Rates and Reasons for Attrition in Accredited Paramedic Educational Programs

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Introduction

Accredited paramedic program success requires high student retention rates and certification.

Despite the emphasis on retention, high program attrition rates are common and could contribute to workforce shortages.

Unfortunately, the reasons for attrition are not well understood at the programmatic level.

Objective

The goal of this work was to describe the extent and drivers of paramedic program attrition.

Methods

Study Design, Setting & Population

This was a cross-sectional evaluation of program-level attrition from the 2019 Committee on Accreditation of Educational Programs for the EMS Professions (CoAEMSP) paramedic program annual report.

Included in the analysis are all paramedic programs that reported >5 enrolled students. Attrition rates and causes were evaluated, defined as academic (e.g., dismissal due to low grades) or non-academic (e.g., financial, medical, unknown).

Programs with high attrition (>30%) were identified.

Analysis

Descriptive statistics were calculated (median, IQR).

Multivariable logistic regression (OR, 95% CI) was performed to analyze the relationship between program attrition and program characteristics.

Analysis performed with Stata/SE 17.

Results

Figure 1. Histogram of program attrition rate (%) for all paramedic educational programs in the US. Programs are shown in ascending order of attrition rate.
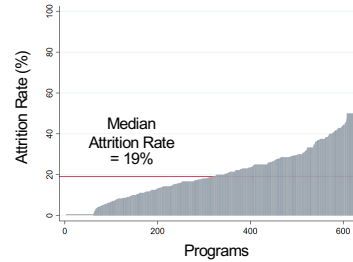

Table 1. Contributions of academic and non-academic reasons for student attrition from educational programs (n = 3,573 students).

Characteristics	Frequency (%)
Academic:	
Dismissed due to grades	1151/3573 (32.2)
Withdrew due to grades	332/3573 (9.3)
Other	360/3573 (10.0)
Non-academic	
Financial challenges	88/3573 (2.5)
Medical or personal issues	864/3573 (24.2)
Unknown	778/3573 (21.8)

Table 2. Program characteristics reported to CoAEMSP for programs with low (n = 130 programs) and high (n = 481 programs) attrition levels.

Characteristics	Low Attrition N = 481 (median, IQR)	High Attrition N = 130 (median, IQR)
Enrolled Students	20 (14, 33)	15 (10, 25)
NASEMSO Regions (Frequency (%))		
East	75 (16)	26 (20)
South	176 (37)	65 (50)
Great Lakes	110 (23)	19 (15)
Western Plains	54 (11)	13 (10)
West	65 (14)	7 (5)
Months to Course Completion	12 (11, 16)	15 (12, 17)
Total hours of Instruction	1169 (1072, 1300)	1199 (1075, 1291)
Faculty Numbers	2 (1, 3)	2 (1, 3)
First Attempt Pass Rate (%)	77% (63%, 90%)	75% (57%, 92%)

Table 3. Univariable and Adjusted multivariable associations between percent attrition above 30% (high attrition) and months to course completion, total students enrolled, and geographic regions. Abbreviation: CI, confidence interval; *, p-value <0.05.

Characteristics	Univariable Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)
Total months to completion		
<12 months	0.44 (0.23-0.86)*	0.57 (0.29-1.13)
12 months	Referent	Referent
>12 months	1.81 (1.17-2.79)*	1.91 (1.21-3.00)*
Total Students enrolled		
1-11	2.81 (1.63-4.82)*	2.53 (1.45-4.41)*
12-17	Referent	Referent
18-29	1.07 (0.60-1.92)	1.12 (0.61-2.04)
30 or more	0.96 (0.53-1.73)	1.08 (0.59-1.99)
NASEMSO regions		
East	3.13 (1.28-7.66)*	2.68 (1.07-6.70)*
South	3.33 (1.45-7.62)*	3.24 (1.38-7.61)*
Great Lakes	1.73 (0.70-4.28)	1.63 (0.64-4.14)
Western Plains	2.65 (1.02-6.91)*	2.47 (0.92-6.66)
West	Referent	Referent

Limitations

Estimates of attrition are based on self-reported data from programs and raw student-level data collection.

For this reporting period, programs determined when a student's educational progression was included as attrition.

This analysis is a secondary evaluation of data collected for accreditation purposes.

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Conclusion

High paramedic program attrition was common and associated with an increased program length.

Additional research should emphasize how to better support students academically before and during their educational program tenure.