# Seattle Fire Department High Utilizer Individuals Pilot Project: Study Design (2016)

Bridget B. Albright, PA-C
University of Washington, Executive MPH program
bridgeta@uw.edu

September 9, 2016

**Introduction:** Across the United States, high utilizing individuals (HUI) of emergency medical services (EMS) are calling 9-1-1 for non-emergent needs with increasing frequency.[1] It is estimated that nationally 5% of emergency department (ED) patients account for 25% of all the visits, and 62% of all ED visits are for avoidable conditions.[2] A draft white paper, titled *Innovation Opportunities for Emergency Medical Services* published in 2013 by the National Highway Traffic Safety Administration (DOT), the Office of the Assistant Secretary for Preparedness and Response (HHS), and the Health Resources and Services Administration (HHS) revealed that in 2009 there were over 136 million emergency department visits in the United States with approximately 21,760,000 arriving by EMS.[3] Their analysis showed that potentially 15% of the Medicare ED transports could have been safely treated outside the ED if options other than transporting to the ED existed for the EMS team.

This paper also noted that 45% of the Medicare beneficiaries arriving by ambulance were not admitted to the hospital, which supports the theory that the EMS team and 9-1-1 caller should have options other than transport to an ED for the individual. The *Innovation Opportunities* draft paper states no national evaluation of our system has occurred since the development of Medicare.[4] This is problematic for several reasons. First and foremost, patients' needs are not being effectively addressed in a way that will improve their lives. It also strains our logistical and financial resources on a national and local level and negatively impacts the response time to life-threatening calls.

**Background:** Emergency Medical Services includes those services and medical providers who provide assessment and transport for patients with acute out-of-hospital care needs. Often these services are used by people because they lack access to other providers.[5] In the United States this service is provided by the local fire department. This is called fire-based EMS and is how the service is provided in the City of Seattle. The goal of EMS is to provide emergency evaluation, treatment, stabilization, and if needed, transport to the next point of definitive care. Due to the compassionate nature and dedication of most EMS teams, there is also a strong motivation to help individuals without life threatening needs who have called 9-1-1. However, this decreases the availability of EMS teams to higher acuity calls and lengthens response times to true emergencies.

Providers, academics, and policy-makers have recognized that addressing high utilizing individuals (HUIs) is an important strategy for controlling our country's healthcare costs.[6] The

---

[1] Seattle Fire Department, *Low Acuity Program blueprint, 2015.*
[2] Henkel, Anne. Mccarthy, Nate. Rethinking Care for Emergency Department Super Utilizers in a Value-Based World. January14, 2016. Accessed June 5, 2016. http://www.ecgmc.com/thought-leadership/articles/rethinking-care-for-emergency-department-super-utilizers-in-a-value-based-world
[3] Accessed June 5, 2016. http://www.ems.gov/pdf/2013/EMS_Innovation_White_Paper-draft.pdf
[4] Ibid.
[5] Gindi RM, Cohen RA, Kirainger WK. Emergency room use among adults aged 18-64: Early release of estimates from the National Health Interview Survey, January-June 2011. National Center for Health Statistics. May 2012. Accessed May 15th 2016. Available from http://www.cdc.gov/nchs/nhis/releases.htlm.
[6] Uchenna Emeche, MD. Is a Strategy Focused on Super-Utilizers Equal to the Task of Health Care System Transformation? Yes. January 6, 2013. Accessed on May 15th 2016. http://www.annfammed.org/content/13/1/6

Institute for Healthcare Improvement describes three aims to optimize health system performance: to improve the patient experience, improve population health, and decrease per capita healthcare costs.[7] Nationally, a 2010 study by the Agency for Healthcare Research and Quality (AHRQ) showed the top 1% of patients ranked by their healthcare expenses accounted for 21.4% of total healthcare spending, at an average annual cost of $87,570.[8] There is potential to improve efficiency of healthcare delivery, decrease 9-1-1 utilization without missing true emergencies, decrease admissions, readmissions, and ED visits, and decrease low acuity transports. All of these will lower per capita healthcare costs both regionally and nationally. Nationally, there is no existing financial incentive to treat individuals at the scene or to transport them to a provider other than the ED.[9] This will need to be changed to make appropriate distribution of resources possible.

**Defining High Utilizing Individuals:** Defining a high utilizer has been difficult on both a local and national level. Standard language is still being developed regarding high utilizers and how their needs evolve in terms of their medical and mental health and changing support resources. There is no consistency in state or federal statistics and data gathering, but through ongoing research, some norms are evolving. The consensus of national research shows that there are two types of high utilizers. There are those who truly have urgent or emergent needs frequently, and those who have less acute needs (low acuity) but also utilize the 9-1-1 system frequently.

Recent research supports the theory that people call 9-1-1 and go to the ED because of lack of access to other providers and services, not because of the acuity of their complaints.[10] In reality people are not always strictly either a high utilizer with truly emergency needs or a high utilizer with lower acuity needs. The phrase "low acuity" implies a static state and most EMS personnel would attest that people do not always remain static in their health needs. More simply, someone's health or social situation can wax and wane from stability to instability over time. Some individuals may at times utilize 9-1-1 appropriately, meaning they have true emergent needs but they are still highly utilizing the system.

To alter their 9-1-1 utilization, there must be a change in their medical or social situation that contributes to these emergencies. For example, there may be a high utilizing individual who has poorly controlled diabetes and frequently develops diabetic ketoacidosis which if untreated will cause coma and soon thereafter death. Every time the HUI or a caregiver calls 9-1-1 it is appropriate because diabetic ketoacidosis is truly a medical emergency. Yet if the HUI can attain better management of their diabetes, they would have fewer diabetic crises that require 9-1-1 involvement.

---

[7] Eilers, Katie. Kitsap County Medicaid Waiver Project Intensive Case Management for High Utilizers of Healthcare and Emergency Services. 2016. Accessed May 15th, 2016. http://www.hca.wa.gov/hw/Documents/waiver_tp_proposals/waiver_tpprop_p18_011416.pdf

[8] Accessed June 5, 2016. http://www.ems.gov/pdf/2013/EMS_Innovation_White_Paper-draft.pdf

[9] Henkel, Anne. Mccarthy, Nate. Rethinking Care for Emergency Department Super Utilizers in a Value-Based World. January14, 2016. Accessed June 5, 2016. http://www.ecgmc.com/thought-leadership/articles/rethinking-care-for-emergency-department-super-utilizers-in-a-value-based-world

[10] Ibid.

Another term, "unscheduled care" defines what the real need or issue is for many individuals.[11] In this situation, HUIs need care more urgently than when their doctor may be available, but the situation is not life-threatening. What is the best way to meet the need of unscheduled care for people who are not having a life-or-death emergency? And for those who are having a life-or-death emergency because of unstable medical or social conditions, what is the best way to improve the stability of their medical or social lives needs to be addressed.

Study of individuals who use 9-1-1 and subsequently emergency rooms for low acuity or unscheduled care reveals that there is another tier of need and thus another tier of services that should be developed for prehospital providers. Research on interventions that will influence the outcome for those individuals with unstable medical or social conditions will also have an effect on their 9-1-1 utilization. It is likely that there are other options, such as providing care at the location of the original call or transporting to a non-ED facility that would be more cost effective, may improve overall patient health, and may decrease the call volume.

**Overview of National Interventions:** When reviewing current national literature, there is variation in the number of calls that constitute a high utilizer. There have been different parameters for how many calls over what period of time constitutes a HUI. Developing common language and perhaps common parameters is important so that interventions can be measured in a standardized fashion. When designing interventions, different thresholds or criteria for what constitutes a high utilizer have been used by various city, state and federal agencies. This can make it difficult to determine if a program that was effective in one particular city, region or hospital would be effective in another setting. For example, while one study used the threshold of 3 or more 9-1-1 calls in a 12 month period, another study used 15 times in 12 months, and one study did not consider someone a high utilizer until they had called 15 times in 3 months.[12, 13, 14]

Determining who these individuals are and how best to serve them without inadvertently missing those experiencing a life-threatening emergency, is a national dilemma that is being looked at by many agencies. For example the *Innovation Opportunities* draft paper concluded that "Americans deserve a full *systems approach*" to address the need of unscheduled care. Another agency addressing our national healthcare issues is the Institute for Healthcare Improvement. It has developed goals or "Triple Aims" to improve patient experience, improve population health, and decrease per capita healthcare costs. These aims reinforce the draft paper's conclusion that there is potential for significant improvement in the care of HUI's by developing standard definitions, language and reproducible studies and interventions.[15]

---

[11] Accessed June 5, 2016. http://www.ems.gov/pdf/2013/EMS_Innovation_White_Paper-draft.pdf

[12] Thurnhofer, Elaine. Frequent Flyers: Developing Community-Based Strategies to Serve Frequent ER Visitors. June 5th, 2014. Accessed on May 15th 2016. http://www.agingkingcounty.org/ctconference/docs/Frequent-ER-Flyers_workshop.pdf

[13] Zavadsky, Matt. Trained Paramedics Provide Ongoing Support to Frequent 911 Callers, Reducing Use of Ambulance and Emergency Department Services. June 13, 2015. Accessed on June 5th, 2016.

[14] Bell-Brown, Ari. "Vulnerable Adult Pilot Project: Program Evaluation. University of Washington, Seattle 2015. http://www.agingkingcounty.org/abuse/VulnerableAdultEvalFinal090315.pdf. Accessed on June5th 2016.

[15] Eilers, Katie. Kitsap County Medicaid Waiver Project Intensive Case Management for High Utilizers of Healthcare and Emergency Services. 2016.

Innovations to address high utilizers of EMS have varied and most have had reasonable success. A Health Integration Project at St. Charles Medical Center in Bend, Oregon identified super utilizers of the ED. A multi-disciplinary team then worked to resolve barriers that prevented patients from accessing primary care in an outpatient setting, such as transportation, housing, or lack of phone service. The project manager stated every super utilizer "have some kind of motivation" and that the goal of the multi-disciplinary team was to "discover what that motivation is and see if they can do something about it"[16] In the first year, the project achieved a 49% reduction in the number of ED visits by super utilizers and reduced costs by an average of $3,100 per patient.

In Minneapolis, Hennepin County Medical Center's Coordinated Care Clinic is adjacent to the ER. The clinic comprises primary care, behavioral health services (e.g., chemical dependency treatment, mental health counseling), and assistance to address social needs. Medical, behavioral, and social assessments are done by a team which includes a medical provider, a nurse care coordinator, a clinic social worker, a pharmacist, psychologist and chemical dependency counselor. The clinic schedules appointments and accepts all walk-ins, so they do not need to go to the ED for unscheduled care needs. Patients are generally seen two to three times a month and often meet with more than one member of the team during their visits. The clinic reported a 38% decrease in ED visits, a 25% decrease in hospitalizations, and a 23% decrease in per patient costs over the first year of participation.[17]

In Camden, New Jersey a coalition of healthcare providers, community resources and patients was formed to address what they termed "super utilizers". They defined super utilizers as "typically having multiple chronic conditions combined with social barriers that make it hard to access and coordinate the care they need to manage these conditions and stay healthy." Their data showed that the super utilizers comprised 5% of the population but accounted for 50% of healthcare expenditures. The coalition quickly determined that the city did not lack resources but needed coordination of existing resources. In 2007 they expanded their program from coordinating just with primary care providers engage also with housing agencies, nutrition programs, homeless shelters and mental, behavioral and homeless outreach. To ensure success and funding, the coalition focused on data collection. This included a citywide health database that contained data to support broad-based population-level use of the emergency department, a Health Information Exchange (HIE) that allowed providers to access detailed clinical data about their patients at the point of care, and a customized care coordination tracking tool.[18]

---

http://www.hca.wa.gov/hw/Documents/waiver_tp_proposals/waiver_tpprop_p18_011416.pdf. Accessed May 15th, 2016.

[16] Henkel, Anne. McCarthy, Nate. Rethinking Care for Emergency Department Super Utilizers in a Value-Based World. January14, 2016. http://www.ecgmc.com/thought-leadership/articles/rethinking-care-for-emergency-department-super-utilizers-in-a-value-based-world. Accessed June 5, 2016.

[17] Ibid.

[18] Andrea Miller, MA, Megan Cunningham,* and Nadia Ali, MPA. "Bending the Cost Curve and Improving Quality of Care in America's Poorest City". POPULATION HEALTH MANAGEMENT
Volume 16, Supplement 1, 2013.

Interventions to address high utilizers in EMS also exist. MedStar, an emergency medical service provider serving the Fort Worth, Texas area uses registered nurses (RNs) in the 9-1-1 call center to determine if a caller needs something other than a medical response unit and assists the caller in finding more appropriate resources as needed. MedStar also uses paramedics to provide in-home and telephone-based support to high utilizing individuals. Their services include medical assessments, customized care plans, and support of the patient and family in following the plan. Support generally continues until patients can manage independently.[19]

**Washington State Innovations:** In Washington State, there have been a variety of successful innovations to address the increase of high utilizing individuals of EMS. In Spokane, starting in 2007, the fire department teamed with Eastern Washington University Master's in Social Work (MSW) students. After receiving appropriate training, MSW students complete their practicum requirement in 8-12 month rotations by working as student interns overseen by a city employed Social Response Manager. Their role is to assist high utilizers to connect with available resources.[20] The firefighters and social work team relied on each other's skill sets. The social worker students could see the difference they made in callers lives by connecting them to community resources and the firefighters appreciated having a referral for those callers in complex social situations.

In Kent, an innovative program called FDCARES utilizes a data entry system that categorizes callers into tiers to determine who should be reached out to and how urgently this should be done. This enables them to send out a mobile SUV with specially trained EMTs to better meet the needs of their HUI population. Within the last year they have started a pilot program to send an EMT and RN team out to calls that the 9-1-1 call center has categorized as low acuity.[21] This is similar to the Spokane project in that they are supplementing the firefighter's resources with a non-firefighter who can have expertise in coordinating community resources.

An example in Seattle illustrates the potential cost savings that can occur with innovative solutions is the 1811 Eastlake Housing First Program started in 2005. This program is part of a strategy to decrease homelessness in which permanent housing takes precedent over attaining sobriety for individuals with chronic alcoholism. The objective of the project is to help residents achieve housing stability, reduce residents' use of the city's crisis response system, reduce public nuisances caused by them, and encourage residents to seek alcohol treatment. Annual average costs per person while homeless, the year before moving in, were $86,062. By comparison, it

---

[19] Wright, Mike. Hargarten, Andrea. Community Paramedics. April 29th, 2015. http://www.marquette.edu/nursing/documents/2-Hargarten-PowerPoint.pdf. Accessed on July 15th, 2016.
[20] https://issuu.com/ewueagles/docs/ewuengage2014/20. Accessed on June 12th, 2016.
[21] Thurnhofer, Elaine. Frequent Flyers: Developing Community-Based Strategies to Serve Frequent ER Visitors. June 5th, 2014. http://www.agingkingcounty.org/ctconference/docs/Frequent-ER-Flyers_workshop.pdf. Accessed on May 15th 2016.

costs $13,440 per person per year to administer the housing program, which yields a cost savings of approximately $72,622 per participant.[22]

All of the cited interventions, whether hospital or EMS-based, have several common strategies that have contributed to their success. Important factors to include in a local program are a clear definition of the target population, electronic data collection and distribution of information, interagency coordination and cooperation, and patient engagement. These are essential to determine needed resources, cost savings, patient satisfaction, health improvement and areas for future development. Programs that utilized a spectrum of agencies and coordinated care among professionals achieved positive results. Multi-agency coordination contributed to reduction in HUIs' calls to 9-1-1, reduced ED visits and hospital admission, and in many cases improved health and satisfaction for the high utilizers themselves.

**Who are Seattle's High Utilizing Individuals?** The incidence of high utilizing individuals of emergency medical services for non-emergent needs has increased dramatically in Seattle. In response, the Seattle Fire Department has developed a Low Acuity Alarm Program to address the issue. The Alarm Program defines a low acuity alarm as "a call for service that is found to present no immediate risk to health, life, property or the environment."[23]

Initial data collection showed that high utilizers comprise 1.4% of all patients, generate 5% of all alarms, and are predominantly located in the downtown Seattle area. Further analyses showed that the top 50 callers generated 1,125 calls in 2014.[24] These data likely underrepresented the true incidence, since medical records were not always generated for some of these calls and spelling errors in patient names could miss additional matches in the data.

**Challenges to Reducing HUI Calls:** There are multiple barriers to identifying high utilizers and measuring the success of potential interventions. As discussed above, there is no consensus regarding terminology or inclusion criteria for high utilizing individuals. A variety of terms have been used in the different innovations and studies across the country.

Regional factors contribute to current challenges. Within the city of Seattle high utilizer definitions vary among local organizations. The population in Seattle is continuing to increase along with the economic and cultural diversity of the city. Data processing and sharing remains a work in progress, with no standard format or platform across agencies. Until the planned adoption of electronic healthcare records occurs, Seattle Fire Department remains dependent on paper medical forms which do not provide real-time data.

[22] Garcia, Christina. Downtown Emergency Services Center: 1811 Eastlake. November 2011. http://www.csh.org/wp-content/uploads/2011/11/EastlakeWA.pdf Accessed on June 5th, 2016.

[23] Seattle Fire Department, *Low Acuity Program blueprint, 2015*.
[24] Ibid.

**Project Proposal:**

**"High Utilizer work is about building relationships with people who are in crisis"[25]**

The proposed project to reduce the number of high utilizing individuals of EMS relies on a coordinated effort between the Seattle Fire Department, Aging and Disability Services (ADS) and the many varied social services in the Seattle area to reduce the HUI's dependence on 9-1-1 for low acuity needs. The project has three primary goals:

1. Identify a cohort of HUIs of EMS in the City of Seattle;
2. Engage each HUI, assess their needs, and develop a care plan that best fits their needs;
3. Evaluate interventions that can influence the HUI utilization of the 9-1-1 system.

Starting on September 1, 2016, the Seattle Fire Department will enroll previously identified HUIs for referral to ADS. Because of the delay in the availability of patient care records, HUI names will be solicited from all 33 fire department station officers, and matched to calls in the Seattle Fire Department Computer-Aided Dispatch database. After the initial outreach, HUIs will be added via firefighter online or telephone referral.

The list of HUIs will be generated by the case manager. Inclusion criteria will be defined as three or more calls to 9-1-1 in the previous 3 months. The case manager will prioritize 10-15s HUIs based upon total number of 9-1-1 calls, with the highest utilizers taking priority (although the case load will vary based on available resources). Where high utilizers have equivalent call totals, the call load of the utilizer's local fire station will determine placement (patients near busier stations will receive priority). The active referral list will be tracked by the case manager who visits the identified HUIs and obtains legal consent for their participation. Participants are excluded if they refuse enrollment or if safety concerns exist (examples include hazardous materials in residence, structural safety of the residence, violent behavior history, weapons or dangerous animals on the premises).

The case manager role is as follows:

1. Contact each referred HUI in their home environment, assess the medical and social situation, complete intake form, and engage the client in a needs assessment.
2. Develop a care plan or update existing care plans for each enrolled HUI that involves and maximizes community resources to meet low acuity care needs in ways other than utilizing 9-1-1. These plans will be distributed to relevant service providers and local SFD personnel.
3. Educate the HUI regarding when to call 9-1-1, and identify other appropriate resources the HUI could safely utilize for medical or behavioral issues.

[25] Gawande, Atul. The Hot Spotters. January 24, 2011. http://www.peakhealthcare.co.nz/wp-content/uploads/2011/03/preview-of-lower-costs-and-better-care-for-neediest-patients-the-new-yorker.pdf Accessed July 18th, 2016.

4. Assist the HUI in accessing and enrolling in new programs, or coordinating existing services to increase communication among all relevant stakeholders.
5. Update patient information in the data file for each HUI.

**Tracking and Evaluation Metrics:**

Intake Data (see Appendix A): Intake data will help create a clear sense of who the HUIs are in the Seattle city region. Data such as ethnicity, age, gender, and current services will be tracked.

Intervention Data (see Appendix B): Data such as added services, coordinated services and reasons for case closure will be tracked. The tracking of interventions the case manager initiates will determine the degree to which they were effective and may help guide future allocation of city resources.

Output and Outcome Measures:
1. Number of calls from enrolled HUI, both pre and post intervention.
2. Percentage of patients with added and/or coordinated services.
3. Mean number of case manager hours spent per HUI.
4. Number and percentage of cases closed by category: Case manager determination of client stability, client refusal of services, client dies, client moves, loss of contact, non-compliance despite services in place, or safety concerns at any time.
5. Median case duration (in weeks)
6. HUI perception of how well their needs were met and what other services would be helpful
7. SFD perception of the effect of the project and what other services would be helpful.

Having the HUIs and the firefighters fill out a confidential survey at the end of their active case management and at the end of the project will elicit valuable feedback on the perceptions of those involved on which interventions were effective and which could be improved (see Appendix C and D).

**Conclusion:** The goal of this project is to improve the high utilizers' experience by better understanding who they are, what their needs are, and how to better coordinate their care and services. This project has the potential to impact and improve efficiency of healthcare delivery, safely decrease 9-1-1 utilization, and decrease low acuity transports and ED admissions. Improving efficiency and communication will improve the work environment for the firefighters overall. Even if a HUI is unable to reduce 9-1-1 utilization, having coordinated care plans and cross agency communication will improve job satisfaction of everyone involved and give the HUI an improved sense of support from their community. There will likely be realizations of how to better improve the program as a result of feedback from the HUI themselves and the firefighters who care for them. As a secondary project goal, it would be valuable to perform a system cost analysis that closely examines not only cost savings to the Fire Department, but also the cost savings to the ED from reduced transports. Developing a strategy where EMS can transport to other providers or facilities should be a future project consideration.

**Appendix A: Intake Form**

Name (include alternative names): _____

Referral (cohort) dates: _____ thru _____

Number of 9-1-1 calls: _____

FROM MOST RECENT CALL

Age: _____

Gender: ____

Chief Complaint:

- Cardiovascular
- Neurologic
- Respiratory
- Trauma
- Gastrointestinal
- Genitourinary
- ETOH/Drug
- Metabolic/Endocrine
- Psychiatric
- Anaphylaxis/Allergy
- Ob/Gyn
- Other_____

Call Disposition:

- ALS transport
- BLS transport
- Patient refusal
- POV transport
- SPD transport
- No transport

Transport Destination: _____

Residence Type:

- Single Family residence
- Multi-Family residence
- Group home

- ☐ Facility – Adult Family Home
- ☐ Senior Housing Assistance Group (SHAG)
- ☐ Seattle Housing Authority
- ☐ Homeless Housing
- ☐ Other_____

Ethnicity/Race[19, 23] Mark one or more races to indicate how s/he most closely identifies with.

- ☐ Hispanic or Latino
- ☐ Indian or Alaska Native
- ☐ Asian or Asian American
- ☐ Black or African American
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ Caucasian/Non-Hispanic
- ☐ Middle Eastern

Primary Language (if other than English):

- ☐ Spanish
- ☐ Chinese
- ☐ Vietnamese
- ☐ Tagalog
- ☐ Korean
- ☐ African Language (Somali, Amharic)
- ☐ Other:_____

Interpreter Needed:

- ☐ Yes
- ☐ No

Name/Contact information of support people/family member:

_____

Name/Contact information of medical care provider:

_____

INITIAL PATIENT CONTACT

Initial Contact Date: _____

Current Services in Place:

- ☐ Yes
- ☐ No

Current Services by Category:

- ☐ Behavioral services
- ☐ Housing services
- ☐ Medicaid
- ☐ MH resources
- ☐ Substance use disorder resources

Insurance Provider

- ☐ Medicare/Medicaid
- ☐ Private_____
- ☐ Uninsured

Participant enrolled:

- ☐ Yes
- ☐ No

If not enrolled, why:

- ☐ Safety concerns
- ☐ Declines participation

**Appendix B: Intervention Data Form:**

Added Services:

- ☐ Behavioral services
- ☐ Housing services
- ☐ Medicaid
- ☐ MH resources
- ☐ Substance use disorder resources
- ☐ 9-1-1 utilization education

Coordinated Services:

- ☐ Behavioral services
- ☐ Housing services
- ☐ Medicaid
- ☐ MH resources
- ☐ Substance use disorder resources
- ☐ 9-1-1 utilization education
- ☐ Coordinate with SPD
- ☐ Coordinate with APS investigator (for current/ongoing investigations)
- ☐ Coordinate with current providers
    - ☐ Primary care
    - ☐ In-home health provider

Number of visits by the case manager at the end of each quarter

- ☐ 1st quarter____
- ☐ 2nd quarter____
- ☐ 3rd quarter____
- ☐ 4th quarter_____

Estimated time spent on each HUI case by quarter in hours.

- ☐ 1st quarter____
- ☐ 2nd quarter____
- ☐ 3rd quarter____
- ☐ 4th quarter_____

Enrolled in Insurance

- ☐ Medicare/Medicaid
- ☐ Private
- ☐ Uninsured

**Outcome Data:**

Case Closed (date): _____

Reason Case Closed:

- Client stability achieved
- Loss of contact with client
- Client moves
- Client refusal of services
- Non-compliance despite services in place
- Concerns with safety
- Client dies

Number of 9-1-1 calls every 3 months and 3 months post end of study or closure of case

- Enrollment ____
- 1st quarter____
- 2nd quarter____
- 3rd quarter____
- 4th quarter____
- 3 months post disenrollment/withdrawal)_____

**Appendix C: Participant Feedback Survey:**

1. Did the case manager assist you in connecting to helpful resources and services you need?
- ☐ Yes
- ☐ No

2. How satisfied or dissatisfied were you with the services the case manager provided?
- ☐ Very satisfied
- ☐ Somewhat satisfied
- ☐ Neither satisfied nor dissatisfied
- ☐ Somewhat dissatisfied
- ☐ Very dissatisfied

3. What other services would you find helpful?

_____

_____

4. Did the case manager provide you with a care plan?
- ☐ Yes
- ☐ No

5. How helpful was the Care Plan?
- ☐ Very helpful
- ☐ Somewhat helpful
- ☐ Neither helpful nor unhelpful
- ☐ Not helpful at all

6. If you answered "not helpful at all" to the previous question, can you tell us why?
- ☐ My health is too complicated
- ☐ The care plan is too complicated.
- ☐ I cannot follow the care plan

Other reason_____

7. How often have you called 9-1-1 in the last 3 months?
- ☐ None
- ☐ Less than 3
- ☐ More than 3
- ☐ More than 5
- ☐ More than 10

**Appendix D: SFD Personnel Feedback Survey**

1. Do you perceive there has been a reduction in low acuity 9-1-1 calls from the identified high utilizers at your station?
   - ☐ Yes
   - ☐ No

2. Overall, how satisfied or dissatisfied are you with the project?
   - ☐ Very satisfied
   - ☐ Somewhat satisfied
   - ☐ Neither satisfied nor dissatisfied
   - ☐ Somewhat dissatisfied
   - ☐ Very dissatisfied

3. Are there additional services that should be considered for this program?
   - ☐ No
   - ☐ Yes

     If yes, list suggested services:

     _____
     _____
     _____

4. Did you utilize the high utilizer's Care Plan in any capacity? If so, how?

What aspects of the program were most effective?

_____

_____

What aspects of the program were least effective?

_____

_____