McMillan Stabilization Pilot Project: EMS Proposal

1. Background/Significance:

Chronic public inebriates place a considerable resource burden on the entire emergency system, within and beyond the Department of Pubic Health. 1 in 4 ambulance transports in San Francisco during a recent informal patient count were found to be inebriate related. Chronic public inebriates significantly represent low acuity calls and transports. A recommendation from the Board of Supervisor's Hospital Diversion Task Force is to establish a sobering unit at the McMillan Drop-In Center to reduce emergency visits and improve health outcomes for chronic public inebriates. Similar programs in other cities have resulted in reduced emergency visits and improved health outcomes for chronic public inebriates. It is estimated this pilot project will free up 25 to 40 visits per day at local hospitals.

The Department of Public Health is proposing a pilot project to create a medically supervised stabilization center where an inebriated client can regain his/her sobriety over a number of hours. The client will also have access to medical, nursing, behavioral health, case management and housing services to assist in his/her short and long-term stabilization process. Under this pilot project, the public inebriate who would otherwise be transported by an ambulance to a hospital emergency room throughout the City will instead be identified and triaged by paramedics and transported to the McMillan Drop-In Center. Those with indications of significant withdrawal or significant acute medical illness or injury will continue to be transported to the hospital.

The proposed McMillan Stabilization Pilot Project will be operated through a partnership between the Department of Public Health's Tom Waddell Health Center, and Chemical Awareness Treatment Services (CATS), a non-profit agency. The Stabilization Center will be co-located at CATS' McMillan Drop-In Center. CATS and the McMillan Drop-In Center were selected as the partner agency because: (1) the location is central in the City and is a block from the Tom Waddell Clinic; (2) the site is open 24 hours per day, seven days per week; (3) the program has a substance abuse focus; and (4) the target population of the McMillan Drop-In Center is similar to the population the pilot project is addressing.

This pilot project will improve the quality of care in the EMS system by insuring that patients who are chronically inebriated are transported to the most appropriate sites and improving the availability of EMS and Emergency Department resources for more acute patients.

2. Objectives

The overall goals of the pilot project are:

a) To provide better care for chronic public inebriates and improve their health outcomes;
b) To decrease the number of ambulance trips that are transporting chronic public inebriates to the Emergency Department; and
c) To decrease the number of inappropriate chronic public inebriates seen in the Emergency Room.

The hypothesis is that the McMillan Stabilization Pilot Project will decrease the number of ambulance transports of the target patient population (chronic

inebriates) over time and increase their successful exit from a cycle of intoxication and Emergency Department use. A corollary of this hypothesis is that this can be done without increasing ambulance time on task.

The Medical Advisory Committee, a committee created to design the pilot project, has discussed detailed objectives for each of the above goals. A set of draft medical, case management, administrative and evaluation strategies is currently being reviewed.

3. Design/Methods

The project design aims to create a safe place for acutely inebriated persons to safely stabilize and to establish a multidisciplinary team to provide comprehensive services to identified frequent users and at risk individuals. A policy is in place to ensure that these individuals are prioritized to receive needed services. The project design will inform the data that will be collected. Some of the broad short-term and long-term outcome measurements the project is interested in examining are:

a) Change in the number of ambulance trips transporting chronic public inebriates to the City-wide Emergency Departments.
b) Change in the target population utilization of acute services (number of Emergency Department visits).
c) Change in the health outcomes of the target population.

Some of the outcome measures and their source of data include:

Outcome Measures	Data Source
a. Hospital Diversion Rates	EMS Section
b. Ambulance transports of repeat users, e.g., more than 4 EMS calls per month [Pending additional resources]	AIS (SFFD Billing Service)
c. Ambulance time on task [Pending additional resources]	AIS (SFFD Billing Service)
d. MAP van transport rates	MAP Program
e. Emergency Department (ED) visit rate of patients with uncomplicated inebriation, as defined by study parameters; decrease in ED patients “left without being seen”	Receiving Hospitals
f. “Rescue” ambulance calls, complications, and death rates at McMillan	McMillan Stabilization Project
g. Health outcomes of frequent utilizers (housing, primary care, psychiatric care, substance abuse treatment, hospitalization)	McMillan Stabilization Project
h. Service utilization by frequent utilizers, e.g., visits to the ED and McMillan, visits within SFDPH funded behavioral health and medical services. [Pending additional resources]	DPH data bases
i. Survey of EMS providers (dispatchers, paramedics, ED’s and McMillan Stabilization Project staff) to determine if job satisfaction and ability to treat chronic inebriates effectively is increasing	Oversight Committee
j. Survey of stakeholders [Pending additional resources]	Oversight Committee

Some of the system design changes that will enable the Stabilization Center to function are:

1. Stabilization Center communication links:
    a. Stabilization Center to Emergency Communications Department, Ambulances and Hospitals: HART system, ECD to develop policy
    b. Stabilization Center to MAP vans: Cell phone (or radio system), McMillan Drop-In Center to develop policy
2. EMS System Standard Triage Criteria for Chronic Inebriates
    a. Standardized triage criteria for "inclusion", Paramedics, ED Triage Nurses, MAP van personnel and Sobering Unit triage personnel to use: See Attachment 1.
    b. Exclusion Criteria: See Attachment 1
3. Training
    a. The McMillan Stabilization Project will provide EMS System providers training materials for use in education of their personnel on the causes of chronic inebriation, co-morbid conditions, and treatment options available for these patients in addition to the Pilot Program policies and procedures.
    b. The McMillan Stabilization Project will train its staff on communications with the EMS System providers, the ECD, use of the HART system and pilot program policies and procedures.
    c. The McMillan Stabilization Project will provide EMS system providers, MAP van personnel, and receiving hospitals regular feedback on their conformance with pilot program policies and procedures.
4. Ambulance transport from the Stabilization Center:
    a. Ambulances that arrive at the Stabilization Center and have deteriorated en route to the extent that they no longer meet the inclusion criteria will be transported by the same ambulance to their original destination hospital (as if the Stabilization Center was not in use)
    b. The Stabilization Center staff will contact 911 for patients who deteriorate while under the Stabilization Center's care. The ambulance will then take the patient to the following destinations:
        i. If the patient meets trauma center criteria or has a head injury with the anticipated need for neurosurgical care (as determined by the McMillan Stabilization Project staff): **SFGH**
        ii. If the patient meets unstable patient criteria per EMS Section Destination Policy (s/p cardiac arrest, impending airway compromise): **Closest Receiving Hospital**
        iii. If the patient has a medical condition that does not meet criteria i. Or ii. Above: **Closest open Receiving Hospital or Patient/Health Plan preference**
        iv. Non-ambulance transport of patients can be accomplished by non-EMS resources, such as MAP van
    c. For patients who may not fit in the above triage categories, Medical Control can be consulted during regular working hours by contacting the Tom Waddell Clinic Medical Officer by calling the project medical director at 205-0913 (if the project medical director is unavailable the back up is the physician on duty in the Tom Waddell Health Center urgent care 355-7450) After regular working hours (8:00AM – 6:00PM), the Attending In Charge at SFGH can be contacted by calling the Emergency Department at 206 8111.

5. Evaluation

The following statistical methods will be used to evaluate the data:

Methodology	Data Source
a. Aggregate and by hospital Emergency Department ambulance diversion rates: • Before and after intervention; add seasonal factors. • Statistical Test: chi-square test to compare proportions	EMS Section
b. Service utilization by repeat users pre-post intervention: Percent of all transports made by frequent EMS users (more than 4 requests for ambulance service/year), median number of transports, ED visits, and hospitalizations per year by frequent EMS users. • Statistical test: chi-square test to compare proportions, and Kruskal-Wallis non-parametric test of equality to compare medians	SFFD AIS billing service (and private ambulance provider billing services) to collect transport data, McMillan to collect ED and hospitalization data.
c. Monthly rate of ambulance calls to 39 Fell ("Rescue" calls) and deaths pre and post intervention • Statistical Test: chi-square test to compare rates	ECD, CAD and McMillan Stabilization Project
d. Surveys of providers and general public: attitudes towards target patient population pre and post intervention. • Descriptive statistics	Survey conducted by Medical Advisory Committee
e. Health Outcomes Measures: Housing and other health measures of McMillan Stabilization Project clients pre- and post-intervention • Statistical Tests: chi-square test and multiple regression	McMillan Stabilization Project and other DPH programs and databases

Sentinel Events: These events require the Stabilization Center staff, Emergency Communications Department Staff or ambulance provider to notify the Medical Oversight Committee and the EMS Section, utilizing the EMS Unusual Occurrence form:

Ambulance call to 39 Fell for patient in the Sobering Unit beds
Patient death in the Sobering Unit
Dispatch of a MAP van to a request for 911 ambulance service
Patient death in a MAP van while transporting a chronic inebriate

Reporting: The Medical Oversight committee will generate an interim report on the Stabilization Center project at 6 months and a final report at 12 months to the EMS Section. The report will follow the format and timelines of the EMS Section Pilot Programs Policy 1080. The reports will also be made available to the EMS System Providers.

6. References

Some useful references for the protocols are:

Whiteman PJ, Hoffman RS and Goldfrank LR: Alcoholism in the Emergency Department, Academic Emergency Medicine, 2000, 7(1): 14-20

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Holliman CJ, Wuerz RC, Meador SA: Medical Command Errors in an Urban Advanced Life Support System, Annals of Emergency Medicine 1992, 21(4): 347-350

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Jagger J, Fife D, Vernberg K, et al: Effect of Alcohol Intoxication on the Diagnosis and Apparent Severity of Brain Injury, Neurosugery, 1984, 15(3); 303-6.
Rutherford WH: Diagnosis of Alcohol Ingestion in Mild Head Injuries, Lancet, 1977 May 14;1(8020);1021-3.

Nath FT, Beastal G, Teasdale GM: Alcohol and Traumatic Brain Damage, Injury, 1986, May;17(3):150-3.

Pories SE, Gamelli RL, Vacek P et al: Intoxication and Injury, J Trauma, 1992 Jan;32(1): 60-4.

Holmes JF, Baier ME, Derlet RW: Failure of the Miller Criteria to Predict Significant Intracranial Injury in Patients with a Glasgow Coma Scale Score of 14 After Minor Head Trauma, Acad Emerg Med, 1997 Aug;4(8):788-92.

Taheri PA, Karamanoukian H, Gibbons K, Walman N, et al: Can Patients with Minor Head Injuries Be Safely Discharged Home? Arch Surg,1993 Mar;126(3):289-92.

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Tulloh BR: Diagnostic Accuracy in Head-injured Patients: An Emergency Department Audit, Injury 1994 May:25(4):231-4.

Attachment 1:

Inclusion Criteria for Sobering Unit Pilot Program (DRAFT)

1. One of the following sources of entry:
    a. Found on Street, and/or in other public venue
    b. Found in Police Department custody, or
    c. Screened and cleared by Hospital Emergency Department, or
    d. MAP, or
    e. Ambulance transports patient from shelter or a. and b. above.
2. All of the following must be present:
    a. Indication of alcohol intoxication (odor of alcoholic beverages on breath, bottle)
    b. Glasgow coma score 13 or greater
    c. Systolic blood pressure greater than 100 and less than 180
    d. Pulse rate over 60 and under 110
    e. Respiratory rate over 12 and under 24
    f. Blood sugar level over 80 and below 200
    g. No active bleeding noted
    h. No red or purple bruising or hematoma above clavicles
    i. No active seizure
    j. No laceration that has not been treated
    k. Ability to ambulate with assistance, and ability to provide basic information
3. The patient must be age 18 or over.
4. The patient must consent voluntarily or have presumed consent (not oriented enough to consent)
5. The patient is not on the McMillan Drop-In Center “exclusion list”.

Any other patient must be dispositioned according to current standard EMS System protocol (SF EMS System, MAP Standard Operating Procedures, or Individual Hospital Emergency Department Standards)