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Mary Jo S. Farmer MD
*Baystate Health*

Kanval Shah MD
*Baystate Health*

Mihaela Tiru MD
*Baystate Health*, mihaela.tirumd@baystatehealth.org

Vida Rastegar
*Baystate Health*, vida.rastegar@baystatehealth.org

Kirti Joshi MD
*Baystate Health*, kirti.joshimd@baystatehealth.org

*See next page for additional authors*

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**Authors**

Mary Jo S. Farmer MD, Kanval Shah MD, Mihaela Tiru MD, Vida Rastegar, Kirti Joshi MD, Peter Lindenauer, Tara Lagu, Mihaela Stefan MD, Eric Romo BA, Donna M. Wilson, Alexander Y. Walley MD, Traci C. Green BA, Josiah D. Rich MD, Susan Ramsey PhD, Jeffrey Bratberg PharmD, Michelle McKenzie MPH, Haley Guhn-Knight BA, and Peter Friedmann MD

# An Interprofessional Approach to Train Medical Students & Respiratory Therapy Students in Basic Principles of Mechanical Ventilation

## Mary Jo S. Farmer, MD, PhD Baystate Medical Center Springfield, MA

### PROFESSIONAL EXPECTATION

Care of the mechanically ill ventilated critically patient in the Medical ICU is accomplished by a team of health care professionals

Optimum communication between the physician and respiratory therapist is essential in providing mechanical ventilator support

A professional working relationship includes mutual respect and understanding of the roles and responsibilities of each discipline of the health care team

### GOALS

Promote knowledge regarding mechanical ventilation including ABG analysis, modes of mechanical ventilation, ventilator settings, basic waveform analysis.

Providing opportunity for interprofessional interaction at the student level will ease transition to health care team model at the professional level

### IMPLEMENTATION

- 2 groups (group 1 7MD/7RT; group 2 8MD/7RT)
- Common components:
  - 4 week sessions – 2.5 hours
  - Pre-test (9 core material; 6 opinion; 2 open-ended)
  - Post-test
  - Focus group
- Differences:
  - Group 1 (7MD/7RT)
    - Traditional lectures on ABG analysis
    - modes of mechanical ventilation and waveform analysis including problem solving
    - small group MICU bedside
  - Group 2 (8 MD/7RT)
    - Independent reading
    - Small intentionally mixed groups
    - Independent case problem solving
    - Bedside ICU

### FOCUS GROUP 1

Exposure to attending MD valuable

MICU great experience

Why 3rd year

Shelf exam

Intimidation

Assumed difference in knowledge level

MS versus RT - proficient in waveforms

### FOCUS GOUP1 (CONT'D)

Lectures beneficial - more hands on

More time with patients

Less didactic and more group problem solving

Vocabulary (PEEP, DKA)

Not enough time to master material

Limited opportunity to know other students

Provide snacks

### FOCUS GROUP 2

Working with different professionals very valuable

Learn roles

Work alongside other students to take better care of patients

ABGs, specifically how to use ventilator to turn ABG around

Approach a patient on a ventilator

Learning to feel confident when stating my opinion about what would be best for patient and why

Does what we learn in medical school correlate with what other professionals are taught in regards to approaching a patient with a respiratory problem

What does the MD need to know to manage ICU patients

When to call RT and involve in decision making process

Lots of clinical examples and clinical problems

How to set the ventilator and manipulate settings

Simulation laboratory

Reading material – not being tested

### RESULTS

Core questions (9)
- Group 1 (7MD/7RT)
  - Pre-test
    - Respiratory (11) + Medical (20) = 31
  - Post-test
    - Respiratory (35) + Medical (27) = 62
- Group 2 (8MD/7RT)
  - Pre-test
    - Respiratory (16) + Medical (23) = 41
  - Post-test
    - Respiratory (30) + Medical (44) = 74

### RESULTS (CONT'D)

Valuable to train alongside students of other disciplines in the classroom (Y/N)
- Group 1
  - Pre-test: 1 MS "depends"; others "yes"
  - Post-test: 2 MS "no"
- Group 2
  - Pre-test: all "yes"
  - Post-test: 1 MS "no"; others "yes"

Valuable to train alongside students of other disciplines in clinical setting (Y/N)
- Group 1
  - Pre-test: 1 MS "depends"; others "yes"
  - Post-test: 1 MS "no"
- Group 2
  - Pre-test: all "yes"
  - Post-test: all "yes"

Topic least knowledgeable
- Group 1
  - Pre-test: 10 waveform analysis; 2 weaning
  - Post-test: 8 weaning; 5 waveform analysis
- Group 2
  - Pre-test: 10 waveform analysis; 4 weaning
  - Post-test: 7 waveform analysis; 5 weaning

Topic most knowledgeable
- Group 1
  - Pre-test: 14 arterial blood gas analysis
  - Post-test: 13 arterial blood gas analysis
- Group 2
  - Pre-test: 14 ABG analysis; 1 initiating MV
  - Post-test: 11 ABG analysis; 3 initiating MV

### LESSONS LEARNED

- Chemistry within group is crucial
- Expectations
- Seating
- Introduction and ice breaker
- Comfort level – timing in clinical year "clinical savvy"
- One of me

# An Observational Study on the Management Practices of Postoperative New Onset Atrial Fibrillation in Non-cardiothoracic Surgeries at a Tertiary Care Center

Kanval Shah, MD; Anis John Kadado, MD; Mihaela Tiru, MD; Vida Rastegar, MPH;
Kirti K Joshi, MD; Peter Lindenauer, MD, MSc; Tara Lagu, MD; Mihaela S Stefan, MD, PhD

Baystate Health

University of Massachusetts Medical School

## BACKGROUND

- Postoperative atrial fibrillation (POAF) is the most common perioperative arrhythmia and it's incidence in non-cardiothoracic surgery varies from 0.4% to 26%.

- POAF was considered to be self-limited and to have a favorable prognosis, but recent data has linked it to increased in-hospital mortality, length of stay, hospital costs and risk of stroke.

- There are no specific guidelines for the management of these patients.

- **Objective**: To characterize in-hospital diagnostic testing, medical treatments and discharge recommendations in order to inform future practice guidelines and need for further research.



Figure 1-Flow chart representing study screening, selection process and outcomes

## METHODS

- Retrospective, single-center cohort study of adult patients who underwent non-cardiothoracic surgery and developed new onset POAF.

## RESULTS



Patients who developed POAF following non-cardiothoracic surgery ( N= 99)

Rate control N=55 (68.8%)

Rhythm control N=5 (6.3%)

Rate and rhythm control N=20 (25.0%)

Other* N=11 ( 11.2%)

None, N=16 (16.3%)

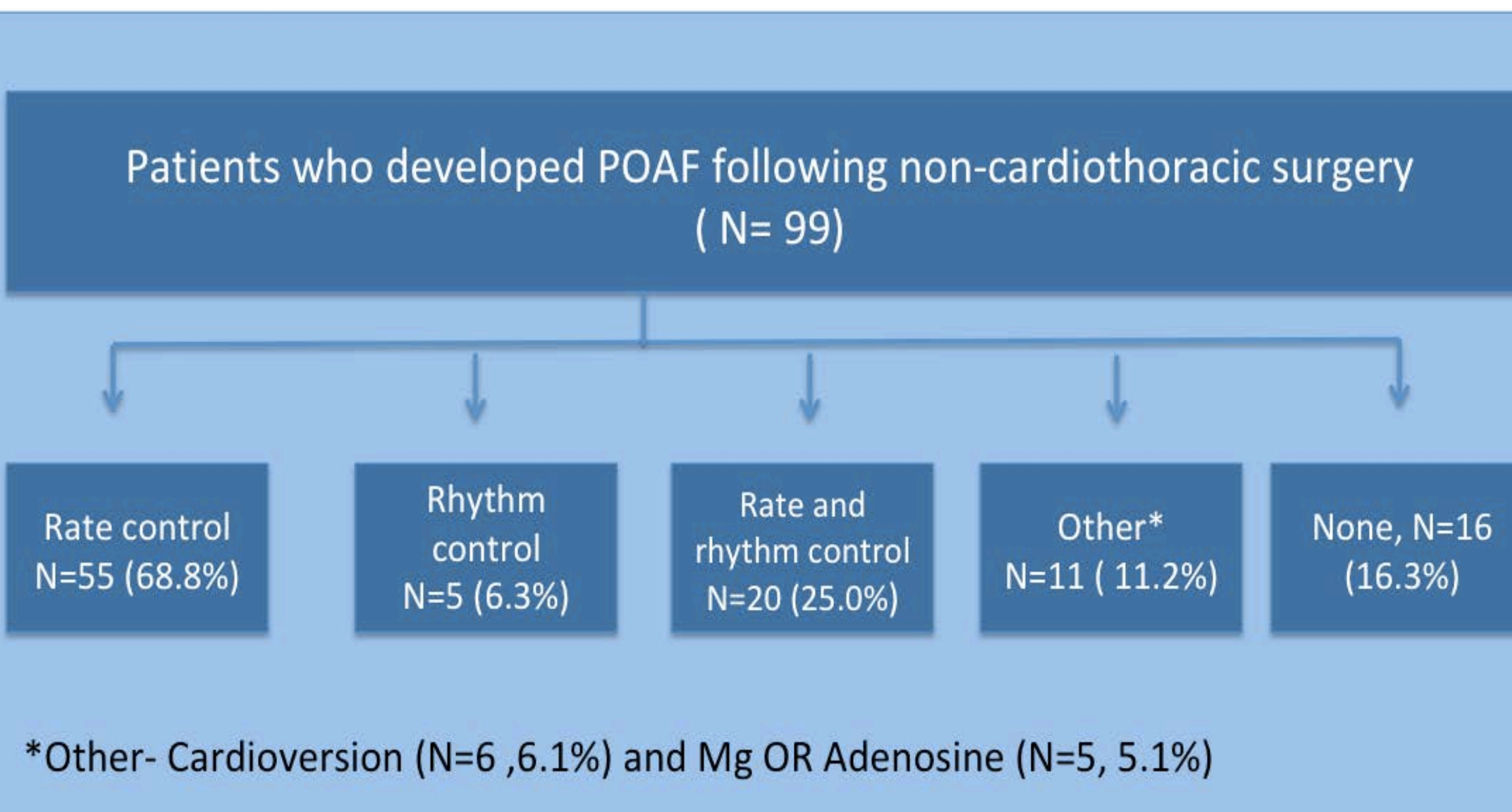*Other- Cardioversion (N=6 ,6.1%) and Mg OR Adenosine (N=5, 5.1%)

Figure 2- Flowchart depicting management strategies

- During the 6 years of the study ,99 patients were identified with new onset POAF
- Patient characteristics: The median age was 75 years and 57.6% were male, with hypertension (66.7%) and diabetes mellitus (30.3%) being the most common comorbidities.
- 28.3% of the patients underwent colorectal surgery, 14.1% orthopedic surgeries, 14.1% vascular surgeries and 29.0% had trauma, hepatobiliary, genitourinary and neurosurgery procedures.
- Consults were called in 74% of the cases
- Short term outcomes: Median length of hospitalization was 9 days (IQR: 6-18). 2% had a stroke during hospitalization and 16% died.
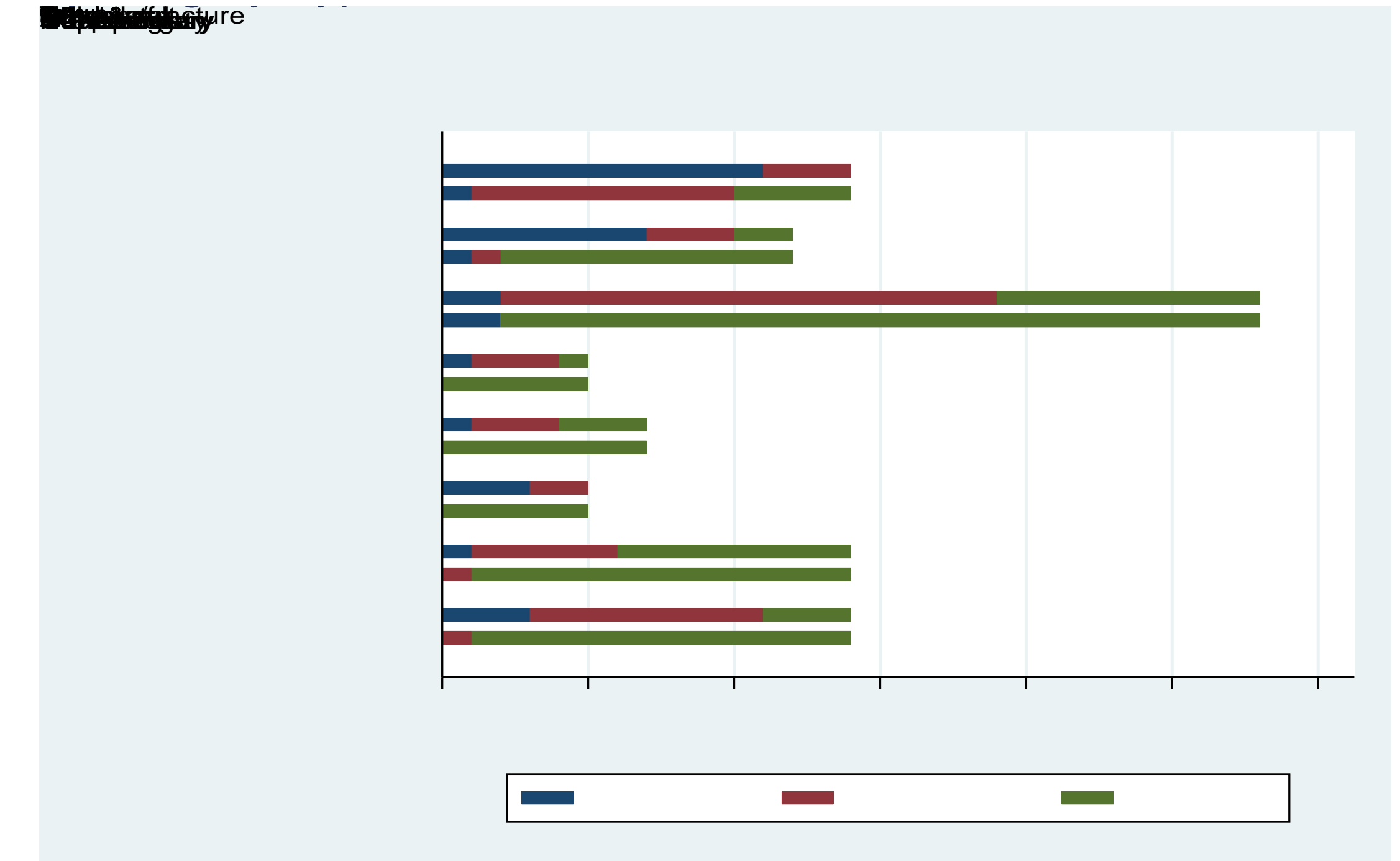


Figure 3- Graph showing consults obtained based on type of surgery

- Anticoagulation was prescribed in 25% of the patients during hospitalization and in half of those discharged in AF. The CHADS2-VASc score and the HAS-BLED score did not correlate with the prescription of anticoagulation on discharge.
- Long term outcomes: 30% were readmitted and half of them were in AF at the time of admission

## Conclusions

- There was significant practice variation between providers in the choice of strategies for short and long-term management of patients with POAF.
- Most patients were asymptomatic but their outcomes were not different from the symptomatic patients raising questions about appropriate cardiac monitoring of surgical patients.
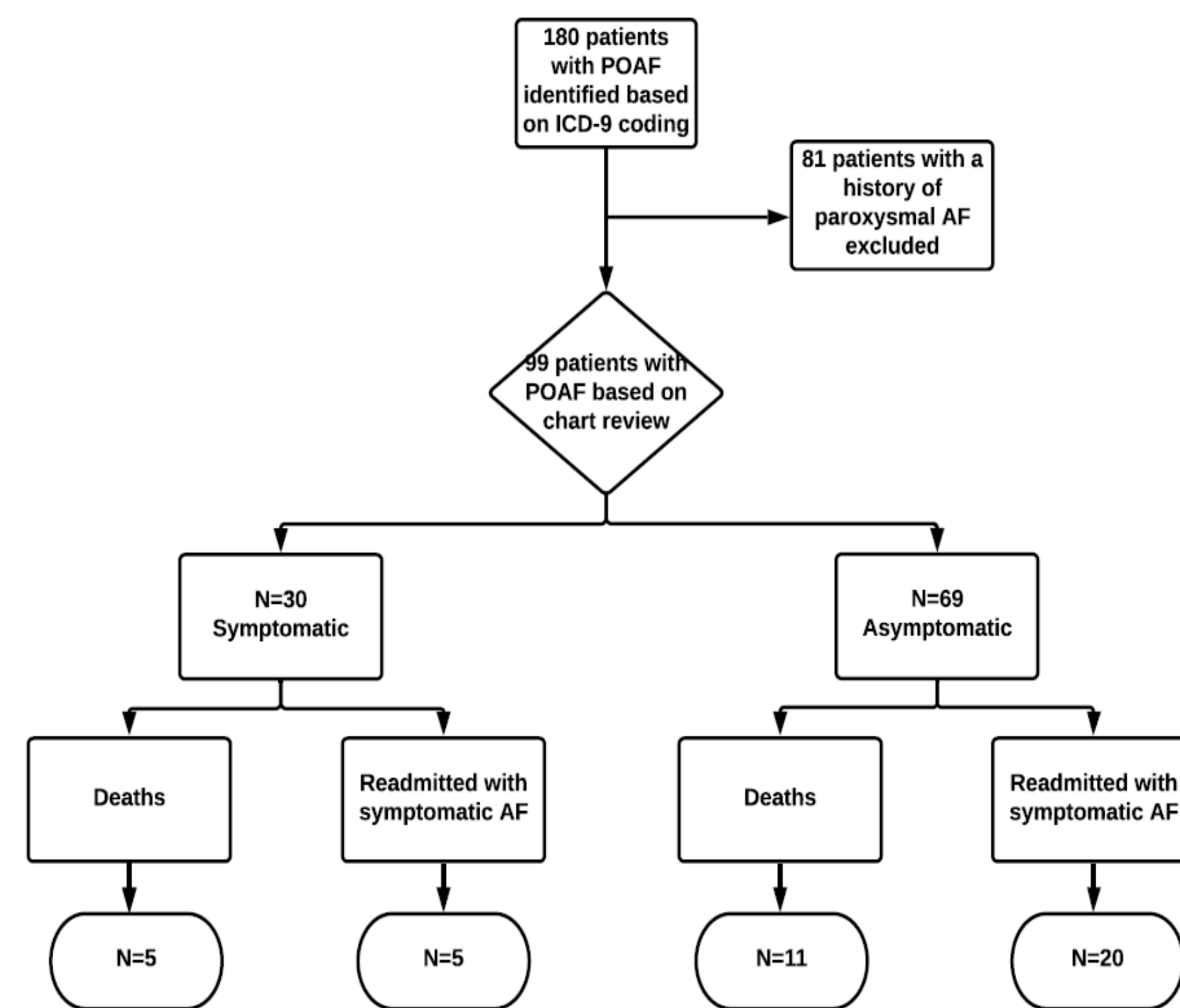- Risk scores to identify patients at high risk for POAF are urgently needed.

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# HIV Clinicians' Intention to Prescribe Buprenorphine and Naloxone: Baseline Results from the PTSL study

Eric Romo BA; Donna Wilson MS; Alexander Y. Walley MD, MSc; Josiah D. Rich MD, MPH; Traci C. Green PhD, MSc; Susan E. Ramsey PhD; Jeffrey Bratberg PharmD; Michelle McKenzie MPH; Randall Hoskinson, Jr BS; Haley Guhn-Knight BA; & Peter D. Friedmann MD, MPH
*University of Massachusetts Medical School – Baystate*

## Background

- The use of opioids is common among persons living with HIV (PLWH), resulting in high rates of opioid overdose among PLWH.
- Office-based buprenorphine treatment has been shown to reduce overdose mortality, and naloxone is an effective opioid reversal agent.
- Despite this, HIV clinicians have been reluctant to adopt office-based buprenorphine treatment and naloxone prescribing.

## Objective

- To identify factors associated with HIV prescribers' intention to prescribe buprenorphine and naloxone.

## Methods

### Data Source
- These are baseline data from the Prescribe to Save Lives (PTSL) study.

### Study Sample
- 119 prescribers (physicians, advanced practitioners) from 23 HIV outpatient practices across 18 states.
- Inclusion criteria for HIV practices were that they: (1) receive Ryan White funding; (2) treat adults with HIV; (3) have 3 or more prescribing clinicians; (4) have an EMR with an electronic medication list; (5) are located in a state in the top half nationally for opioid overdose deaths; (6) are located in a state that has 500 or more PLWH.

### Outcome Measure
- Prescribers reported intention to prescribe buprenorphine and naloxone: "How likely are you to prescribe [medication]?"
  - 5-point Likert scale, from (1) Not at all likely to (5) Very much so likely.
- Intention to prescribe treated as a continuous variable

### Potential Correlates
- Prescribers' demographics, substance use assessment practices, addiction training, attitudes and knowledge towards buprenorphine and naloxone, and the substance use characteristics of their patient panel
- These factors were assessed in the baseline survey

### Statistical Analysis
- Mixed-effects linear regression models to identify factors associated with intention to prescribe buprenorphine and naloxone.
  - Account for the nested structure of the data (prescribers in practices)

## Results

### Table 1. Characteristics of HIV Prescribers (N=119)

| Characteristics | % or mean (sd) |
|---|---|
| **Demographics** | |
| Female | 72% |
| Age (years) | 43 (10) |
| White (vs. non-White) | 62% |
| **Profession** | |
| Physician | 49% |
| Nurse Practitioner | 42% |
| Physician Assistant | 8% |
| **Intention to Prescribe** | |
| Buprenorphine (1 to 5 scale) | 2.9 (1.5) |
| Naloxone (1 to 5 scale) | 3.3 (1.4) |

### Table 2. Mixed-Effects Linear Models: Factors Associated with Intention to Prescribe Buprenorphine and Naloxone

| Variable | Buprenorphine Beta | Std. Error | p-value | Naloxone Beta | Std. Error | p-value |
|---|---|---|---|---|---|---|
| **Prescriber Demographics** | | | | | | |
| Female | -0.21 | 0.21 | 0.33 | -0.35 | 0.22 | 0.14 |
| Age (per 10 years) | -0.17 | 0.10 | 0.09 | **-0.33** | **0.10** | **0.002** |
| Non-White Race (vs. White) | 0.09 | 0.20 | 0.66 | -0.41 | 0.21 | 0.07 |
| **Assessment of Patients** | | | | | | |
| Assess illicit use of opioids | 0.15 | 0.09 | 0.12 | -0.10 | 0.10 | 0.32 |
| Inform patients about sources for sterile syringes | -0.06 | 0.07 | 0.35 | 0.09 | 0.08 | 0.27 |
| **Patient Substance Use** | | | | | | |
| Had a patient who overdosed on opioids | | | | | | |
| Don't Know | **-0.82** | **0.32** | **0.02** | **-0.86** | **0.34** | **0.02** |
| Yes | -0.57 | 0.31 | 0.08 | -0.58 | 0.34 | 0.11 |
| No (reference) | -- | -- | -- | -- | -- | -- |
| **Prior Training** | | | | | | |
| Completed a buprenorphine course (Yes vs. No) | **0.99** | **0.26** | **0.0003** | -0.08 | 0.23 | 0.72 |
| Amount of naloxone training | -- | -- | -- | **0.19** | **0.09** | **0.03** |
| **Attitudes and Beliefs** | | | | | | |
| Buprenorphine maintenance blocks effects of opioids | **0.35** | **0.12** | **0.004** | -- | -- | -- |
| Buprenorphine reduces risk of dying | 0.21 | 0.15 | 0.15 | -- | -- | -- |
| Naloxone reduces risk of dying | -- | -- | -- | 0.07 | 0.15 | 0.64 |
| Overdose must be handled by professionals | -- | -- | -- | -0.08 | 0.09 | 0.39 |
| **Confidence in Prescribing (1-100 scale)** | | | | | | |
| Confidence in prescribing buprenorphine (per 10 points) | **0.14** | **0.03** | **< 0.001** | -- | -- | -- |
| Confidence in prescribing naloxone (per 10 points) | -- | -- | -- | **0.14** | **0.04** | **0.0006** |

- Prescribers expressed moderate intention to prescribe buprenorphine (mean score= 2.9, SD=1.5) and naloxone (mean score=3.3, SD=1.4).
- Positive correlates for bup included: having completed a bup course (b=0.99, p=0.0003), agreeing that bup blocks the effects of opioids (b=0.35, p=0.004), and greater confidence in prescribing bup (b=0.14, p < 0.0001)
- Negative correlates for bup:: Report they did not know whether they had a patient who overdosed on opioids (vs. "No") (b=-0.82, p=0.02)
- Positive correlates for naloxone included: greater amount of naloxone training (b=0.19, p=0.03) and greater confidence in prescribing naloxone (b=0.14, p=0.0006)
- Negative correlates for naloxone: Age (per 10 years) (b=-0.33, p=0.002) and not knowing whether they had a patient who overdosed on opioids (b=-0.86, p=0.02)

## Conclusion

- HIV prescribers' intention to prescribe buprenorphine and naloxone was associated with previous training and knowledge of these medications and greater self-efficacy.
- Training and mentoring interventions, like that underway in the PTSL study, have the potential to increase uptake of office-based buprenorphine treatment and naloxone prescribing among HIV clinicians

## Overview of the Prescribe To Save Lives study

**PTSL Overview**
- PTSL is an implementation intervention trial. Using a stepped wedge design, the intervention will test the implementation of evidence-based training, mentoring, technical support, and academic detailing to encourage HIV clinicians to adopt naloxone prescribing and office-based opioid treatment with buprenorphine.
- PTSL leverages the value of "saving lives" among HIV clinicians in a process to increase their motivation to deliver effective medications for opioid dependence.
- Beginning with naloxone prescribing, the PTSL study utilizes academic detailing with motivational interviewing (MI) to encourage HIV clinicians to accept a larger role in treating the primary disease (opioid addiction) with office-based buprenorphine.

**Implementation Intervention**
- Implementation is being rolled out sequentially among HIV practices in three 6-month phases
- The intervention includes (1) a 1.5-hour, onsite peer-to-peer training with continuing medical education credits provided that focuses on saving lives through naloxone prescribing and introduces the idea that office-based medication is available to treat the primary disease (opioid addiction) in their office;  (2) expert mentoring and technical support for the physicians and practice; (3)  academic detailing by a clinician trained in MI at 1, 3, and 5 months after the initial training; and (4) pharmacist peer-to-peer outreach to local pharmacies to ensure that the medications are available.

**Outcomes**
- Primary outcomes: (1) Feasibility, acceptability, readiness and intent to prescribe naloxone and buprenorphine; (2) number of clinicians prescribing naloxone and Bup/Nx (i.e. uptake); (3) number of patients prescribed naloxone or Bup/Nx (i.e. penetration).
- Secondary outcomes: (1) themes related to implementation facilitators and barriers in qualitative interviews; (2) the rate of physician statements that favor change in prescribing behavior in the audiotaped detailing sessions (e.g. change talk)

# Saved by the BAL: A Case of Eosinophilic Pneumonia after Methyl-Naltrexone Injection

Anthony Esposito DO, Benison Lau MD
UMass Medical School - Baystate Medical Center, Springfield, MA

## Introduction

Eosinophilic pneumonia (EP) can be an adverse effect of many drugs, including methly-naltrexone. Methyl-naltrexone injection has become increasingly popular, but its use does not come without risks.

## Case Summary

A 44-year-old male with history of alcohol use disorder was brought to the emergency department (ED) by ambulance in acute respiratory failure. He received his monthly naltrexone injection three days prior. The following day, he started having lip swelling, swollen ankles, severe headache, rash, and two days later, had dyspnea. Upon arrival to the ED, he was given two doses of IM epinephrine, as well as methylprednisolone 125 mg IV, and he required BiPAP, after what was thought to be an anaphylactic reaction to naltrexone.

Chest x-ray revealed stable bilateral lower lobe opacities. CBC demonstrated increased absolute levels of eosinophils (700k/mm3), anaphylaxis was ruled out with tryptase level of 2.8 (normal <11.5)

CTA of chest demonstrated no evidence of pulmonary embolism, but did reveal diffuse ground glass opacities consistent with acute infiltrates.

Bronchoscopy with bronchoalveolar lavage (BAL) was performed and fluid from the BAL revealed 76 and 37 white blood cells in the right and left fluid samples with eosinophils making up 50% and 53% of WBC respectively and fluid was negative for malignant cells.

Eosinophilic pneumonia diagnosis was established and steroids were initiated with improvement.
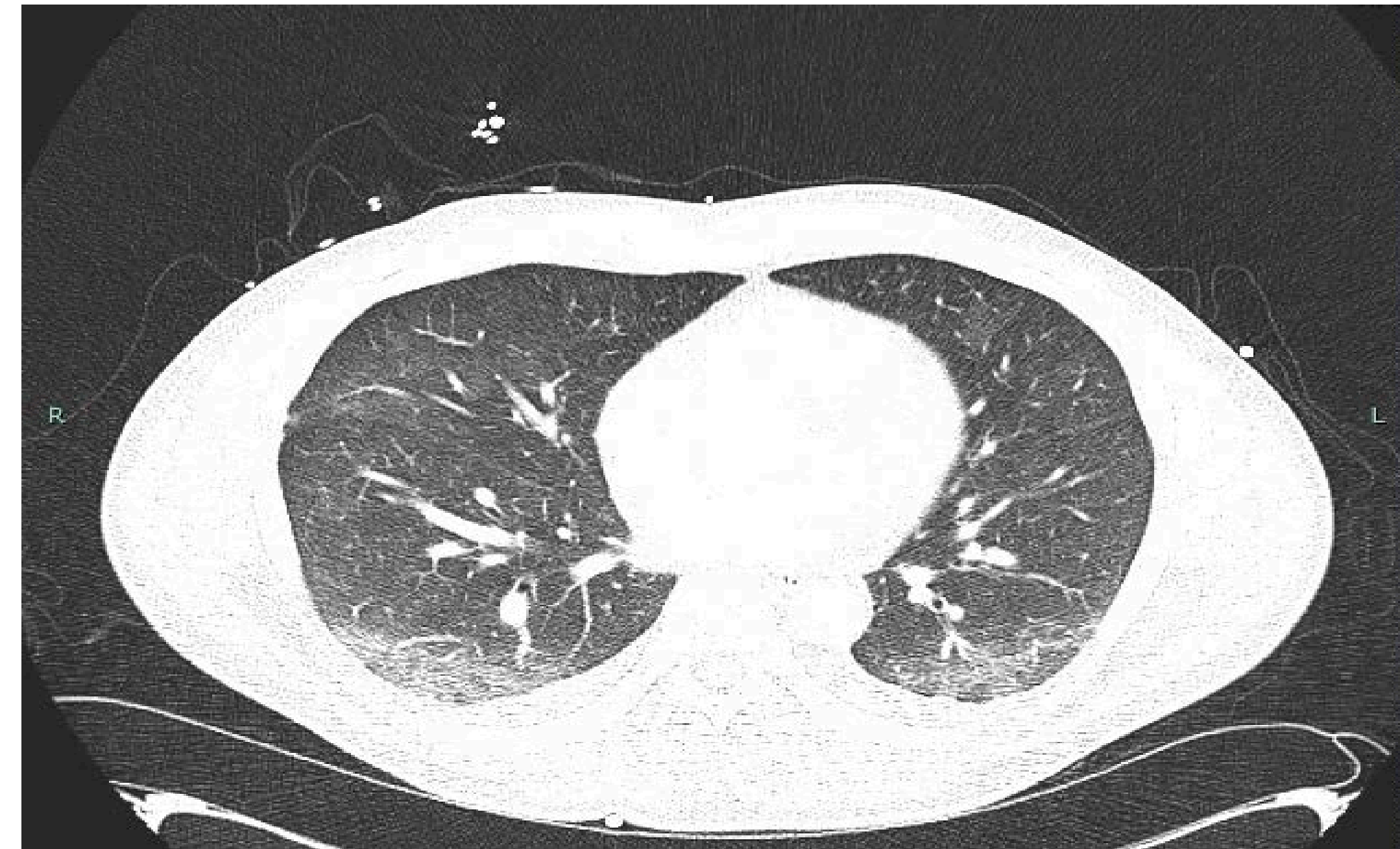


Image 1: CTA imaging of chest revealed ground-glass opacities bilaterally more pronounced in the periphery

## Discussion

- Acute eosinophic pneumonia is characterized by acute onset febrile illness, hypoxemia, diffuse bilateral infiltrates on imaging, and pulmonary eosinophilia with more than 25% eosinophils in BAL.

- EP is characterized by symptoms lasting less than 1 month and usually less than 1 week. EP will respond rapidly to steroid therapy but early recognition remains important to choose appropriate therapy given mimics such as infection.

- Several medications have historically been shown to cause EP, in one review of the literature the most commonly cited drugs include antibiotics, such as daptomycin, minocycline and nitrofuration, or anti-inflammatories, such as mesalamine and sulfasalazine.

## Discussion (continued)

- Methyl-naltrexone is increasingly utilized as an effective treatment for alcohol dependence disorder. Its possible association with EP was initially noted in a large randomized control trial published in JAMA by Garbutt et al.

- Imaging findings typically include bilateral reticular ground-glass opacities that expand as the disease progresses

## Conclusion

This case demonstrates a likely outcome of eosinophilic pneumonia in a patient receiving methyl-naltrexone injections for alcohol use disorder. It is important to recognize naltrexone as a possible etiology for eosinophilic pneumonia due to its increasing use, likelihood of repeat exposure, and if missed with potential for subsequent harm.

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# THE USE OF COGNITIVE SCREENING AS A PREDICTOR OF HOSPITALIZATION AND POST-HOSPITALIZATION OUTCOMES

ALI SHAMI,MD; MAURA BRENNAN,MD; PETER ST. MARIE; MIHAELA S STEFAN, MD, PHD

Baystate Health

University of Massachusetts Medical School

## BACKGROUND

- Prior studies suggest that patients with cognitive impairment (CI) are at risk for worse post-hospitalization outcomes including hospital readmission and mortality.

- The Mini-Cog test provides a quick bedside screening tool for cognitive impairment taking only a few minutes to administer.

- Our aim was to determine whether CI as screened for by the Mini-Cog test early during hospitalization was associated with hospital readmission, length of stay and mortality.

## METHODS

- **Prospective cohort study:** 668 patients ≥ 65 years of age admitted to Baystate Medical Center over a two-year period.

- Both medical and surgical inpatients were screened for CI with the Mini-Cog test within 24 hours of admission.

- Demographic information, comorbidities, diagnoses, length of stay and readmission events were all collected.

- One-year mortality data was obtained from the National Death Index.

- We performed multivariable regression adjusting for confounders to determine association between CI and our outcomes.

## RESULTS

- Median age: 80 years (IQR 74-86).
- Gender: 58% female.
- 35% screened positive for CI.

**Those screening positive were (p<0.001 for all):**
- Older (median age 83 vs 78)
- Had more prior hospitalizations
- Less likely to be admitted from home
- Of lower functional independence and self-reported performance scores.
- More likely to be discharged to a post-acute care facility (54% vs 39%).

**Table 1.** Unadjusted Outcomes Based on Cognitive Screening Result.

| | Cognitive Screening | | | |
| | Total | Negative | Positive | p |
|---|---|---|---|---|
| N | 668 | 436 | 232 | |
| 30 Day Readmission (%) | 101 (15.1) | 63 (14.4) | 38 (16.4) | 0.58 |
| 60 Day Readmission (%) | 167 (25.0) | 100 (22.9) | 67 ( 28.9) | 0.11 |
| 90 Day Readmission (%) | 197 (29.5) | 116 (26.6) | 81 (34.9) | 0.03 |
| Length of Stay (median [IQR]) | 4.00 [3.00, 6.00] | 4.00 [3.00, 6.00] | 4.00 [3.00, 7.00] | 0.007 |
| 1 Year Survival (%) | 545 (81.6) | 367 ( 84.2) | 178 (76.7) | 0.02 |
| Discharge Home (%) | 375 (56.1) | 268 ( 61.5) | 107 (46.1) | <0.001 |

**Table 2.** Adjusted Outcomes* Based on Cognitive Screening Result.

| | Unadjusted | | Adjusted | |
| | Odds Ratio | 95% CI | Odds Ratio | 95% CI |
|---|---|---|---|---|
| **30-Day Readmission** | 1.16 | 0.75 1.80 | 1.02 | 0.64 1.64 |
| **60-Day Readmission** | 1.33 | 0.92 1.92 | 1.18 | 0.79 1.75 |
| **90-Day Readmission** | 1.46 | 1.02 2.08 | 1.39 | 0.94 2.06 |
| **1-year survival** | 0.62 | 0.42 0.92 | 0.82 | 0.53 1.27 |

*Adjusted for age, sex, race, admission source, Elixhauser score, Edmonton functional independence score and Edmonton self-reported performance score.

## MINI-COG TEST [1]
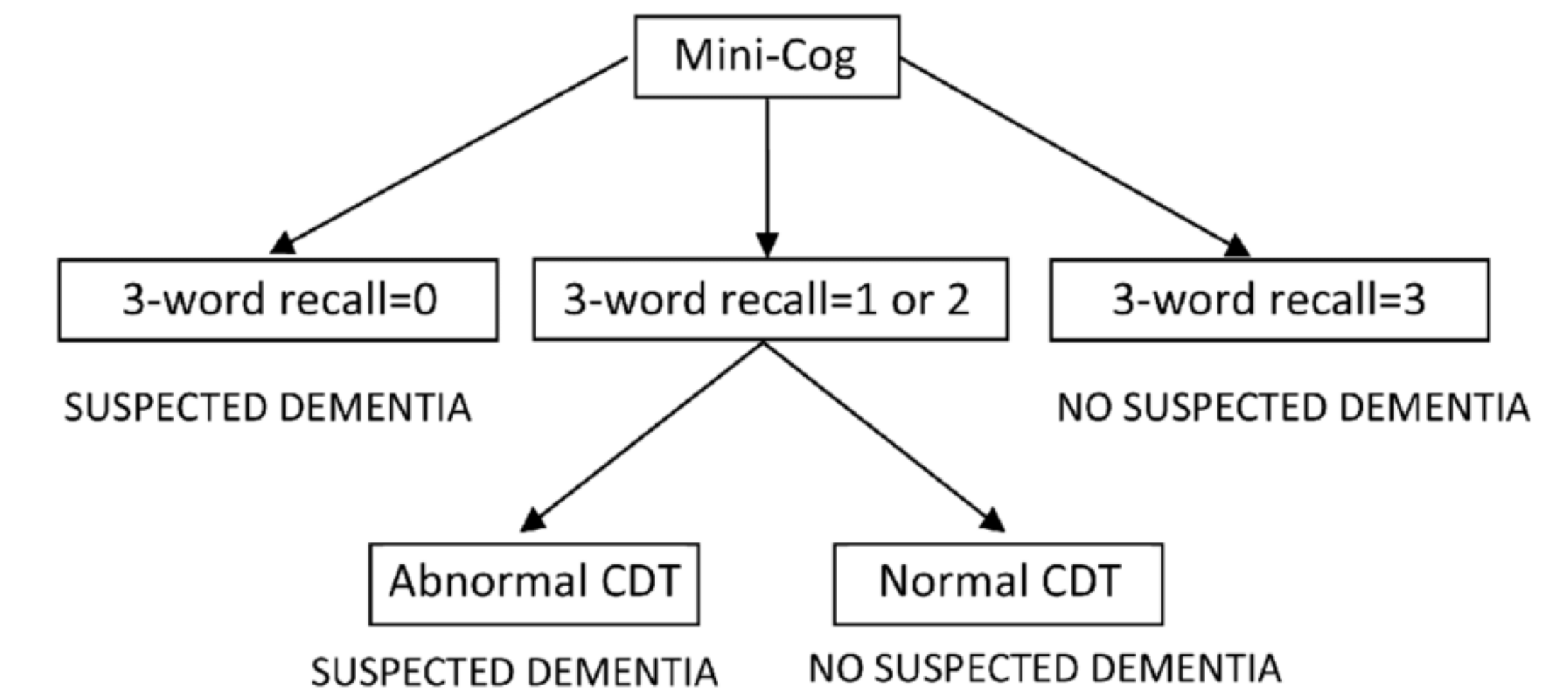


## DISCUSSION

- CI as detected by the Mini-Cog test was not associated with readmission, length of stay, or 1-year mortality. However, it was associated with the likelihood of discharge to nursing home.
- Association between CI and post-hospitalization outcomes is likely complex with many effect modifiers and confounders.
- Prior studies have focused on a specific population (e.g. orthopedic surgery patients). We included all patients.
- Limitations: single center study; only English-speaking patients were included; and the level of home support may be a significant factor that is difficult to quantify.
- Other tools such as frailty assessment may be more useful in predicting these specific outcomes in hospitalized older adults.

## FUNDING

## REFERENCES

[1] Figure from "High blood pressure in older subjects with cognitive impairment" - Scientific Figure on ResearchGate. Available from: https://www.researchgate.net/figure/Mini-Cog-Test-32-administration-and-scoring-1-Ask-the-patient-to-repeat-3_fig1_304367970

# Walk a day in my shoes

Ryan Quarles, MD, Donald Kirton, MD, Reham Shaaban, DO, Kevin Hinchey, MD, Heather Z. Sankey, MD, MEd

## INTRODUCTION: Background

Provider burnout has been identified as a public health crisis and efforts to study and improve wellness are being undertaken by most major academic medical centers.  One of the strongest influences to improve prevent provider burnout and improve wellness is satisfaction at work and feeling appreciated.  The relationships we build at work can make or break our work environment and make a significant difference between dreading work and enjoying it.  When a provider dreads the work that they do and the environment they are in, then  having empathy for our patients and coworkers is affected.

We believe we can improve empathy by building stronger relationships within the healthcare team through a shared understanding of our roles and how we can work better together through shadowing experiences.

## Aim/Purpose/Objectives

- Assess the short and long term impact on empathy, understanding and communications  of existing Nurse-Resident shadowing experiences during orientation for our programs in Internal Medicine (IM), Pediatrics (Peds)  and Obstetrics And Gynecology (OB/GYN).
- Expand the program to other residencies and programs to have residents shadowing each other across specialties.
- Expand the shadowing experience to other healthcare students and residencies and even wider into the system as part of the system wide provider orientation.
- Develop a program by which nurses can shadow residents and attendings to understand their workflow and structure.

## METHODS:  Measures/Metrics

A semi-structured  debriefing  was recorded and transcribed for review.

The transcribed debriefing is undergoing a qualitative analysis for themes identified with the group.

## METHODS: Interventions/Changes

Incoming residents in IM, Peds and OB/GYN were scheduled to shadow floor nurses on their respective units.

The shadowing sessions were developed to be 4 hours in length with nurses who volunteered for the experience.

After each session, residents and nurses involved  were debriefed with a pre-determined set of questions as well as open discussion on observations , lessons learned and commitments with their program leadership as well as a nurse manager.

## RESULTS

22 incoming Internal Medicine and Med/Peds Residents shadowed floor nurses for a period of 4 hours starting with a nurse to nurse sign-out.

There were separate debriefings  with each of the three groups immediately after the experience that included both residents and nurses

Residents in Ob/Gyn were scheduled for a four-hour shadowing with volunteer nurses, but a misunderstanding by staff caused the residents to shadow senior residents for 4 hours instead.

## Key Findings

- Resident physicians are unaware of the level of involvement and expertise nurses have in the care of their patients

- Experiencing the  work flow and demands of a nurse's day place on the team creates deeper understanding and appreciation for their role on the team.

## RESULTS: Themes Identified

**Nursing role on the healthcare team**
- "We all have the same shared goal of doing best by our patients."

**Appreciation of nursing clinical knowledge and skills**
- "Amazing how much they know"
- "Nurses are empowered to make some decision on their own"

**Work load of nursing Staff**
- "I learned the time differential between the time that the nurse spends with the patient versus what the doctor spends with the patient. Doctor is in and out and [the nurses] are always with [the patients]"
- "[Nurses] have to do a lot of charting.  Lots of and lots of documentation"
- "Doctors have a way to get away, but nurses don't. "

**Source of learning**
- "[The Nurse] knew everything about the patient, even about the patient's lives"
-  "[Nurses] are a huge resource and wealth of information "

**Communication**
- "[Nurses] know a lot about the patient, you'd be at a huge disadvantage if you do not reach out to your nurse and ask about what's going on with the patient."

**Safety**
- "They have our (physicians) back"

## Discussion: Barriers & Strategies

**Barriers**
- Recognition of the value of shadowing across the department.
- Building this experience into protected orientation time is very important.

**Next Steps and Sustainability**
- Rework our structured debrief and debrief nurses and residents separately
- Complete a pre-experience interview to understand pre-experience knowledge
- Reassess practicality of surveying all residents on attitude