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# The Influence of a Clinical Course-Based Undergraduate Research Experience on Career Choice

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## Background

- Course-based Undergraduate Research Experiences (CUREs) have been associated with improved student retention in the sciences, improvements in critical thinking and increased gender and racial diversity in the sciences.[1, 2, 3] However, *clinic-based* CUREs are uncommon and not well studied. Undergraduates interested in learning about medical career paths experience barriers to (1) observing patient care in a hospital environment and (2) involvement in human subjects research (HSR).
- The UNM Department of Emergency Medicine offers a clinic-based CURE, the Research in Acute Care course track, that combines HSR and clinical shadowing.
- The purpose of this study is to assess the impact of the Research in Acute care course track on student career choice.

## Research in Acute Care Course Track

### EMS 475

- Complete clinical access and HSR requirements
- Demonstrate proficiency in obtaining informed consent
- Weekly 4-hour clinical shift in the Emergency Department
- EMR access and navigation training

### BIOM 505

- Maintain HSR and clinical access credentials
- Weekly 4-hour clinical shift in the ED
- Meet multiple study enrollment quotas
- Assume study oversight and coordination duties

## Methods

In 2018, 193 current and former course participants from 2012-2018 were asked to complete a survey to evaluate the impact of the Research in Acute Care course track on their career plans.

The anonymous survey was approved by the IRB, distributed by email, and included 5-part Likert scale questions on student course experiences, current employment and education status, future career plans and suggestions for improving the course.

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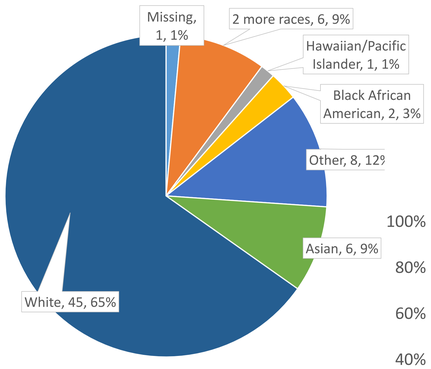
## Results

Sixty-nine (69) students completed the survey, yielding a response rate of 36%. Forty-six (46) percent of respondents self-identified as male and 54% identified as female. Respondent median age was 24 and ranged from 19-38 years. Respondent characteristics are shown in Figures 1 and 2.

**Figure 1: Sample race (N=69)**



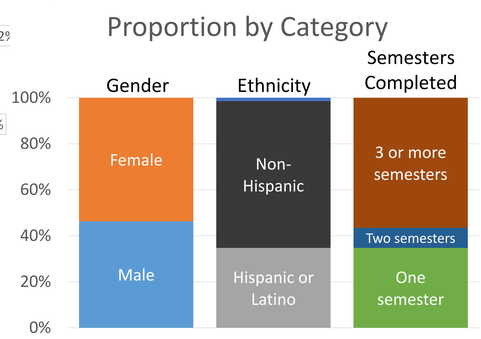
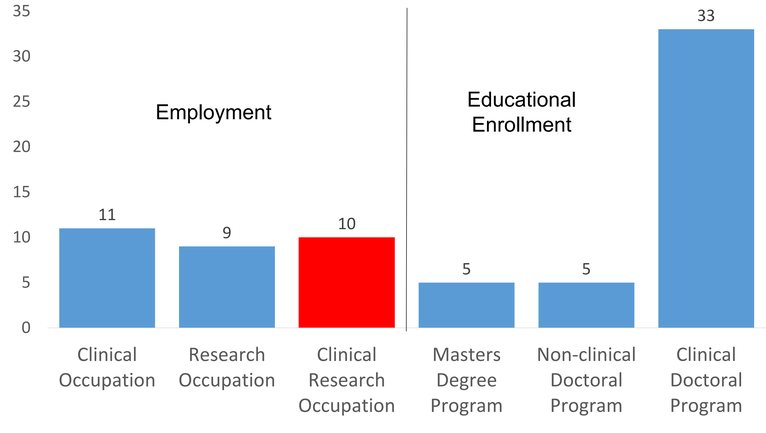




**Figure 2: Proportion by category (N=69)**

### Employment and Educational Enrollment

More than half (37/68, 54.4%) of respondents indicated that they were currently employed, with more than a quarter employed in an occupation that was both clinical and research. Forty-three (43) reported enrollment in graduate education, with the vast majority in clinical doctoral programs. Distribution of employment and education enrollment by category appears in Figure 3.

**Figure 3: Employment and Educational Enrollment by Category**




## Results (cont.)

**Table 1: Course impact on career choice, skills and abilities**

| | | |
|---|---|---|
| | **"Quite a bit" or "A great deal"** | |
| Foresee doing research in career | 35/69 | 50.7% |
| Influenced career path | 46/69 | 66.7% |
| | **"Agree" or "Strongly Agree"** | |
| Knowledge gained is valuable for career | 64/69 | 92.8% |
| Course developed ability to interact with providers | 66/69 | 95.7% |
| Course developed ability to interact with patients | 64/69 | 92.8% |
| Course developed abilities to read and think critically about research | 65/69 | 94.2% |
| Course developed skills and abilities for conducting research | 65/69 | 94.2% |

## Discussion

- Almost all students reported that the course track developed their research skills and abilities, improved their knowledge of patient and provider interactions and indicated that knowledge gained would be useful in their professional career.
- Students with exposure to HSR and clinical medicine may be more competitive for employment and education opportunities that combine the two topics.
- The sample was not very diverse and did not include comparison of students who did not participate in the Acute Care course track. Neither racial or ethnic minorities nor gender identity minorities were well represented.

## Conclusion

Clinic-based CUREs offer a confluence of clinical observation and research learning experience not available in any other undergraduate context. Our results indicate that students with exposure to the clinical medicine and HSR may be more likely to pursue educational and career opportunities that combine the two topics. In addition, they may be more capable of thinking critically about and conducting clinical research. Efforts to evaluate course diversity are underway, but the authors believe racial distribution sampled does not reflect the overall course.

## References

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