

## RESEARCH QUESTION

Can the expanded efforts of pediatric dental residents continue to close oral health care gaps, standardize dental care, and increase patient dental knowledge for pediatric transplant patients in a statistically significant way?

## INTRODUCTION & BACKGROUND

Pediatric kidney transplant patients are at an increased risk of dental complications due to the level of immunosuppression needed following transplant. The importance of dental health for this patient population is well known, but guidelines are not standardized. A quality improvement project was originally designed in 2022 to address this issue at the Medical University of South Carolina (MUSC) for patients. Our aim is to continue educating patients and their families as well as providers across MUSC with new and improved education tools, standardize dental clearance processes, offer preventive services on-site, and translate these standards to other immunosuppressed communities, such as liver transplants.

## OBJECTIVES

1. Increase patient understanding of the importance of oral health in overall transplant care
2. Increase the percentage of patients with a dental home
3. Improve the pre-transplant dental clearance process
4. Provide preventive dental services in transplant clinic

## METHODS & MATERIALS

- Compounded results are from baseline data that was obtained through a survey assessing pediatric kidney transplant patients' demographics, dental history, and perceived importance of oral health. An educational intervention was carried out following completion of the survey. A pediatric dental resident delivered education, provided oral screenings, and facilitated dental visits. Outcome measures include frequency of dental visits and perception of the importance of dental health. A follow-up survey was administered to track changes.
- The survey has been updated as the study has progressed to ensure a proper literacy level. The previous survey was given a 7th grade literacy level, and the updated survey was given a 6th grade reading level with AI analysis. During patient education and oral screening, preventive services such as x-rays, prophylaxis, and fluoride could also be completed pending dental needs. Educational pamphlets will be distributed at SJCH and transplant clinic visits.
- All patient-identifying information is kept confidential to ensure the privacy of our patients and their families. Information is only given to other providers if a patient has requested a dental clearance form.
- Current dental screening tools have been provided by the MUSC Department of Pediatric Dentistry.

## RESULTS

### Participants:

- Twenty-three patient parents completed the initial survey in full, received the educational intervention, and completed the follow up survey in full.
- Data is generated from the cumulative data gathered since the project began in 2022.

### Questionnaire on perceived importance of oral health:

- Participants were asked to indicate their agreement with the following statements:

1. I think there is a connection between my child's oral health and my child's overall health
2. I think that my child's medical conditions/medical treatment can impact my child's dental conditions/dental treatment
3. I think that my child's dental conditions/dental treatment can impact my child's medical conditions/medical treatment
4. I think it's important for my child's dental care to be coordinated with his/her nephrologist during treatment

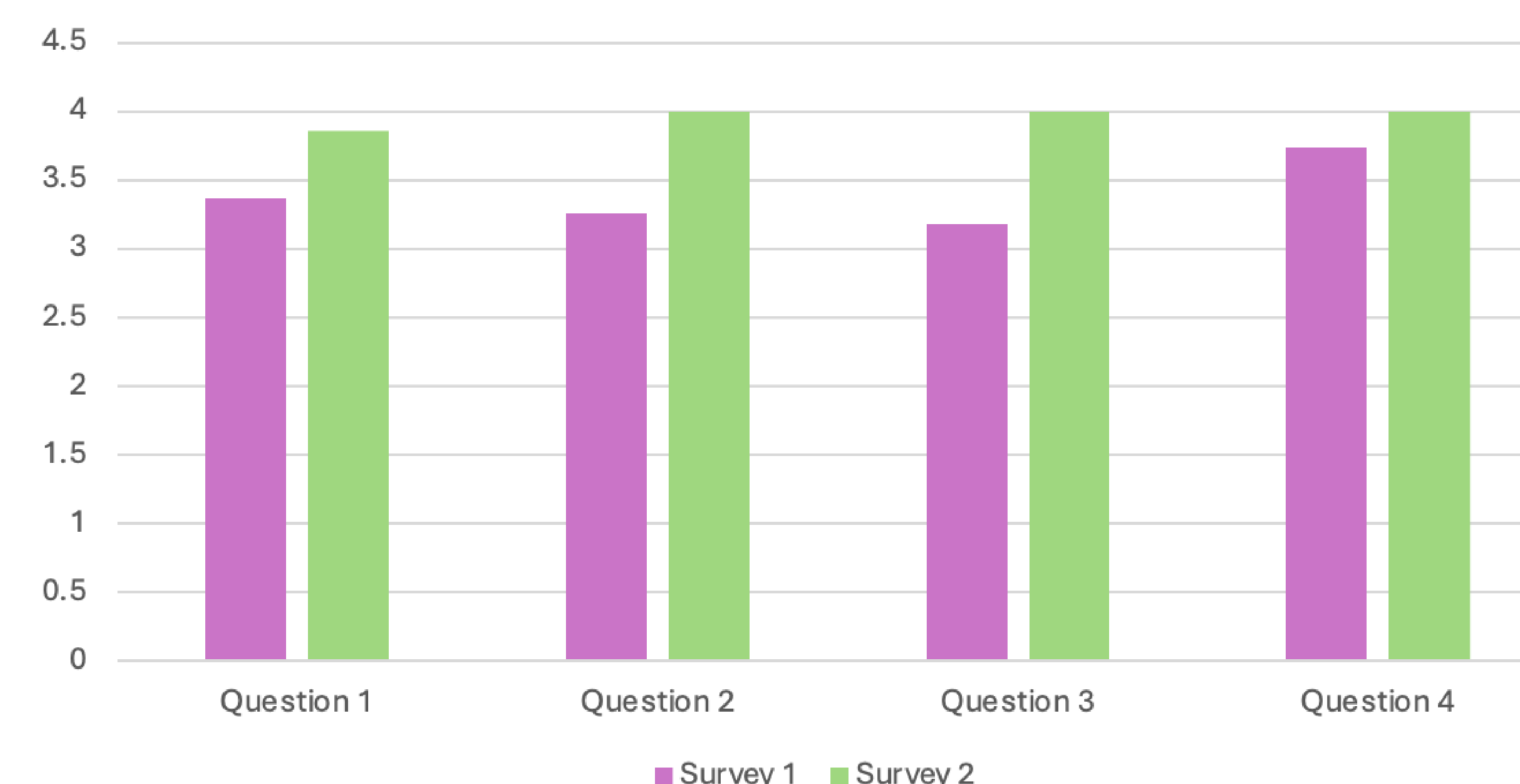


Figure 1. Change in Mean Response of Questionnaire  
1 indicates strongly disagree, 2 indicates disagree, 3 indicates neutral, 4 indicates agree, 5 indicates strongly agree

- There was an increase in the mean response for all 4 questions
- Questions 2 and 3 had a statistically significant increase in the median response, as reported by the Wilcoxon signed rank test

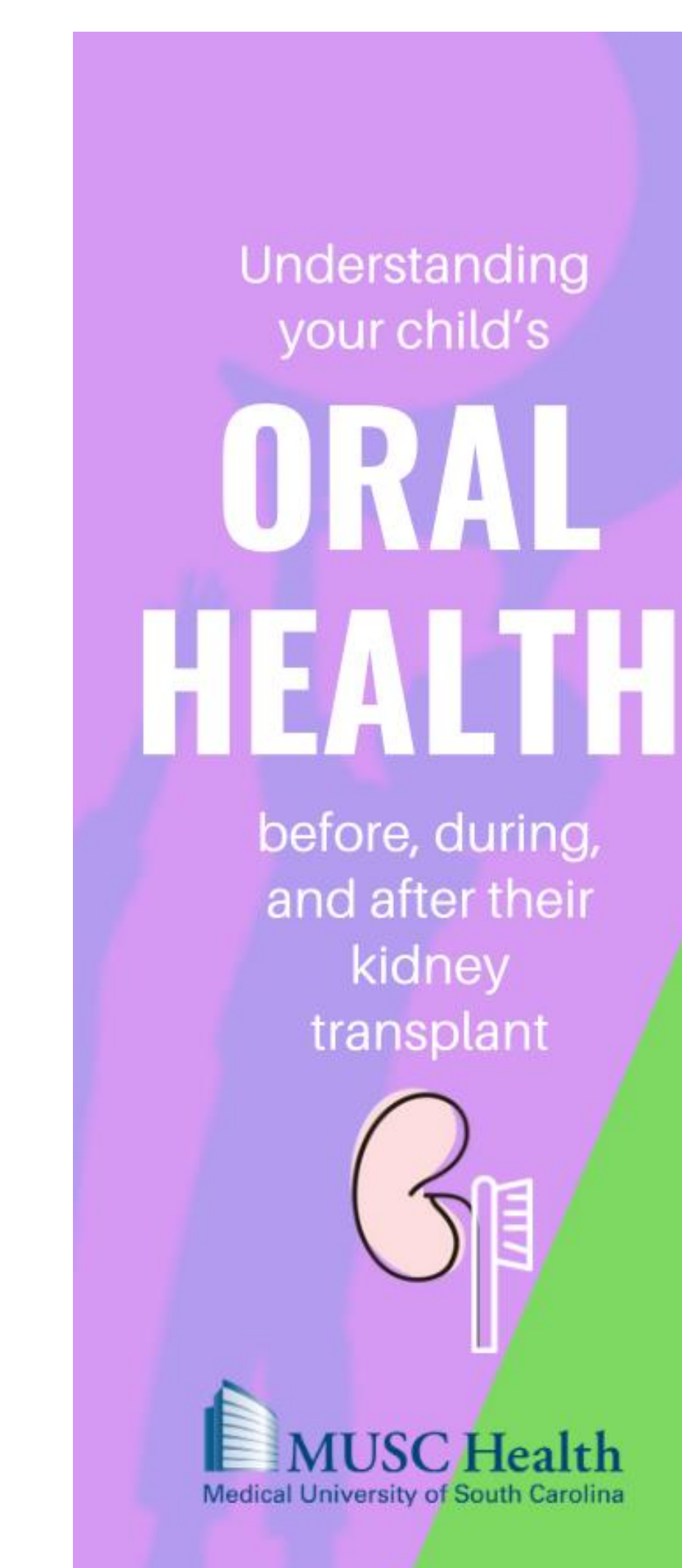
## DISCUSSION

Compounded data analysis has shown that this patient population would benefit greatly from improved access to multiple specialties in a single visit, as many caretakers of these medically complex children also care for multiple other children, are of a low socioeconomic status and education level, and drive a significant distance to reach MUSC.

The presence of a pediatric dental resident in the transplant clinic led to improved access to care. Over half of the patients required some sort of assistance in facilitating dental care. It also led to improved interdisciplinary care by establishing relationships between dentistry and medical specialty teams.

The educational intervention led to improved patient understanding of the importance of oral health in relation to overall transplant care.

Future direction of this project includes furthering the project within the kidney transplant patient population and expanding to include liver transplant patients. Additional focus will be on reaching pre-transplant patients to aid in prevention of potential dental sequelae from future immunosuppression. One initial step taken was creation and utilization of a standardized dental clearance form and dental education pamphlets for families.



**Dental Provider Information**  
Dental Practice Name: \_\_\_\_\_ Dental practice phone number: \_\_\_\_\_  
Name of dentist completing form: \_\_\_\_\_

**Patient Attendance Information**  
Date of initial appointment: \_\_\_\_\_ Reason for initial visit: \_\_\_\_\_  
Date of most recent appointment: \_\_\_\_\_ Reason for visit: \_\_\_\_\_  
Has the patient been a regular attendee since initial visit, coming every ~6 months for recalls?  
Yes \_\_\_ No (if no, please elaborate) \_\_\_\_\_

**Radiographic History**  
Please list date and type of most recent radiographs: \_\_\_\_\_  
Please indicate if the following radiographs have been exposed and date of last exposure:  
Bitewings: \_\_\_\_\_ Mx occlusal/Anterior PAs: \_\_\_\_\_ Mn occlusal/Anterior PAs: \_\_\_\_\_  
Posterior PAs: \_\_\_\_\_ Panorax: \_\_\_\_\_

**Treatment History/Needs**  
Please use the below space to indicate if the patient has received any dental treatment, date(s), services completed, and any type of sedation administered (GA at surgery center/hospital or in office treatment with IV sedation, oral sedation, nitrous oxide, or no sedation): \_\_\_\_\_

Figure 2. Patient Education Pamphlet Cover

Figure 3. Portion of Dental Clearance Form

## CONCLUSIONS

The addition of a pediatric dentist to the kidney transplant team is warranted. The continued development of interdisciplinary care between dentistry and medicine, especially specialties involved in the care of immunocompromised patients, is important.