



# Preemptive Care for Frequent ER Users

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# Houston Fire Department 911 Nurse Triage Pilot Project




HARRIS COUNTY  
HEALTHCARE ALLIANCE

*Serving as a catalyst  
for improving the  
healthcare system of  
Houston/Harris County*

## Creating a Community Nurse Triage Operation Harris County Healthcare Alliance

# PILOT COLLABORATORS



HARRIS COUNTY  
HEALTHCARE ALLIANCE

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# 911 EMERGENCY CALL TYPES

- Emergency medical dispatchers (EMD), using the computer-assisted medical priority dispatch system, interview callers in order to determine the location, nature, and priority of the caller's situation. The calls are then classified into EMS Event Types.
- There are 44 different EMS Event Types classified by the medical priority dispatch system—the program began conservatively, allowing only 2 call types eligible for referral.
- There are currently 5 call types being used for referral to the triage nurse.

## NURSE TRIAGE PILOT EMERGENCY CALL TYPES AVAILABLE

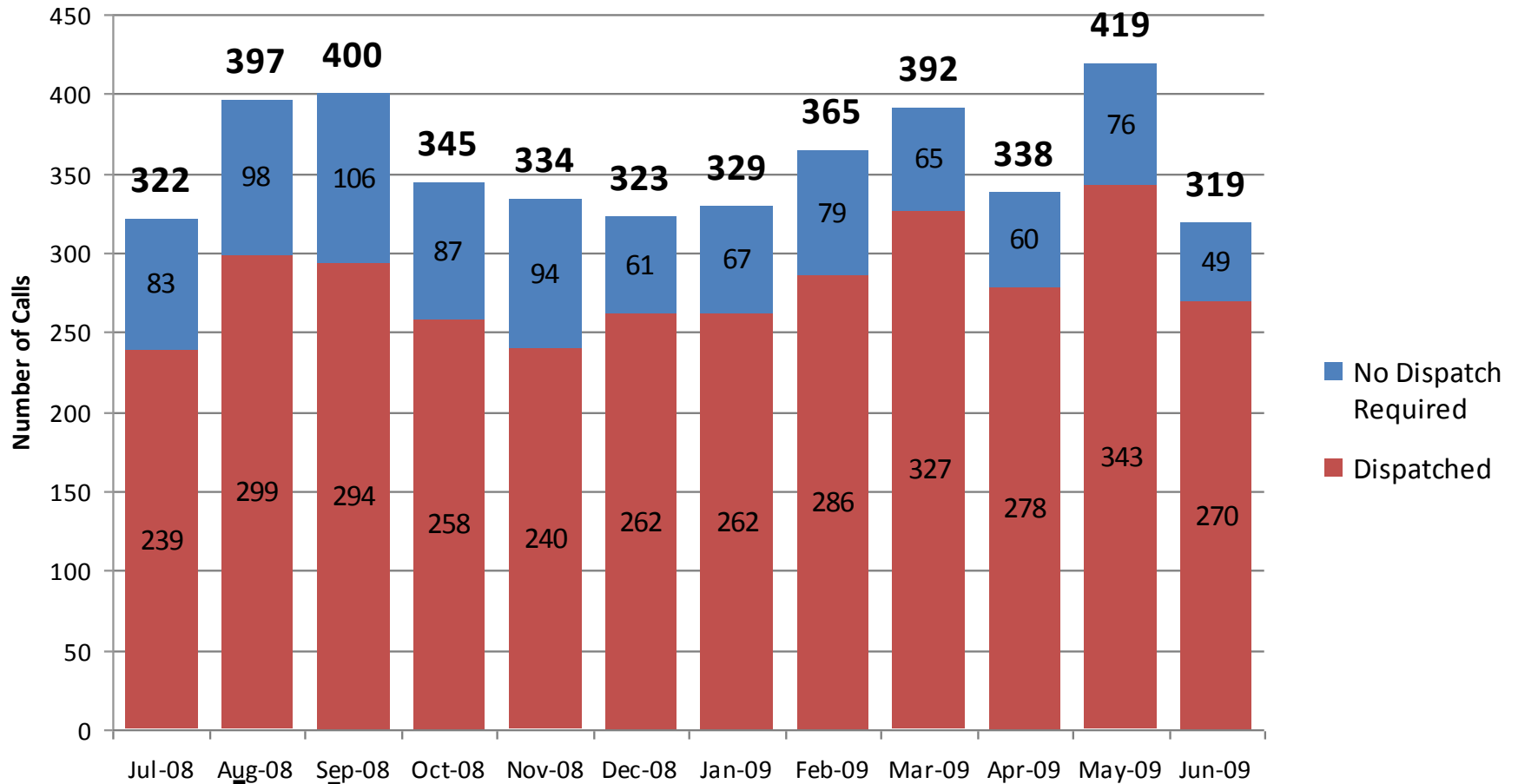
- ABDOMINAL PAIN
- SICK PERSON
- ALLERGIC REACTION
- HEADACHE
- PEDIATRIC FEVER

# PRE-PILOT ESTIMATED ANNUAL TRIAGE REFERRAL VOLUME

911 CALL TYPES	ESTIMATED TRIAGE REFERRALS	ESTIMATED FIELD REFERRALS
ABDOMINAL PAIN	4,583	7,417
SICK PERSON	2,918	12,100
ALLERGIC REACTION	73	777
HEADACHE	258	1,500
PEDIATRIC FEVER	485	215
<b>Total</b>	<b>8,317</b>	<b>22,009</b>

Source: HEC CAD-RMS/2006 Medical Dispatch Protocol statistical analysis

# PILOT 1<sup>ST</sup> YEAR TOTAL CALL VOLUME

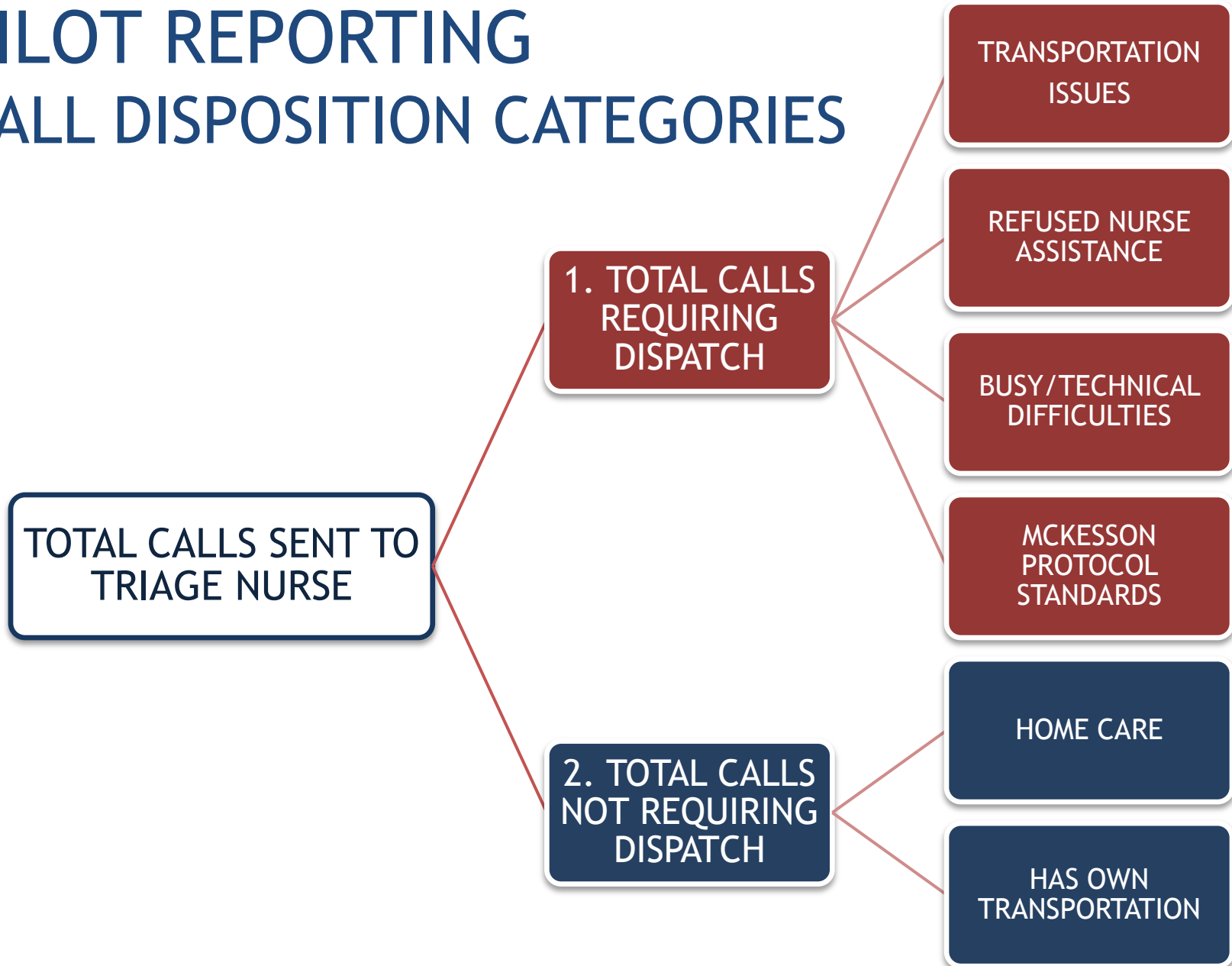


Added 2 call types

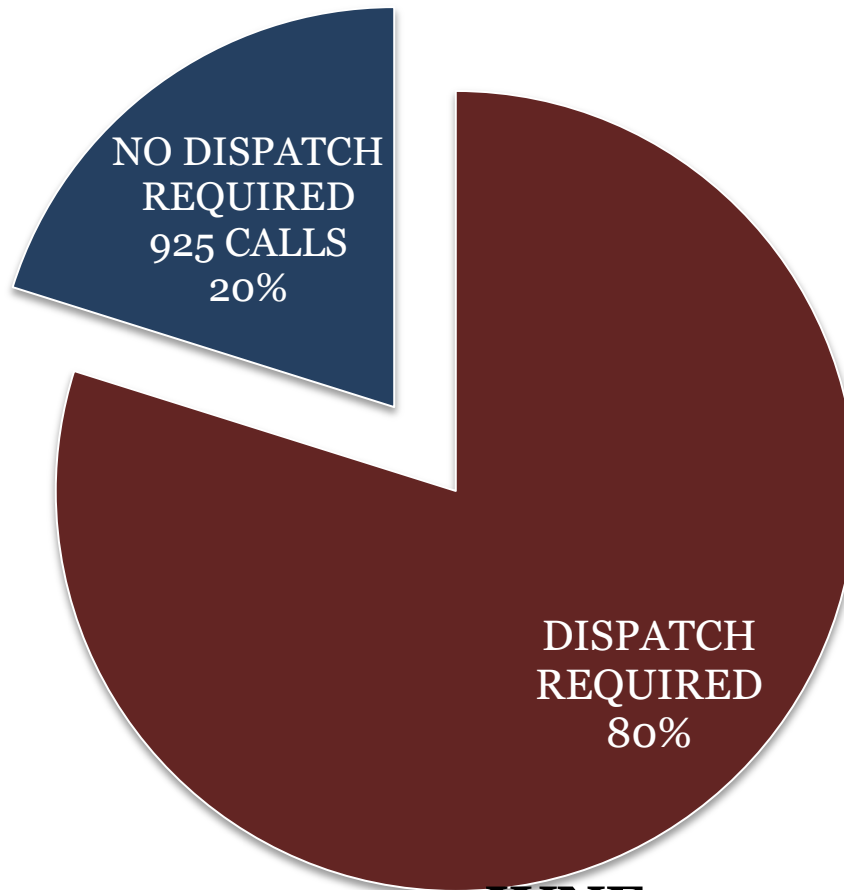
Added 1 call type & Hurricane Ike

357 Average Calls Per Month  
12 Average Calls Per Day

# PILOT REPORTING CALL DISPOSITION CATEGORIES



# TOTAL CALL VOLUME BY CALL DISPOSITION

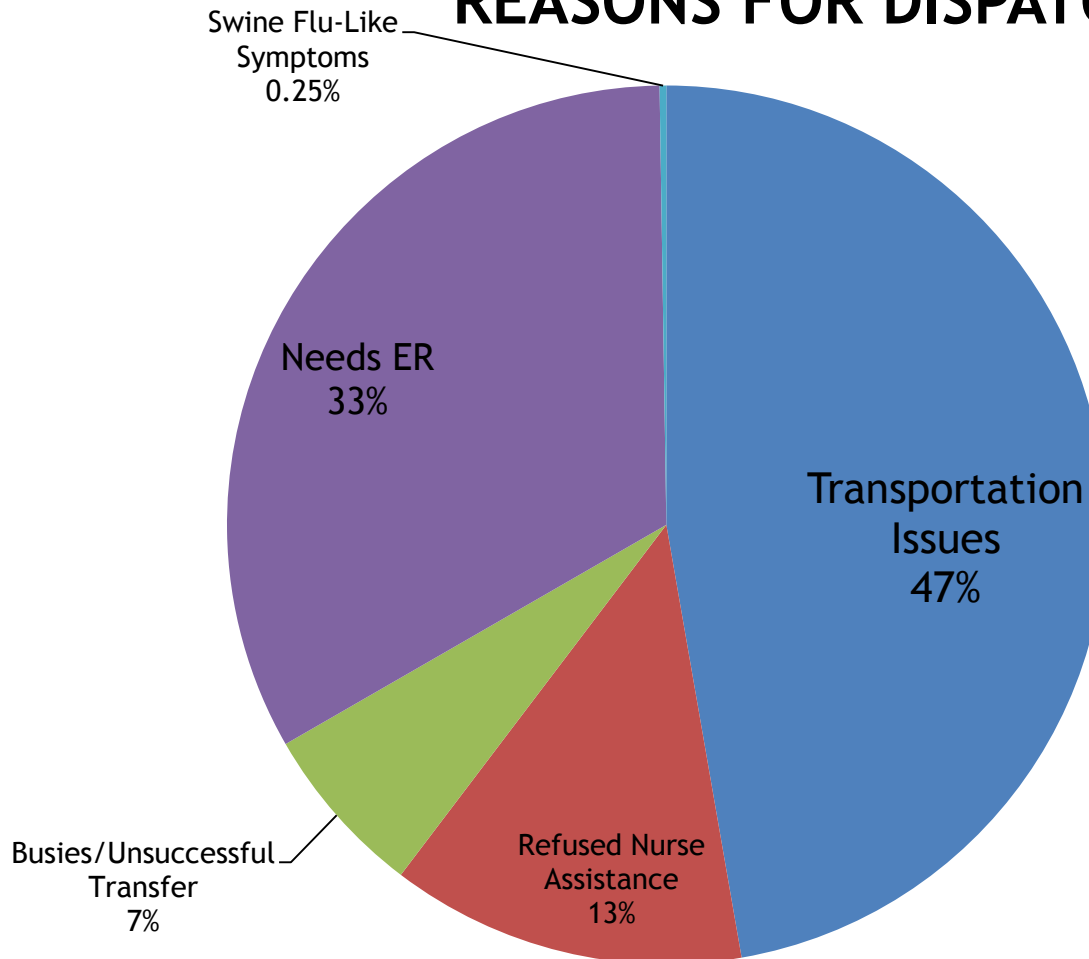


**JUNE 30, 20098-JUNE 30, 2009**

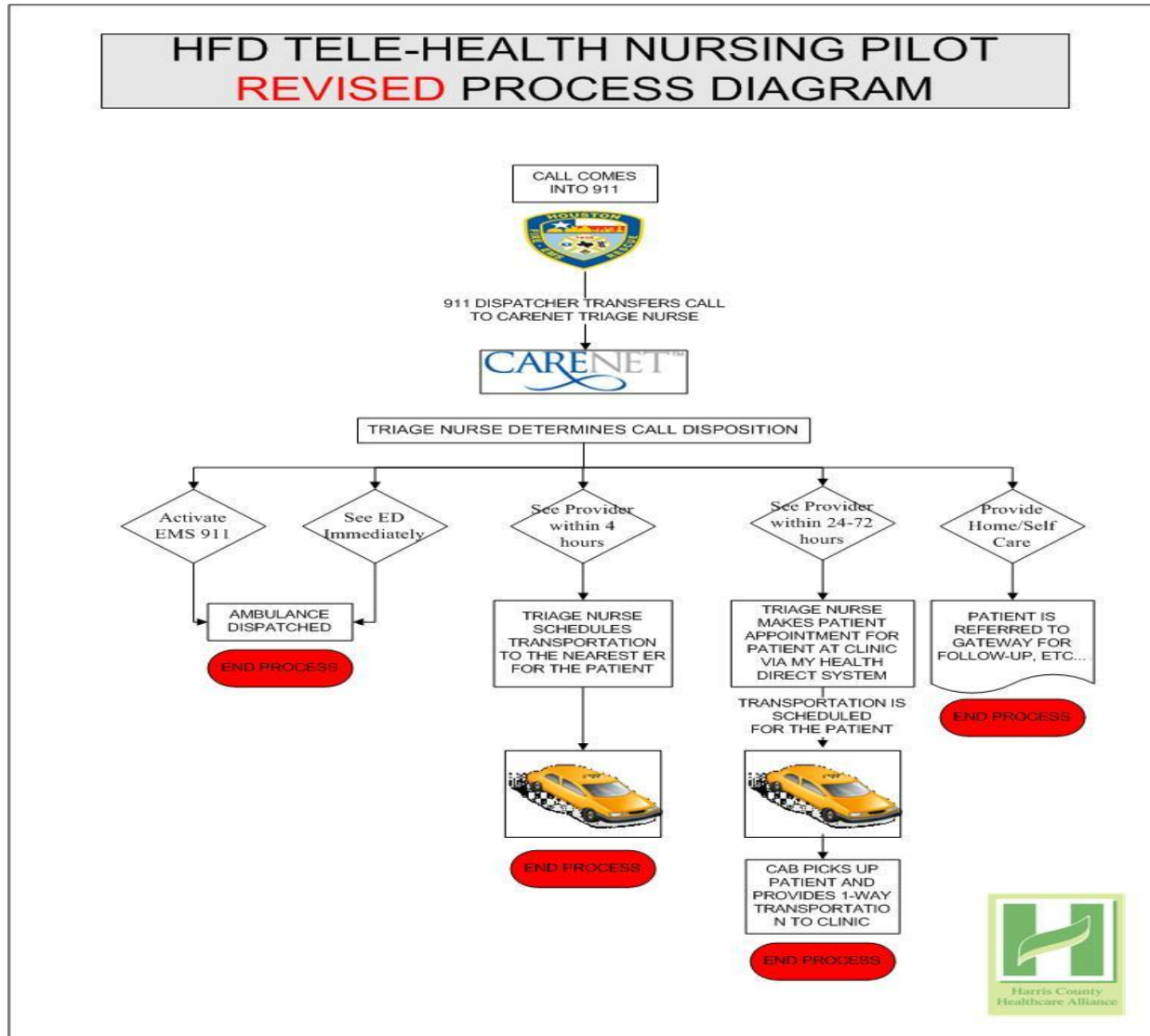


# DISPATCH REQUIRED

## REASONS FOR DISPATCH



# PROPOSED TRANSPORTATION OPTION



# With Transportation Plan (1<sup>st</sup> Month)

Dispatch Result	Nov*		Dec**		% Change
	#	%	#	%	
Dispatched	318	86%	217	59%	-32%
<b>Not Dispatched</b>	<b>52</b>	<b>14%</b>	<b>149</b>	<b>41%</b>	<b>187%</b>
Total	370	100%	366	100%	-1%

12 calls per day; 5 no ambulance dispatch required

# Field Referrals

- April – 92 referrals = average 3.07/day
- May – 104 referrals = average 3.35/day
- June – 131 referrals = average 4.37/day
- July – 118 referrals = average 3.81/day
- August – 128 referrals = average 4.13/day

# Success of Field Referrals

- First 5 Months (Apr/May/June/July/Aug)

▫ Amb.	103	18%
▫ Taxi	371	65%
▫ POV	57	10%
▫ Home Care	13	2%
▫ Refused	<u>27</u>	<u>5%</u>
	573	100%

A red Houston Fire Department (HFD) ambulance is parked on a concrete pier next to a body of water. The truck has "HOUSTON FIRE DEPARTMENT HFD EMERGENCY MEDICAL SERVICES" and "SQ 19" written on its side. The background shows a bridge and industrial structures.

# CareHouston: A New Approach

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Education Coordinator  
Houston Fire Department

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# Development of the CareHouston Project

- A period of **90 days** was selected as the time criteria to capture frequent callers that may only call once this month but over time are consistent in requesting 911 services
- A rate of **8 or more times in 90 days** was chosen as the inclusion range
  - This translates to about once every 11 days



# The Pilot Project

- Overall, 18 patients were identified in the Sunnyside area from April 1, 2006-June 30, 2006 (2<sup>nd</sup> quarter '06). These patients accounted for 113 911 EMS responses during this period.

**18 clients = 113 responses in 90 days**





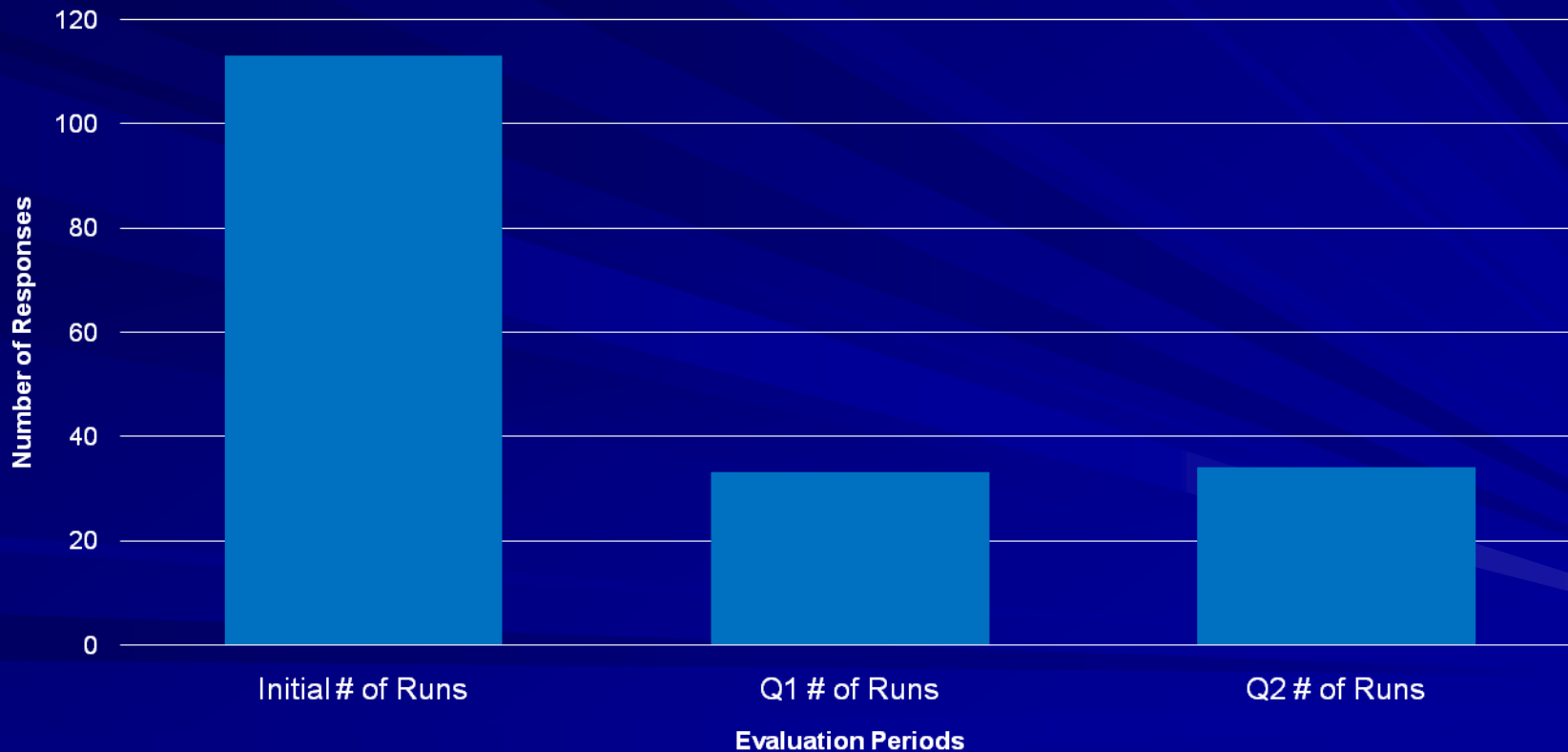
- During September, the responses in the Sunnyside area were evaluated again.
- The 18 addresses/patients accounted for only 33 responses during July-September, a **decrease of 70.80%**
- Approximately **40% of the identified patients did not call 911 at all**



- During the fourth quarter, (Oct-Dec), no additional contact was made with the pilot clients
- Of the original 18 clients, 17 had no increase in calls, **maintaining a 70% reduction**

# CareHouston Pilot - Sunnyside

## CareHouston Call Reduction Project - Sunnyside Pilot Area



A red Houston Fire Department ambulance is parked on a concrete pier next to a body of water. The ambulance has "HOUSTON FIRE DEPARTMENT" and "HFD" written on its side, along with "EMERGENCY MEDICAL SERVICES" and "SQ 19". A large white title "Expansion of CareHouston" is overlaid on the image.

# Expansion of CareHouston

- The first **city wide** data collection began in September 2007 for frequent callers in June-August 2007.

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# Expansion of CareHouston

- The client list was forwarded to the DHHS team in early September
- The procedure remained the same
- **55 clients** were identified across Houston
- The first evaluation period was Oct-Dec 2007

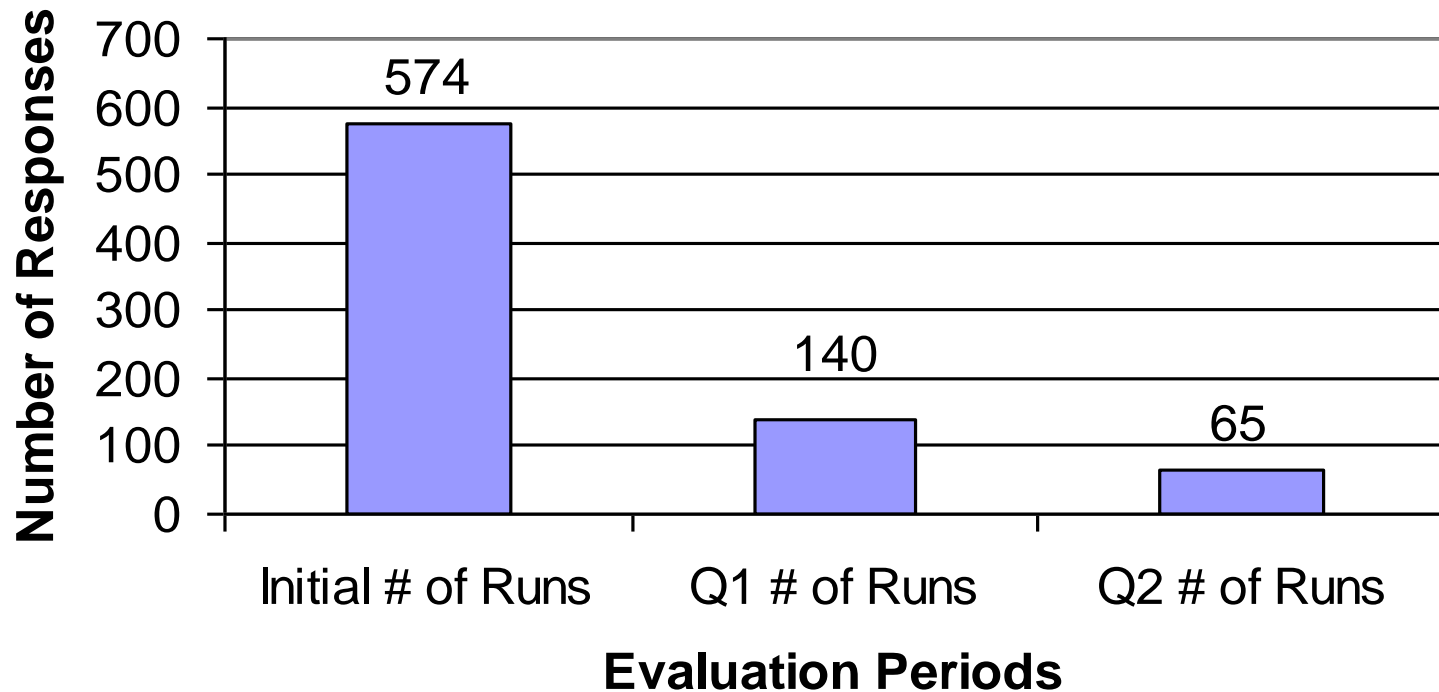
A red Houston Fire Department (HFD) truck is parked on a concrete pier next to a body of water. The truck has "HOUSTON FIRE DEPARTMENT" and "HFD" written on its side, along with "EMERGENCY" and "SQ 19". The background shows a bridge and some industrial structures.

# Expansion of CareHouston

- The 55 clients accounted for 574 responses, initially
- The Q1 evaluation showed a reduction to 140 responses, (**75.6%** reduction)
- The Q2 evaluation showed a reduction to 65 responses, (an additional **13%** reduction for a total of **88.6%** from the initial response total)

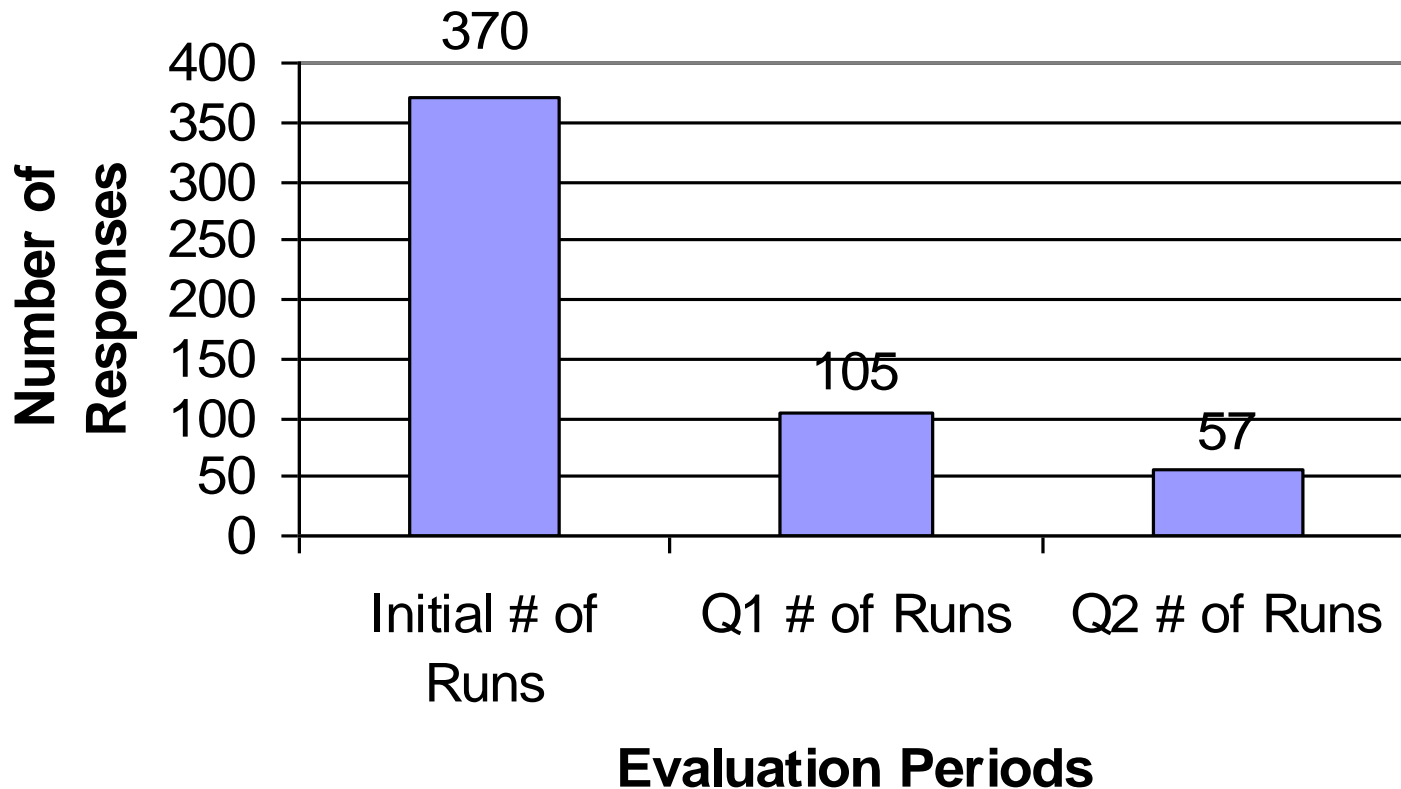
# Expansion of CareHouston

## CareHouston Call Reduction Project Jun-Aug 2007



# Expansion of CareHouston

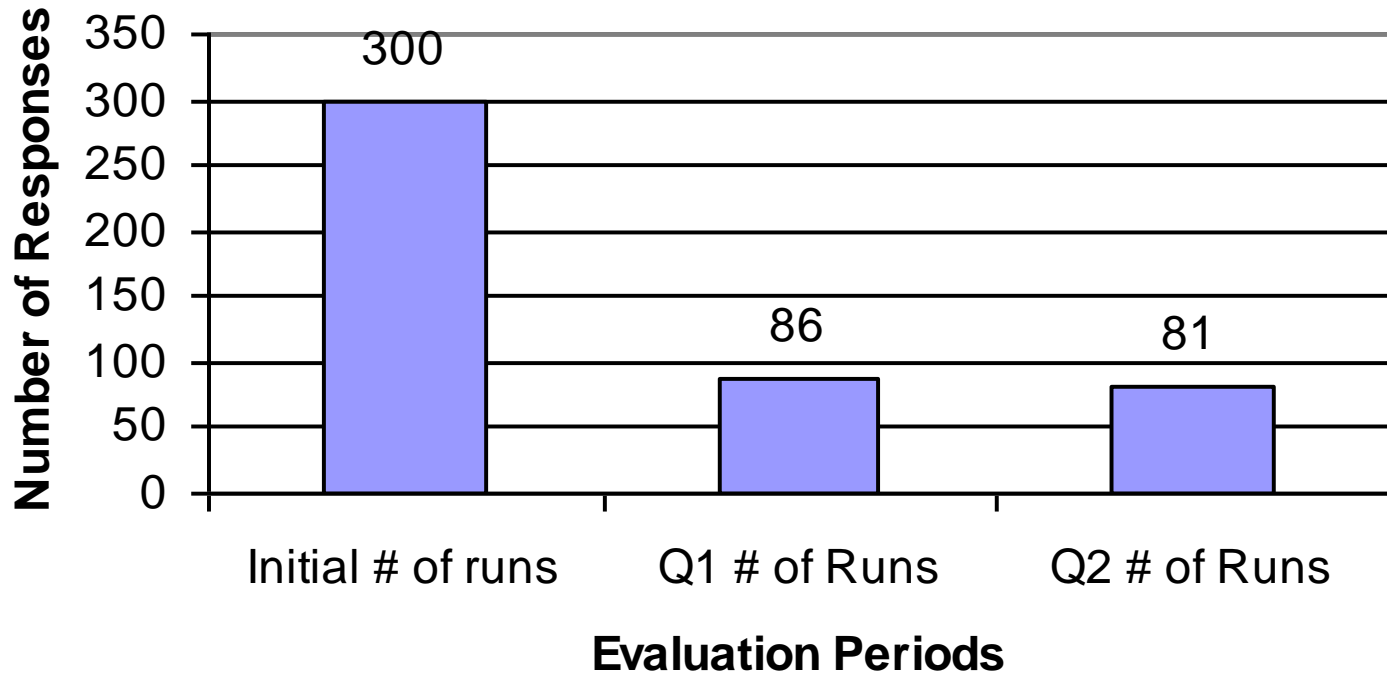
## CareHouston Call Reduction Project Sep-Nov 07





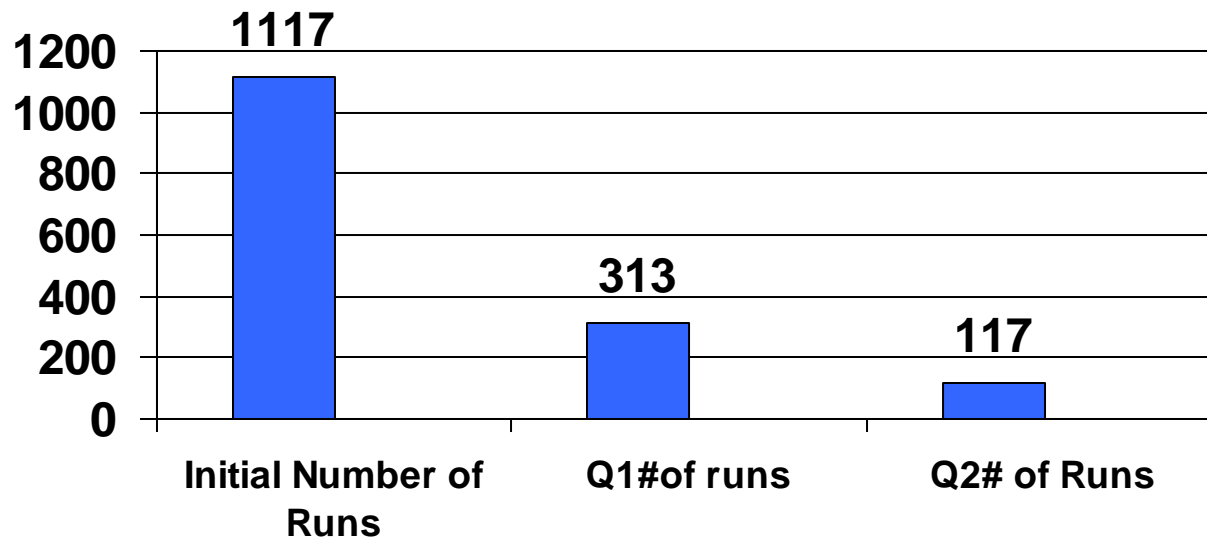
# Expansion of CareHouston

## CareHouston Call Reduction Project Dec 07-Feb 08



# Expansion of CareHouston

## CareHouston Call Reduction Project Mar-May 08





# CareHouston at 1 year of age

- Overall, during the **September 2007-September 2008** period the total number of clients seen was **215** clients
- The Houston Fire Department uses a statistical amount of **\$1500** for operational cost of any response
- The call reduction allowed HFD to redirect **\$4,038,000.00** in resources to other areas



# What we learned from CareHouston

- Typically the intent of the client was sincere
  - There was **no evidence** in the majority of cases **of malicious overuse** of the 911 system

A red Houston Fire Department (HFD) truck is parked on a concrete pier next to a body of water. The truck has "HOUSTON FIRE DEPARTMENT" and "HFD" written on its side, along with a fire department emblem. The background shows a bridge structure over the water.

# What we learned from CareHouston

- Most clients felt they were using 911 appropriately
  - Our education program about the 911 system years ago was VERY successful. When they didn't know who to call, they called 911

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# Myths Regarding the Frequent Caller

- “There are frequent callers EVERYWHERE!”
  - FALSE – the number of true frequent callers is actually very low
    - Houston has a population of approximately 2,200,000
      - 100 individuals considered frequent callers would constitute 0.005% of the population



# Myths Regarding the Frequent Caller

- “All frequent callers are 911 abusers!”
  - FALSE – most frequent callers fall into two categories
    - Chronically ill
    - Those with overriding social issues
      - Don’t know who to call, so they call 911



# Myths Regarding the Frequent Caller

- “All frequent callers are low income ‘poverty’ cases!”
  - FALSE – frequent callers are not separated by income, home location or status
    - The issues determining frequency of calling are those listed before
      - Chronically ill
      - Some overriding social issue



A red and white Houston Fire Department (HFD) ambulance is parked on a concrete pier next to a body of water. The ambulance has "HOUSTON FIRE DEPARTMENT" and "HFD" written on its side, along with a fire department emblem. The background shows a bridge structure over the water.

# What we learned from CareHouston

- Affirmed the Fire Department/EMS Department's status as the “**safety net**” for the healthcare system in general
  - If a client didn't have a “**medical home**”, they obviously didn't hesitate to call on us.

A red Houston Fire Department (HFD) service truck is parked on a concrete pier next to a body of water. The truck has "HOUSTON FIRE DEPARTMENT" and "HFD" written on its side, along with a fire department emblem. The background shows a bridge structure over the water.

# What we learned from CareHouston

- Transportation issues were the largest contributor to the increased requests for service
  - Expanding or establishing additional public **transportation** resources should trickle down to a reduction in non emergent calls for service from the 911 system

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# What we learned from CareHouston

- **Face to face** contact by the DHHS team was MUCH more effective than a phone call or letter
  - Once the team actually met with the clients, the drop in calls for service was evident within days



# What we learned from CareHouston

- A “**Big Brother**” effect was noted
  - Clients that met with DHHS team but reported no real issues decreased their use of the 911 system
  - Clients that declined services from the DHHS team decreased their use of the 911 system
  - The fact that they were identified and contacted appeared to contribute to a decrease in their 911 usage



- Certain methods that have been used for long periods of time were not effective or had an unfortunate **rebound effect**
  - **Health Fairs** held in the pilot study area resulted in a substantial INCREASE in calls for service following the event
  - **Letter campaigns** alone were not effective
    - Letters came from the same agency sending them bills for services rendered



# What we learned from CareHouston

- The **morale effect** on the EMS providers was **a sense of being heard by the Administration** and having an impact on their working conditions
  - Too often many providers feel that their concerns are not heard or addressed by their superiors. This program allows for direct input from the field with the ability to provide direct relief back to these providers



You Can Do This Too!

