

Stop the Bleed: Medical Students as Instructors of the Bleeding Control Basics Course

Kelsey M. Evans, MS

**Bryan Lake, BSN, RN, Kelly Harrell, PhD, MPT, Shannon W. Longshore, MD, FACS,
Eric A. Toschlog, MD, FACS, FCCM, Danielle S. Walsh, MD, FACS, FAAP**

**5th Annual
Brody Medical Education Day
April 10, 2019**

What is Stop the Bleed?

- Developed following the Sandy Hook shootings in 2013
- Hartford Consensus
 - Train bystanders as immediate responders
 - Improve survivability in victims with life threatening bleeding



**The Hartford
Consensus**



**The American
College of Surgeons
Committee on
Trauma**



**The Committee
on Tactical
Combat
Casualty Care**



**The National
Association
of
Emergency
Medical
Technicians**

Bleeding Control Basics Course (B-Con)

- Educational course
- Didactic and skill portion
- <90 minutes
- Free of cost

Bleeding Control Basics Course (B-Con)

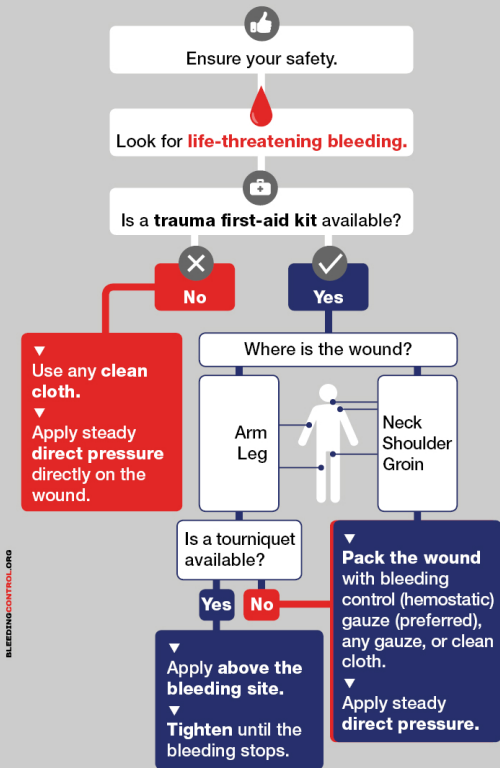
- Recognize and respond to life-threatening bleeding
 - Train bystanders in basic bleeding control





Save a life

What everyone should know to stop bleeding after an injury



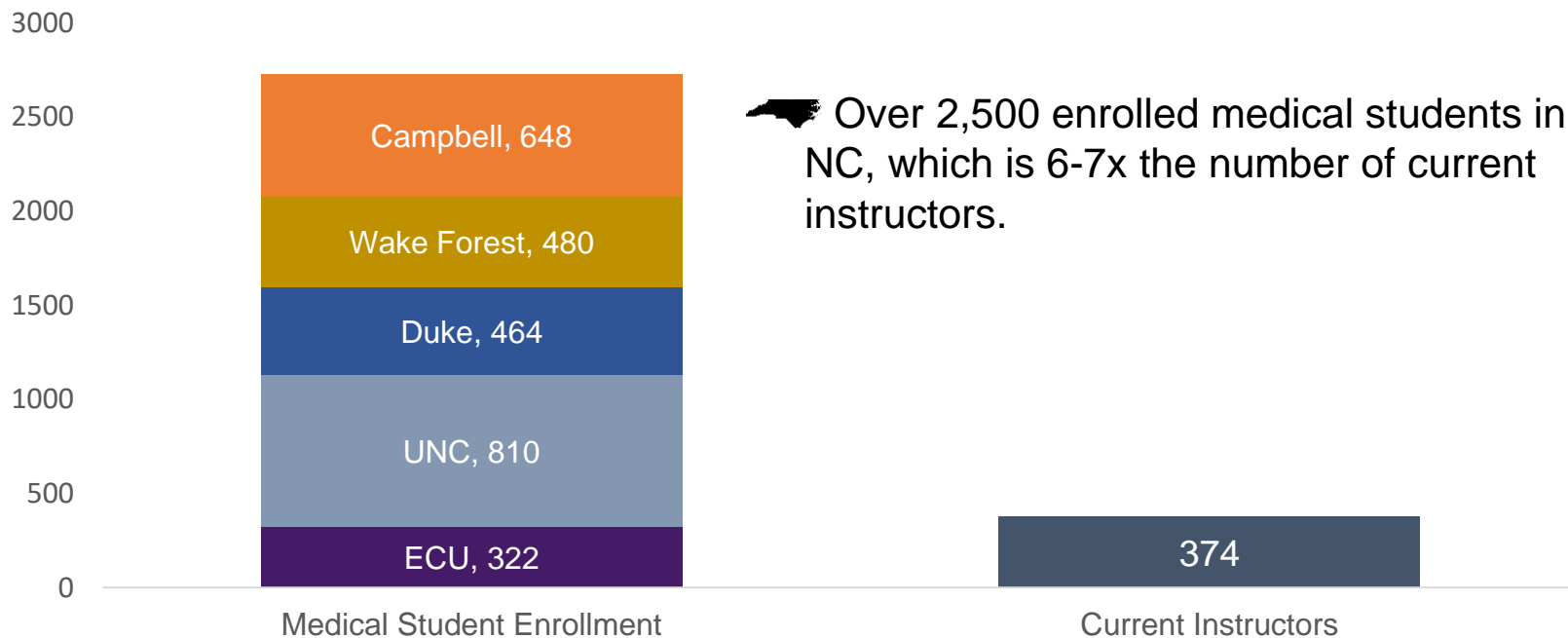
BLEEDINGCONTROL.ORG

Who can teach the B-Con course currently?



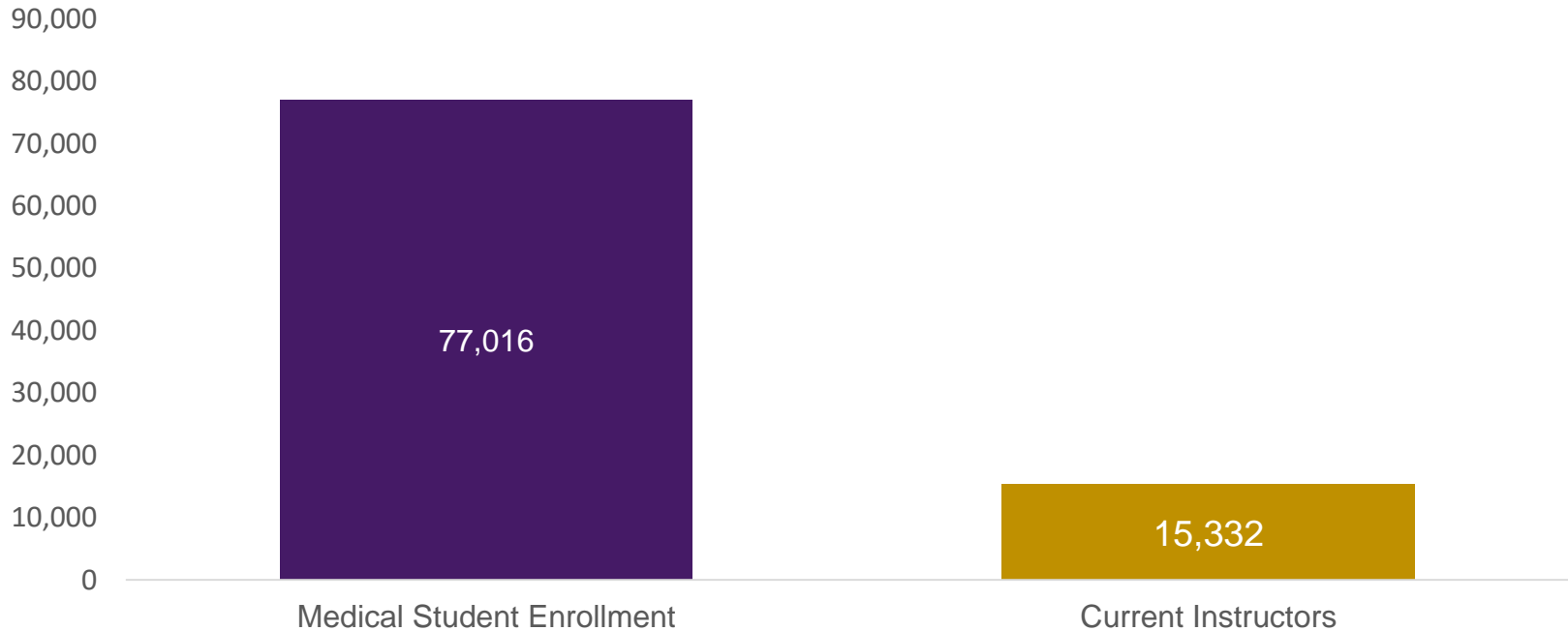
1. Any MD, DO, RN, CRNA, NP, PA, DDS, DMD, DVM, PharmD, LVN, LPN, RD, RT, PT, OT, Paramedic, EMT, EMR/First Responder, Ski Patrol, Athletic Trainer, TCCC-MP Provider who has successfully completed a B-Con provider course
2. Instructors of PHTLS, TCCC/TECCC, ATCN/TNCC, ATLS, or NAEMT who have successfully completed a B-Con provider course

Enrolled medical students, current instructors, and number of trained individuals in North Carolina



*Data is reflection of information reported in 2018 Stop the Bleed Progress Report as of March 15, 2018

Enrolled medical students, current instructors, and number of trained individuals in the United States



*Data is reflection of information reported in 2018 Stop the Bleed Progress Report as of March 15, 2018 and AAMC U.S Medical Graduates Report 2016-2017.

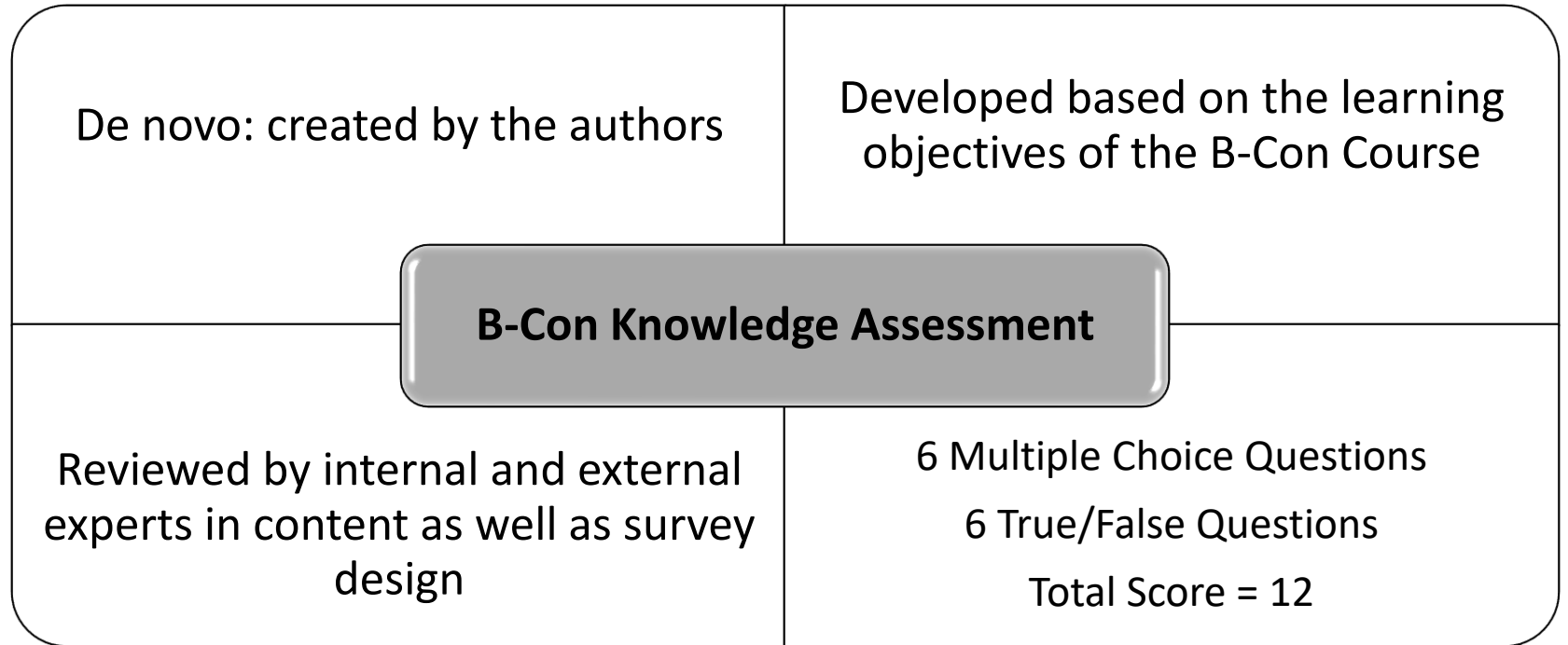
Medical students are an underutilized population of instructors and could greatly increase the outreach of this course

Phase I

- What is a medical student's current knowledge of bleeding control techniques and does this course improve student knowledge?
- How do post-test knowledge scores compare amongst medical students who are and are not eligible to become certified instructors?

Phase II

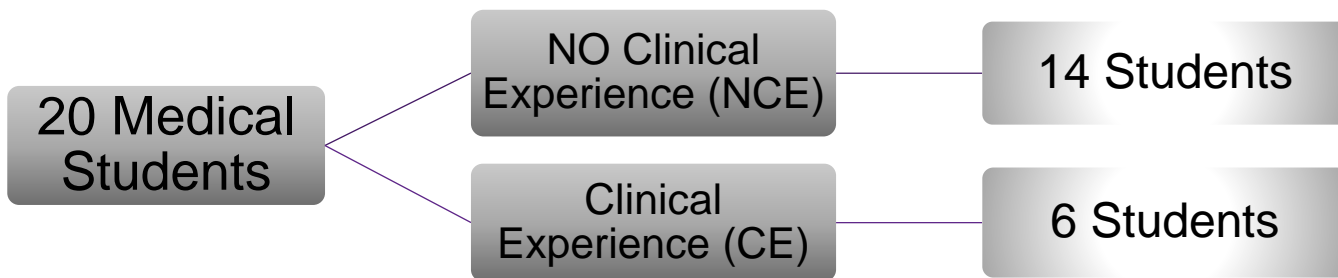
- How do medical students perform as instructors compared to certified approved instructors?
- Are medical students able to convey key learning objectives of the B-Con Course to learners?
- How are medical students perceived as instructors by the learners?



Phase I – April 2018

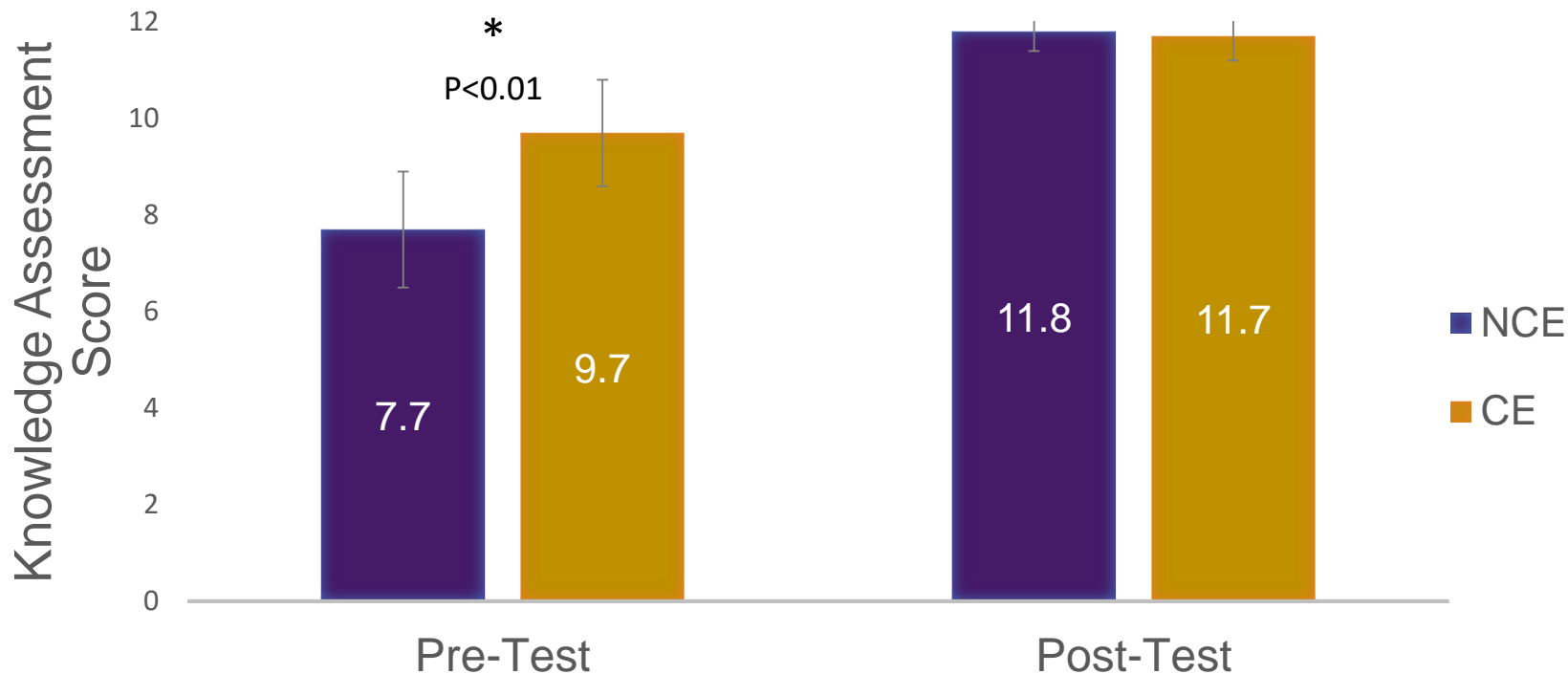
Presented at the American College of Surgeons Clinical Congress 2018

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Compared with independent sample t-tests
 $p < 0.05$

Pre- and post-test results in medical students with prior clinical experience (CE) and no prior clinical experience (NCE)



Phase I Conclusions

- Prior clinical experience had no impact on post-course knowledge assessment scores, and scores indicated near-perfect assimilation of course content
- The B-Con course improved student knowledge of bleeding control techniques
- Medical students who have taken the B-Con course, independent of prior clinical experience, have the knowledge to serve as instructors

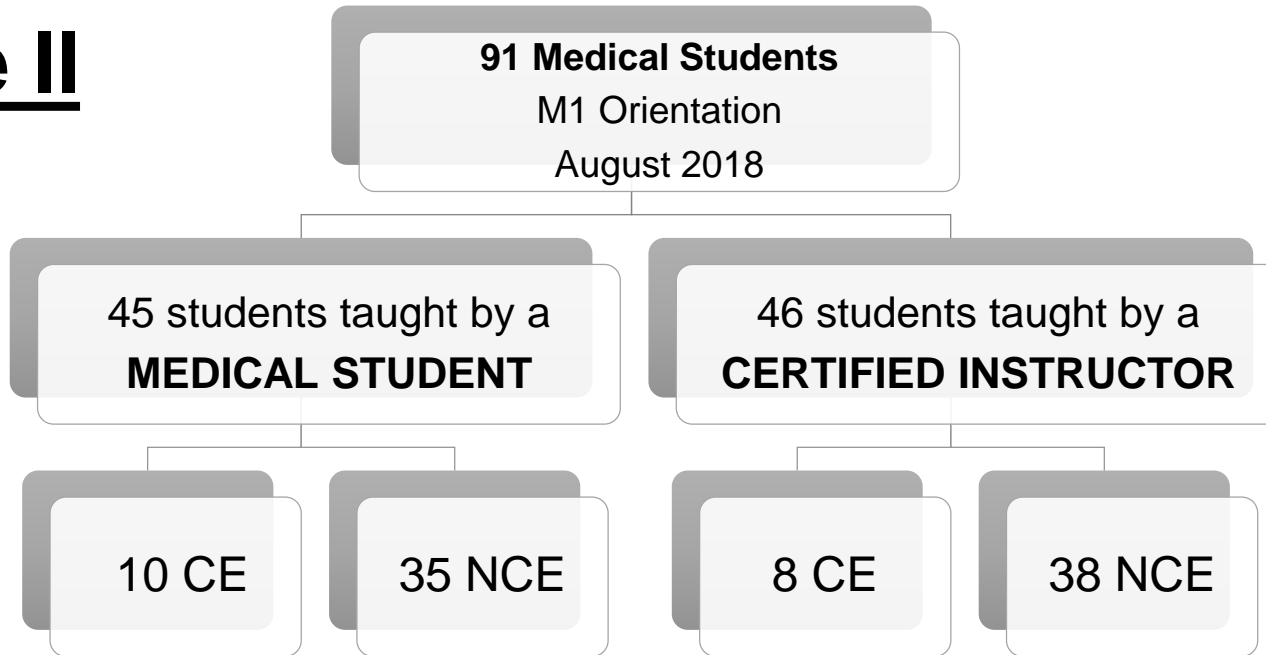
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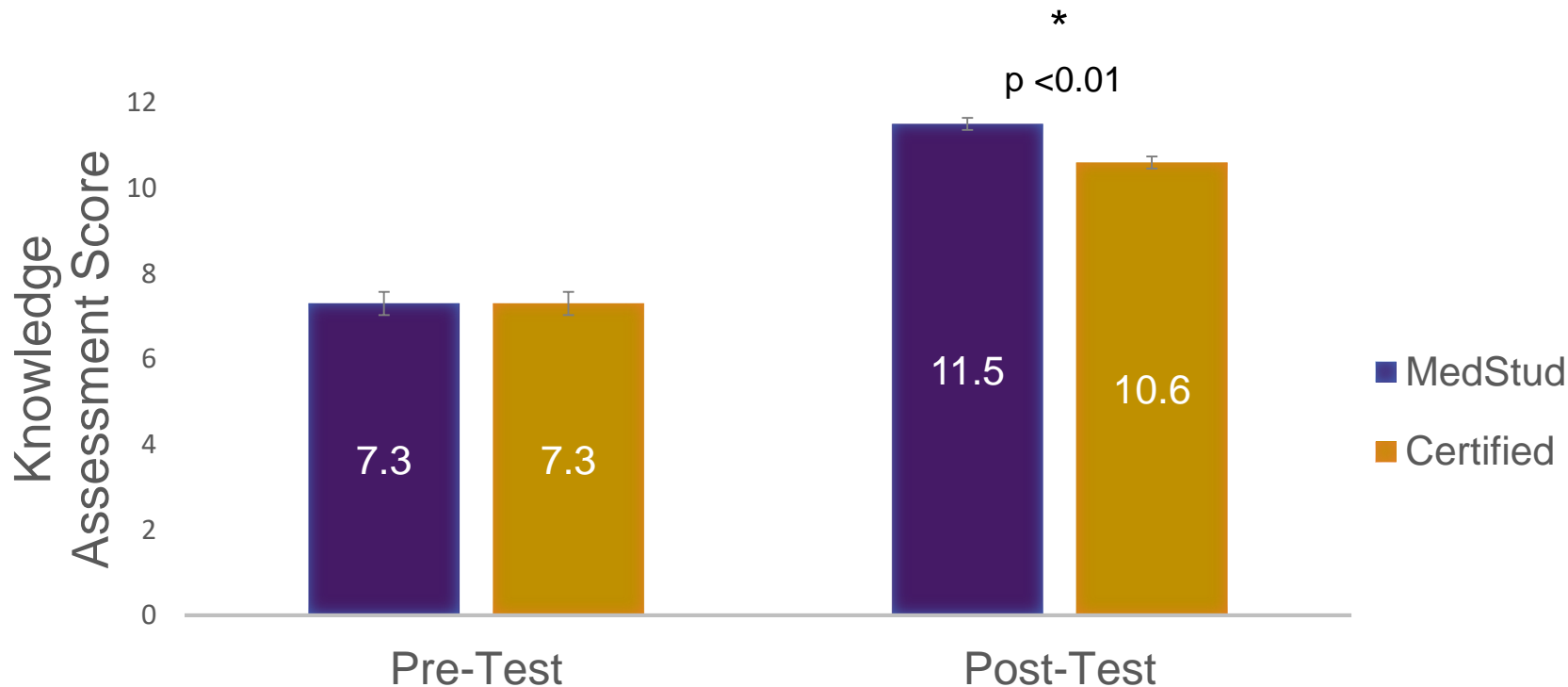
Phase II



Statistical Analysis

- One-way analysis of co-variance (ANCOVA) of post-test scores
 - Controlled for pre-test scores and prior clinical experience
 - $p < 0.05$

Post-test score in learners taught by a medical student vs. certified instructor



Results

- The covariate, **prior clinical experience**, was not significantly related to post-test scores, $p = 0.719$.
- The covariate, **pre-test scores**, were significantly related to post-test scores, $p = 0.026$.

Pre-test scores

- No significant difference between groups (MedStud v. Certified) even when controlling for prior clinical experience.

Phase II Conclusions

- A medical student-led bleeding control basics course is equally effective and successful at conveying important learning objectives of bleeding control techniques when compared to a certified instructor.
- Medical students who do not meet the current criteria of the ACS are able to convey fundamental learning objectives of the course as demonstrated by near-perfect assimilation of content in post-test scores of learners.

Phase I

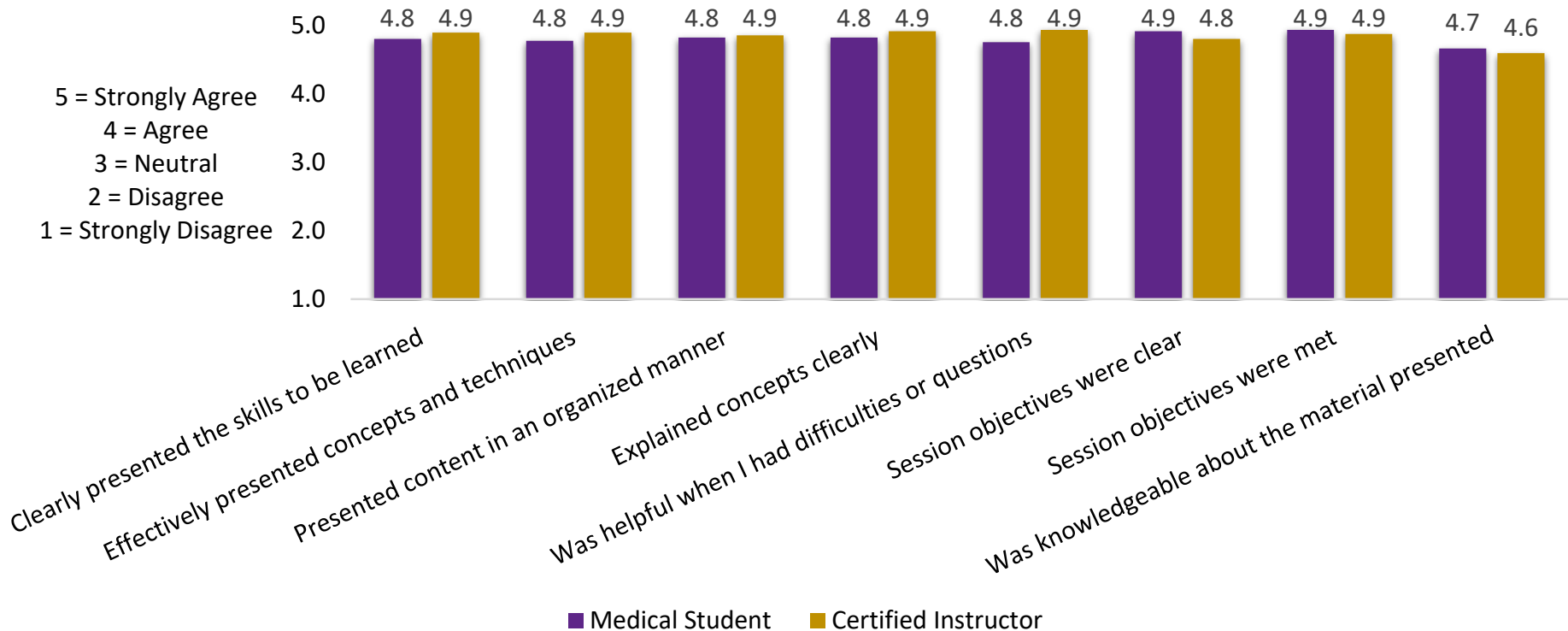
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Post B-Con course evaluation of a medical student instructor vs. certified instructor

The following questions began with "The Instructor..."



Conclusions

- Medical students are perceived as equally effective and knowledgeable instructors by learners of the B-Con course
- They present the fundamental concepts of the B-Con course clearly, concisely, and without difficulty as perceived by learners

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Concluding Statements

- The information taught during a B-Con course is not beyond the scope of a medical student. This data illustrates an important population of capable instructors that currently do not qualify.
- Enabling eager medical students to teach the B-Con course will increase the radius of outreach and better equip our communities with this education.

Future Directions

- Assess a larger group of medical students as instructors
- Follow up in 6 months, 1 year, etc. to evaluate retention of knowledge
- Follow up surveys to identify confidence of medical students to teach autonomous course
- Application to other allied health fields, such as nursing
- Continue building on initiatives to place trauma kits in public locations

Acknowledgements

Special thanks to the following individuals/groups for your support and effort in this project:

- Medical students who dedicate their time to volunteering and teaching
- Special thanks to instructors I commonly call on:
 - Bryan Lake, BSN, RN, Andrew Piner (M3) Greyson Vann (M3), Ross Masters (M2), Daniel Jourdan (M4)
- The Office of Student Affairs for allowing us to implement this course during M1 orientation
- The ECU Surgery department for your support and supplying necessary equipment
- My mentors, Drs. Walsh, Harrell, and Toschlog

QUESTIONS?

Contact Information

Kelsey Evans (MS-4)

evansk16@students.ecu.edu

@kelseyevans2 



To find out more about Stop The Bleed please visit:
Bleedingcontrol.org