

# Understanding the Quality of Dying and Death for Patients in the ICU

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**If you had a family member that was  
about to pass away, how would you  
like their last moments to be?**

# Significance

- It is estimated that around 60% of Americans die in acute care hospitals. Among in-hospital deaths, approximately 20 percent occur in the Intensive Care Unit (ICU).



Source: MMWR Morbidity and Mortality Weekly Report. 2020;69(19):611.  
doi:10.15585/mmwr.mm6919a4

# Project Overview: PONDER-ICU

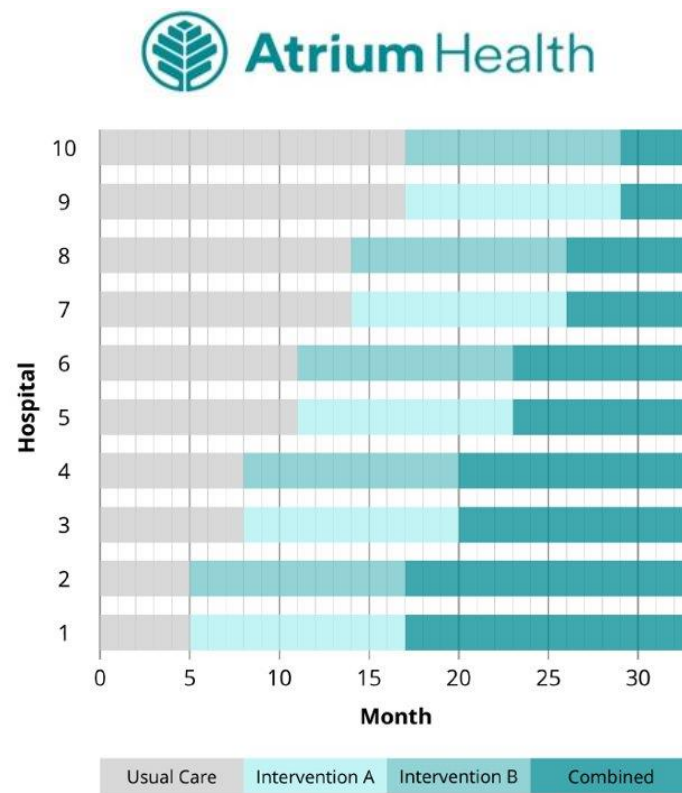
**Prognosticating Outcomes and Nudging  
Decisions using Electronic Records in the  
ICU**

**Location:** 17 ICUs across 10 hospitals

**Study Design:** Cluster-randomized, stepped-wedge trial

- Hospital pairs assigned in random order to adopt intervention A or B at random

**Eligibility criteria Criteria:** Patients with  $\geq 1$  chronic life-limiting illness & mechanical ventilation  $\geq 48$  hours (enrolled using waiver of written informed consent)



# Enrollment and Outcomes

**Study Population:** Launched February 1, 2018

- 3,500 patients enrolled as of 10/31/20

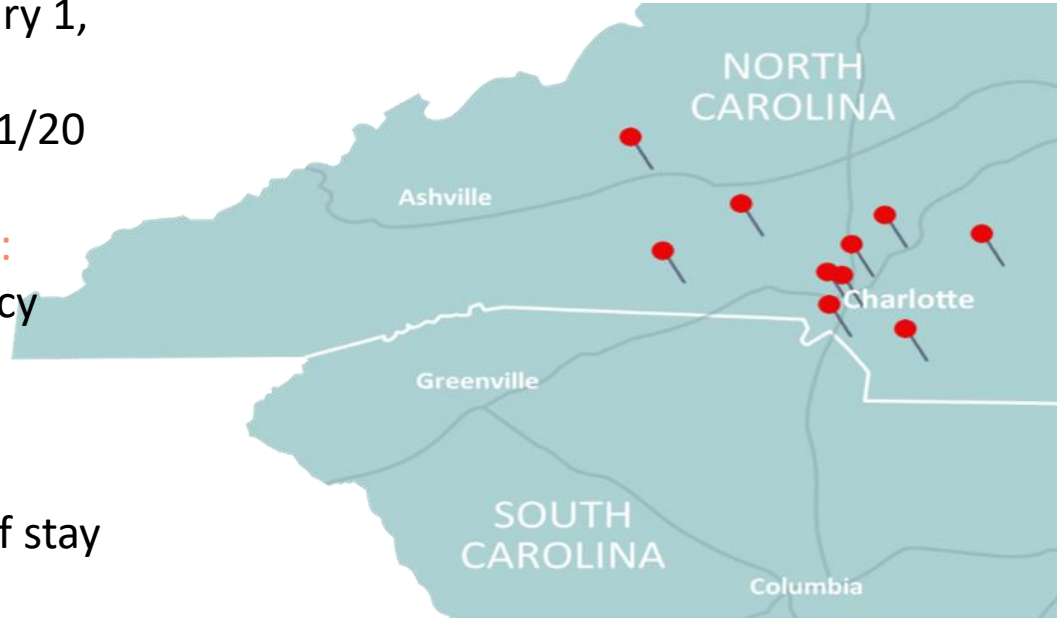
**Most common life-limiting illnesses:**  
CHF > COPD > solid organ malignancy

75% intervention adherence

**Primary outcome:** hospital length of stay

**Secondary outcomes:**

Palliative care process measures  
quality of death and dying (nurse-assessed)



# Research Question

What are the modifiable factors that influence the quality of dying and death among patients who died in the hospital?

# Objectives

Identify factors related to the patient, hospital environment, and nurses that may influence the quality of dying and death in hospital settings in the United States



# Methods: What is the QODD?

- Nurse emailed a linked to web-based survey to complete QODD
- 632 Completed QODD
- 1052 Sent Out
- 60% Response Rate

“Overall, how would you rate the quality of the patients dying on a 0-10 scale?”



# Data Analysis

- Organize the patient and nurse information, i.e. Race, Age,
- Outcome Table of the QODD Scores
- Regression Test to find associations between factors and outcomes

```
Call:
lm(formula = as.numeric(qodd_1) ~ factor(nurse_experience), data = newdata)
```

```
Residuals:
    Min       1Q   Median       3Q      Max
-7.8222 -1.0034  0.5745  1.9966  2.9966
```

```
Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)    7.425532   0.245026  30.305  <2e-16 ***
factor(nurse_experience)2 -0.422142   0.281369  -1.500   0.134
factor(nurse_experience)3  0.006286   0.320612   0.020   0.984
factor(nurse_experience)4  0.396690   0.430639   0.921   0.357
factor(nurse_experience)5  0.511968   0.642464   0.797   0.426
factor(nurse_experience)6  0.390795   0.418584   0.934   0.351
```

```
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
Residual standard error: 2.376 on 625 degrees of freedom
(1 observation deleted due to missingness)
Multiple R-squared:  0.01715,    Adjusted R-squared:  0.009292
F-statistic: 2.182 on 5 and 625 DF,  p-value: 0.05463
```



# Preliminary Findings: Patient and Summary Statistics

	Patients (N=632)
<b>Age (Years)</b>	
Median [Quartile 1, Quartile 3]	67.0 [57.0,75.0]
<b>Race</b>	
White	390 (61.7%)
Black	200 (31.6%)
<b>Ethnicity</b>	
Non-Hispanic	561 (88.8%)
Hispanic	18 (2.8%)
<b>Gender</b>	
Female	262 (41.5%)
Male	370 (58.5%)
<b>Marital Status</b>	
Married	287 (45.4%)
Single*	332 (52.5%)
Unknown	13 (2.1%)
<b>SOFA Score</b>	
Median [Quartile 1, Quartile 3]	9.00 [7.00, 11.0]

<b>Patient to Nurse Ratio</b>	
≤2:1	516 (81.7%)
≥3:1	115 (18.3%)
<b>Death Location</b>	
ICU	533 (84.3%)
Ward	93 (14.7%)
Operating Room/Unknown	6 (0.9%)
<b>COVID-19 Status</b>	
Negative	611 (96.7%)
Positive	21 (3.3%)
<b>Treatment arm</b>	
Control	137 (21.7%)
Focusing effect (FE)	180 (28.5%)
Accountable justification (AJ)	75 (11.9%)
FE + AJ	240 (38.0%)

# Nurse Summary Statistics

	Nurse (N= <u>479</u> )*
<b>Age (Years)</b>	
Median [Quartile 1, Quartile 3]	29.5 [26.0,36.0]
<b>Race</b>	
White	400 (83.5%)
Black	39 (8.1%)
Other**	38 (7.9%)
<b>Ethnicity</b>	
Non-Hispanic	441 (92.1%)
Hispanic	24 (5.0%)
Unknown	11 (2.3%)

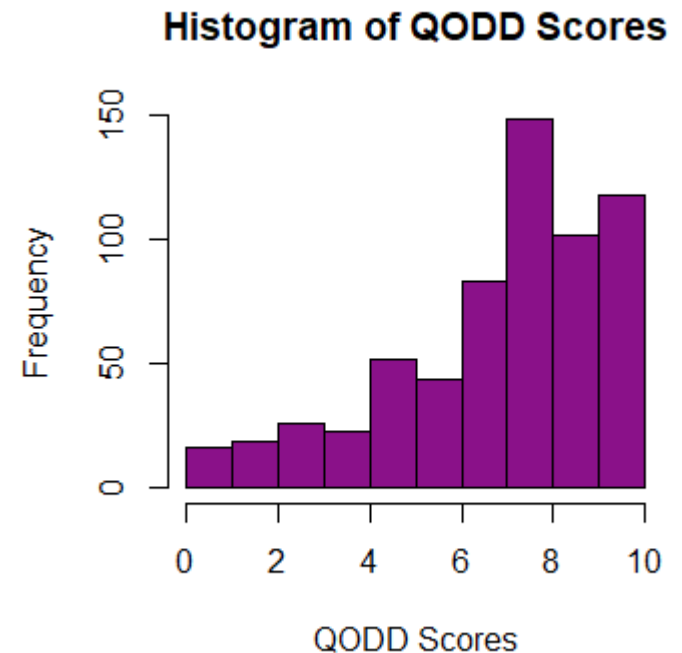
<b>Gender</b>	
Female	407 (85.0%)
Male	71 (14.8%)
<b>Nurse Degree</b>	
High School Diploma	4 (0.8%)
Associates Degree or greater	474 (98.9%)
<b>Year in Practice</b>	
Less than 1 Year	66 (13.8%)
1-5 Years	230 (48.0%)
6-10 Years	96 (20.0%)
Greater than 10 years	86 (17.9%)

\*Data may not add up to 100% due to missingness; n=1 missing for Patient: Nurse Years of Experience, Nurse Degree, and Gender, and n=2 missing for Race.

\*\*Other race category includes Asian, Multi-Racial, Unknown, American Indian or Alaskan Native, Native Hawaiian or Other Pacific Islander

# QODD Results

	Outcomes (N=632)
<b>QODD Score</b>	
Terrible Experience	9 (1.4%)
>1	7 (1.1%)
>2	19 (3.0%)
>3	26 (4.1%)
>4	23 (3.6%)
>5	52 (8.2%)
>6	44 (7.0%)
>7	83 (13.1%)
>8	149 (23.6%)
>9	102 (16.1%)
Almost Perfect Experience	118 (18.7%)



# Limitations

- Potential non-response bias
- Study population diversity
- QODD relies on proxy respondents and evaluations
- Preferences for death and dying are individualized

# Next Steps

- Evaluate relationships between patient, nurse, and hospital factors with QODD score
- Compare completed characteristic of patients with completed QODD survey and those without

# Acknowledgments & Thanks

- Dr. Kate Courtright
- Joanne Levy
- Erich Dress
- Casey Whitman
- Nate Apathy

# Thank you!

## Questions?



# Youth Caregivers Study Project

*Liz Madamidola*

*Mentor: Joanna Hart*

# Significance

An estimated **1.4 Million Caregiving Youth** in the United States which receive lack of acknowledgement and support

- Primarily impacting **low-income youth** and families
- Impacts include:
  - Depression
  - Anxiety
  - Poor Outcomes in School
  - Social Isolation

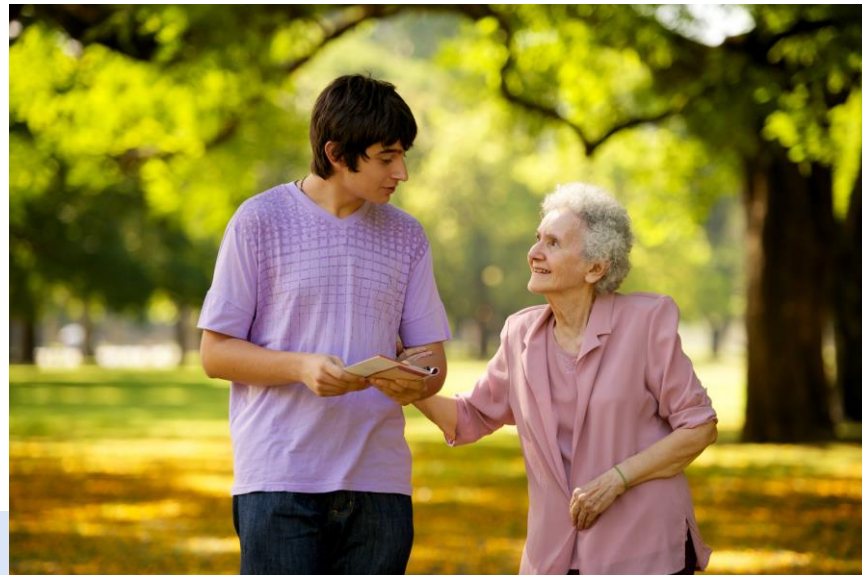


# Why is this an important topic



# Who are Young Caregivers?

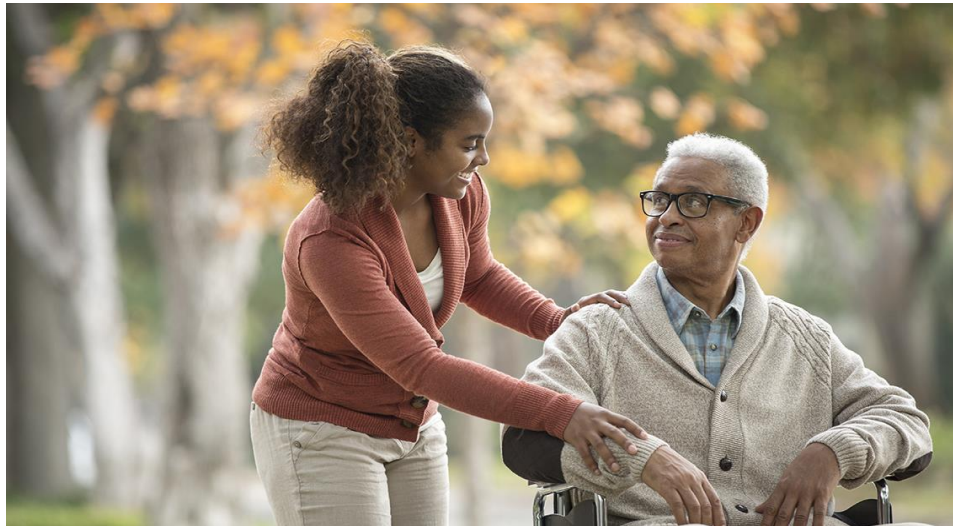
- Under the age of 18
- Children with ill, frail, disabled, or substance-dependent family members may provide support to these adults.





# Aim of Study

Identify Youth (Ages 8-18) who give informal care and support to older adults such as family members

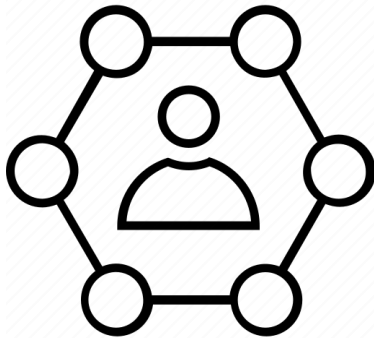


# Project Overview

Recruited Stakeholders in  
community

Conducted hour  
long interviews

Created surveys  
for Mastery  
Teacher and  
Administrators



# Mixed Method Research

## Qualitative Methods

- Recruiting stakeholders in the community such as pediatricians, teachers, and social workers

## Quantitative Methods

- Sending out Qualtrics Survey to teachers and administrators in the Mastery School System

# Mastery School System



***Mastery Charter Schools***  
***Excellence. No Excuses.***

**14,000 Students at 24 Schools  
In Philadelphia and Camden**



# What I learned

- Lack of information about YCG
- Stakeholders have trouble identifying and describing them/their roles
- Interviews
- Coding interview transcripts
- Research is a slow process, but that is okay!

# Next Steps

- Present at one Mastery School to introduce project
- Collect surveys from Mastery School
  - Find interview subjects from there
- Code the data

# Acknowledgments & Thanks!

- Dr. Joanna Hart
- Joanne Levy
- Amy Summer
- Mercedes Fernandez
- Erich Dress

# Thank you!

## Questions?