



Analysis of Same Day Case Cancellations

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Introduction

Unexpected surgical cancellations are not uncommon occurrences, resulting in wasted medical and financial resources, decreased patient and provider satisfaction, and delays in necessary care. Previous studies have identified same day cancellation rates of <1% to over 25% in the United States. Estimates of lost revenue range between \$1430-1700 for each cancelled case in US hospitals.

There have been previous studies demonstrating that a majority of case cancellations are potentially preventable with a study from the Hospital of the University of Pennsylvania demonstrating a 6.6% cancellation rate, with 59% being preventable, 12% potentially preventable, and 29% not preventable. Another study from Cincinnati Children's Hospital demonstrated that actions targeted to the three most common reasons for case cancellations (illness, violation of NPO status, and no shows) led to a 37% improvement in lost operating room time.

The purpose of this project was to investigate the reasons for same day cancellations in the Otolaryngology division at a large academic tertiary care center, and identify the cancellations that are avoidable with the ultimate goal of reducing case cancellations in the future.

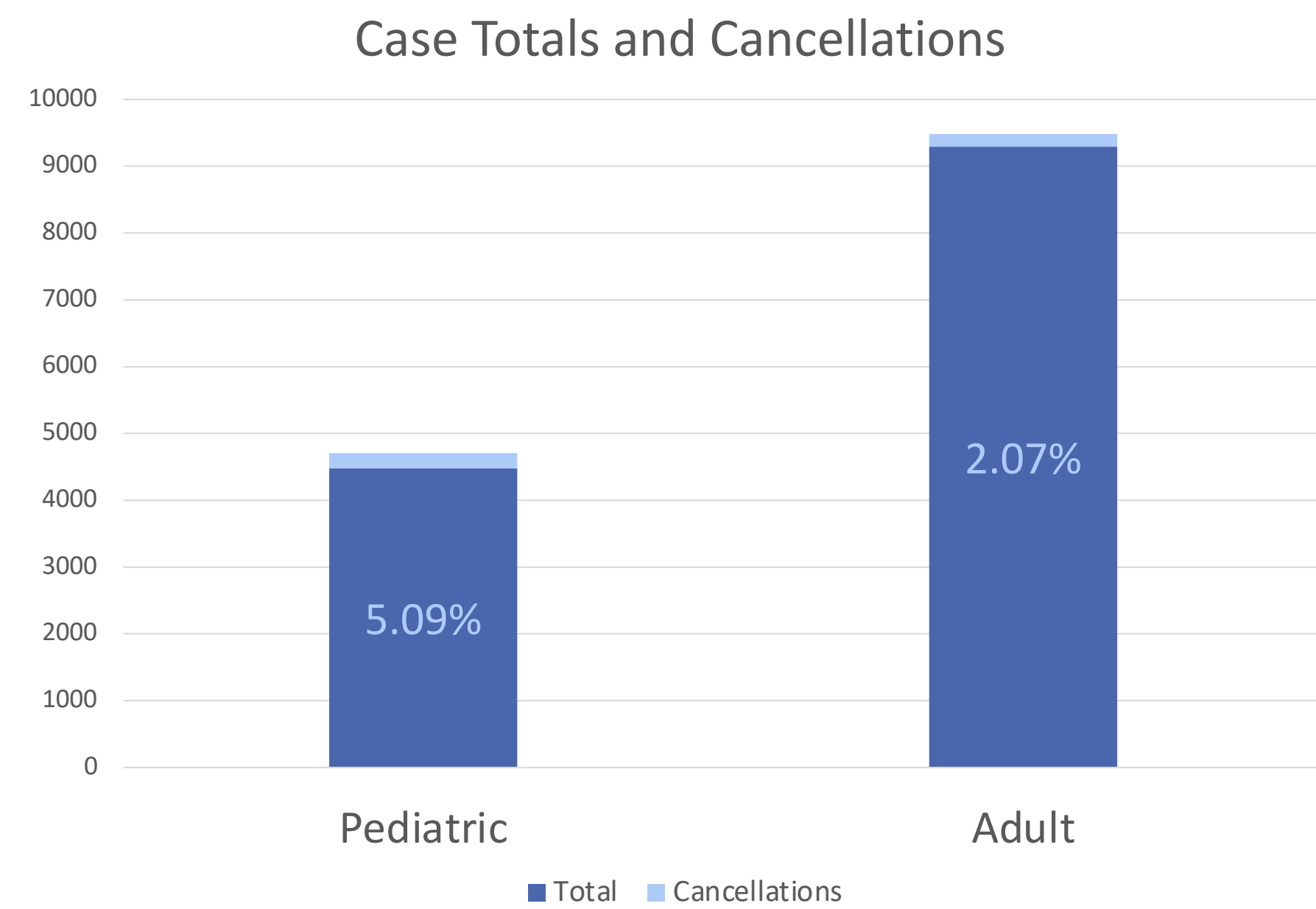
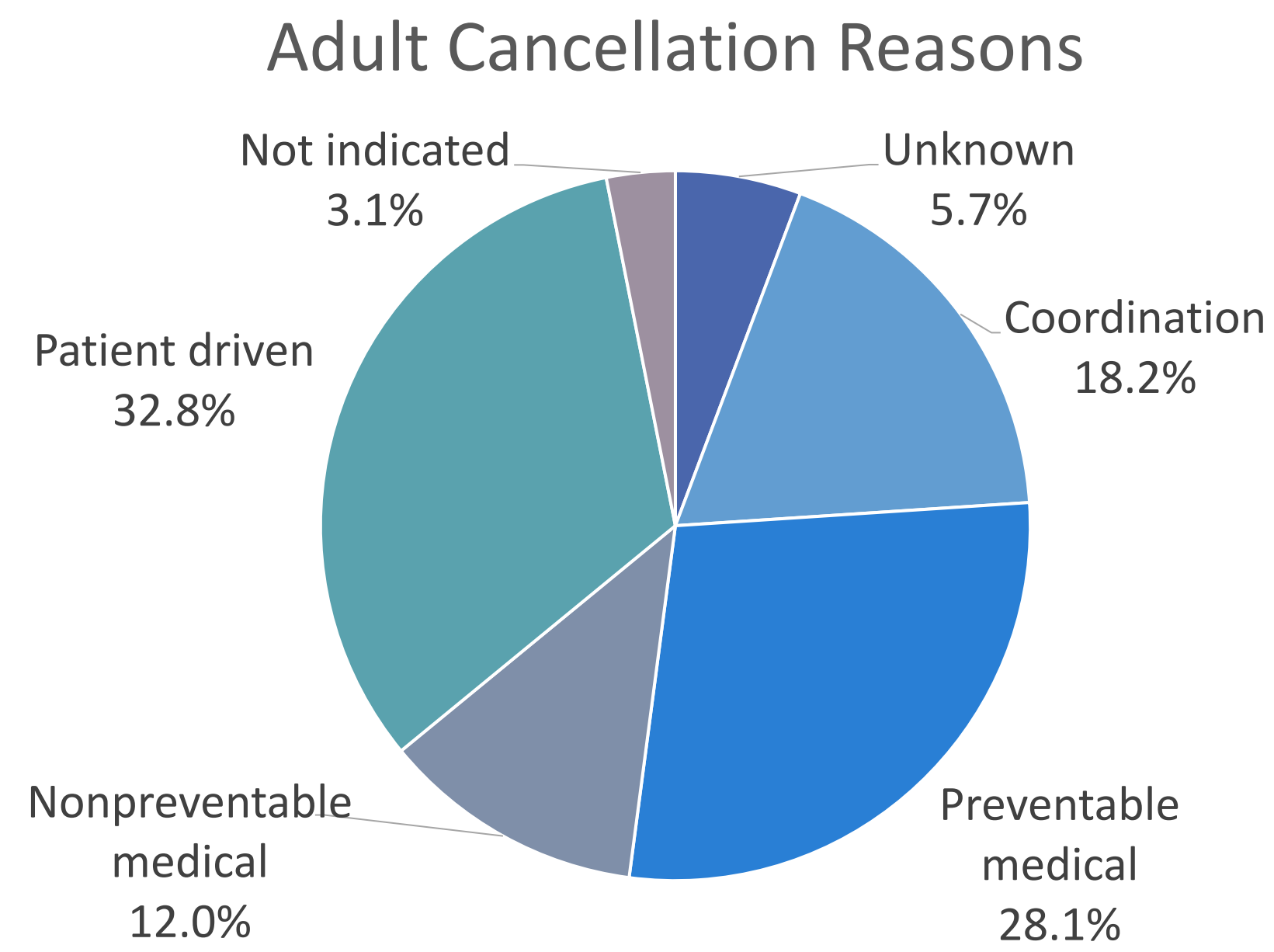


Chart 1. Number of total cases and cancellations

Methods and Materials

This quality improvement project investigated same day cancellations of outpatient and same day admission surgical procedures performed by the Otolaryngology Division at Yale New Haven Health and its affiliated surgery sites during a three year time period from August 1, 2016 to July 31, 2019. The reason for cancellation was recorded, as well as the date when the procedure was ultimately performed if it was rescheduled.

Cancellation reasons were ultimately categorized into: unknown, coordination issues, preventable medical, nonpreventable medical, patient driven, and no longer medically indicated. Coordination issues included paperwork, insurance authorization, transportation difficulties, lack of post-operative beds, overutilization of OR time, lack of appropriate operative supplies, and violation of nil-per-os (NPO) status. Preventable medical issues included failure to adjust medication regimens pre-operatively, lab abnormalities, and failed optimization of chronic medical illnesses or documentation of medical clearance. Nonpreventable medical issues were limited to acute illnesses. Patient driven factors included patients deciding against surgical intervention and failure to present to surgery without a specific reason identified. No longer medically indicated included cases that were no longer medically indicated as decided by the surgeon during a pre-operative evaluation on the day of surgery.



Results

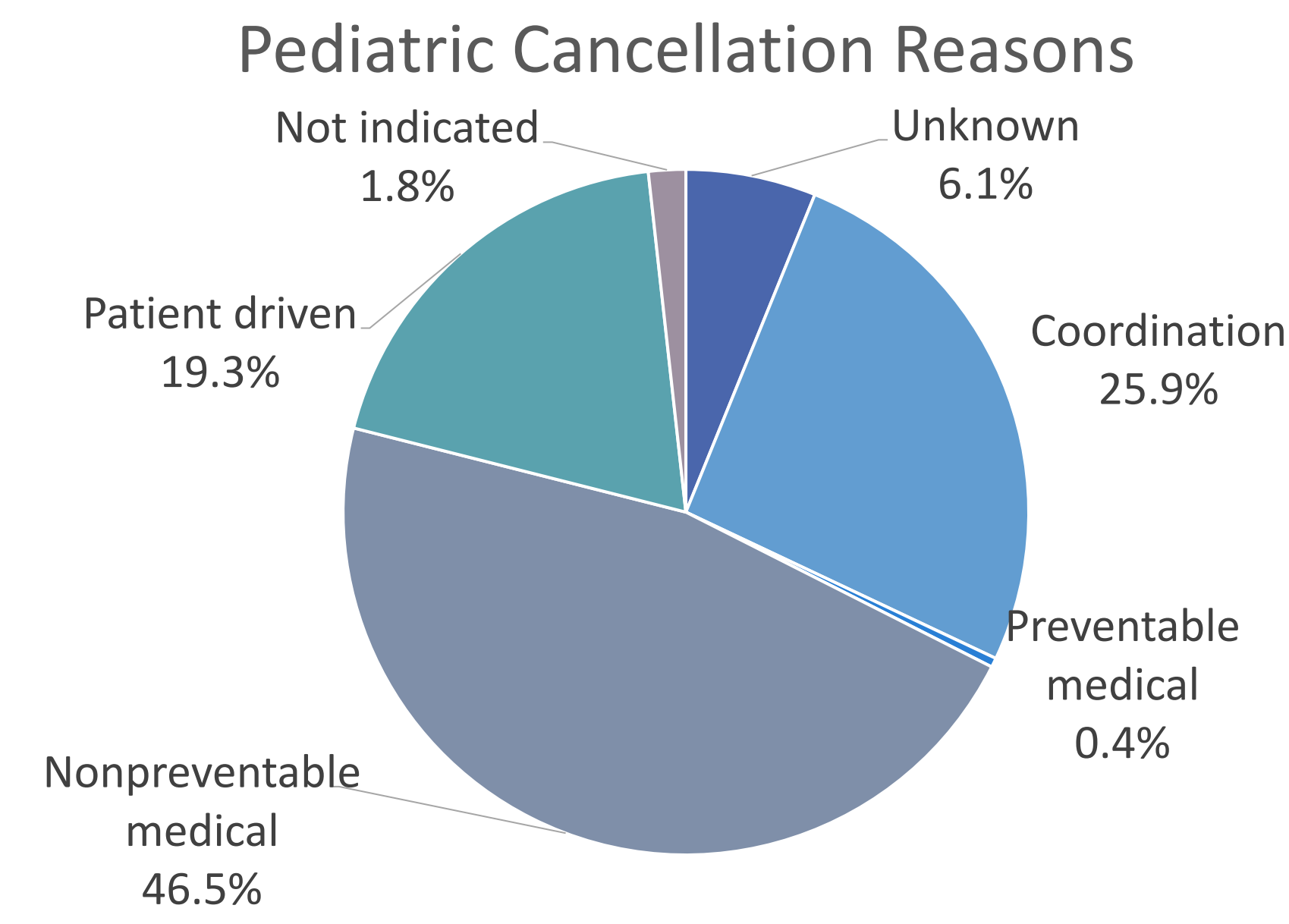
A total of 13,783 cases were completed by the Otolaryngology Division during this three year time period. There were 414 same day cancellations, for an overall cancellation rate of 3.0%, an outpatient cancellation rate of 3.6%, and a same day admission cancellation rate of 1.1%.

The cancellation rate in pediatrics was 5.1% (228/4,479 cases) and the cancellation rate in adults was 2.1% (192/9,294 cases). The three most common specific cancellation reasons among pediatric patients were acute illness (46.5%), NPO status (18%), and no show (13.2%). The three most common specific cancellation reasons among adult patients were no show (18.8%), failure to obtain medical clearance (9.9%), and acute illness (12%).

69.5% of cases (292 cases) were ultimately completed, with an average delay time of 67 days (range 1 to 1,093).

There was a statistically significant different cancellation rate amongst private practice otolaryngologists (2.45%) versus academic Yale faculty otolaryngologists (3.56%).

53 patients had multiple same day cancellations for the same procedure.



Discussion

This project identified causes for same day cancellations among Otolaryngology outpatient or same day admission surgeries. Overall, there was a higher percentage of cancellations in pediatrics with the largest portion of cancellations in this group due to nonpreventable medical issues (commonly upper respiratory tract infections), which may not be preventable. However, if these cases were identified prior to the surgical date, this could minimize the effect on operating room utilization. The second most common reason was coordination issues (largely violation of NPO status), which could be reduced by improving communication with parents and guardians.

The most common reason among adult patients was preventable medical, which suggests that more thorough electronic record screening with appropriate actions to address concerns prior to surgery date could reduce the number of same day cancellations. No show was among the top three reasons for adult and pediatric patients and offers a large opportunity to decrease avoidable cancellations.

Overall reasons for cancellation among our otolaryngology patients were similar to reasons for cancellation identified in other institution wide studies.

Interestingly, there was a statistically significant lower cancellation rate among private practice otolaryngologist which may be due to a number of different factors, including different office practices or support staff, patients of different socioeconomic or insurance status, and patients living in closer proximity to YNHH and affiliated surgical sites.

Various strategies to reduce cancellation rates have been suggested in the literature, including increased nurse-patient calls (for education and for medical screening), pre anesthesia clinics, more thorough preoperative patient-surgeon discussions, One strategy to mitigate the effect of cancellations would be to schedule patients with a history of cancellations or suspicion for cancellations at the end of the daily operating room schedule.

Conclusions

Cancellation of surgical cases is inefficient and costly to medical systems, patients and providers. Our same day case cancellation rate over a 3 year period was 3%, which is in line with other medical systems across the country. The most common reason for pediatric cancellations was due to acute illness. The vast majority of adult cancellations were potentially foreseeable and preventable, suggesting that there is room for improvement in our pre-operative workflow.

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