

A RANDOMIZED CONTROLLED TRIAL OF SMS TEXT MESSAGES AS APPOINTMENT REMINDERS IN THE PEDIATRIC DENTAL SETTING

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TEXT MESSAGING: AN EMERGING FORM OF COMMUNICATION

- In 2008 an estimated total of 2.3 trillion texts were sent worldwide
- 301 billion were sent in the US

The number of texts sent in the US in 2008 surpassed the number of calls made

CHILDREN MOST LIKELY TO MISS APPOINTMENTS:

- Young parents
- High caries scores
- Medicaid Insurance



DECREASING PARTICIPATION IN MEDICAID BY PROVIDERS

“The majority of surveyed dentists have stated that broken appointments among the Medicaid population was very important in their decision not to accept these patients into their practice.”



Photos: Travis Nelson DDS

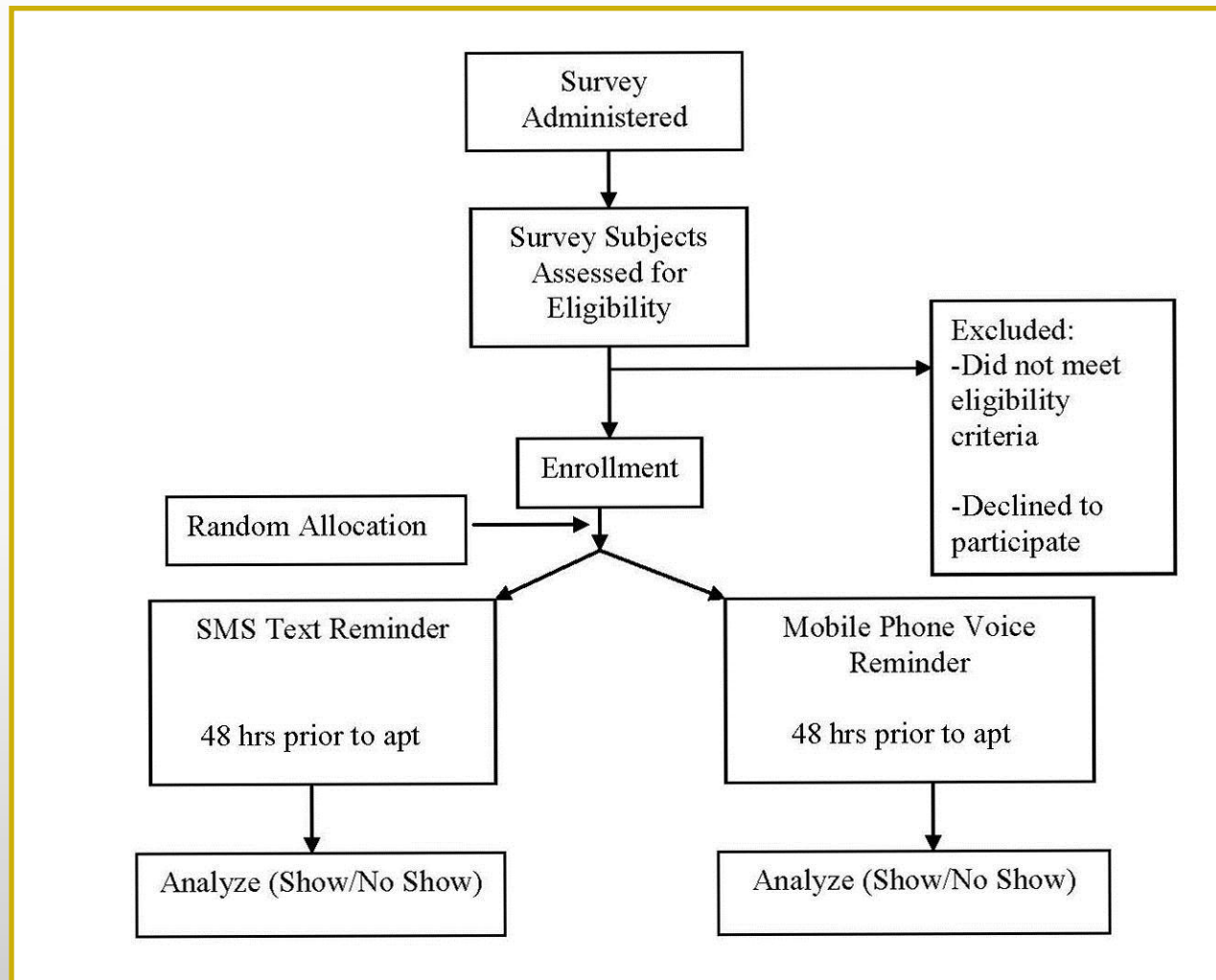
HYPOTHESIS

H1: No-show attendance among patients who receive text message reminders will be no different than those among patients receiving standard telephone reminders in the pediatric dental population

H2: Most study participants will prefer text reminders over conventional voice reminders

METHODS

STUDY DESIGN: RCT



STUDY POPULATION

Caregiver/Child pairs of the UW Pediatric Dental Clinic

- Willing to receive a text reminder OR a voice reminder

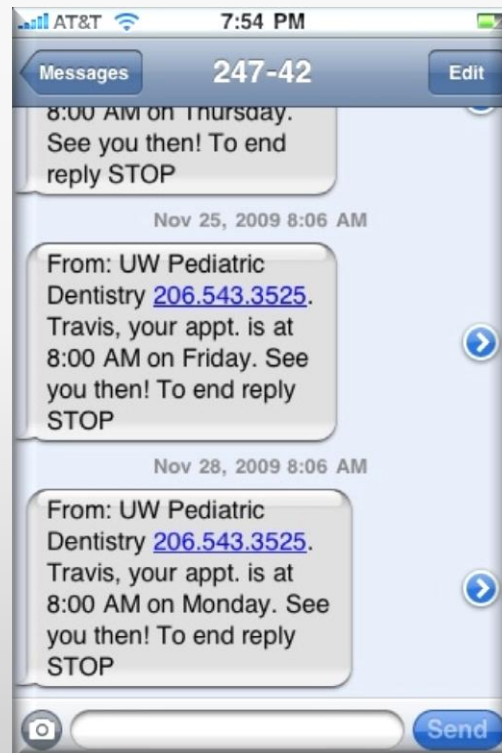
N = 318 (158 text, 160 voice)

CONTROL ARM

Control patients received a verbal telephone reminder from clinic reception staff

INTERVENTION ARM

Patients assigned to the Text reminder group received a computer generated text message on their cell phone 48 hours prior to their appointment



DATA ANALYSIS

○ **Descriptive Statistics**

○ **Chi² tests**

- Used to compare the distribution of the study variables by:
 - appointment reminder type (voice versus SMS text)
 - appointment status (Show/canceled versus No-Show)

○ **Logistic regression**

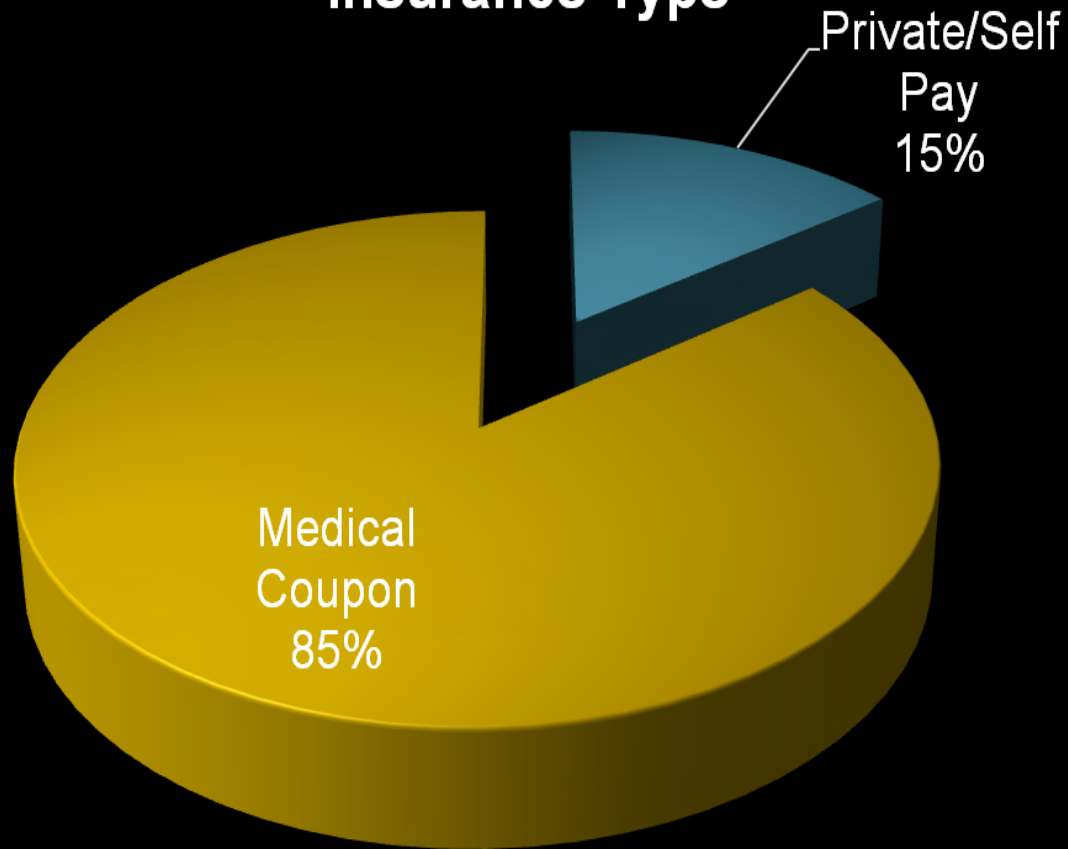
- Used to model appointment status as a function of reminder type and the study variables

Critical value for all tests was established at 5% ($\alpha=0.05$)

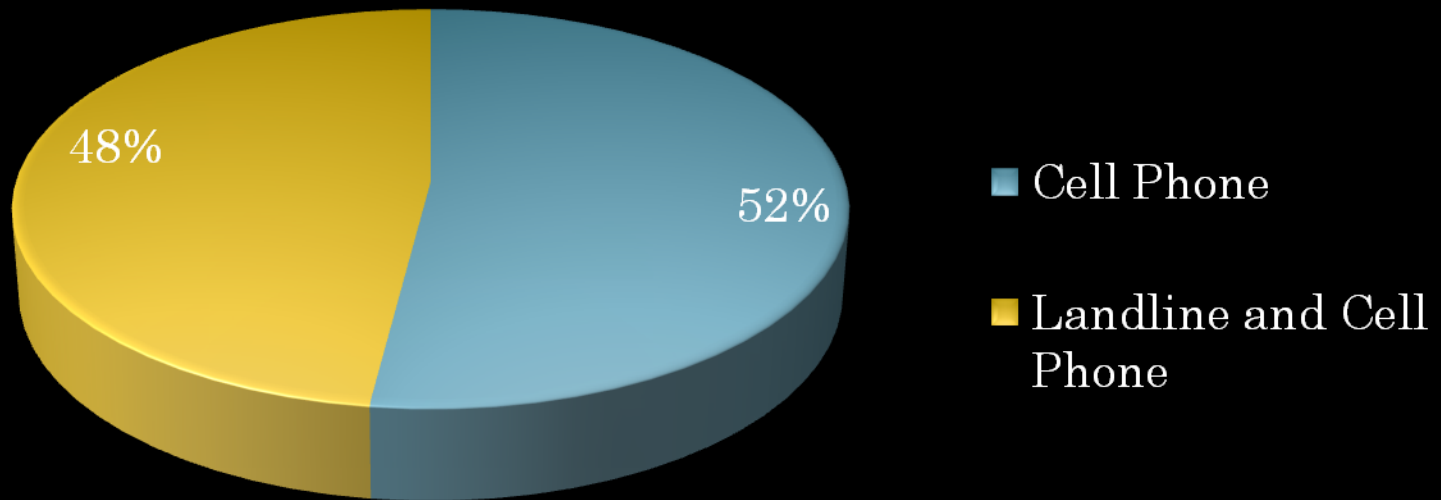
RESULTS

Characteristics	Total (n)	Percent		p
		Text Message (n =158)	Voice Reminder (n = 160)	
Caregiver Age				0.046
18-25	24	13 (8.4)	11 (7.0)	
26-30	47	31 (20.1)	16 (10.1)	
31-40	175	76 (49.4)	99 (62.6)	
40 +	66	34 (22.1)	32 (20.3)	
total		154	158	
Child Age				0.16
1 to 5	57	25 (16.2)	32 (20)	
6 to 11	161	83 (53.9)	78 (48.8)	
12 to 18	96	46 (29.9)	50 (31.3)	
total		154	160	
Type of Insurance				0.803
Private/Self Pay	46	22 (14.0)	24 (15.0)	
Medical Coupon	271	135 (86.0)	136 (85.0)	
total		157	160	
Persons Who Live at Home				0.611
<=4	160	82 (52.3)	78 (49.4)	
>4	155	75 (47.7)	80 (50.6)	
total		157	158	
Primary Language at Home				0.522
English	258	130 (82.8)	128 (80.0)	
Other	59	27 (17.2)	32 (20.0)	
total		157	160	
Ethnicity				0.806
White	181	90 (57.3)	91 (58.0)	
Black	46	23 (14.7)	23 (14.6)	
Asian	48	22 (14.0)	26 (16.6)	
Other	39	22 (14.0)	17 (10.8)	
total		157	157	
Caregiver Relationship				0.156
Mother	259	134 (87.0)	125 (79.6)	
Father	42	15 (9.7)	27 (17.2)	
Other	10	5 (3.3)	5 (3.2)	
total		154	157	
Type of Telephone Used				0.692
Cell Phone	165	84 (53.2)	81 (50.9)	
Landline and Cell Phone	152	74 (46.8)	78 (49.1)	
total		158	159	
Most suitable reminder type				0.824
Text	86	45 (28.7)	41 (25.6)	
Voice	131	64 (40.8)	67 (41.9)	
Either	100	48 (30.5)	52 (32.5)	
total		157	160	

Insurance Type



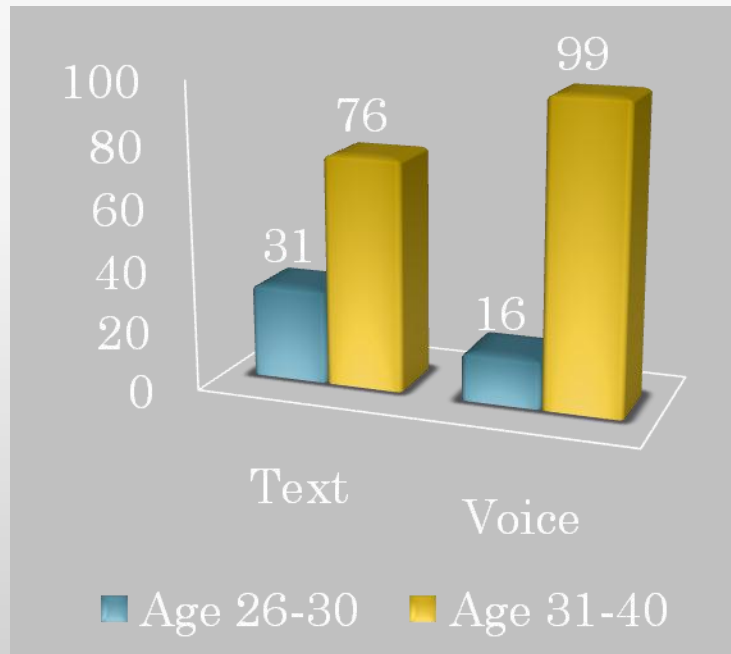
Type of Telephone Used



RESULTS OF RANDOMIZATION

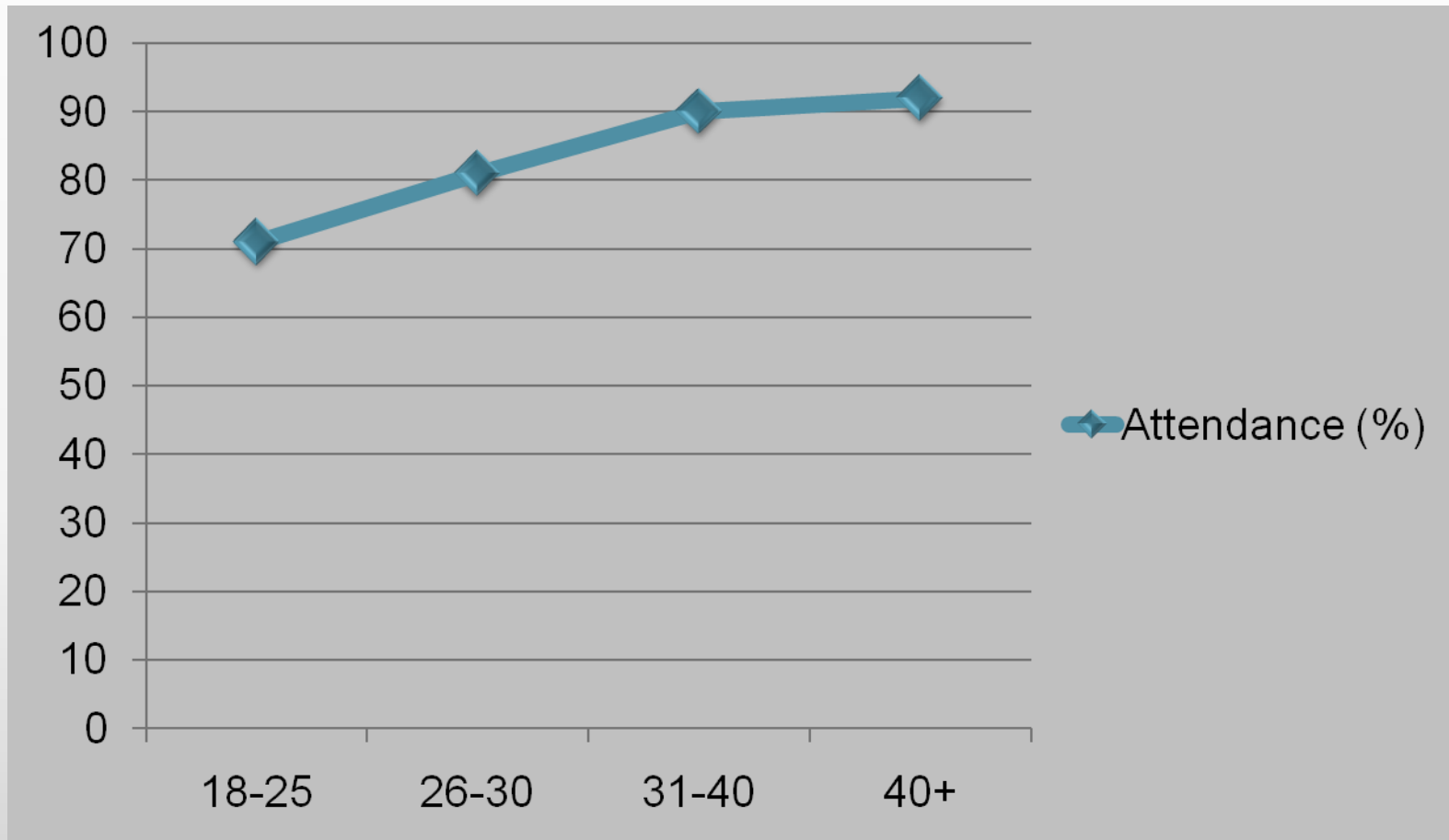
No statistically significant differences between control/intervention groups for any variable *except*

Caregiver Age



P= 0.046

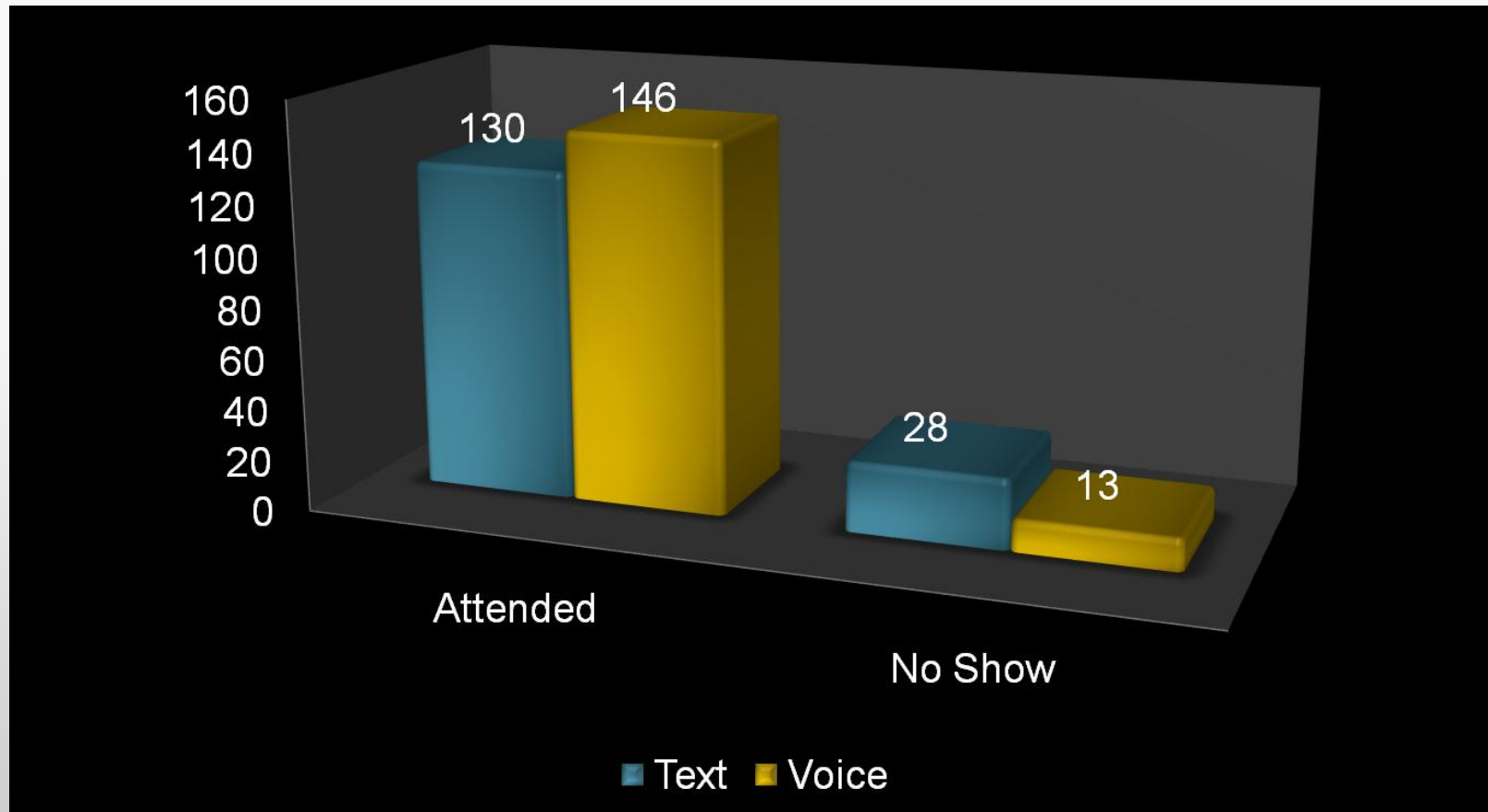
ATTENDANCE IMPROVED WITH INCREASING CAREGIVER AGE



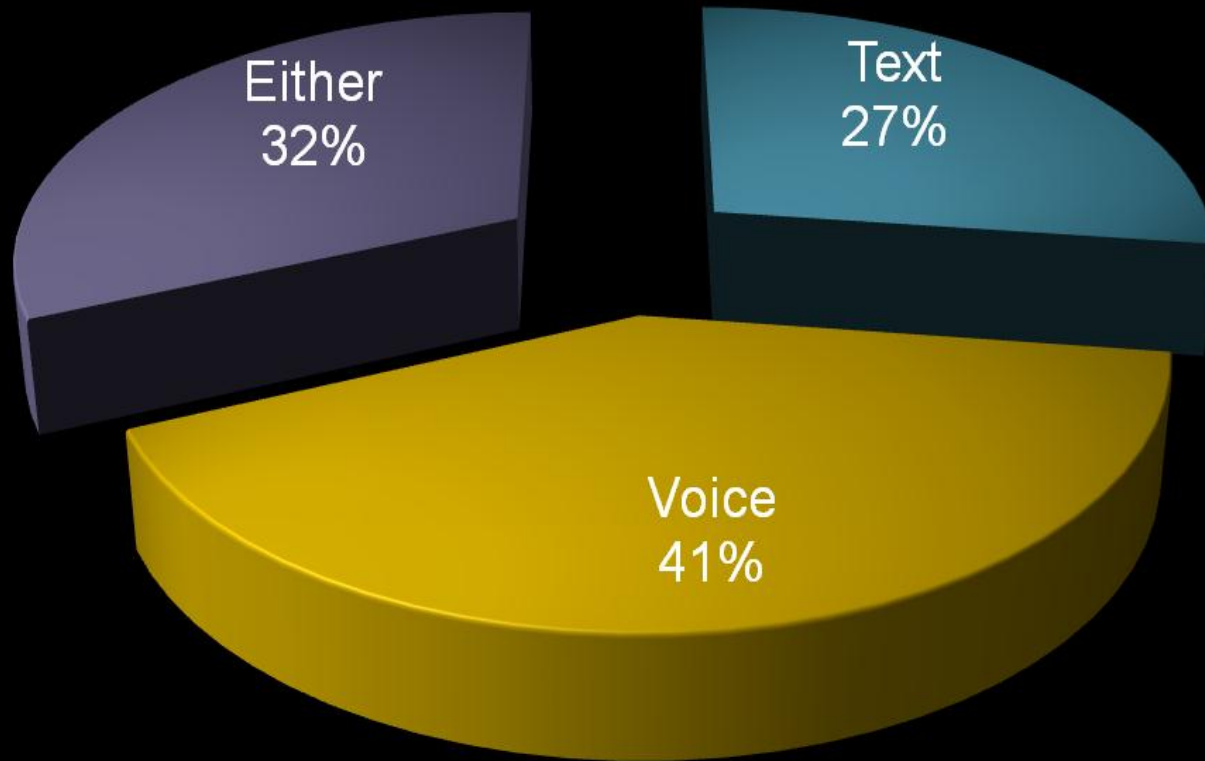
TEXT MESSAGE REMINDER PATIENTS WERE MORE LIKELY TO NO-SHOW

OR **UNADJUSTED** = 2.41

OR ADJUSTED FOR **CAREGIVER AGE** = 2.12



Preferred Reminder Type



DISCUSSION

Our Findings Differed From Previous Studies:

- Previous research was outside the US
- Most other research was for non-dental visits
- Others Used *Historical Control* or *No Reminder*

DISCUSSION

Why Was A Voice Reminder More Successful?

- Reception staff has personal relationships with patients
- Voice reminders may be more interactive
- Text may be more easily ignored

DIRECTIONS FOR FUTURE RESEARCH

- Examine effect outside university-based clinic
- Allow patients to select preferred reminder type



CONCLUSION

- Text messages are not likely to be a good standard reminder in university-based Pediatric Dentistry clinics
- In this study more participants would prefer a voice message reminder than a text message reminder

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