

CS Connect Evaluation III

Intervention III Digital Outreach: "Apply Online and Chat"

Prepared for the Office of Child Support Enforcement (OCSE)

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Background

Purpose

The Digital Marketing grant program, sponsored by the federal Office of Child Support Enforcement (OCSE) within the U.S. Department of Health and Human Services' Administration for Children and Families, is a 24-month demonstration project with the goal of researching how digital marketing may help the child support program more effectively reach and serve families. In September 2018, OCSE awarded funds to 14 child support agencies to test digital marketing approaches and partnerships to reach parents that could benefit from child support services, and create or improve two-way digital communication and engagement with parents. The Texas Child Support Division (CSD) was one of the 14 child support agencies selected to participate in the Digital Marketing demonstration grant project.

In this two-year demonstration project, the CSD will build on recent efforts to engage with parents through its enhanced customer service, website redesign, and mobile-friendly web initiatives with the CS Connect project. With this grant, the CSD will study, design, implement, evaluate, and build upon a digital communication strategy that includes two-way, instant communication coupled with a series of targeted, digital outreach campaigns to increase both customer satisfaction and online applications for service. The CSD expects that this project will build internal capacity so that the program is well equipped to continue these efforts beyond the funding cycle.

CS Connect Objective

The purpose of the CS Connect project is to increase the number of completed online applications for services. This objective includes increasing the number of online applications while decreasing paper applications, increasing the total number of applications, and lowering the application abandonment percentage. In FY 2018, there were 96,247 completed online applications and 38,337 completed paper applications statewide. According to CSD internal data, of all new statewide applications for services in FY 2018, only 13% of online applications were from Spanish-language speakers, whereas 87% of online applications were from English-language speakers. This data reflects the amount of completed Spanish-language online applications for services and the amount of completed English-language online applications for services during FY 2018. In addition, counties with a high percentage of new paper applications for service also have a higher percentage of English as a Second Language (ESL).

Due to the identified trend, the CSD chose to focus on three counties in Texas where a targeted digital outreach campaign could impact an increase in online applications from Spanish language speakers where the completion rate is lower than average.

County census data revealed that 89.8% of Cameron county's citizens are Hispanic or Latino, and 73.4% of the population speak a language other than English at home. In Hidalgo County, census data shows that 92.4% of the population is Hispanic or Latino, and 84.3% speak a language other than English at home. This data illustrates a great opportunity for the CSD to

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¹ https://www.census.gov/quickfacts/fact/table/cameroncountytexas/PST045218

² https://www.census.gov/quickfacts/hidalgocountytexas

target outreach efforts in Cameron and Hidalgo Counties where the ESL population is high, and the rate of online applications is low - 26% and 40% respectively.

On the other hand, application data from Lubbock County for FY 2018 presented an anomaly. Lubbock County is similar in population size to Cameron County, but the population was recorded as only 23% ESL on the 2010 census. This would lead one to assume that Lubbock County would have a far higher percentage of completed online applications than paper applications due to high percentage of native English-language speakers. Data from FY 2018 reflects almost identical percentages of completed online applications and paper applications³. This variance led the CSD to choose Lubbock County as the third county to target for a digital awareness campaign in an attempt to increase the number of completed online applications where the rate is lower than expected.

The geographic location for Intervention III was extended to include Travis County, based on the information obtained during the Intervention II. This geographic expansion was used to further evaluate the effects the campaign had on the Spanish speaking populations. CSD sought to see if this trend would continue in a more densely populated and diverse population.

Although the original county selection depended heavily on application trends by the primary native language spoken in the area, the main objective of CS Connect is to increase completed online applications for services among all populations. Based on that overall objective, the digital outreach campaigns in all Interventions are in both Spanish and English in order to reach as many in the targeted demographic as possible. The targeted demographic includes Texas parents between 18 and 45 years who have at least one child under 18 years living with them. These parents must have one of the following marital statuses:

- Married, spouse absent
- Separated
- Divorced
- Never married/Single

Before launching a full digital outreach campaign, the CSD conducted a soft launch of a live chat feature, called CS Live (chat). Intervention I was designed to evaluate the chat tool and receive feedback from those who organically used the chat feature or completed an online application before driving traffic to the apply online webpage with a digital media campaign in Intervention II. Intervention II established the framework for Intervention III which ties CS Live from Intervention I and the digital campaign of Intervention II together by not only highlighting the apply online feature, but also a chat feature.

Intervention III

Intervention III was used to expand on the findings of Intervention II by combining the apply online message with the availability of chat, while also introducing a chat bot. This was the first attempt at proactively advertising the possibility of chatting with a member of the CSD staff as

³ 3,574 completed online applications; 3,297 completed paper applications.

part of the application process and the use of chat bot technology. The targeted outreach consisted of strategically placing English and Spanish electronic displays developed by the Communications Section within CSD on digital websites which are presented in the three preselected designated marketing areas (DMAs). Based on audience target data, three DMAs based in four counties were selected for Intervention III (Figure 1). CSD contracted with AMS Pictures to assist with video production, presentation of the developed marketing campaigns within these three DMAs based on keyword association and demographic alignment, and collection of data associated with the customers clicking on the presented display or impressions. AMS Pictures developed a list of 624 keywords of custom intents or search criteria, which included various word combinations or phrases that could be used to search for child support services.

Intervention III was designed to consist of three implementations, including:

- Stationary banner display
- Social media display
- Video

All three campaigns were designed, constructed, and presented in the DMAs for the purpose of not only relaying information about applying online and chat, but also providing quick access to the CSD application webpage when clicked.

County	County Population	Spanish language speaker %	SFY18 TX CSD Online Applications	SFY18 TX CSD Paper Applications
Cameron County	423,908	72.2%	733	1,331
Hidalgo County	865,939	83.2%	1,664	2,049
Lubbock County	307,412	18.8%	782	611
Travis County	1,248,743	23.6%	2,263	876

Figure 1. Population, Demographic, and Application Data by County

Source: US Census Bureau. (2020). Retrieved from https://www.census.gov/data.html

The Intervention III impressions were designed to run for 30 days beginning the first full week of April 2020, but due to the technological transition of working remote as part of COVID-19 restrictions and social media policy restrictions, the presentation was delayed. This adjustment caused the presentation of the three implementations to run for the following timeframes:

- Stationary banner display ran from April 20, 2020 May 20, 2020
- Video ran from April 20, 2020 May 20, 2020
- Social media presentation was not displayed on the social media platforms.

After the intervention was completed, data was collected pertaining to the number of displays, number of clicks, and the number of applications completed. This data allows for analysis concerning the effectiveness of the digital marketing campaign during the presentation of the digital outreach and longitudinal data when evaluating the historical trends.

Alongside this intervention, chat has continued to be operational since it was introduced during Intervention I, but during Intervention III, it was complimented by artificial intelligence through the introduction of a chat bot. The chat bot was designed in English and Spanish to provide interactive responses based on a keyword probability match matrix and ran from April 20 to May 20. The interactive aspect of the chat bot allowed it to be more engaging and learn from previous conversations through adjustments to the bot's confidence level, so it could provide appropriate responses.

Goal

The purpose of CS Connect is to increase the number of online applications for child support service through the use of electronic digital marketing and two-way electronic customer communication. English and Spanish display banners (Figure 2) and videos (Figure 3) were shown in the specific DMAs for the purpose of highlighting the "Apply Online" and "Chat" feature, while directing customers to the agency website. The chat button (Figure 4), which was launched during Intervention I, was placed on five online CSD application webpages and the Get Started section of the CSD website providing access to the chat bot. If the chat bot was not able to answer the question, the customer could send email messages, which were reviewed and answered by the CSD staff.



Figure 2. Display Banners



Figure 3. Video Screenshot

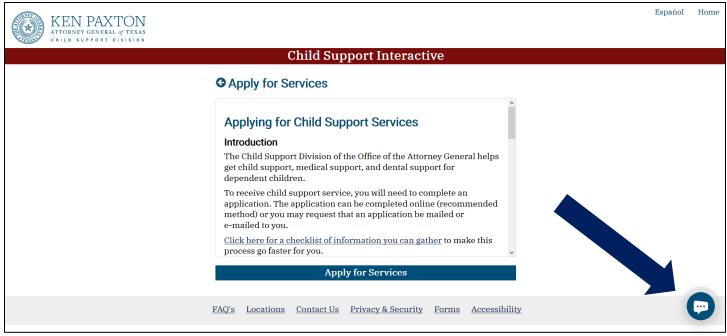


Figure 4. Chat Icon Screenshot

The video was 23 seconds long and showed the ease of applying online and using chat. The banner and the video also highlight the availability of the application feature on either a desktop, mobile device, or tablet and is presented in English or Spanish depending on the language parameters of the website where the ad is being displayed. The goal of this intervention was to highlight the ease of applying for child support services and show that two-way electronic

communication was available to provide any necessary assistance, in an effort to increase the number of completed online applications.

Outcome Measures

Outcome	Method	Data Points
Increased completed online applications for service within designated marketing areas (Cameron/Hidalgo, Lubbock, and Travis County)	Compare the historical trends for the number of applications received from 2018 through 2019 broken down by month	Internal application data from CSD's Business Management Information (BMI) section
0.1% of customers clicking on the displays and being directed to the CSD website	Review the ratio of impressions and number of clicks within each DMA	External digital marketing campaign data provided by AMS Pictures
Number of customers utilizing the display to get to "Apply Online" based on English and Spanish languages	Analyze the number of impression clicks based on display method and display language	External digital marketing campaign data provided by AMS Pictures
Number of customers having issues resolved through the use of the AI Chat Bot	Review the number of resolved and unresolved responses from the AI Chat Bot	Internal datasets provided by Comm100
Number of customers utilizing chat	Review the number of chats	Internal datasets provided by Comm100

Research Questions:

- 1. What is the relationship between the digital marketing display banner and the number of potential child support customers going to the "Apply Online" webpage?
- 2. What is the difference in the number or percentage of the click through ratio between the English and Spanish displays?
- 3. What is the relationship between the digital marketing videos and potential child support customers going to the "Apply Online" webpage?
- 4. What is the difference in the number of applications in DMAs during Intervention III, when compared to pre-intervention data?
- 5. What is the difference in the number of customers using the chat feature during Intervention III, when compared to pre-intervention data?
- 6. What is the relationship between customers viewing the digital marketing campaign impression and clicking on impression?
- 7. What is the relationship between the chat bot and customer satisfaction?

Results

Digital Report Concerning Intervention III

1. Overall Results (Research Questions: What is the relationship between the digital marketing display banner and the number of potential child support customers going to the "Apply Online" webpage? What is the relationship between the digital marketing videos and potential child support customers going to the "Apply Online" webpage? What is the relationship between customers viewing the digital marketing campaign impression and clicking on impression? What is the difference in the number or percentage of the click through ratio between the English and Spanish displays?)

As shown in Figure 5, there were a total of 17,301,183 impressions or digital displays and 12,239 clicks on the digital marketing campaign during Intervention III, which lasted from April 20, 2020 to May 20, 2020. It cost \$37,691.03 to present the display banner and video for this intervention. The banner display had the most impressions but received the lowest click through ratio (CTR) at 0.06%, which is consistent with what happened during Intervention II. The video had a higher click ratio but was below the click ratio during Intervention II. While a social media campaign was designed, it failed to proceed due to restriction from the social media platforms, which are discussed more in the limitations portion of the evaluation.

Media Type	Impressions	Clicks	Cost	CTR
Banner Display	15,210,398	8,740	\$22,421.53	0.06%
Video	2,090,785	3,499	\$15,269.50	0.17%
Grand Total	17,301,183	12,239	\$37,691.03	0.07%

Figure 5. Impression and Click to Impression Ratio by Media Type

The video clicks to impression ratio exceeded the display banner clicks to impression ratio, and 59% of the customers completed watching the video, as shown in Figure 6.

Device	Start Video	Completes Video	Completion Percentage
Connected TV	2,515	2,017	80%
Desktop	809,742	471,469	58%
Smart Phone	1,202,085	717,479	60%
Tablet	73,213	40,265	55%
Grand Total	2,087,555	1,231,230	59%

Figure 6. Video Completion by Device

The total number of impressions and clicks is further deconstructed in Figure 7 to show the breakdown between banner displays and videos in English and Spanish. While the number of English impressions far exceeded the number of Spanish impressions, because the source file for the majority of the web sites listed English as the primary language, the click ratio was higher for the Spanish impressions that are only displayed on Spanish webpages. The video clicks to impression ratio exceeded the banner display in both English and Spanish, but the Spanish video click to impression ratio was the highest overall. These findings followed and reinforced the findings from Intervention II.

Language	Impressions	Clicks	Cost	CTR
Banner Display				
English	14,440,905	7,982	\$21,023.79	0.06%
Spanish	769,493	758	\$1,397.39	0.10%
Video				
English	2,020,616	3,313	\$14,735.25	0.16%
Spanish	70,169	186	\$534.25	0.27%
Grand Total	17,301,183	12,239	\$37,690.68	0.07%

Figure 7. Impression and Click to Impression Ratio by Language

The presentation of the banner display and videos were also tracked based on the device being used by the customer as shown in Figure 8. This information was included to enhance any future digital marketing campaigns. The tablet had the highest CTR for both the banner display and the video. The desktop had the 2nd highest CTR for the video, but the lowest CTR for the banner display.

Device	Impressions	Clicks	Cost	CTR
Banner Display				
Connected TV	20,911	15	\$24.09	0.07%
Desktop	5,336,719	1,312	\$7,621.16	0.02%
Smart Phone	9,160,164	6,803	\$13,756.98	0.07%
Tablet	692,604	610	\$1,018.95	0.09%
Video				
Connected TV	2,251	3	\$22.87	0.12%
Desktop	810,608	1,622	\$6,371.19	0.20%
Smart Phone	1,204,286	1,691	\$8,356.94	0.14%
Tablet	73,370	183	\$518.50	0.25%
Grand Total	17,301,183	12,239	\$37,690.68	0.07%

Figure 8. Impression and Click to Impression Ratio by Device

2. Breakdown of Results from Designated Market Area

Figure 9 shows the breakdown of the impressions, clicks, and clicks to impression ratio. The largest numbers of video and display impressions took place in Travis County (Austin, Texas DMA) with 11,320,453 impressions and 7,355 clicks, while Cameron and Hidalgo Counties (Harlingen-Weslaco-McAllen, Texas DMA) had 4,325,492 impressions and 3,636 clicks and Lubbock County (Lubbock, Texas DMA) had 1,655,238 impression and 1,248 clicks. Even with the addition of Travis County, Cameron and Hidalgo counties still had a higher click to impression ratio at 0.084%, which coincides with the results for Intervention II.

DMA	Impressions	Clicks	CTR
Austin, Texas	11,320,453	7,355	0.065%
Harlingen-Weslaco-McAllen, Texas	4,325,492	3,636	0.084%
Lubbock, Texas	1,655,238	1,248	0.075%

Figure 9. Impression and Click to Impression Ratio by Digital Marketing Area

The Spanish impressions in all three DMAs and in every display method, except for the video impressions in Lubbock, had a higher click to impression ratio (Figure 10) The total click ratio for all the Spanish impressions across the three DMAs averaged to 0.11%. While there were more English impressions, the average click impression ratio was 0.07%.

DMA Media Type by Language	Impressions	Clicks	CTR
Austin, Texas	11,320,453	7,355	0.06%
Banner Display	9,894,060	5,163	0.05%
English	9,633,353	4,957	0.05%
Spanish	260,707	206	0.08%
Video	1,426,393	2,192	0.15%
English	1,400,584	2,134	0.15%
Spanish	25,809	58	0.22%
Harlingen-Wslco-Brnsvl-Mca	4,325,492	3,636	0.08%
Banner Display	3,855,922	2,641	0.07%
English	3,370,688	2,116	0.06%
Spanish	485,234	525	0.11%
Video	469,570	995	0.21%
English	427,281	870	0.20%
Spanish	42,289	125	0.30%
Lubbock	1,655,238	1,248	0.08%
Banner Display	1,460,416	936	0.06%
English	1,436,864	909	0.06%
Spanish	23,552	27	0.11%
Video	194,822	312	0.16%
English	192,751	309	0.16%
Spanish	2,071	3	0.14%

Figure 10. Impression and Click to Impression Ratio by Media and Language

Application Data During Intervention III

1. Online Application Data for Travis, Cameron/Hidalgo, and Lubbock Counties (Research Question: What is the difference in the number of applications in DMAs during Intervention III, when compared to pre-intervention data?)

While a correlation can be established between Intervention III and the number of applications, causation cannot be established. The data does highlight an upward trend in the number of online applications being received during the intervention time period, but there are other factors which could have impacted these changes. The data shown in Figure 11 show that Cameron/Hidalgo and Travis Counties were both trending downward prior to Intervention III, then the total numbers rose to or exceeded the level from earlier in the year. Figure 11 also shows that Lubbock County continued an upward trend through the intervention, but this increase began prior to the intervention taking place.

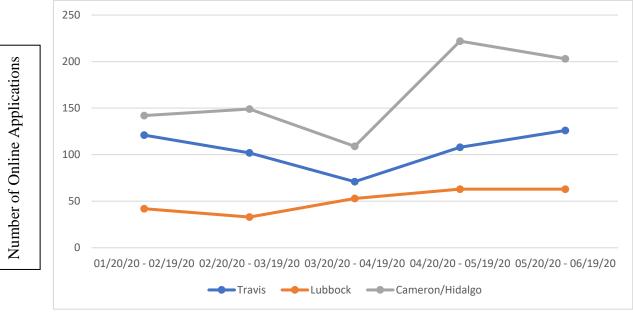


Figure 11. Online Applications Received

2. Paper Application Data for Travis, Cameron/Hidalgo, and Lubbock County

While the number of online applications increased during Intervention III (Figure 12), the digital marketing campaign was not correlated with a reduction in the number of paper applications received within the three DMAs. According to the figure, the number of paper applications increased in each DMA during the intervention.

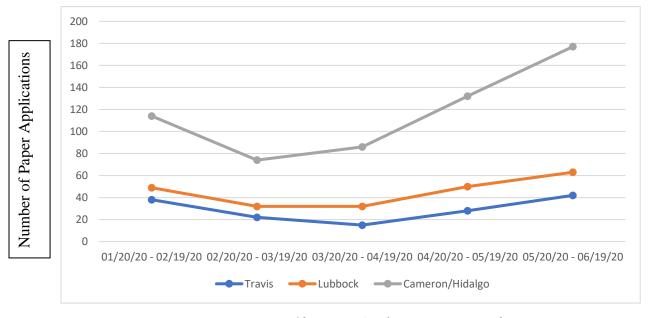


Figure 12. Paper Applications Received

Impression Clicks to Completed Applications

A positive correlation between impression clicks and the number of completed applications could not be established. Based on the AMS data and the CSD's internal application data, there is not enough information to state that this intervention was associated with the number of child support applications.

Chat Bot Data (Research Question: What is the relationship between the chat bot and customer satisfaction?)

The introduction of the chat bot was a first for the Texas Child Support Division and has led to the creation of additional projects focused on using bot technology. To make the bot effective, CSD staff worked with our chat vendor, Comm100, to design a keyword matrix and interactive responses in both English and Spanish. The bot was designed to provide general information concerning the child support process, assist with application questions, and provide links to various pages on the CSD webpage for additional guidance and information. This was designed to be interactive and provide more than a stock response. The bot used CSD staff interaction and Google analytics to learn which inquiries should be associated with which responses. The bot ran from April 20 to May 20, 2020, on all the webpages that also had the digital marketing chat campaign (Figures 13 & 14). The bot handled all incoming chats outside of business hours and became the initial point of contact for 20% of the incoming chats during business hours.

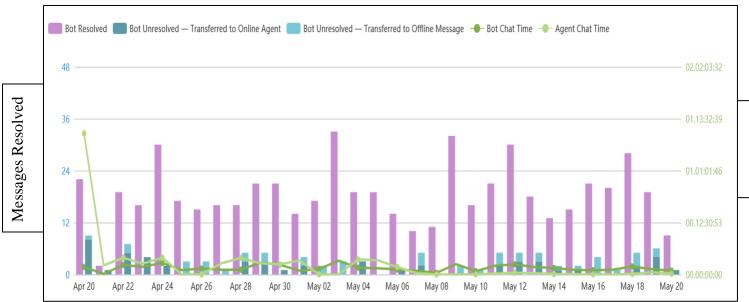


Figure 13. English Chat Bot Production



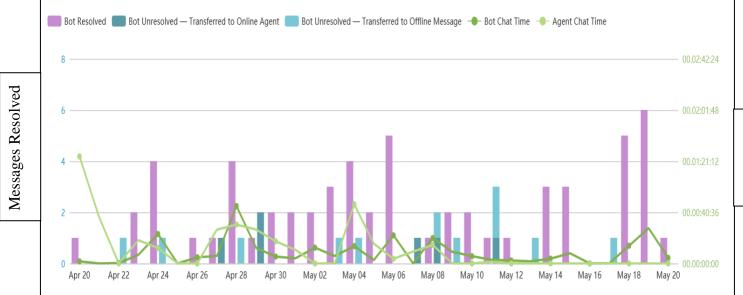


Figure 14. Spanish Chat Bot Production

This being the first time this type of technology has been implemented within CSD, there was a steep learning curve and customer satisfaction was not at the level expected (Figure 15). The majority of criticism of the chat bot centered around its inability to provide case specific information. The chat bot was designed to assist new CSD customers and was not built within our Child Support Interactive (CSI) system, so case specific information could not be provided.

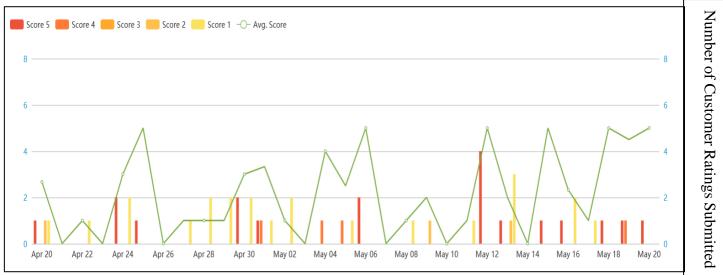


Figure 15. Chat Bot Customer Rating

Chat (Research Question: What is the difference in the number of customers using the chat feature during Intervention III, when compared to pre-intervention data?)

The chat initiative was launched during Intervention I and has continued through Intervention II and Intervention III. While the chat bot rating (Figure 16) and the overall volume (Figure 17) have greatly decreased because of changes associated with COVID-19 procedures (see below), including operationalizing chat for full-service cases, the DM chat staff have continued to assist customers with applications and general child support inquiries. Figure 17 also highlights the chat acceptance rate, or percentage of incoming chats handled as being 100% during this intervention because the bot handled all the chats when agents were not available. But a direct correlation cannot be established between the implementation of chat and an increase in the number of applications. A direct correlation also cannot be established between the digital marketing campaign during Intervention III and the chat volume.

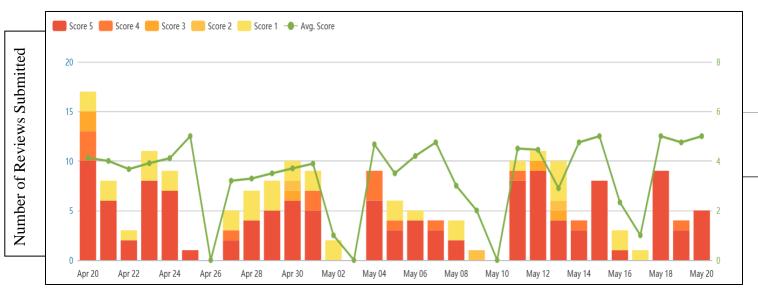


Figure 16. Chat Agent Rating

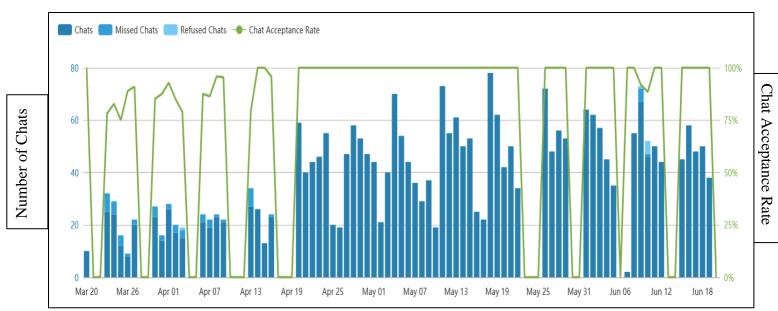


Figure 17. Chat Volume

Limitations

Intervention III was limited in its affectability because of logistical issues concerning the social media platforms' restrictions on politically affiliated postings and the implications associated with the COVID-19 pandemic. Both of these issues caused CSD to reevaluate how Intervention III would be implemented and impose a short delay in execution.

Social Media Restrictions

During Intervention II, the CSD social media campaign was removed after a couple of days, because it was deemed to be political, and the social media platform stated that the proper steps were not taken. So, for Intervention III, CSD took all the proper steps to get authorization and attempted to emphasize the social service content on the posting. This was denied by the social media platform, so an appeal was immediately initiated, but it too was denied. Since the Texas Child Support Division operates within the Office of Attorney General, the social media platform reasoned that all actions associated with CSD could be viewed as political in nature.

COVID-19

On March 24, 2020, CSD began working remotely in an effort to maintain the health of staff and customers. This directly impacted the start of Intervention III and the chat component. Originally Intervention III had been planned to start on April 1 but was pushed to April 20 to allow time for staff to adjust to telecommuting and to get the temporary employees operational again. But more impactful was the need to make chat operational for all external customers. During the Digital Marketing Grant, chat had proven to be an effective method of two-way electronic communication, so CSD staff were trained and a new campaign within the Comm100 system was created for full-service cases. The Digital Marketing Grant chat campaign was greatly

impacted by this shift because the operational chat function was placed on almost every CSD webpage, except the five assigned to the grant.

Analysis

Intervention III provided insightful feedback and reinforced the findings of Intervention II concerning the need for CSD to evaluate the effectiveness of reaching possibly underserved populations through technology. The continued trend of seeing the need or desire for our Spanish speaking populations to receive information concerning the child support process provides the building blocks and justification for future initiatives. Intervention III also showed a need for continued efforts in shifting customer applications from paper to online. While this has been a major initiative within and outside of this grant for the organization, there is still a large population resistant to completing a CSD application online.

Through this grant, CSD was able to outline and create the foundation for two-way electronic communication, which became instrumental when COVID-19 restricted human interaction. Also, the chat bot has exposed new avenues for customer interaction, which has led to the development of a bot being used to answer offline email messages within Comm100. Intervention III showed that customers are needing more information about the child support process through more engaging methods, so CSD must continue to push digital outreach and enhanced website integration.

Lessons Learned

Intervention III was launched during a transitional time because of COVID-19 but presented several take-ways.

Spanish Speaking Customers

The CSD Spanish speaking population continue to be the most active in seeking digital information based on the CTR of Spanish versus English displays. This was shown during Intervention II and reinforced in Intervention III. Additional effort needs to be made to ensure this growing population has the information they need concerning the benefits CSD can provide.

Social Media

Social media and digital methods have become a primary means of communication within CSD based on overall traffic analysis and CSD must find a way to utilize this platform to engage our customers. Currently, CSD social media visibility is dependent on customer-initiated engagement as CSD does not have an external facing social media presence or actively communicate with customers through social media. To ensure our information is getting out, CSD must meet our customers where they are.

Chat Bot

The chat bot provided a window into technology which can be interactive and provide guidance twenty-four hours a day. It does not have to be a static, content-driven response, but can ask questions and be engaging, so the customer get to the information they are seeking.

Next Steps

On August 1, when Child Support Awareness Month began, a public service announcement was launched to increase awareness of the child support process, the availability of chat, and the apply online feature. The PSA is a video designed to highlight the benefits child support can provide to the family. The video stresses the importance of involved parents as a child grows and reaches various milestones. It also includes a graphic for apply online and chat. The PSA is being distributed by AMS in the three DMAs (Cameron/Hidalgo, Lubbock, and Travis County) and has been posted on the Texas Attorney General's social media platforms.

The data from all the interventions is being gathered, so a thorough evaluation can be done concerning the impact of the digital marketing campaigns. The CSD Communications Team has also implemented processes and developed specific themes depending on the time of year, allowing for the social media and digital marketing campaigns to continue.