Fire Rescue Med 2017

Innovations in EMS
Chandler Fire Health and Medical Department
EMS Chief Val Gale

Val Gale is the Health & Innovations BC for the Chandler Fire, Health & Medical Department. Val holds a bachelor’s degree from Arizona State University and is currently finishing up his master’s degree at Northern Arizona University.
1 - Treat and Refer
2 - Veteran’s Affairs
Increasing Patient Choices and Taking Care of our Veterans
VITAL STATISTICS

TOTAL INCIDENTS BY DISTRICT

FIRE STATION MAP

BUDGET AND PERSONNEL

Annual operating budget: $29,962,908
Annual capital improvements: $9,917,985
Sworn personnel: 202
Civilian personnel: 20

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Community Health Service Delivery Model

Matching Community Resources to Patient Needs

Prevention
- Public Health
- Education
- Local Partnerships

Response
- Resource Readiness
- Priority Dispatch
- Resource Matching

Patient Care Plan
- Follow-up Line
- Hospital Readmission Prevention
- Behavioral Health Services

Increased Treatment Options
- Additional Transport Options
- Community Paramedics

Community Health Service Delivery Model

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Crisis Response Program

- Staffed with Social Workers (MSW)
- Client Safety Assessment (means, intent, plan)
- Intervention (Education, Resource and Referral, Planning)
- Transportation to Alternate Destination (Direct to Behavioral Health, By-passing ER when appropriate)
Community Paramedic Program

- Complex Patient Management Program
- Veterans Affairs Telehealth Program
- Treat and Refer Follow-up
- Community Outreach

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A Transportation Destination Analysis
May/June 2013, 185 patients

31% of EMS patients are not being delivered to the most appropriate destination.

- Emergency Department: 41%
- Primary Care: 11%
- Urgent Care: 9%
- Treat and Release: 6%
- Transportation Destination Analysis: 5%
- Appropriate to refuse: 28%
Treat at Home
And Ambulance
Transport to ER

Refusal

Treat at Home
Refer to PCP

Treat at Home
Refer to Crisis
Response

Treat at Home
Refer to Community
Paramedic

Treat at Home
Refer to Urgent Care

Treat at Home
Refer to ER

Treat at Home
And Ambulance
Transport to ER

Refusal

Treat and Refer -
(Referral Program)

Old School

New School

Treat at Home
Refer to Telemedicine

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As call volume continued to rise, ambulance transports decreased. (72% to 54%)
Average Payor Percentages

Public vs. Private Averages

- Public: 58%
- Private: 38%
- Carriers with Less Than 2% of Total: 4%

Average Payor % of Total

- Medicare: 29%
- AHCCCS: 29%
- Blue Cross/Blue Shield: 19%
- United Healthcare: 11%
- None: 8%
- Cigna: 8%
- Aetna: 7%
- Uninsured: 4%
### Arizona’s Medicaid Agency

#### Outcome Summary

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refusal</td>
<td>6.10%</td>
</tr>
<tr>
<td>Dead at Scene</td>
<td>0.20%</td>
</tr>
<tr>
<td>Total T&amp;R – CP</td>
<td>0.70%</td>
</tr>
<tr>
<td>Total T&amp;R – CR/Behavioral</td>
<td>1.50%</td>
</tr>
<tr>
<td>Total T&amp;R – Emergency Room</td>
<td>6.30%</td>
</tr>
<tr>
<td>Total T&amp;R – Home/PCP</td>
<td>20.30%</td>
</tr>
<tr>
<td>Total T&amp;R – Urgent Care</td>
<td>3.40%</td>
</tr>
<tr>
<td>Treated, Transported by EMS</td>
<td>61.40%</td>
</tr>
</tbody>
</table>

**Total Incidents**: 586

**Trip date is BETWEEN 4/1/2015 AND 6/30/2015**
## Estimated Cost Savings - Chandler

### Average Costs

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Avg. Cost</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treat - Refer to CP</td>
<td>$584.00</td>
<td>$4,088.00 (Transport + Hospital Cost)</td>
</tr>
<tr>
<td>Treat - Refer to CR</td>
<td>$584.00</td>
<td>$9,198.00 (Transport + Hospital Cost)</td>
</tr>
<tr>
<td>Treat - Refer to ER</td>
<td>$584.00</td>
<td>$21,608.00 (Transport Cost)</td>
</tr>
<tr>
<td>Treat - Refer to PCP</td>
<td>$584.00</td>
<td>$113,526.00 (Transport + Hospital Cost - PCP Cost)</td>
</tr>
<tr>
<td>Treat - Refer to UC</td>
<td>$584.00</td>
<td>$18,420.00 (Transport + Hospital Cost - Urgent Care Cost)</td>
</tr>
</tbody>
</table>

*Avg charge data from Mercy Care 2013/14 Chandler residents

Total: $166,840.00 Quarterly Savings

Annual Projection of Savings: $667,360.00
Estimated Cost Savings – Maricopa County

Regional Reduction Potential

- Reduce transport averages to 54% by providing treat and refer options
- Reduce transport volume by 54,000 calls with 18% reduction

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Annually</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treat - Refer to CP</td>
<td>1,219</td>
<td>$1,245,944.22 (Transport + Hospital Cost)</td>
</tr>
<tr>
<td>Treat - Refer to CR</td>
<td>2,367</td>
<td>$2,418,597.61 (Transport + Hospital Cost)</td>
</tr>
<tr>
<td>Treat - Refer to ER</td>
<td>10,260</td>
<td>$5,991,840.00 (Transport Cost)</td>
</tr>
<tr>
<td>Treat - Refer to PCP</td>
<td>33,480</td>
<td>$31,939,920.00 (Transport + Hospital Cost - PCP Cost)</td>
</tr>
<tr>
<td>Treat - Refer to UC</td>
<td>6,480</td>
<td>$5,968,080.00 (Transport + Hospital Cost - Urgent Care Cost)</td>
</tr>
<tr>
<td></td>
<td>53,806</td>
<td>$47,564,381.83 Annual Savings**</td>
</tr>
</tbody>
</table>

Potential Regional Savings

<table>
<thead>
<tr>
<th>Ambulance Transport</th>
<th>Hospital</th>
<th>Urgent Care</th>
<th>PCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Cost*</td>
<td>$584.00</td>
<td>$438.00</td>
<td>$101.00</td>
</tr>
</tbody>
</table>

Maricopa County Annual Estimates

| EMS Calls | 300,000 |
| Transports | 214,865 |
| Avg Transport % | 72% |

*Avg charge data from Mercy Care 2013/14 Chandler residents
**Savings based on Medicaid reimbursement rate
Don’t miss out on VA benefits you may have earned. Sign up to learn more.

For Veterans, dependents, and survivors: information on benefits and services delivered right to your inbox.

Please enter your email address

SUBMIT

No Thanks. Take me to VA.gov

Privacy Policy
6-Month Pilot with Veterans Affairs

Pilot Objectives

1. Veterans connected to VA for access to healthcare benefits

2. Community Paramedics facilitate tele-health visits for Veterans with the VA Nurse Practitioners

3. Develop reimbursement process from VA to allow program replication

Utilizing existing resources to benefit our Veterans

https://youtu.be/9eb1zUY-HXg
Val Gale

Chandler Fire, Health & Medical Department

val.gale@chandleraz.gov
Chief Koering is a 27 year veteran of the fire service and is currently the Fire Chief for the City of St Louis Park, Minnesota. The department is widely engaged throughout the community on issues of wellness and improved health and has partnered on several projects with Park Nicollet Health Care and Methodist Hospital.
Strengthening Community Partnerships:  
*The Post Discharge Fire Fighter Visit*

St Louis Park Fire Department
St Louis Park Fire Department
St Louis Park, Minnesota

- First Tier Suburb Minneapolis
- Combination career and volunteer.
- 48,000 population
- 10.8 square miles
- 27 full time, 25 part time
- 2 stations
- 4200 EMS Calls
- BLS first response only.
What Problem Were They Attempting to Solve?

- High re-admission rates to the hospital
- Confusion over discharge orders
- Needed to strengthen community resiliency
- Community risk reduction.
Changing Role of The Fire Department

- Continued increased demand of fire resources for medical response
- Mandates of the Patient Protection Affordable Care Act on the roles of the fire department
- Aligning the correct resource for the call type (both vehicle and staff)
- Need to create a revenue stream to sustain service levels
Process Improvement Methodology Used: Kaizen

Project form:
Defined targets and deliverables

Agreeing to a future state process

Process flow or Value Stream Map:
Understanding the current state process

PDSA Cycles: Trying something and making Changes as needed: “Fail forward quickly”
The Process

- PN Care Team is notified of patients eligibility in program
- Firefighter Coordinator visits patient to seek consent
- Patient engages and consent is received
- Patient transitions to home
- Firefighter Visit the day after discharge ensures safe transition
- Patient Admitted to Methodist

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### Visit Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medications</strong></td>
<td>does the patient understand what medications to take?</td>
</tr>
<tr>
<td><strong>Follow up visit</strong></td>
<td>does the patient have a follow up visit scheduled with her doctor?</td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td>does the patient know what symptoms to be aware of and who to call if she experiences the symptom?</td>
</tr>
<tr>
<td><strong>Food</strong></td>
<td>does the patient have enough food in the house to get through the next few days?</td>
</tr>
<tr>
<td><strong>Home safety</strong></td>
<td>are there hazards in the house? Is the smoke/CO2 alarm working? (PEAT Assessment)</td>
</tr>
</tbody>
</table>
Who are the patients

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youngest: 3 months</td>
<td>40% males</td>
<td>HRR patients: 158</td>
</tr>
<tr>
<td>Oldest: 100</td>
<td>60% females</td>
<td>TOTAL VISITS: 766</td>
</tr>
<tr>
<td>Average: 68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Visit Outcomes

- Welfare Check: 50
- Not Home: 24
- Contacted PN Care Team: 29
- Initiated 911: 11
- Referred to Social/Community Resource: 45
- Contacted Adult Protection: 1
- Contacted Homecare: 3
- Medication Follow-up: 22
- Installed Smoke Alarms/Batteries: 126
- Referred to a food shelf: 25
Firefighter Visit Impacts on Readmission

For males, the readmission rate was 14.51% lower.

3.2% lower readmission rate
When a patient has a FFV

Age groups benefitting the most from the visit
50-60 and 81-90
With > 10% reduction
The Customer Experience

MH staff informed me about the firefighter visit in a way that I could understand: 99% agree/strongly agree

Most important aspect of visit: Safety Assessment

“I would recommend a firefighter visit to my family and friends”: 99% agree/strongly agree
• Discussions regarding payments with Health Partners the payer tied to ACO are in process.
• Additional hospital systemss have entered into discussions about this model in addition to discussing expanding the BLS options.
• Community EMT legislation allows for reimbursement by fire departments. Should pass 2016 Legislative Session
Josh Hurguy, EMS Battalion Chief for Golder Ranch Fire District

- Josh Hurguy is the EMS Battalion Chief for Golder Ranch Fire District, which northwest of metropolitan Tucson. Josh completed both his Bachelor’s and Masters degrees at Northern Arizona University and is starting his EFO this July. In his free time he is a husband and father to two young daughters ages 9 and 5, and is an avid Arizona Wildcats and Chicago Cubs fan.
Community Integrated Healthcare Program
Golder Ranch Fire District’s Approach to MIH
Golder Ranch Fire District

- Fully career public Fire and EMS Provider northwest of Tucson, AZ
  - Population 65,000
- Fire service area 200+ square miles
- EMS (ALS Response/Trans) service area 300+ square miles
- Eight Stations
  - Personnel
    - 178 total FTE’s
    - 141 line personnel (Shift strength 47)
- Call Volumes
  - Total of 11184 FY15
    - 5997 EMS Related
    - 159 All other emergency call types (Fire, HazMat, ETC)
    - 5028 Service and good intent calls
  - Emergency call volume by percentages
    - 97.4% EMS
    - 2.6% All other
What we are trying to accomplish

- Improve the overall health of our community
- Right size the care for our residents/customers
- Increase unit in service hours
- Stay Relevant
Remaining Relevant

Fire Department calls 1980 -2013
Source NFPA
Community Integrated Healthcare Program

- Development began in May 2013 and went operational on July 1, 2014
- 30 day post discharge follow-up program to reduce readmissions for COPD, CHF, DM, MI, PNA
- Participants opt in at time of discharge from participating facilities
- Coordinated care provided by Community Integrated Paramedics through a minimum of six interactions during 30 day period
Benefits to the Participant

- Available 24 hours a day through 9-1-1 or seven digit access
- Integrated Post discharge care follow-up
- Dedicated resource
- No out of pocket cost
Benefits to GRFD

- Increased presence with our resident/customer base
- Savings from repeat transports
- Increased unit in service hours
- Improved patient care
- And: We are providing a relevant service our public wants
Cost of Remaining Relevant

- Fee for service/shared risk contracts with facilities/insurers
  - Outcome based with measurable objective
- Budget Funded
  - Via tax levy
  - Ambulance transport revenue
- Reimbursement?
  - Arizona is currently developing a T&R reimbursement model with our Medicaid agency
  - The industry will get there, but you should not wait for this to occur before you establish a program
Division Chief Mitch Snyder
Kent Regional Fire Authority

• Division Chief Mitch Snyder is the Emergency and Non-Emergency Medical Services (EMS & NEMS) Officer for the Kent Regional Fire Authority in Washington State. Mitch and his team have created a program called Fire Department Community Assistance, Referral, and Education Services (FD CARES). This program has been designed to be adapted into any EMS system. For more information, please visit [www.fdc cares.com](http://www.fdc cares.com).
Case Study

Kent Regional Fire Authority
Kent, Washington

FD CARES
TRUSTED COMMUNITY HEALTHCARE

WWW.IAFC.ORG/FRM
FULLY CAREER FIRE DEPARTMENT

- 150,000 population
- 11 Fire Stations 280 sworn personnel
- Firefighter EMT’s
  1. ALS Treatment and Transport Provided by partnership with the counties levy funded paramedic response model.
  2. Private service BLS bills for BLS transports
- 24,000 Total Incident Responses in 2015
- 18,000 911 EMS Calls annually
FD CARES PROGRAM

Program has been in it’s development stage since 2010. Designed to be able to be incorporated into any fire department with the ability to leverage each agencies data in order to establish new streams of revenue.

Population payer group breakdown:

- Medicaid = 31%
- Medicare = 30%
- Premera Blue Cross = 11%
- Two competing private insurers = 10%
- Mix of other insurers = 9%
- Uninsured = 9%
What Problem Were We Attempting to Solve?

- Improve patient access to the appropriate level of care.
- Improve patient health outcomes.
- Improve the per capita cost of patient care.
- Improve the emergency response system.
- Improve efficiencies in non-emergent medical response.
How Did We Solve the Problem?

FDCARES (Fire Department Community Assistance, Referral, and Education Services) is a non-emergency medical services (NEMS) division within our fire department. This separates emergency from non-emergent medical requests and has adopted a new response model and delivery system for these call types. Included in this is a proactive EMS prevention process that focuses on high utilizers and high risk patients in an effort to meet the triple aim of the ACA.

Staffed 24/7 with:

1-Firefighter EMT &
1-Registered Nurse
Benefit to the patient?

✓ Improved health outcomes
✓ Improved access to appropriate healthcare
✓ Reduced health care costs & co-pays
✓ Reduced 911 & ED use
✓ Reduced ED waiting room stay
Benefit to the Department?

✓ Improved emergency unit reliability
✓ More efficient response model
✓ More cost effective response model
✓ Improved patient care
✓ Improved public support
✓ Improved employee morale
✓ Improved fire department spending
Revenue? $2.1 Million in Partnerships

✓ The County Emergency Medical Services.
✓ The County Mental Health and Substance Abuse.
✓ Premera Blue Cross.
✓ University of Washington Valley Medical Center.
✓ Tri-Med Ambulance
SUSTAINABLE FUNDING?
Rick Lewis is the EMS Chief for South Metro Fire Rescue. Chief Lewis has been in the fire service for 26 years and a practicing paramedic in the Denver-Metro area for the past 34 years. He is also one of the 2013 EMS 10 Innovator Award recipients.
South Metro Fire Rescue
Centennial, CO
Advanced Resource Medic
SMFR

• Fully Career Department
• Population Served - 203,500
• 179 Sq Miles – 17 Stations 294 Line Personnel
• ALS Transport Agency – 10 Medic Units
  – 12,000 EMS Calls/yr
What problems were we fixing?

- Loyalty institutions vs. loyalty customers
- Rapidly expanding low acuity volume
  - No viable plan to manage low acuity
- Resource utilization
- Call time
How did we fix them?

- NP and Advanced Practice Paramedic
  - Lab, US, X-ray, formulary
- Resource utilization
- Notifications & referrals
  - Call time
SMFR Payor Mix

Private Insurance 33%
Managed Medicare 27%
Medicare 21%
Medicaid 5%
Self-pay 10%
Tricare 3%
Dual Eligible Medicare 1%

Managed Medicare Breakdown
Kaiser 31%
United 28%
Humana 15%
BCBS 18%
Other 8%

Private Insurance Breakdown
Cigna 38%
United 27%
Kaiser 16%
Aetna 10%
BCRS 15%
Other 4%
Work Comp 2%
Humana 2%
# Funding Sources

<table>
<thead>
<tr>
<th>NP’s</th>
<th>SMFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Contracts</td>
<td>• Negotiated Price Points</td>
</tr>
<tr>
<td>• All Major Private Payors</td>
<td>- All Major Pvt. Payors</td>
</tr>
<tr>
<td>• Work Comp</td>
<td>- Anthem</td>
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<td>• Medicare</td>
<td>• Medicaid</td>
</tr>
<tr>
<td>• Medicaid</td>
<td>- RCCO</td>
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<tr>
<td>• Shared Risk</td>
<td>- Additional Value Based Contract</td>
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<tr>
<td>• Value Based</td>
<td>• Medicare –ABN Form</td>
</tr>
<tr>
<td></td>
<td>• Employee Clinic</td>
</tr>
<tr>
<td></td>
<td>• Work Comp</td>
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</tbody>
</table>
Chief Norman Seals has served with the Dallas Fire-Rescue Department for over 30 years and currently serves as the Assistant Chief over the Emergency Medical Service Bureau Chief Seals, along with DFR Medical Director Marshal Isaacs, were the primary architects of the Mobile Community Healthcare Program for DFR and continues to be heavily involved in the day-to-day management of this very important program.
Case Study: Dallas Fire-Rescue

Norman Seals, Assistant Chief
Emergency Medical Service Bureau
Dallas Fire-Rescue Department
Dallas, Texas

- 1,200,000 population
- Career department
- 58 Fire Stations
- 1,908 sworn personnel
- All ALS System
  - 43 Rescues (ambulances)
  - 57 Fire Engines
- 204,393 EMS calls in FY15
- Occasionally fights fire...
Mobile Community Healthcare Program

Community Partnerships

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Two-Phased Approach: Bridging Gaps

• High Frequency Utilizers
  – Began in March 2014
  – Goal of reducing dependence on 911 and ED system

• Hospital Contract Patients
  – Began fall 2015
  – Goal of assisting hospital partners with filling gaps that lead to increased health care costs
Phase I: High Frequency

- Identified through internal record search and referral
- Intensive case management process
- Network of community groups
- 120+ unique patients seen to date
- 85% call reduction - Almost $3 million in cost avoidance
Phase II: Hospital Contracts

• Steps toward sustainable funding
• Learning process
• Three contracts to date - $700,000
  – Pediatric Asthma
  – High frequency ED patients
  – Managed healthcare patients
• All fee-for-service
• In talks now for three additional contracts
Next Steps

• Mental health teams – grant funded
• Data Management solution
• Adding social service worker, mental health and substance abuse components
• Adding contracts to self-fund program
Fire Rescue Med

*Innovations in EMS*

Our Speakers will be at tables in the back to answer any questions