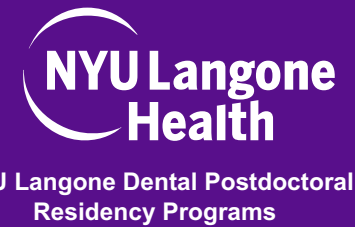


Reducing Missed appointment Rates for Pediatric Dental Patients with a Phone Reminder System at a Health Center in Hawaii: A Quality Improvement Project

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INTRODUCTION

Regular dental care for children aged 0-17 is crucial for preventing oral health issues like cavities and gum disease, but missed appointments are common due to barriers such as transportation difficulties, lack of awareness, and scheduling conflicts. These missed visits can result in untreated dental problems, leading to more severe issues like infections and chronic pain, as well as negatively impacting a child's school performance, self-esteem, and overall quality of life. Despite the success of reminder systems in reducing no-shows, more effective strategies are needed to improve appointment adherence in pediatric populations.¹

PURPOSE

This study evaluates the effectiveness of targeted interventions—reminder systems and educational outreach—in reducing missed dental appointments among pediatric patients (ages 0-17) across new, recall/recare, and operative categories. The primary hypothesis is that these interventions will significantly reduce missed appointments. Additionally, it is expected that operative appointments will show the greatest improvement, and that better communication with parents or guardians will enhance patient satisfaction and appointment adherence.

METHOD

This quality improvement project used the IHI "Model for Improvement" and PDSA "Plan-Do-Study-Act" cycles to assess interventions aimed at reducing missed pediatric dental appointments. Conducted at FQHCs in Hawaii, including Waianae Coast Comprehensive Health Center, the study focused on culturally diverse pediatric patients (ages 0-17), primarily Medicaid beneficiaries. Using Statistical Process Control (SPC) methods, and Control Chart tracked the process average and variability before and after the intervention. The intervention involved shifting from a single reminder call to two calls, 48 and 24 hours before appointments.

FIGURES

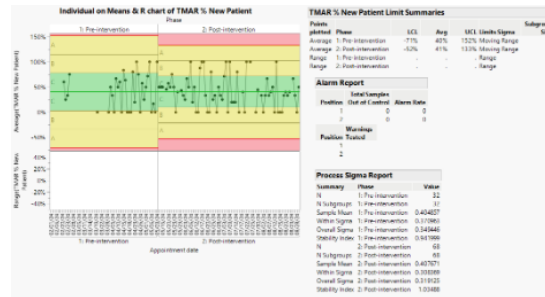


Figure 1. Control chart for new patients

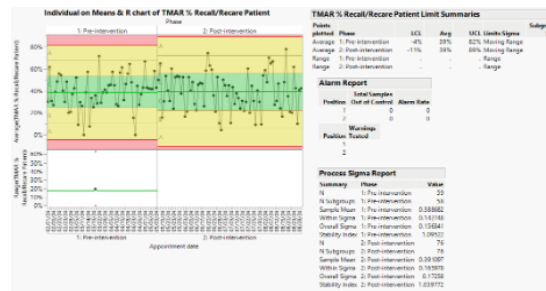


Figure 2. Control chart for recall patients

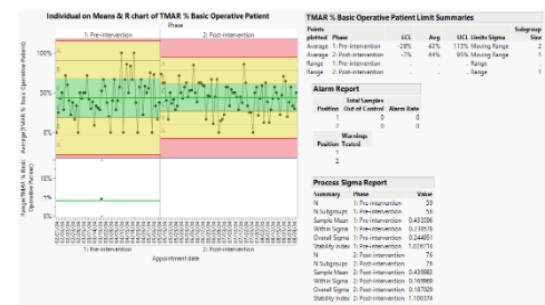


Figure 3 Control chart for basic operative patients

RESULTS

- For new patients, the missed appointment rate (TMAR) remained steady at 40% pre-intervention and 41% post-intervention, with minimal impact from the intervention. (Figure 1)
- New patient process variability improved slightly, as reflected by decreased sigma values and a higher variability index (1.03 post-intervention). (Figure 1)
- For Recall/Recare patients, the TMAR remained unchanged at 39% pre- and post-intervention, showing no effect from the intervention. (Figure 2)
- Recall/Recare patient process showed increased variability post-intervention (higher sigma), but overall process control improved as indicated by the lower stability index (from 1.09 to 1.03). (Figure 2)
- For basic operative patients, the TMAR remained stable at 43% pre-intervention and 44% post-intervention, with no significant reduction in missed appointments. (Figure 3)
- The intervention led to improved process stability for basic operative patients, evidenced by no out-of-control points and a narrower control limit post-intervention. (Figure 3)

CONCLUSIONS

The phone reminder intervention had no significant impact on missed appointment rates (TMAR) for new, recall/recare, or basic operative patients. TMAR remained stable across all groups: 40%-41% for new patients, 39% for recall/recare patients, and 43%-44% for basic operative patients. While process stability improved post-intervention, suggesting better system control, the intervention failed to address the root causes of missed appointments. Further PDSA cycles are needed to develop more effective solutions, with a focus on barriers such as access and communication to improve clinic efficiency and community oral health.

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