Discussing scheduling techniques guided by care coordination and social determinants of health in the sustained decrease of no-show appointment rates at the UF Mobile Outreach Clinic

Byrell Bautista BS [1,2] Evelyn Martinez [1,2], Anushka Banerjee [1,2], Grant Harrell, MD [1,2]

[1]Mobile Outreach Clinic, University of Florida, Gainesville, FL [2]Department of Community Health & Family Medicine, University of Florida, Gainesville, FL

Background

The University of Florida Mobile Outreach Clinic (MOC) is a free primary care clinic in Gainesville, Florida, serving primarily vulnerable, uninsured, and underinsured members of the community in the city and the surrounding Alachua County areas. An important component of MOC is Care Coordination which works in conjunction with a patient's medical care through assessment and management of the social determinants of health (SDOH) of a patient through educational and community resources. The primary goal of the clinic and care coordination is to reduce barriers for patients so that they receive an equitable healthcare experience[4].

Missed appointments or no-shows are prevalent in primary care settings, especially in safety net clinics, for a variety of factors including transportation barriers and inability to take time off from work among other psychosocial circumstances that prevent prioritizing seeking care[5]. No show rates across various outpatient healthcare facilities have been reported above 20%[2,6]. No-show appointments correlate to numerous factors including diminished access to care, poor continuity of care, and even adverse health outcomes, which is of special concern for safety net clinics who aim to provide low-barrier access to care for underserved patient populations[1,3].

Purpose

This prospective study on MOC's appointment no-show rates aims to demonstrate how SDOH-informed scheduling methods and care coordination, which prioritizes patient advocacy, can sustainably mitigate high no-show rates common in other safety net and primary care clinics in general.
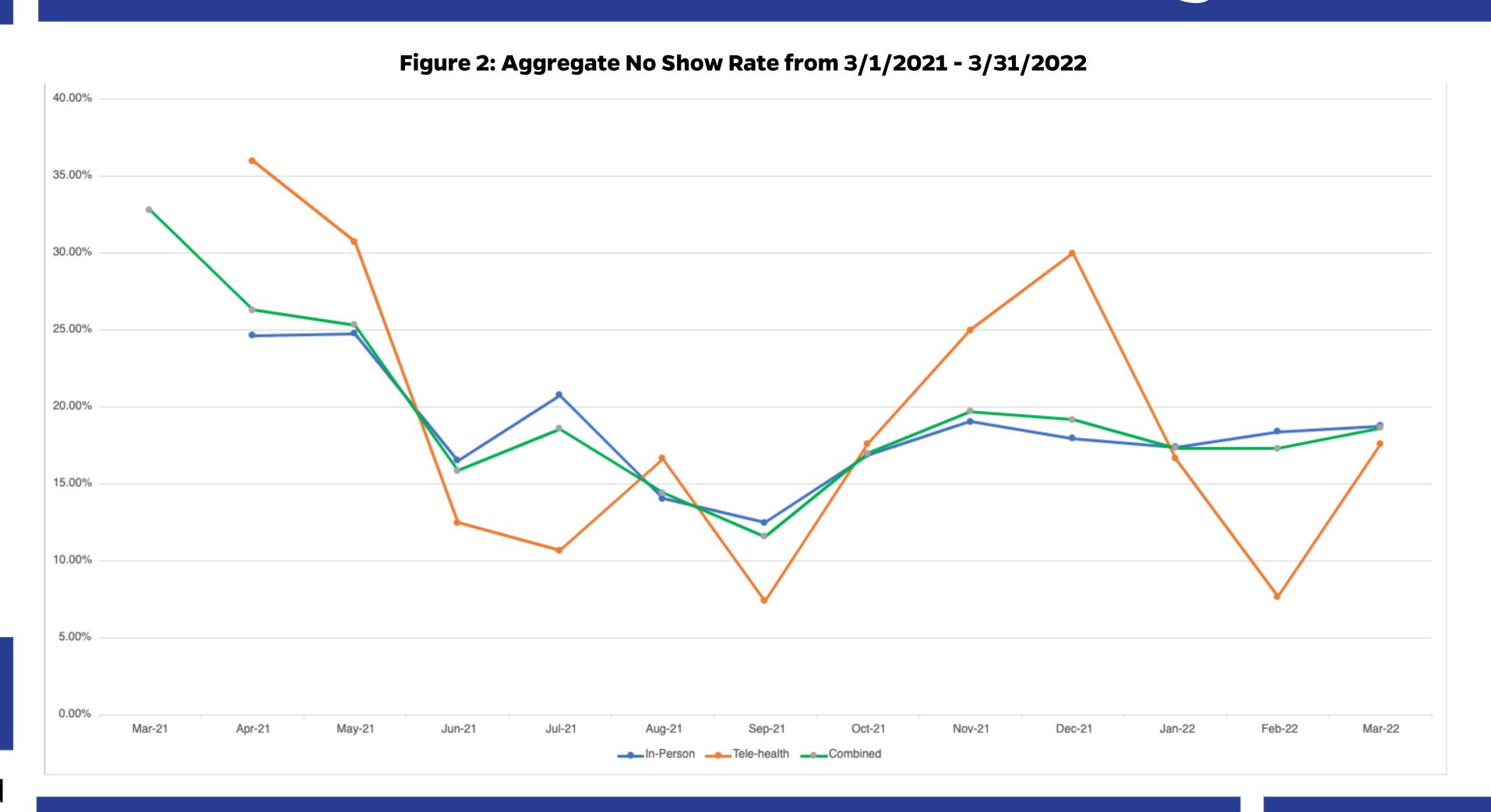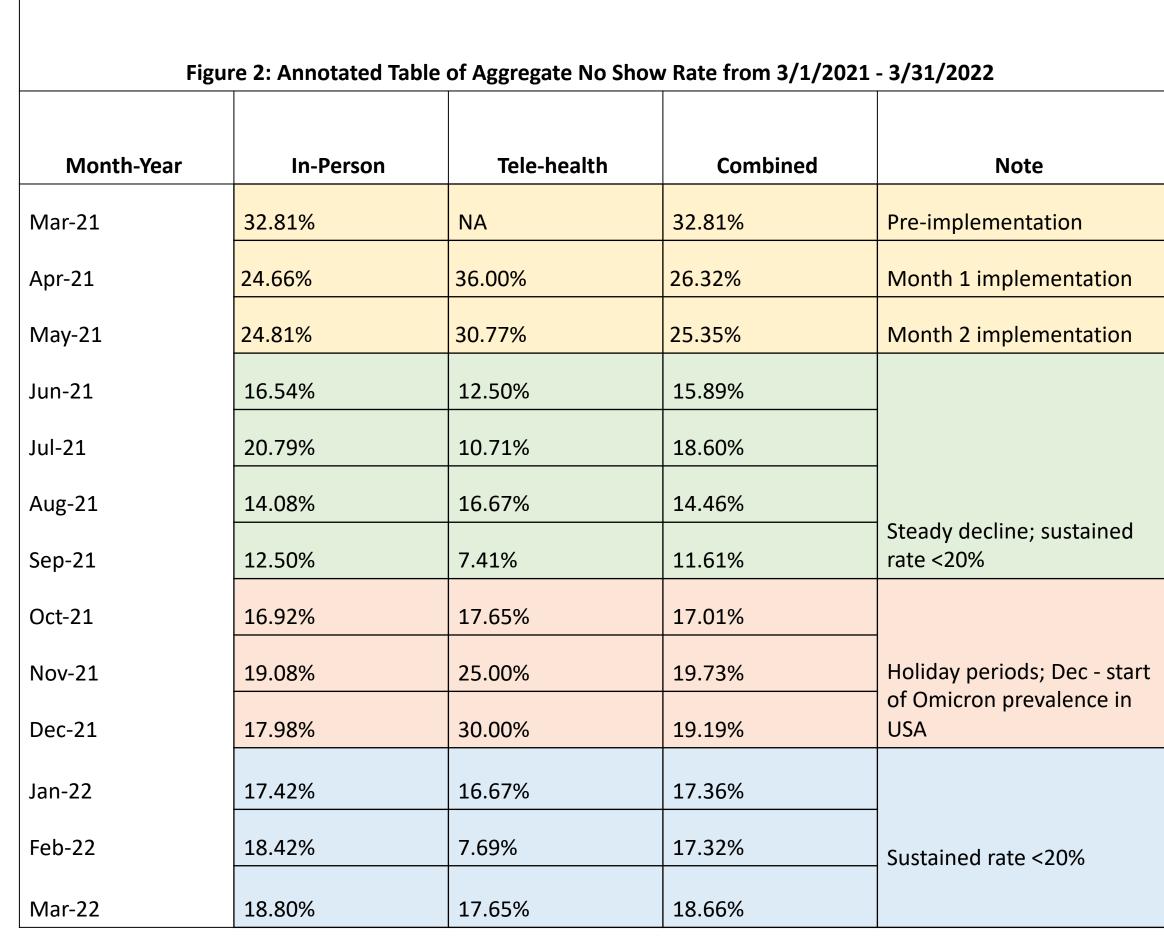
Methods

Bi-weekly appointment rate data collection and calculations from the MOC's EHR system (HOPE Database) were compiled to assess SDOH-guided scheduling and care coordination efforts. Prospective appointment rate data from patients scheduled at the MOC from March 1, 2021, through March 31, 2022, are identified in this study. A "no-show" outcome in the HOPE EHR system is defined as a total absence of a patient from a scheduled appointment without notification. For this prospective study, "late," "canceled," or "re-scheduled" outcomes do not qualify as "no-shows" during data collection. No-show rates are calculated in the following way:[1 - (Total number of "no-show" outcomes in a day/Total number of patients scheduled)]*100 . Aggregate rates are calculated and presented for all scheduled appointments in the period from March 1, 2021, through March 31, 2022.

SDOH-informed care coordination techniques employed in scheduling in the study period are as follows:
- Screening for language, demographic, and transportation barriers in alignment with care coordination
- Screening and assessing eligibility for medical resources in the community both in the UF Health Network (FAP, EACN, etc.) and beyond (We Care, ACORN, etc.)
- Supplementing patient engagement while scheduling with community resources for other non-medical psychosocial support through the utilization of MOC's resource guide as well as the greater Alachua County resource guide as needed
- Utilizing trauma-informed, literacy-accessible communication
- Best practice scheduling protocol implemented during the study period includes the following:
  - Limiting advance scheduling to no greater than one business week in advance
  - Conducting evening appointment confirmation calls and/or emails in the evening (after 5:00 PM) before the appointment date
  - Reserving a standard 30-minute time slot for all appointments, modifying to 1-hour time slots if the appointment meets language access criteria (i.e., needing interpretation services) or if the appointment involves extensive procedures (e.g., LARC removals/insertions)

Figures

Figure 2: Aggregate No Show Rate from 3/1/2021 - 3/31/2022

Figure 2: Annotated Table of Aggregate No Show Rate from 3/1/2021 - 3/31/2022

Month-Year	In-Person	Tele-health	Combined	Note
Mar-21	32.81%	NA	32.81%	Pre-implementation
Apr-21	24.66%	36.00%	26.32%	Month 1 implementation
May-21	24.81%	30.77%	25.35%	Month 2 implementation
Jun-21	16.54%	12.50%	15.89%	
Jul-21	20.79%	10.71%	18.60%	
Aug-21	14.08%	16.67%	14.46%	
Sep-21	12.50%	7.41%	11.61%	Steady decline; sustained rate <20%
Oct-21	16.92%	17.65%	17.01%	
Nov-21	19.08%	25.00%	19.73%	Holiday periods; Dec - start of Omicron prevalence in USA
Dec-21	17.98%	30.00%	19.19%	
Jan-22	17.42%	16.67%	17.36%	
Feb-22	18.42%	7.69%	17.32%	Sustained rate <20%
Mar-22	18.80%	17.65%	18.66%	

Results

- From March 2021 to September of 2021, there was a steady decline in no-show rates from 32.81% no-shows in March to a low of 11.61% in September when looking at telehealth and in-person were combined.
- Since June 2021, the combined no-show appointment rate has consistently stayed below 20%
- No-show rates for the last 12 months for in person appointments are at 18.55%
- No-show rates for the last 12 months for telehealth appointments are at 19.06%
- Telehealth no-show rates spiked in November and December of 2021, after being consistently below 20% since June of 2021. After December of 2021, the rate decreased and has maintained below 20% again.

Conclusions

- Appointment no-show rates steadily decreased until July 2021 and has since consistently remained below 20% with the initiation of a SDOH-informed scheduling protocol on April 1, 2021.
- Month 1 and 2 post-implementation of novel scheduling protocol in April and May 2021 showed steady decrease of appointment no show rates from 32.81% to 26.32% to 25.35% in the respective months.
- The months of June, July, August, and Sept 2021 displayed continuous decrease of appointment rates from 15.8%, 18.60%, 14.4% to the lowest calculated no-show rate in the study period of 11.61% in September.
- The months of October, November, and December had the greatest increase throughout the study period going up to 17.01%, 19.73%, and 19.1% no-show rates in the respective months.
- The three months of 2022 included in the study, January, February, and March, display a sustained no-show rate ranging between 17.32% and 18.66%.

Discussions

Notably, the commencement of the holiday season in late Oct - Dec 2021 resulted in a slight increase in the no-show rates due to family obligations and travel and remained higher than prior months due to the emergence of a large spike in COVID-19 cases from the Omicron variant, which led to many having unexpected onset of symptoms from the time an appointment was confirmed to the actual start of the appointment. Reminding patients to not come to clinic if they were experiencing any symptoms was crucial to ensuring that the clinic could remain open and was extremely effective in ensuring the safety of staff and volunteers at clinic and very well respected by patients which did increase rates. Furthermore, the holidays included days off from clinic, which reduced the number of appointments overall, potentially further affecting the no-show rates appearing higher. Since maintaining reliable patient appointment compliance is a prevalent issue across all clinical outpatient settings, exhibiting how the recontextualization of patient scheduling through care coordination to address psychosocial barriers to honoring appointments is essential in bridging gaps that exist in outpatient continuity of care.

Future Directions

With continued prospective collection and analyses of MOC's appointment rate data, there is an opportunity to include other contributing factors in scheduling to better contextualize SDOH-informed engagement of the patient population. There is an opportunity for a more specified cross-sectional analysis of appointment outcomes and scheduling engagement as it relates to patient zip code, race, gender identity, language, and other demographic information. Furthermore, there is an opportunity to discuss alternative SDOH-informed engagement with patients who regularly no-show appointments despite standard practice.

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