Implementing text-messaging to improve attendance to well visits in primary care pediatrics

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Background

Consistent and timely primary care is associated with improved health outcomes in medically underserved populations (DuMontier et al, 2015). Children who receive primary care at intervals recommended by the American Academy of Pediatrics are more likely to:

- Be screened for lead
- Be fully immunized
- Undergo developmental surveillance. (Jamisek et al, 2014)

Missed appointments are a significant problem in primary care settings located in neighborhoods with large populations of families of limited means. (Kaplan-Lewis & Percac- Lima, 2013). This quality improvement project evaluated the effectiveness of a mobile text-messaging program on the reduction of missed appointments at this site.

Objectives

1. Implement and evaluate the use of mobile text-messaging to reduce the non-attendance rate to routine well visits in a primary care Pediatric clinic in inner-city Baltimore
2. Establishment of a text messaging system to remind patients of appointments
3. Inform 100% of patients that come in for either well or sick visits of the new text message reminder system and give prepared education materials by the second week of implementation

It was anticipated that there will be a 20-30% increase in immunization rates, lead screening, and developmental surveillance for the population by the end of implementation period due to the expected increase in attendance rates.

Development

- At the beginning of the first week, staff were trained to execute the new mobile reminder system. They attended a 4-hour training session, which was led by the project leader and I.T. personnel
- The rest of the first week was used to make launch preparations. The DNP project leader met with core team members to update office procedures and discuss text message language, delivery times, and response confirmation between practice and patients
- The mobile reminder system was run during weeks 5-12. Data was collected that reflects the rate of attendance during the project
- Data Analysis took place during weeks 13-14

A comparison of the attendance rates pre and post implementation was utilized to determine if the implementation caused a meaningful change in patient attendance

Methods

Sample: Patients 18 and older and parents/legal guardians of patients 18 and under

Setting: Primary care pediatric clinic in inner-city Baltimore

Design: Policy improvement project

Method:

- Office staff obtained permission from patients and parents/guardians to participate
- Patient phone numbers were entered/updated in the secured platform as patients checked in or out.
- The SMS software sent text reminders to patients 24 hours prior to scheduled appointments.
- The system also provided notifications for message deliveries and delivery failures.
- A survey was distributed that measured parents' and patients' perceptions of usefulness, barriers, and acceptance of mobile text reminders

The clinic's electronic medical record generated a report of the pre and post-intervention attendance rates. A measure of success in the long term would be a 25% increase in attendance for well visits by end of the implementation period.

Results

Portal Registration (Figure 1):

- There was an increase in portal sign up immediately after staff training during week one of the implementation period
- Hand-held tablets were used to increase and sustain portal registration

Key Finding (Figure 2): There was no significant increase in attendance to well visits during implementation period compared to pre- implementation period.. The attendance rate for December of the implementation period dropped significantly. Possible explanations for this result:

- Absence of negative consequences associated with scheduling and failing to show
- Relaxed no-show policy over the years to accommodate more patients in an effort to recoup some of the financial burden from failure to attend
- There was a significant and consistent decrease in attendance rate for the month of December due to the holiday season
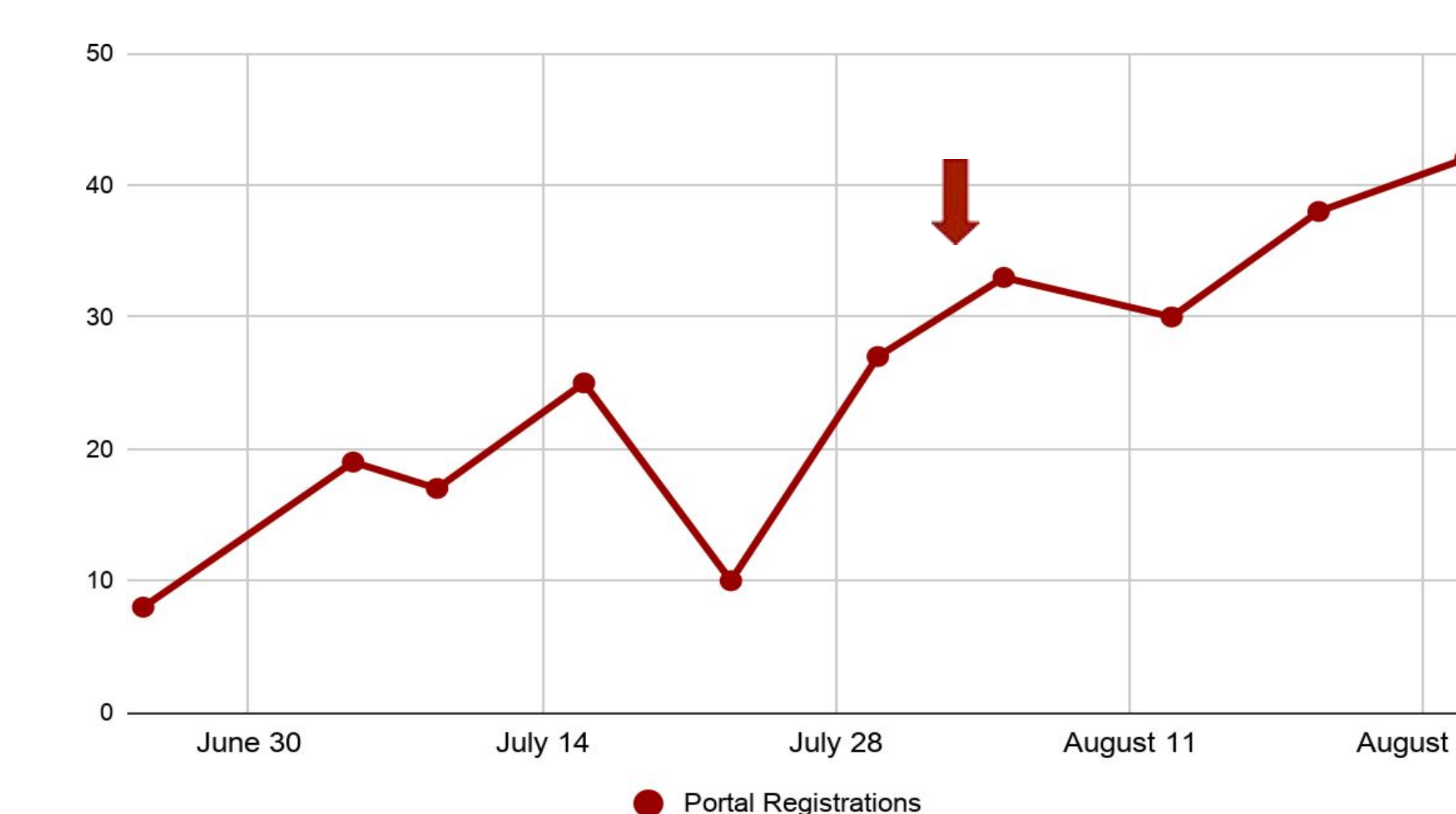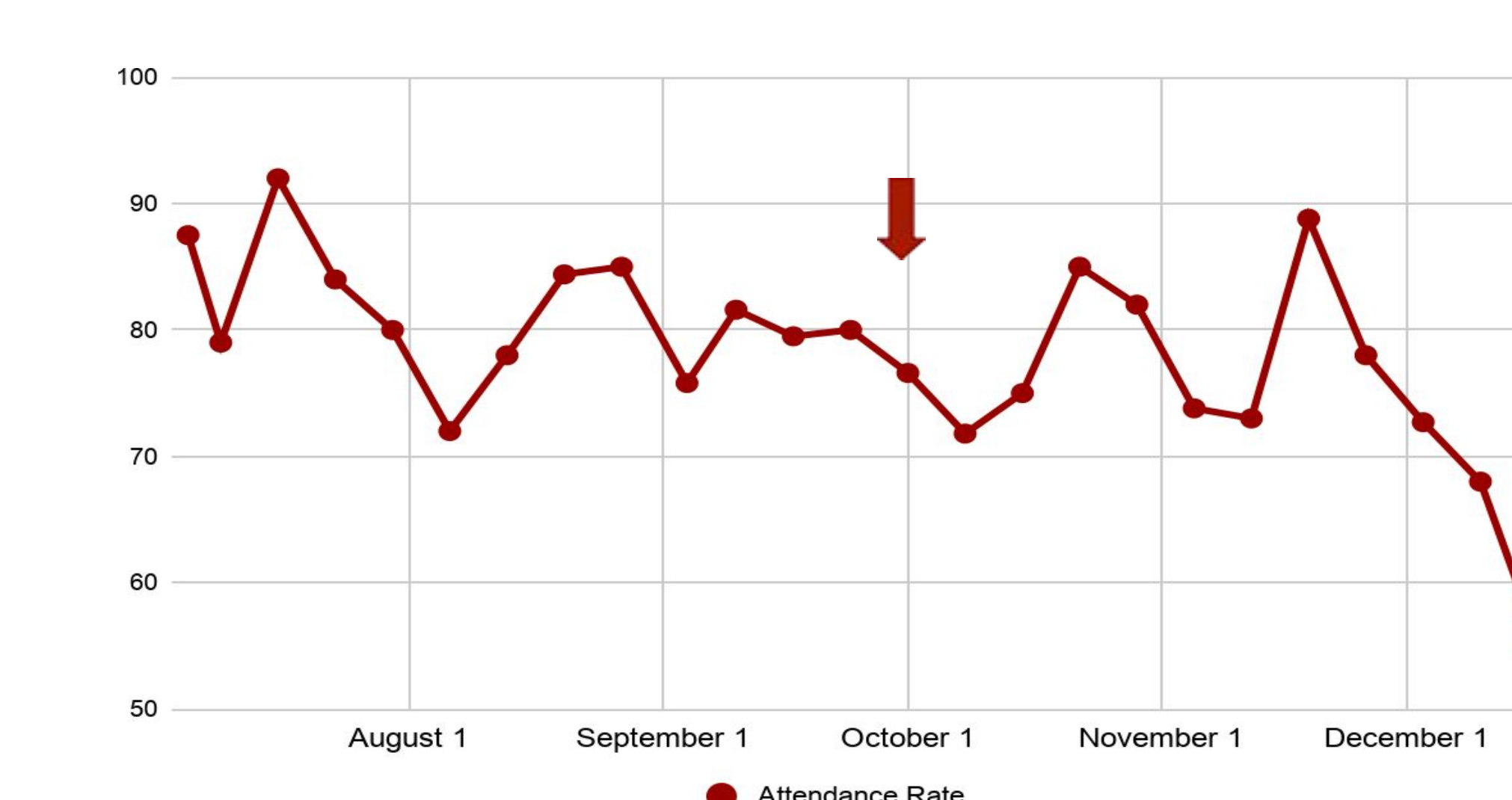
Figure 1. Portal Registrations

50				
40				
30				
20				
10				
0				
June 30	July 14	July 28	August 11	August 25

● Portal Registrations

Figure 2. Attendance Rates Pre and Post Implementation Period

100				
90				
80				
70				
60				
50				
August 1	September 1	October 1	November 1	December 1

● Attendance Rate

Conclusions:

- Impact of implementation not as robust as expected
- Long term project, too early to determine impact

Additional finding:

- Increased patient portal participation
- Updated patient phone number database
- Teamwork improved communication amongst staff

Limitations

- Limitation: Redundant reminders for appointments scheduled on the previous day.
- Solution: Manual inactivation to prevent such reminders

Next Steps

- Maintain a cancellation policy: Ensure patients are aware that they can cancel or move appointments without penalty.
- Communicate and enforce a no-show limit. Keep a wait list if necessary and reschedule patients promptly.
- Offer fun rewards for showing up on time.
- Allow patients to self-schedule and use digital forms

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Acknowledgements

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