Teaching Nurse Practitioner Students the Fundamentals of Telemedicine

Principal Investigator:

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Faculty Support:

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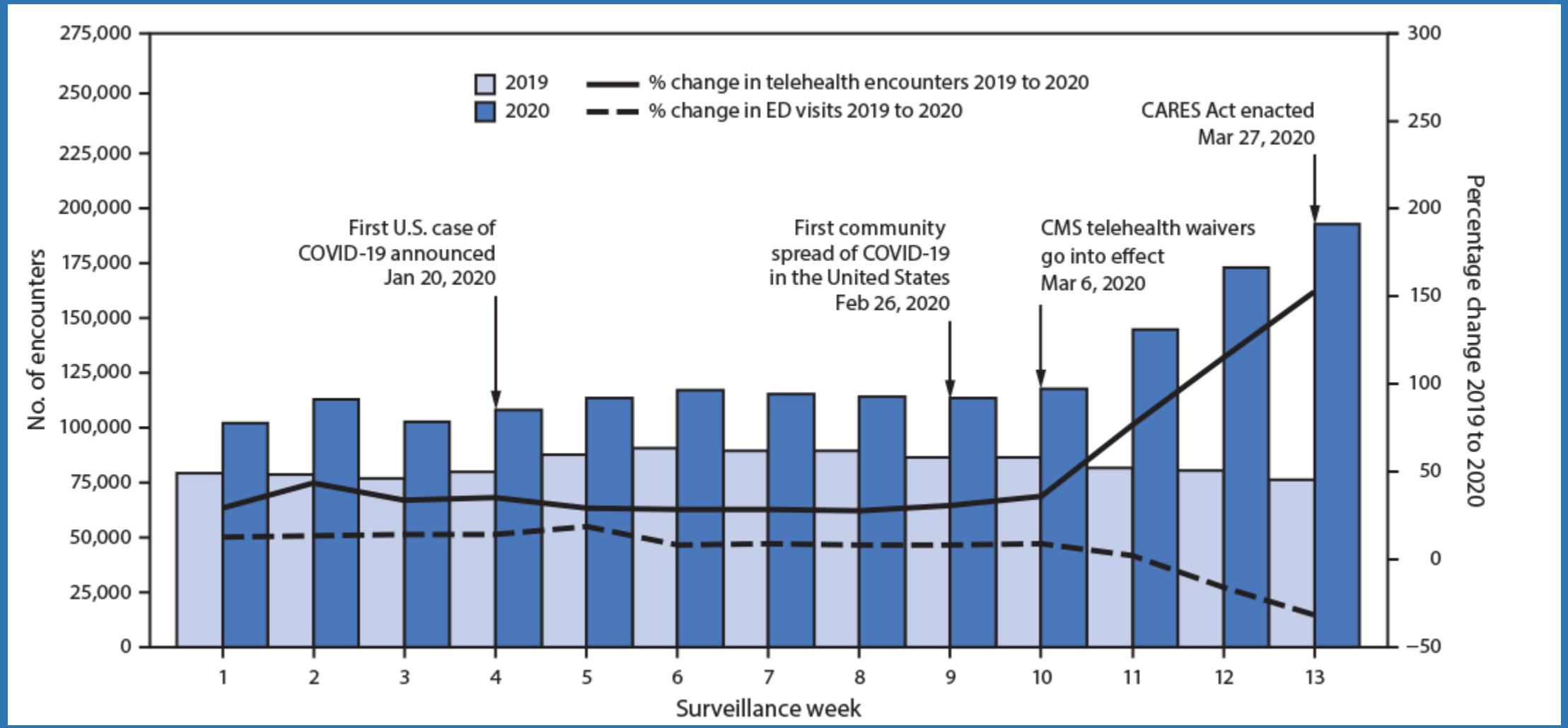
Background

- Telemedicine
  - Defined as the practice of assessing, diagnosing, and treating patients at a distance
  - Has been an emerging venue for years
  - Propelled to the forefront by the COVID-19 pandemic
    - Next slide for chart
  - Pre-pandemic
    - Strict regulatory statutes
  - Intra-pandemic resolved need for social distance for those seeking care

Number of Telehealth Visits 2019-2020



(CDC, 2020)

Background (Providers)

- Significant rise in visits created a need for providers trained
- Current state for existence of provider training in formal education
  - 2016, the American Medical Association approximates 60% have Telehealth curriculum
    - This curriculum is not always required for graduation or licensure (AMA, 2018)
  - 2018, the National Organization of Nurse Practitioner Faculties recommended adding Telehealth into curriculum
    - Recommendations were to integrate the 17 competencies
    - Recommendations also included utilizing some clinical time in Telehealth practice (NONPF, 2018)
- Consistent through both provider disciplines the addition of Telehealth curriculum was not required.
- Thus leaving a significant deficit of providers trained in performing Telehealth visits

Focus

- Population: students in a program without Telehealth Curriculum
  - ISU Family Nurse Practitioner students
    - APN 670: Family Nurse Practitioner Preceptorship
      - Is the fourth and final clinical class
- Intervention: a multimodal two-week module
  - Designed using the NONPF competencies
  - Presented on BlackBoard in the APN 670 site
- Comparison: the population was compared pre and post training
  - no current curriculum
- Outcome: To establish if a multimodal educational intervention would improve nurse practitioner students' competence, confidence, and knowledge in delivering virtual care.
- Time: Two week content exposure

PICOT

Does a two-week multimodal telemedicine training module help graduate nurse practitioner students develop the comfort, knowledge, and skills to effectively deliver virtual care?

Design

- Quasi-experimental
- Prospective Design
- Qualtrics survey: pre- and posttest
  - Used a subject generated pseudonym
    - For anonymity
    - Result matching
  - 15 identical knowledge questions
  - Likert Scale questions: self-rated
    - Skill competence
    - Skill confidence

Design

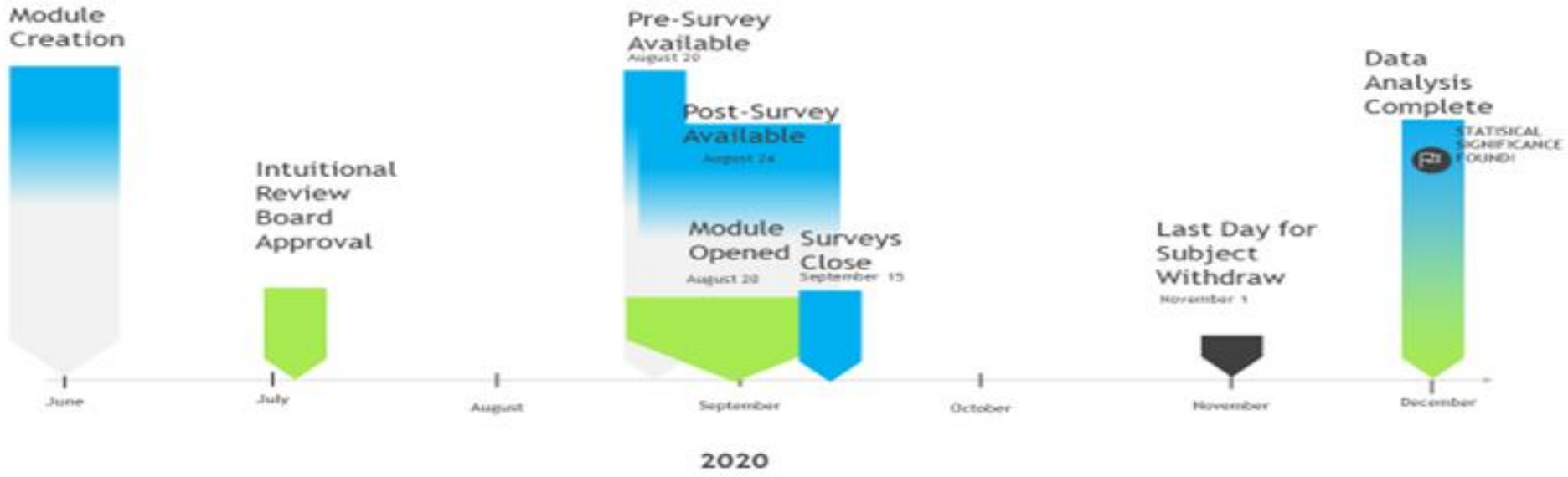
- Module design:
  - Assessment Survey
  - Content
    - Assessment “How to Videos”
    - Articles
    - Tips & Tricks
    - Simulated Videos

Delivery

- IRB approval July 2020
- Module placed in course in August 2020 to be open in course week 2
- Pre-survey tool link launched through BlackBoard announcement in APN 670 (by faculty sponsor)
- Module opened in week 2 of course
  - Student content interaction with content required
  - Data consent not required
- Post-survey tool link launched through BlackBoard announcement in APN 670 (by faculty sponsor)

Delivery

Timeline



Results

Average Scores on Key Variables of Interest

	Range	Mean (SD)	Median
Telemedicine knowledge scores			
Without training	7	7.22	7.00
With training	6	9.78	10.00
Telemedicine competence scores			
Without training	3	3	3.89
With training	3	3.89	4
Telemedicine confidence scores			
Without training	3	2.78	3
With training	3	3.89	4

Results

Paired sample statistics

	n	Mean	Std. Deviation	Std. Error Mean
Telemedicine knowledge scores				
Without training	18	7.22	1.7	.401
With training	18	9.78	1.478	.348
Telemedicine competence scores				
Without training	18	3	.808	.191
With training	18	3.89	.676	.159
Telemedicine confidence scores				
Without training	18	2.78	.907	.214
With training	18	3.89	.583	.137

Results

Paired samples test

	Mean	Std. deviation	Std. Error Mean	t	Sig. (2-tailed)
Knowledge Scores	-2.556	1.854	.437	-5.848	< .001
Confidence Scores	-1.111	.583	.137	-8.086	< .001
Competence Score	-.889	1.079	.254	-3.496	.003

Discussion

- Statistical significance found!
  - Exposure to each fundamental area provided the opportunity for the FNP students to learn more about telemedicine. Knowledge scores increased along with the students' self-reported confidence in their skills. Students also reported their competence in practicing telemedicine visits increased.
- This was a very successful experience for all participants!

Discussion

- Student Feedback
  - Positive
    - Student perceived an increase in their marketability after graduation
    - Students enjoyed the video demonstration of visits and skill
  - Requests
    - Simulation participation
    - Less didactic content

Discussion

- Project Barriers
  - Student generated matched pseudonyms
    - 36 FNP students
      - 31 consents
      - 18 pairs with matched pseudonyms
    - Student expectations
      - Class is completely clinical
  - Facilitators
    - School of Nursing Support
    - Course Faculty support
    - COVID

Discussion

- Implications to practice
  - Training improves
    - Student Outcomes (marketability)
    - Patient Outcomes
    - Maintain projection of professionalism in nursing

Recommendations

- Implement curriculum into to program
  - Perhaps earlier in program to increase length of student exposure
- Expand curriculum
  - Include a full unit
  - Simulation
  - Assessments
    - Exercise versus examination

References

American Medical Association. (2016, June). *Press Center.* Retrieved November 15, 2020 from https://ama-assn.org/press-center/press-releases/ama-encourages-telemedicine-training-medical-students-residents

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