

Background

Healthcare systems continue to struggle to provide access to cost-effective quality care.

Dramatic changes in health care reflected by increasing patients with multiple chronic diseases, health care workforce shortages, mandates to decrease cost, and infusion of technology make it necessary for DNP providers/executives to embrace innovative and inclusive approaches to care such as telehealth.

The use of technology presents new opportunities for addressing these challenges by increasing access to care and decreasing costs, while improving desired outcomes.

It is essential that DPN providers/executives be prepared to use telehealth technologies to address care of the future.

Both didactic and experiential telehealth experiences should be built into existing DNP curriculums or through continuing education.

Program Content

The program was a one-day experiential program designed to prepare future DNP providers and executives to utilize and champion the use of telehealth within the complex health care environment.

Students were guided through 4 modules utilizing different technologies to meet the needs of a complicated teenage patient.

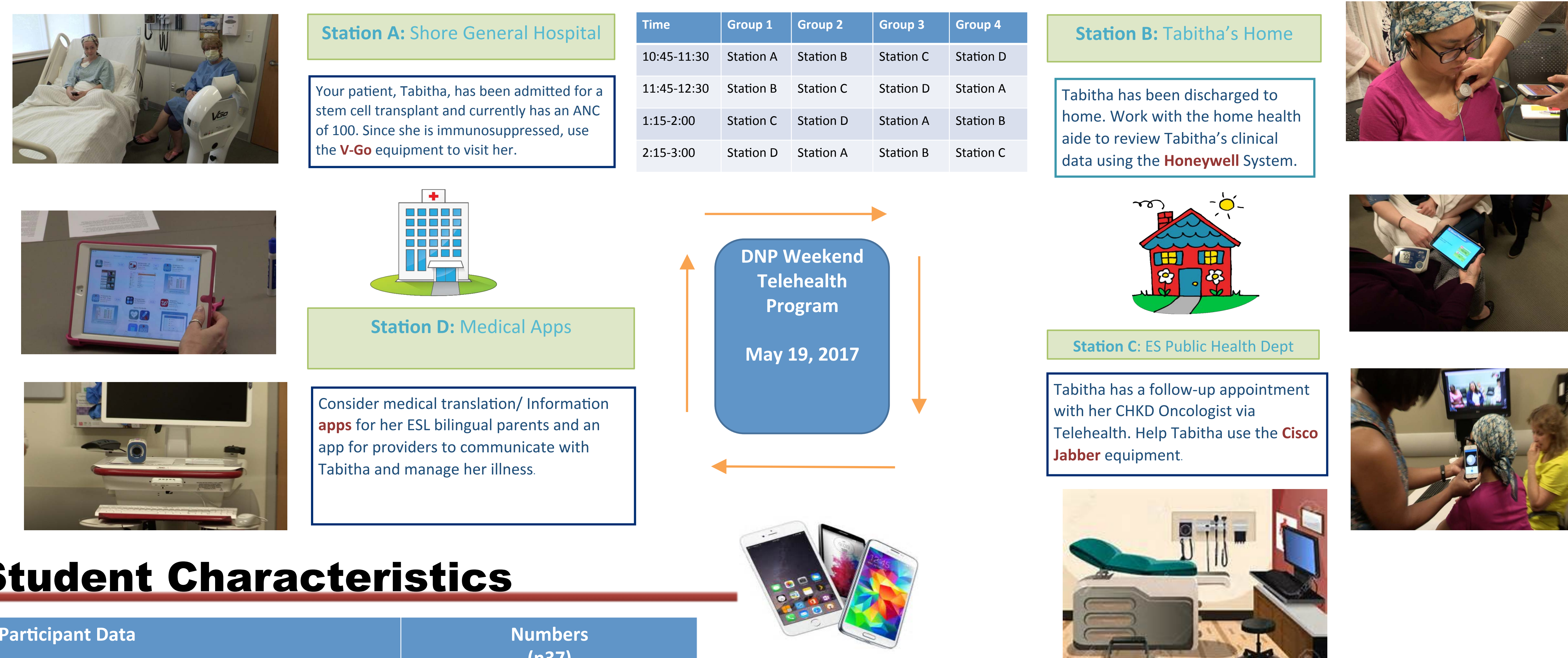
Training Modules and Technologies

- 1) **Vigo Robot** to synchronously visit patient in isolation
- 2) **Honeywell home based monitoring equipment** that synchronously and asynchronously connect the patient/family to the provider
- 3) **Cisco Jabber** used to synchronously connect remote providers to the oncologist at the medical center.
- 4) **Mobile applications** designed to support the patient, family and provider by connecting with others and/or providing education

Students were also provided content on:

- 1) Telehealth Regulations and Reimbursement
- 2) Telehealth etiquette
- 3) Future directions of telehealth

Map of Student Experience



Student Characteristics

Participant Data	Numbers (n37)
Program of Study	
Executive	20
Advanced Practice	17
Practice Location	
Urban	9
Rural	11
Suburban	17
Age in Groups	
Digital Natives (18-34)	5
In-Betweens (35-44)	20
Digital Immigrants (>45)	12
Experience in Telehealth	
None	23
1-6 Experiences in the last year	8
7-12 Experiences in the last year	5
12-18 Experiences in the last year	1
Level of Experience with Telehealth	
Novice	31
Intermediate	6
Advanced	0
Expert	0

Case Study

- **Case**
- 16-year old diagnoses with osteogenic sarcoma.
- Lives on the Eastern Shore of VA.
- Family is Hispanic and English is a second language
- No insurance
- Father is a migrant worker and the family owns one truck that is needed for fathers employment.
- The trailer that they live in does have internet connectivity; they own a smart phone
- The patient will require multiple trips to the medical center for cancer treatment that will require traveling the Bay Bridge Tunnel (20 miles and \$25 dollar toll)

Student Comments

- "I see how I can incorporate apps into practice now."
- "A new understanding of technologies that are available now"
- "Did not realize how the cost has been driven down. This technology is affordable even from a free clinic"
- "I will investigate implementing telehealth technology into my facility."
- "This experience provided great exposure to technologies and how to use them to improve patient care."
- "Technology is here, we need to keep up!" "Anything is possible."
- "I have used telehealth in my organization, but prior to this weekend did not realize how important the human factors and telehealth etiquette was."
- "I have a much better understanding of the regulations, reimbursement, and policies related to telehealth"
- I did not realize that the originating site and distant site could each bill for a portion of a telehealth visit."

Telehealth Etiquette Outcomes

	PreMean (SD)	PostMean (SD)	Sig(2-tailed)
1. Need for rules	3.43(.728)	3.97(.164)	0.000
2. Follow HIPAA guidelines	4(.000)	4(.000)	0.000
3. Appropriate clothing	2.41(1.34)	3.62(.000)	0.000
4. Everyone on camera	2.76(.955)	3.92(.363)	0.000
5. Background noise control	3.78(.417)	3.95(.229)	0.032
6. Have computer skills	3.51(.692)	3.73(.450)	0.088
7. Practice with equipment	3.76(.495)	3.76(.435)	1.000
8. Client comfortable	3.59(.599)	3.78(.479)	0.051
9. Start on time	3.58(.604)	3.78(.422)	0.051
10. Resemble face to face visit	3.51(.731)	3.92(.277)	0.004
11. Pre-consult with an expert	3.65(.633)	3.76(.548)	0.378

Conclusions

- Telehealth training and preparation is an essential component that should be woven into DNP curriculums.
- This one-day experience made practicing APN and Nurse Executive students keenly aware of the immersing technologies available to them and how they could implement them into practice.
- Most of the students considered themselves novice telehealth providers at the start of the experience.
- Student's telehealth etiquette skills improved significantly after the one-day experience.
- Students overwhelming expressed a desire to investigate the implementation of telehealth technologies into their practice settings.

Future Plans

The program has had an overwhelming positive response. The University is in the process of developing a Telehealth Training Center that would provide Certification to both DNP providers and executives, as well as other professionals interested in telehealth.

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