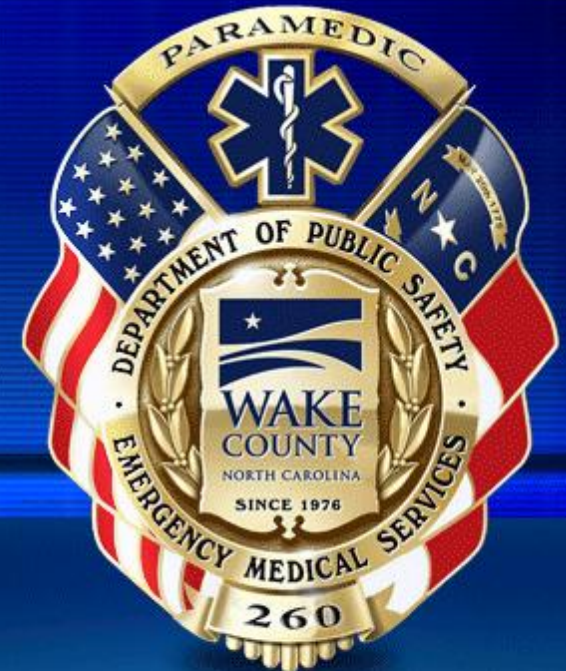
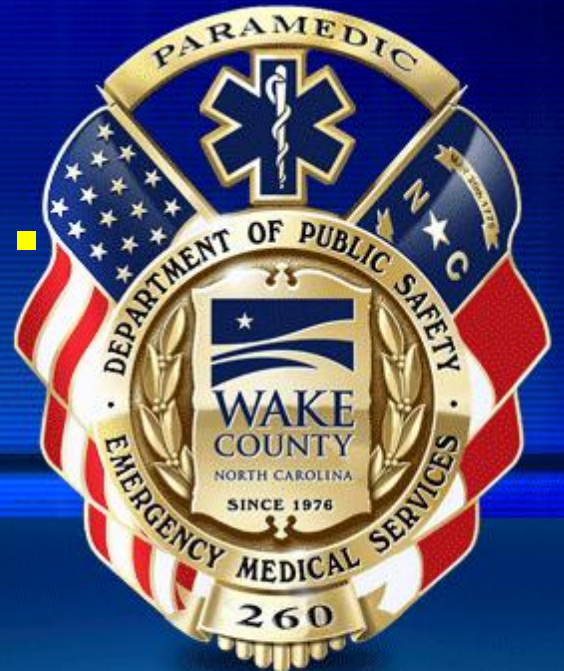


# *The Well-Person Check*

J. Brent Myers, MD MPH  
Director  
Wake County Dept of EMS  
Raleigh, NC



Life is far too important  
A thing to talk  
Seriously about.  
-Oscar Wilde



# A Proposed Model

- ✦ **Not all EMS requests for service are the same**
  - ✦ Some could be prevented
  - ✦ Some do not need an emergency department
  - ✦ Some require a “maximum response” for good outcome
- ✦ **Different clinical and physical resources are needed for different patient conditions**
- ✦ **Achieving a balance between speed and experience is the challenge – “the paramedic paradox”**



# Risk-Frequency of EMS Interventions

## **HIGH RISK LOW FREQUENCY**

Requires very experienced paramedic;  
Often requires more than one paramedic

## **MODERATE RISK - TIME CRITICAL HIGH FREQUENCY**

May be safely handled by a paramedic  
with limited experience.

## **LOW RISK HIGH FREQUENCY**

May not need to go to the hospital at all.  
Some risk due to lack of transport.

# Summary of Proposed Response

- ✦ **BLS first response in 4:59 at 90<sup>th</sup> percentile**
  - ✦ Defibrillation
  - ✦ Compression
  - ✦ Trauma preparation
- ✦ **ALS ambulance in 11:59 at 90<sup>th</sup> percentile**
  - ✦ CPAP
  - ✦ IO access
  - ✦ IV medications
  - ✦ Initial cardiac arrest care
- ✦ **Advanced Practice Paramedic in 14:59 at 90<sup>th</sup> percentile**
  - ✦ RSI/advanced airway supervision
  - ✦ Referrals and alternate destinations
  - ✦ Hypothermia
  - ✦ Complex cases (cardiac arrest and others)



# Community Health

- ✚ Falls prevention
- ✚ Hypertension/CHF checks
- ✚ Diabetic checks
- ✚ Substance abuse
  - ✚ Direct transfer to alcohol treatment center (CIT program modeled after Memphis)
  - ✚ Checks at homeless shelters
- ✚ Pre-plans (nursing homes, home health)



# Where Are We?

- ✚ Applications sought for 14 positions
- ✚ 20 article reading packet with 30 days to study for qualifying exam
- ✚ 44 took packet, 39 tested
- ✚ Top 30 then had oral presentation, interview, and in-ambulance simulation of critical patient with treatment in progress with initial paramedic/EMT
- ✚ 19 entered academy, 17 completed



# Where Are We?

- ✦ 7 week academy
  - ✦ Critical encounters
  - ✦ Public health
  - ✦ Alternative destinations
- ✦ Clinical rotations: OB/GYN, Infectious disease, cardiac cath, ED, ATC, Behavioral Health, Follow-up RN, Peds, 9-1-1 center, Wake EMS PI





**APP Response Vehicle**  
Media loved this





## Raleigh News and Observer



# So Far:

- ✦ **APPs went in service January 6, 2009:**
  - ✦ **Referrals from EMS crews:**
    - ✦ 36 well-person visits
    - ✦ Additionally, substance abuse, FF, CHF, and high risk refusals
- ✦ **First cardiac arrest save less than 4 hours after program began**
- ✦ **Unique source for referral – Medicaid/indigent collaborative**



# Hospital D/C follow-ups

- ✦ All patients in the Medicaid database are referred for case worker follow-up after hospital discharge
- ✦ Pediatric asthma, diabetics, CHF, and falls risk patients will receive a combined visit with a case worker and an APP
- ✦ More to come



# Current Protocols

- ✦ **Diabetic Follow-up**
- ✦ **Well-Person Check**
- ✦ **Emergency Department Referral**
- ✦ **Capital Care Collaborative (in process)**



# The Numbers – First 5 weeks

- ✚ 2309 total dispatches
- ✚ Unconscious, chest pain, seizure, MVC, and falls are top five 9-1-1 based dispatches
- ✚ 54 well-checks completed
- ✚ 99 Cardiac Arrest calls



# Times

- ✦ **Average response time = 9:06**
- ✦ **90<sup>th</sup> percentile response time = 15:39**
- ✦ **Average time on well-person visit = 39 minutes**
- ✦ **Average time on 9-1-1 call = 27 minutes**
- ✦ **Well-person visits per patient range from 1 to 6**



# Case Report #1

- ✦ 60s year old diabetic male
- ✦ In the 4 weeks prior implementation of the program, patient called EMS 3 times (70 calls in 5 years)
- ✦ Homes visits were scheduled
- ✦ On first visit, the patient's hypoglycemic episodes were all noted to be in the late afternoon
- ✦ Subsequent visits thus timed



# Case Report #1

- ✚ 2<sup>nd</sup> home visit – patient was found alone in the home, disoriented, with a blood glucose of 28
- ✚ No ambulance was needed
- ✚ APP started IV, remedied blood glucose, and evaluated the patients medication
- ✚ Follow-up visit with PMD scheduled



# Case Report #1

- ✦ Medications were adjusted
- ✦ Patient has not called for 9-1-1 in 28 days
- ✦ UHUs returned to the system = 6



# Case Report #2

- ✚ Cardiac Arrest – APP arrived and “ran the list”
- ✚ EtCO2 was noted to be low
- ✚ ETT was removed, BIAD was placed
- ✚ EtCO2 moved from  $<10$  to 35
- ✚ ROSC was achieved within minutes
- ✚ Final outcome as yet unknown



# Case #3

- ✦ 30s female attending a conference at a downtown hotel
- ✦ Experienced a “spell” (outside of North Carolina = psychotic episode)
- ✦ CIT trained APP summoned to the scene
- ✦ Haldol/versed avoided



# Case #3

- ✦ Patient transported directly to psychiatric hospital as opposed to emergency department
- ✦ Average hold in our largest emergency department for psychiatric hold is 14 hours
- ✦ One event opened an ED bed for 14 hours



# Summary

- ✦ We're attempting to assure the citizens an experienced, highly qualified paramedic for "red zone" calls
  - ✦ Average years experience = 8
  - ✦ Average number of patient encounters = 6500
- ✦ We're also attempting to prevent the red zone calls in the first place



**Now Faith is the  
assurance  
Of things hoped for  
The belief in  
Things unseen.**

-- Hebrews 11:1



