from medical care providers such as our Advanced Practice Paramedics.

Redirect care for people with mental health or substance abuse crises at facilities other than the emergency room when no other medical emergency exists. APPs may evaluate a patient along with paramedics from a responding ambulance to help determine if the patient would benefit by treatment at another facility. For appropriate patients, the APP will determine the best alternative treatment location and arrange for the patient’s transportation and admission. Ambulance transport to the emergency room is always an option if our patients request other medical evaluation or treatment.

The mean hold time for a mental health patient in an emergency department is 14 hours. Within the first six months of the APP program, we have referred 167 patients, returning approximately 2,400 bed-hours to local emergency departments. This equates to 800 chest pain evaluations in our community.

Ensure that an additional experienced paramedic is available on critical level calls by responding alongside paramedic ambulances. While some EMS systems use a “paramedic chase car” to provide the lone paramedic responding to assist a basic ambulance, our approach brings APPs to provide a supplemental paramedic with a high frequency of critical patient care encounters to augment the care being provided by our outstanding ambulance-based EMS providers and fire service first responders.

The Wake County EMS System currently uses 17 specially trained Advanced Practice Paramedics to operate up to five APP response units at the busiest times of the day, with at least two of those units remaining in service overnight. They operate out of single-responder vehicles with paramedic and personal protective equipment designed to allow them to operate independently until an ambulance arrives or to provide additional medications or equipment to ambulances if needed. APPs attended an in-house education program consisting of more than 200 didactic hours and 128 clinical hours.

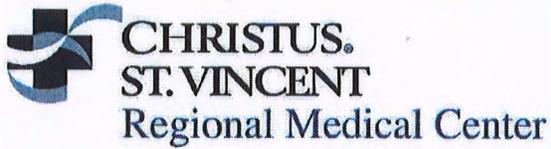
To learn more about the APP program, [watch this video](#).

## **ACKNOWLEDGEMENTS**

The authors of this document are indebted to many organizations for their help in the preparation of this document. The idea of creating a community paramedicine program began in the City of Santa Fe's Fire Department. Many of its members have made personal contributions. Its Chief, Erik Litzenberg, has been a champion of this initiative since its inception – without his leadership, CPI would not exist. Other City departments that have contributed include: City Attorney, City Clerk, City Manager, Community Services, Finance, Risk Management, Purchasing, Human Resources, Information Technology and Telecommunication. Santa Fe County has also provided substantial assistance in CPI's development.

The authors received valuable advice from many participants in Santa Fe's healthcare community as well as related, local organizations. A complete listing is contained in the Partners and Stakeholders section of this document, Appendix B.

Two individuals were retained in a professional capacity to assist with the development of this document: Jarratt Applewhite and Kelly O'Donnell.



**CPI Letter of Support**

To Whom It May Concern,

CHRISTUS ST. Vincent Regional Medical Center is committed to the health and safety of this community. As Santa Fe's sole community provider for indigent care, we are well aware of the evolving nature of healthcare and of the difficulties many patients face in receiving the care that will improve their health, reduce system costs, and enhance patient satisfaction. As such, we applaud the City of Santa Fe Fire Department's Community Protection Initiative (CPI).

CHRISTUS St. Vincent has been working with the CPI lead in coordinating the CPI plan with hospital programs, specifically HUGS (High Utilizer Group Services). This program focuses on serving people with behavioral health conditions (addictions or mental illness), that are high utilizers of the Emergency Department. Through this collaboration, we know that together outreach and coordination of care to some of our most vulnerable community members, will have a positive impact in the lives of many.

The problems faced by the members of our community who will benefit from this initiative are complex. It takes the entire system working together to address the complexity. Partners from government, community providers, the hospital, and other stakeholders all have a role to play. We are stronger together. We look forward to further collaboration with the City on this important initiative.

A handwritten signature in blue ink, appearing to read "Kathy Armijo Etre", is written over a horizontal line.

Kathy Armijo Etre, PhD.  
V.P. Mission and Spirituality  
CHRISTUS St. Vincent Regional Medical Center

4/2/15  
Date:



**BlueCross BlueShield  
of New Mexico**

March 27, 2015

Dear Members of the Santa Fe City Council,

Blue Cross and Blue Shield of New Mexico continually looks for opportunities to better serve our members. Based on our early discussions with the Santa Fe Fire Department, we believe that the Department's Community Protection Initiative (CPI) has the potential to provide one such opportunity.

We share CPI's commitment to providing the most at-risk members of our community access to the services and supports they need to remain healthy and independent. We also agree that reducing inappropriate use of emergency services is in the best interest of everyone – patients, providers, community members and taxpayers.

We are therefore eager to continue exploring ways to collaborate with the Community Protection Initiative and sincerely hope that these discussions will ultimately result in a contractual relationship.

Thank you for your commitment to community health and innovation in healthcare delivery.

Sincerely,

A handwritten signature in black ink that reads "Eugene F. Sun MD".

Eugene Sun, M.D., M.B.A.  
Vice President and Chief Medical Officer



**SOUTHWEST CARE CENTER**  
Health Care Every Person Deserves

February 16<sup>th</sup> 2015

Dear City Council,

Southwest CARE Center is committed to the health of the Santa Fe Community. As such, we are writing to express our support of the Santa Fe Fire Department's Community Protection Initiative (CPI).

Our organization has contributed to the development of CPI by sharing our expertise and exploring ways that a partnership with CPI could enhance the quality and efficiency of the services we provide. Having participated in this discourse for almost a year, we feel confident that the implementation of the CPI will enhance the way our system can care for patients who use 911 as their access to healthcare.

We stand united with the Santa Fe Fire Department when we say that, with collaboration and the right resources, our system is capable of providing much more responsive and effective healthcare at a lower cost to all parties involved. We applaud SFFD and look forward to a continued relationship focused on finding innovative solutions to our system's problems.

We urge you to consider the profound benefits that such collaboration could have for your constituents and on our broader community.

Thank you for your dedication to civic service,

Yours Sincerely,

Trevor Hawkins,  
CMO, Southwest CARE center.

649 Harkle Road, Suite E • Santa Fe, NM 87505  
888.320.8200 • 505.989.8200 • fax 505.989.8131  
[www.southwestcare.org](http://www.southwestcare.org)

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MEDICAL CENTER  
SANTA FE, NEW MEXICO

April 1, 2015

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Santa Fe, NM 87501  
[505] 982-4425  
[505] 982-8440 Fax

**Southside Clinic**

2145 Caja del Oro Grant Road  
Santa Fe, NM 87507  
[505] 438-3195  
[505] 424-5699 Fax

**Dental Clinic**

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[505] 983-4751 Fax

**Health Care for the Homeless**

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[505] 988-1742  
[505] 988-2184 Fax

**La Familia Billing Department**

1035 Alto Street  
Santa Fe, NM 87501  
[505] 982-6241  
[505] 982-6280 Fax

**La Familia Medical Center**

P.O. Box 5395  
Santa Fe, NM 87502

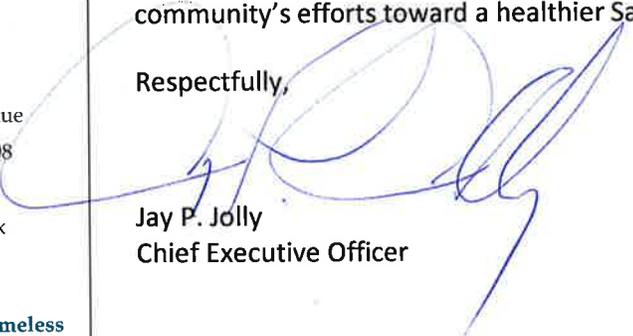
[www.lafamiliasf.org](http://www.lafamiliasf.org)

City of Santa Fe  
City Councilors  
200 Lincoln Ave.  
Santa Fe, NM 87501

Esteemed City Councilors,

As a provider of health services for some of the neediest patients in the Santa Fe Community, La Familia Medical Center supports and understands the importance of proactive and preventive health services. Our organization stands behind the City of Santa Fe Fire Department's Community Protection Initiative's proposal to join the community's efforts toward a healthier Santa Fe.

Respectfully,



Jay P. Jolly  
Chief Executive Officer

# SANTA FE NEIGHBORHOOD NETWORK

March 6, 2015

To The Governing Body:

The Board of the Santa Fe Neighborhood Network strongly supports the Santa Fe Fire Department's Community Protection Initiative (CPI).

We are acutely aware of the plight of many of our neighbors who are elderly, without health care, or otherwise in need of this service. We have met with the Initiative's representatives and offered any and all of our resources to help advance the CPI, not the least of which is this letter endorsing this worthwhile endeavor.

With your support and collaboration with others, we believe the CPI is capable of providing much more responsive and effective healthcare at a lower cost to all parties involved, while helping the system evolve in its caring for patients who use 911 as their access to healthcare.

We applaud SFFD for its proactive and well-thought-out approach toward increasing appropriate and much needed services for all our neighbors and neighborhoods in Santa Fe.

We ask you to consider the profound benefits this service could have for each of your Districts' constituents as well as the broader Santa Fe community, and do everything possible to support the SFFD's Community Protection Initiative.

Sincerely,



Marilyn Bane, President  
Santa Fe Neighborhood Network  
622 ½ B Canyon Road  
Santa Fe, NM 87501  
984-8428 (home)  
490-0826 (cell)



## **BOARD OF DIRECTORS**

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*Joseph Jordan-Berenis  
Executive Director, ICS*

***The Interfaith Community Shelter is a 501(c)(3) not-for-profit serving homeless people of Santa Fe and Northern New Mexico, located at 2801 Cerrillos Road.***

17 February 2015

Dear Members of the City Council,

The Interfaith Community Shelter is committed to the health of the Santa Fe Community. As such, we are writing to express our support of the Santa Fe Fire Department's Community Protection Initiative (CPI).

Our organization has contributed to the development of CPI by sharing our expertise and exploring ways that a partnership with CPI could enhance the quality and efficiency of the services we provide. Having participated in this discourse for almost a year, we feel confident that the implementation of CPI will evolve the way our system cares for patients who use 911 as their access to healthcare. Many of the individuals we serve are high utilizers of police, fire and hospital services. We recently submitted a grant to CHRISTUS St. Vincent to hire a case manager to reduce the usage/reliance of those individuals on City services. In the grant proposal I wrote that a case manager would be an excellent complement to the Community Protection Initiative proposed by the Fire department. Combined, I believe it could save the City money and be a more effective use of limited City resources.

We stand united with the Santa Fe Fire Department when we say that, with collaboration and the right resources, our system is capable of providing much more responsive and effective healthcare at a lower cost to all parties involved. We applaud SFFD and look forward to a continued relationship focused on finding innovative solutions to our system's problems.

We urge you to consider the profound benefits that such a collaboration could have for your constituents and on our broader community.

Thank you for your dedication to civic service.

Sincerely,

---

Joseph Jordan-Berenis  
Executive Director  
Interfaith Community Shelter

February 25, 2015

Dear Santa Fe City Council,

The New Mexico Department of Health Office of Injury Prevention is committed to the health of the Santa Fe community as well as that of the state as a whole. As such, we are writing to express our support of the Santa Fe Fire Department's Community Protection Initiative (CPI).

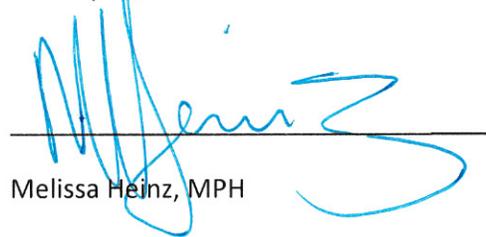
The NMDOH Office of Injury Prevention has contributed to the development of CPI by sharing our expertise and exploring ways that a partnership with CPI could enhance the quality and efficiency of the services we provide. Specifically, we see CPI as providing an opportunity to partner in two Department priorities, Adult Falls Prevention and Opioid Overdose Prevention.

We very much look forward to continued collaboration with CPI as the project moves into implementation. We also are very optimistic about the opportunities that implementation of CPI will provide to leverage limited resources across both of our organizations. We share a common goal, which is to serve the health of the Santa Fe community by preventing injury and thereby reducing costly disability and premature death.

We applaud SFFD and look forward to a continuing partnership focused on finding innovative solutions to challenges facing the health of the Santa Fe community.

We urge you to consider the profound benefits that such a collaboration as that led by the Community Protection Initiative could have for your constituents and on our broader community.

Thank you,



Melissa Heinz, MPH

New Mexico Department of Health

Epidemiology and Response Division

Office of Injury Prevention

March 27, 2015

Dear Esteemed Members of the Santa Fe City Council,

The Hepatitis and Harm Reduction Program has long been committed to the health of the people of the Santa Fe community. The program offers many services both statewide and in Santa Fe. One of the most important of these is overdose prevention and naloxone distribution. Opiate overdose deaths are the leading cause of preventable deaths in New Mexico. While there has been a 16% reduction in opiate overdose deaths since 2011, New Mexico is still more than twice the national average. In order to change this trend, local communities are increasing their efforts to educate individuals and help provide them with the tools they need to reverse an overdose. One such tool is naloxone, a medication which can reverse the effects of an opiate overdose, including both prescription medications such as Hydrocodone and Percocet and illicit opiates such as heroin. The program applauds community partners such as the Santa Fe Fire Department's Community Protection Initiative (CPI) who are committed to this effort of reducing deaths from opiate overdoses.

The Hepatitis and Harm Reduction Program has an Overdose Prevention Education curriculum, initially developed and implemented in 2001, and regularly reviewed and revised to ensure it is as effective as possible in reaching those who need it. This curriculum has been used successfully in many communities. The program has already helped by offering to train the staff of CPI and will continue to share technical assistance and educational expertise with regard to Opiate Overdose Education and Prevention. The efforts of the CPI are aimed toward reaching individuals not served by other programs, and offer potentially life-saving education. By sharing our expertise with CPI, this will enhance the quality and efficiency of the services provided to those who use opiates. This assistance has been discussed for almost a year, and some of the members of CPI have engaged in the training offered.

The Hepatitis and Harm Reduction program supports the Santa Fe Fire Department continuing to develop this program to improve care and create a more responsive system to provide effective healthcare at a lower cost. I look forward to seeing the CPI foster innovative solutions to problems within the community to reduce opiate overdose deaths. This type of program is integral to the health and wellbeing of the community members it serves.

Thank you for your dedication to civic service and the community,



**Dominick V. Zurlo**, M.A. Educational Psychology  
*Hepatitis and Harm Reduction Program Manager*  
New Mexico Department of HEALTH (NMDOH)

**PUBLIC HEALTH**

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# New Mexico Falls Prevention

nmstopfalls.org

March 21, 2015

Andres J. Mercado  
City of Santa Fe Fire Department  
505-629-6255

Dear Mr. Mercado:

On behalf of the New Mexico Falls Prevention Coalition, I strongly support your efforts to expand the Community Protection Initiative. In particular, engaging paramedics in primary prevention for falls is a natural and necessary community based intervention.

The research literature indicates that only 50% of older adults report a fall to their healthcare provider. Many older people in Santa Fe fall through the cracks of the health care and public health systems when they call 911 for assistance for a fall and then decline transport to the emergency department.

And the numbers for fall related injury in New Mexico are great cause for concern. The Department of Health reports that falls are the 3<sup>rd</sup> leading cause of unintentional injury for all ages. Falls are a leading cause of injury-related hospitalization, ED visits, and death for adults 65 years and older. Moreover, within New Mexico, Santa Fe County has one of the highest fall-related death rates for older adults.

I commend your efforts to address unmet needs for preventive health. Your concern and commitment to improving the lives of underserved Santa Feans is impressive. It is quite apparent that you are the best person to persevere and move forward innovative primary preventive community paramedicine.

Again, the New Mexico Falls Prevention Coalition extends our support to your efforts to expand the Community Protection Initiative.

Best Regards,

Janet Popp, PT, MS  
Chair, New Mexico Adult Fall Prevention Coalition



385 Washington Street  
Mail Code 9275-SB05P  
St. Paul, MN 55102

Jeff Godwin AU,ARM,CPCU  
Account Executive Officer  
Public Sector Services  
(651) 310-2192  
(651) 310-5383 (Fax)  
jgodwin1@travelers.com

April 1, 2015

Ms. Nasreen Kopecky  
Account Manager  
Arthur J. Gallagher & Co.  
18201 Von Karman Avenue-Suite 200  
Irvine, CA 92612

Dear Nasreen:

We accept the exposures presented by the programs summarized below under the terms, conditions and forms issued in our insurance policies with The City of Santa Fe, NM.

**Phase I** involves using Emergency Medical Technicians providing services which are CLEARLY in their scope of practice and comply with all regulatory requirements (please see NM Scope of Practice for EMTs; specifically NMAC 7.27.11.8.F "Community EMS", attached). Services to be provided are the following:

- **New Mexico Department of Health Harm Reduction services:** This consists of performing a training aimed at educating the public about how to prevent an opioid overdose, how to reduce risk for individuals with IV drug dependency, and how to use naloxone rescue kits. This is an established State of NM DOH program which is regulated and administered by NM DOH. All program operations will comply with NM DOH regulations.

Contact person(s):

Dominik Zurlo, NMDOH Hepatitis and Harm Reduction Program Manager, [Dominick.Zurlo@state.nm.us](mailto:Dominick.Zurlo@state.nm.us); 505-827-2507 and

Melissa Heinz-Bennet, NMDOH Prescription Opioid Overdose Prevention Coordinator [Melissa.Heinz-Bennett@state.nm.us](mailto:Melissa.Heinz-Bennett@state.nm.us); 505-476-3541

- **Fall Prevention program for Seniors:** This consists of performing a simple home safety assessment to identify any fall hazards for seniors (throw rugs, extension cords in walkways, lack of anti-slip surfaces on showers/tubs, loose steps, etc.) EMTs will not perform any construction services but will provide double-sided tape for rugs, tape down or move extension cords, provide free anti-slip bathmats, smoke alarms, and fire extinguishers when appropriate.

Contact person(s):

Liana Lujan, NMDOH EMS Bureau Trauma Systems Manager, [Liana.Lujan@state.nm.us](mailto:Liana.Lujan@state.nm.us); 505-476-8220

Courtney Cameron, NMDOH Adult Injury Prevention Coordinator, [courtney.cameron@state.nm.us](mailto:courtney.cameron@state.nm.us); 505-827-5146

- **School Presentations for children:** This consists of conducting assembly-type presentations for schools with a message about the importance of nutrition, physical activity, and healthy lifestyle choices.  
Contact person(s):  
Theresa Baca, Santa Fe Public Schools Director of non-Instructional Programs, [thbaca@sfps.info](mailto:thbaca@sfps.info); 505467-2574
- **Patient Advocacy for Frequent Callers:** This consists of visiting patients who call 911 frequently (four or more times in a year) to help them achieve better health by assuring they have a primary care physician, health insurance, and access to basic needs such as food, clothing, and shelter. While the EMTs are in the house, they will make a list of the patient's medications and pass this along to a pharmacist for review for safety and then provide the pharmacist's comments to the patients primary care doctor for review. They will also perform a home safety assessment (described above). The EMTs will also perform basic health literacy coaching to help empower patients to be active participants in their healthcare. EMTs will perform basic advocacy services (following care plans developed by physicians, mental health, and substance abuse professionals) to support patients achieve their health goals. All these services are to be performed according to scope of practice (attached) and under appropriate supervision (as outlined in scope).  
Contact person(s):  
**Medical Direction:**  
Dr. Nathan Unkefer, SFFD Medical Director, [nunkefer@gmail.com](mailto:nunkefer@gmail.com); 505-955-3110  
Dr. Ryan Hodnick, DO, NREMT-P, CCEMT-P, FAWM, FACEP, Emergency Room Physician, Presbyterian Hospitals, [hodick.ryan@TSCFEMS.com](mailto:hodick.ryan@TSCFEMS.com); 505-803-3505  
**Social Work Direction:**  
Kristin Carmichael, LISW, MBA, Director of Community Health, Christus St. Vincent Regional Medical Center, [Kristin.Carmichael@stvin.org](mailto:Kristin.Carmichael@stvin.org); 505-913-4917  
**Pharmacy Direction:**  
Kate Morton, PharmD, PhC, AAHIVP, Director of Pharmacy Southwest Care Center; [kmorton@southwestcare.org](mailto:kmorton@southwestcare.org); 505-989-8154
- **Improved 911 operations:** This consists of providing a more coordinated response during 911 calls. An EMT will serve as a liaison on 911 calls for two of our system partners. The first partner is a hospice company. An EMT with a clear understanding of SFFD protocols and hospice care will respond on some 911 calls for hospice patients to assure that the patient, the family, and the hospice nurse or doctor are able to make a fully-informed decision during a 911 response. All services provided will be in the EMT's scope of practice. The second partner is Santa Fe County



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Health and Human Services' Crisis Response Team. An EMT with a clear understanding of SFFD protocols and Crisis Response care will respond on some 911 calls for crisis patients to assure that the patient's interests are best-served by this mobile crisis response resource. All services provided will be in the EMT's scope of practice.

Contact Person(s):

**Hospice:**

Catherine Rosacker-Sharp, RN, CEO Ambercare;  
[csharp@ambercare.com](mailto:csharp@ambercare.com); 505-244-0046

**Crisis Response:**

Rachel O'Connor, Santa Fe County Health and Human Services  
Division Director; [roconnor@santafecountynm.gov](mailto:roconnor@santafecountynm.gov); 505-992-9842

Sincerely,

Jeff Godwin,AU,ARM,CPCU  
Account Executive Officer  
Travelers - Public Sector Services  
385 Washington Street  
St. Paul, MN 55102-1118

**TITLE 7           HEALTH**  
**CHAPTER 27   EMERGENCY MEDICAL SERVICES**  
**PART 11        SUPPLEMENTAL LICENSING PROVISIONS**

**7.27.11.1       ISSUING AGENCY:** New Mexico Department of Health, Epidemiology and Response Division, Emergency Medical Systems Bureau.

[7.27.11.1 NMAC - Rp, 7.27.11.1 NMAC, 8/15/14]

**7.27.11.2       SCOPE:** These rules apply to New Mexico emergency medical services, including the service directors and medical directors of those services; approved New Mexico EMS training programs and graduates of approved New Mexico EMS training programs; New Mexico licensed EMS personnel including those previously licensed; persons trained, certified or licensed in another state or territory seeking to acquire licensure in New Mexico; EMS licensing commission; national registry of emergency medical technicians; and any other entity associated with the licensing of emergency medical services personnel in New Mexico.

[7.27.11.2 NMAC - Rp, 7.27.11.2 NMAC, 8/15/14]

**7.27.11.3       STATUTORY AUTHORITY:** These rules are promulgated pursuant to the following statutory authorities: 1) the New Mexico Department of Health Act, Subsection E of Section 9-7-6 NMSA 1978, which authorizes the secretary of the department of health to “make and adopt such reasonable and procedural rules and regulations as may be necessary to carry out the duties of the department and its divisions,” and; 2) the Emergency Medical Services Act, NMSA 1978, Section 24-10B-4 (“Bureau; duties”).

[7.27.11.3 NMAC - Rp, 7.27.11.3 NMAC, 8/15/14]

**7.27.11.4       DURATION:** Permanent.

[7.27.11.4 NMAC - Rp, 7.27.11.4 NMAC, 8/15/14]

**7.27.11.5       EFFECTIVE DATE:** August 15, 2014, unless a later date is cited at the end of a section.

[7.27.11.5 NMAC - Rp, 7.27.11.5 NMAC, 8/15/14]

**7.27.11.6       OBJECTIVE:** These rules are intended to supplement the emergency medical services licensure requirements for emergency medical services personnel, to provide supplemental and additional standards for the licensure of emergency medical dispatchers, emergency medical dispatch-instructors, emergency medical services first responders and emergency medical technicians, and to assist in the provision of a comprehensive system of emergency medical services in the state of New Mexico.

[7.27.11.6 NMAC - Rp, 7.27.11.6 NMAC, 8/15/14]

**7.27.11.7       DEFINITIONS:**

[Refer to 7.27.2.7 NMAC]

**7.27.11.8       SCOPES OF PRACTICE FOR LICENSED EMERGENCY MEDICAL SERVICES PERSONNEL:**

**A.** Medical director means a physician functioning as the service EMS medical director as defined and described in 7.27.3 NMAC, Medical Direction for Emergency Medical Services. Medical control means supervision provided by or under the direction of a physician.

**B.** Prior to approving a new skill, technique, medication, or procedure, it shall be documented by the service director, medical director, or approved EMS training institution that the EMS provider has been appropriately trained to perform those new skills, techniques, medications, or procedures.

**C. Service medical director approved:** All service medical director approved skills, techniques, medications, or procedures are considered advanced life support. Prior to utilizing any skill, technique, medication or procedure designated as service medical director approved, it shall be documented by the service director, medical director, or approved EMS training institution that the EMS provider has been appropriately trained to administer the medications or perform the skills, techniques, medications or procedures. Additionally, each EMS provider must have a signed authorization from the service’s medical director on file at the EMS service’s headquarters or administrative offices.

**D.** Any device in an EMS agency's treatment guideline/protocol designed and utilized to facilitate successful completion of a skill or other treatment modality, including but not limited to CPR devices, intraosseous placement devices, and positive pressure ventilation devices, must be approved by the service medical director.

**E. Wilderness protocols:** The following skills shall only be used by providers who have a current wilderness certification from a bureau approved wilderness caregiver course, who are functioning in a wilderness environment as a wilderness provider (an environment in which time to a hospital is expected to exceed two hours, except in the case of an anaphylactic reaction, in which no minimum transport time is required), and are authorized by their medical director to provide the treatment:

- (1) minor wound cleaning and management;
- (2) cessation of CPR;
- (3) field clearance of the cervical-spine;
- (4) reduction of dislocations resulting from indirect force of the patella, digit, and anterior shoulder.

**F. Community emergency medical services programs:** Community EMS programs shall be provided by EMS caregivers who, after completing a bureau approved community EMS caregiver course, are functioning as part of a community emergency medical services program that has been reviewed and approved by the EMS bureau. The providers must be authorized by their medical director to perform the skills listed in their application as part of the community EMS program. These programs may include referrals that involve transport to non-hospital locations, and for non-transport decisions. Skills and interventions may include any of the approved skills and interventions for the appropriate level; any skill that exceeds the scope of practice must be approved through the special skill process. Skills may include, but are not limited to:

- (1) education of patients in self-medication administration, and assessment of compliance with physician recommendations for health conditions;
- (2) assessments for preventing falls and other sources of injury by identifying risks in patient homes;
- (3) provide education on disease prevention;
- (4) administering immunizations;
- (5) in collaboration with a healthcare team, assist in developing a care plan, and educate the patient in following the care plan;
- (6) perform in home patient assessments commensurate with level of education and licensure in order to provide information to a care team as to the progress or condition of a patient receiving therapies for medical conditions;
- (7) provide assistance in locating and contacting appropriate providers of needed social services;
- (8) treat discovered acute healthcare issues, transporting to emergency department if necessary;
- (9) for chronic and non-acute issues, confirmed with online medical direction and agreed to by the patient, options other than EMS transport may be considered, including:
  - (a) arrange for non-emergent and non-EMS transportation to and care at an appropriate facility, such as a physician's office or urgent care center;
  - (b) provide referral information and arrange for follow up by appropriate care team members and/or social service personnel;
- (10) assist with ongoing prescribed wound care.

**G. Critical Care Transport services skills:** Paramedic critical care transport skills shall be used only by paramedic providers who have successfully completed a bureau approved critical care transport paramedic or critical care flight paramedic course. Subsequent to completing the approved course, the critical care paramedic must successfully complete a bureau administered or approved third party exam within one year. Additionally, the paramedics shall be functioning as part of a ground or air EMS agency with an approved critical care transport special skill and authorized by the agency medical director to utilize these skills. Critical care transport program skills are only authorized for use during inter-facility critical care transport activities, with the exception of air ambulance agencies providing emergency scene response; or ground critical care agencies requested to a scene by the local authorized and certified 911 response and transport agencies. Critical care transport special skills and medications that may be administered include, but are not limited to any of the below skills and medications; service specific skills and medication requests must be listed on the EMS agency critical care transport special skill application completed per 7.27.11.10 NMAC:

- (1) monitoring of infusions including but not limited to anti-arrhythmics, nitrates, vasopressors, blood products, thrombolytics, sedation, pain management and antihypertensive medications that have required titration within the past two hours and may need to have their dosages adjusted during transport;
- (2) performance of skills not listed in the paramedic scope of practice, such as but not limited to escharotomy, fasciotomy, insertion of chest tubes, pericardiocentesis, blood administration, and nerve blocks;

(3) administration of medications, initiation of infusions, and utilization of routes, not listed on the paramedic scope but requested in the EMS agency's special skill application and approved by the medical direction committee and EMS bureau;

(4) utilization of advanced patient monitoring, such as invasive hemodynamic monitoring via monitoring of central venous pressure, pulmonary artery pressure, intracranial pressure monitoring, Swan-Ganz catheters, arterial lines, fetal monitoring, point of care lab values, and other monitoring or tests not listed in the paramedic scope, but requested in the EMS agency's special skill application and approved by the medical direction committee and EMS Bureau;

(5) utilization of ICU level ventilator support, to include ventilators delivering positive end expiratory pressure, with multiple adjustable mode and setting parameters that include inspiratory plateau pressures, pressure regulated volume control, pressure support ventilation, pressure control ventilation, airway pressure release ventilation and others; also, any ventilator delivering a mixture of nitric oxide or other beneficial gas mixtures;

(6) transport of patients with intra-aortic balloon pump, temporary internal cardiac pacing, left ventricular assist device or a bi-ventricular assist device and other appropriate devices to address hemodynamic instability as requested in the EMS agency's special skill application and approved by the medical direction committee and EMS bureau;

(7) administer paralytics and sedatives to maintain airway control previously initiated, and administer and perform rapid sequence airway pharmacology and techniques in order to secure an airway in response to patient condition, as requested in the EMS agency's special skill application and approved by the medical direction committee and EMS bureau;

(8) pediatric intubation or endotracheal tube management as requested in the EMS agency's special skill application and approved by the medical direction committee and EMS bureau.

**H.** Utilization of pharmacological agents for the primary purpose of sedation, induction, or muscle relaxation to facilitate placement of an advanced airway requires medical direction committee special skills approval.

**I. Over the counter (OTC) medications and products.** A physician medical director may approve a list of over the counter (OTC) medications and products (i.e. NSAID's, antihistamines, anti-diarrheal, laxatives, antacids, vitamin supplements, hygiene products and other products) for distribution by an EMS caregiver working under medical direction to a requesting individual during scheduled stand-by situations. Examples are long-term wildfire responses, public events (concerts, rodeos, etc), various industry situations such as movie production & ski patrol, long-term construction & manufacturing projects, long-term search and rescue or tactical operations, and other situations where scheduled stand-by EMS is provided.

(1) The OTC medication/product must be properly labeled in individual dose packaging when distributed to the patient. Distribution from a bulk or multi-dose container is not permitted by this scope of practice, as well as other state and federal laws and regulations; medications will be distributed per manufacturer recommendations and labeling directions.

(2) The agency/EMS caregiver will maintain a written guideline that contains the list of physician approved OTC medications/products and the conditions for which they may be distributed. Specific dosing information and indications for pediatric patients must be included.

(3) The EMS agency/EMS caregiver must develop a method of documentation for the appropriate distribution of the OTC medications/products. This documentation shall include the OTC medication documentation and appropriate patient care report, per 7.27.10.12 NMAC (Records and Data Collection) and 7.27.11.11 NMAC. PRC certified ambulance agencies shall complete patient care documentation per 18.3.14.24 NMAC.

(4) OTC medications/products are distributed for the patient's self-administration and use. EMS caregivers will not administer OTC medications/products, unless approved elsewhere in the scope of practice for specific EMS patient care situations.

**J. Licensed emergency medical dispatcher (EMD).**

(1) Medical direction is required for all items in the EMD scope of practice.

(2) The following allowable skills may be performed by EMDs who are licensed by the EMS bureau and functioning with an EMS bureau certified New Mexico emergency medical dispatch agency utilizing protocols and any EMD priority reference system approved by the EMS bureau and service medical director.

(a) Process calls for medical assistance in a standardized manner, eliciting required information for evaluating, advising, and treating sick or injured individuals, and dispatching an appropriate EMS response.

(b) Provide pre-arrival instructions to the patient through the caller when possible and appropriate to do so while functioning in compliance with an emergency medical dispatch priority reference system

(EMDPRS).

**K. EMS first responders (EMSFR).**

**(1) The following allowed drugs may be administered and skills and procedures may be performed without medical direction:**

- (a) basic airway management;
- (b) use of basic adjunctive airway equipment;
- (c) suctioning;
- (d) cardiopulmonary resuscitation, according to current ECC guidelines;
- (e) obstructed airway management;
- (f) bleeding control via direct pressure and appropriate tourniquet use;
- (g) spine immobilization;
- (h) splinting (does not include femoral traction splinting);
- (i) scene assessment, triage, scene safety;
- (j) use of statewide EMS communications system;
- (k) emergency childbirth;
- (l) glucometry;
- (m) oxygen;
- (n) other non-invasive procedures as taught in first responder courses adhering to DOT

curricula.

**(2) The following require service medical director approval:**

- (a) allowable skills:
  - (i) mechanical positive pressure ventilation utilizing a device that may have controls for rate, tidal volume, FiO<sub>2</sub>, and pressure relief/alarm and does not have multiple automatic ventilation modes;
  - (ii) application and use of semi-automatic defibrillators, including cardiac rhythm acquisition for ALS caregiver interpretation or transmission to a care facility; this includes multi-lead documentation;
  - (iii) hemostatic dressings for control of bleeding;
  - (iv) insertion of laryngeal and supraglottic airway devices (examples: king airway, LMA), excluding multi-lumen airways);
- (b) administration of approved medications via the following routes:
  - (i) nebulized inhalation;
  - (ii) nasal mucosal atomization (MA);
  - (iii) intramuscular;
  - (iv) oral (PO);
- (c) allowable drugs:
  - (i) oral glucose preparations;
  - (ii) aspirin PO for adults with suspected cardiac chest pain;
  - (iii) atropine and pralidoxime via IM auto-injection for treatment of chemical or nerve agent exposure;
  - (iv) albuterol (including isomers) via inhaled administration;
  - (v) naloxone via nasal mucosal atomizer;
  - (vi) epinephrine via auto-injection device;
- (d) patient's own medication that may be administered:
  - (i) bronchodilators using pre-measured or metered dose inhalation device;
  - (ii) naloxone, if provided with a nasal MA or IM delivery system.

**L. EMT-BASIC (EMT-B):**

**(1) The following allowed drugs may be administered and skills and procedures may be performed without medical direction:**

- (a) basic airway management;
- (b) use of basic adjunctive airway equipment;
- (c) suctioning;
- (d) cardiopulmonary resuscitation, according to current ECC guidelines;
- (e) obstructed airway management;
- (f) bleeding control to include appropriate tourniquet usage;
- (g) spine immobilization;
- (h) splinting;

- (i) scene assessment, triage, scene safety;
- (j) use of statewide EMS communications system;
- (k) childbirth (imminent delivery);
- (l) glucometry;
- (m) oxygen;
- (n) other non-invasive procedures as taught in EMT-B courses adhering to DOT curricula;
- (o) wound management.

**(2) The following require service medical director approval:**

- (a) allowable skills:
    - (i) mechanical positive pressure ventilation utilizing a device that may have controls for rate, tidal volume, FiO<sub>2</sub>, and pressure relief/alarm and does not have multiple automatic ventilation modes; this skill includes devices that provide non-invasive positive pressure ventilation via continuous positive airway pressure (CPAP);
    - (ii) use of multi-lumen, supraglottic, and laryngeal airway devices (examples: PTLA, combi-tube, king airway, LMA) to include gastric suctioning;
    - (iii) application and use of semi-automatic defibrillators, including cardiac rhythm acquisition for ALS caregiver interpretation or transmission to a care facility; this includes multi-lead documentation;
    - (iv) acupressure;
    - (v) transport of patients with nasogastric tubes, urinary catheters, heparin/saline locks, PEG tubes, or vascular access devices intended for outpatient use;
    - (vi) performing point of care testing; examples include serum lactate values, cardiac enzymes, electrolytes, and other diagnostic values;
    - (vii) hemostatic dressings for control of bleeding;
  - (b) administration of approved medications via the following routes:
    - (i) nebulized inhalation;
    - (ii) subcutaneous;
    - (iii) intramuscular;
    - (iv) nasal mucosal atomization (MA);
    - (v) oral (PO);
    - (vi) intradermal;
  - (c) allowable drugs:
    - (i) oral glucose preparations;
    - (ii) aspirin PO for adults with suspected cardiac chest pain;
    - (iii) activated charcoal PO;
    - (iv) acetaminophen PO in pediatric patients with fever;
    - (v) atropine and pralidoxime via IM autoinjection for treatment of chemical and/or nerve agent exposure;
    - (vi) albuterol (including isomers), via inhaled administration;
    - (vii) ipratropium, via inhaled administration, in combination with or after albuterol administration;
    - (viii) naloxone by SQ, IM, or IN route;
    - (ix) epinephrine, 1:1000, no single dose greater than 0.3 ml, subcutaneous or intramuscular injection with a pre-measured syringe (including autoinjector) or 0.3 ml TB syringe for anaphylaxis or status asthmaticus refractory to other treatments;
  - (d) patient's own medication that may be administered:
    - (i) bronchodilators using pre-measured or metered dose inhalation device;
    - (ii) sublingual nitroglycerin for unrelieved chest pain, with on line medical control only;
    - (iii) situations may arise involving patients with uncommon conditions requiring specific out of hospital administered medications or procedures; family members or the designated caregiver trained and knowledgeable of the special needs of the patient should be recognized as the expert regarding the care of the patient; EMS can offer assistance in airway management appropriate to their level of licensure, and administer the patient's prescribed medications where appropriate only if the medication is in the EMS provider's scope of practice; EMS services are not expected to provide the prescribed medications for these special needs patients;
- (3) Immunizations and biologicals:** Administration of immunizations, vaccines, biologicals, and TB skin testing is authorized under the following circumstances:

(a) to the general public as part of a department of health initiative or emergency response, utilizing department of health protocols; the administration of immunizations is to be under the supervision of a physician, nurse, or other authorized health provider;

(b) TB skin tests may be applied and interpreted if the licensed provider has successfully completed required department of health training;

(c) in the event of a disaster or emergency, the state EMS medical director or chief medical officer of the department of health may temporarily authorize the administration of pharmaceuticals or tests not listed above.

**M. EMT-INTERMEDIATE (EMT-I):**

**(1) The following allowed drugs may be administered and skills and procedures may be performed without medical direction:**

- (a) basic airway management;
- (b) use of basic adjunctive airway equipment;
- (c) suctioning;
- (d) cardiopulmonary resuscitation, according to ECC guidelines;
- (e) obstructed airway management;
- (f) bleeding control including appropriate use of tourniquet;
- (g) spine immobilization;
- (h) splinting;
- (i) scene assessment, triage, scene safety;
- (j) use of statewide EMS communications system;
- (k) childbirth (imminent delivery);
- (l) glucometry;
- (m) oxygen;
- (n) wound management.

**(2) The following require service medical director approval:**

- (a) allowable skills:
  - (i) mechanical positive pressure ventilation utilizing a device that may have controls for rate, tidal volume, FiO<sub>2</sub>, and pressure relief/alarm and does not have multiple automatic ventilation modes; this skill includes devices that provide non-invasive positive pressure ventilation via continuous positive airway pressure (CPAP);
  - (ii) use of multi-lumen, supraglottic, and laryngeal airway devices (examples: PTLA, combi-tube, king airway, LMA) to include gastric suctioning;
  - (iii) application and use of semi-automatic defibrillators, including cardiac rhythm acquisition for ALS caregiver interpretation or transmission to a care facility; this includes multi-lead documentation;
  - (iv) acupressure;
  - (v) transport of patients with nasogastric tubes, urinary catheters, heparin/saline locks, PEG tubes, or vascular access devices intended for outpatient use;
  - (vi) peripheral venous puncture/access;
  - (vii) blood drawing;
  - (viii) pediatric intraosseous tibial access;
  - (ix) adult intraosseous access;
  - (x) point of care testing; examples include serum lactate values, cardiac enzymes, electrolytes, and other diagnostic values;
  - (xi) hemostatic dressings for control of bleeding;
- (b) administration of approved medications via the following routes:
  - (i) intravenous;
  - (ii) nasal mucosal atomization (MA);
  - (iii) nebulized inhalation;
  - (iv) sublingual;
  - (v) intradermal;
  - (vi) intraosseous;
  - (vii) endotracheal (for administration of epinephrine only, under the direct supervision of an EMT-paramedic, or if the EMS service has an approved special skill for endotracheal intubation);
  - (viii) oral (PO);

- (ix) intramuscular;
- (x) subcutaneous;
- (c) allowable drugs:
  - (i) oral glucose preparations;
  - (ii) aspirin PO for adults with suspected cardiac chest pain;
  - (iii) activated charcoal PO;
  - (iv) acetaminophen PO in pediatric patients with fever;
  - (v) IM autoinjection of the following agents for treatment of chemical or nerve agent exposure: atropine, pralidoxime;
  - (vi) albuterol (including isomers) via inhaled administration;
  - (vii) ipratropium, via inhaled administration in combination with or after albuterol administration;
  - (viii) naloxone;
  - (ix) I.V. fluid therapy (except blood or blood products);
  - (x) dextrose;
  - (xi) epinephrine (1:1000), SQ or IM (including autoinjector) for anaphylaxis and known asthmatics in severe respiratory distress (no single dose greater than 0.3 cc);
  - (xii) epinephrine (1:10,000) in pulseless cardiac arrest for both adult and pediatric patients; epinephrine may be administered via the endotracheal tube in accordance with most current ACLS and PALS guidelines;
  - (xiii) nitroglycerin (sublingual) for chest pain associated with suspected acute coronary syndromes; must have intravenous access established prior to administration or approval of online medical control if IV access is unavailable;
  - (xiv) morphine, fentanyl, or dilaudid for use in pain control with approval of on-line medical control;
  - (xv) diphenhydramine for allergic reactions or dystonic reactions;
  - (xvi) glucagon, to treat hypoglycemia in diabetic patients when intravenous access is not obtainable;
  - (xvii) anti-emetic agents, for use as an anti-emetic only;
  - (xviii) methylprednisolone for reactive airway disease/acute asthma exacerbation;
  - (xix) Hydroxycobalamine;
  - (xx) lidocaine (2%, preservative and epinephrine free for IV use) for administration into the intraosseous space on pain responsive adult patients while receiving intraosseous fluids or medications;
- (d) patient's own medication that may be administered:
  - (i) bronchodilators using pre-measured or metered dose inhalation device;
  - (ii) sublingual nitroglycerin for unrelieved chest pain; must have intravenous access established prior to administration or approval of online medical control if IV access is unavailable;
  - (iii) glucagon;
  - (iv) situations may arise involving patients with uncommon conditions requiring specific out of hospital administered medications or procedures; family members or the designated caregiver trained and knowledgeable of the special needs of the patient should be recognized as the expert regarding the care of the patient; EMS can offer assistance in airway management appropriate to their level of licensure, IV access, and the administration of the patient's prescribed medications where appropriate only if the medication is in the EMS provider's scope of practice; online (direct contact) medical control communication must be established with the medical control physician approving the intervention; EMS services are not expected to provide the prescribed medications for these special needs patients;
- (e) drugs allowed for monitoring during interfacility transport:
  - (i) potassium; intermediate EMT's may monitor IV solutions that contain potassium during transport (not to exceed 20 mEq/1000cc or more than 10 mEq/hour);
  - (ii) antibiotics and other anti-infectives utilizing an infusion pump; intermediate EMT's may monitor antibiotic or other anti-infective agents, provided a hospital initiated infusion has been running for a minimum of 30 minutes prior to the intermediate initiating the transfer, and the intermediate EMT is aware of reactions for which to monitor and the appropriate action to take before assuming responsibility for patient care;
- (f) immunizations and biologicals: administration of immunizations, vaccines, biologicals, and TB skin testing is authorized under the following circumstances:
  - (i) to the general public as part of a department of health initiative or emergency

response, utilizing department of health protocols; the administration of immunizations is to be under the supervision of a physician, nurse, or other authorized health provider;

(ii) administer vaccines to EMS and public safety personnel;

(iii) TB skin tests may be applied and interpreted if the licensed provider has successfully completed required department of health training;

(iv) in the event of a disaster or emergency, the state EMS medical director or chief medical officer of the department of health may temporarily authorize the administration of pharmaceuticals or tests not listed above.

**N. EMT-PARAMEDIC (EMT-P):**

**(1) The following allowed drugs may be administered and skills and procedures may be performed without medical direction:**

(a) basic airway management;

(b) use of basic adjunctive airway equipment;

(c) suctioning;

(d) cardiopulmonary resuscitation, according to current ECC guidelines;

(e) obstructed airway management;

(f) bleeding control including the appropriate use of tourniquet;

(g) spine immobilization;

(h) splinting;

(i) scene assessment, triage, scene safety;

(j) use of statewide EMS communications system;

(k) childbirth (imminent delivery);

(l) glucometry;

(m) oxygen;

(n) wound management.

**(2) The following require service medical director approval:**

**(a) allowable skills:**

(i) mechanical positive pressure ventilation utilizing a device that may have controls for rate, tidal volume, FiO<sub>2</sub>, and pressure relief/alarm and has multiple automatic ventilation modes; this skill includes devices that provide non-invasive positive pressure ventilation (including continuous positive airway pressure (CPAP) and bi-level positive airway pressure (BPAP));

(ii) use of multi-lumen, supraglottic, and laryngeal airway devices (examples: PTLA, combi-tube, king airway, LMA) to include gastric suctioning;

(iii) transport of patients with nasogastric tubes, urinary catheters, heparin/saline locks, PEG tubes, or vascular access devices intended for outpatient use;

(iv) application and use of semi-automatic defibrillators;

(v) acupressure;

(vi) peripheral venous puncture/access;

(vii) blood drawing;

(viii) I.V. fluid therapy;

(ix) direct laryngoscopy for endotracheal intubation and removal of foreign body in patients 13 and older; for patients 12 and under, for removal of foreign body only;

(x) endotracheal intubation for patients over the age of 12;

(xi) thoracic decompression (needle thoracostomy);

(xii) surgical cricothyroidotomy;

(xiii) insertion of nasogastric tubes;

(xiv) cardioversion and manual defibrillation;

(xv) external cardiac pacing;

(xvi) cardiac monitoring;

(xvii) use of infusion pumps;

(xviii) initiation of blood and blood products with on-line medical control;

(xix) intraosseous access;

(xx) performing point of care testing; examples include serum lactate values, cardiac enzymes, electrolytes, and other diagnostic values;

(xxi) hemostatic dressings for control of bleeding;

(xxii) vagal maneuvers.

**(b) administration of approved medications via the following routes:**

- (i) intravenous;
- (ii) nasal mucosal atomization (MA);
- (iii) nebulized inhalation;
- (iv) sublingual;
- (v) intradermal;
- (vi) intraosseous;
- (vii) endotracheal;
- (viii) oral (PO);
- (ix) intramuscular;
- (x) topical;
- (xi) rectal;
- (xii) IV drip;
- (xiii) subcutaneous;

**(c) allowable drugs:**

- (i) acetaminophen;
- (ii) activated charcoal;
- (iii) adenosine;
- (iv) albuterol (including isomers);
- (v) amiodarone;
- (vi) aspirin;
- (vii) atropine sulfate;
- (viii) benzodiazepines;
- (ix) calcium preparations;
- (x) corticosteroids;
- (xi) dextrose;
- (xiii) diphenhydramine;
- (xiv) epinephrine;
- (xv) furosemide;
- (xvi) glucagon;
- (xvii) hydroxycobalamine;
- (xviii) ipratropium;
- (xix) lidocaine;
- (xx) magnesium sulfate;
- (xxi) naloxone;
- (xxii) narcotic analgesics;
- (xxiii) nitroglycerin;
- (xxiv) oral glucose preparations;
- (xxv) oxytocin;
- (xxvi) phenylephrine nasal spray;
- (xxvii) pralidoxime, IM auto-injection for treatment of chemical and nerve agent exposure;
- (xxviii) anti-emetic agents, for use as an anti-emetic only;
- (xxix) sodium bicarbonate;
- (xxx) thiamine;
- (xxxi) topical anesthetic ophthalmic solutions;
- (xxxii) vasopressor agents;
- (xxxiii) intravenous fluids

**(3) Drugs allowed for monitoring during inter-facility transports** (initiated and administered by the sending facility with defined dosing parameters and requiring an infusion pump when given by continuous infusion unless otherwise specified); the infusion may be terminated by the paramedic if appropriate, but if further adjustments are anticipated, appropriate hospital personnel should accompany the patient, or a critical care transport unit should be utilized:

- (a) potassium (no infusion pump needed if concentration not greater than 20mEq/1000cc;
- (b) anticoagulation type blood modifying agents (such as fibrolytic drugs, heparin, glycoprotein IIb-IIIa inhibitors/antagonists);

- (c) procainamide;
- (d) mannitol;
- (e) blood and blood products (no pump required);
- (f) aminophylline;
- (g) antibiotics and other anti-infective agents;
- (h) dobutamine;
- (i) sodium nitroprusside;
- (j) insulin;
- (k) terbutaline;
- (l) norepinephrine;
- (m) octreotide;
- (n) nutritional supplements;
- (o) beta blockers;
- (p) calcium channel blockers;
- (q) nesiritide;
- (r) propofol in patients that are intubated prior to transport;
- (s) proton pump inhibitors and H2 antagonists;
- (t) crotalidae polyvalent immune fab (ovine) (“crofab”) crofab may be monitored during inter-

facility transport provided the physician initiated crofab infusion has been running for a minimum of 30 minutes prior to the paramedic initiating the transfer and assuming responsibility for patient care.

**(4) Immunizations and biologicals:** administration of immunizations, vaccines, biologicals, and TB skin testing is authorized under the following circumstances:

(a) to the general public as part of a department of health initiative or emergency response, utilizing department of health protocols; the administration of immunizations is to be under the supervision of a physician, nurse, or other authorized health provider;

(b) administer vaccines to EMS and public safety personnel;

(c) TB skin tests may be applied and interpreted if the licensed provider has successfully completed required department of health training;

(d) in the event of a disaster or emergency, the state EMS medical director or chief medical officer of the department of health may temporarily authorize the administration of other pharmaceuticals or tests not listed above.

**(5) Skills approved for monitoring in transport:**

(a) internal cardiac pacing;

(b) chest tubes.

**(6) Medications for administration during patient transfer:**

(a) retavase (second dose only);

(b) protamine sulfate;

(c) non-depolarizing neuromuscular blocking agents in patients that are intubated prior to transport;

(d) acetylcysteine;

**(7) Patient’s own medication that may be administered:**

(a) epoprostenol sodium, treprostinil sodium, or other medications utilized for certain types of pulmonary hypertension;

(b) bronchodilators using pre-measured or metered dose inhalation device;

(c) sublingual nitroglycerin for unrelieved chest pain; must have intravenous access established prior to administration;

(d) glucagon;

(e) situations may arise involving patients with uncommon conditions requiring specific out of hospital administered medications or procedures; family members or the designated caregiver trained and knowledgeable of the special needs of the patient should be recognized as the expert regarding the care of the patient; EMS can offer assistance in airway management appropriate to their level of licensure, IV access, and the administration of the patient’s prescribed medications where appropriate only if the medication is in the EMS provider’s scope of practice; online (direct contact) medical control communication must be established with the medical control physician approving the intervention; EMS services are not expected to provide the prescribed medications for these special needs patients.

[7.27.11.8 NMAC - Rp, 7.27.11.8 NMAC, 8/15/14]

**7.27.11.9 APPROVED TRAINING PROGRAMS:** “Approved emergency medical services training program” means a New Mexico emergency medical services training program that is sponsored by a post-secondary educational institution, is accredited by the national accrediting organization for emergency medical services or active in the accreditation process, and is approved by the joint organization on education (JOE) and participates in the joint organization on education. Currently, there are five approved EMS training programs.

**A. Emergency medical services academy.** University of New Mexico, (700 Camino De Salud NE., Albuquerque, New Mexico 87106, Tel: 505-272-5757). The EMS academy is designated as the lead training agency for providers in New Mexico as stated in Section 24-10B-12 NMSA 1978. The EMS academy teaches formal EMS education courses including EMS first responder, EMT-basic, EMT-intermediate, and EMT-paramedic.

**B. Dona Ana branch community college.** New Mexico state university, (Box 30001, Las Cruces, NM 88003-0001, Tel: 505-527-7530). Dona Ana branch community college teaches formal EMS education courses including EMS first responder, EMT-basic, EMT-intermediate, and EMT-paramedic.

**C. Eastern New Mexico university.** EMS program, (Box 6000, Roswell, NM 88202-6000, Tel: 505- 624-7000). The eastern New Mexico university teaches formal EMS education courses including EMS first responder, EMT-basic, EMT-intermediate, and EMT-paramedic.

**D. Central New Mexico community college.** EMS program, (525 Buena Vista Rd. SE, Albuquerque, NM 87106, Tel: 505-224-4000). Central New Mexico community college teaches formal EMS education courses including EMS first responder, EMT-basic, EMT-intermediate, and EMT-paramedic.

**E. San Juan college EMS Program.** (4601 College Blvd; Farmington, NM 87402; 505-566-3857). San Juan College conducts formal EMS education courses including EMS first responder, EMT-basic, EMT-intermediate, and EMT-paramedic.

[7.27.11.9 NMAC - Rp, 7.27.11.9 NMAC, 8/15/14]

**7.27.11.10 SPECIAL SKILLS APPLICATION AND REPORTING PROCEDURES:**

**A. Purpose:** Special skills are those skills, procedures, and medications that are requested by an EMS service to enhance emergency treatment capabilities beyond the normal scope of practice, as defined in the Emergency Medical Services Act. Use the enclosed procedures for application, reporting and renewal for special skills. Applications are reviewed and approved or disapproved by the medical direction committee, and once approved, become a legally recognized addition to the service capabilities.

**B. General:** All levels of EMS personnel, including licensed EMS first responders and all levels of licensed EMTs are eligible for special skills consideration for any procedure, skill or medication.

**C. Application procedure:** The EMS service medical director, or his designee, shall coordinate with the EMS service director, and shall apply for special skills to the EMS medical direction committee.

**D. Application document:** The application document for a special skill must be tailored to the level of the request. While the degree of detail in each section may vary to match the nature of the skill requested, all applications should include the following elements, in order:

(1) application cover page: titled to state the requested special skill, date of application, name of service, service director name and medical director name;

(2) contact information page: must include address and contact information for the service, service director and medical director;

(3) letters of support: must include individual letters of support from the service director and medical director; additional letters of support from the local medical community or evidence of notification of the local medical community may be required; the need for letters of notification and support from the local medical community and who provides the letters must be adjusted to match the nature of the special skill requested;

(4) service description: provide a concise description of the EMS service; this includes such items as basic call demographics relevant to the applicant, level of licensure of providers and names and locations of the primary receiving medical facilities;

(5) description of the special skill: provide a description of the procedure, medication or requested skill; include information on risks, benefits, indications and contraindications;

(6) justification and statement of need: provide a statement explaining why the special skill is needed; this should include a description of the current medical intervention or alternative practice to the special skill and a risk or benefit analysis that supports the special skill requested; the estimated number of potential interventions per year, other relevant statistical data and a statement indicating the level of current scientific information/studies to support the requested special skill; the level of scientific justification can be adjusted to match the level of the special skill requested;

(7) protocol: provide a copy of the treatment protocol; include other operational protocols relevant to the special skill, if applicable;

(8) training: provide a training syllabus; this must include learning objectives and the training hours for initial and continuing education; this section should also include a description of the instructors, how training will be completed, and a description of the method used to initially evaluate the skill; once initial training is completed, a list of trained and approved personnel shall be provided to the medical direction committee; these special skill authorized licensed EMS personnel must appear on the service's personnel list on the *New Mexico EMS tracking and reporting system database*.

(9) QA/QI program: provide a description of the QA/QI process for the special skill, including frequency of evaluation, names and qualifications of the personnel involved in the process; include a copy of the evaluation tool or forms that will be used, if applicable; and

(10) the application and all supporting documentation shall be submitted to the EMS bureau, attn: state EMS training coordinator.

**E.** Applicants may involve the EMS regional offices when preparing a special skill request and include a letter evidencing regional review. Applicants shall forward a copy of their application to their EMS regional office when completed.

**F.** Upon receipt, the state EMS medical director and state EMS training coordinator will review the application. The service will be notified if the application is found to be incomplete or to contain significant errors.

**G.** Applications must be received at the bureau at least 45 days prior to the next regularly scheduled medical direction committee meeting to be placed on the agenda of that meeting for consideration by the medical direction committee.

**H.** The medical direction committee shall take action on all special skills applications on the agenda at their regularly scheduled meeting. The medical direction committee may take the following actions on the application: approved with limitations or restrictions, denied or tabled with a request for a formal presentation or additional information by the requesting service medical director or their designee.

**I.** The medical direction committee may give an approval subject to specific conditions, limitations or restrictions. This may include a written and practical examination.

**J.** Within 10 working days following the decision of the medical direction committee, the state EMS training coordinator shall provide a written response to the applicant regarding the action of the medical direction committee.

**K.** Special skills may not be utilized until receipt of the special skill approval letter from the bureau. Any specific conditions or limitations will be evidenced in the approval letter from the bureau.

**L. Monitoring:** It is expected that EMS services with approved special skills will continuously comply with the requirements of their application and approval letter. This includes, but is not limited to, such items as training curricula, approved instructors, quality assurance, protocols and data collection. Any changes to the approved application shall be sent to the state EMS training coordinator for concurrence/coordination with the medical direction committee.

**M.** The medical direction committee may immediately suspend or revoke special skill privileges for an individual or service that loses medical direction, or fails to comply with the stated requirements, or for any other reason to protect the health and welfare of the people of New Mexico.

**N.** If a new medical director assumes control of a service with an active special skill program, the bureau shall receive a letter of support from the new medical director within 30 days or the special skill approval may be withdrawn.

**O.** The service shall maintain a current list of all providers trained and approved to utilize the special skill. This list must be provided to the bureau upon request.

**P.** Reporting: The service shall provide to the state EMS training coordinator periodic written special skill reports. During the first year, the report shall be due semi-annually, occurring on June 1 and December 1. Subsequent reports shall be due annually on June 1.

**Q.** Report document: The written special skill report shall include the following minimum elements:

(1) report cover page: titled to state the special skill reported, date, name of service, service director and medical director;

(2) contact information page: shall include address and contact information for the service, service director and medical director;

(3) letters of support: must include individual letters of continued support from the service director and service medical director;

(4) statistics and outcome data: provide data on the utilization and patient outcomes involving the

special skill; do not include patient identifiers; all adverse outcomes related to the special skill must be reported;

(5) continuing education: provide evidence of the continuing education program and refresher program;

(6) personnel list: provide a list of all personnel authorized to perform the special skill; these special skill authorized licensed EMS personnel must appear on the service's personnel list required for the *New Mexico EMS tracking and reporting system database*.

(7) QA/QI program: provide evidence of the ongoing QA/QI program;

(8) renewal: during a regularly scheduled meeting, the medical direction committee shall review all ongoing individual special skills programs on their three year anniversary and make a determination on renewal;

(9) if the medical direction committee determines not to provide automatic renewal on an ongoing special skill program, the state EMS training coordinator shall provide a written notification to the service director and the service medical director within 10 working days; and

(10) the special skills program will be placed on the agenda of the next, or subsequent, regularly scheduled meeting of the medical direction committee and final determination regarding renewal will be made.

R. Special skills programs will remain active until a final determination regarding renewal has been made.

S. Special skills application:

(1) general section;

(2) EMS service name;

(3) address;

(4) service chief/director;

(5) contact phone number;

(6) physician medical director;

(7) physician/medical director contact phone number;

(8) special skill proposed;

(9) level of licensure necessary for special skill;

(10) estimated number of personnel to be trained;

(11) estimated date of initial training;

(12) training/quality assurance;

(13) describe or identify the curriculum, including learning objectives, training hours, etc.;

(14) please identify the lead instructor and provide a brief summary of their qualifications or attach a resume;

(15) resumes required for new instructors;

(16) if training/experience is required, provide a letter of commitment from the supporting institution;

(17) describe or attach a proposed continuing education plan;

(18) attach a description of quality assurance plan, including periodic case reviews and ongoing problems;

(19) identification and steps for remedial action if necessary;

(20) signatures; person completing the application, service chief/service director and medical director;

(21) submit 10 copies of the application in its entirety to: EMS bureau, state EMS training coordinator, (1301 Siler Rd., Building F, Santa Fe, NM 87507);

(22) submit one copy to the regional office.

[7.27.11.10 NMAC - Rp, 7.27.11.10 NMAC, 8/15/14]

#### 7.27.11.11 EMS PERSONNEL JOB DESCRIPTIONS:

A. **Introduction:** The bureau is providing the following general position description for the New Mexico EMS provider positions for first responder, EMT-basic, EMT-intermediate, and EMT-paramedic. It is the ultimate responsibility of an employer to define specific job descriptions within each EMS service.

B. **Qualifications:**

(1) successfully complete a recognized training course from an approved EMS training institution;

(2) possess a valid course completion certificate, and accomplish all state licensure examination application requirements;

(3) additionally, applicants shall meet all established requirements for initial licensing as identified by the current EMS licensure regulations;

(4) a copy of these regulations is available through the EMS bureau;

- equivalent;
- (5) generally, the knowledge and skills required demonstrate the need for a high school education or
  - (6) ability to communicate verbally; via telephone and radio equipment;
  - (7) ability to lift, carry, and balance up to 125 pounds (250 pounds with assistance);
  - (8) ability to interpret written, oral, and diagnostic form instructions;
  - (9) ability to use good judgment and to remain calm in high-stress situations;
  - (10) ability to work effectively in an environment with loud noises and flashing lights;
  - (11) ability to function efficiently throughout an entire work shift;
  - (12) ability to calculate weight and volume ratios and read small English print, both under life threatening time constraints;
  - (13) ability to read and understand English language manuals and road maps;
  - (14) accurately discern street signs and address numbers;
  - (15) ability to interview patient, family members, and bystanders;
  - (16) ability to document, in writing, all relevant information in a prescribed format;
  - (17) ability to converse orally and in written form in English with coworkers and hospital staff as to status of patient;
  - (18) good manual dexterity, with ability to perform all tasks related to the highest quality of patient care;
  - (19) ability to assume a variety of postural positions to carry out emergency and non-emergency patient care, including light extrication; from crawling, kneeling, squatting, twisting, turning, bending, to climbing stairs and ladders, and the ability to withstand varied environmental conditions such as extreme heat, cold, and moisture; and
  - (20) ability to work in low light, confined spaces and other dangerous environments.

**C. Competency areas:**

(1) **Licensed EMS first responder:** Must demonstrate competency handling emergencies utilizing all basic life support equipment and skills in accordance with all behavioral objectives of the approved New Mexico curriculum of first responder, to include the ability to demonstrate competency for all skills and procedures currently approved for the first responder, as identified by the current scope of practice document.

(2) **Emergency medical technician-basic:** Must demonstrate competency handling emergencies utilizing all basic life support equipment and skills in accordance with all behavioral objectives of the approved New Mexico curriculum of EMT-basic, and to include the ability to demonstrate competency for all skills and procedures currently approved for the EMT-basic, as identified by the current scope of practice document.

(3) **Emergency medical technician-intermediate:** Must demonstrate competency handling emergencies utilizing all basic life support and intermediate life support equipment and skills in accordance with all behavioral objectives of the approved New Mexico curriculum of EMT-intermediate, and to include the ability to demonstrate competency for all skills and procedures currently approved for the EMT-intermediate, as identified by the current scope of practice document.

(4) **Emergency medical technician-paramedic:** Must demonstrate competency handling emergencies utilizing all basic life support and advanced life support equipment and skills in accordance with all behavioral objectives of an approved New Mexico curriculum of EMT-paramedic, and to include the ability to demonstrate competency for all skills and procedures currently approved for the EMT-paramedic, as identified by the current scope of practice document.

**D. Description of tasks for all EMS levels:**

(1) Receives call from dispatcher, responds verbally to emergency calls, reads maps, may drive emergency vehicle to emergency site, uses most expeditious route, and observes traffic ordinances and regulations.

(2) Determines nature and extent of illness or injury, takes pulse, blood pressure, visually observes changes in skin color, auscultate breath sounds, makes determination regarding patient status, establishes priority for emergency care, may administer intravenous drugs or fluid replacement as authorized by level of licensure and scope of practice.

(3) May use equipment and other devices and procedures as authorized by level of licensure and scope of practice.

(4) Assists in lifting, carrying, and transporting patient to an ambulance and to a medical facility.

(5) Reassures patients and bystanders and searches for medical identification emblem to aid in care.

(6) Extricates patient from entrapment, assesses extent of injury, uses prescribed techniques and appliances, radio dispatcher for additional assistance or services, provides light rescue service if required and trained, provides additional emergency care following service established protocols.

(7) Complies with regulations in handling deceased, notifies authorities, arranges for protection of property and evidence at scene.

(8) Determines appropriate facility to which patient will be transported, report nature and extent of injuries or illness to the facility, asks for direction from hospital physician or emergency department staff.

(9) Observes patient in route and administers care as directed by physician or service- established protocols.

(10) Identifies diagnostic signs that require communication with facility.

(11) Assists in removing patient(s) from ambulance and into emergency facility.

(12) Reports verbally, and in writing, observations about and care of patient at the scene, en-route to facility, and to the receiving facility. Written reports shall be completed for all patient interactions, which include any visual, verbal, or physical patient contact, by the most appropriate EMS caregiver, whether or not the patient was transported to a facility, including patient refusals.

(13) Provides assistance to emergency department staff as required.

(14) Replaces supplies, sends used supplies for sterilization, checks all equipment for future readiness, maintains ambulance in operable condition, ensures ambulance cleanliness and orderliness of equipment and supplies, decontaminates vehicle interior, determines vehicle readiness by checking oil, gas, water in battery and radiator, and tire pressure, maintains familiarity with all specialized equipment.

[7.27.11.11 NMAC - Rp, 7.27.11.12 NMAC, 8/15/14]

#### **HISTORY OF 7.27.11 NMAC:**

##### **History of Repealed Material:**

7.27.11 NMAC, Supplemental Licensing Provisions (filed 12/17/2012) repealed 8/15/14.