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# The Impact of Medical Director Involvement on Paramedic Educational Program Attrition and Pass Rates

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# Disclosures

- The authors have no conflicts of interest to report



# Background

- EMS workforce loss driven by attrition and exam failure
- Accreditation standards require Medical Director involvement across didactics, clinical, and administration
- Reality: “required involvement” is highly variable



# Background

- Understanding how MD involvement relates to outcomes is essential for improving educational performance and supporting workforce development



# Objective

- To evaluate Medical Director involvement in paramedic educational programs and determine its association with:
  - Program attrition
  - Certification examination pass rates



# Methods

## Study Design & Setting

- Cross-sectional evaluation of 2022 CoAEMSP Annual Report
  - Mandatory - 100% response rate
  - Accredited paramedic programs ( $\geq 5$  students enrolled)
- Standard profile questions
  - Enrollment, duration, instruction hours, resources

# Methods

## Measures

- MD participation across six domains:
  - Didactic teaching
  - Lab/simulation
  - Clinical teaching
  - Administration
  - Curriculum development
  - Remediation



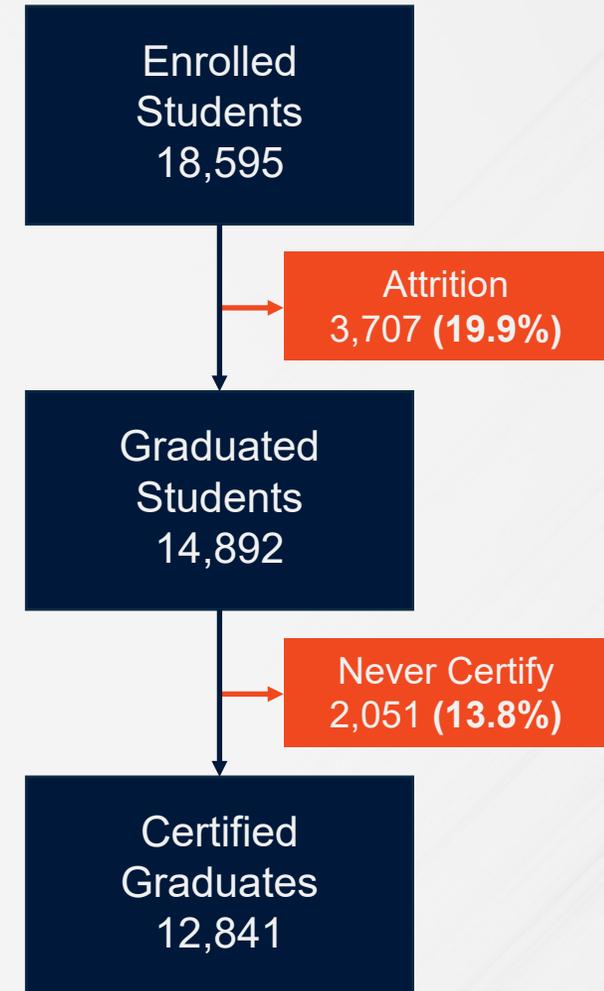
# Methods

## Data Analysis

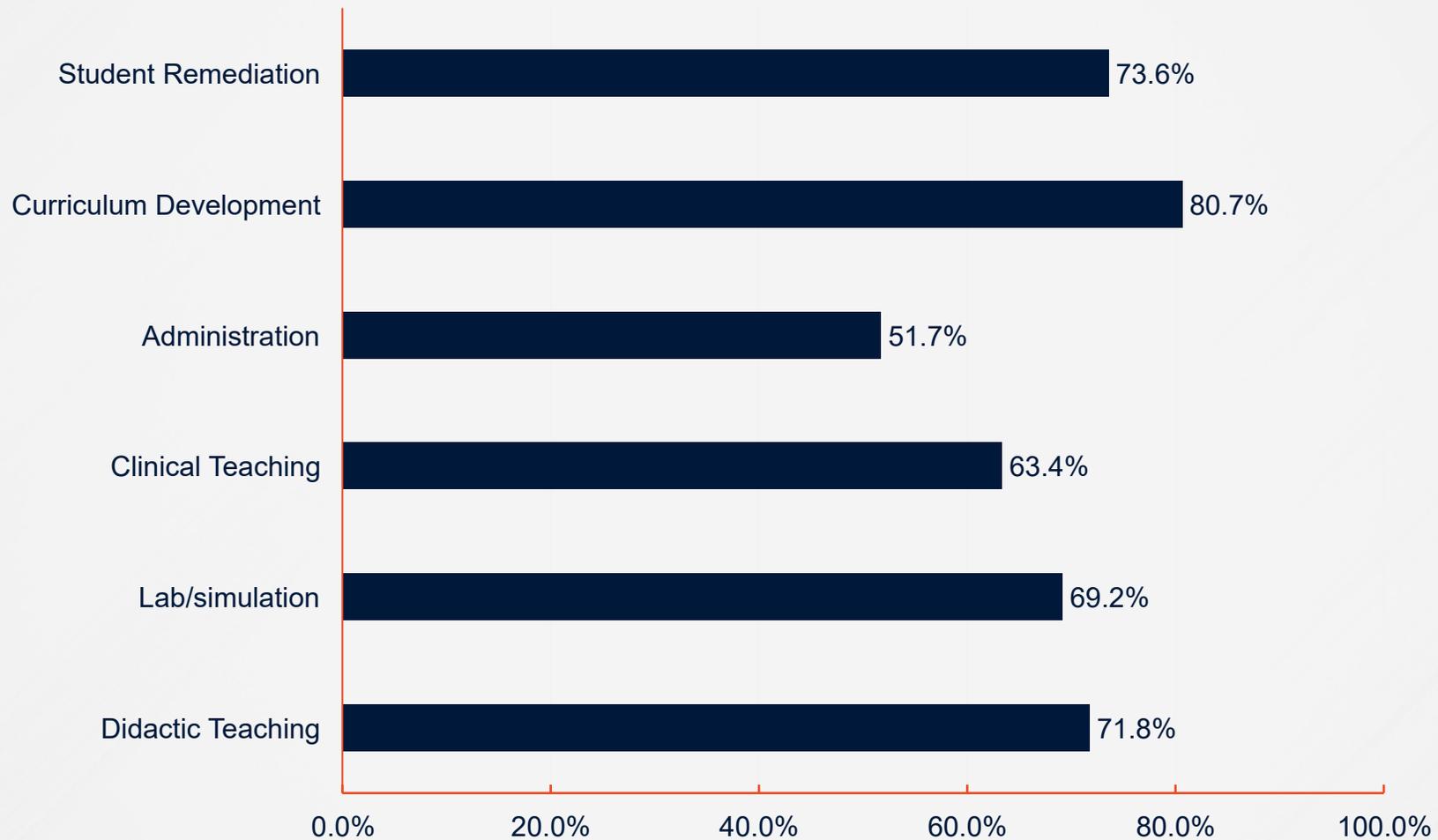
- Descriptive Statistics (median, IQR)
- Multivariable Regression (OR, 95% CI)
  - Logistic:  $\geq 75\%$  pass rate
  - Linear: with percent attrition

# Results

- 635 programs
  - Median Class Size: 19 (11, 30)
  - Median Graduates: 15 (9, 25)
  - Median Total Hours: 1190.5 (1076.0, 1328.0)



# Results



# Results

- MD involvement showed *no* significant association with program attrition

Domain	Estimate ( $\beta$ )	95% CI
Didactic Teaching	0	-0.02 to 0.03
Lab/Simulation	0.01	-0.01 to 0.04
Clinical Teaching	-0.01	-0.04 to 0.01
Administration	0	-0.02 to 0.02
Curriculum Development	0.01	-0.02 to 0.04
Remediation	0.02	0.00 to 0.05

# Results

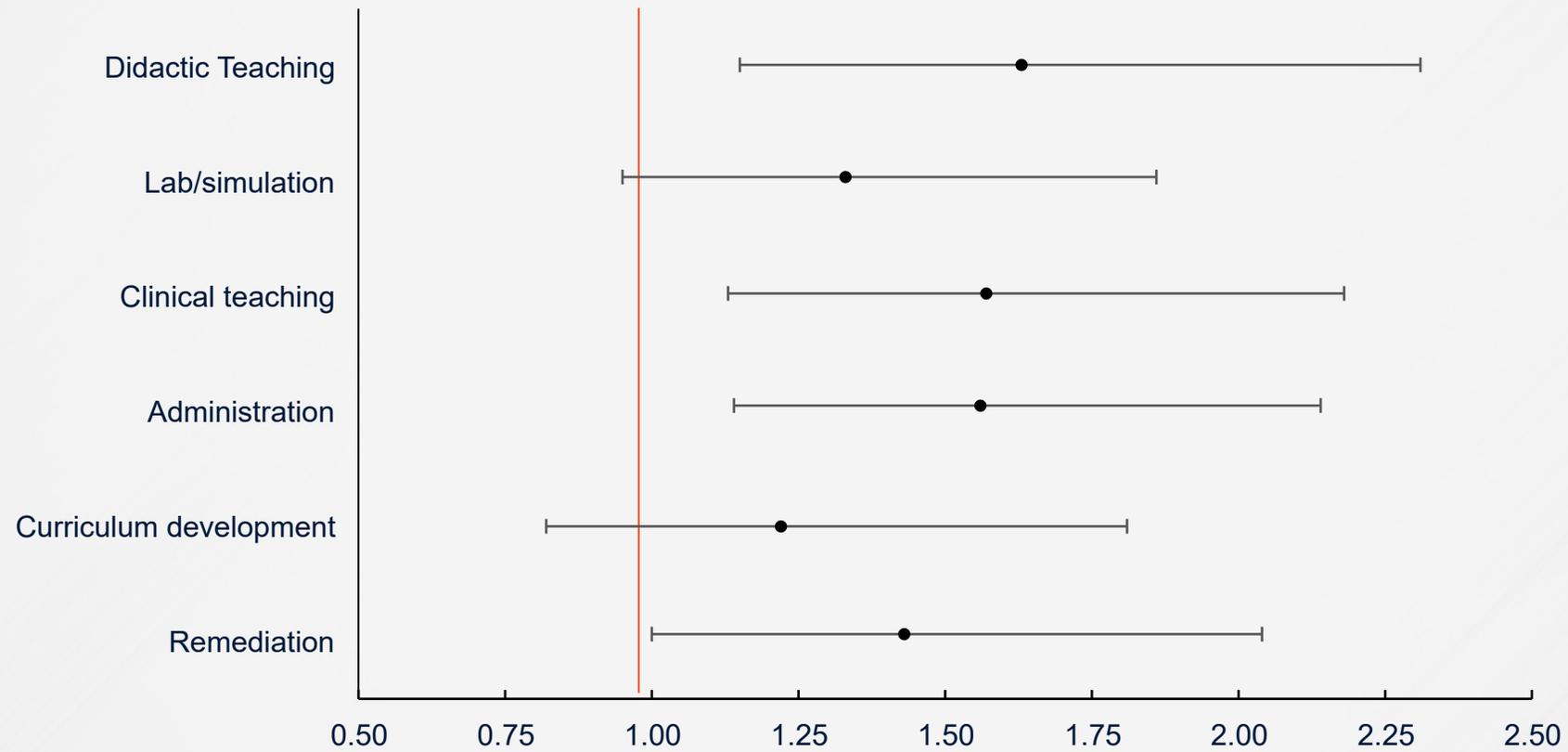
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Remediation	0.02	0.00 to 0.05



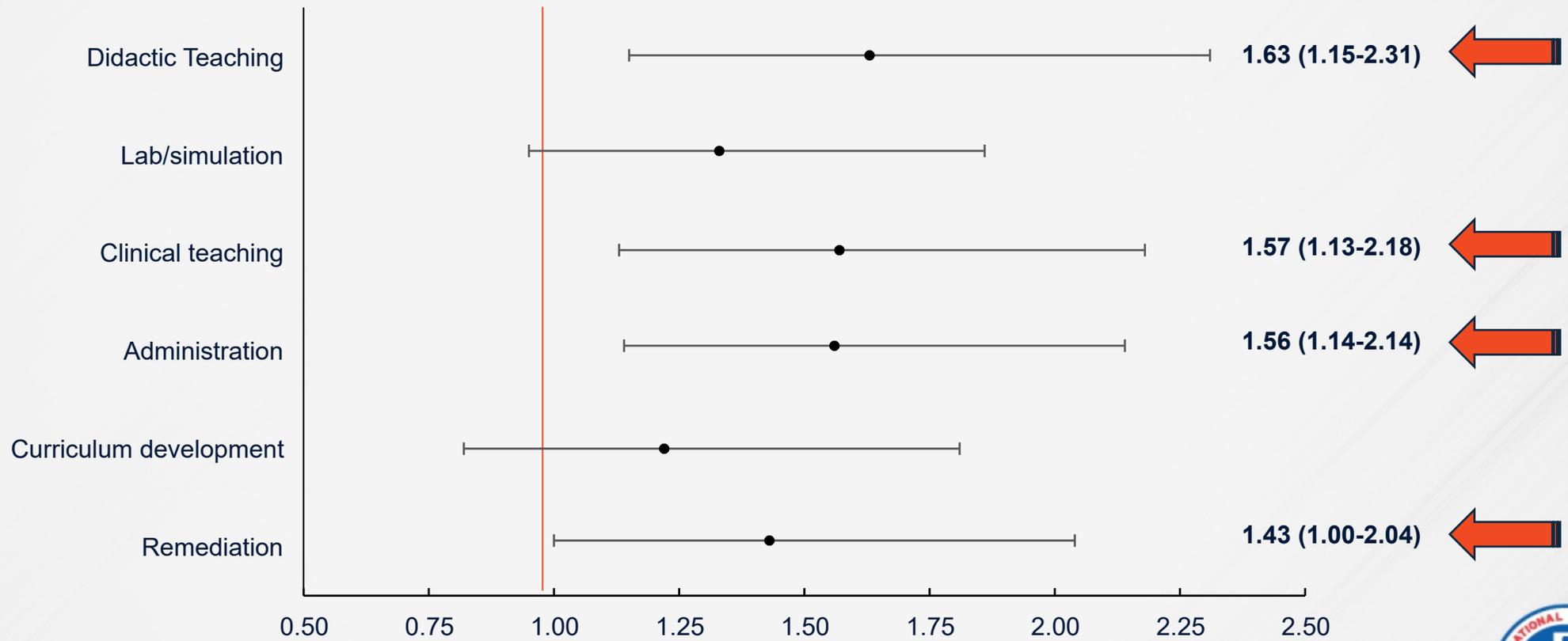
# Results

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# Limitations

- MD involvement reported by Program Directors, not MDs
- Cross-sectional design limits causal interpretation
- Unmeasured confounders:
  - Funding, program size, institutional support, faculty availability



# Conclusions

- MD involvement across educational programs is variable
- Greater MD engagement is associated with higher certification pass rates
  - Didactics, clinical education, and remediation
- Support for strengthening MD participation
  - Improve certification results
  - Workforce readiness





# Thank you

*We want to thank the hard-working EMS clinicians who provide patient care and protect the public, relentlessly and without hesitation.*

# CAPCE Continuing Education QR Code

- Menegazzi Scientific Session - Oral Abstracts #4
- 26-NASP-F1-0506



# SUPPLEMENT

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	Paramedic Programs N=636 (median, IQR)
Total Enrolled	19 (11, 30)
Total Graduates	15.0 (9, 25)
Total Completion Months	12.0 (12, 16)
Total Hours of Instruction	1190.5 (1076, 1328)
First-Attempt Pass Rate	73.2% (57.1%, 87.2%)
Three-Attempt Pass Rate	90.9% (80%, 100%)
RAM80 (Yes) (n, %)	460 (72.3%)
Census Region (n, %)	
East	109 (17.1%)
South	250 (39.3%)
Great Lakes	134 (21.1%)
Western Plains	72 (11.3%)
West	71 (11.2%)

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