



DATA BRIEF

Using SMS Text Messaging to Inform, Engage, and Communicate with Allegheny County Residents

May 2023

INTRODUCTION

The Allegheny County Department of Human Services (DHS) engages clients and others who interact with DHS programs in a variety of ways: regular roundtables/cabinets (e.g., Children’s Cabinet); town halls and community forums; social media (e.g., Facebook and LinkedIn); and the Director’s Action Line (DAL). In 2018, DHS expanded its public engagement strategy to include SMS text messaging (texting), a tool that is convenient for recipients and allows DHS to scale up communication with clients and other Allegheny County residents.

Texting offers distinct benefits compared to other forms of outreach. While cabinets, forums and the DAL require a person to proactively participate and/or reach out, text messages are “pushed” to a person’s phone and typically arrive with an alert. Texting is lower cost than phone outreach and, with a commercial account, DHS can communicate instantly with thousands of people. In addition, it reduces the burden on some clients to provide feedback while also reaching individuals who might never choose to participate through more proactive mechanisms. Over 97% of Americans own a cell phone,¹ and texting has been used effectively in many contexts, including health and social services.^{2,3}

Using text messaging to communicate with clients became especially important to DHS during the COVID-19 pandemic, when in-person communication between staff and clients was limited. Even as the pandemic winds down, DHS has expanded its use of texting, with applications including targeted outreach for public benefit eligibility, surveying client satisfaction and sending timely reminders for information sessions. In this report, we describe and share summary analytics about DHS’s text message outreach since 2018.

TEXT MESSAGE DISTRIBUTION

Text messages from DHS represent one of three types of communication: 1) a one-time ‘alert’ through a manual, staff-initiated action; 2) ongoing feedback initiated at identified touchpoints through an automated process; or 3) ongoing feedback as a result of a client-initiated action.

For one-time alerts, staff identify the correct cohort of people to receive the specific information and texts are sent to phone numbers associated with those individuals either instantly or at a scheduled date and time. For example, to encourage take-up of public benefits like the Supplemental Nutrition Assistance Program (SNAP),

¹ <https://www.pewresearch.org/internet/fact-sheet/mobile/>

² Rachel Y. Moon, MD et al. “Comparison of Text Messages vs Email When Communicating and Querying with Mothers about Safe Infant Sleep,” *Academic Pediatrics* 17, no.8 (2017): 871-878, <https://doi.org/10.1016/j.acap.2017.06.004>

³ Zallman L, Bearse A, West C, Bor D, McCormick D. Patient preferences and access to text messaging for health care reminders in a safety-net setting. *Inform Health Soc Care.* 2017 Jan;42(1):32-42. doi: 10.3109/17538157.2015.1113177. Epub 2016 Feb 11. PMID: 26864932.

a DHS staff member could query the Allegheny County data warehouse to create a targeted distribution list of people who are likely eligible for but not enrolled in SNAP benefits.

Text message distribution can also be automated so that messages are sent when an event takes place. For example, to understand client satisfaction with Family Centers of Allegheny County (FCs), DHS automatically sends a brief, five-question post-visit survey to clients who visited an FC in the past week.

Finally, text messages can be initiated by client behavior. For example, after enrolling in the DHS Discounted Fares Pilot, participants engage in a chat-bot style text conversation. In this conversation, they choose whether they would like to earn money by answering brief surveys about their transportation usage every few days. If a person opts in, they will automatically start receiving those text messages. DHS also builds so called “trigger words” that initiate a conversation if included in an inbound text to DHS’s phone number. For example, a client may see a flyer encouraging them to text “INFO” to 987987 to receive text message updates about a certain program.

TEXT ANALYTICS TO DATE

From 2018 through 2022, DHS sent 832,038 text messages to 151,706 phone numbers. Over the same period, DHS received 193,283 messages in response from 19,185 phone numbers. 659,217 of the outgoing messages were sent in 2021 and 2022 alone. **Figure 1** shows the number of outgoing and incoming messages by year and **Figure 2** shows the distinct number of phone numbers contacted in each year.

FIGURE 1: Outgoing and Incoming Message, by Year, 2018 through 2022

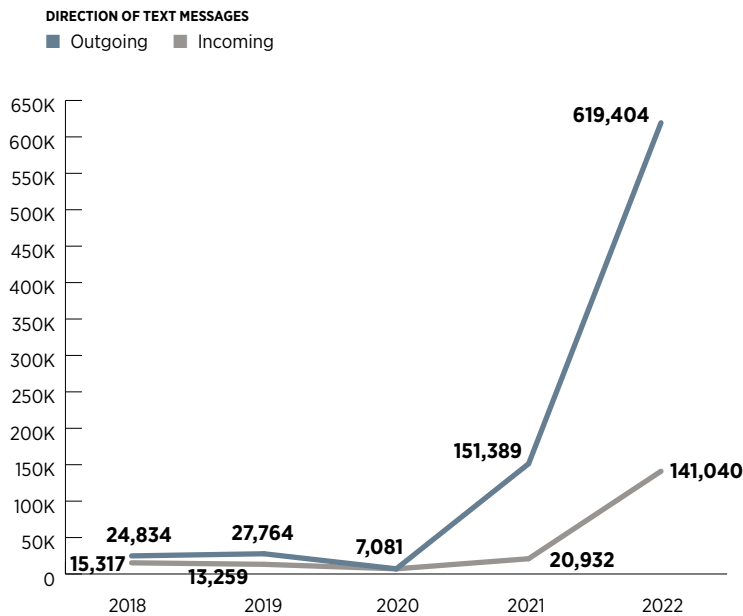
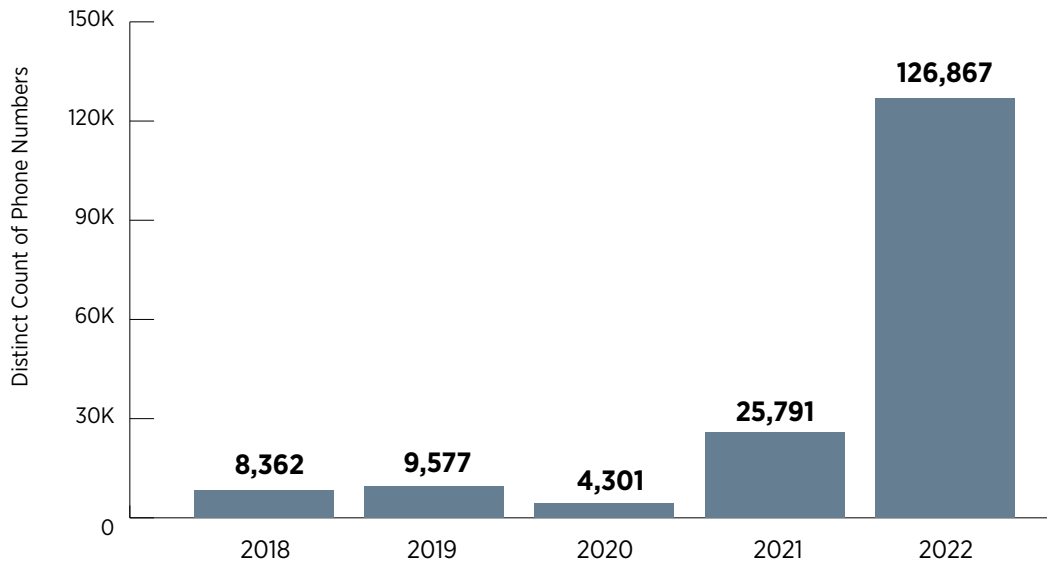


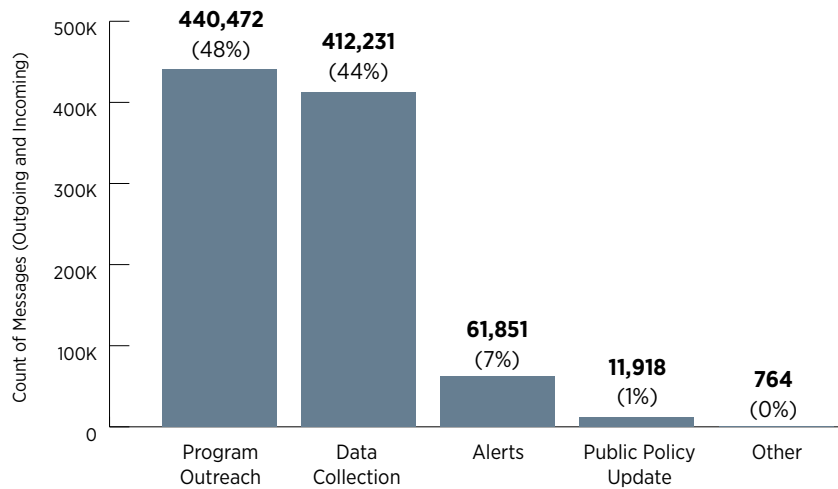
FIGURE 2: Phone Numbers Contacted by Year, Unduplicated, 2018 through 2022

The content of DHS's text communications can be categorized as follows: program outreach, alerts, data collection and public policy updates.

- Program outreach includes messaging around new resources, program eligibility and enrollment opportunities.
- Alerts are messages for recipients already enrolled in services and that either improve their experience or facilitate their participation. This includes reminders about upcoming events or updates about their status in a program.
- Data collection consists largely of surveys that measure progress and outcomes related to programs and services, as well as satisfaction with these services.
- Public policy updates provide information about major changes in laws or policies that have the potential to directly affect recipients.

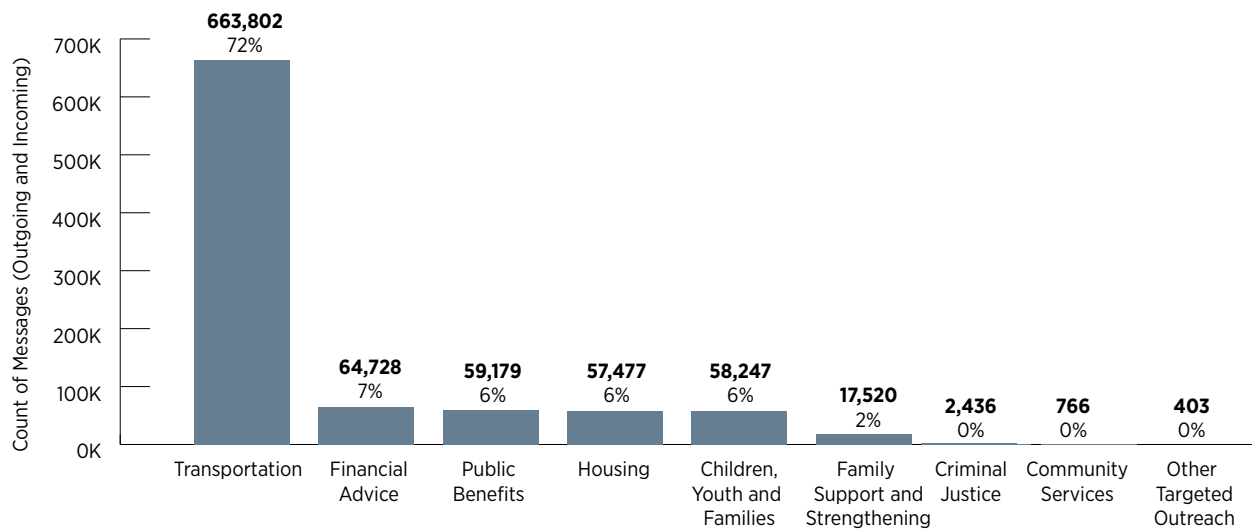
As illustrated in **Figure 3**, data collection and program outreach account for the majority of DHS's text communications.

FIGURE 3: Number of Messages by Category, 2018 through 2022



DHS text communications also span a variety of programs and topics. **Figure 4** illustrates the various subjects that messages cover. Transportation's seemingly disproportionate majority is due to the large outreach effort surrounding the Discounted Fares Pilot Program, which will be covered in more detail further below.

FIGURE 4: Number of Messages by Subject, 2018 through 2022



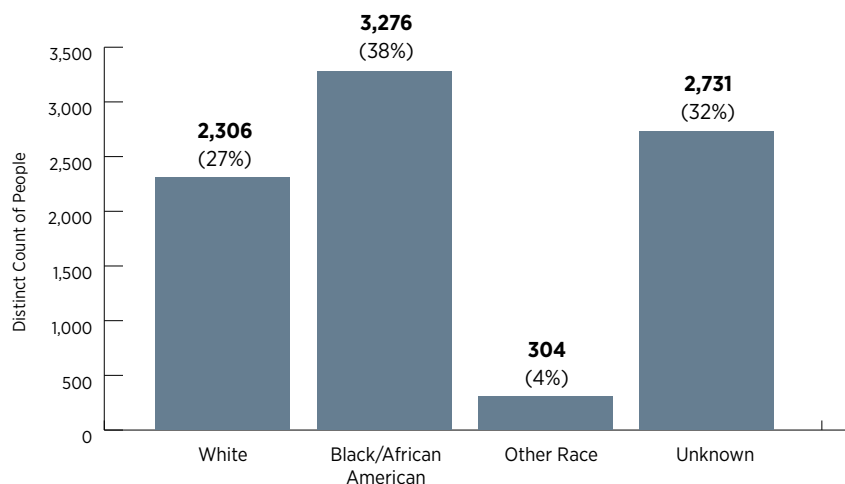
DEMOGRAPHICS OF DHS TEXT RECIPIENTS

One of DHS’s motivations for utilizing text messaging as a tool to engage clients and others was to increase representation of voices that may not be heard through traditional feedback channels. While collecting feedback through in-person or virtual events like community town halls is valuable, these channels are more likely to attract individuals who are already engaged with their communities, have strong opinions, or are older and have more spare time. Through texting, we’ve established a comfortable mechanism for people to share their feedback and experience with the Department. Without this mechanism, we would not get feedback from many who now are engaging in direct communication with DHS. Texts are quick and convenient and impose a relatively light burden on those who receive them. In this section, we will outline the racial, gender and age demographics of the people we have reached out to through text with opportunities to provide feedback,⁴ and show how these demographics compare to the overall demographics of DHS’s client population. Again, it is important to note that texting is just one of many methods that DHS uses to understand the client experience. The feedback collected through texts needs to be considered within the context of feedback collected through other channels.

Race

The majority of people DHS contacted were either Black (38%) or White (27%). A small percentage were another race (4%). The race of the remaining people was unknown (32%), as illustrated in **Figure 5**. In comparison, the overall racial makeup of DHS’s data warehouse population is 52% White, 12% Black, 19% another race and 17% unknown.

FIGURE 5: Race of People Contacted by Text for Feedback, 2018 through 2022



4 The following text campaigns were included in the demographics data: (1) a survey about individuals’ experiences with their Family Support Center visit, (2) a survey about individuals’ experiences with a transitional housing program, (3) surveys about

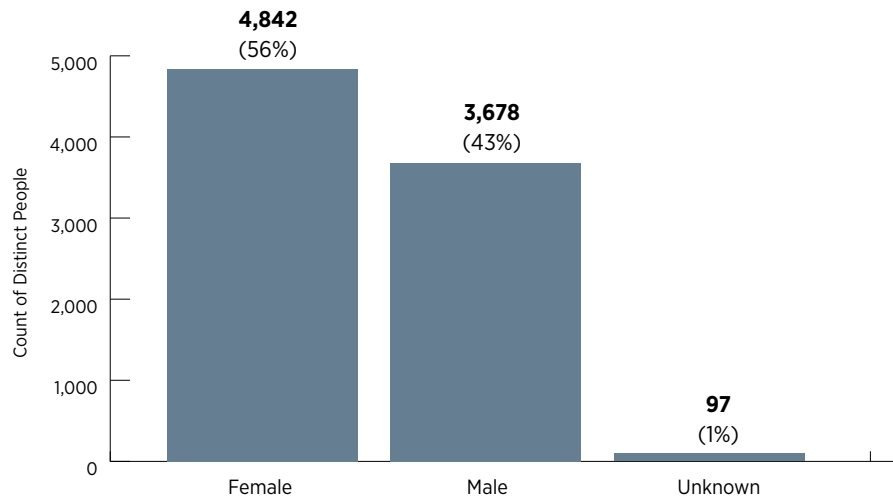
caregivers’ experiences being reunified with their children after a child welfare placement ended and about what supports they need, (4) a community needs assessment that was used to inform DHS funding decisions, (5) a survey about individuals’ experiences

with Youth Voice, (6) a recruitment text for a paid focus group on individuals’ experiences with housing supports when they were experiencing homelessness, and (7) a recruitment text for interviews about foster parents’ experiences with locating resources.

Gender⁵

The majority of people DHS contacted for feedback were female (56%). The remainder of the contacts were male (43%) or unknown (1%), as illustrated in **Figure 6**. In comparison, the gender makeup of DHS's overall data warehouse population is 43% female, 46% male and 11% unknown.

FIGURE 6: Gender of Text Recipients, 2018 through 2022



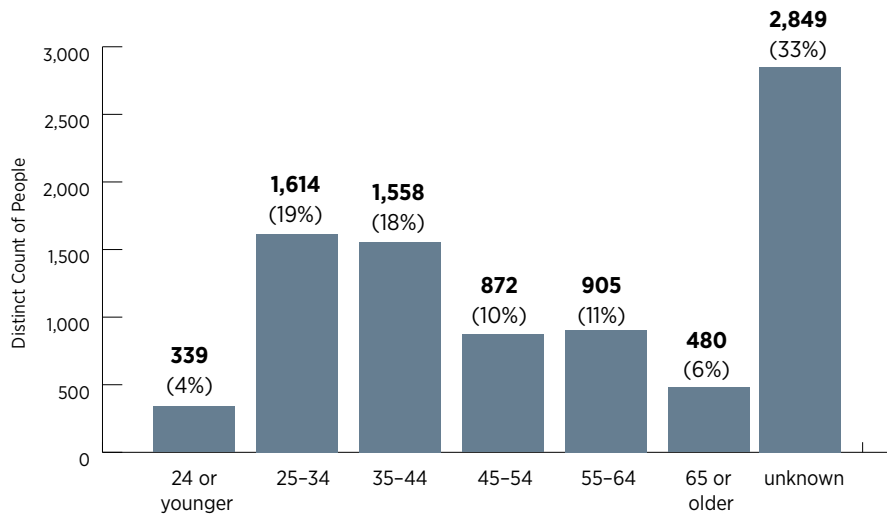
Age

The 25-through-34 and 35-through-44 age groups make up the largest proportion (37% together) of people DHS contacted for feedback, as illustrated in Figure 7. The 45-through-54 and 55-through-64 age groups followed at 10% and 11%, respectively. The youngest and oldest age groups made up the smallest proportion of the sample (4% and 6% respectively), with the remaining individuals' age being unknown (33%).

In comparison, the largest age groups in the overall DHS data warehouse population are the 65 and older (24%) and 24 or younger (19%) groups. The 45-through-54 and 55-through-64 age groups are similar in size proportionally to the SMS contact group (9% and 10% respectively). The 25-through-34 age group is 13% of the overall group, the 35-through-44 age group is 12%, and 13% is unknown. The mean age of people contacted through DHS texting is 36.8 years, compared to a mean age of 46.2 years for the overall data warehouse population.

⁵ In an effort to accurately present the data as it is recorded in the data source, we have chosen to use the term "gender" and the categories "female" and "male," with the acknowledgement that more nuanced data collection is vital for understanding the identities of people involved.

FIGURE 7: Age Distribution of Text Recipients, 2018 through 2022



A CLOSER LOOK AT 2021 AND 2022

In 2021, DHS conducted a total of 34 text campaigns. These campaigns were comprised of 151,389 outgoing messages and 20,932 incoming messages. 73.5% of these messages were related to one of the following initiatives:

- **COVID-19 rental assistance:** Clients were provided information about the Emergency Rental Assistance Program, eviction moratoria policies and links to related information sessions.
- **Older Youth Pandemic Relief (OYPR):** From June through October of 2021, DHS provided cash assistance for transition-aged youth. DHS used text messaging to monitor whether eligible youth received their money and to send surveys about what they used the money for and how it helped them.
- **Free tax preparation services:** In March of 2021, DHS informed clients about the Earned Income Tax Credit and free tax preparation services.

Table 1 illustrates when and how many text messages were sent and received over the course of 2021. The initial text message outreach regarding COVID-19 rental assistance had the highest rates of engagement of any text message campaign DHS to date, with 78.4% of recipients responding and requesting more information.

TABLE 1: Text Messages by Subject, Sent and Received, by Month, 2021

	COVID-19 RENTAL ASSISTANCE	FREE TAX PREPARATION	OLDER YOUTH PANDEMIC RELIEF	OTHER	TOTAL
January	4,575	0	0	1,290	5,865
February	10,032	0	0	654	10,686
March	12,835	42,618	0	2,196	57,649
April	0	0	0	111	111
May	8,840	0	0	240	9,080
June	0	0	4,914	1,132	6,046
July	0	0	11,183	22,963	34,146
August	9,438	0	6,817	407	16,662
September	44	0	4,289	5,536	9,869
October	0	0	17,162	5,052	22,214
November	0	0	92	271	363
December	0	0	0	671	671
Total	45,764	42,618	44,457	40,523	173,362

In 2022, DHS conducted a total of 35 text campaigns. These campaigns were comprised of 619,404 outgoing messages and 141,040 incoming messages. 88.4% of these messages were related to one of the following initiatives:

- **Allegheny County Discounted Fares program:** This is a 12-month pilot program that will assess the impact of either free or discounted bus fares on the lives of low-income residents. Text messaging is being used for recruitment, enrollment, updates about the program and surveying.
- **SNAP Fresh Access Program:** This is a program that allows SNAP recipients to use their benefits to buy groceries from local farmers' markets. Text messaging was used to inform clients with SNAP benefits which farmers' market was closest to them.
- **University Partnerships:** This category includes recruitment for paid research participation opportunities with university partners. For example, Carnegie Mellon University conducted a study in which low-income mothers received free Uber rides in order to test the effect of subsidized car access on spatial mobility and socioeconomic outcomes. Participants were recruited through text messaging targeted towards women in DHS's data warehouse that met the eligibility criteria.

Table 2 presents a snapshot of these initiatives over the course of 2022.

TABLE 2: Number of Text Messages by Subject, Sent and Received, by Month, 2022

	UNIVERSITY PARTNERSHIPS	SNAP FRESH ACCESS PROGRAM	DISCOUNTED FARES PILOT	OTHER	TOTAL
January	14,931	0	0	506	15,437
February	11,886	0	0	405	12,291
March	10,749	0	0	590	11,339
April	258	0	0	726	984
May	29,586	0	0	2,636	32,222
June	27,059	0	0	1,254	28,313
July	0	30,628	0	1,103	31,731
August	0	0	0	2,737	2,737
September	0	0	0	12,135	12,135
October	0	28,551	0	4,073	32,624
November	6,095	0	147,173	5,636	158,904
December	0	0	416,477	5,829	422,306
Total	100,564	59,179	563,650	37,630	761,023

IMPACT

Text messaging has allowed DHS to send important information to thousands more individuals than would have been possible through traditional outreach methods such as phone calls, emails or flyers. In addition, texting streamlines access to resources by providing rapid feedback between the recipient and DHS staff.

Older Youth Pandemic Relief (OYPR), a program that provided eligible transition-aged youth with cash assistance, is an example of how texting can streamline linkages to resources. The popularity of the cash assistance presented DHS with an additional opportunity to connect individuals to resources. Text survey recipients were asked to select from a list of services that they might need assistance with and whether they would like someone to follow up/contact them about connecting to those resources. If they answered yes, the study team alerted either the individual's Independent Living Case Lead or they shared the information with 412 Youth Zone staff,⁶ who made follow-up phone calls to each individual.⁷

The Family Center (FC) survey is an example of a text message campaign that was leveraged to provide staff with rapid feedback about the quality of the services they are providing. There are 22 FCs throughout Allegheny County, and they provide local families with various forms of support. If a client makes a qualifying visit (i.e., uses certain services), they are sent a survey via text, asking about their satisfaction with the experience. The results from those surveys automatically update a dashboard that is viewable by DHS staff, who then provide FC staff with timely feedback. If a client indicates that they were dissatisfied with some aspect of their visit, they are asked if they would like someone to follow up. If they respond yes, the DHS study team calls the individual and shares a summary of the calls with FC staff.

LOOKING FORWARD

These examples demonstrate the innovative ways in which DHS is using text messaging to improve the reach and quality of its services. DHS will continue to expand its text message outreach efforts to connect as many individuals to resources as possible. As part of its efforts to build out and improve its text communication infrastructure, DHS will also explore methods to improve the accuracy of its phone number data. Keeping up with constantly changing contact information in a consistent and systematic manner poses a significant challenge but is important to ensuring the efficacy of DHS's outreach efforts. In the future, DHS plans to build a dashboard that will allow the public to explore these text outreach analytics in more detail.

6 The 412 Youth Zone is a safe and welcoming one-stop center for young people ages 16 through 23 who are transitioning out of the foster care system and are eligible for independent living services or are experiencing unstable housing. See <https://www.auberle.org/the-412-youth-zone>

7 For more information about the background, methods and results of the Older Youth Pandemic Relief surveys, see <https://analytics.alleghenycounty.us/wp-content/uploads/2022/10/22-ACDHS-07-OlderYouthPandemicRelief.pdf>