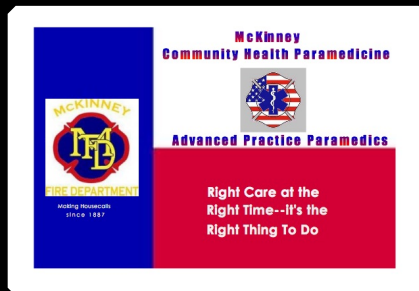


Can Fire Based Community Paramedicine programs reduce 911 calls and Hospital Readmissions? **While Increasing Fire Apparatus availability?**

- Liz Fagan MD, Larry Bean MD, Hao Wang MD, Dan Frey FF-APP, Brian Roether FF-APP, Chris Waller FF-APP, Fire Chief Danny Kistner, Operations Chief Tim Mock, EMS Chief Jason Hockett
- With Thanks to: Robert Leavitt FF-APP, JC Stinson FF-APP, McKinney City Manager Jason Gray, Sharon Malone, MD, Tim Hartman MD and The City of McKinney Fire Department





McKinney Community Paramedicine Team

- Dr Larry Bean, Dr Liz Fagan, Brian Roether FF-APP Dan Frey FF-APP,
■ not pictured Chris Waller FF-APP, Robert Leavitt FF-APP, JC Stinson FF-APP, EMS Chief Jason Hockett



MFD / BEST EMS CHP Goals



- Reduce non-emergent 911 calls in the high utilizers group (HUG)
- Reduce HUG Readmissions
- Reduce unnecessary Fire Engine calls
- Reduce cost to the McKinney Fire department & Hospitals
- Improving health in our community



Initial State

- HUG pt called 911—MICU & Fire engine dispatched
- While treating this routine patient:
 - Fire Engine was **Out-Of-Service**,
 - Next 911 call had to be covered by neighboring district/
City—a potential delay in 911 response
- HUG patient continued to be re-admitted to hospital
 - ineffective outpatient access to health resources



Methods

- Patients with **> 4** "911" calls in 180 days were enrolled
- Frequent **Home Visits** by FF-APP +/- physician
- Intensive **personalized plan of care** developed for each patient
- **Coordination** with Hospital **Case Management** to maximize use of community resources
- **On Medical 911 calls, the APP-Squad disregards the Fire Engine and takes the call with the ambulance instead**



Results

- From June 2013 to November 2013, **23** patients were enrolled
- **180 day** 911 Calls Before/After CHP enrollment (p=0.0412)
 - Before CHP enrollment: 9.1
 - After: 5.2—**56% reduction**
- **120 day** 911 Calls Before/After (p=0.0045)
 - Before CHP enrollment 4.6
 - After: 3.6 --**20% reduction**



Results

- Avg # of Admits per patient*
 - Before Enrollment: 2.83
 - After: 1.16—**59% Reduction**
- Avg # of ED visits
 - Before Enrollment: 8.67
 - After: 2.16—**75% Reduction**
- 29 of 58 Fire Engine calls disregarded by Squad
 - **50% Reduction**
- In-Service Time:
 - Increased **8 hours** for one Fire Engine in a 202 hour pilot

• * Data from Baylor Medical Center at McKinney patients



Study Patient # 1

- *8 "911" calls/5 Hospital Admissions 180 days.....*

- **Assistance Provided:**

- **Education**

- Meals on Wheels
 - Transportation (Public) access
 - Social service/Medicaid enrollment
 - Medication assistance

- **Results:**

- 2 "911" calls, 1 transport
 - 1 Hospitalization
 - Better Quality of Life.....Priceless



EMS Cost Patient # 1

EMS Cost Patient # 1

20,000

15,000

10,000

5,000



180 days pre-enrollment



Projected 180 d Cost w/o CHP intervention

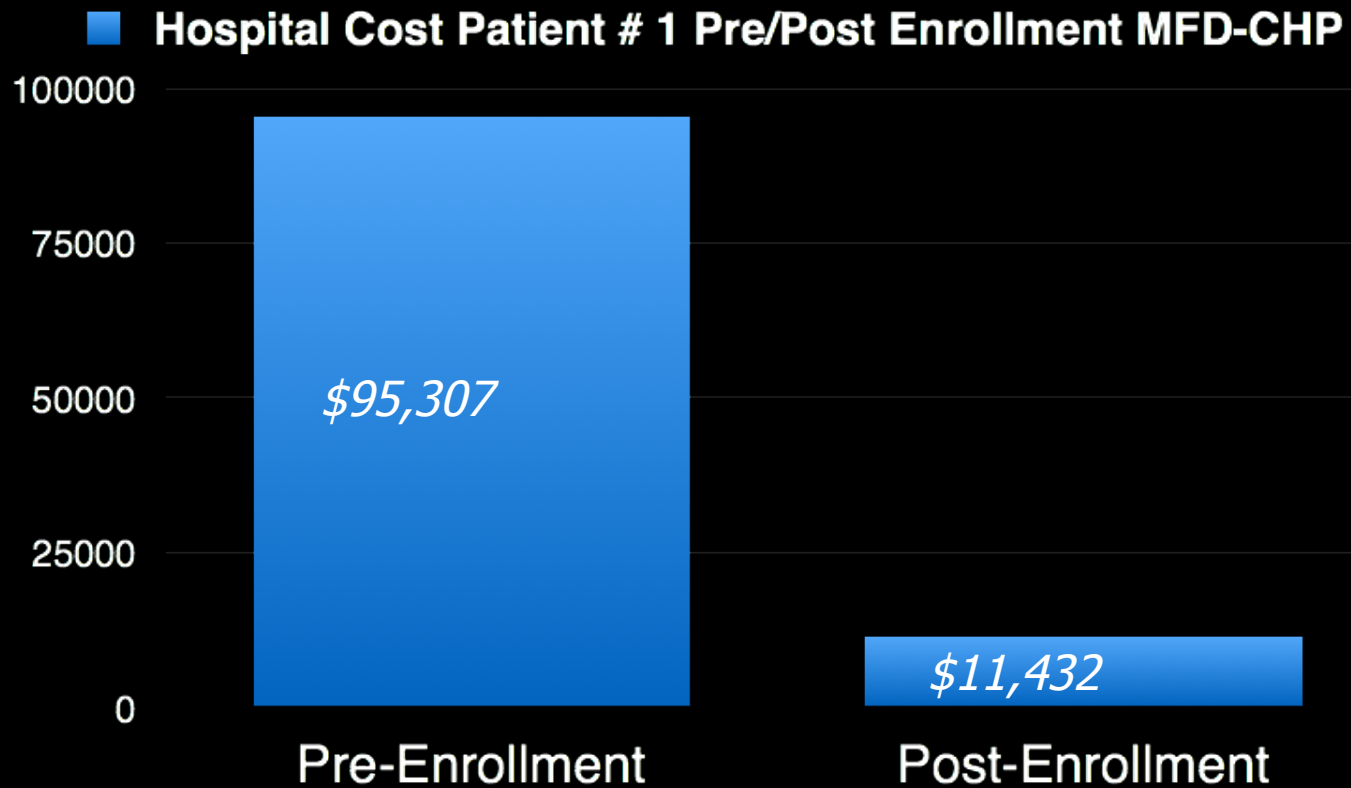
*Actual 180 day cost
W/CHP--\$800*



180 d Cost with CHP Intervention



Hospital Cost Patient #1



Conclusions



- Frequent Home Visits by McKinney CHP-APP **decreased 911 calls, hospital readmissions, and ED visits**, especially after 120 days in the program.
- Squad replacement of Fire Engines on medical 911 calls **increased In-Service time for the Fire Apparatus.**





McKinney Fire Department

- “We go where the patients are”making Housecalls since 1887

