How to Reduce No-show rate?

AN EXECUTIVE SUMMARY
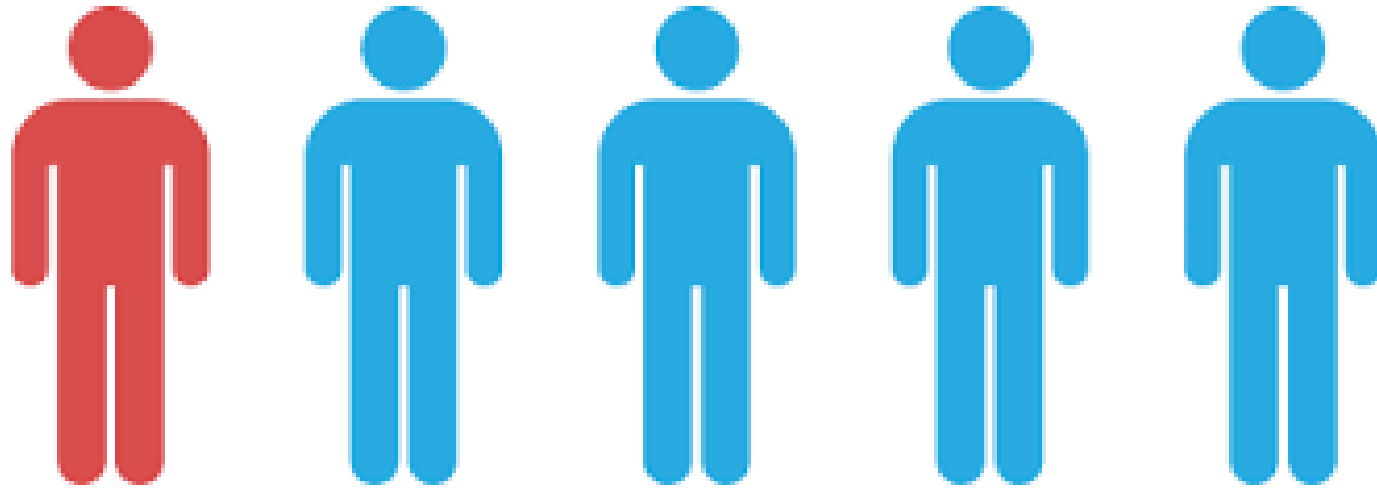
1 in 5 patients currently do not show up to appointments
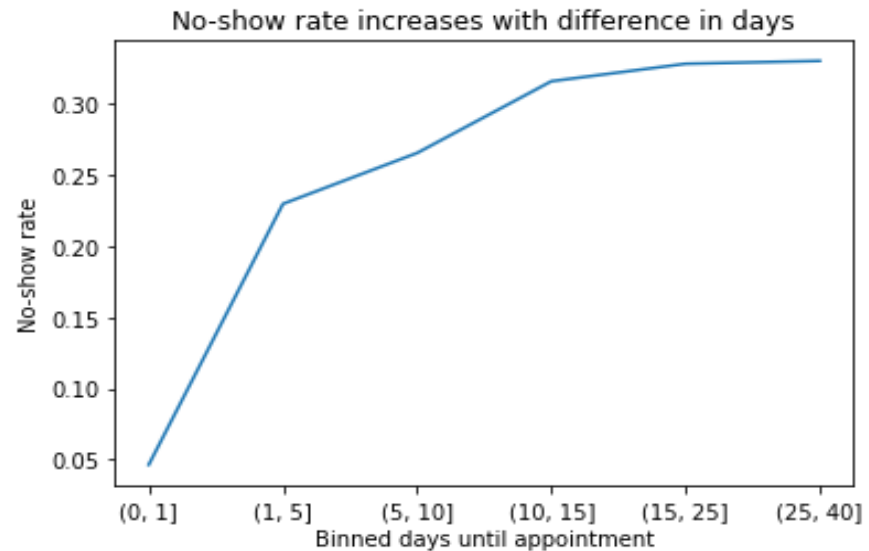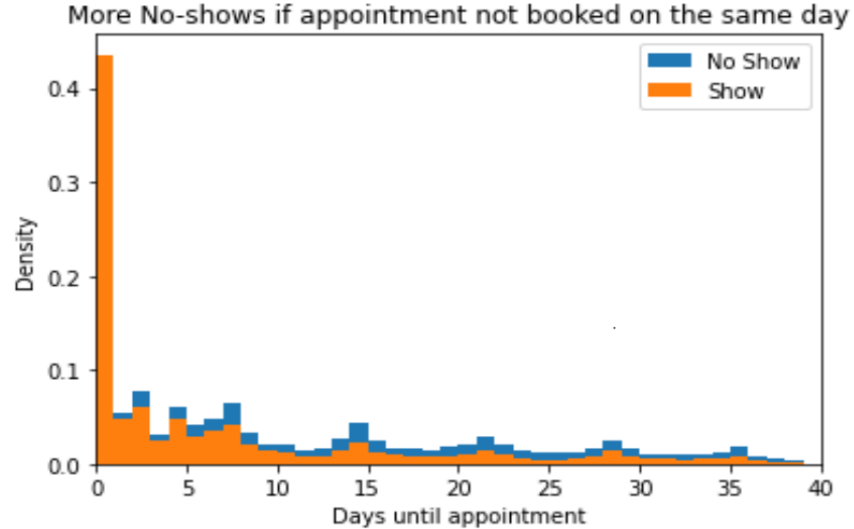
Remind patients who did not book same-day appointments

Limit the number of days one can book ahead

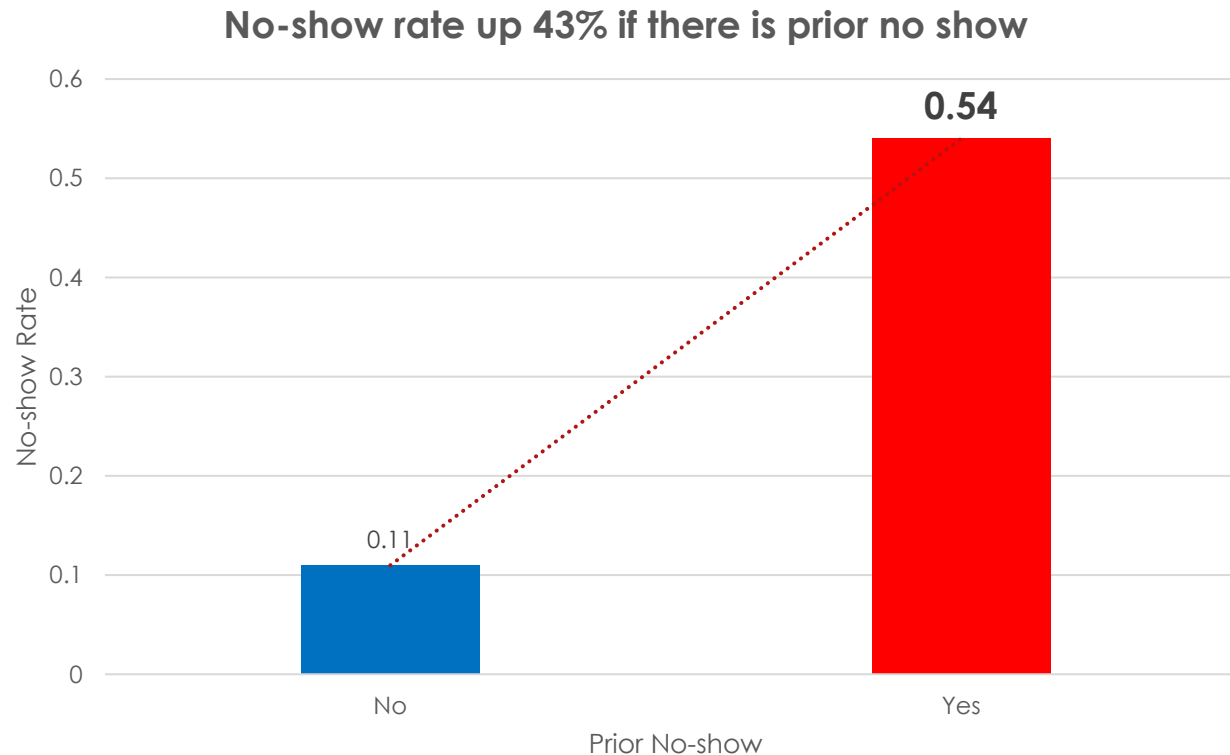No-show rate up 43% if there is prior no show

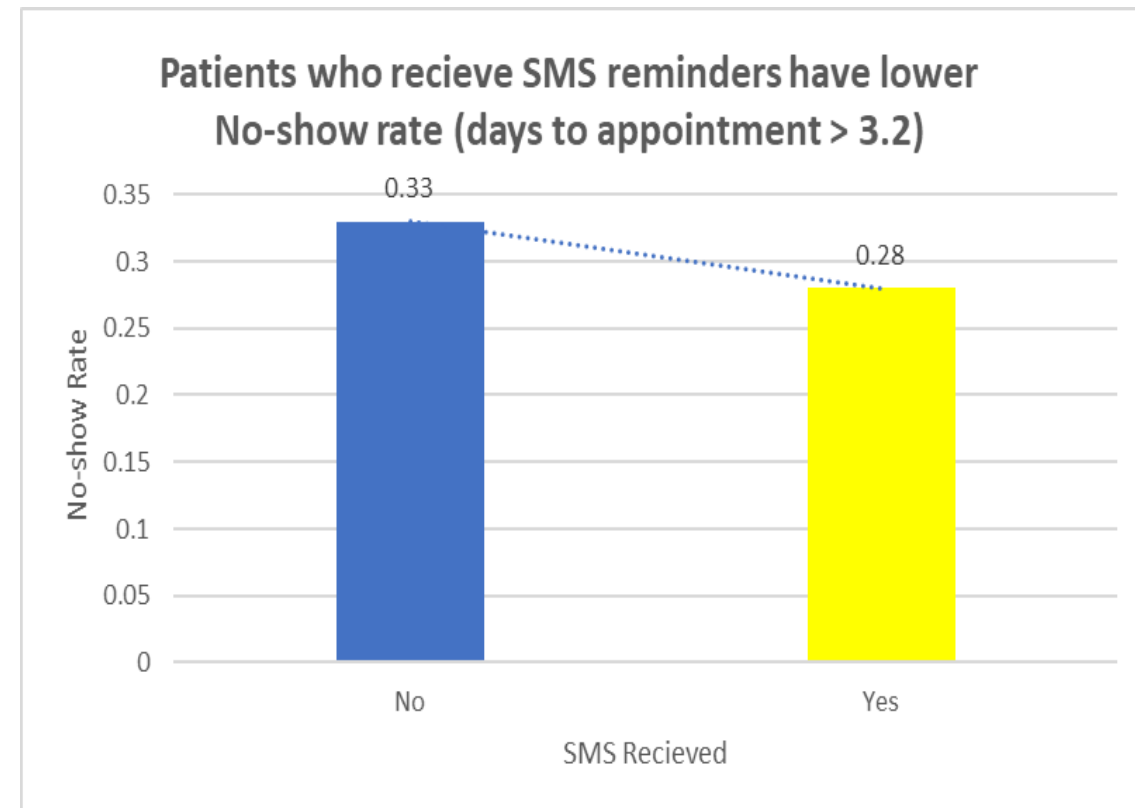**Remind** patients with prior no-show records

Consider **compounding** their no-show fee

Send SMS message within 24 hours of scheduling. Message again when approaching appointment.

Establish multiple reminder channels (Email, Voice-mail)

days_diff	SMS_received	Total No-show	No-show Rate	Total Appointments
(0.0, 1.0]	0	1788	0.046460	38485
	1	0	NaN	0
(1.0, 2.0]	0	1110	0.213297	5204
	1	0	NaN	0
(2.0, 3.0]	0	1597	0.237932	6712
	1	0	NaN	0
(3.0, 3.2]	0	7	0.250000	28
	1	0	NaN	0
(3.2, 4.0]	0	444	0.246667	1800
	1	193	0.213969	902
(4.0, 5.0]	0	543	0.243389	2231
	1	686	0.225066	3048
(5.0, 10.0]	0	1751	0.286111	6120
	1	2534	0.253122	10011
(10.0, 15.0]	0	1255	0.357143	3514
	1	1297	0.284367	4561
(15.0, 25.0]	0	1768	0.371273	4762
	1	1998	0.297853	6708
(25.0, 40.0]	0	1523	0.372281	4091
	1	2048	0.304853	6718

- SMS **not sent** until approximant **3 days** after scheduling

- Total no-show in first 3 days account for **20%** of all no shows.

Patients who recieve SMS reminders have lower No-show rate (days to appointment > 3.2)

Recommendations Backed by Interpretable Machine Learning

First two recommendations are based on the top two model decision factors

Improve SMS timing could potentially move it up