

# Medical Emergency Team Impact on Resident and Staff Education

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# MET at U. Penn

- Started in July 2006
- Model:
  1. ICU attending or fellow
  2. ICU – certified nurse
  3. Residents from primary team
  4. Respiratory Therapist
  5. Pharmacist
  6. Patient transport



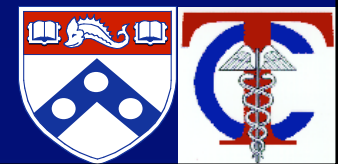
# MET at Penn

- July 2007, split to medical and surgical arms
  - Surgical MET = surgery, neurosurgery, orthopedic, urology, OB/GYN, Otolaryngology
  - Medical MET = medical, psychiatric, outpatient/visitor
- Medical ICU attending responds to mMET
- Surgical ICU attending or fellow respond to sMET



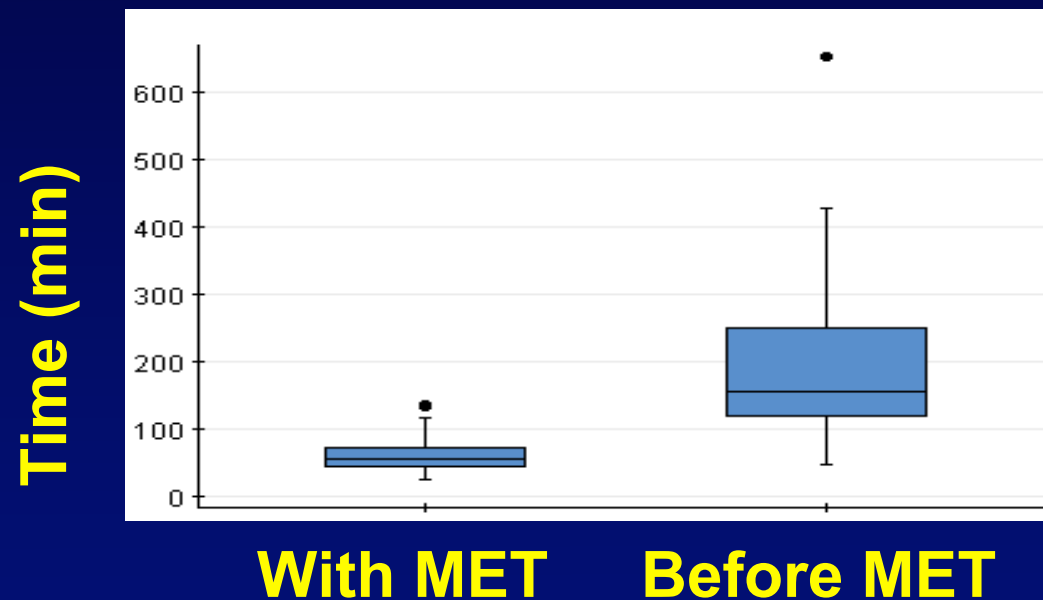


■ Total Out of ICU codes/1000 discharges  
 ◆ Total Out of ICU codes

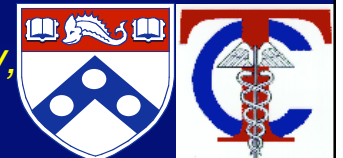


# Timeliness of Care

## Time to Administration of Stat Antibiotic



Sarani, et al. Interdisciplinary Rapid Response Teams Decrease the Time to Antibiotic Administration. *The Joint Commission Journal on Quality and Safety*, 34(3): 179-182, March 2008



# Impact on Resident Education

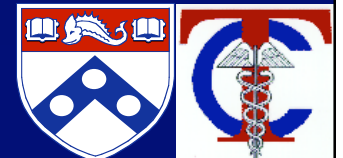
- Hayes CW et al: Residents feel unprepared and unsupervised as leaders of cardiac arrest teams in teaching hospitals: a survey of internal medicine residents. *Crit Care Med* 2007, 35(7):1668-1672



# **Resident and Nurse Perceptions of the Impact of a Medical Emergency Team on Education and Patient Safety in an Academic Medical Center**

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Crit Care Med, 37 (12) : 3091-3096; 2009



# Hypothesis

- Medical and Surgical Residents have Different Views on the Impact of MET on Education and Patient Safety
  - Surgical residents feel MET do NOT improve patient safety
  - Medical residents feel MET WORSEN their education/skills





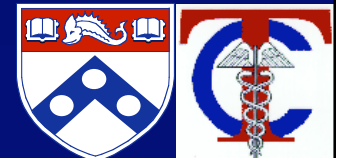
# Hypothesis

- Nurses feel that MET improve patient safety and do NOT impact on their education
- MET enhance nurse job satisfaction



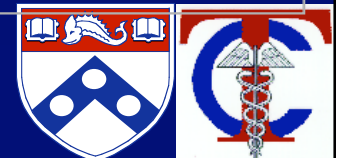
# Design

- Web-based anonymous survey of:
  - Internal Medicine and Surgical residents PGY 2 or more
  - All non-ICU nurses
    - Non-clinical nurses excluded (management, outpatient areas)
    - Results stratified by surgical v medical nursing

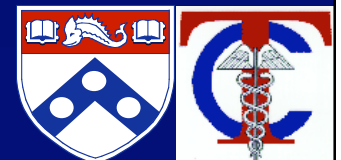
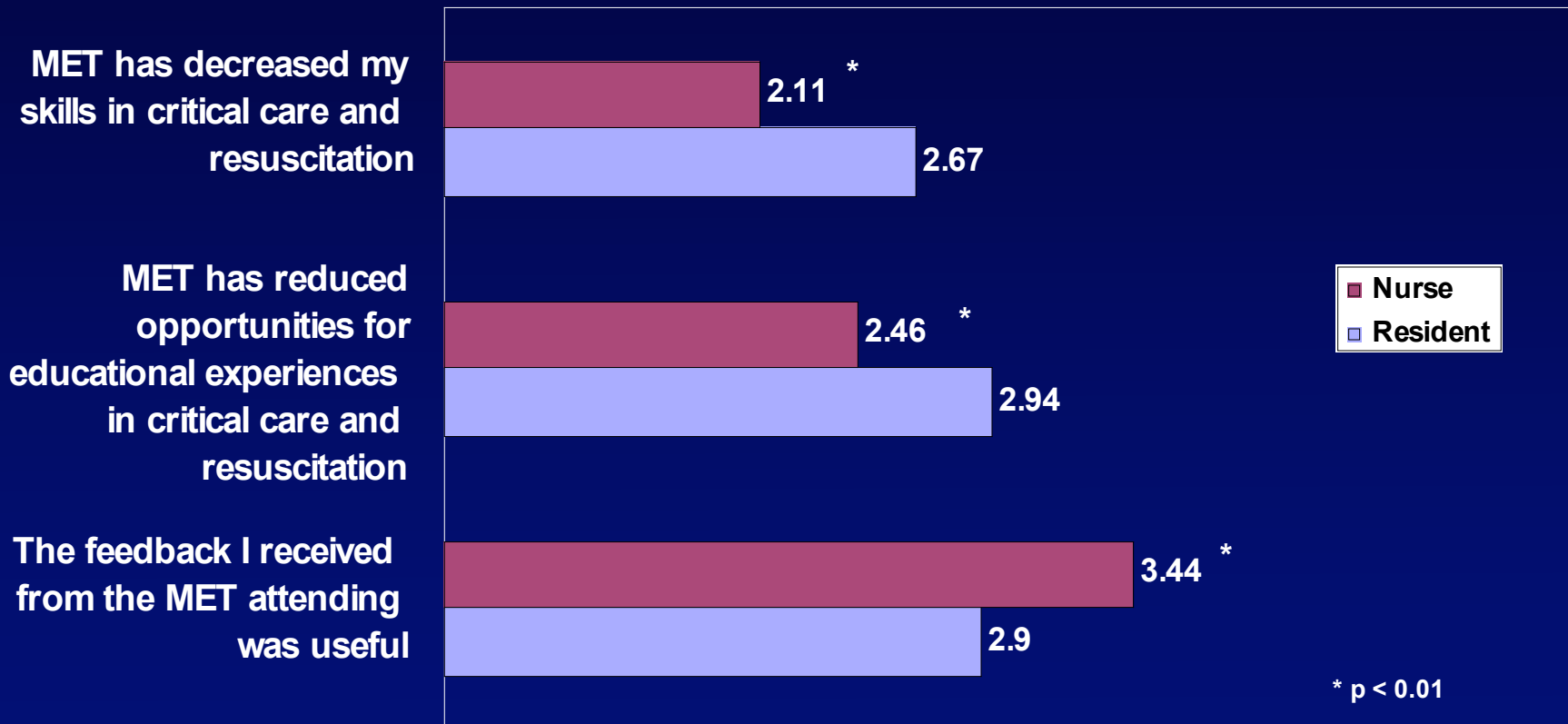


# Results

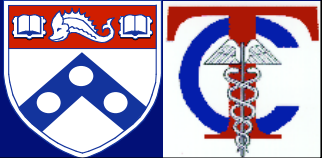
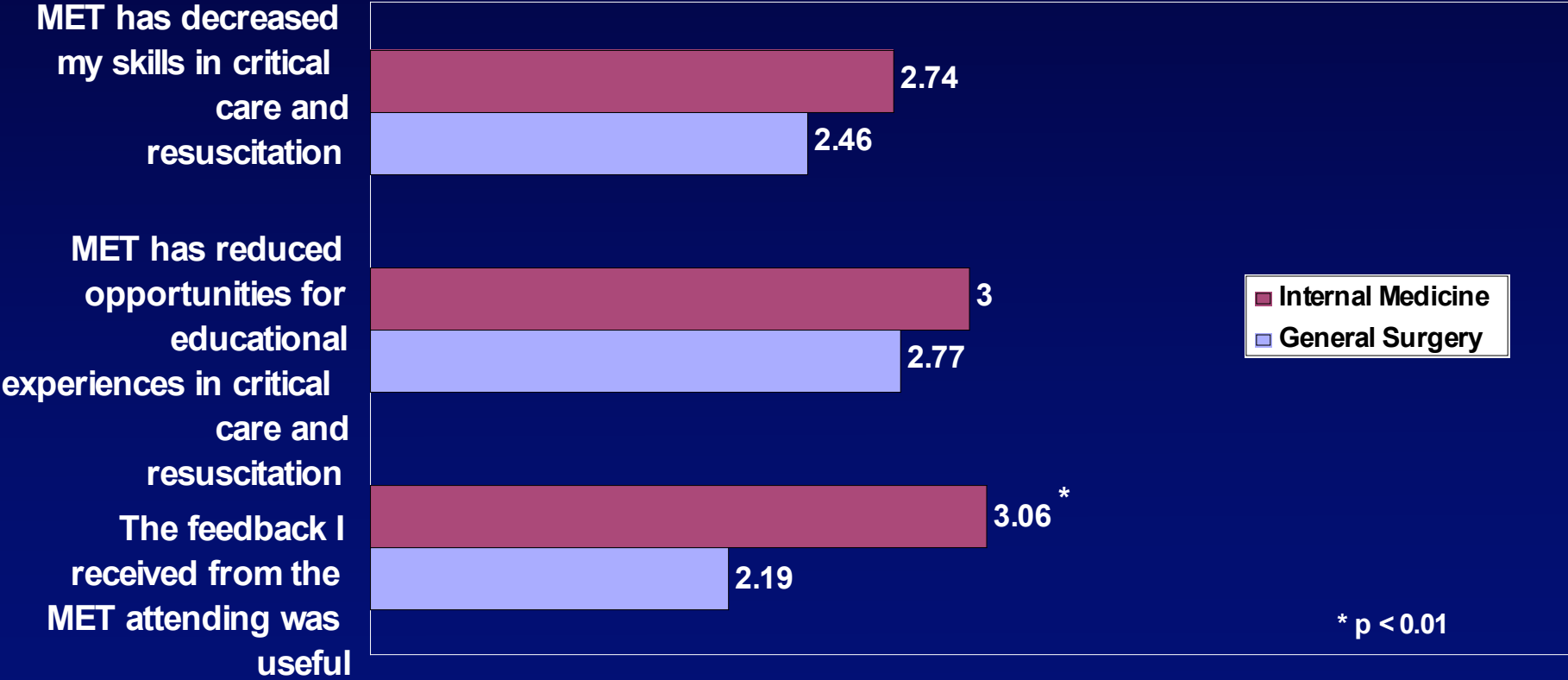
Population	Response (N)	Female (N)	Prior exposure to MET in medical or nursing school (N)
Residents	103	46	12
Internal Medicine	77	42	12
General Surgery	26	4	0
Nurses	414	378	49
Medical	219	199	28
Surgical	195	179	21



## Resident v Nurse Attitudes on Impact of MET on Education



# General Surgery Resident v Internal Medicine Resident Attitudes on Impact of MET on Education



<b>Resident Only (N=58)</b>	<b>Involved in MET Activation</b>		<b>p-value</b>
	<b>Never/ Rarely 35 (60)</b>	<b>Frequently/Always 23 (40)</b>	
The MET has improved patient safety	3.7 (0.7)	4.3 (0.5)	<0.01
I would want my family member in a hospital that has a MET	3.5 (0.9)	3.9 (0.8)	0.08
MET has reduced my educational experiences in resuscitation	3.1 (1.3)	2.9 (1.0)	0.50
MET has reduced my skills in resuscitation	3.0 (1.3)	2.5 (0.9)	0.18
Feedback from the MET attending is useful	2.3 (1.2)	3.6 (1.2)	<0.01
I would be more likely to apply for a fellowship or job at a hospital that has a MET than one that does not	3.1 (0.9)	3.3 (0.8)	0.49

<b>Nurses Only (N=228)</b>	<b>Involved in MET Activation</b>		<b>p-value</b>
	<b>Never/Rarely 69 (30)</b>	<b>Frequently/ Always 159 (70)</b>	
The MET has improved patient safety	4.2 (0.8)	4.6 (0.6)	<0.01
I would want my family member in a hospital that has a MET	4.3 (0.9)	4.4 (0.7)	0.24
MET has reduced my educational experiences in resuscitation	2.4 (1.1)	2.4 (1.1)	0.77
MET has reduced my skills in resuscitation	2.1 (0.9)	2.0 (0.9)	0.46
Feedback from the MET attending is useful	2.8 (1.5)	3.7 (1.1)	<0.01
I would be more likely to apply for a fellowship or job at a hospital that has a MET than one that does not	3.7 (1.0)	4.0 (1.0)	0.02

# Conclusions

- MET do not impact negatively on resident or nurse education
- MET enhance nurse satisfaction and may enhance recruitment/retainment
- This survey assumes a collaborative relationship between MET and residents/nurses





# Conclusions

- Little differences between medical and surgical residents
- Nurses believe in MET models more than residents
- Educational efforts should be directed to residents who do not utilize MET frequently

