Montgomery County Fire and Rescue Service Performance Plan

Tom Carr, Fire Chief

September 9, 2008

CountyStat

CountyStat Principles

- Require Data-Driven Performance
- Promote Strategic Governance
- Increase Government Transparency
- Foster a Culture of Accountability

Agenda

- Welcome and Introductions
- MCFRS Follow-Up Items
- MCFRS Headline Measures
- Wrap-up and Follow-up Items

Follow Up Item Progress

- **Identify and include a representative from MCFRS on the 311 Steering Committee**
  - At the guidance of ACAO Street, Chief Carr will be the MCFRS rep on the 3-1-1 Steering Committee.

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Complete

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- **Analyze the expenditures for uniform purchases from FY03 through FY07**
  - In 2005, through an Urban Area Security Initiative (UASI) grant, all current uniformed personnel were issued a second set of protective clothing. All subsequent new hires have required the purchase of a second set of protective clothing as well.

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Complete

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- **Headline Performance Measure #1 – Aggregate and report on the causes for fires not contained to the room of origin by collecting and compiling individual fire data and reports.**
  - MCFRS feels call processing time is the component of response time most targeted for reduction because it offers the best opportunity for significant reductions.

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In Progress

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Follow Up Item Progress

- **Headline Performance Measure #3 – Analyze fire injury data to understand drop in injuries from FY05 to FY06 and compare injury rates in Montgomery County with surrounding jurisdictions and national trends.**

  – There is no discoverable trend associated with the data. During this period the department did have an aggressive campaign that included near daily outreach by the fire companies.

  – Ideally, MCFRS would associate any occurrence of injury investigated with preventive efforts.

  – Headline measures 1, 2 and 3 require a more intense level and scope of investigation.

In Progress

- **New Performance Measures – Create three new performance measures to be included in the MCFRS performance plan (EMS services, Prevention Programming, and Efficiency).**

  – MCFRS is including three new performance measures that will monitor EMS service quality, Prevention Programming, and Departmental efficiency as demonstrated through overtime data

In Progress

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MCFRS Analysis of FY03 through FY07 Uniform Expenditures

- In 2005, through an Urban Area Security Initiative (UASI) grant, all current uniformed personnel were issued a second set of protective clothing

- All subsequent new hires have required the purchase of a second set of protective clothing

- Gear cleaning has doubled in cost with the issuance of the second set of protective clothing

- Two sets of protective clothing are necessary to provide the ability to have one set cleaned while still having the appropriate equipment necessary to perform their basic job functions as well as to provide a readily available set of protective clothing in the event their first set is contaminated or damaged

- When the UASI gear becomes ten years old in 2015, a large amount of protective clothing will need to be replaced at one time

FY03	FY04	FY05	FY06	FY07
598,296	600,773	1,168,991	1,710,311	2,118,532

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Fire Data Analysis: Status of Data Collection

- MCFRS is currently required by law to identify the cause of a fire
- MCFRS participates in a national data collection process called the National Fire Incident Reporting System.
    - All structure fires are cleared as a code 111
    - This code means that there was some sort of fire where the responding companies were needed to provide actions to mitigate a fire

- In addition to MCFRS internal data collection, MCFRS needs to interrelate data they collect and compliment it with data from other sources
    - Hospitals record data about injuries and this data would indicate what caused the injury, helping MCFRS identify how many actual injuries may be occurring

- MCFRS observes that they need to find ways to improve the proficiency of staff in completing the incident and unit response reports so that we raise the quality of the data.
    - Several hundred people enter informational reports, more training is needed

MCFRS Analysis of Fire Injury Data: Local Analysis

	Fire Deaths	Fire Injuries	Estimated Dollar Loss
Washington, DC			
2004	16	43	8,417,923
2005	17	81	17,420,808
2006	13	42	1,819,042
2007	12	34	56,574,496
Alexandria, VA			
2004	1	28	1,628,150
2005	2	22	1,668,350
2006	2	28	1,728,005
2007	No Data Provided	No Data Provided	No Data Provided
Arlington Co., VA			
2004	0	0	2,121,978
2005	0	0	6,576,609
2006	1	1	6,626,673
2007	No Data Provided	No Data Provided	No Data Provided
Fairfax Co., VA			
2004	7	55	27,029,522
2005	10	21	36,857,251
2006	8	38	41,460,570
2007	7	28	37,457,739
Montgomery Co., MD			
2004	3	40	44,200,000
2005	5	47	48,600,000
2006	4	39	34,500,000
2007	13	22	35,213,436

MCFRS Analysis of Fire Injury Data: Local Analysis

	Fire Deaths	Fire Injuries	Estimated Dollar Loss
Prince William Co., VA			
2004	2	31	7,355,332
2005	1	31	7,272,134
2006	0	24	9,494,193
2007	No Data Provided	No Data Provided	No Data Provided
Loudoun Co., VA			
2004	NA	NA	NA
2005	1	NA	NA
2006	0	31	13,902,507
2007	No Data Provided	No Data Provided	No Data Provided
Prince Georges Co., MD			
2004	19	45	30,889,793
2005	15	30	23,719,022
2006	5	32	20,542,483
2007	6	13	1,163,000
Montgomery Co., MD			
2004	3	40	44,200,000
2005	5	47	48,600,000
2006	4	39	34,500,000
2007	13	22	35,213,436

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CountyStat Fire Data Analysis: Fire Confinement

Fire Containment by Dwelling Type

		2004	2005	2006	2007	Total
1 or 2 Family Dwelling	Beyond building of origin	5	5	9	4	23
	Confined to building of origin	32	41	35	48	156
	Confined to floor of origin	20	17	23	17	77
	Confined to object of origin	49	39	24	26	138
	Confined to room of origin	110	67	61	63	301
	Undetermined - NFIRS4 - No conversion	7				7
	(blank)	14	31	17	26	88
1 or 2 Family Dwelling Total		237	200	169	184	790
Multifamily Dwelling	Beyond building of origin		6	3		9
	Confined to building of origin	6	5	10	10	31
	Confined to floor of origin	4	7	11	7	29
	Confined to object of origin	39	14	16	15	84
	Confined to room of origin	32	35	37	36	140
	Undetermined - NFIRS4 - No conversion	2				2
	(blank)	6	7	5	11	29
Multifamily Dwelling Total		89	74	82	79	324
Grand Total		326	274	251	263	1114

Percent of 111 Coded Fires by Dwelling Type

	2004	2005	2006	2007	Total
1 or 2 Family Dwelling	72.70%	72.99%	67.33%	69.96%	70.92%
Multifamily Dwelling	27.30%	27.01%	32.67%	30.04%	29.08%

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CountyStat Fire Data Analysis: Area of Origin

Top Ten Areas of Fire Origin

	2004	2005	2006	2007	Grand Total
Cooking area, kitchen	29.14%	20.80%	23.11%	21.29%	23.88%
Bedroom - < 5 persons; included are jail or prison	11.35%	18.61%	13.55%	10.65%	13.46%
Laundry area, wash house (laundry)	7.36%	7.30%	6.37%	8.75%	7.45%
Function areas, other	2.76%	6.20%	7.97%	4.94%	5.30%
Bathroom, checkroom, lavatory, locker room	3.68%	3.28%	3.19%	4.18%	3.59%
Exterior balcony, unenclosed porch	0.92%	2.92%	2.79%	6.46%	3.14%
Wall assembly, concealed wall space	2.76%	3.28%	2.79%	3.80%	3.14%
Attic: vacant, crawl space above top story, cupola	1.53%	5.47%	4.38%	1.14%	3.05%
Common room, den, family room, living room, lounge	4.29%	2.19%	2.79%	2.66%	3.05%
Vehicle storage area; garage, carport	2.15%	1.82%	4.78%	3.04%	2.87%
Other	4.91%	2.19%	1.59%	1.14%	2.60%

Cooking Area, Kitchen Fire Containment

|	2004	2005	2006	2007	Grand Total
Beyond building of origin	0.00%	3.51%	1.72%	0.00%	1.13%
Confined to building of origin	2.11%	5.26%	8.62%	7.14%	5.26%
Confined to floor of origin	6.32%	1.75%	8.62%	7.14%	6.02%
Confined to object of origin	33.68%	22.81%	15.52%	10.71%	22.56%
Confined to room of origin	53.68%	54.39%	53.45%	67.86%	56.77%
Undetermined - NFIRS4 - No conversion	3.16%	0.00%	0.00%	0.00%	1.13%
(blank)	1.05%	12.28%	12.07%	7.14%	7.14%

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Headline Measures

1) Percentage of Residential Structure Fires Confined to the Room of Origin

2) Response Time to Advanced Life Support and Structure Fire Incidents

3) Number of Residential Fire Deaths and Injuries

4) Percentage of Accreditation Criteria Met

5) Percentage of STEMI Patients Receiving Critical Care Interventions That Survive

6) Percent of Montgomery County Residents Surveyed who Rate Fire and Rescue Service Injury and Fire Prevention Education Services Effective

7) Correlation Coefficient of Overtime Use / Average Overtime Hours per Employee

Measure 1: Percentage of Residential Structure Fires Confined to the Room of Origin

Key Strategies/Actions

- Implement Phase 2 of four-person staffing plan

- Study alternatives for improving time taken for call-taking/processing and dispatch

- Study alternatives for improving turnout time

- Continue advocating sprinkler retrofitting of residential mid-rises and high-rises

- Develop plan for improving rural water supply sources

Percentage of Residential Structure Fires Confined to the Room of Origin

Target 80%
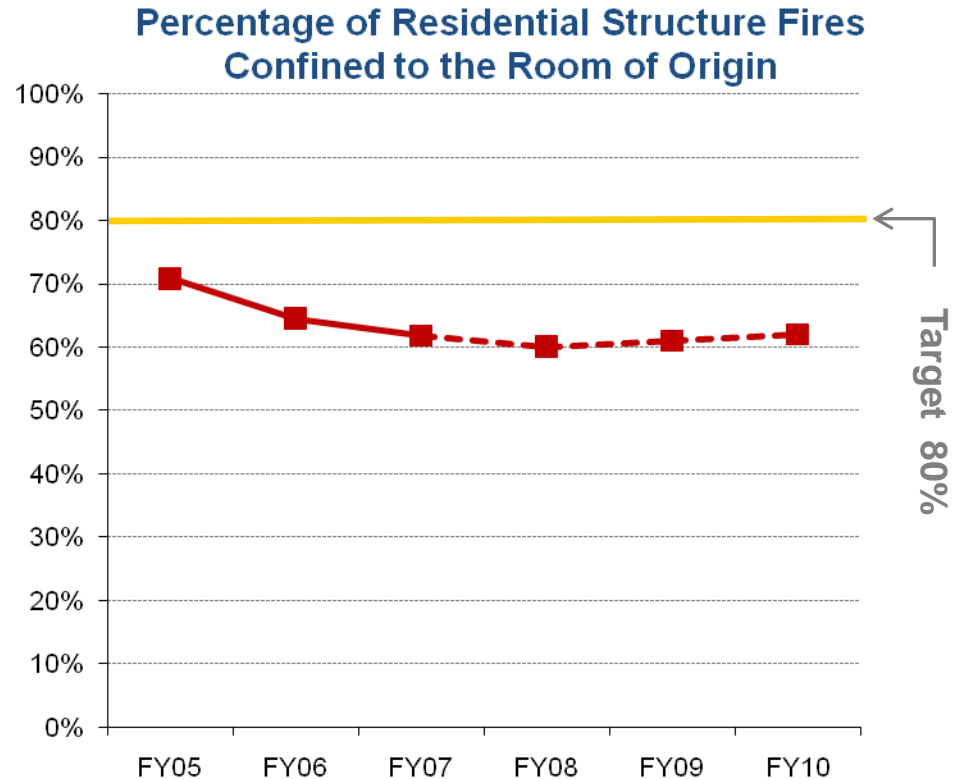
MCFRS currently faces three major challenges; unmet response time goals, insufficient suppression resources, and insufficient staffing

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Measure 1: Percentage of Residential Structure Fires Confined to the Room of Origin

What constitutes good performance for this measure?
- Percentage of residential structure fires contained should increase
- Overall fire damage and injuries should be mitigated over time

Contributing Factors
- Water is not as readily available and in sufficient quantity throughout much of the County's non-hydranted area
- Early fire detection and sprinkler systems mitigate fire damage
- Greater staffing capacity through fourth-person staffing and new Germantown station

Restricting Factors
- MCFRS is not meeting the County Council-adopted response time goal of 6 minutes for first-due engine on structure fires
- The County lacks sufficient suppression capabilities in areas experiencing the highest rate of residential growth
- 44% of MCFRS frontline engines and aerial units by the first quarter FY09 had the NFPA 1710-recommended minimum staffing level of four personnel around the clock
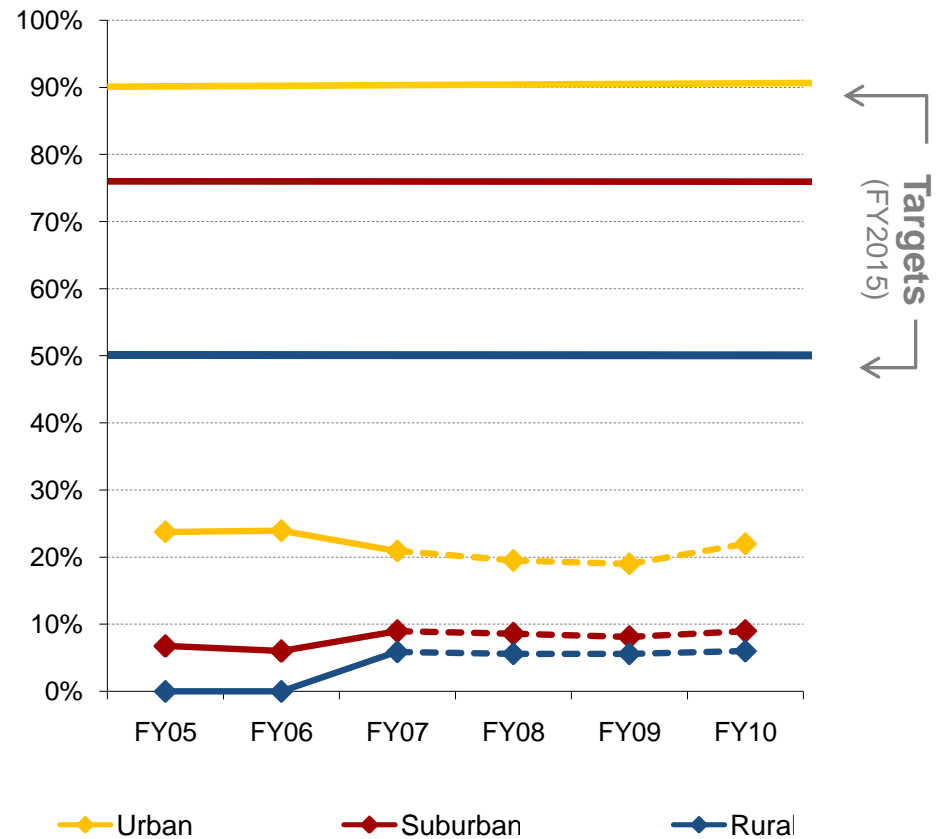
Measure 2: Response Time to Advanced Life Support and Structure Fire Incidents

ALS Response in 8 Minutes
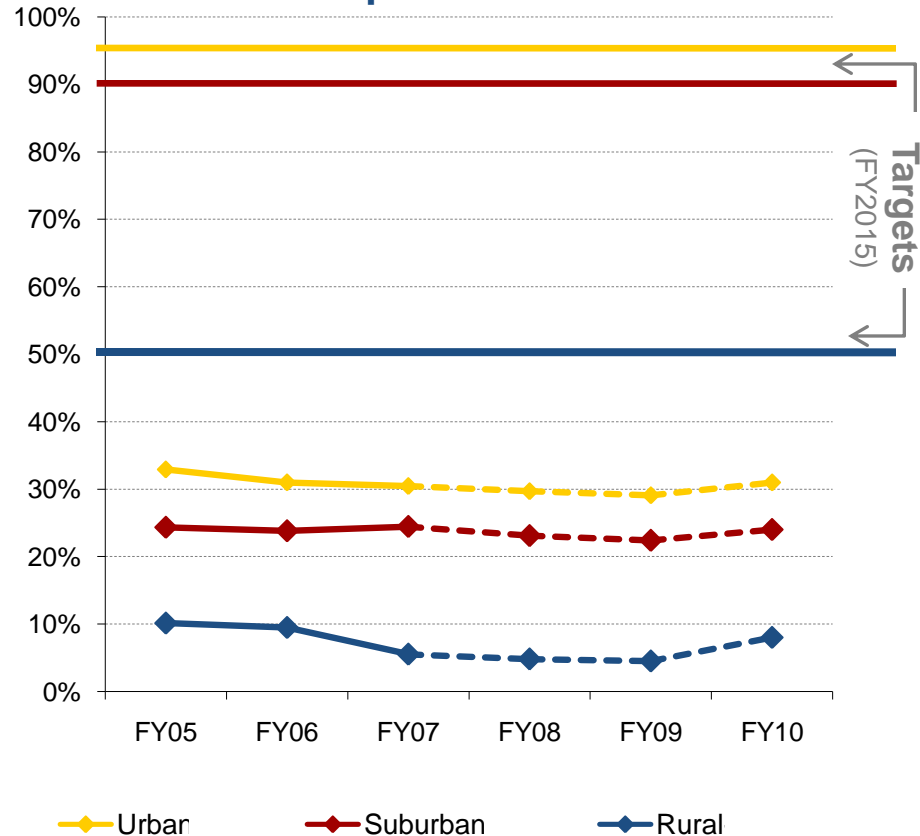
Structural Fire Response in 6 Minutes

Targets (FY2015)

Urban — Suburban — Rural

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Measure 2: Response Time to Advanced Life Support and Structure Fire Incidents

What constitutes good performance for this measure?
- Percentage of ALS responses within 8 Minutes should increase
- Percentage of structure fire responses within 6 Minutes should increase

Contributing Factors
- The opening of new roads provides MCFRS units more direct routes of travel to incidents as well as more alternatives when preferred routes of travel are congested or blocked.
- Distribution of stations in down-county area is sufficient and the future addition of up-county resources will reduce response times in high call volume areas of the up-county

Restricting Factors
- ECC call-taking, call processing, and dispatching averages about three minutes
- Turnout time - Currently, the average turnout time for all incident types combined is about 1¾ minutes. The average is skewed upwardly by turnout time for BLS incidents (EMS incidents of a non-life threatening nature), which could be improved substantially.
- Travel time is increased by insufficient resources, staffing on suppression units, and road or traffic conditions

Measure 3: Number of Residential Fire Deaths and Injuries

Key Strategies/Actions

- Begin implementation of recommendations in Senior Citizens Fire Safety Task Force first-year report. Add position to coordinate implementation of this initiative.

- Continue fire prevention and risk reduction programs focused on targeted populations as well as those programs focused on the County's population at large.
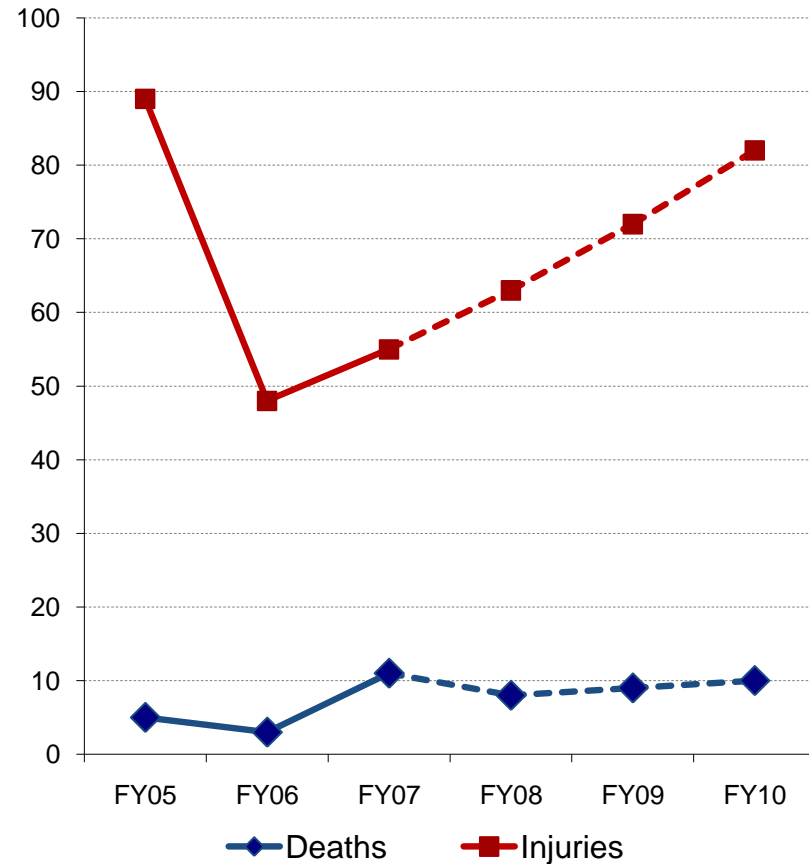
MCFRS cite growing 'senior and immigrant populations' as the major contributor to expected higher than anticipated figures over the next two-three fiscal years and beyond

Measure 3: Number of Residential Fire Deaths and Injuries

What constitutes good performance for this measure?
- Fire injuries should decrease over time
- Fire deaths should decrease over time

<u>Contributing Factors</u>
- MCFRS has a robust community outreach program to educate the public about fire prevention, fire safety, and risk reduction.
- Early fire detection and sprinkler systems mitigate fire damage
- Maryland lawmakers have enacted a law (effective July 1, 2008) requiring that cigarettes sold within the State must be of the design known as "fire safe".

<u>Restricting Factors</u>
- Despite County and State laws requiring smoke alarms in residences, some residences lack these life-saving devices or have non-functional units.
- Careless use and disposal of smoking materials (i.e., cigarettes and cigars) has long been the primary cause of residential fire deaths in Montgomery County.
- Residential high-rises and mid-rises, garden apartments, townhouses, and houses pre-dating sprinkler laws present a significant risk to occupants.

MCFRS notes that demographic factors of age, socio-economic level, and race/ethnicity each pose unique challenges and create restricting factors

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Measure 4: Percentage of Strategic Recommendations Addressed Concerning Accreditation Follow-Up Requirements

Key Strategies/Actions

- Begin 5-year initiative to address strategic recommendations provided by CFAI Peer Assessment Team in April 2007.

- Plan is to address about 20% of the CFAI recommendations annually for the five-year period.

- ◆ - Percentage of strategic recommendations from CFAI addressed
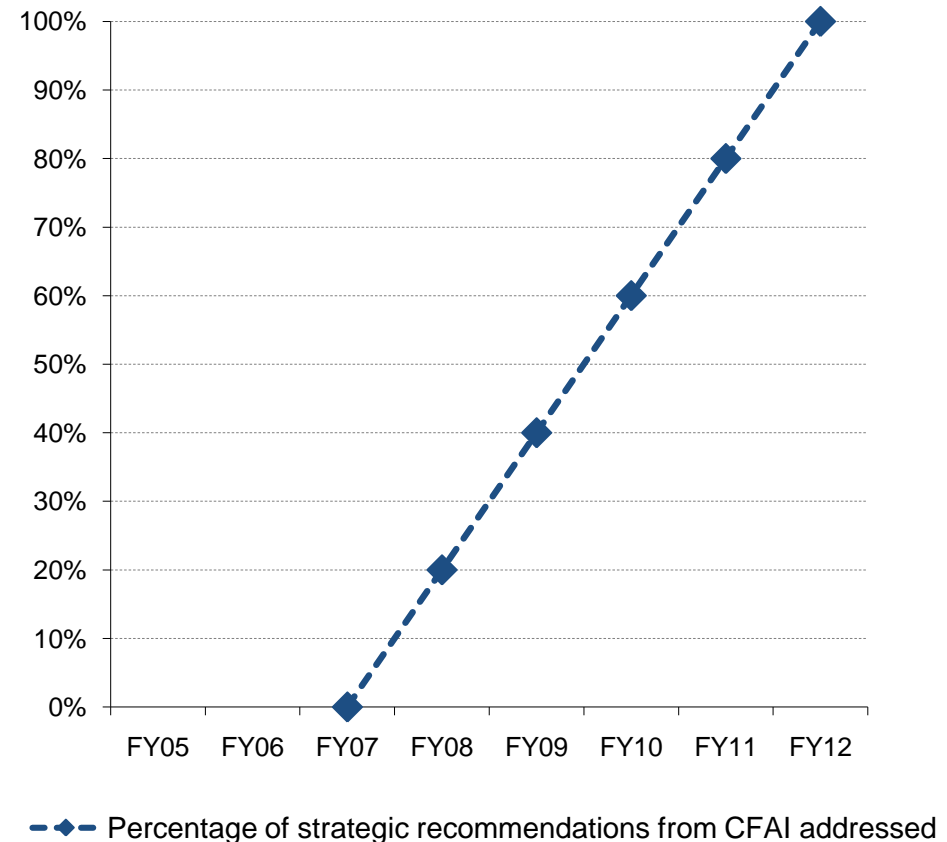
CFAI provides internationally recognized benchmarks to measure the delivery of fire and emergency services to a community

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Measure 4: Percentage of Strategic Recommendations addressed Concerning Accreditation Follow-Up Requirements

What constitutes good performance for this measure?
- Percentage of recommendations addressed should increase over time
- After FY12 all recommendations are complete and this headline measure will be reassessed based on CFAI recommendations

Contributing Factors
- Achieving and maintaining departmental accreditation from CFAI is addressed in the Fire-Rescue Master Plan (Recommendation 104)
- Implementation of Fire-Rescue Master Plan recommendations will assist MCFRS in addressing the remaining "strategic recommendations" of the CFAI Peer Assessment Team as there are similar themes between the two sets of recommendations

Restricting Factors
- Staff capacity (civilian and uniformed) to address accreditation follow-up requirements
- Impact of fiscal savings plan on implementation of CFAI and Fire-Rescue Master Plan recommendations

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Measure 5: Percentage of STEMI Patients Receiving Critical Care Interventions that Survive

Key Strategies/Actions

- MCFRS EMS Section proposes to gather data to demonstrate utilization of these critical cardiac skills and the impact to the community.

- MCFRS will provide system performance and local success stories.

- MCFRS will gather patient outcome data to demonstrate the effectiveness of these cardiac skills.

- MCFRS will analyze this data and make adjustments in the EMD process to further focus on deployment of the best resources.

This performance measure will quantify the clinical skills that the MCFRS utilizes to treat the pre-hospital cardiac patient.

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Measure 5: Percentage of STEMI Patients Receiving Critical Care Interventions that Survive

What constitutes good performance for this measure?

- Percentages should increase over time

Contributing Factors

- MCFRS has in place a training program, hardware, and experience in delivering 12-lead interpretation.
- MCFRS has partnerships with the five in-county emergency departments to facilitate communication focused on cardiac issues.
- MCFRS is the lead agency for implementation of the STEMI process.

Restricting Factors

- Every EMS call is different (standard, repeatable calls in EMS are hard to guarantee)
- The ability to measure these skills is a manual process.
- The indicator skills rely on the provider to document in precise terms.

Measure 6: Percent of Montgomery County Residents Surveyed who Rate Fire and Rescue Service Injury and Fire Prevention Education Services Effective

Key Strategies/Actions

- Safety in Our Neighborhood program of door to door visits

- Using the MCFRS Web site to make information available

- Employing benchmark efforts proven successful in Europe and Pacific Rim nations

- Employing the use of more volunteers

- Training and working directly with social care givers

- Focusing efforts at educating family and community care givers for those at risk

Fire safety in Montgomery County is dependent upon the fire safety knowledge, awareness, and responsibility of its residents.

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Measure 6: Percent of Montgomery County Residents Surveyed who Rate Fire and Rescue Service Injury and Fire Prevention Education Services Effective

What constitutes good performance for this measure?
- Rate of effective survey ratings should increase or remain consistent
- Impact of fire in target communities should be mitigated

<u>Contributing Factors</u>
- All new homes constructed in Montgomery County since January 1, 2004 have been required to have residential fire sprinkler systems.
- Smoke alarms have been required by County law since 1978.
- Montgomery County participates in the NFPA Risk Watch program that serves as a school and child activity-based all-hazards curriculum.
- MCFRS developed and implemented an innovative and original program – "Safety in Our Neighborhood" - involving direct interface with county residents.

<u>Restricting Factors</u>
- Insufficient staffing and funding for materials and personnel devoted to prevention
- Demographic influences and impact of seniors, ESL population, and overcrowding
- School safety education programs do not meet expectations
- Compliancy and lack of awareness posed to residents by fire

Measure 7: Correlation Coefficient of Overtime Use / Average Overtime Hours per Employee

Key Strategies/Actions

- Close monitoring of overtime usage

- Doing more with detail of apparatus versus overtime. (Limits available units for response)

- The graduation of Recruit Class 31 provided additional staffing in Operations.

- Reduction of additional programs, i.e. Car Safety Seats, Ocean City MSFA Convention

- Cost Savings Plan

CountyStat Overtime Tracking

- ● Overtime hours (OTP and OT2)
- ■ Correlation coefficient: Overtime hours vs. wages
- > 0.25
- 0.15 – 0.25
- < 0.15
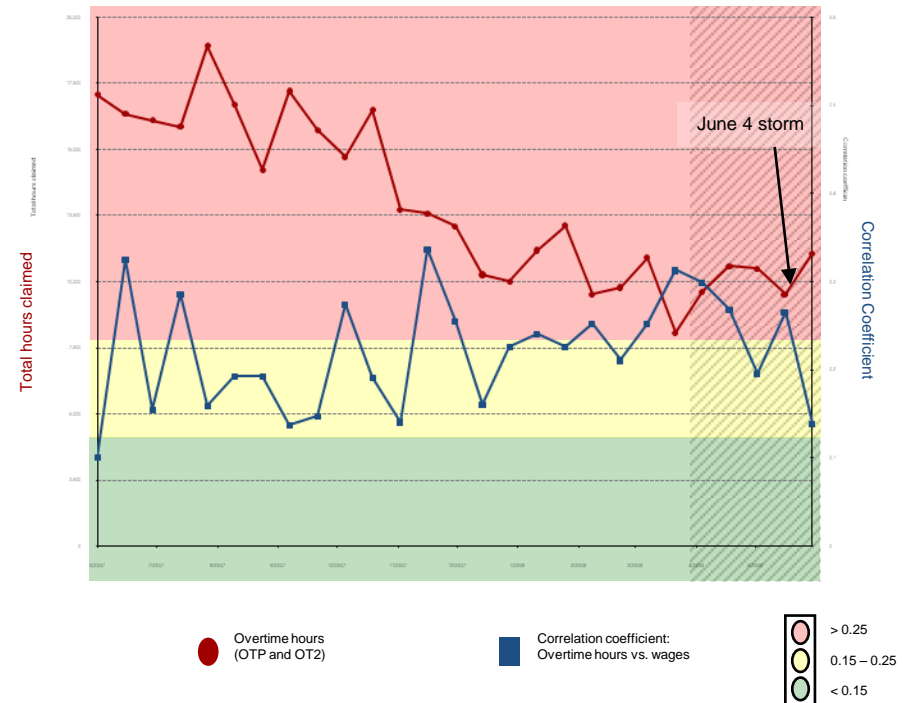
CountyStat overtime meetings will serve to continually monitor MCFRS overtime expenditures

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Measure 7: Correlation Coefficient of Overtime Use / Average Overtime Hours per Employee

What constitutes good performance for this measure?
- Correlation of overtime hours to wage should decrease
- Number of overtime hours per person should decrease

Contributing Factors
- Establishment of overtime project codes have allowed MCFRS to better track and analyze overtime use
- Beginning this fiscal year, MCFRS is preventing personnel from filling a position on overtime that is normally filled by someone of lower rank

Restricting Factors
- The nature of the work requires 24/7 coverage, regardless of sickness, vacation, training, or other factors
- The collective bargaining agreement greatly limits the ability of MCFRS to determine who will be hired on overtime, in fact the IAFF has filed a grievance on the new practice

Wrap-Up and Follow-Up Items