School-Based Telehealth: Identifying Self-Perceived Barriers and Facilitators of School Nurses to Improve Telehealth Operational Methods

Elizabeth T. Sparks BSN RN, DNP Student

East Tennessee State University College of Nursing

Introduction

Background

-Telehealth is frequently utilized in areas where barriers to accessing healthcare exist. Telehealth in these communities have established solutions through providing:

- increased access to clinical providers and clinical services
- eliminating extended travel distances
- reducing financial hardships associated with parental and caregiver lost work time and lack of childcare

-School-based telehealth services have allowed school children:

- access to extended mental health care services
- timely treatment of urgent healthcare needs
- decreased absenteeism and time spent out of the classroom

Problem

- COVID-19 resulted in school closures across the nation, amplifying the critical need for telehealth, to further reduce children's and families' barriers to healthcare.
- At the frontlines of caring for students, are school nurses who almost always are responsible for facilitating telehealth services. While recognition of the need for telehealth is acknowledged, and school nurses having access to this technology, school-based telehealth remains underutilized. Thus far, there has been little research regarding facilitators and barriers to school telehealth or the school nurse perspective of telehealth.

Purpose

- The purpose of the project was to assess the self-perceived barriers and facilitators of telehealth by school nurses
- Develop an educational program to assist in improving operational methods of an established school-based telehealth program in a rural school district in North Carolina.

Methodology

Participants

- Full-time school nurses who participated in school-based telehealth services with contracted telehealth program in rural school district
- Recruitment through invitation email
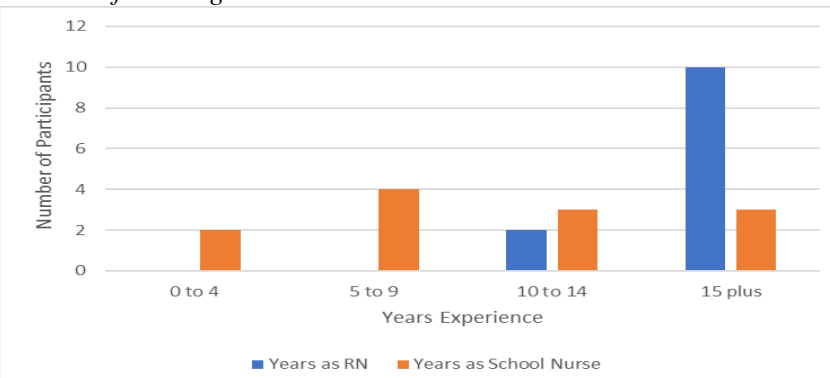
Figure 1

Years of Nursing Practice

Table 1

Age of Nursing Participants

Age	n
30-35	1
41-45	3
46-50	3
51-55	1
56-60	2
61+	1
Unreported	1

Table 2

Number of Schools Served by Participants

Number of Participants	Schools Served
6	1
5	2
Unreported	1

Instruments

- Evidenced Based Survey-**Telehealth Usability Questionnaire (TUQ)**
- Incorporates frequently assessed concepts in Telehealth including:
  - **Usefulness**
  - **Ease of Use**
  - **Effectiveness**
  - **Reliability**
  - **Satisfaction**
- Utilizes 7-point Likert Scale
- Allows for addition of supplemental questions to meet researchers needs

Procedures

- Participants completed Pre- TUQ Survey
- Pre-Survey data examined for trends indicating commonly reported perceived barriers
- Development of educational presentation summarizing corrective strategies to barriers.
- Implementation of online interactive educational session discussing barriers and potential strategies to alleviate barriers.
- Completion of Post- TUQ Survey

Methodology Cont.

Data Analysis

- Statistical Analysis was completed using Excel and SPSS
- Frequency Tables for Pre-Post Survey Answers
- Descriptive Statistics for Pre-Post Survey Answers utilizing grouping concepts
- Wilcox Signed Ranks Test comparting Pre-Post Survey Answers utilizing grouping concepts.

Results

- Frequency Tables revealed skewed results toward positive responses (Agree, Strongly Agree)
- Supplemental Questions added by researcher concerning School-Based Telehealth Program indicated greater favorable responses Post-Survey
- Wilcox Signed Ranks Test revealed no statistical significance between the pre- and post- survey 6 subgroup concept means
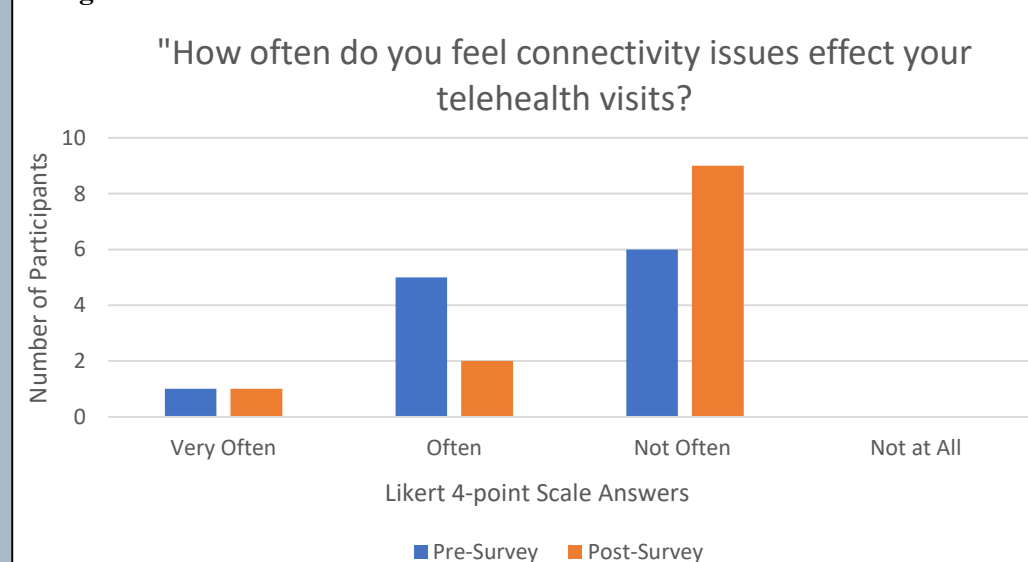
Table 3

Wilcox Signed Ranks Test

	Usefulness Post-Usefulness Pre	Ease of Use Post-Ease of Use Pre	Interface Post-Interface Pre	Interaction Post-Interaction Pre	Reliability Post-Reliability Pre	Satisfaction Post-Satisfaction Pre
Z	-.119[b]	-.769[c]	.000[d]	-.942[b]	-.777[b]	-.647[b]
Asymp. Sig. (2-tailed)	.905	.442	1.00	.346	.437	.518

*$p \le .05$.

Figure 2

"How often do you feel connectivity issues effect your telehealth visits?

Conclusion

- Most participants reported favorable opinions of telehealth pre-survey, making it difficult to identify possible perceived barriers. Overall perception of telehealth was positive, indicating school nurses like the concept of telehealth.
- Although no statistical significance found, valuable inferences determined:
  - Nurses' reporting decreased comfort with new providers pre-survey. Post-intervention and Post-survey results indicate slight improvement in mean average of interaction concept.
  - Pre-survey data indicated problems with connectivity, Post-survey data illustrated improvement.

Discussion

Limitations

- Small sample size
- Social desirability bias
- COVID-19 pandemic influencing closures/re-opening of schools

Future Recommendations

- Larger sample size
- Incorporation of additional school districts (Both urban and rural schools)
- Nursing interviews

References

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Contact Information

Elizabeth Sparks Email: sparkset@etsu.edu