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Advanced child tax credit payments and national child abuse hotline contacts, 2019–2022

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Abstract

Background—Children in households experiencing poverty are disproportionately exposed to maltreatment. Income support policies have been associated with reductions in child abuse and neglect. The advance child tax credit (CTC) payments may reduce child maltreatment by improving the economic security of some families. No national studies have examined the association between advance CTC payments and child abuse and neglect. This study examines the association between the advance CTC payments and child abuse and neglect-related contacts to the Childhelp National Child Abuse Hotline.

Methods—A time series study of contacts to the Childhelp National Child Abuse Hotline between January 2019 and December 2022 was used to examine the association between the payments and hotline contacts. An interrupted time series (ITS) exploiting the variation in the advance CTC payments was estimated using fixed effects.

Results—The CTC advance payments were associated with an immediate 13.8% (95% CI –17.5% to –10.0%) decrease in contacts to the hotline in the ITS model. Following the expiration of the advance CTC payments, there was a significant and gradual 0.1% (95% CI +0.0% to

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Contributors

MMF is guarantor for this research. MMF, MC, and CD conceptualized the study. MMF, MC, and HZK aggregated and cleaned the data. MMF, CD, and XZ conducted the analyses. All authors contributed to the data analysis plan, interpretation of the results, and review of the manuscript.

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+0.2%) daily increase in contacts. Sensitivity analyses found significant reductions in contacts following each payment, however, the reductions were associated with the last three of the six total payments.

Conclusion—These findings suggest the advance CTC payments may reduce child abuse and neglect-related hotline contacts and continue to build the evidence base for associations between income-support policies and reductions in child abuse and neglect.

BACKGROUND

Assuring healthy development of all children and adolescents is a core objective of Healthy People 2030.¹ Eliminating child abuse and neglect (CAN) has been identified as critical to achieving that goal,¹ however, nationally representative data from 2013 to 2014 indicate that nearly one in seven children in the USA experience CAN.² This serious public health problem persisted during the COVID-19 pandemic, with approximately 1 in 2 adolescents experiencing emotional abuse and 1 in 10 adolescents experiencing physical abuse by a parent or caregiver.³ Although CAN impacts families from all backgrounds, children in households experiencing poverty are disproportionately impacted due to long-standing social and structural inequities, including racism.⁴ These inequities result in inequitable access to the basic conditions necessary to create safe, stable and nurturing environments for children, adolescents and their families.^{5–8} Given the inequitable burden of CAN across socioeconomic groups, evidence-based strategies that address the structural conditions driving these inequities may be important tools for addressing CAN.

Policies that provide economic support to families are one strategy to reduce CAN.^{9–12} Prior studies suggest income support policies, such as earned income tax credit (EITC) and minimum wage laws, are associated with lower rates of CAN at the population level.^{12–14} Income support may protect children by increasing caregiver resources to meet their child's basic needs. Additionally, greater income support may decrease caregiver stress and improve caregiver mental health and well-being, which may improve family dynamics and prevent occurrence of CAN.^{12 13}

In response to economic hardship related to the COVID-19 pandemic, US Congress passed the American Rescue Plan Act of 2021, which expanded eligibility for child tax credit (CTC), increased the amount of creditable income, and made half the total amount of the CTC available in advanced payments distributed monthly via direct deposit or mailed check between July and December 2021.¹⁵ The payments were between US\$250 and US\$300 monthly per qualifying child depending on age of qualifying children; eligible families could additionally claim up to US\$1800 per child after filing a 2021 tax return. These payments have been credited with reducing household poverty nationally,^{16 17} and decreasing food insufficiency among households with children.^{18–20}

To our knowledge, only one study to date has examined the association between advance CTC payments and CAN. Using data from one paediatric hospital system, a prior study found advance CTC payments were associated with a decrease in CAN-related emergency department (ED) visits in the four days following receipt of each payment, although effects were marginally significant overall and statistically significant only among some children.²¹

No study to date has examined the impact of CTC advance payments on CAN at the national level, nor has any study examined changes in CAN following the expiration of CTC payments after December 2021 or examined the association using non-healthcare-related data. ED visits data likely only capture the most severe cases of CAN resulting in physical injuries requiring immediate medical attention^{21 22} and may miss non-medical cases such as those related to different forms of neglect that are potentially more sensitive to the impacts of CTC payments.^{12 14} Alternative data sources such as hotline contacts provide an opportunity to assess CTC with non-healthcare data. Finally, medical care-seeking patterns changed during the COVID-19 pandemic and studies indicate that CAN-related ED visits declined following the national emergency declaration and subsequent community mitigation measures in March 2020,^{23 24} making it difficult to isolate the potential effects of the CTC advance payments from the pandemic response using ED data.

Data on contacts to the Childhelp National Child Abuse Hotline may reduce some of these limitations. Hotlines remained accessible to the public as other essential services were limited under stay-at-home orders; the decreased contact with mandated reporters and increased time at home meant that children or concerned parties may have sought help in other ways, such as contacting the hotline.²⁵ This study aimed to examine the association between the CTC advance payments and Childhelp National Child Abuse Hotline CAN-related contacts. To examine overall associations between CTC and CAN, we employed interrupted time series analysis (ITS) using hotline data. As a sensitivity analysis and to compare findings using this dataset to prior literature, we examined the immediate impacts of the CTC after each of the six payments between July and December 2021 in a fixed effect model.²¹

METHODS

Data source

We used data from the Childhelp National Child Abuse Hotline from 1 January 2019 to 31 December 2022. This is the only national hotline with a primary focus on CAN that provides crisis intervention, information and resource referrals to youth and adults with CAN-related concerns in over 170 languages and does not investigate cases of abuse.²⁶ Hotline users can reach professional crisis counsellors confidentially all day, seven days a week via calls, texts or chats. Following each contact, counsellors complete a survey documenting the hotline user's primary presenting issue(s) as the reason for contacting the hotline.

We included all US-based, CAN-related hotline contacts. See online supplemental files for specific presenting issues used for CAN-related inclusion criteria. We did not include hotline contacts that the counsellor coded as non-counselling interactions or was not also explicitly coded for issues related to CAN. This activity was conducted consistent with applicable federal law and CDC policy (45 CFR §46).

Statistical analyses

An ITS design was used to examine changes in hotline contacts for CAN before and after the start of CTC advanced payments on 15 July 2021. The models examined if the date CTC

advance payments started was associated with an immediate change in hotline contacts (i.e., an intercept change) and explored if there was a change in the trajectory of hotline contacts (i.e., a slope change). The models explored if similar types of changes occurred when CTC advance payments ended on 15 January 2022.

We estimated a negative binomial regression model with standard ITS specification, regressing the daily number of hotline contacts for child abuse and/or neglect on a daily time trend, a dummy variable representing the CTC advance payment period, an interaction between the daily time trend and the advance CTC dummy variable, a dummy variable representing the period after the CTC advance payments ended, and the interaction between the daily time trend and the post-CTC payment period. Additional covariates in the model included a policy variable representing the start of COVID-19 economic support policies (27 March 2021), year and day-of-week dummy variables. All ITS models included Fourier terms with three harmonics to adjust for seasonality.^{27 28} Robust SEs were estimated with heteroscedasticity and autocorrelation corrections when appropriate.²⁹ All models used the natural logarithm of the yearly US population as offsets.³⁰

As a sensitivity analysis examining the effect of each individual payment, additional negative binomial regression specifications were estimated using a fixed effects approach modelling recent literature on advanced CTC payments.²¹ These analyses limit the sample to the same period for each study year (ie, July 2019–December 2022). The 14 days prior to disbursement and 15 days after each disbursement date in 2021 are compared with the same period in 2019, 2020 and 2022. These models include year, month and day-of-week dummy variables. Robust SEs were estimated and all models used the natural logarithm of the yearly US population as offsets. Following prior work,²¹ we stratified the model by the first and second three payments to examine if the accumulation of payments over time influenced the association between payments and hotline contacts (see online supplemental eMethods). Analyses were conducted in SAS (V.9.4) and Stata (V.17.0; StataCorp).

RESULTS

Figure 1 presents the monthly number of CAN-related contacts from January 2019 to December 2022. During this period, there were a total of 189 094 CAN-related hotline contacts. The graphs indicate seasonality in CAN-related hotline contacts.

Figure 2 models CAN-related hotline contacts between January 2019 and December 2022 in an ITS. The enactment of advance payments was associated with an immediate 13.8% decrease (95% CI −17.5% to −10.0%) in CAN-related hotline contacts (table 1). When stratified, similar decreases post-enactment were seen both in contacts related to abuse (−14.8%, 95% CI −19.2% to −10.1%) and neglect (−8.5%, 95% CI −15.4% to −1.1%) (figure 3, table 1).

Following the expiration of the advance payments in January, there was a gradual 0.1% (95% CI +0.0 to +0.2%) daily increase in CAN-related hotline contacts. When stratified by CAN, the expiration of the payments was only associated with an increase in neglect-related hotline contacts (+0.1%, 95% CI +0.0% to +0.2%).

Table 2 presents the findings of the fixed effects analysis. Days 8–11 were associated with decreases in contact with the hotline related to child abuse (–11.3%, 95% CI –18.7% to –3.1%), neglect (–15.3%, 95% CI –25.3% to –3.9%) and overall (–11.2%, 95% CI –18.6% to –3.1%). When stratified by the first and last three payments, similar trends were seen in the last three payments as overall and there were no associations between the first three payments and contacts with the hotline.

DISCUSSION

We found that the advance CTC payments were associated with fewer CAN-related hotline contacts. These findings are supported by prior studies that found the CTC payments were associated with reductions in structural determinants of child maltreatment, including poverty^{16 17} and food insecurity in households with children.^{18 20} Even modest increases in income³¹ were associated with decreased likelihood a family will become involved with Child Protective Services.^{12 14} The immediate impact of the payments is consistent with prior reports that indicated quick effects of the payments.³²

Following the expiration of the CTC advance payments, there was no immediate increase in CAN-related contacts, however, there was a gradual daily increase in contacts over time. The absence of a sudden increase following expiration of the payments may indicate individuals who received the payments were able to accumulate material resources, such as food, which may have lasted past expiration. There is some empirical evidence supporting the cumulative impact of the payments. A prior study found more consistent associations between the CTC payments and CAN-related ED visits during October–December compared with July–September.²¹ Similarly, when stratified by the first three payments and the second three payments, the association between the CTC payments and CAN-related hotline contacts was only statistically significant in the later payments in this study.

We found large point estimates of associations between the CTC advance payments and contacts with the hotline. The association may be large, in part, because of the volume of contacts: a –13.7% decrease in volume is equivalent to roughly 19 fewer contacts to the hotline daily. This association could also reflect the indirect measure of CAN. It is unclear what percentage of contacts are repeat contacts or reflect true CAN cases. This large association is consistent with prior research that found a non-significant 22% decline in CAN-related ED visits in the general population and a significant 70% decline among non-Hispanic White children in the four days following a CTC payment.²¹

The recurring nature of the payments may also contribute to the large association. The majority of respondents in national surveys reported spending the payments on recurring expenses such as food, bills, and housing.^{33 34} Recurring payments may be particularly effective in reducing economic insecurity and its associated negative impacts, such as anxiety and stress, compared with annual lump sum payments.¹⁶ Studies do not consistently find lump sum payments to have long-lasting impacts on well-being.¹⁷ Future research could explore whether recurring payments are more strongly associated with reductions in stress and reductions in violence compared with one-time payments, such as EITC.

The impacts of CTC payments were similar for abuse-related and neglect-related contacts to the hotline, contrary to expectations that policies that improve economic insecurity may be more strongly related to neglect compared with abuse.^{12 14} This finding could signify differences in populations contacting the hotline relative to the general population. In particular, 94% of hotline contacts are for abuse only, which differs from national trends indicating that neglect is more prevalent than abuse.¹⁴ Many states have mandated reporting policies, which may result in reporters reporting out of liability concerns instead of concerns about maltreatment, and this is particularly salient when combined with existing biases such as Black youth being over-represented in child welfare systems and evidence of racial bias in caseworkers predicting substantiation.³⁵ It may be that these contacts, which may not satisfy a state's mandated reporting requirements, are more likely to capture more visibly concerning cases, whereas neglect may not have as many physical signs. The neglect variable also includes contacts about emotional and medical neglect, which may not have been as visible during the pandemic, further decreasing the number of neglect-related contacts in the data. It could also be that the payments were not sufficient to reduce neglect to the extent we had hypothesised. Some recurring payments are not found to reduce poverty equitably across groups.²⁰ Part of the hypothesis for this is that more money is needed to bring some families out of poverty, particularly families from some racial and ethnic groups who face systematic inequities, such as racism resulting in reduced employment opportunities.³⁶

In sensitivity analyses, each advance payment was associated with a reduction in contacts to the hotline for CAN 8–11 days after the payments. This delay could indicate the signs of CAN are not instantly apparent as the majority of hotline contactors are individuals outside of a child's family,²⁵ that there may be a lag in contacting the hotline, or reflect a delay in receiving checks among those who had them mailed because they did not have a bank account on file with the Internal Revenue Service. These findings are different from the prior study that found only marginally significant decreases in the general population following each payment (-0.22 , $p=0.06$),²¹ but did find a decrease among non-Hispanic White children (-0.69 , $p=0.01$). When assessing the first three payments and last three payment separately, the authors did find declines in CAN-related ED visits 8–11 days after the payments among non-Hispanic White children and children aged 2–5 years. Future studies could continue to explore why the association was limited to 8–11 days after receiving a payment.

Caution should be taken in generalising these findings to all populations. Racial and ethnic identity and other sociodemographic details are not available for hotline contactors, and therefore, it is unknown how CTC implementation and expiration were associated with hotline contacts among specific racial and ethnic groups or across other sociodemographic stratifications. The demographics of hotline contactors trend towards female, younger and non-Hispanic White.^{37–39} It is possible that a large majority of hotline contactors were non-Hispanic white; as such, our study's findings may reflect the association between the CTC payments and calls to the hotline among non-Hispanic White contactors.

The advance payments may not have the same associations across all populations. A prior study did not find an association between the payments and non-Hispanic Black or African

American children for CAN-related ED visits but did for non-Hispanic white children.²¹ Other studies found slightly larger associations between the CTC payments and decreases in economic indicators among non-Hispanic Black or African American families compared with non-Hispanic white families.¹⁷ Future studies may examine associations between CTC advance payments and inequities in child maltreatment experienced by children from different racial and ethnic groups or children living in households with low incomes.

The inability to stratify findings on race and ethnicity highlights the need for robust and timely surveillance systems to support research of prevention efforts. Quality and timely data that include sociodemographic characteristics may help inform questions decision-makers have about evidence-based policies. Current gold-standard data sources often have data lags of a year or more. More timely data are often subject to limitations due to the limited time available to compile them; or may not be able to answer all questions due to not being designed for use in prevention research. Researchers could continue to explore how surveillance systems can be used to make data available more quickly and data scientists could explore how to minimise challenges of using surveillance systems or other sources not intended for research.

Limitations

The use of hotline data presents key limitations. Hotline contacts may or may not be actual occurrences of CAN. CAN experiences are not consistently reported to a hotline so these data represent only a portion of the problem. Additionally, the outcome is total volume of CAN-related contacts to the hotline and this analysis does not account for the fact that contactors may have made more than one contact or contacted the hotline multiple times about the same concern. Prior reviews of emergency hotline contacts found between 14% and 35% of callers had previously called.³⁸ Contacts to the hotline increased during the pandemic. However, hotline data were not as vulnerable to changes associated with use of service as child maltreatment-related ED data, which decreased significantly in the first few weeks following stay-at-home orders.²⁴ Finally, findings were not able to be stratified to determine if associations were consistent across sociodemographic groups.

This ecological study cannot establish causality as other factors could be influencing this association. Future studies could continue to explore the association between the CTC payments and CAN, as well as potential causal mechanisms. We could not observe if individuals contacting the hotline were eligible for or claimed their CTC payments, however, prior research has demonstrated most eligible families claimed their CTC, suggesting a high percentage of hotline contacts and/or reported families likely received their payments.³³ No comparison group was available to compare changes in trends. To account for this, we controlled for COVID-19 economic support policies that may have impacted child maltreatment and selected models that would account for fluctuations.

CONCLUSIONS

We found an association between the CTC payments and contacts to the Childhelp National Child Abuse Hotline. The CTC advance payments were associated with a decrease in contacts to the hotline and CTC expiration was associated with a gradual increase in

contacts. This study contributes to the evidence supporting associations between economic policies and child maltreatment. Future research could continue to explore whether CTC recurring payments are options for reducing inequities in CAN.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Data availability statement

No data are available. Data were obtained from the NCAH. Researchers may reach out to NCAH for more information on obtaining this data.

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WHAT IS ALREADY KNOWN ON THIS TOPIC

- Prior studies indicate that child tax credit advance payments may have reduced child maltreatment, however, the association of these credits with child maltreatment at the national level is not yet understood.

WHAT THIS STUDY ADDS

- Implementation of the child tax credits advance payments was associated with a decrease in contacts with the Child Help National Child Abuse Hotline. Following the expiration of these payments, there was a gradual increase in these contacts. The use of hotline data to examine this association avoids some of the limitations of changes in care-seeking behaviours during the pandemic.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

- This study contributes to the evidence base supporting associations between economic policies and child maltreatment. Policy-makers looking for ways to reduce child maltreatment in their jurisdictions may consider economic-support policies. Additionally, researchers may continue to examine how economic support policies may impact child maltreatment.

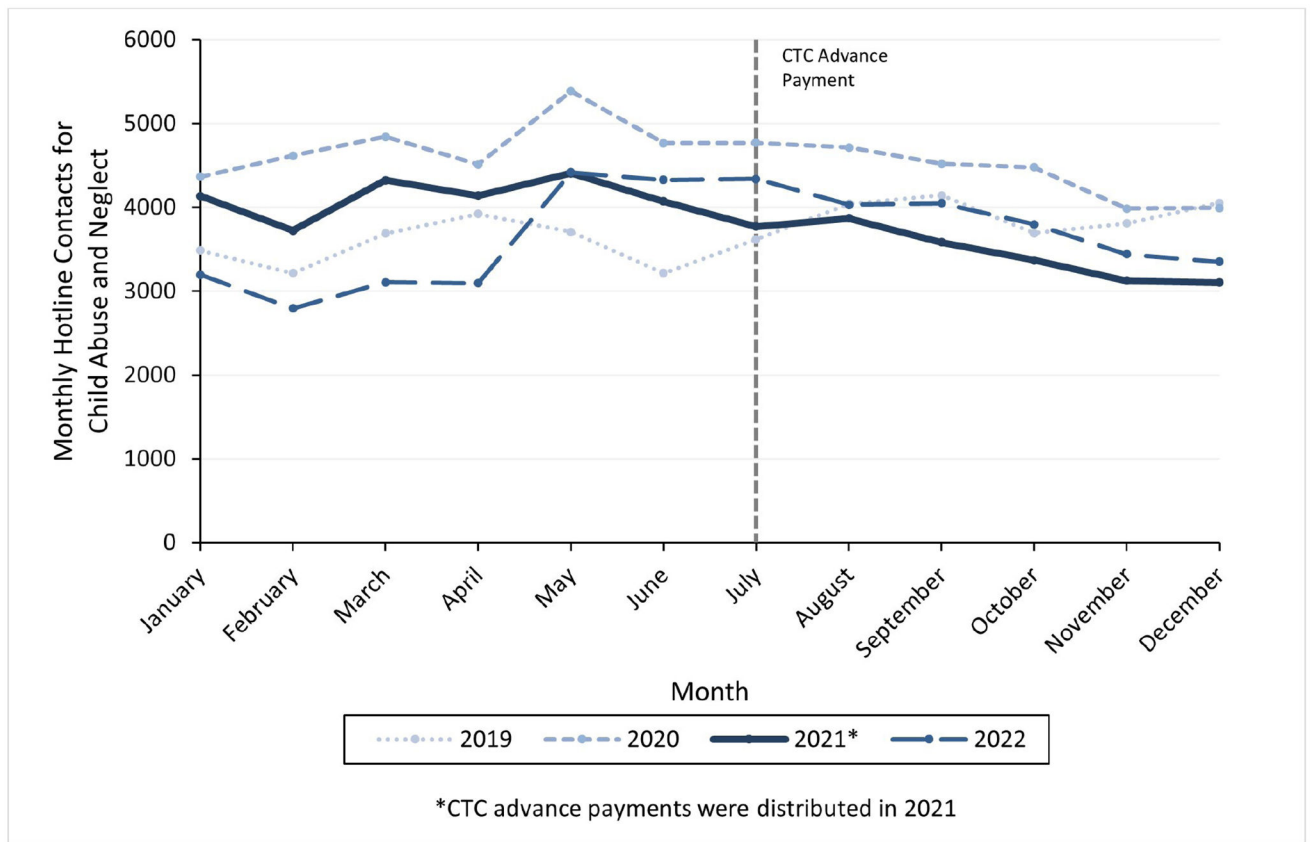


Figure 1. Monthly number of Childhelp National Child Abuse Hotline Child Abuse and Neglect-Related Contacts, January 2019–December 2022. CTC, child tax credit.

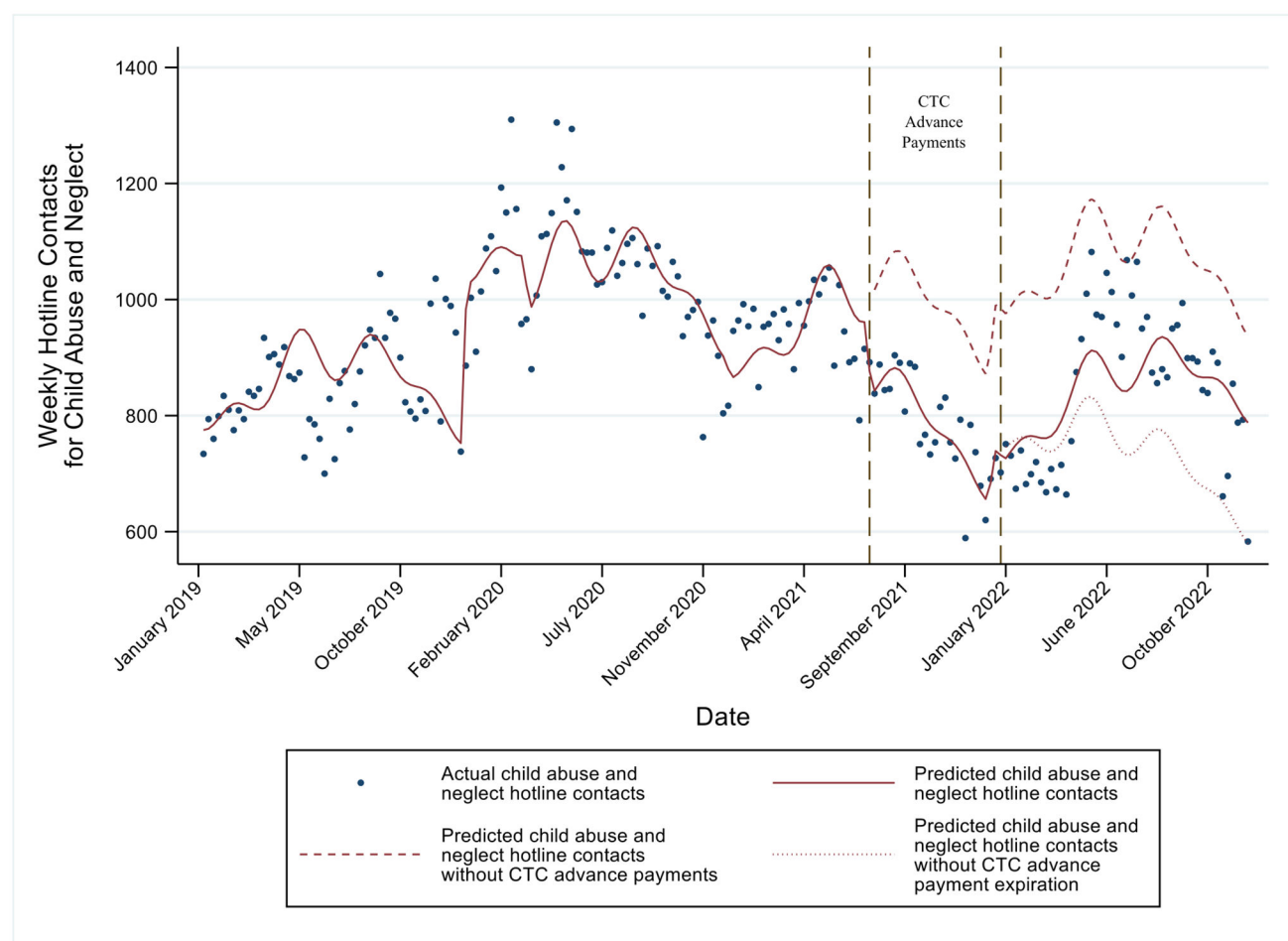


Figure 2.

Association between the Child Tax Credit Advance Payments and Childhelp National Child Abuse Hotline Child Abuse and Neglect-related Contacts, January 2019–December 2022: interrupted time series analysis results. Notes: Hotline data on child abuse and neglect were collected from the Childhelp National Child Abuse Hotline. Negative binomial regression models were estimated with an interrupted time series specification allowing two interruptions (start of CTC advance payments and end of CTC advance payments). Additional covariates in the model included a policy variable representing the start of COVID-19 economic support policies, year dummy variables and day-of-week dummy variables. All ITS models included Fourier terms with three harmonics to adjust for seasonality. Robust SEs were estimated with heteroscedasticity and autocorrelation corrections when appropriate. All models used the natural logarithm of the corresponding yearly US population as model offsets. For visual aid of ITS results, observed hotline contacts and predicted hotline contacts were aggregated to the weekly level. CTC, child tax credit; ITS, interrupted time series.

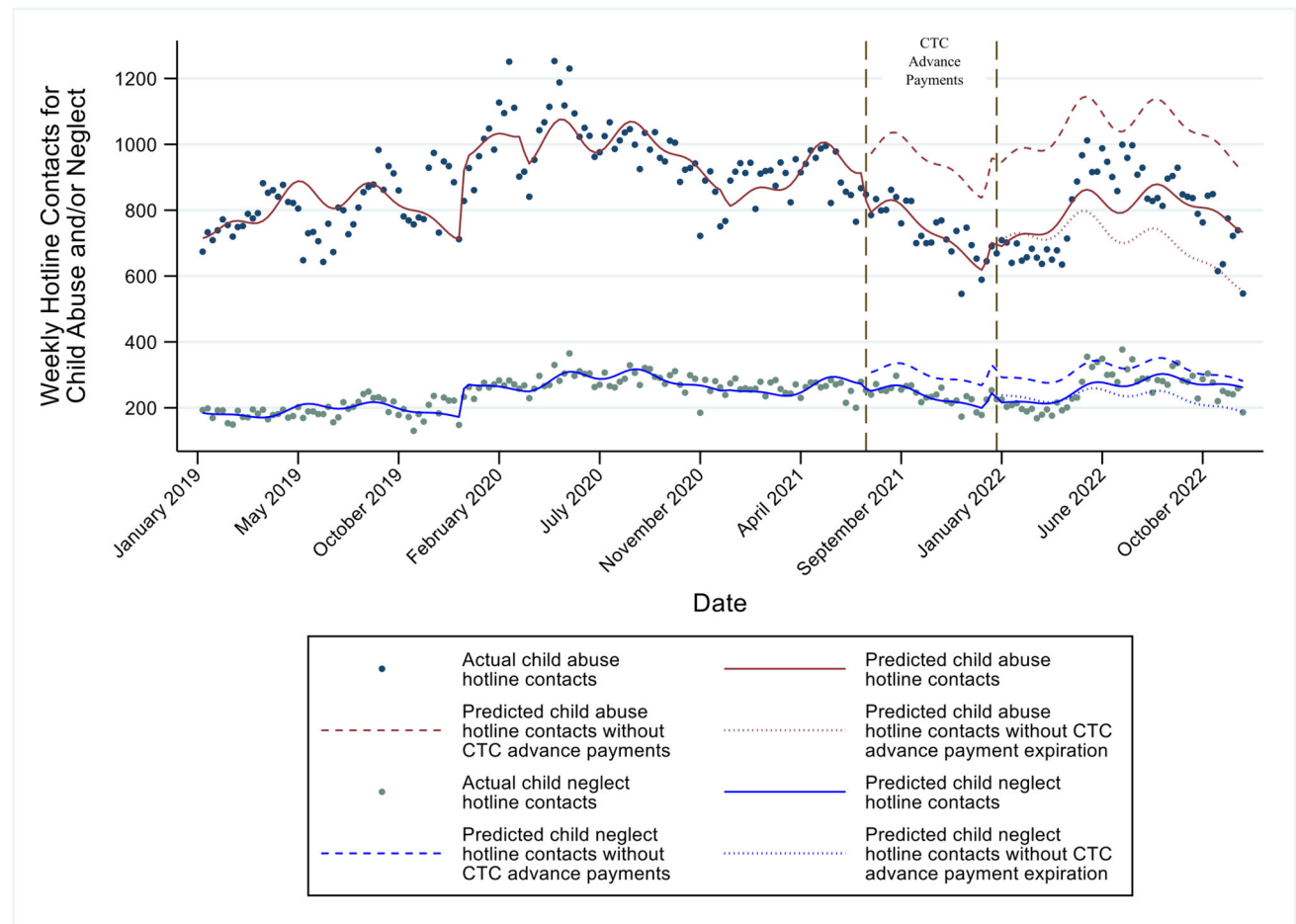


Figure 3.

Association between the Child Tax Credit Advance Payments and Stratified Childhelp National Child Abuse Hotline Child Abuse and Neglect-Related Contacts, January 2019–December 2022: Interrupted Time Series Analysis Results. Notes: Hotline data on child abuse and neglect were collected from the Childhelp National Child Abuse Hotline. Negative binomial regression models were estimated with an interrupted time series specification allowing two interruptions (Start of CTC advance payments and end of CTC advance payments). Additional covariates in the model included a policy variable representing the start of COVID-19 economic support policies, year dummy variables and day-of-week dummy variables. All ITS models included Fourier terms with three harmonics to adjust for seasonality. Robust SEs were estimated with heteroscedasticity and autocorrelation corrections when appropriate. All models used the natural logarithm of the corresponding yearly U.S. population as model offsets. For visual aid of ITS results, observed hotline contacts and predicted hotline contacts were aggregated to the weekly level. CTC, child tax credit; ITS, interrupted time series.

Table 1

Association between the CTC advance payments and Childhelp National Child Abuse Hotline Child Abuse and Neglect-related Contacts, January 2019–December 2022: ITS analysis IRR estimates (n=1461)

Variable	Child abuse and neglect			Neglect		
	IRR	95% CI		IRR	95% CI	
CTC (intercept)	-13.8%	(-17.5% to -10.0%)		-14.8%	(-19.2% to -10.1%)	-8.5% (-15.4% to -1.1%)
CTC×time (slope)	-0.1%	(-0.2% to 0.0%)		-0.1%	(-0.2% to 0.0%)	-0.1% (-0.1% to 0.0%)
CTC expire (intercept)	-3.3%	(-7.8% to 1.5%)		-3.5%	(-8.3% to 1.5%)	-10.0% (-21.4% to 2.5%)
CTC expire×time (slope)	0.1%	(0.0% to 0.2%)		0.1%	(-0.1% to 0.2%)	0.1% (0.0% to 0.2%)
Time	-0.1%	(-0.1% to 0.03%)		0.0%	(-0.1% to 0.04%)	0.0% (-0.1% to 0.01%)

Hotline data on child abuse and neglect were collected from the Childhelp National Child Abuse Hotline. Negative binomial regression models were estimated with an interrupted time series specification allowing two interruptions (start of CTC advance payments and end of CTC advance payments). Additional covariates in the model included a policy variable representing the start of COVID-19 economic support policies, year dummy variables and day-of-week dummy variables. All ITS models included Fourier terms with three harmonics to adjust for seasonality. Robust SEs were estimated with heteroscedasticity and autocorrelation corrections when appropriate. All models used the natural logarithm of the corresponding yearly US population as model offsets.

Bolded values indicate statistically significant (p<0.05) findings.

CTC, child tax credit; IRR, incidence rate ratio; ITS, interrupted time series.

Table 2

Association between the child tax credit advance payments and Childhelp National Child Abuse Hotline Child Abuse and Neglect-related Contacts, January 2019–December 2022: fixed effects analysis

Variable	Child abuse and neglect			Neglect		
	IRR	95% CI		IRR	95% CI	
Overall (N=736)						
Days 0–3	+0.4%	(−4.4% to +5.4%)	+1.8%	(−3.0% to +6.8%)	−4.1%	(−12.5% to +5.2%)
Days 4–7	+2.2%	(−2.4% to +7.0%)	+1.3%	(−3.1% to +6.0%)	+5.1%	(−2.4% to +13.0%)
Days 8–11	−11.2%	(−18.6% to −3.1%)	−11.3%	(−18.7% to −3.1%)	−15.3%	(−25.3% to −3.9%)
Days 12–15	+1.1%	(−3.8% to +6.2%)	+1.0%	(−4.0% to +6.3%)	+4.1%	(−5.8% to +15.1%)
July–September (N=368)						
Days 0–3	+2.0%	(−3.8% to +8.2%)	+3.6%	(−2.1% to +9.6%)	−3.2%	(−15.4% to +10.7%)
Days 4–7	+0.5%	(−5.36+6.7%)	+0.2%	(−6.1% to +7.0%)	+7.3%	(−3.2% to +18.9%)
Days 8–11	−6.0%	(−12.3% to +0.7%)	−6.6%	(−13.2% to +0.5%)	−10.4%	(−21.2% to +1.8%)
Days 12–15	+0.2%	(−6.5% to +7.3%)	+1.1%	(−5.8% to 8.5%)	+2.8%	(−11.0% to +18.6%)
October–December (N=368)						
Days 0–3	−1.1%	(−8.1% to +6.4%)	+0.0%	(−7.2% to +7.7%)	−5.3%	(−15.7% to +6.4%)
Days 4–7	+4.0%	(−3.1% to +11.7%)	+2.6%	(−3.6% to +9.2%)	+1.9%	(−8.5% to +13.4%)
Days 8–11	−16.4%	(−28.4% to −2.4%)	−16.1%	(−28.2% to −2.0%)	−19.7%	(−35.2% to −0.4%)
Days 12–15	+1.8%	(−5.1% to +9.2%)	+0.8	(−6.2% to +8.2%)	+4.4%	(−9.4% to +20.3%)

Notes: Hotline data on child abuse and neglect were collected from the Childhelp National Child Abuse Hotline. Negative binomial regression models were estimated using the 14 days prior to disbursement and 15 days after each disbursement date in 2021 are compared with the same period in 2019, 2020 and 2022. These models include year, month and day-of-week dummy variables. Robust SEs were estimated with heteroscedasticity and autocorrelation corrections when appropriate. All models used the natural logarithm of the corresponding yearly US population as model offsets.

Bolded values indicate statistically significant (p<0.05) findings.

IRR, incidence rate ratio.