Statistical process control analysis for missed pediatric dental appointments at Holyoke Health Center: A quality improvement project

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INTRODUCTION

Missed appointments in pediatric dental care can significantly impact both patient health outcomes and clinic efficiency. Previous studies have indicated that missed appointments can lead to increased dental issues and higher healthcare costs, particularly in children (1). This research project investigates the missed appointment rates among different age groups—0-4, 5-12, 13-17 years, and new patients aged 0-17—at the Holyoke Health Center Pediatric Dental Clinic.

Understanding appointment adherence across different age categories is vital, as younger patients tend to miss more appointments due to fear or anxiety where older patients tend to miss appointments as a result of apathy (2). Additionally, we analyze a subcategory focused on new patient exams, recognizing that initial visits are crucial not only from a treatment planning point of view but also from a psychological point of view (2). This study not only seeks to highlight dispatites in appointment adherence but also aims to enhance overall patient engagement and optimize clinic operations, ultimately contributing to improved health outcomes for pediatric patients.

PURPOSE

 The purpose of this study is to identify a cause and implement an intervention for missed appointment rates

The main question of this study is does day of phone call reminders help decrease the rate of missed appointment rates in the pediatric dental patient from 0-17 years old compared to current reminder operating systems.

METHODS

Day of phone calls are believed to decrease missed appointment rates and thus increase dental care amongst those of a pediatric health center population. Daily appointments were recorded using the daily data collection tool, Google Forms from February 2, 2024-August 30, 2024. The intervention of same day phone call reminders was implemented on May 31, 2024. Those with previous missed appointments in the pediatric dental department were called the morning of the appointment. Missed appointments were divided into age groups 0-4, 5-12, 13-17, as well as new patients 0-17 years old. After completion of data collection, the data from pre-intervention and post-intervention was analyzed in a control chart to determine if the intervention significantly reduced missed appointment rates at Holyoke Health Center Pediatric Dental Clinic in Holyoke, MA.







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RESULTS

20/34 survey responses find text message reminders to be the most helpful for them, and school attendance as the most common reason for missed appointments.

New patients aged 0-17 years had a 4% increase in now-shows (fig 4), ages 0-4 had a decrease by 2% (fig 1), ages 5-12 increased by 2% (fig 2), and ages 13-17 increased by 1% (fig 3).

CONCLUSION

Same day phone call reminders are not effective to reduce no-show appointment rates.

Additional cycles of the PDSA process are required to identify the true root causes for successful intervention.

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