

PLENARY SESSION



12TH
ANNUAL
TELEHEALTH
SUMMIT
OF SOUTH CAROLINA

OCTOBER 28-30, 2024

Telehealth Success Story

Tuesday, October 29
1:00 PM - 1:15 PM



Zachary Sutton, DHA, MS, MSPAS, PA-C, DFAAPA, FACHDM
Medical University of South Carolina



Calandra Watkins
Transplant Patient

Patient Success Story

Transplant Outreach/Telehealth

Zachary W. Sutton, DHA, MS, MSPAS, PA-C, DFAAPA, FACHDM
Calandra Watkins

We need to mention Chad Davis, FNP.



Covering the map

Outreach providers travel to or stationed at locations throughout the state

Hierarchy of Care

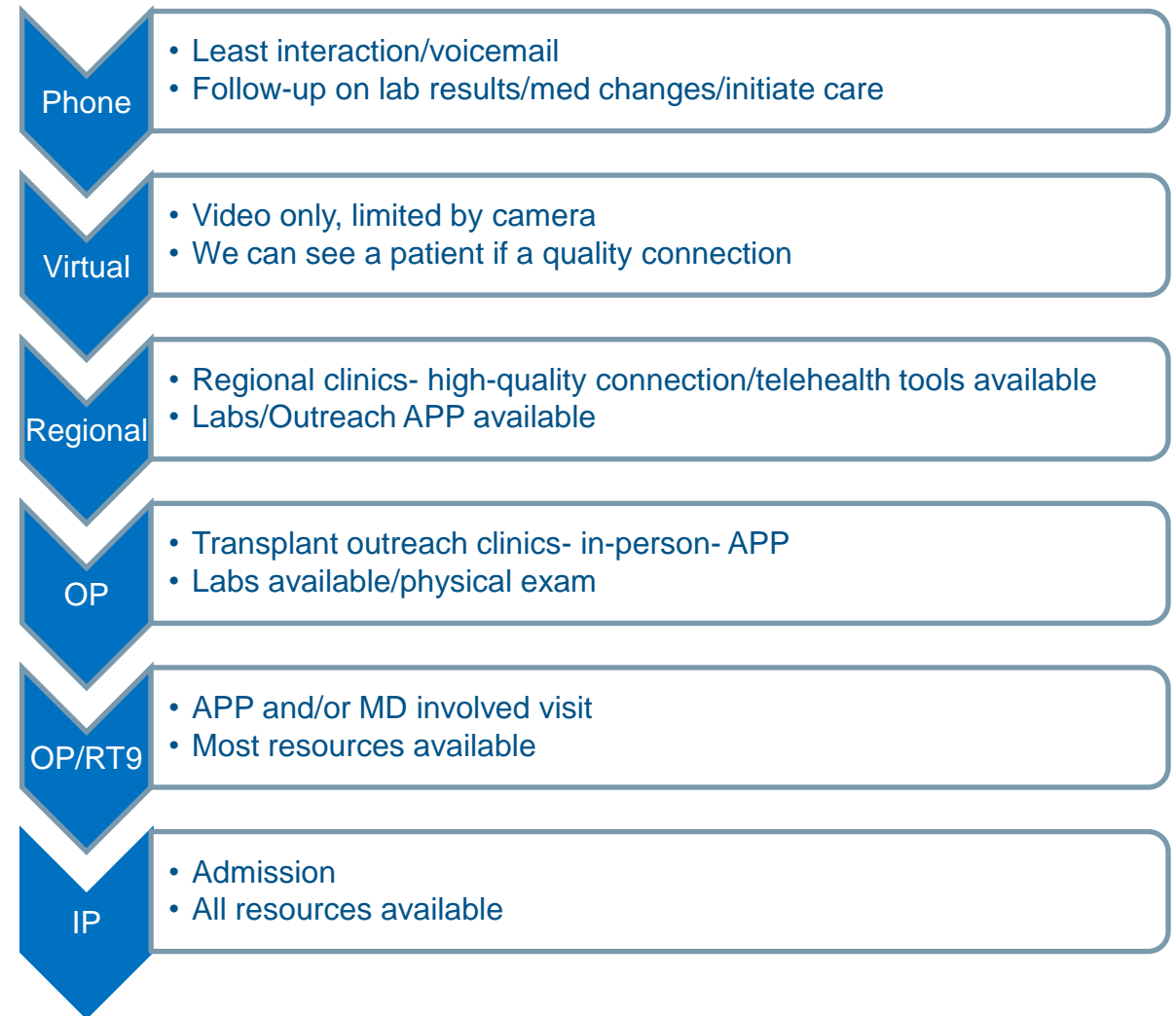
Qualitative interviews with transplant surgery and transplant nephrology providers

Post-COVID pandemic- in-person and telehealth visits were being conducted

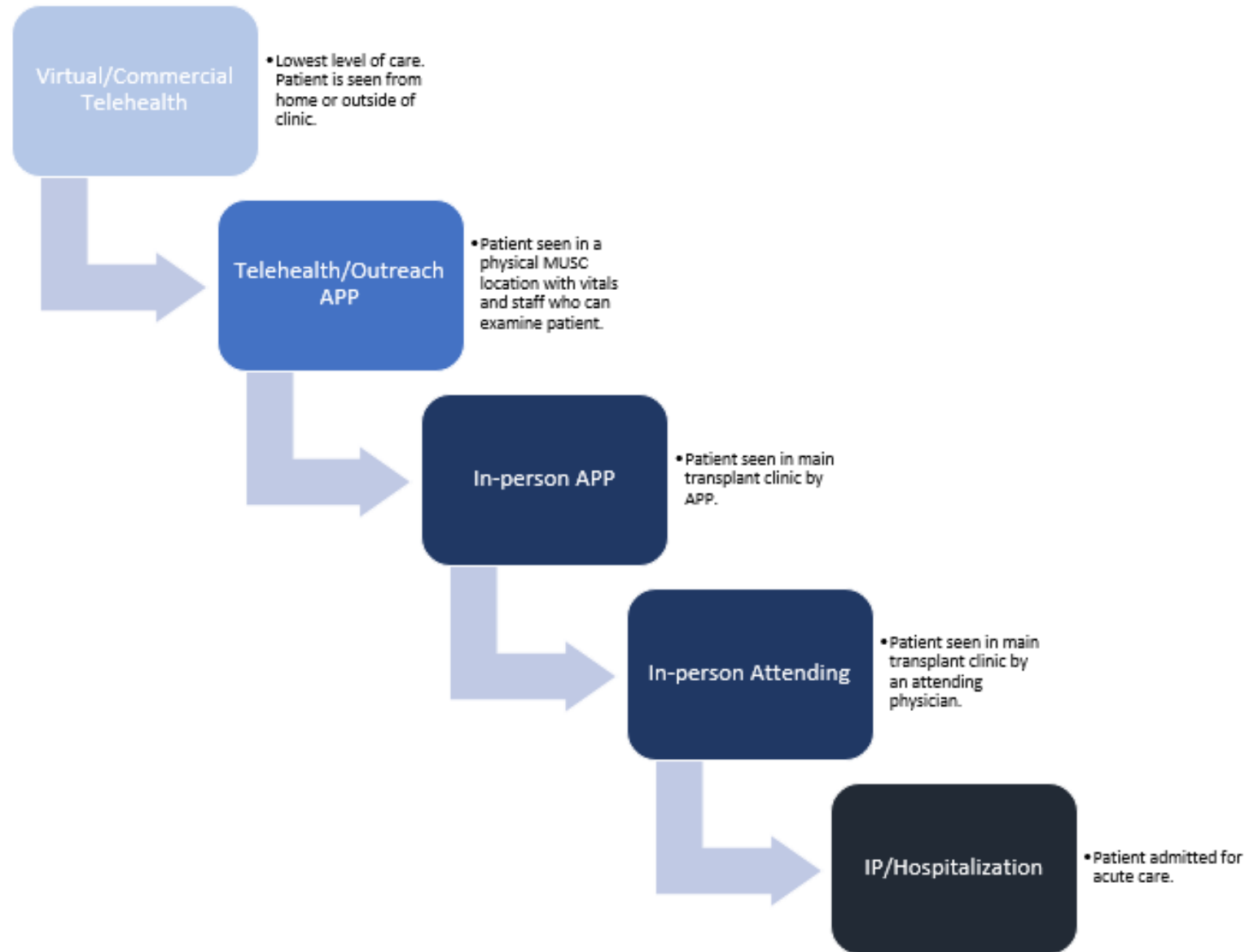
Identified levels of care

Follow-up with email survey for all MDs/DOs, APPs, RNs, and transplant support staff.

Both **MDs and APPs** agreed that an **MD-only visit** provided **more technical knowledge**, but an **APP visit** provided **more continuity** for patient care. This makes it ideal for **high-risk MD and APP combo visits** in the outpatient setting.



Levels of Care

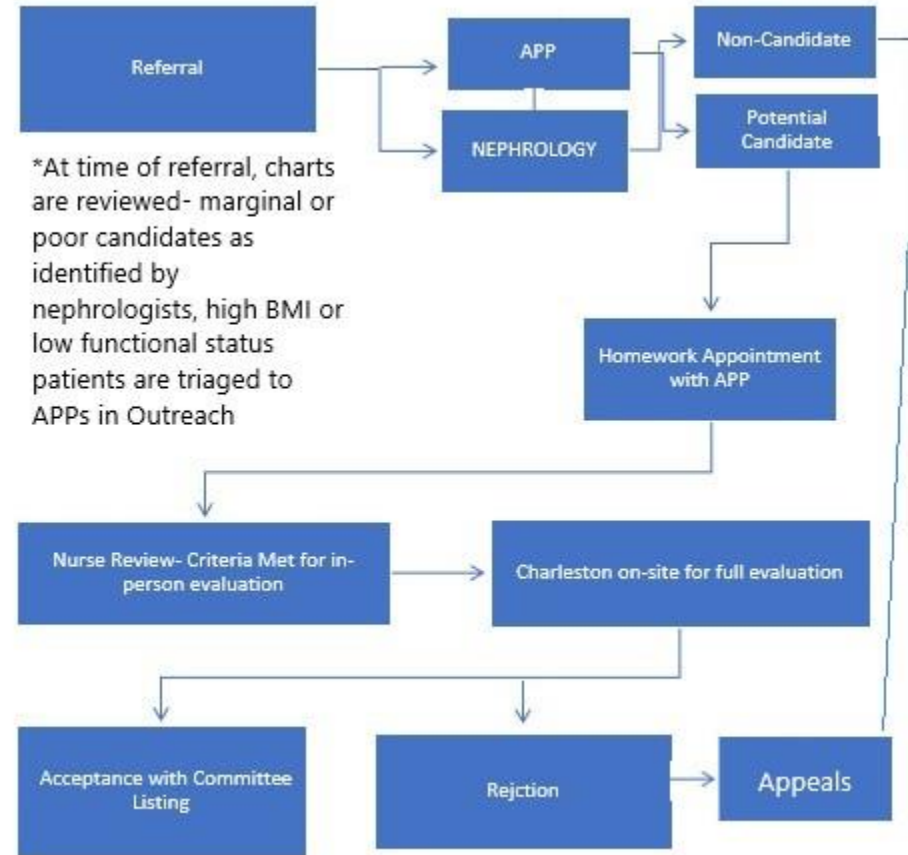


Pre-transplant Protocol

Kidney transplantation evaluation schedule and hierarchy. Utilization of telehealth visits could be completed throughout. Majority of visits before in-person Charleston full evaluation would be at Outreach sites (in-person) or Telehealth. A majority of patients coming for full evaluation should have a majority of homework and testing completed to ensure a timely listing after RT9 evaluation.

Nurse coordinators and TPAs are reviewing homework completion, communicating with evaluation APP in completing homework and updated checklist. When completed, scheduled for full evaluation in-person.

Appeals can be made anywhere in the process by the patient or referring nephrologist to a final decision. All appeals will be final. Deferrals for BMI or functional status allow a patient to return in 6 months for reassessment.

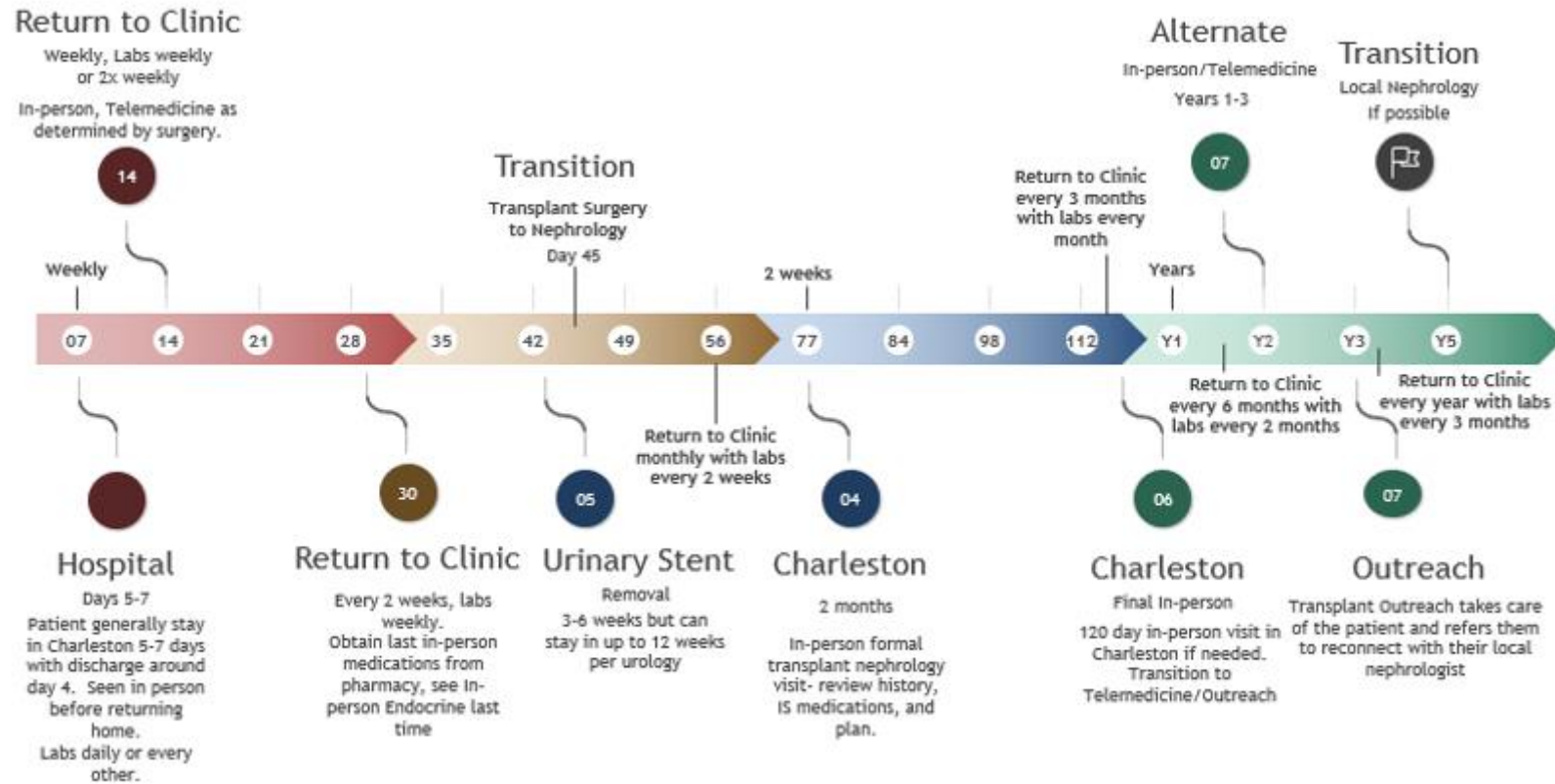


Patients are evaluated and identified as a potential candidate if passing evaluation and given a homework list for completion before full-team evaluation

Typically, 2-3 weeks after initial evaluation with nephrology. If this was an APP evaluation that a candidate passed then this appointment would be with nephrology to determine candidacy. Homework would be started at the APP appointment

Any outstanding consults or testing are completed, patient will rewatch video in-person to ensure education. If patients require testing at MUSC, these would be scheduled as to complete them while in Charleston. Complicated patients can be seen again by nephrology if needed. Completed homework, recent examination in Charleston, should add a quick committee listing.

Post-transplant Protocol



Telemedicine in Kidney Transplant

Zachary W. Sutton, MS, MSPAS, PA-C DFAAPA, Chad Davis, MSN, FNP-BC, Margaret Dorsett, MSPAS, PA-C
Medical University of South Carolina, Department of Surgery

ABSTRACT

The pandemic of Severe Acute Respiratory Virus 2 (SARS-CoV-2/COVID-19) has highlighted the necessity of telemedicine as a critical tool for public health and, specifically, for kidney transplant patients (Nielsen et al., 2020). Transplant patients, in general, require regular specialized care to monitor kidney function, assessment for rejection, infection screening, and proper dosing of immunosuppression medications. Telemedicine has been shown to reduce high risk/immunocompromised patients' in-person contact with the community, medical staff, and even other patients (Smith et al., 2020) thus also decreasing the risk of COVID-19. The use of telemedicine to care for kidney transplant recipients who are infected with COVID-19 demonstrated increased care needs related to immunosuppression while also reducing the chances of in-clinic visits exposing other high-risk transplant patients (Abuzneineh et al., 2020). COVID-19, both through increased risk to immunosuppressed transplant patients and also through the management of actively infected transplant patients, demonstrates the necessity of telehealth utilization among this unique at-risk patient population. These benefits and the widespread adoption of telemedicine are crucial to implementing a kidney transplant protocol. This study identifies themes from transplant providers and uses these themes to recreate the current kidney transplant protocol at the Medical University of South Carolina (MUSC) with built-in telemedicine visits and follow-up.

METHODS

Key informant interviews with transplant leadership and providers were significant in assessing the current issues with telehealth implementation in the transplant program. A semi-structured interview protocol was developed to solicit critical problems related to the provider's telehealth implementation. Interviews did not require IRB approval or consent due to the oral history nature of the providers' responses that are not being used for "generalizable knowledge." Therefore, this study was excluded from IRB review. Participation of participants was voluntary, and any transcription was de-identifiable by removing any identifiable information. The providers were a convenience sample working within the transplant department. I explained to the providers that these data would only be used to identify themes and improve telehealth implementation within the Transplant Division of the Department of Surgery at MUSC.

The transplant protocol was created by three Advanced Practice Providers (APPs) from the transplant department representing transplant surgery, transplant nephrology, and transplant outreach at MUSC. The standard MUSC kidney transplant protocol was adapted using telemedicine and outreach visits while incorporating the qualitative results and levels of care as part of the process. This project resulted in a system change with the implementation of this protocol. Still, these results were also shared with transplant, telehealth, and system leadership, which resulted in advertising focused on the findings.

RESULTS

The first significant theme identified is connection. This is mainly interpreted as the provider-patient relationship first and foremost. The provider loses some of the in-person connection from face-to-face interaction central to the art of medicine. Further, connection between providers and their support staff were also mentioned thus inhibiting communication since coordination of care was taking place across multiple areas. Many providers were seeing patients from their homes or other locations, adding another level of difficulty. This connection needed to be improved by site, internet availability, connection, timing, and other factors. Both providers reported feeling "being alone" or "on an island" early during this crisis.

The second theme was safety. This helped to drive the need to manage these patients distantly due to COVID-19 risk but also created safety issues by not seeing the patients in-person. Concern was expressed for missed findings, ancillary procedures like labs and other testing needing to be completed, or miscommunication of care due to these issues. A distinction was made between traditional telehealth where patients came into a physical telehealth office with staff versus digital/virtual visits during COVID-19 that the patients completed from home. Patient safety could also be comprised by the location with both providers reported patients doing visits while driving.

Based on these findings, I identified a hierarchy that all providers agreed that separated the types of visits patients could obtain through transplant including virtual, telehealth, outreach, in-person and inpatient. Transplant outreach clinics were adopted before COVID are outpatient clinics throughout the state where a transplant can see transplant patients trained Advanced Practice Provider (APP), the location also includes a telemedicine site.

Figure 1. Levels of Care



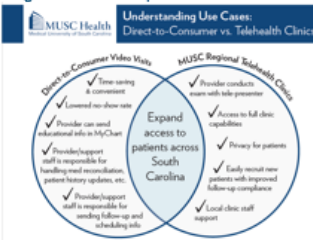
Figure 2. MUSC Transplant Protocol



The above transplant protocol seen in Figure 2 shows the visual representation of the protocol. This process took place over a couple of weeks with the cooperation of other APPs within the transplant program. It is also currently in place and being used for kidney transplant patients. This visual model will be used to help staff and patients understand the process post-transplant. Due to the complicated process a sampling of patients have been selected to provider feedback on how to better modify it for patients both through wording and visualization.

The next part of our process included system change, where the qualitative findings were shared outside of the Transplant Department with telemedicine and administration. The themes of connectivity, privacy and safety were used by the Center of Telemedicine to illustrate the benefits of the telehealth clinics which also house transplant outreach. One example of a graphic that they created can be seen below. This was used to assist recruiting providers in utilizing the telemedicine outreach clinics versus a traditional direct-to-consumer or virtual platform. Transplant made an early decision that transplant patients needed the added level of care that an in-person telemedicine visit brings but had yet to create a formal protocol. MUSC continues to work to expand the use of the Outreach and Telemedicine clinics across specialties at the Medical University of South Carolina, as seen in Figure 4.

Figure 3. MUSC Graphic Created with Results



CONCLUSIONS

This study illustrates and summarizes common issues/challenges related to telehealth implementation and utilization at the Medical University of South Carolina Transplant Program. Further, it sought to translate the response and vision of transplant administration moving forward, focusing on how telehealth will be used to better serve a unique transplant population by creating a modified transplant protocol. This protocol was developed through the collaboration and hard work of two other Advanced Practice Providers (APPs)* listed below. The results of the interviews have already been used to help recruit providers to use telemedicine and Outreach clinics in South Carolina. Finally, leadership at MUSC is constantly seeking innovative ways to summarize, share and view data to improve decision making and communicate within Transplant and with patients.

Figure 4. Transplant Outreach-Telehealth Locations



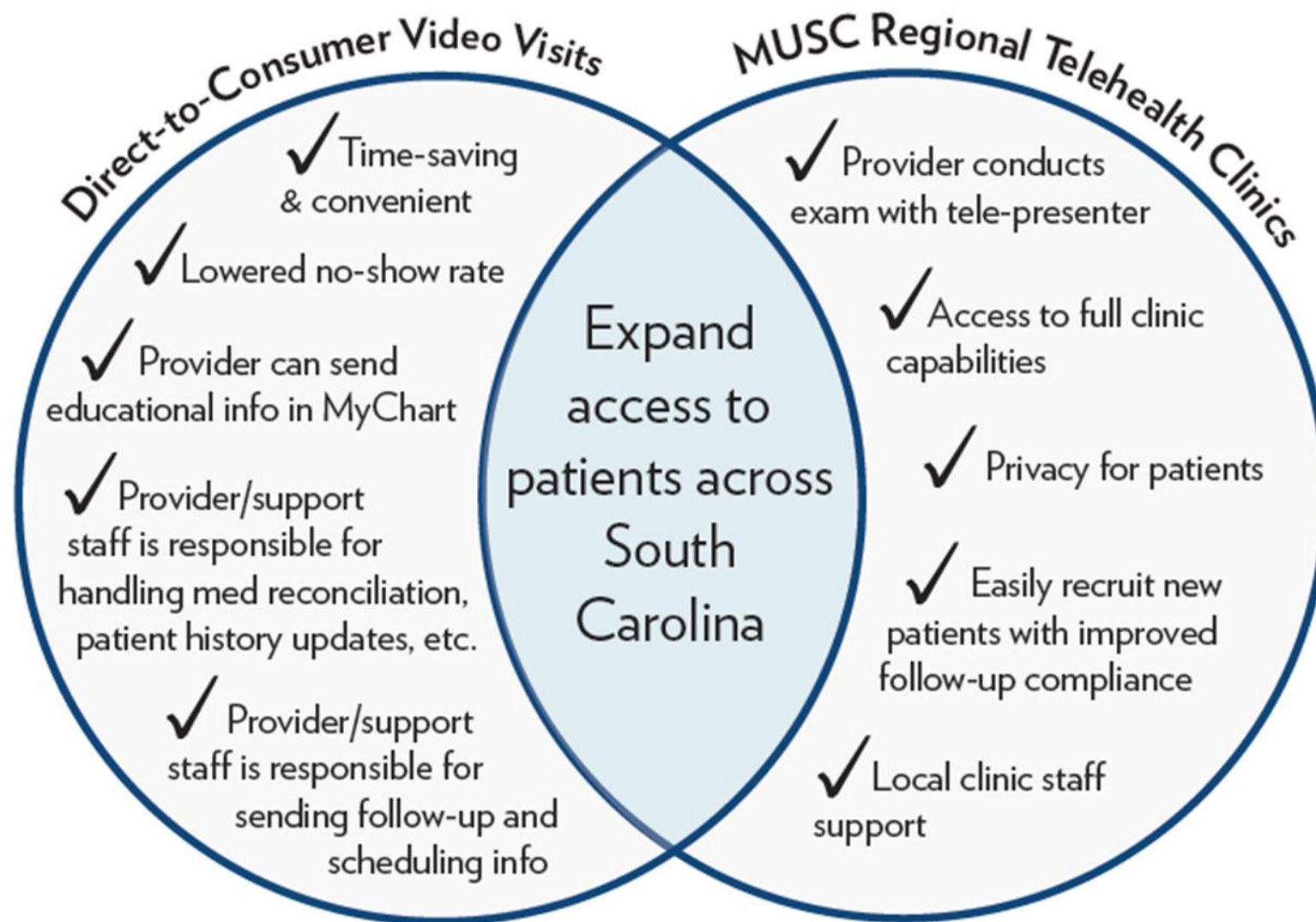
FUTURE RESEARCH

Future research would focus on measuring the implementation of telemedicine in transplant patients. This could focus on the number of visits, decreased travel, and quality outcome measures compared to before the implementation of telemedicine as a part of the protocol.

REFERENCES

- Smith, A. C., Thomas, E., Snoswell, C. L., Haydon, H., Mehrotra, A., Clemensen, J., & Caffery, C. J. (2020). Telehealth for global emergencies: Implications for coronavirus disease 2019 (COVID-19). *Journal of telemedicine and telecare*, 135763320916567.
- Abuzneineh, M., Muzzaile, A. D., Crews, D. C., Avery, R. K., Brown, D. J., Brown, D. C., ... & Al Amrany, F. (2020, July). Telemedicine in the Care of Kidney Transplant Recipients with COVID-19. In *Transplantation proceedings*: Elsevier.
- Nielsen, C., Agorskov, H., Bistrup, C., & Clemensen, J. (2020). Evaluation of a telehealth solution developed to improve follow-up after kidney transplantation. *Journal of Clinical Nursing*, 29(7-8), 1053-1063.

Understanding Use Cases: Direct-to-Consumer vs. Telehealth Clinics



Regional Clinics- Telehealth

Regional Clinic Equipment	Current Regional Clinic Services <i>**accurate as of April 2021</i>	Regional Clinic Locations	
<ul style="list-style-type: none"> - Telehealth Cart(s) - Exam Camera - Digital Stethoscope - Otoscope - Doppler - Reflex Hammer - Tuning Fork - Quips - Gauze - Lab (site specific) - Imaging (site specific) 	<p>Cancer – Surgical Oncology Children’s – Heart Health, GI/Cardiology, Nutrition, Pulmonology, Developmental, Endocrine, Surgery Digestive Disease – Endocrine, Bariatric Surgery, GI Surgery Heart & Vascular – Heart Failure, Vascular Surgery, Cardiology Transplant Musculoskeletal – Rheumatology Neuroscience – ALS, Aneurysm, Epilepsy, Movement Disorder, Stroke, Neuro Psych Radiology – Vascular Interventional Specialty Surgery & Spine – ENT Cancer, Plastic Surgery Transplant Nephrology, Hepatology, Pulmonology, & Cardiology – Kidney, Liver, Lung, Heart</p>	<p>MUSC Tidelands 4040 HWY 17N, Suite 306 Murrells Inlet, SC 29576</p> <p>MUSC Florence 805 Pamplico HWY Med Mall, B230 Florence, SC 29505</p>	<p>MUSC Okatie 122 Okatie Center Blvd N., Suite 230 Okatie, SC 29909</p> <p>MUSC Greenville 1003 Grove Rd, Suite A Greenville, SC 29605</p> <p>MUSC Columbia 121 Park Central Dr. Columbia, SC 29203</p>

Contact the MUSC Center for Telehealth at telehealthinfo@muscu.edu

Transplant Outreach

Outpatient Visits by Year	2019	2020	2021	2022	2023
Outreach/Telehealth	407	1,156	2,637	3,939	2,542
Percentage	5%	14%	30%	35%	25%
All Transplant Nephrology	7,926	8,456	8,865	11,373	10,007

Figure 2: Transplant Outreach Visits as a Percentage of Total Outpatient Visits

Synergy between Telehealth/Outreach



Telehealth sites are tied to timeshare clinics/regional hospitals



Leadership should target areas for specific services



Synergy



Utilization of Staff on-site

Calandra Watkins

2020 Transplant Survivor

Founder of Conquering With Calandra

South Carolina Transplant Foundation Board Member

SC Transplant Talk Support Group Mentor

Southeastern Kidney Transplant Coalition Member



KIDNEY TRANSPLANT/TELEHEALTH WITH CALANDRA

BENEFITS:

Improved attendance with appointments

Less travel for patients

More time for family and employment

Ability to connect with your provider one on one

Helpful for patients with caregiver and transportation challenges



South Carolina Transplant Foundation

The mission of the South Carolina Transplant Foundation is to promote **access, education, and advocacy** for those in need of an organ transplant.

It was established in 2023 with representatives from **all three SC transplant centers, patient and caregiver partners, and representatives from the business and medical fields.**

We aim to provide financial, educational, and supportive services starting in Dec 2024.

We received letters of support from the Georgia Transplant Foundation, The National Kidney Foundation, and the Southeastern Kidney Transplant Coalition.

Our funding comes from hospitals, businesses, grants, and private donations.

Our model is similar to that of the Georgia Transplant Foundation, as we support South Carolinians receiving transplant services at all transplant centers.

Collaboration with SEKTx will allow us to improve access to transplantation and remove barriers by providing educational and financial support to patients.

