

# **Teamwork in the Emergency Department**

2011 SUMR Scholar Final Presentation

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# My Summer Experience



**SUMR**  
Luncheons, Activities

**GRE**

## ED Research

- PROMOTE health
- Women's Health Study
- Patient Exit Surveys



# Presentation Overview

- Projects I participated in

- PROMOTE health
- Women's Health Study

- My summer project

- The Exit Surveys: Patient Assessment of ED Teamwork
  - Project Overview
  - Background
  - Significance
  - Aims
  - Hypotheses
  - Methods
  - Results

- Lessons learned



# 1. PROMOTE Health

## ● Project Aim

- Link a computerized health assessment completed by the patient in the ED waiting room with their medical record in order to reduce the amount of time providers spend on assessments.

## ● My Summer Goal

- To pilot the assessment on 100 patients in the HUP ED waiting room to identify any technical or conceptual difficulties with the assessment

## ● Results

- The assessment was tested on 88 patients with 2 phases of editing after patient feedback

## ● Next Steps

- Make assessments available for providers and study its impact on Doctor-patient communication and quality of care.

# 1. PROMOTE Health

- Promote Health computer





## 2. Women's Health Study

### ● Project Aim

- To enroll 600 female patients, ages 18-65, in the ED that have experienced both Intimate Partner Violence (IPV) and heavy episodes of drinking in a one year longitudinal study
- Upon completion of the study, we will understand the effectiveness of a low-intensity, gender-sensitive brief motivational interview in the ED for decreasing IPV and episodes of heavy drinking.

### ● My Summer Goal

- To screen all women ages 18-65 in the ED to assess their eligibility to participate in the study

### ● Results

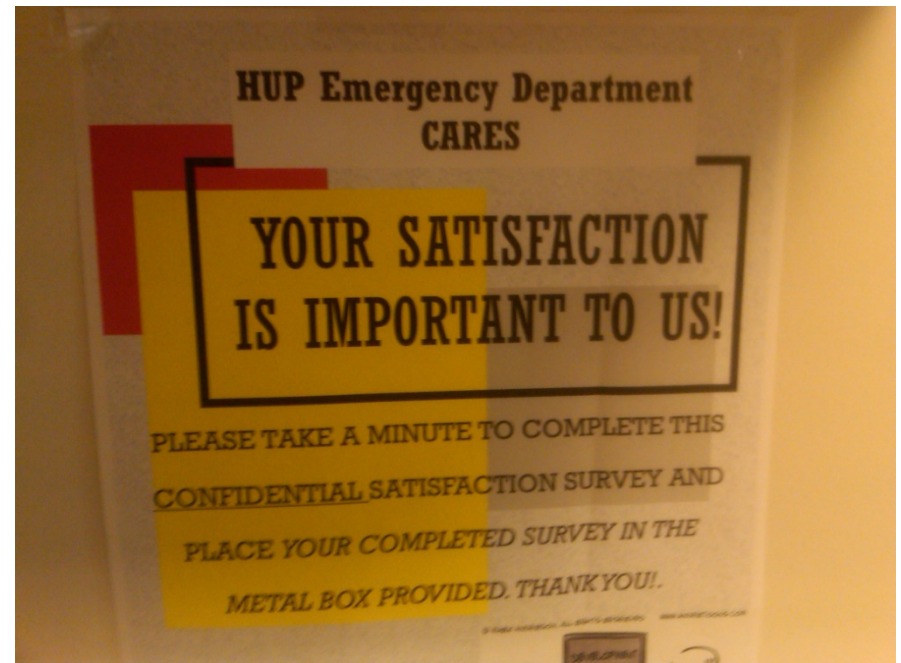
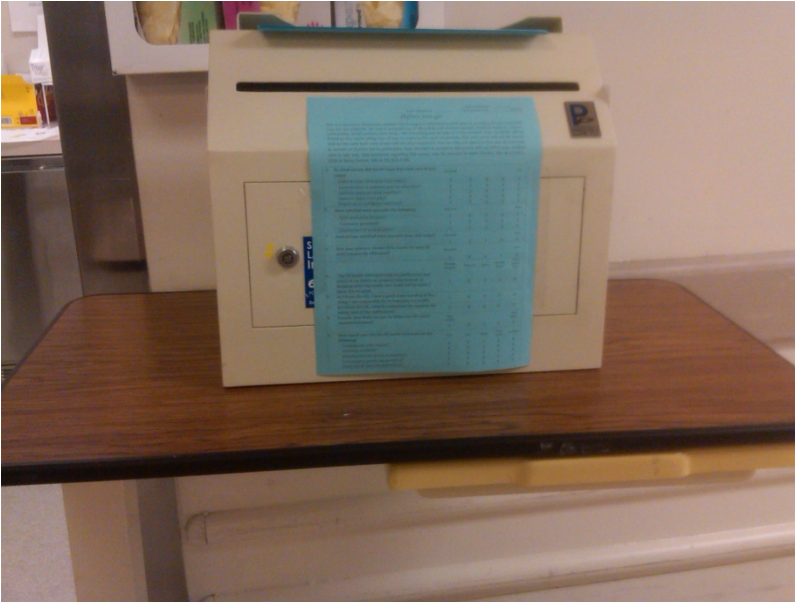
- 135 patients have been enrolled in 7 months. Our team is successfully tracking 95% of eligible patients during data collection periods



# The Exit Surveys

- My Summer Goal
  - Measure patients' perspective on providers' teamwork in the ED and understand its effect on patient satisfaction and compliance with treatment.


# The Exit Surveys





# Teamwork





## Factors that define health care providers' teamwork:

1. Patients understand the roles of medical team members (Williamson et al., 1995)
2. Team members share goals and values (Vyt, A., 2008)
3. Relationships and task conflict among team members (De Dreu, C., Weingart, L., 2003)
4. Job satisfaction (Kalisch, B.J., Lee, H., Rochman, M., 2010)



Project is significant in 2 ways:

1. Research on Teamwork
2. Research on the Patient's Perspective



# Why is Effective Teamwork Significant?\*

- Effective teamwork among health care workers can:
  1. improve the efficiency of an already understaffed health care settings
  2. ameliorate the impact of cost reduction programs
  3. respond to increasing patient expectations
  4. prevent or reduce medical errors

# Why is the patients' perspective significant?

- Most of the literature focuses on the provider's perspective on teamwork\*
- There is limited research from the patient's perspective evaluating the effectiveness of teamwork in health care settings.



# Specific Aim 1

- Gather patients' perspectives on the classic constructs that characterize effective teams:
  - role definitions
  - job satisfaction
  - team relationships
  - a common goal for the patients care

## 1. To what extent did the ED team that took care of you today:

	Not at all				Very
Make it clear what their roles were?	1	2	3	4	5
Seem to have a common goal for your care?	1	2	3	4	5
Seem to enjoy working together?	1	2	3	4	5
Seem to enjoy their jobs?	1	2	3	4	5

# Specific Aim 2

- Analyze the relationship between an effective team and quality of care
- Measured by three dimensions
  - Satisfaction
  - Confidence/ trust in their providers
  - Likelihood of following recommendations given by the ED team.

1	<b>Overall how satisfied were you with your visit today?</b>	<b>Not at all</b>				<b>Very</b>
2		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
3	<b>Inspire your confidence and trust?</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
	<b>Overall, how likely are you to follow the ED team's recommendations?</b>	<b>Very unlikely</b>				<b>Very likely</b>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>



# Study Hypotheses

- Hypothesis 1: ED patients will be
  - less likely to endorse ED team role clarity
  - more likely to say that the team enjoyed working together, enjoyed their jobs, and had a common goal for patient care.
  
- Hypothesis 2: ED patients who perceive their treatment team to be effective will have
  - increased satisfaction
  - confidence and trust in their providers, and
  - increased likelihood of following recommendations given by the ED team.





# Study Design

- Cross sectional study of patients in the ED before discharge or before they are admitted to the hospital during data collection periods.
- Patient eligibility:
  - Adult
  - Spoke and understood English
  - Physically/mentally capable of responding
- This study was approved by the University of Pennsylvania IRB

# Data Collection Methods

Using Emtrak, I was able to see when patients were going to be discharged or admitted, and I used that information to approach patients with the survey.

The screenshot displays the Emtrak software interface for the Hospital of the University of Pennsylvania. The top navigation bar includes options like 'Logon', 'Administration', 'Bins', 'New Triage', 'Patient Reports', 'Bed Census', 'Radianse', and 'Icons'. The main interface is divided into several sections:

- User Information:** Shows 'You Are' (Triage Nurse), 'Patient' (Robinson, Thelma), 'Attending' (Meisel, Zachary), 'MD/IMP' (Scott, Kevin), 'Nurse' (Parodi, Kristen), 'Triage Nurse' (Holmstrom, Rhonda), 'Charge Nurse' (Davis, Leah), 'Time' (16:14), and 'Date' (08/04/2011).
- Patient Status:** Displays '928-B adm T' and 'Alerts(0) Msgs(0)'. It also shows 'Bed Reg' (OFF), 'I-Bedding' (OFF), 'Div Non Crit/Crit' (OFF), and 'Divert Trauma' (OFF).
- Room/Status Overview:** A grid showing various rooms (E 01 to E 16, 47, B, C, D) and their corresponding LoS (Level of Service) and patient status. For example, E 01 has a patient with LoS 3h22 and status 'Weak'. E 11 has a patient with LoS 1h57 and status 'Asthma'. E 16 has a patient with LoS 18h53 and status 'Fever'.
- Room/Status Overview (Right):** A similar grid for rooms E 18 to E 33. For example, E 18 has a patient with LoS 13h00 and status 'Pain, Grn'. E 27 has a patient with LoS 5h50 and status 'Syncope'.
- Bottom Bar:** Shows 'Current Studies' (CP Risk Stratification, Dermabond/Protape - Abdominal Pain - CO Marker Study - Pregnancy Markers) and a message list: 'Msgs: 1200-1600(TB/1-17:Mike)(18-33/Pager:Katie)(Trg: Romyayne)(Transport:Thabo)'. The Windows taskbar at the bottom shows the system clock at 4:14 PM.

# Data Entry

- All the data were entered into RedCap

ED - Patient Satisfaction Survey (Before You Go) - July 2011 | REDCap - Mozilla Firefox

https://redcap.med.upenn.edu/redcap\_v4.0.7/data\_entry.php?pid=304&page=before\_you\_go\_survey&id=1&event\_id=984

**REDCap**

Logged in as **amiraki** | Log out

My Projects  
Project Home  
Project Setup  
Project status: **Production**

**Data Collection**

Survey ID <br> (numerical order of data entry) 1  
Data Collection Instruments  
● Enter New Survey  
● **Before You Go Survey**

**Applications**

- Calendar
- Data Export Tool
- Data Import Tool
- Data Comparison Tool
- Logging
- File Repository
- Graphical Data View & Stats
- Report Builder

**Help & Information**

- General Help
- Video Tutorials

If you are experiencing problems, please contact your [project administrator](#).

**Penn Medicine**  
ITMAT

**ED - Patient Satisfaction Survey (Before You Go) - July 2011**

**Before You Go Survey** [Download form as PDF](#) [PDF with saved data](#)

Editing existing Survey ID (numerical order of data entry) 1

Survey ID (numerical order of data entry) 1

**Data entry date:**  Today  
\* must provide value

**Estimated Date of Collection**  Today  
\* must provide value

**Time completed**  Now

**Team (Room) #**

**1. To what extent did the ED team you saw today:**

1a. Make it clear what their roles were?

1b. Seem to have a common goal for your care?

1c. Seem to enjoy working together?

1d. Seem to enjoy their jobs?

2. Overall, how satisfied were you with your visit today?

**3. Overall how satisfied were you with the following:**

3a. Time waiting to be seen?

3b. Treatment provided?

3c. Explanation of your problem?

4. Was your primary concern (the reason for your ED visit) adequately addressed?

5. The ED health care team took my preferences and those of my family or caregiver into account in deciding what my health care needs will be when I leave the hospital.

6. As I leave the ED, I have a good understanding of

The REDCap Consortium | [Citing REDCap](#) | [Google](#) | [Yahoo](#) | [JISN](#) | [PennMed](#)  
University of Pennsylvania | 423 Guardian Drive - Rm 1116

REDCap Software - Version 4.0.7 - © 2011 Vanderbilt University

start | Emtrac2 - HLP - Hosp... | ED - Patient Satisfact... | Patient-Provider Com... | Emtrac\_print\_screen ... | 81° 4:27 PM

# Study Demographics

SS=60

Category	N	%
<b>Age</b>		
	Mean=39	
<b>Gender</b>		
Female	30	50%
Male	24	40%
Unknown	6	10%
<b>Born in US</b>		
Yes	52	87%
No	2	3%
Unknown	6	10%
<b>Primary Language</b>		
English	50	83%
Spanish	1	2%
Other	1	2%
Unknown	6	13%
<b>Education</b>		
Less than 9th Grade	1	2%
Some High School	6	10%
High School Graduate	19	32%
Some College	16	26%
College graduate	12	20%
Unknown	6	10%

Category	N	%
<b>Race</b>		
Black/African Ame	32	53%
White/Caucasian	14	23%
Asian	1	2%
Multi-racial	5	8%
Other	1	2%
Unknown	7	12%
<b>Marital status</b>		
Single	25	42%
Married	18	30%
Separated	1	2%
Divorced	4	6%
Widowed	1	2%
Unknown	11	18%
<b>Income</b>		
Less than \$10,000	12	20%
\$10,000-\$20,000	4	6%
\$20,000-\$30,000	7	12%
\$30,000-\$60,000	8	14%
More than \$60,00	5	8%
Unknown	24	40%
<b>People in Household</b>		
	Mean=2.5	

# Results for Hypothesis 1

Patients endorsed all team effectiveness constructs equally. The data do not support the hypothesis that patients would be least likely to endorse role definition above the other components.

Team Characteristics	% of patients that rated 4 or 5
Roles	81.60%
Common Goal	81.60%
Enjoy Working Together	81.70%
Job Satisfaction	83.40%



# Results for Hypothesis 2

- **Constructed two measures of team effectiveness:**
  - **Continuous**
  - **Discrete**
- **Continuous:**
  - Sum of the responses to the 4 items:
    - role definition
    - job satisfaction
    - team relationship
    - a common goal for the patients care
  - Each of the 4 items could take values from 1 (not at all) to 5 (very much)
    - The team effectiveness measure can take values from 4 to 20
- **Discrete:**
  - Used the 25<sup>th</sup> and 75<sup>th</sup> quartiles to classify the team effectiveness continuous measure
    - LOW effectiveness: 4 to 16
    - MEDIUM effectiveness: 17 to 18
    - HIGH effectiveness: 19 to 20
- **Crosstabulated the discrete measure of team effectiveness against patient' s:**
  - satisfaction
  - likelihood to follow recommendations
  - confidence in the team

# Hypothesis 2

Team Effectiveness	Patient Satisfaction					Total
	Not at all	Little	Somewhat	Moderate	Very	
LOW	3	0	3	0	2	8
MEDIUM	0	0	0	3	1	4
HIGH	0	0	1	5	31	37
Total	3	0	4	8	34	49

chi-square=40, p-value <0.01

- These results support the hypothesis that ED patients who perceive their treatment team to be effective tend to be satisfied with their care

Team Effectiveness	Likelihood of Following Treatment Recommendation					Total
	Not at all	Little	Somewhat	Moderate	Very	
LOW	0	0	4	1	4	9
MEDIUM	0	0	0	1	4	5
HIGH	0	0	1	11	19	31
Total	0	0	5	13	27	45

chi-square=13.6, p-value <0.01

- These results support the hypothesis that ED patients who perceive their treatment team to be effective tend to be more likely to follow recommendations given by the ED team

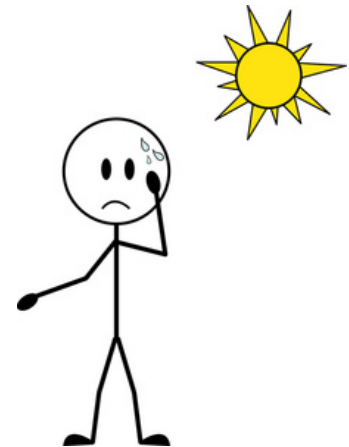
Team Effectiveness	Team Inspires Confidence					Total
	Not at all	Little	Somewhat	Moderate	Very	
LOW	0	2	4	3	0	9
MEDIUM	0	0	1	4	0	5
HIGH	1	0	0	4	32	37
Total	1	2	5	11	32	51

chi-square=47.5, p-value <0.01

- These results support the hypothesis that ED patients who perceive their treatment team to be effective tend to be more likely to have more confidence and trust in their providers

# What did I learn from my SUMR experience?

- New technical skills
  - Do a literature review
  - IRB application
  - Enter data into Red Cap
  - Analyze data in SPSS
- Research is an ongoing process, there are always more improvements that can be made and new questions to answer.
- Difficulties of collecting patient data (especially in the ED)
- Bias
- How hot it is in Philly during the summer







# Thank you!

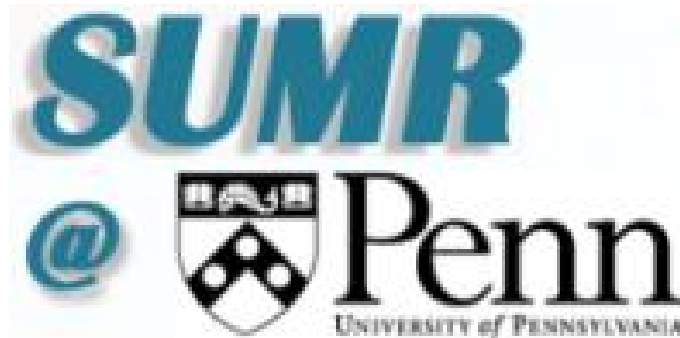
● Karin Rhodes



Melissa Rodgers



Salem Valentino



# Questions?

