COLORADO
Department of Public Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

Texting for Retention Program

Colorado WIC Program

FINAL REPORT

WIC Special Project Grant
Fiscal Year 2014

Contents

Introduction and Overview

The Colorado WIC Program has identified retention of children older than one year of age as a significant problem throughout the State. WIC loses nearly 50 percent of infants enrolled before they turn 2 years old. The Texting for Retention Program (TFRP) aims to decrease some of the barriers to child retention, specifically remembering to schedule and attend appointments, and also the availability of simple information about the benefits of WIC participation for children over age one. Research shows that texting reminders can increase appointment attendance by nearly 50 percent.

In 2015, the Colorado Women, Infants, and Children (WIC) program was awarded a WIC Special Projects mini-grant from the US Department of Agriculture to implement their innovative Texting for Retention Program (TFRP) pilot. The TFRP introduced a number of texting interventions that aimed to improve child retention in Colorado's WIC program. The texting innovations specifically address some of the primary barriers to retention for children over the age of one by sending reminders to schedule and attend appointments and by delivering simple information about the benefits of WIC participation to targeted WIC participants.

The TFRP pilot was implemented from May 8, 2015 to May 31, 2016 in 15 clinics (at 20 distinct sites), including five matched control clinics (at seven sites) that did not receive the intervention. Primary research questions, as described in the grant application, were identified as follows:

- Can appointment reminders, in the form of a text message, reduce missed appointments? If so, can reducing missed appointments increase retention by encouraging regular participation in the WIC program and subsequently decreasing voluntary termination?

- Can retention be further increased by sending a text message prompt outlining the benefits of WIC and how to continue participating when participants are: (i) due or overdue for recertification or (ii) at the risk of voluntary termination?

The purpose of this document is to summarize the key findings of the TFRP, following the above research questions, and to assess the effectiveness of the TFRP in the 2015-16 pilot year through presenting analysis of appointments data, recertifications, reinstatements, and voluntary terminations. Qualitative data from surveys distributed to participant clinics are also presented.

Methodology

Fifteen WIC clinics (across 20 sites) were selected for participation in the pilot study based on their size, as determined by their 2014 caseload, the type of scheduling they employ, standard or same day/next day (Table 1), and their level of interest. Clinics were assigned to one of three separate groups: control, which did not implement the texting program; basic innovation, which implemented appointment reminders by text; and augmented innovation, which implemented additional information about WIC benefits by text, in addition to appointment reminders. Each group was comprised of clinics that were similar in terms of size and scheduling methods used. The fifteen clinics represent a relatively diverse portion of the state of Colorado.
The three groups were compared pre and post intervention on multiple measures, as described below (Table 1). Differences in outcomes were also assessed between clinics using standard and same day/next day scheduling methods.

Standard scheduling is defined as scheduling WIC appointment 3 months in advance. Same day/next day scheduling is when the participant is issued 3 months of benefits and calls to schedule their next appointment either the same day or next day when the previous 3 months benefits have expired. Each WIC clinic within each group was instructed not to change business practices until the conclusion of the

grant. Prior to starting the TFRP, each clinic was performing appointment reminder calls a day prior to the participant's appointment.

Table 1: WIC Pilot Clinics.

Clinic Size	Scheduling Type	Control Group	Basic Innovation	Augmented Innovation
Small (caseload <2000)	Standard	Otero*	Boulder	Greeley
	Standard	Firestone	Durango	Brighton
	SD/ND	Lone Tree/Castle Rock*	Alamosa	Englewood
Large (caseload >2000)	Standard	Fort Collins/Loveland*	Lafayette/Longmont*	Evans
	SD/ND	Pueblo	Montbello	Iliff
* indicates multiple clinic sites				

Key measures, as informed by the research questions described in the grant application, are as follows:

Enrollment with benefits: Number of clients enrolled at each participating WIC clinic who received benefits

Total appointments: Number and percentage of appointments of all types that were kept (i.e., the client attended as expected) and no-showed (i.e., the client did not attend the appointment, and did not cancel or reschedule).

Recertification appointments: Number and percentage of *recertification* appointments that were kept (implying a successful recertification) and no-showed.

Reinstatements: Number of clients who were reinstated into WIC (i.e., the client was terminated from WIC, but was reinstated and reentered the program).

Voluntary terminations: Number of clients who were terminated due to a failure to reapply, a failure to provide proof (i.e., pay stubs, identification, or other required documentation), or a failure to pick up their food benefit; percentage of all terminations that were voluntary.

Implementation

On May 8, 2015 a mass text was sent to all active participants in the participating local agencies informing them of the new texting program and the option to opt out if they decide they do not want to receive the text messages.

On May 18, 2015 participants started receiving appointment reminders via text. If a phone number was a landline, the participant received a voicemail versus a text message. We instructed all local agencies participating in the TFRP to maintain their current clinic operations for the lifetime of the grant to make sure there are no other variables were introduced at this time.

June 2, 2015 monthly text messages started for the augmented innovation group. These included participants that are due for recertification, voluntarily terminated, and participants who have not picked up food benefits. Below in Table 2 are all of the messages that were distributed to the innovation groups.

Table 2: Appointment Reminders & Targeted Prompts

Clinics	Text/Phone	Message	Frequency of Text/ Phone Messages
Group #2 Group #3	**Scheduled Appointment Reminders**	**(For Certification Appointment Only):** *"WIC looks forward to meeting you! Your appointment is on <date> at < time>. Be sure to bring in your proof of identity, income, and address."* **(For all other appointment types besides certification appointments):** *"WIC looks forward to seeing you! Your appointment is on <date> at<time>. Check your WIC envelope to see if you need to bring anything."*	Daily
Group #3	**Due for Recertification**	***#1 (Infants/Children):*** *"It's time to schedule your next WIC appointment. Call us today! Let WIC save you money on your grocery bills. Get FREE food for your child from WIC!"* ***#2 (Pregnant Women):*** *"Did you know you can receive WIC after your pregnancy? Call us today to schedule your next appointment!"*	• Monthly: First business day of the month
Group #3	**No Food Benefits (FB) Pickup Report**	*"WIC misses you! You have WIC checks waiting to be picked up. Call us today for your next appointment! We look forward to seeing you soon!"*	• Monthly: First business day of the month
Group #3	**Termed due to voluntary termination reasons (Failure to Reapply, Failure to pick up FB, Failure to provide proof)**	*"WIC misses you! Call us to schedule your next appointment. WIC is here to support your health & nutrition! We hope to see you soon!"*	• Monthly: First business day of the month
Group #2 Group #3	**Mass Text Opt-out**	*"Text appointment reminders are now available to you from your WIC clinic. If you do not want a text appointment reminder, please text STOP to 22300."*	• One time

*Group #2 – Basic Innovation Group Group #3 – Augmented Innovation Group

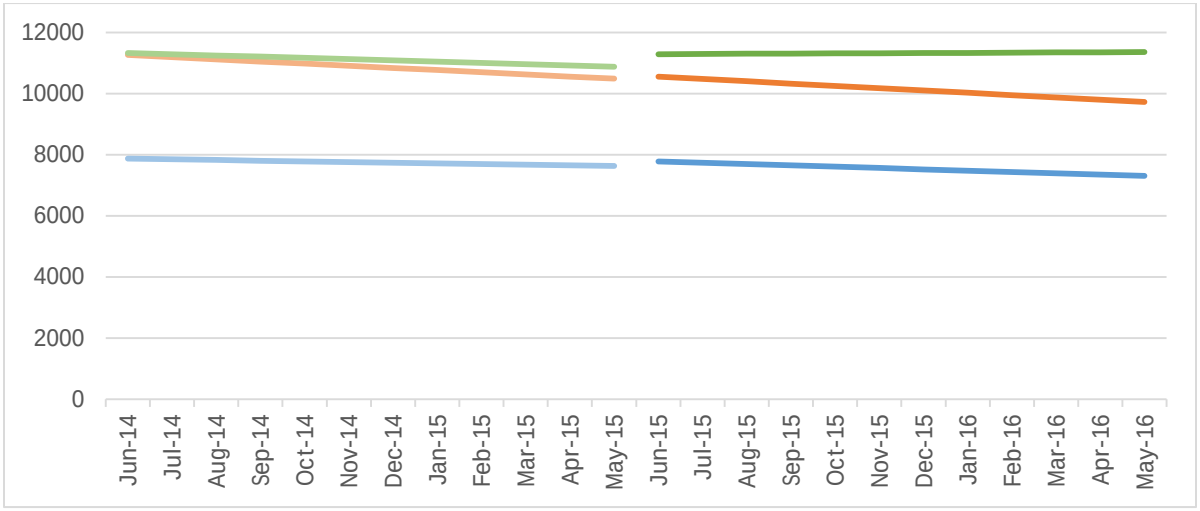
Evaluation Results

Enrollment

Enrollment over the two-year period is tracked to establish a baseline for comparison and to study whether there were any differences in retention between the groups that could be linked to the texting innovation. As shown in Figure 1 below, the total number of vouchered participants (i.e, those enrolled in the WIC clinic who are receiving benefits) declined slightly for all three groups in the baseline year (June 2014-May 2015). In the pilot year (June 2015-May 2016), also shown in Figure 2, the control and basic innovation groups continued to have a slight downward trend, but the augmented innovation group experienced an increase in average monthly enrollment. This is supported by the average enrollments across the full baseline and pilot years (Figure 3), which shows a 6.7% decline in average enrollment in the control group, compared with a 2.7% decline for the basic innovation group, and a 1.9% increase for the augmented innovation group.

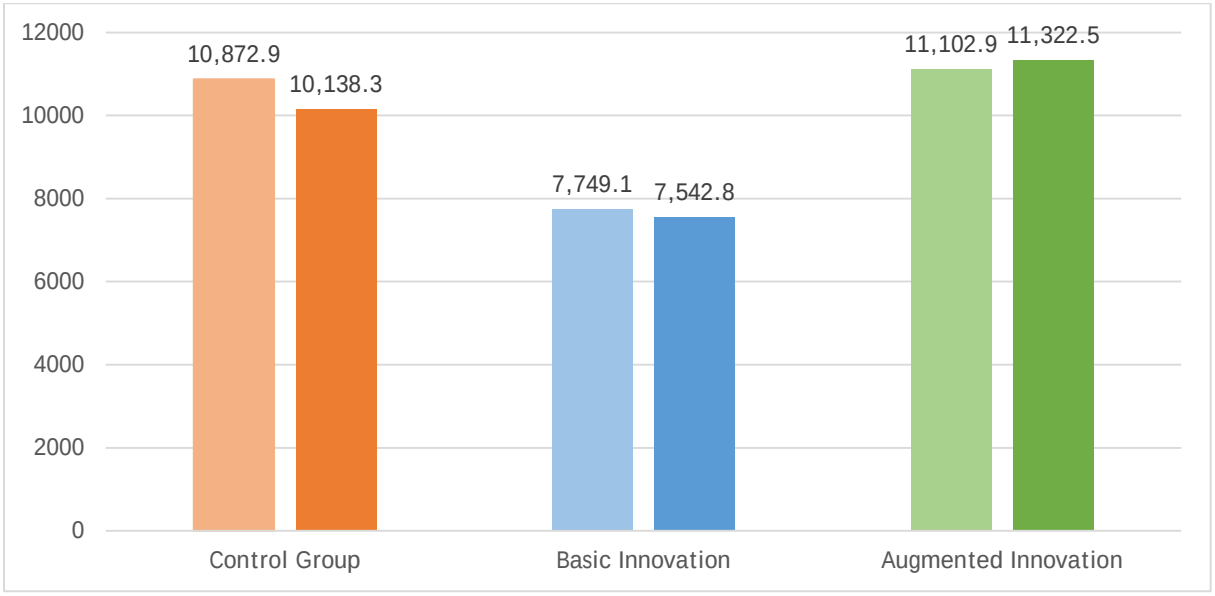
The changes in trends, as described by the slope of the trend lines for each year of data, are displayed in Table 3. The change in the trend between the baseline year and pilot year for both the control group and the basic innovation group was not significant. However, the change for the augmented innovation group is approaching significance, with a p-value of 0.12. Given that WIC enrollment has been consistently declining across Colorado for several years, and the hypothesis that the texting innovation should improve retention, and thus, enrollment with benefits, this finding implies that the texting innovation has had a positive effect on enrollments in the augmented innovation group.

Figure 1: Linear Trend of Average Enrollment with Benefits, 2014-15 to 2015-16, by Group.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 2: Average Enrollment with Benefits, 2014-15 to 2015-16, by Group.



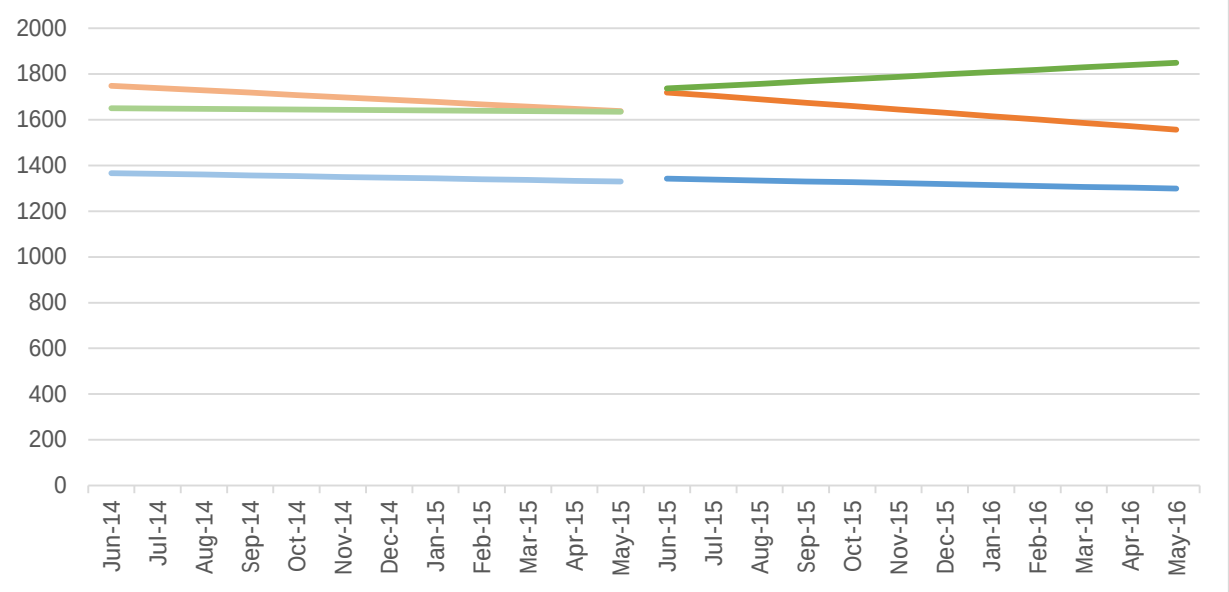
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Table 3: Slopes of Trends, by Group.

Group	Slope of Trend Line: Baseline Year	Pilot Year	p-value	Interpretation
Control	-2.31	-2.11	0.91	Not significant
Basic Innovation	-0.72	-0.69	0.97	Not significant
Augmented Innovation	-1.37	0.31	0.12	Approaching significance at p<0.10; positive trend in enrollments despite predicted decline

Like the other findings presented in this report, results were more significant when only analyzing clinics with standard scheduling practices. Although the trends in the control group and the basic innovation group remained relatively steady, augmented innovation group showed change. As shown in Table 4, the changes in trends between the baseline and pilot years were not significant for the control group or the basic innovation group. However, the change *was* significant at the p<0.05 level in the augmented innovation group (p-value of 0.03). This supports the hypothesis that the texting innovation has a positive effect on enrollments with benefits, since the augmented innovation group experienced a positive trend in enrollments, despite an expected negative trend.

Figure 3: Linear Trend of Average Enrollment with Benefits, 2014-15 to 2015-16, by Group – Standard Scheduling Clinics Only.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Table 4: Slopes of Trends, by Group – Standard Scheduling Clinics Only.

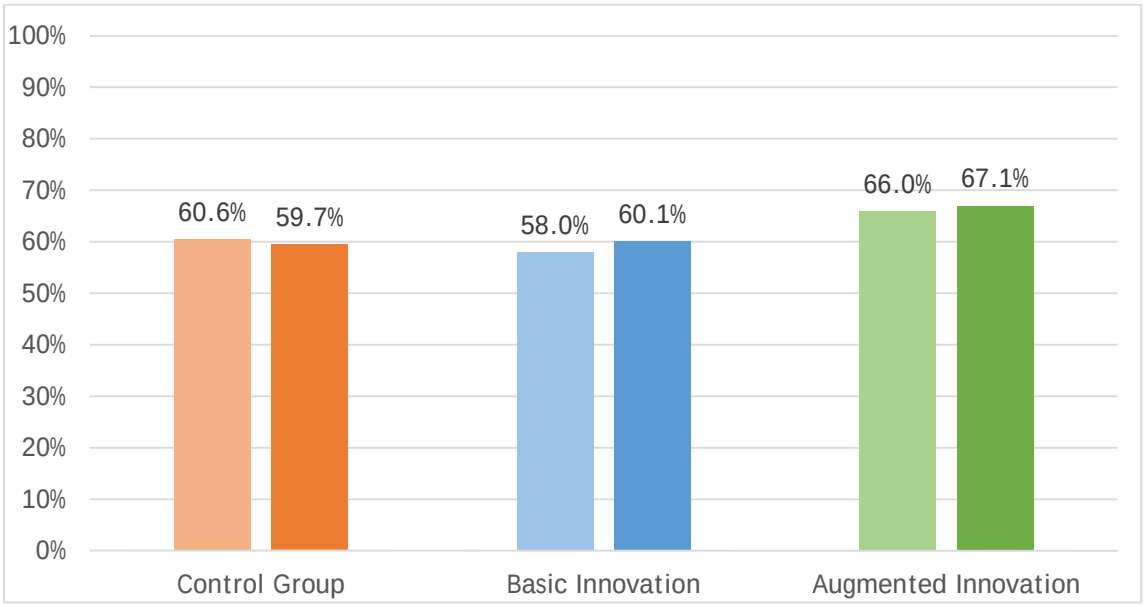
Group	Slope of Trend Line: Baseline Year	Pilot Year	p-value	Interpretation
Control	-0.33	-0.48	0.67	Not significant
Basic Innovation	-0.11	-0.13	0.86	Not significant
Augmented Innovation	-0.05	0.33	0.03	Significant at the p<0.05 level; positive trend in enrollments despite predicted decline

Total Appointments

Analysis of appointment data focuses on the proportion of appointments that were kept and no-shows. Total appointments data includes appointments of all classifications. From the evaluation hypothesis, it should be expected that both the basic and the augmented innovations would increase the proportion of appointments kept and decrease the proportion of appointments that were no-shows.

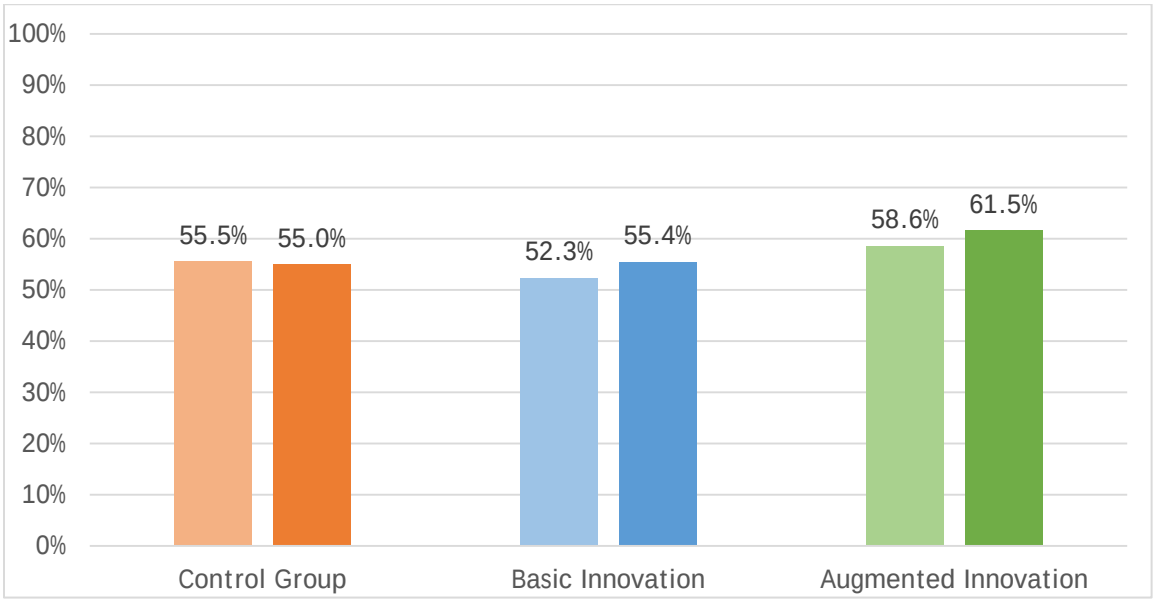
As shown in Figure 4, the proportion of all appointments kept decreased in the control group, from 60.6% in the baseline year to 59.7% in the pilot year, and increased 2.1% in the basic innovation group (from 58.0% to 60.1%) and 1.1% in the augmented innovation group (from 66.0% to 67.1%). These increases were slightly more pronounced for clinics that employed standard scheduling (Figure 5): 3.1% for the basic innovation group (from 52.3% to 55.4%) and 2.9% for the augmented innovation group (from 58.6% to 61.5%). Changes for clinics that employed same day/next day scheduling practices were minimal (-1.3% for the control, 0.6% for the basic innovation, -0.5% for the augmented innovation) (Figure 6).

Figure 4: Percent of All Appointments Kept, 2014-15 to 2015-16 – Standard Scheduling & Same Day/Next Day Clinics.



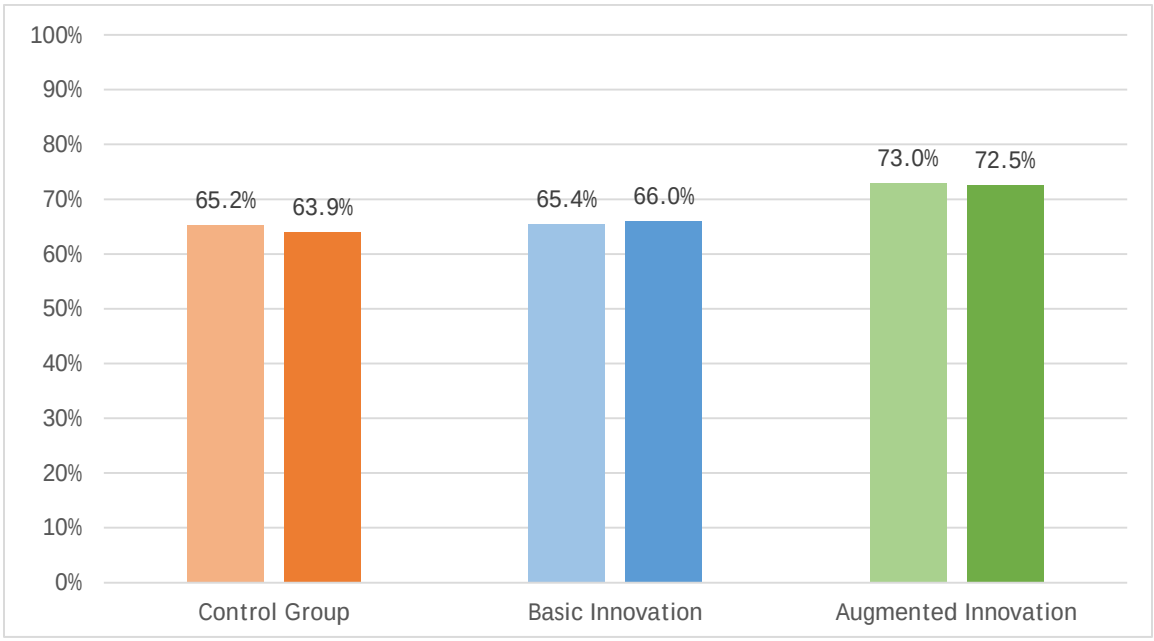
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 5: Percent of All Appointments Kept, 2014-15 to 2015-16 – Standard Scheduling Clinics.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 6: Percent of All Appointments Kept, 2014-15 to 2015-16 – Same Day/Next Day Scheduling Clinics.



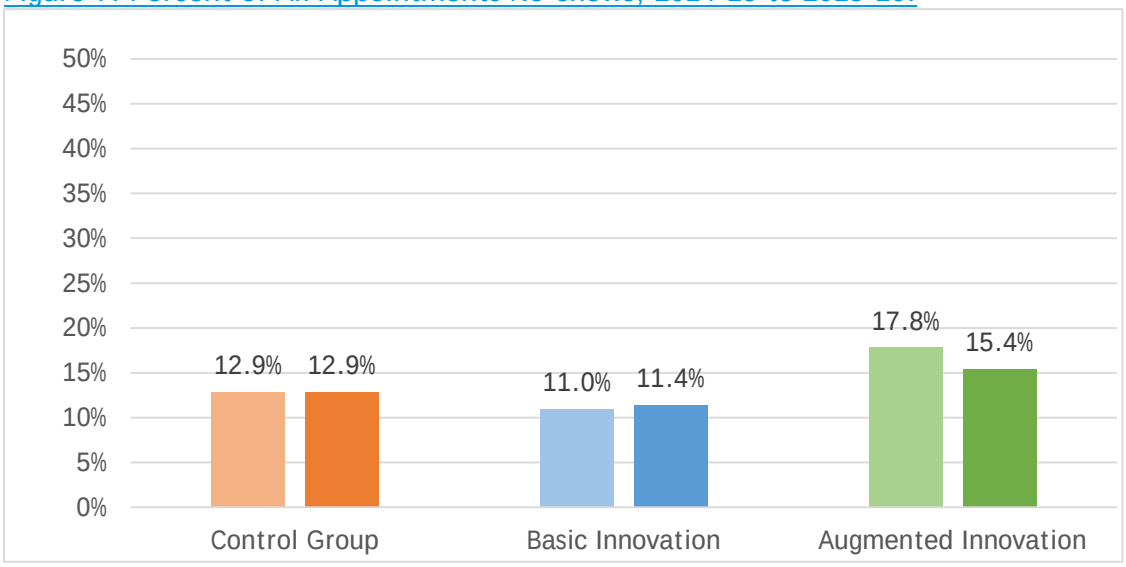
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

There was no change in the percent of all appointment no-shows for the control group between the baseline and pilot years (12.9% to 12.9%), and a nominal 0.4% increase for the basic innovation group (11.0% to 11.4%). There was, however, a 3.4% reduction in the no-show rate for the augmented innovation clinics, from 17.8% to 15.4%. It is worth noting that the augmented innovation group had a substantially higher no-show rate than the other two groups in the baseline year (Figure 7).

Again, this change was more pronounced in the standard scheduling clinics (Figure 8). In the standard scheduling clinics, the control group had a decline of 1.7%, from 18.5% to 16.8%. The basic innovation had

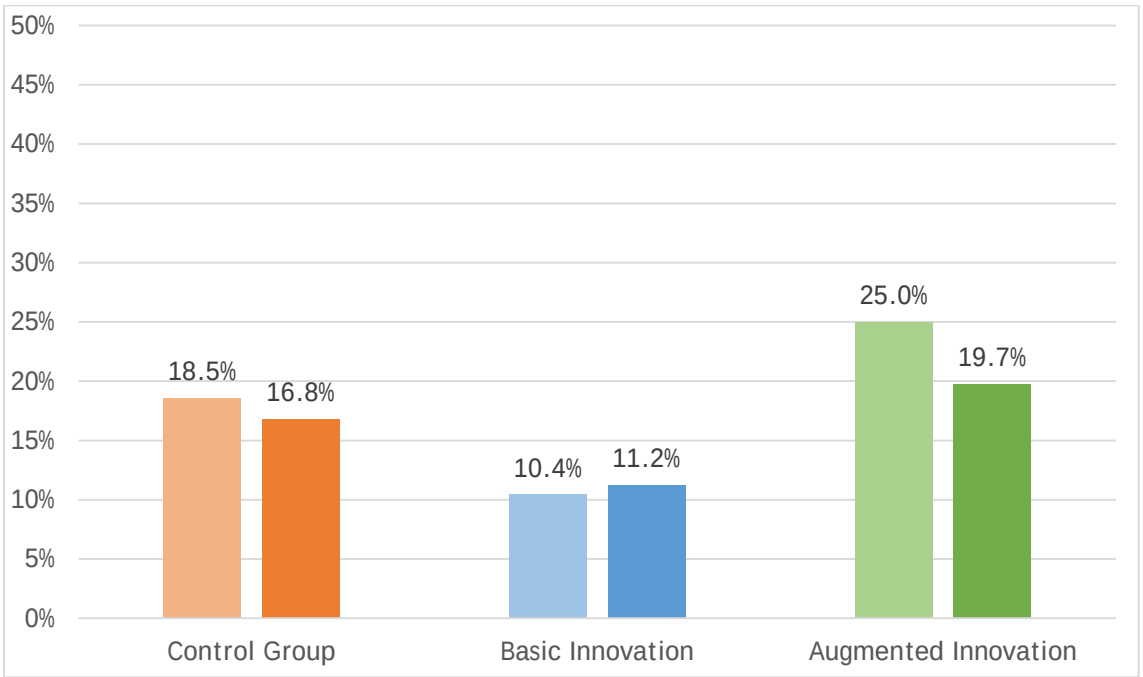
an increase of 0.8%, from 10.4% to 11.2%, however, the baseline rate for this group was significantly lower than that of the other groups. The augmented innovation group had a 5.3% decrease, from 25.0% to 19.7%, in these clinics. There was virtually no change in the no-show rate for the basic and augmented innovation groups among same day/next day scheduling clinics (-0.1% and 0.1%, respectively) and a 1.7% increase (from 7.7% to 9.4%) in the control group (Figure 9).

Figure 7: Percent of All Appointments No-Shows, 2014-15 to 2015-16.



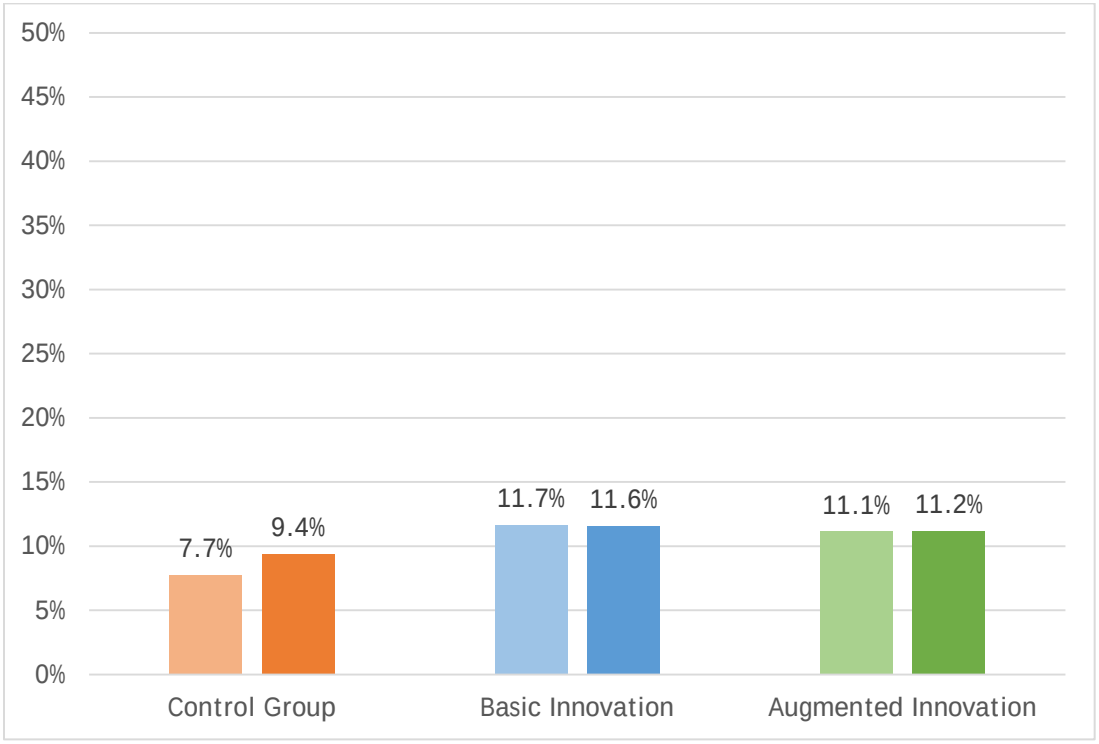
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 8: Percent of All Appointments No-Showed, 2014-15 to 2015-16: Standard Scheduling Clinics.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 9: Percent of All Appointments No-Showed, 2014-15 to 2015-16: Same Day/Next Day Scheduling Clinics.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

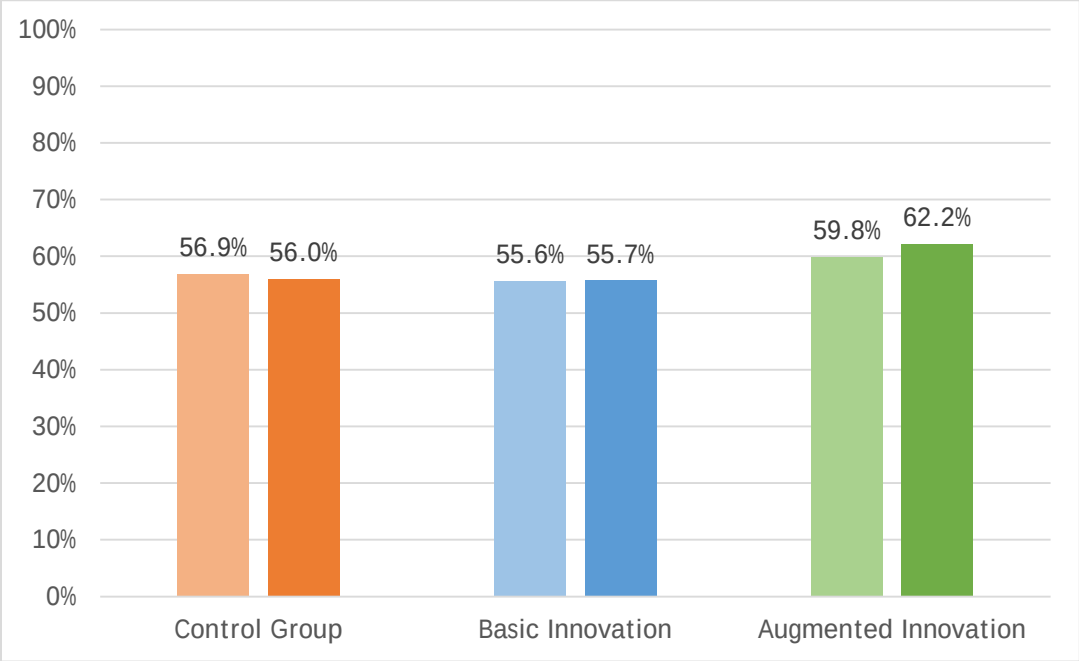
Recertification Appointments

Analysis of recertification appointments focuses on the proportion of appointments kept and no-showed along with the number of recertification appointments kept, which is used as a proxy measure for actual recertifications. This makes an assumption that all of the recertification appointments resulted in the client being recertified for WIC participation for another year.

Following the evaluation hypotheses, it should be expected that both innovations would increase the proportion of recertification appointments kept and decrease the proportion of recertification appointments no-showed. The augmented innovation should have a stronger effect on recertifications than the basic innovation, since the augmented innovation provides information about the benefits of WIC retention, in addition to appointment reminders, that should encourage clients to prioritize their recertification appointments.

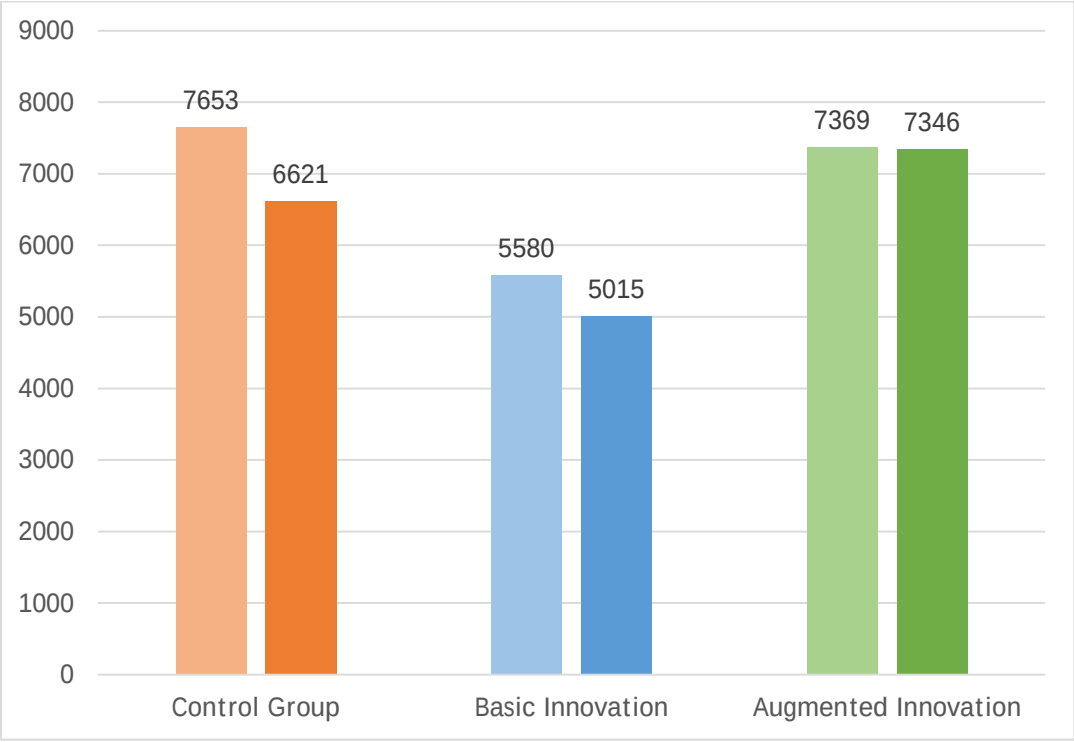
As predicted by the hypotheses, the augmented innovation group did have a larger increase, 2.4%, in the proportion of recertification appointments kept than the basic innovation group did (0.1%). The control group experienced a 0.9% decrease in the proportion of recertification appointments kept (Figure 10). There was not, however, an increase in any of the three groups in the total number of recertifications (Figure 11). The control group experienced a 13.5% decrease in the number of recertifications kept (from 7,653 in 2014-15 to 6,621 in 2015-16). Given the 6.7% decrease in client load for the control group, this equates to an approximate 6.8% decrease not attributable by the change in patient load. The basic innovation group experienced a 10.1% decrease (from 5,580 to 5,015), and the augmented innovation group had a much smaller decrease of 0.3% (from 7,369 to 7,346) and had the highest number of recertifications in the pilot year. There were no obvious trends over the two-year period (Figure 12).

Figure 10: Percent of Recertification Appointments Kept, 2014-15 to 2015-16.



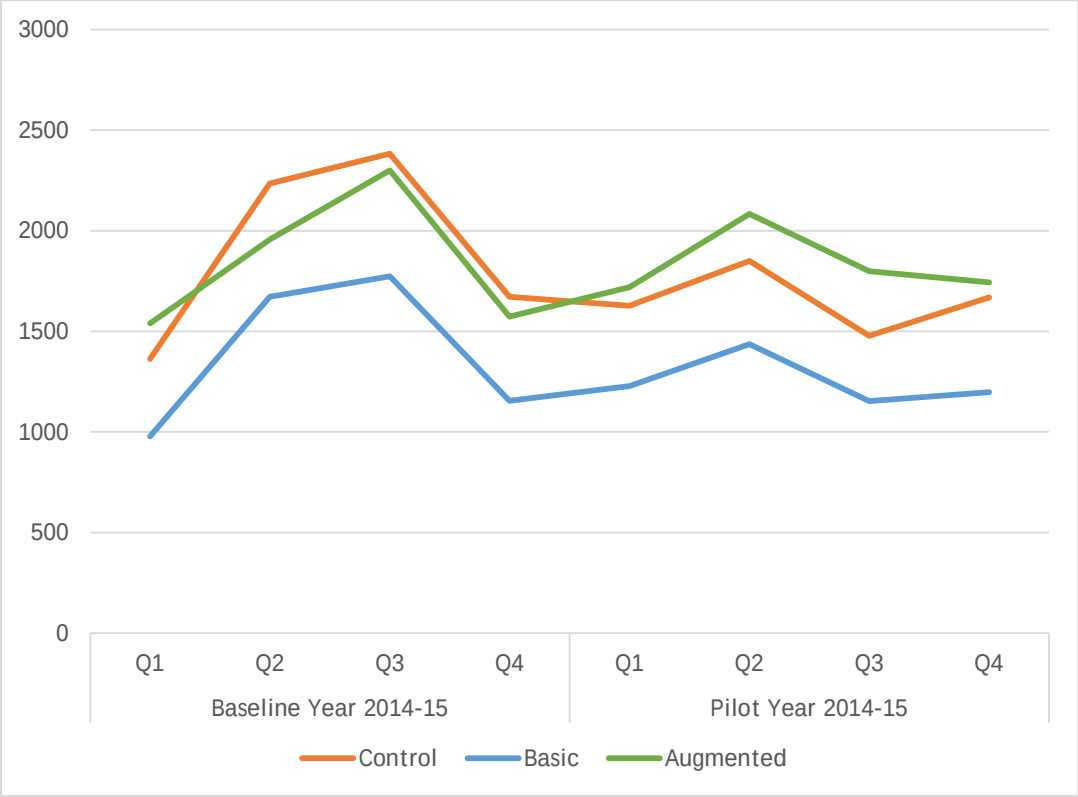
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 11: Number of Recertification Appointments Kept, 2014-15 to 2015-16.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 12: Number of Recertification Appointments Kept, June 2014-May 2016.

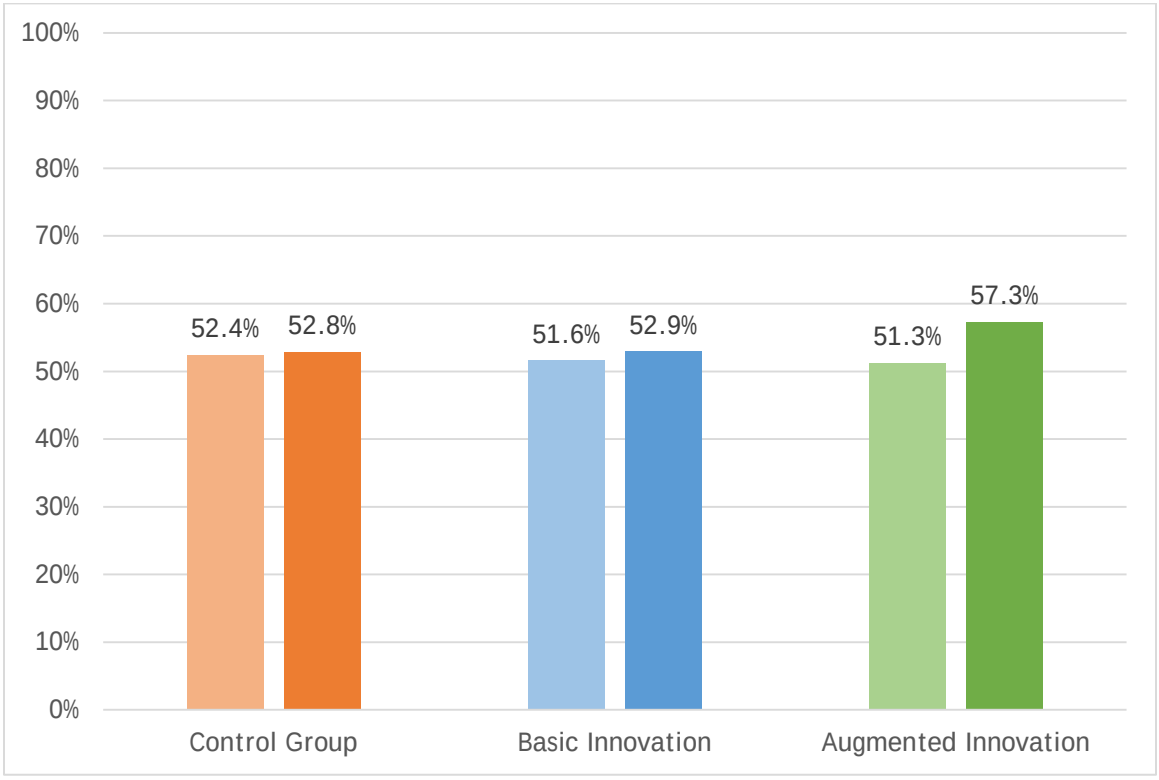


Again, the changes in the proportion of recertification appointments kept were more pronounced among standard scheduling clinics, where the control group actually had a 0.4% increase (from 52.4% to 52.8%) and the basic innovation group had a 1.3% increase (from 51.6% to 52.9%). The augmented innovation group among standard scheduling clinics had a 6.0% increase (from 51.3% to 57.3%), and had the highest proportion of recertification appointments kept in 2015-16, despite having the lowest rate in 2014-15 (Figure 13).

There was a reduction in the proportion of appointments kept in all three groups among same day/next day scheduling clinics: 2.9% in the control group, 1.8% in the basic innovation group, and 1.9% in the augmented innovation group (Figure 14). There was not an obvious trend over the two year-period for standard scheduling clinics (Figure 15).

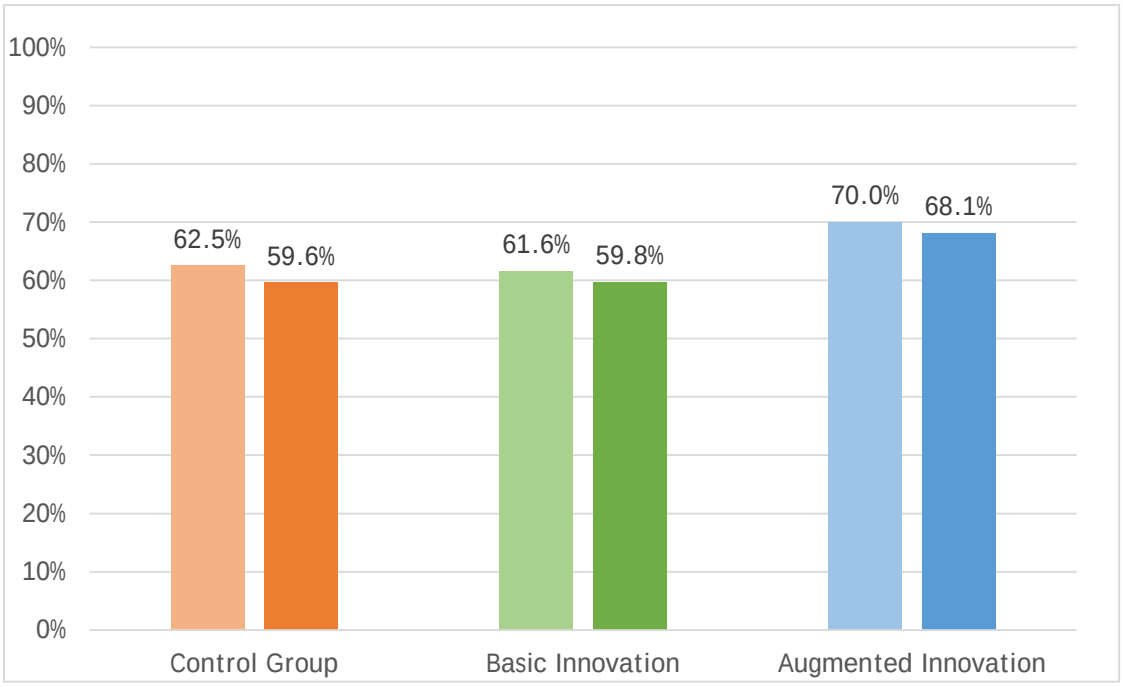
The no-show rate for recertification appointments increased for both the control group (0.5%, from 15.8% to 16.3%) and the basic innovation group (0.9%, from 13.5% to 14.4%), and decreased for the augmented innovation group by 2.1% (from 22.3% to 20.2%) as shown in Figure 16. It is worth noting that the augmented innovation group had the highest no-show rate among the three groups in the baseline year (Figure 16). Following the results described thus far, the change was most substantial among standard scheduling clinics, where the augmented innovation group experienced a 4.1% decrease (from 29.4% to 25.3%) (Figure 17). Effects were not pronounced among same day/next day scheduling clinics (Figure 18).

Figure 13: Percent of Recertification Appointments Kept, 2014-15 to 2015-16: Standard Scheduling Clinics.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 14: Percent of Recertification Appointments Kept, 2014-15 to 2015-16: Same Day/Next Day Scheduling Clinics.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 15: Number of Recertification Appointments Kept, June 2014-May 2016: Standard Scheduling Clinics.

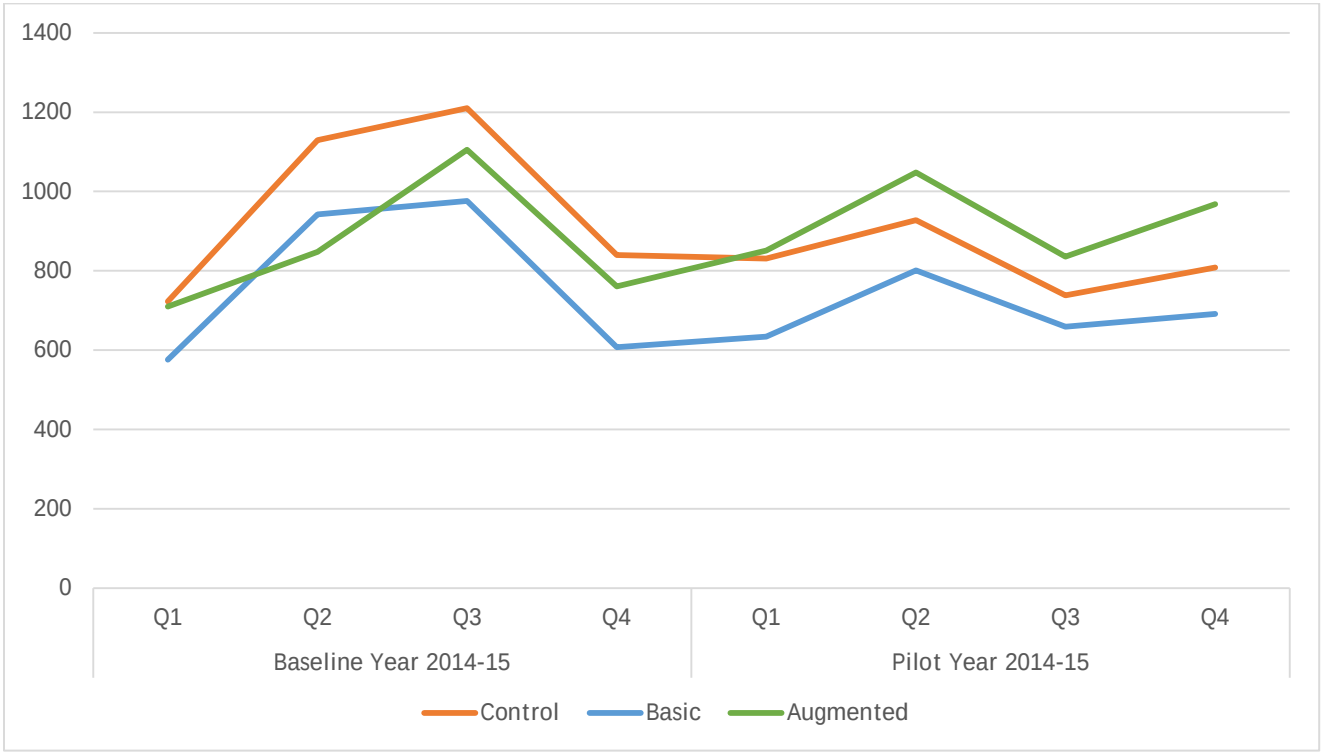
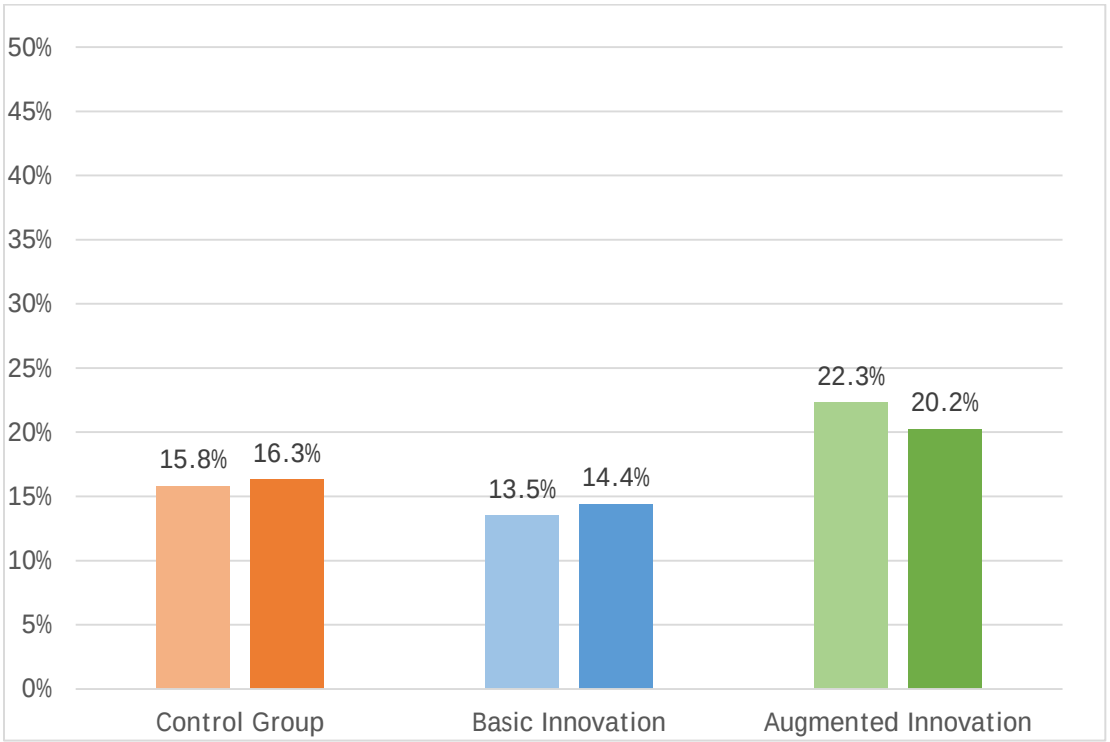
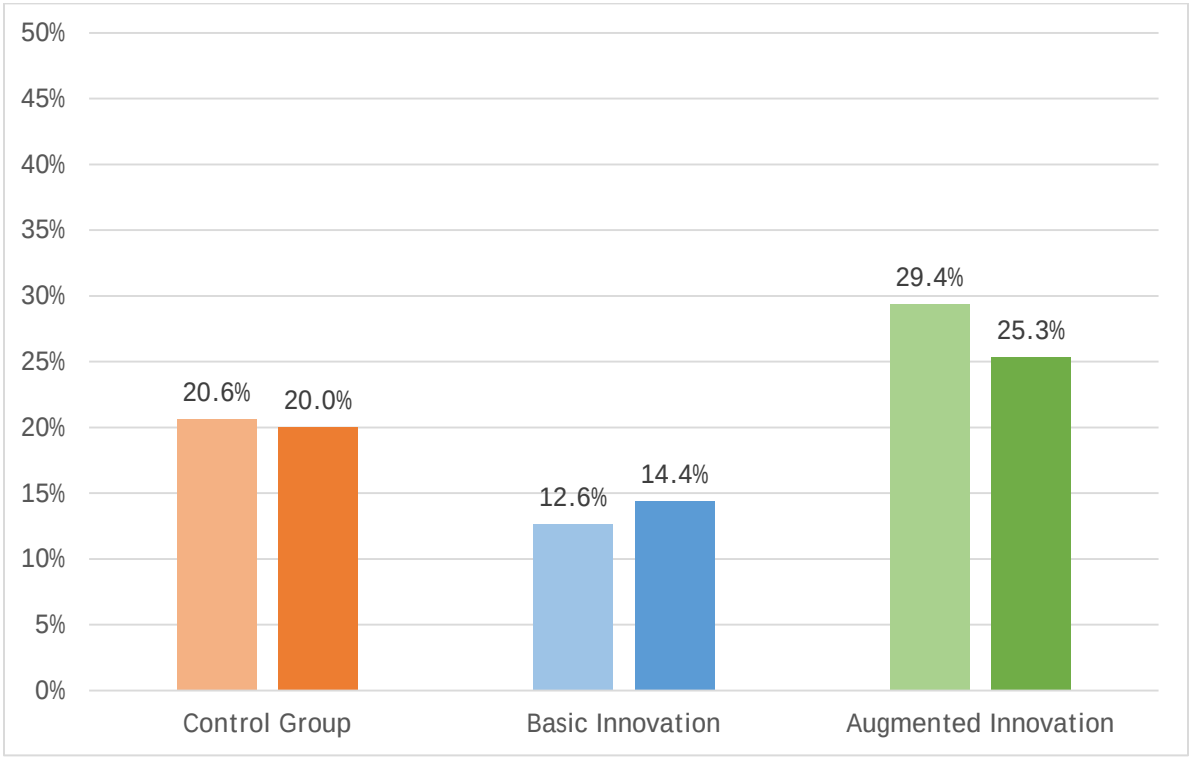


Figure 16: Percent of Recertification Appointment No-Shows, 2014-15 to 2015-16: All clinics



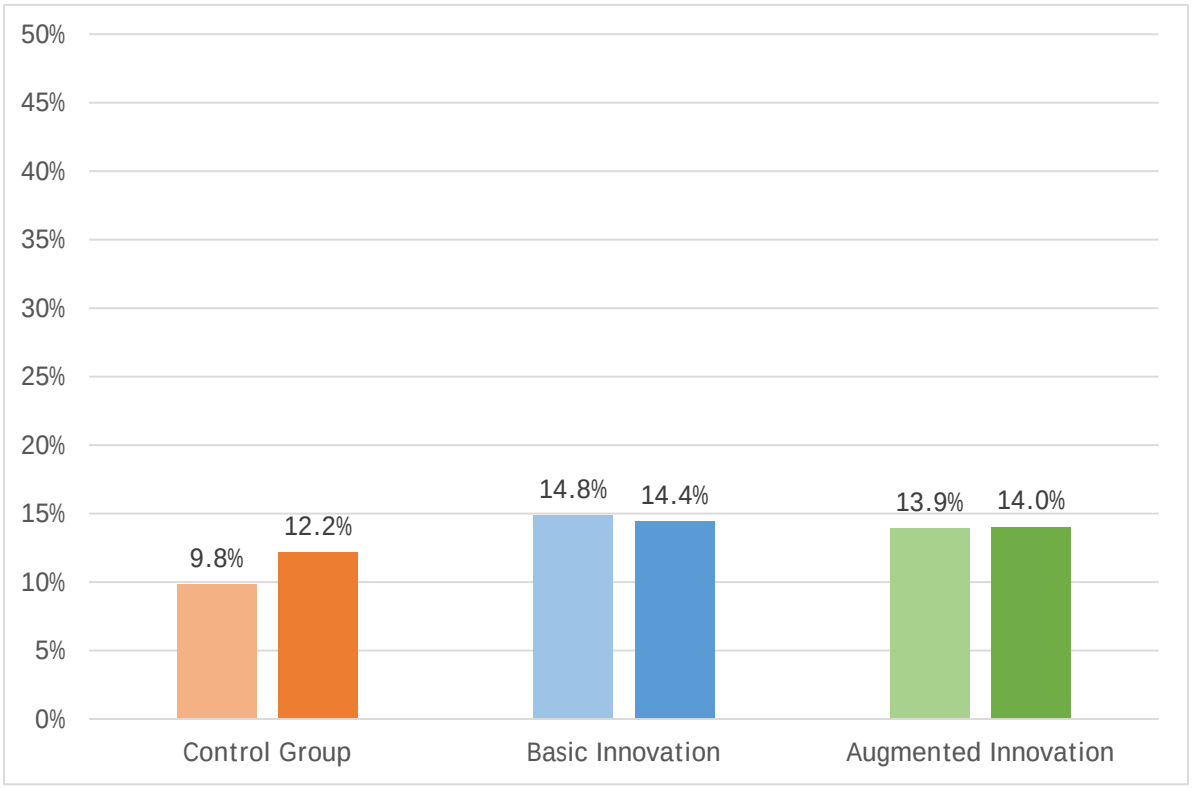
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 17: Percent of Recertification Appointments No-Showed, 2014-15 to 2015-16: Standard Scheduling Clinics.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 18: Percent of Recertification Appointments No-Showed, 2014-15 to 2015-16: Same Day/Next Day Scheduling Clinics.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

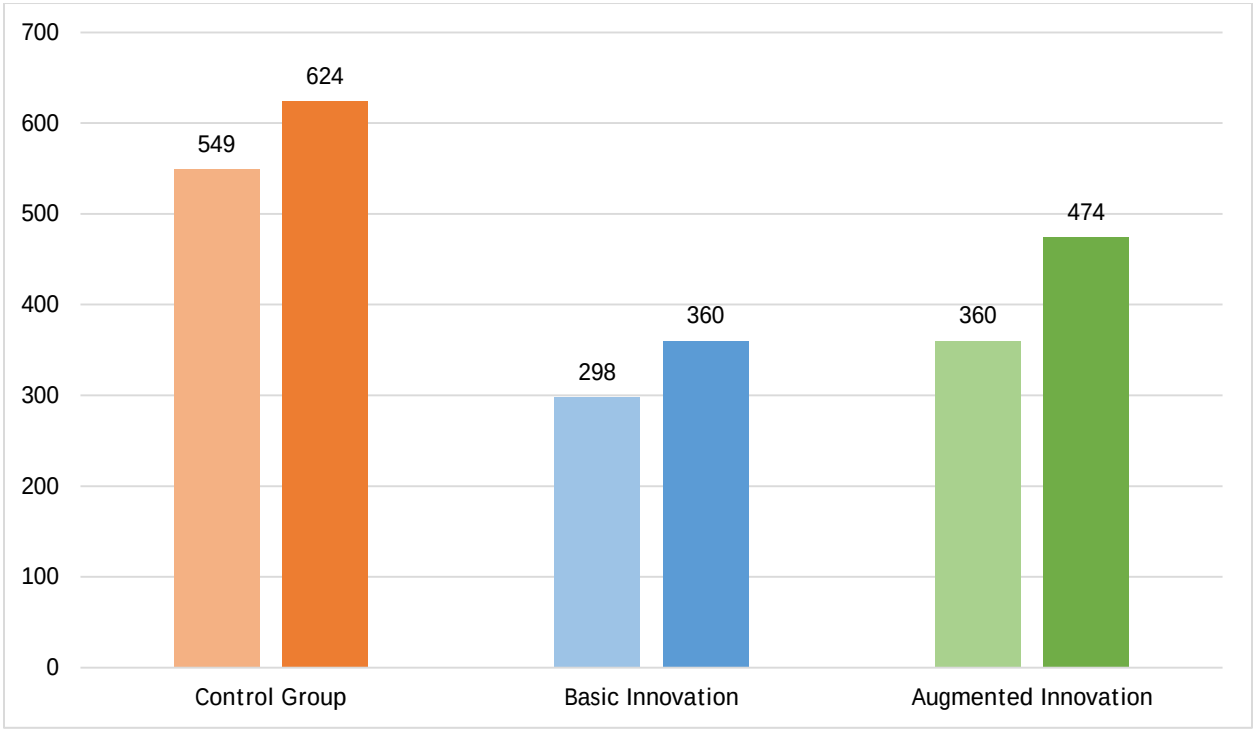
Reinstatements

Reinstatements occur when a client is voluntarily terminated, but is reinstated following contact with the WIC clinic within their current certification period. The augmented innovation includes a follow-up text message to clients who are voluntarily terminated, informing them of their ability to re-enroll, and of the benefits of continued participation that is specifically tailored to their child's age. Following the evaluation hypotheses, it should be expected that the augmented innovation would increase the number of reinstatements in the augmented innovation group specifically. No effect is anticipated in the basic and control groups.

Reinstatements increased for all three groups between the baseline and pilot years, but increased the most substantially for the augmented innovation group (13.7% for the control, 20.8% for the basic innovation group, and 31.7% for the augmented innovation group) (Figure 19). Considering the 6.7% decline in enrollments for the control group, it can be approximated that there was a 20.4% increase in reinstatements over what it would have been, given the decrease in caseload. This follows the evaluation hypothesis that while there were no differences between the control and basic innovation groups, there was an additional improvement for the augmented innovation group.

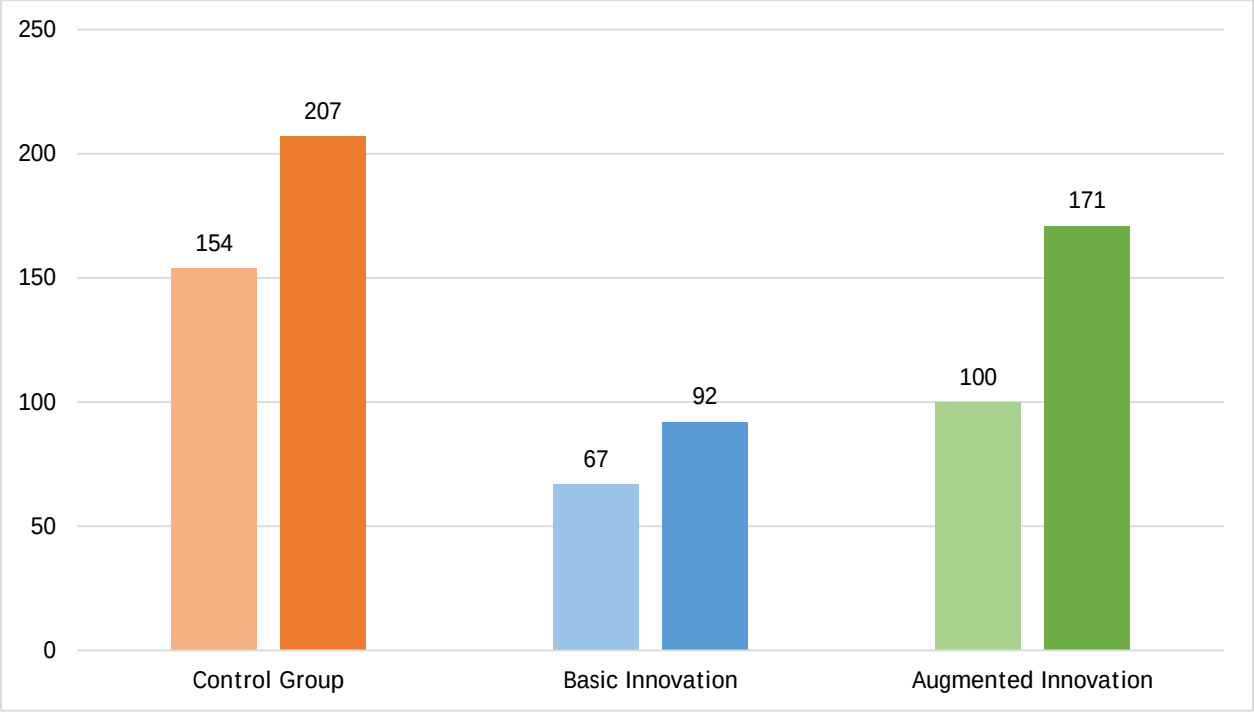
Again, the change in reinstatements between the baseline and pilot years was much more pronounced in the standard scheduling clinics for all three groups. Among standard scheduling clinics, the control increased reinstatements 34.4%, the basic innovation group increased 37.3%, and the augmented innovation group had a substantial 70.1% increase (Figure 20). Increases were less pronounced among same day/next day scheduling clinics (5.6%, 16.0%, and 16.5%, respectively) (Figure 21). This supports the finding that the augmented innovation has a positive effect on the number of reinstatements, since there was not a substantive change in enrollments among standard scheduling clinics, and these changes are comparable across the three groups.

Figure 19: Number of Reinstatements, 2014-15 to 2015-16.



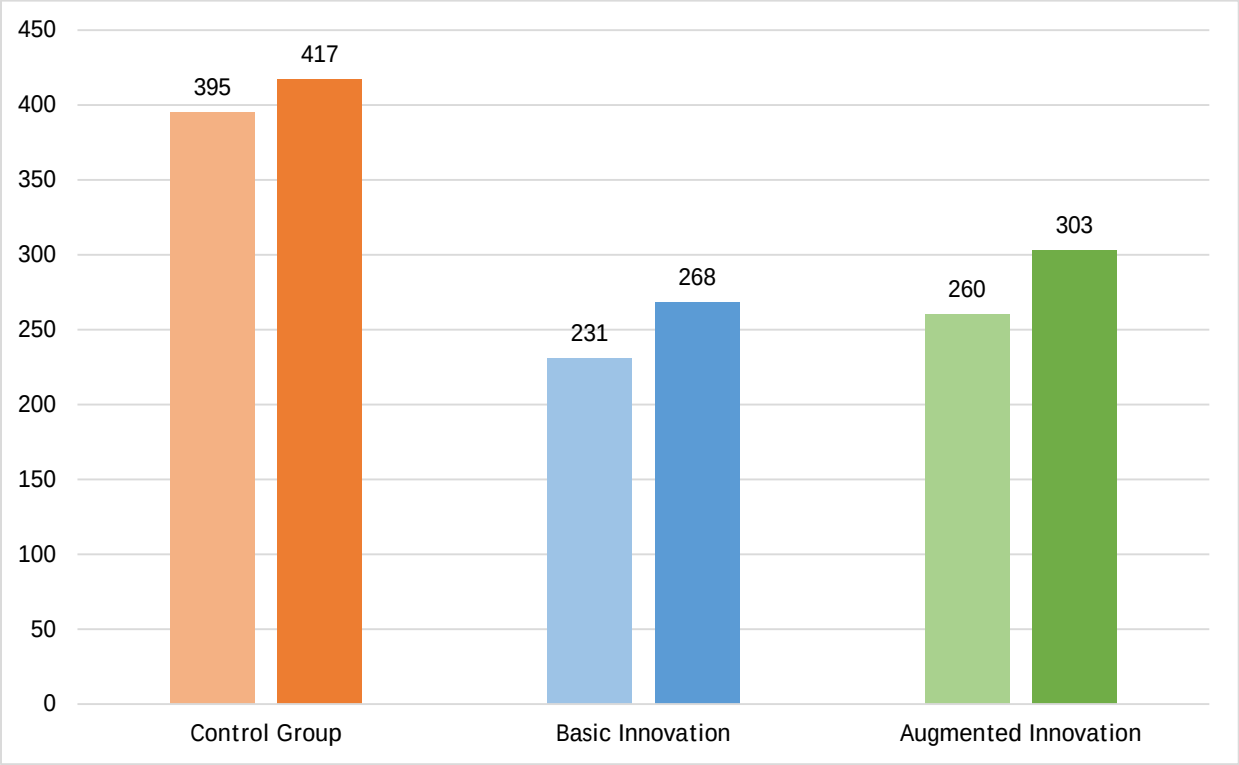
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 20: Number of Reinstatements, 2014-15 to 2015-16: Standard Scheduling Clinics.



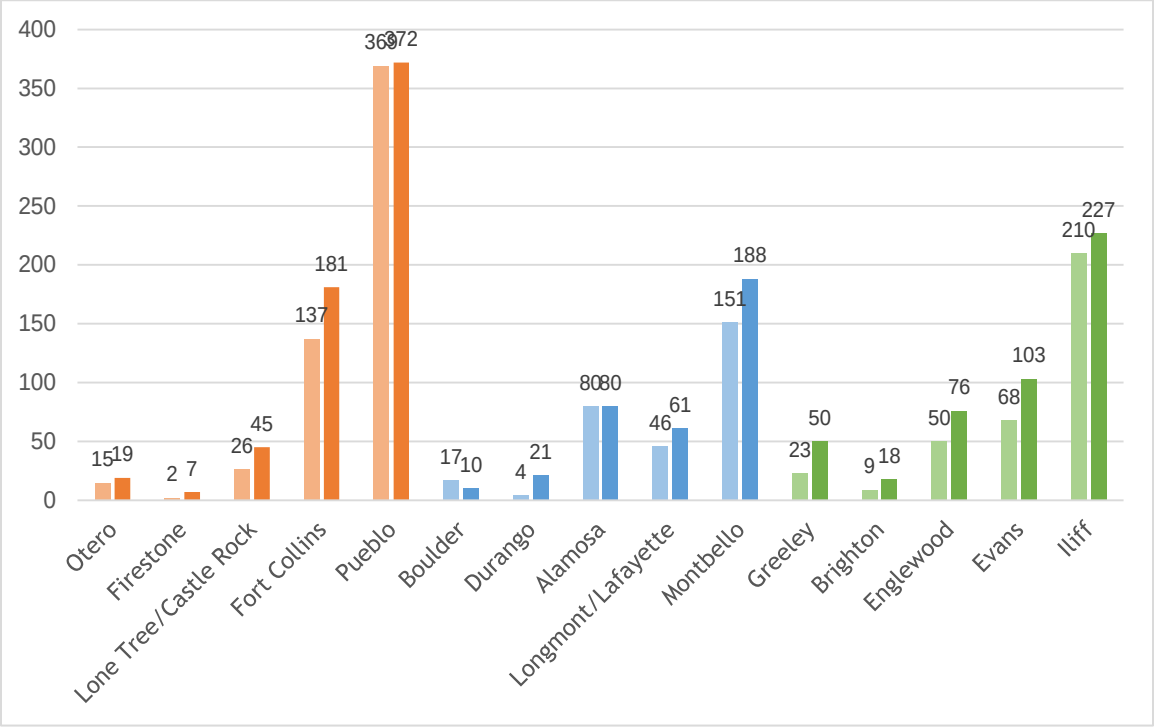
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 21: Number of Reinstatements, 2014-15 to 2015-16: Same Day/Next Day Clinics.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 22: Number of Reinstatements, 2014-15 to 2015-16, by Clinic.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

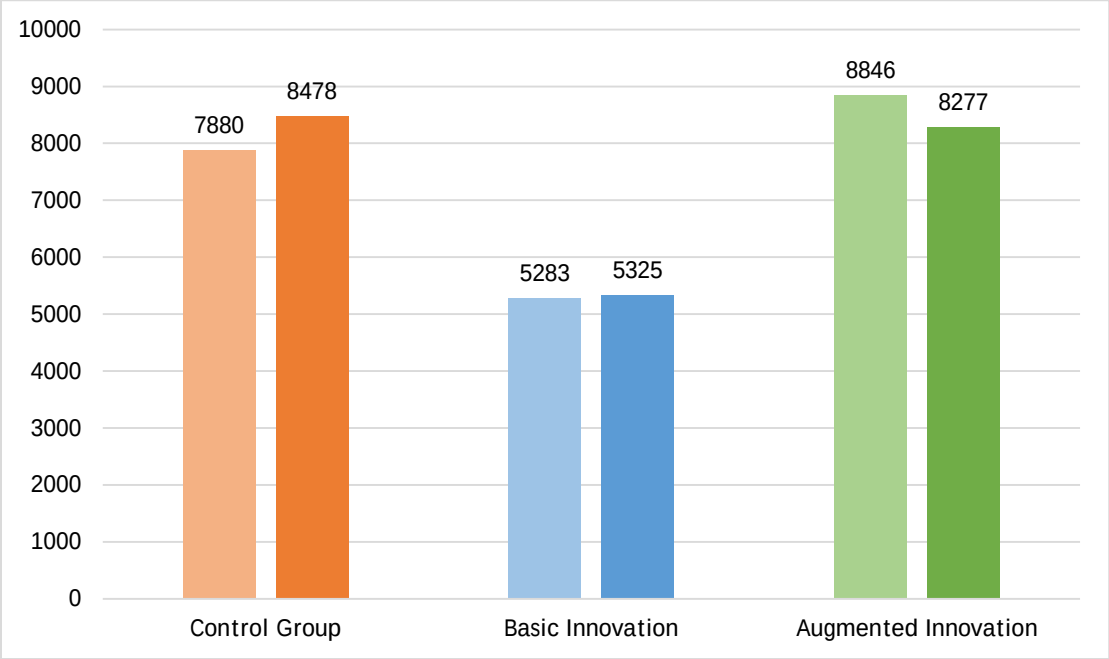
Voluntary Terminations

Terminations due to a failure to pick up the food benefit, a failure to provide proof (i.e., pay stubs, identification, or other required documentation), and a failure to reapply were classified as voluntary termination reasons. Due to the appointment reminders sent to the innovation groups and the information about the benefits of continued WIC participation sent specifically to the augmented innovation group, it should be expected that the number of voluntary terminations would decrease among both innovation groups, and decrease more significantly for the augmented innovation group.

Voluntary terminations actually increased 7.6% for the control group over the year-long period. This can be explained partially by the 6.7% decrease in enrollments. There was virtually no change (0.1% increase) for the basic innovation group. However, the augmented innovation group experienced a 6.4% decrease (Figure 23). The control group also experienced a steady upward trend across the two-year baseline and pilot period which was not apparent in the innovation groups (Figure 24). When looking at children specifically, the control group experienced a 11.9% increase, the basic innovation had a 2.9% increase, and the augmented innovation had a 5.1% decrease (Figure 25).

Following the other measures, the effects varied by scheduling type. For the control group, the most pronounced increase was amongst the same day/next day clinics, which experienced a 12.4% increase, compared to a 1.3% increase for standard scheduling clinics. This is likely caused by the change in enrollments at the Pueblo clinic. The basic innovation had a 4.2% decrease in voluntary terminations amongst standard scheduling clinics, but a 5.3% increase amongst same day/next day clinics. The augmented innovation had decreases in both types of clinics, but a larger decrease (7.6%) for the standard scheduling clinics than for the same day/next day scheduling clinics (5.6%) (Figure 26).

Figure 23: Number of Voluntary Terminations, 2014-15 to 2015-16.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 24: Number of Voluntary Terminations, June 2014 to May 2016.

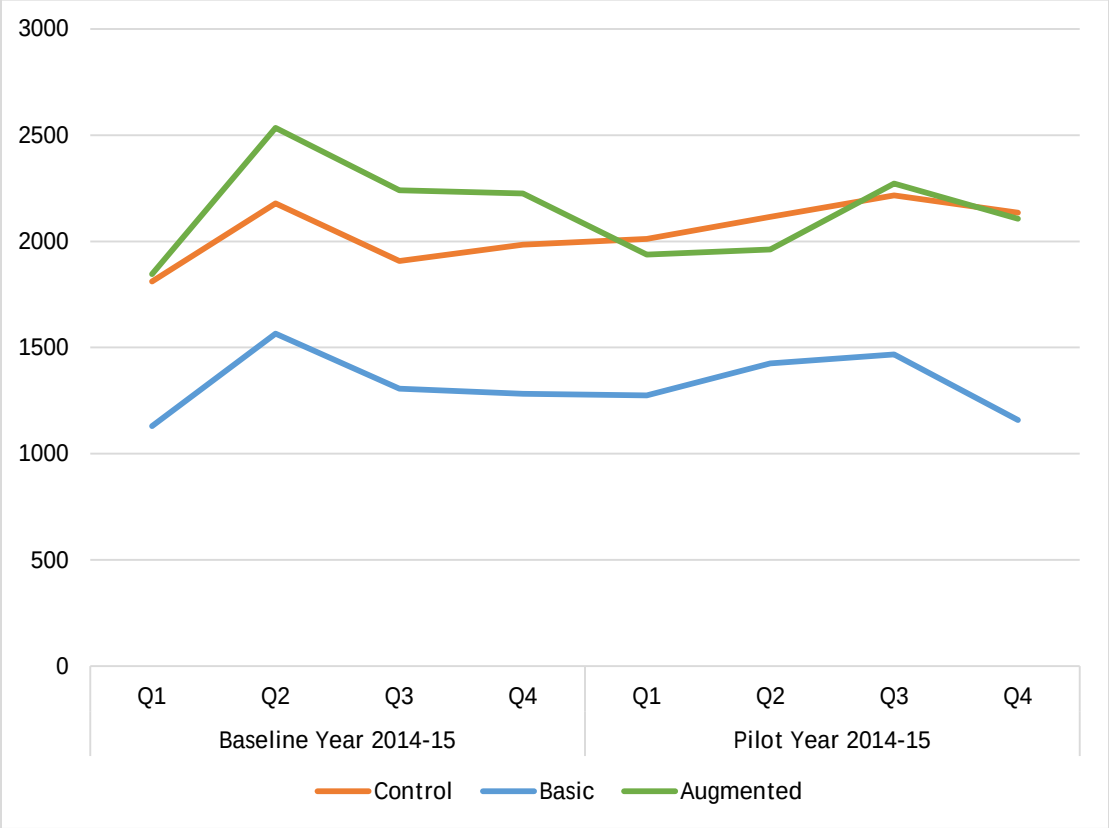
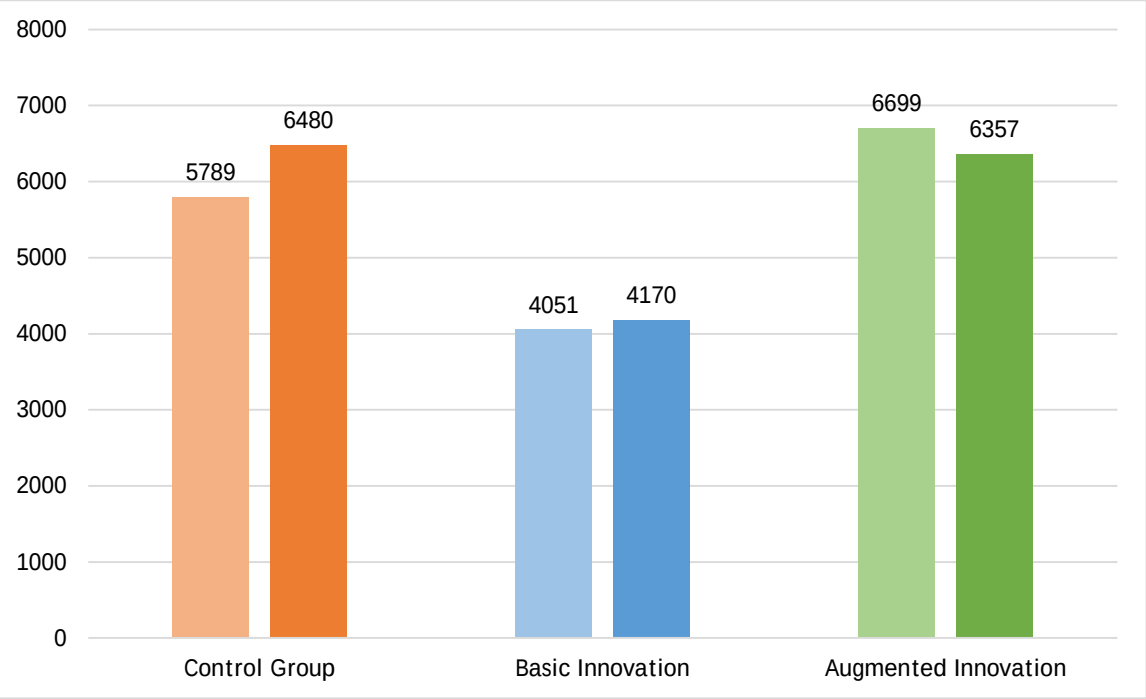
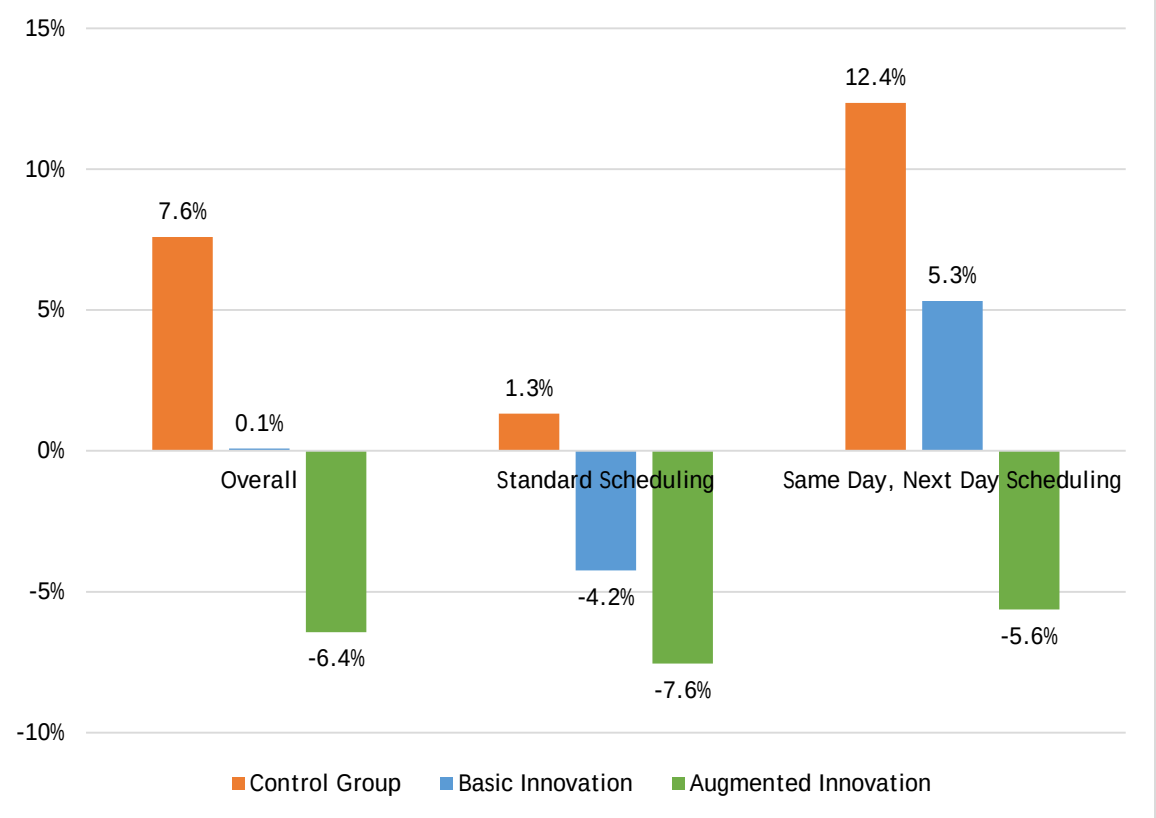


Figure 25: Number of Voluntary Terminations for Children, 2014-15 to 2015-16.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 26: Percent Change in Voluntary Terminations, 2014-15 to 2015-16, by Scheduling Type.



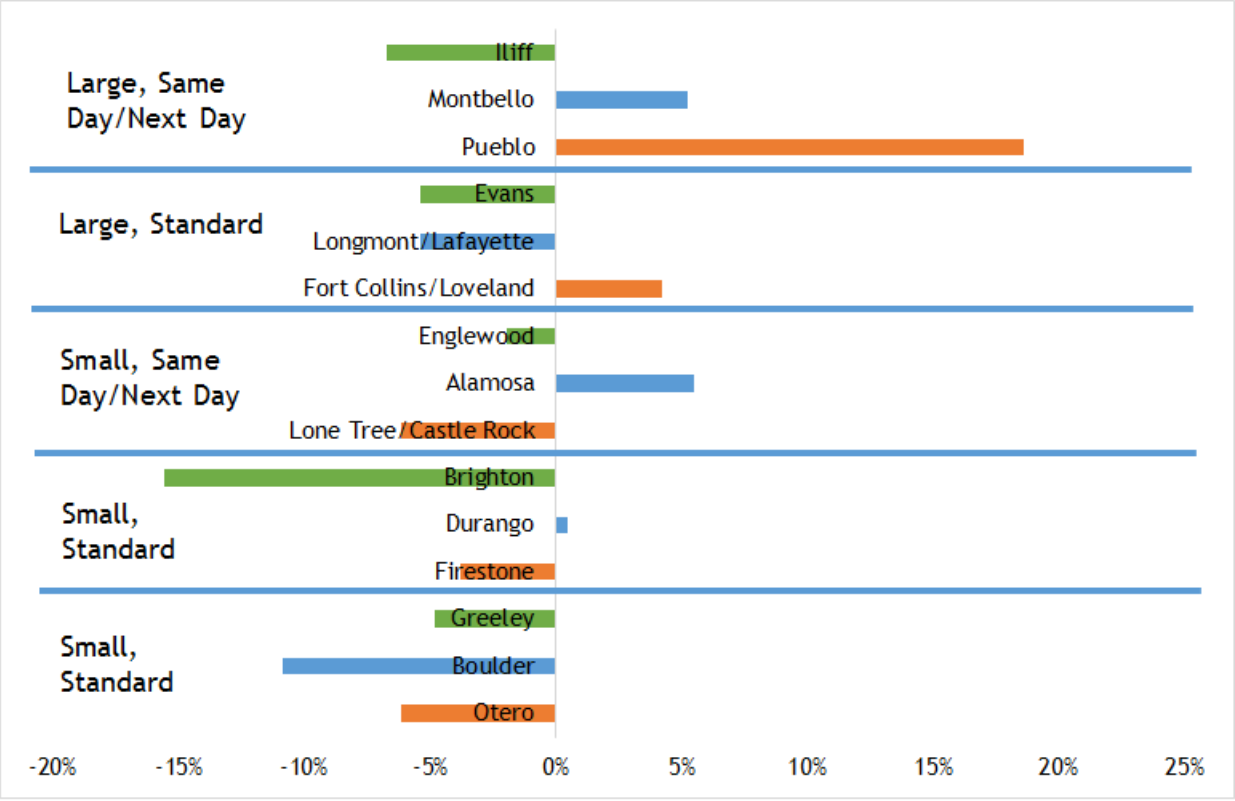
At the grouped clinic level, it is clear that much of the increase to voluntary terminations was driven by the Pueblo clinic (Figure 27), with an increase of 18.6%, which has same day/next day scheduling. Brighton had the largest decrease in voluntary terminations (15.6%).

Causes for voluntary terminations are primarily split between a failure to reapply and a failure to pick up the food benefit, with less than 10% across all groups terminating due to a failure to provide proof (Figure 28).

The number of terminations due to a failure to reapply, which should be impacted by the text message reminders, decreased for all three groups – 1.9% for the control, 2.1% for the basic innovation group, and 9.6% for the augmented innovation group (Figure 29). Failure to provide proof also decreased for all three groups – 25.6% for the control, 6.5% for the basic innovation, and 39.5% for the augmented innovation (Figure 30).

The number of terminations due to a failure to pick up the food benefit increased for all three groups, but increased much less for the innovation groups than for the control. The control group had a 23.2% increase in terminations for this reason, whereas the basic innovation had a 4.8% increase and the augmented innovation had a 2.4% increase (Figure 31).

Figure 27: Percent Change in Voluntary Terminations, 2014-15 to 2015-16, by Clinic Grouping.



*Note: Control group indicated in orange, basic innovation group in blue, augmented innovation in green

Figure 28: Voluntary Termination Reasons, 2014-15 to 2015-16.

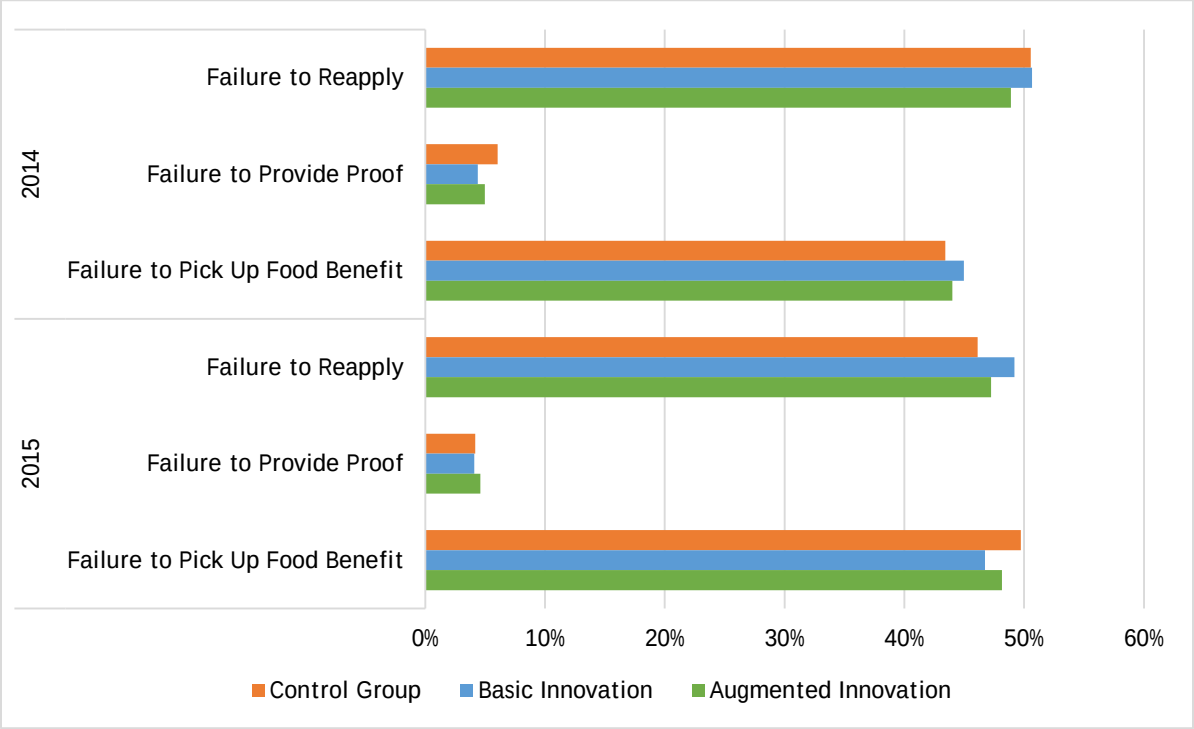
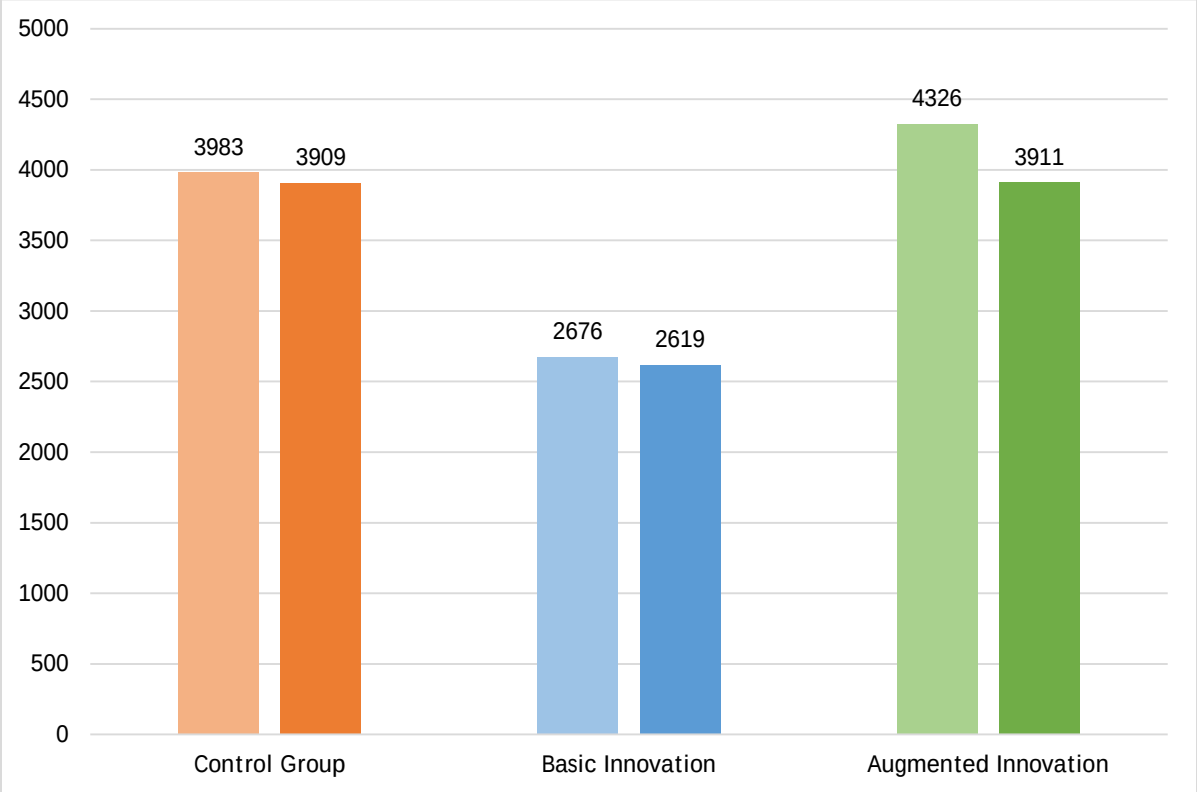
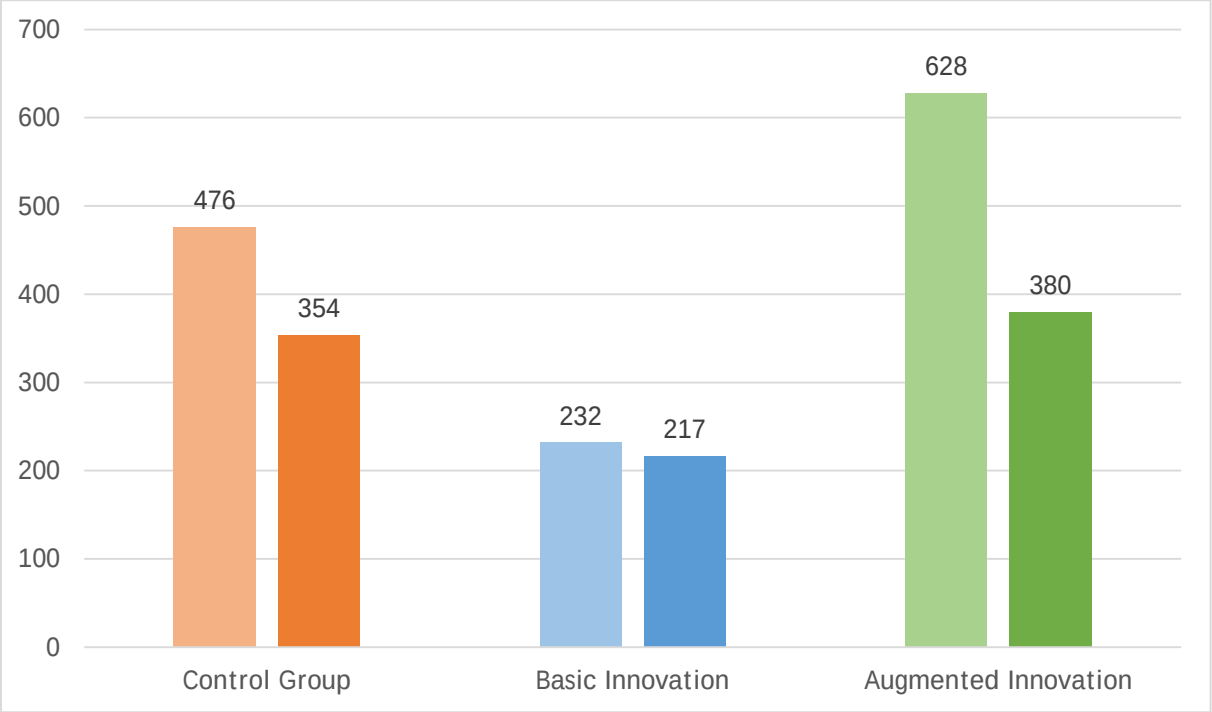


Figure 29: Number of Terminations due to a Failure to Reapply, 2014-15 to 2015-16.



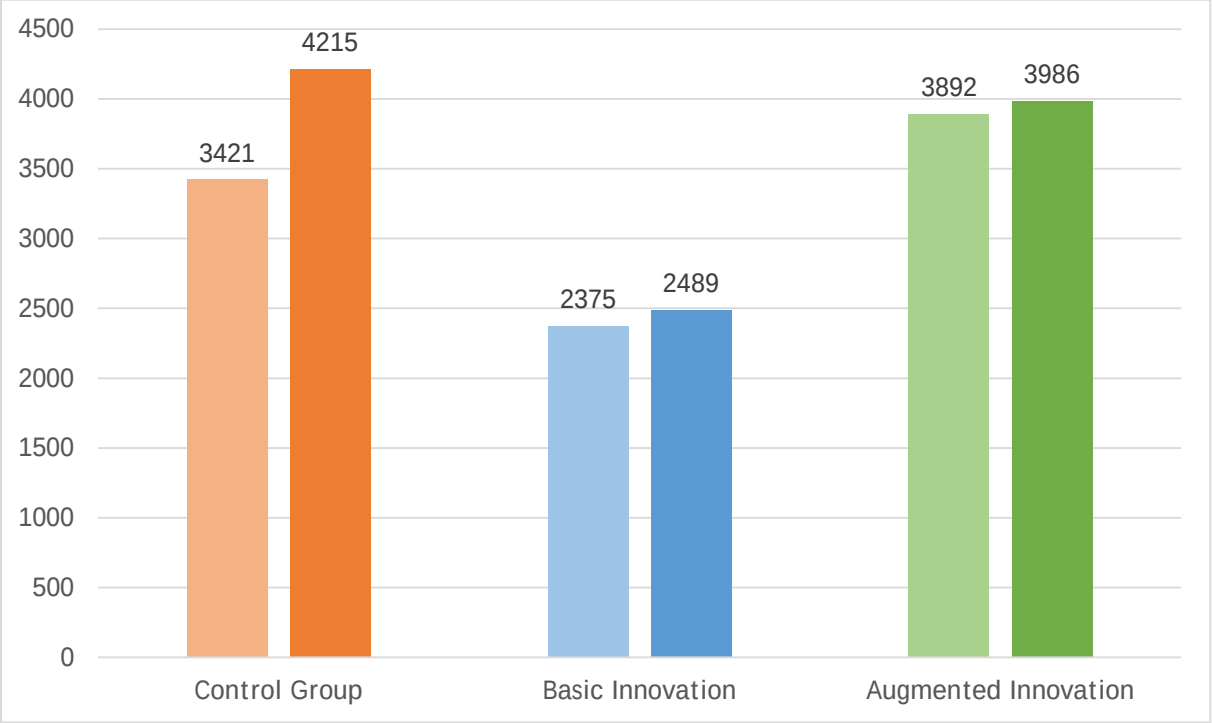
Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 30: Number of Terminations due to Failure to Provide Proof, 2014-15 to 2015-16.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Figure 31: Number of Terminations due to a Failure to Pick Up the Food Benefit, 2014-15 to 2015-16.



Note: Orange indicates the control group, blue indicates the basic innovation group, and green indicates the augmented innovation group. Darker colors indicate the pilot year, 2015-16.

Statistical Testing

The qualitative surveys were designed to be descriptive in nature, providing an overall picture of how clinics perceived the texting pilot. The data was analyzed descriptively by summarizing frequencies and relative frequencies (percentages) for each survey question, which were stratified by groups. Although it was not the primary purpose of the survey, differences in perceptions across clinic types were noted for where observed. However, due to the small number of responses within each of the clinic types, it was not appropriate to perform chi square or other statistical tests. The survey results were interpreted as supportive of the pilot, but reflective only of the opinions of those individuals who responded. However, the size of the sample (15 clinics or clinic groupings, Table 1) does not give sufficient statistical power to yield a significant result from most tests, despite some clear changes between the baseline and pilot years that are likely attributable to the texting innovation.

In the future, tests could be performed that analyze terminations and reinsatements specifically at a client level. With the entire year-long client load for each clinic, it would likely be possible to obtain a significant result.

Clinic Feedback – Qualitative Analysis

Participating WIC clinics were asked to respond to a short survey regarding their experiences with the texting pilot to help the state office weigh the pros and cons of statewide implementation. The survey was designed to gather information about the feedback clinics received from clients, and assess staff perceptions of the client experience, interest in implementing the texting program on a permanent basis, and time saved due to the pilot. The survey was sent out to every staff member that worked in one of the 11 clinics which participated either the basic or the augmented innovation in January 2016 via Survey Monkey. Staff were given eleven days to respond. The number of responses received from clinic staff in each innovation group and scheduling type is shown below in Table 5.

Table 5: Number of Respondents per Innovation Group and Scheduling Type.

	Standard	Same Day/Next Day	Totals
Basic Innovation	4	4	8
Augmented Innovation	7	15	22
Totals	11	19	30

The survey results strongly support statewide implementation of the texting program. Twenty-nine of the 30 respondents (97%) felt that the text/phone appointment reminders should be provided to all Colorado WIC participants. Twenty-seven of the 30 respondents (90%) agreed that the client feedback they received about the pilot was positive, and twenty-five out of 30 (83%) felt that the pilot improved the client experience. The majority of respondents (63%) also reported that staff time was freed up due to the texting pilot (Figure 32).

Figure 32: Percent of All Respondents Responding Positively to Survey Items.

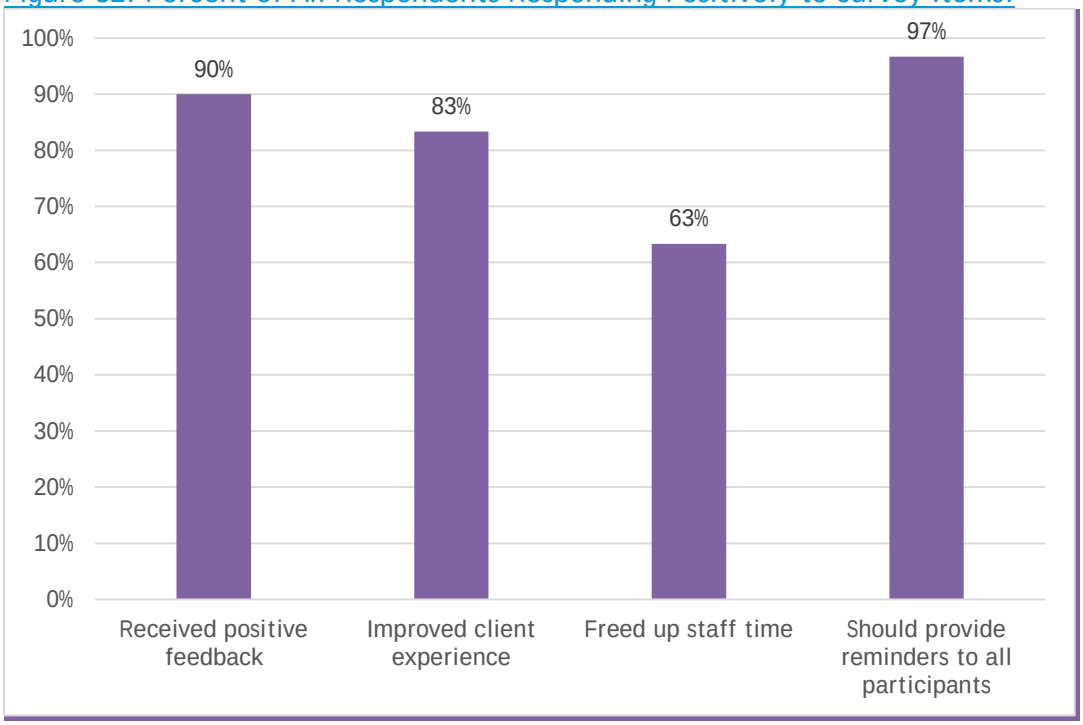


Figure 33 shows that staff perceptions of the pilot were generally more positive for clinics that use a standard scheduling method, compared to those using the same day/next day and same/day within week scheduling methods. All eleven respondents who represented clinics using the standard scheduling method agreed or strongly agreed that the client feedback was positive, that the pilot improved the client experience, and that reminders should be sent to all WIC participants. However, there was slightly less agreement (55%) from standard scheduling clinics that the pilot freed up staff time. Perceptions varied only slightly between the clinics that implemented the basic reminders and the augmented reminders. As shown in Figure 34, the augmented innovation group provided slightly more positive feedback about the pilot than the basic innovation group. Fifteen of the 22 respondents from clinics that implemented augmented texting reminders (68%) reported an increase in call volume. However, of these 15 people, 12 reported that the pilot freed up staff time, suggesting that the heavier call volume did not increase the overall workload at the clinic. Comments suggest that many clinics were able to accommodate the increase in client calls within existing staffing, with minor adjustments to staffing and/or by using back-ups at the reception desk during heavy call periods (Figure 35).

Figure 33: Percent Responding Positively to Survey Questions, by Scheduling Method.

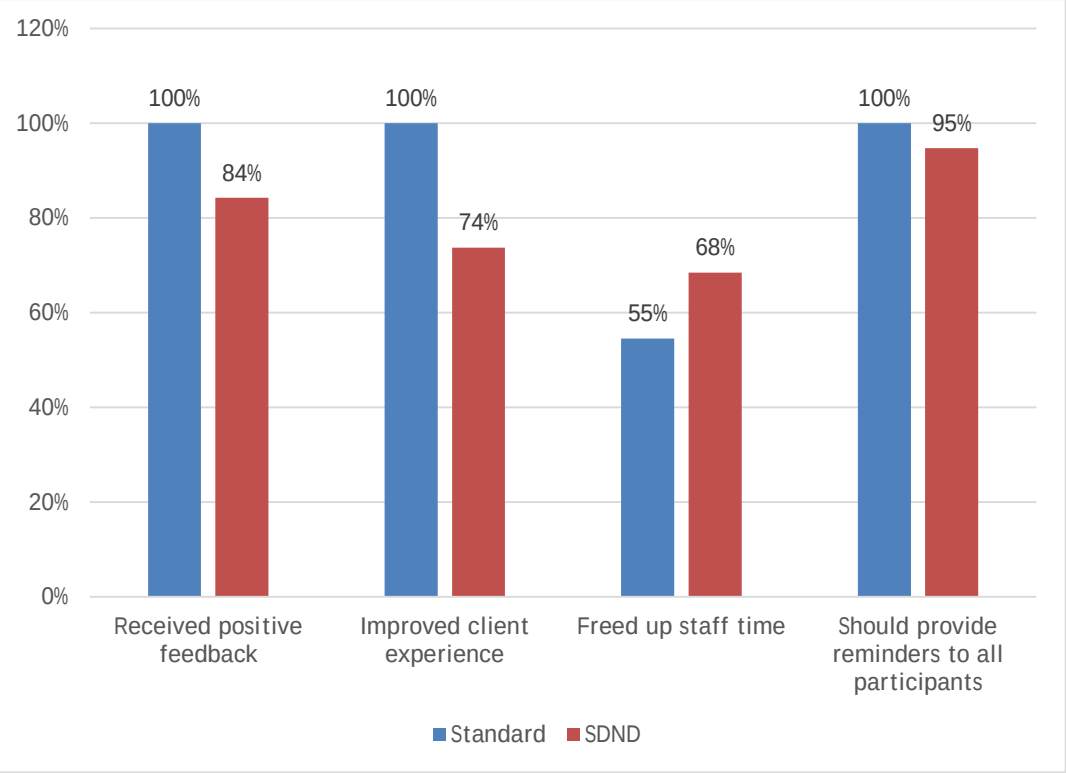


Figure 34: Percent Responding Positively to Survey Items, by Intervention Type.

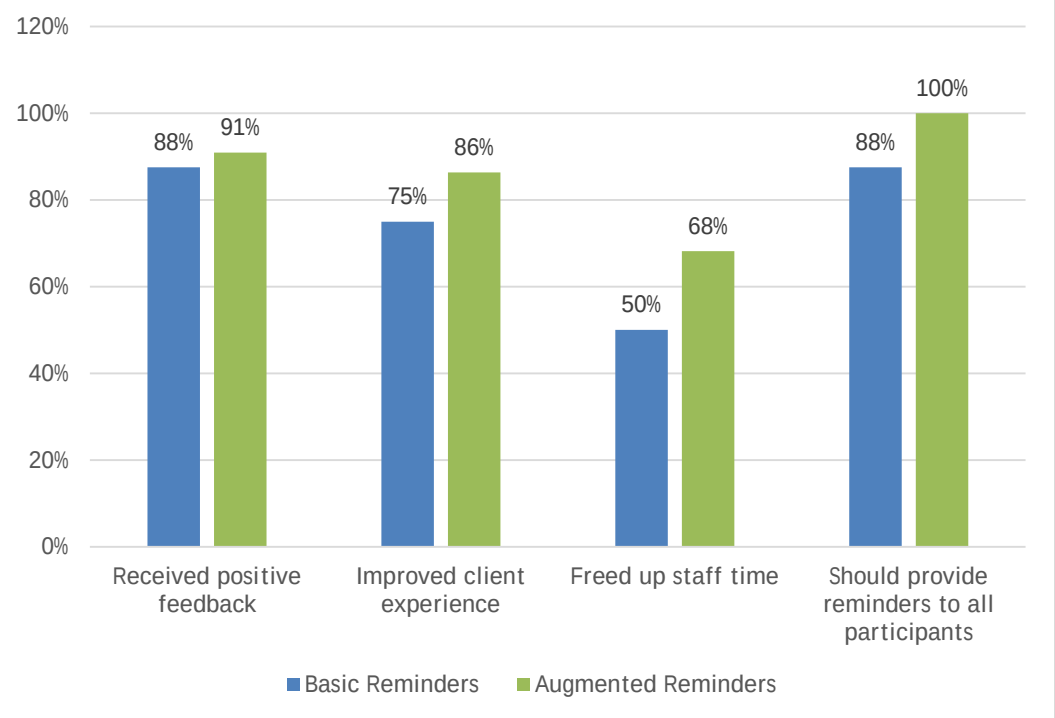
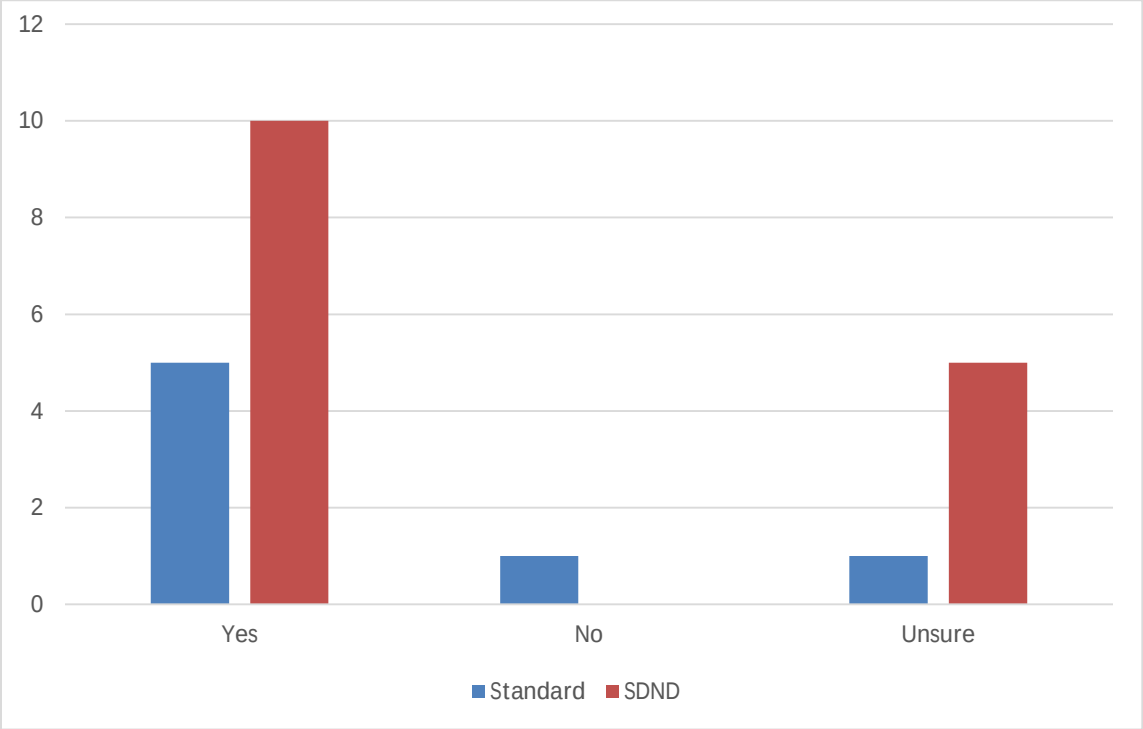


Figure 35: Number of Respondents Reporting Increased Client Calls, by Scheduling Type.



Open-ended comments from the 22 respondents who utilized augmented reminders suggested that, regardless of clinic scheduling method, the text messages helped clients remember to show up for appointments and/or call ahead to schedule their appointments. Many reported a perceived decrease in no-show rates, which was supported in the quantitative data. A few clinics also reported that the texts were helpful to clinic staff, as they didn't have to spend as much time calling clients about missed appointments.

Negative aspects of the texting pilot were limited with only one major theme emerging. Nineteen out of 30 clinics (63%) reported a problem with the wording of one particular text message that was sent to clients indicating that they had checks "waiting" for them. The text was unclear and caused clients to come in expecting that checks would be ready for them when they dropped into the office. Of lesser concern was a perceived problem with the date/times used in the text messages. Six people reported that they had a few instances where the text message provided the wrong date and/or time for the client's appointment.Tables 6 through 9 provide more detailed information about the feedback received from clients.

Table 6: The client feedback I received about the text messaging pilot was positive.

	Strongly Agree or Agree	Neutral	Strongly Disagree or Disagree
Basic Innovation (n=8)	**7**	**1**	**0**
Standard	*4*	*0*	*0*
Same Day/Next Day	*3*	*1*	*0*
Augmented Innovation (n=22)	**20**	**1**	**1**
Standard	*7*	*0*	*0*
Same Day/Next Day	*13*	*1*	*1*
All Groups (N=30)	**27**	**2**	**1**

Table 7: The texting pilot improved the client experience using WIC services.

	Strongly Agree or Agree	Neutral	Strongly Disagree or Disagree
Basic Innovation (n=8)	**6**	**2**	**0**
Standard	*4*	*0*	*0*
Same Day/Next Day	*2*	*2*	*0*
Augmented Innovation (n=22)	**19**	**1**	**2**
Standard	*7*	*0*	*0*
Same Day/Next Day	*12*	*1*	*2*
All Groups (N=30)	**25**	**3**	**2**

Table 8: The texting pilot freed up local WIC staff time to focus on other important tasks.

	Strongly Agree or Agree	Neutral	Strongly Disagree or Disagree
Basic Innovation (n=8)	**4**	**3**	**1**
Standard	*2*	*2*	*0*
Same Day/Next Day	*2*	*1*	*1*
Augmented Innovation (n=22)	**15**	**4**	**3**
Standard	*4*	*2*	*1*
Same Day/Next Day	*11*	*2*	*2*
All Groups (N=30)	**19**	**7**	**4**

Table 9: Should the state office provide text/phone appointment reminders to all Colorado WIC participants?

	Yes	No
Basic Innovation (n=8)	**7**	**1**
Standard	*4*	*0*
Same Day/Next Day	*3*	*1*
Augmented Innovation (n=22)	**22**	**0**
Standard	*7*	*0*
Same Day/Next Day	*15*	*0*
All Groups (N=30)	**29**	**1**

Impact

The WIC Texting for Retention Program pilot, specifically the augmented intervention, appears to have an overall positive effect on multiple measures of WIC retention, and has achieved staff buy-in at the clinic level. The pilot program is associated with a nominal improvement in the kept and no-show rates for all appointments, and larger improvements for the kept and no-show rates for recertification appointments, specifically.

By far the largest impact associated with the texting innovations was in the number of reinstatements in the innovation clinics: compared with a 13.7% increase experienced by the control group clinics, or an approximate 20% increase when accounting for the 7.1% decrease in enrollments, the basic innovation group experienced a 20.8% increase in reinstatements, and the augmented innovation group, which received text messages specifically tailored to encourage participants to reinstate, experienced a 31.7% increase. This change was especially pronounced among standard scheduling clinics, where the augmented innovation group had a 70.1% increase in reinstatements, compared with a 34.4% increase for the control group and a 37.3% increase for the basic innovation group.

The TFRP also appeared to have an impact on terminations. While the number of voluntary terminations did not substantively change for the control group (when accounting for the change in client load) or the basic innovation group, there was a 7.6% increase in the control group. The TFRP appears to have a much more significant impact on clinics who employ standard scheduling practices; differences between the control and innovation groups was much more pronounced among these clinics than among those which employ same day/next day scheduling techniques.

These findings are supported by clinic staff feedback; of the 30 clinic staff who participated in the TFRP feedback survey, 27 agreed that the client feedback they had received about the texting program was positive, and 29 agreed that the program should be implemented statewide. This, in combination with the findings of this evaluation, are supportive of a statewide implementation of the Texting for Retention Program.

Lessons Learned & Future Implications

During this Texting for Retention Program Pilot we learned participants will have a missed call from the clinic and not receive a message if the following information is true: the participant doesn't have voicemail set up, the participant receives a busy signal when message was sent, or the participant's voicemail box full.

We received feedback from our local agencies in the augmented innovation group to reword the No Food Benefit Pick-up Message. Some participants are assuming they can just come into the clinic to pick up checks without having an appointment scheduled. Instead of the wording, "WIC misses you! You have checks waiting to be picked up. Call us today for your next appointment! We look forward to seeing you soon," staff would like to change the verbiage to, "WIC misses you. Call us today for your next appointment to get your WIC checks. We look forward to seeing you soon!" Reword voicemail so it will not be confusing to participants that were not able to receive a text message.

We learned that a WIC family may have the same phone number as another WIC family. A control WIC Clinic had a call from a participant who received a text message for an appointment reminder, however that family in the control clinic had the same phone number as a family in one of the innovation clinics. It is important for WIC staff to ensure participant phone numbers are entered correctly into our application, Compass.

Throughout the Pilot the WIC Staff had to let participants know we cannot respond to texts. Looking at Netcom reports, some participants are responding to reminder texts. In addition, files for appointment reminders are sent early in the morning 24 hours before. If a participant reschedules the day before the old appointment, they may be sent an appointment reminder regarding the old appointment time via text or voicemail.

Future implications to consider within our State Office when implementing texting for the entire state are cost. We are looking at what it will cost to implement this for our entire state, not only for the services but for time and resources for staff as well.

We are hopeful to be able to have a contract in place, so we can continue services for the current local agencies because we do not want to have a lapse in the services that we are currently providing. We are taking into consideration the feedback that was provided by the local agencies and making those changes. The State Office is putting together a work group, so we can make sure this project will be well received by the rest of the state. We are including local agency staff on this workgroup, so we can move forward with correct messaging based upon the feedback we received in the qualitative survey. In addition, we are going to look at client level data along with clinic data level data and compare them for statistical significance.

Key Findings & Conclusions

Enrollment with Benefits

- Despite a decline in the baseline year, the augmented innovation group had a positive trend in enrollment with benefits in the pilot year.

- The clinics that use standard scheduling practices in the augmented innovation group had a statistically significant change in their enrollment trend between the baseline and pilot years; despite a decline in enrollments over the baseline year, enrollments increased over the course of the pilot year.

Kept and No-Show Rate for All Appointments

- There was a nominal increase in the kept appointments rate and decrease in the no-show rate; this effect was more pronounced for clinics with standard scheduling practices.

Recertification Appointments

- The TFRP was associated with a 2.2% increase in the kept recertification rate for the augmented innovation group (6.0% increase among standard scheduling clinics) despite almost no change for the control or basic innovation groups.

- There was a 2.1% decrease in the no-show rate for recertification appointments in the augmented innovation group despite increases in both other groups (4.1% decrease among standard scheduling clinics).

Reinstatements

- Reinstatements increased between June 2014 and May 2016 for all three groups, but the increase was most pronounced for the augmented innovation group (31.7% increase), especially in standard scheduling clinics (70.1% increase).

Voluntary Terminations

- Voluntary terminations decreased 6.4% for the augmented innovation group, despite no real change in the control or basic innovation groups.

Overall, these findings are promising. The basic and augmented innovation groups appeared to experience at least modest improvements in the key measures that seek to gauge WIC retention, and the augmented innovation group had a statistically significant impact on the enrollment trend. These findings, and supportive survey results from clinic staff, support the statewide implementation of the Texting for Retention Program.

Acknowledgements

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