PENNSYLVANIA INTERACTIVE GAMING REPORT 2021

Prepared by
The Pennsylvania State University

Report Background

The Pennsylvania Department of Drug and Alcohol Programs compiles annually an assessment and report on the impact of interactive gaming in Pennsylvania to meet the requirements set forth in Pennsylvania Act 42 of 2017 that legalized interactive gaming in the Commonwealth of Pennsylvania. This was the first year for the completion of the assessment and report compilation. This report assists the Department in fulfilling its mission to assess and address how gambling behaviors impact compulsive and problem gambling within the Commonwealth. The funding for this report is provided by law through the Pennsylvania Gaming Control Board from revenues of the interactive gaming licensees.

The Pennsylvania Department of Drug and Alcohol Programs contracted with The Pennsylvania State University to conduct this yearly assessment of interactive gaming in the Commonwealth. The team of researchers is led by Dr. Glenn Sterner, an accomplished assistant professor of criminal justice with experience assessing the impacts of compulsive behaviors within communities across the Commonwealth, and this assessment is administratively housed within the Criminal Justice Research Center in the College of the Liberal Arts. Dr. Mikael Ahlgren, Director of Gaming Initiatives for the University, provided subject matter expertise and context from his distinguished career associated with the gaming industry. Dr. Miranda Kaye, Director of the Social Science Research Institute's Survey Research Center, oversaw the collection of the data through a representative telephone survey. Dr. Raeven Chandler, Director of the Pennsylvania Population Network, provided analytical support for the report. Finally, this assessment was supported by several other key faculty, researchers, and staff including Dr. Joshua Rosenberger, Diana Crom, Madison Miller, and Dennis Dozier.

Report Summary

Interactive Gaming, also referred to as online gambling or iGaming, became legal in Pennsylvania in 2017 through the PA Act 42 of 2017. Licenses were first granted in Pennsylvania to conduct interactive gaming in 2018. The addition of 7 new interactive gaming sites in Fiscal Year 2020/2021 brought the Pennsylvania total to 19. These 19 sites were operated by 10 different certificate holders. In terms of economic impact, interactive gaming generated over $372 million in direct gaming taxes (Pennsylvania Gaming Control Board, 2021). Furthermore, online sports betting contributed over $260 million dollars in tax revenues in Fiscal Year 2020/2021 (Pennsylvania Gaming Control Board, 2021). The magnitude of this number is best understood by noting that traditional retail or 'brick and mortar' sports books only generated slightly more than $48 million in tax revenues. The latest revenue reports generated by the PA Gaming Control Board indicated continued increased revenue of interactive gaming across the Commonwealth.

Revenue generation associated with interactive gaming is one possible indicator of activity trends. However, it remains unclear if this is due to an increase in individual spending or an increase in individual participation in interactive gaming, or potentially both. To begin to answer this question, this report provides the results from analyses on data collected from a representative sample of Pennsylvanians from 2020-2021. The results provide insight into interactive gaming and those who are engaged in this practice in Pennsylvania and should not be used to make inferences about any other gambling behaviors.

According to the results of the survey, approximately 1 in 10 Pennsylvanians (11.1%) engaged in interactive gaming (95% CI = 0.5 + 0.028 [11.571, 11.628]; Margin of Sampling Error [MOSE] = 3%), while approximately 28%[i] of Pennsylvanians reported any gambling activity (which may include interactive gaming) in the past 12 months according to the Behavioral Risk Factor Surveillance System (BRFSS) (Pennsylvania Department of Health, 2021).

Key Statistics

5.8 Hours Spent per Week Interactive Gaming
$219 Spent per Week on Interactive Gaming
43.9% Prefer Interactive Gaming
68.6% Gamble In-Person
2.1% Have Contacted 1-800-GAMBLER
44.6% Demonstrate at least 1 Problem Gambling Behavior

APPROXIMATELY

1 IN 10

PENNSYLVANIANS PARTICIPATE IN INTERACTIVE GAMING

Interactive Gaming Behaviors

This section describes the demographics of those who participate in interactive gaming in Pennsylvania as well as their gambling behaviors. This section helps to understand more about the types of Pennsylvanians who are engaged in these activities.

11.1%

11.1% of Pennsylvanians participate in interactive gaming

38
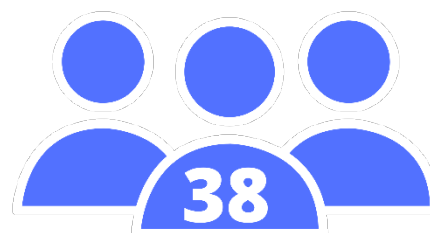
## The average age of Pennsylvanians Engaging in Interactive Gaming is 38

Within Pennsylvania, 11.1% of residents indicated they participated in interactive gaming within the past year. The average age of those engaging in interactive gaming is 38 years, and their average household income is $73,302. Men (67.8%) are more likely than women (31.3%) to be engaged in

this type of gambling. Interactive gaming participants are most likely to be white (73.4%). They are more likely to live within a metropolitan county (72.9%) than a nonmetropolitan county (27.1%)[ii]. Table 1 summarizes additional characteristics of those engaged in interactive gaming.

Table 1: Pennsylvania Interactive Gaming Demographic Statistics			
Demographic Category	**Percent**	**Demographic Category**	**Percent**
Gender		**County Metro Status**	
Man	67.8%	Metropolitan	72.9%
Woman	31.3%	Non-Metropolitan	27.1%
Other	0.9%		
Race/Ethnicity		**Employment Status**	
African American/Black	15.8%	Full Time	57.7%
American Indian/Alaska Native	1.8%	Part Time	12.8%
Asian	6.8%	Self Employed	10.3%
Hispanic/Latino	12.7%	Retired	4.3%
White	73.4%	Student	1.7%
Some Other Race	3.2%	Other	7.5%
Marital Status		**Education**	
Married/Living with Partner	41.5%	High School or Less	22.9%
Divorced	5.1%	Some College	19.9%
Separated	1.6%	Associate Degree	9.0%
Widowed	1.6%	Bachelor's Degree	31.63%
Single/Never Married	44.5%	Above Bachelor's Degree	10.9%

Figure 1: Participation in Types of Interactive Gaming
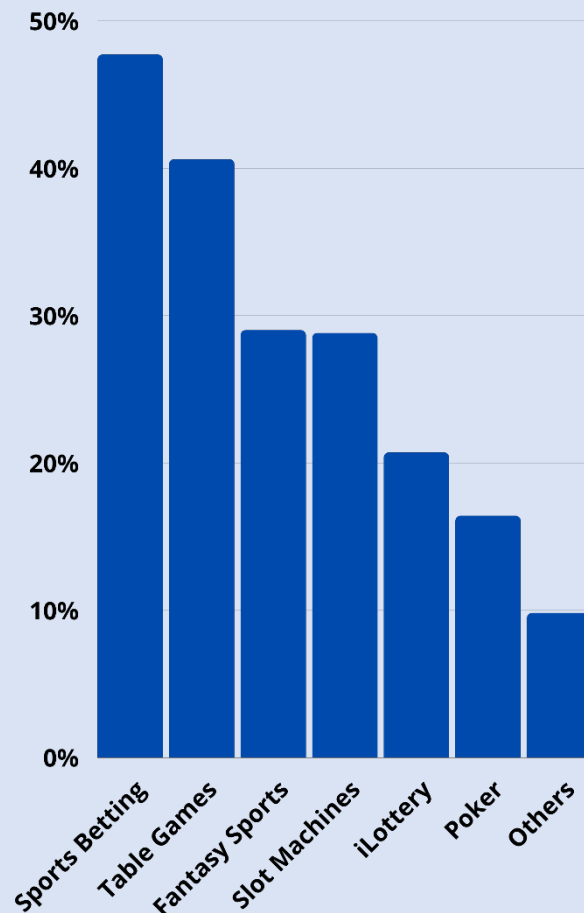
Those who engage in interactive gaming noted they were spending on average about 5.8 hours across 1.4 days in a typical week engaged in online gambling. Individuals were spending $219 per week on interactive gambling on average. Nearly half (43.9%) of those engaged in interactive gaming prefer this type of gambling over all other types. Many individuals are utilizing this interactive gaming as a social experience, 45.2% are playing online games with friends or other social acquaintances.

Among those engaged in interactive gaming, the most popular type of gaming is sports betting (47.7%); followed by table games like roulette, baccarat, blackjack, and craps (40.6%); fantasy sports betting (29.0%); Slot machines (28.8%); iLottery (20.7%); Poker (16.4%); and other types of online gambling (9.8%). These results are shown in Figure 1.

A small minority of individuals engaged in interactive gaming indicated they also participated in unsanctioned, illegal online gambling. This included offshore online sports books (3.6%), offshore online poker sites (4.2%), offshore online casinos (3.5%), and some other online unapproved gambling (4.5%). The majority (76.0%) indicated they were not engaged in any unsanctioned gambling.

Over two-thirds (68.6%) of those who engage in interactive gaming are also participating in gambling through in person experiences. The most popular method is through the Pennsylvania lottery (45.9%), followed by Pennsylvania-based casinos (30.8%), Pennsylvania lottery instant scratch offs (30.5%), fantasy sports leagues (25.3%), private lottery or strip tickets (21.8%), sporting events (15.5%), casinos outside of Pennsylvania (15.3%), private poker or card games (12.8%), horse racetrack or off-track betting (7.3%), bingo (6.02%), cash bashes (5.8%), or some other way (1.0%). These results are found in Figure 2.

Figure 2: Participation in In-Person Gambling
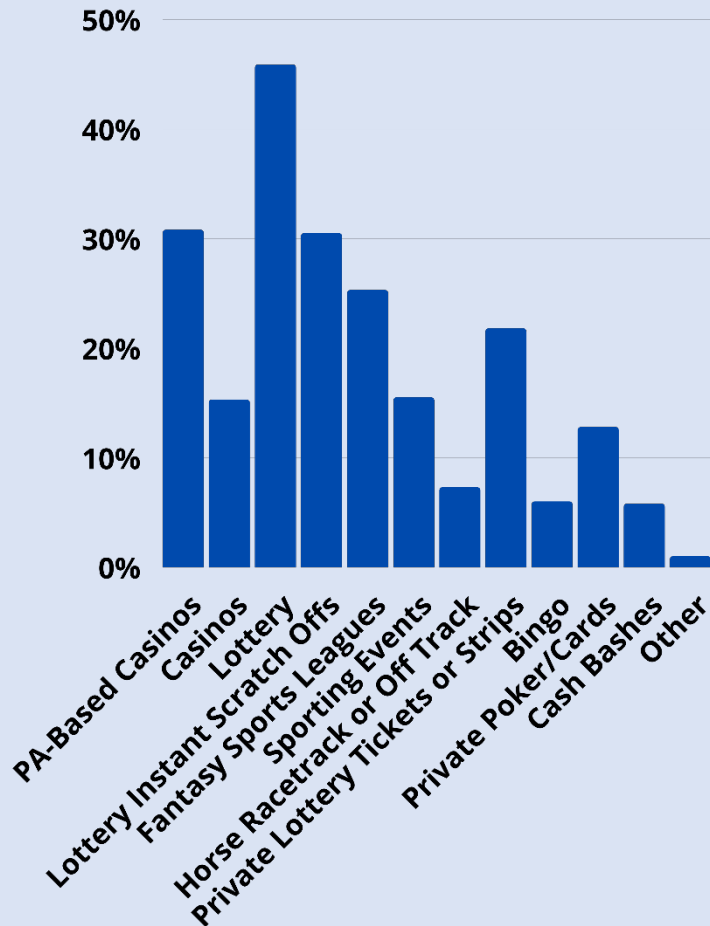
Problem Gambling Behaviors

Problem gambling remains a concern for this population; due to the private nature of the location for gambling it may be more difficult to identify a need for intervention. Only 2.1% of those engaged in interactive gaming have ever contacted 1-800-GAMBLER or other resource for themselves or for anyone else for a problem with gambling.

To assess problem gambling, the survey utilizes a series of five questions based on the practices of others within the field of problem gambling research (Volberg & Williams, 2011; Toce-Gerstein, Gerstein, & Volberg, 2009). These questions help to gauge the types of behaviors that may indicate a need for intervention. For those that engage in interactive gaming, 29.7% indicate they have attempted to cut down, control, or stop gambling in the past 12 months, and 22.9% note they have gambled longer, with more money, or more frequently than intended in the past 12 months. To a lesser extent, individuals shared that they needed to gamble with

larger amounts of money to get the same feeling of excitement in the past 12 months (12.8%), that they have been preoccupied with gambling in the past 12 months (10.2%), or that they have borrowed or sold anything to gamble in the past 12 months (3.8%).

2.1%

of those participating in interactive gaming have contacted 1-800-GAMBLER

However, to gauge more accurately whether these behaviors indicate problem gambling issues, a scale was created utilizing the questions from Table 2 to assesses problem gambling risk (Volberg & Williams, 2011; Toce-Gerstein, Gerstein, & Volberg, 2009). This scale indicates that among those participating in interactive gaming in the survey, 44.6% of the sample of interactive gamblers answered "yes" to at least one of these questions. Therefore, monitoring problem gambling behaviors among this population will continue to be an important aspect of understanding the implications of legalizing interactive gaming in Pennsylvania.

Table 2: Assessment of Problem Gambling Among Those Engaged in Interactive Gaming	
Problem Gambling Components	**Response Rate**
Preoccupied with gambling in the past 12 months	10.2%
Needed to gamble with larger amounts of money to get the same feeling of excitement in the past 12 months	12.8%
Gambled longer, with more money, or more frequently than intended in the past 12 months	22.9%
Attempted to cut down, control, or stop gambling in the past 12 months	29.7%
Borrowed money or sold anything to gamble in the past 12 months	3.8%

Data Collection and Analysis Methodology

Data Collection Methodology

The Penn State research team developed a representative sampling methodology using a database of all directory-listed households in Pennsylvania. The probability sample was generated using a database of "working blocks" – a set of 100 contiguous numbers identified by the first two digits of the last four digits of a telephone number. The block was termed to be working if one or more of the listed telephone numbers are found in that block. The sample was generated using stratified sampling procedures for each county.

Prior to sample selection, the sample is allocated proportionally across all strata in Pennsylvania. This can be achieved by a variety of sampling frames. The Penn State research team used a total active block measurement of size stratification in which the sample was distributed by county in proportion to the total eligible blocks in the exchanges assigned to that county. In this way, all frame units are represented with equal probability across counties.

In determining the sample, 50% of the sample was Random Digit Dialing (RDD) landline; 50% RDD cell with anticipated response rates of <15% for the RDD landline and <10% for the RDD cell. The first sample included: 12,500 landline records, and 15,000 wireless records for the state of PA. The RDD landline sample had the sample passed to identify as many non-working numbers as possible. The RDD cell sample had the activity code appended to denote numbers that have been used in the last 10 months. After adding this information, 4,726 landline and 12,227 wireless records remained as good records.
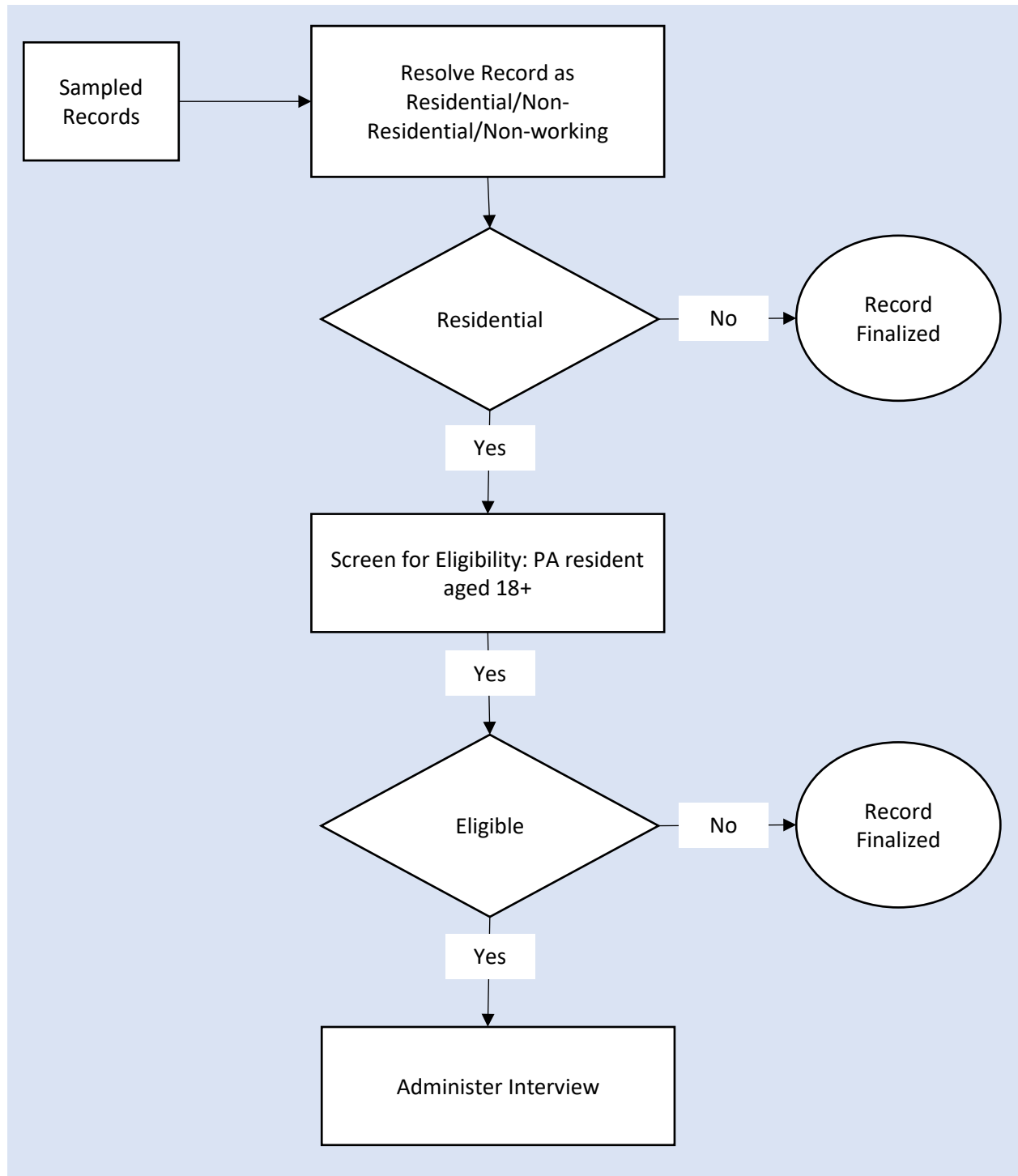
The Penn State research team programmed the survey in their data collection system and conducted fidelity tests. This included the back-end information regarding the sampling frame and the front-end information including the script, disposition selection (the code given to the survey record to denote its status), and survey that the phone center staff followed.

The Penn State research team began data collection with a soft project launch in December 2020 and January 2021. In February 2021, testing indicated that calls from the 877 number were being identified as spam or screened by cell phone providers. Outgoing calls switched from an 877 (toll free number) to an 814 number to combat spam labeling and increase call completion rates. Consequently, 34 different 814 phone numbers were rotated to reduce the volume of calls from any one number.

In March 2021, the script was adapted in efforts to increase response rates. At this time, the Penn State research team identified a second sample of records as the first set of records were contacted and fully utilized. The second sample included 15,000 landline records, and 12,500 cell phone records. After non-working numbers and phone activity were added, 5,276 landline records, and 9,847 cell phone records remained, and were added to the portal.

Figure 3 provides an overview of the RDD data collection process for the survey.

Figure 3: Overview of the RDD Data Collection Process

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┌──────────┐          ┌─────────────────────┐
│ Sampled  │─────────▶│  Resolve Record as  │
│ Records  │          │   Residential/Non-  │
└──────────┘          │ Residential/Non-    │
                      │     working         │
                      └─────────────────────┘
                                │
                                ▼
                          ◇ Residential ◇ ──── No ───▶ ( Record Finalized )
                                │
                               Yes
                                │
                                ▼
                      ┌─────────────────────┐
                      │ Screen for          │
                      │ Eligibility: PA     │
                      │ resident aged 18+   │
                      └─────────────────────┘
                                │
                               Yes
                                │
                                ▼
                          ◇ Eligible ◇ ──── No ───▶ ( Record Finalized )
                                │
                               Yes
                                │
                                ▼
                      ┌─────────────────────┐
                      │ Administer Interview │
                      └─────────────────────┘
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Sample
60,000 RDD records, 30,000 landline and 30,000 cell phone, were sampled. Following screening 10,002 landline records and 22,074 cell phone records were included in the sample (total phone numbers = 32,076). Figure 3 provides an overview of the data collection process.

Data collection ran from December 2020 through June 2021 with 174,424 calls made to 31,819 numbers (landline = 9,939; cell phone = 21,880). Cell phones were called up to 8 times and landlines up to 15 times, though this was exceeded in some instances. Based on all the call attempts, a record outcome was assigned to each phone record. Table 4 details the record outcomes.

Table 4: Record Outcomes

	N	Percent
Non-residential/Non-working	6,079	19.10%
Unknown eligibility	17,426	54.77%
Non-qualified	1,074	3.38%
Eligible, no participation	239	0.75%
Participated	1,158	3.64%
Refusal	5,843	18.36%
Total	**31,819**	

All call attempts were also classified into three rates: resolution rate, screening rate, and participation rate. In this round of data collection, there was a resolution rate (i.e., known record information - household, non-residential, or non-working – divided by the total number of records) of over 45%. The first cooperation rate, the screening completion rate, is the number of records that complete the screening (i.e., eligible with or without participation) out of the total number of eligible records (i.e.,

including those who refuse participation). Screening completion was over 19%. The second cooperation rate, the participation rate, is the number of records with participation out of those who participate or refuse. The participation rate was 17% (see Table 5 for information on the number of completed surveys by month).

Table 5: Completed Surveys

Month	N Participated
December	150
January	88
February	50
March	48
April	223
May	214
June	385
Total	**1158**

Data Screening
The Penn State research team assessed the survey data throughout the data collection period to ensure accuracy. This included monitoring completed calls and providing feedback to interviewers on survey delivery and entry, along with reviewing call recordings to verify data entry either based on a random sample or based on a question or concern raised by an interviewer. All survey responses with blank values, or an income below the PA poverty level ($12,880) were screened for accuracy.

Disposition data was also screened to ensure accuracy. Calls were matched between systems to ensure that the disposition entry had a corresponding call record and vice versa. This process allowed for the identification of human error in dialing and disposition recording. In addition, approximately 20% of calls with dispositions that disqualified individuals were screened

for accuracy. This screening indicated an accuracy rate of greater than 95%. All identified inaccuracies were updated to the correct disposition.

Sample Weighting and Analysis Methodology

Respondents to the survey were 1,156 individuals across Pennsylvania. 1,138 participants completed the survey, and 18 interviews were break-offs in which participants declined to complete the survey. Descriptive statistics (means and frequencies) were conducted on all variables of interest.

Weight techniques are used to re-balance data to more accurately reflect the population and/or include a multiplier which projects the results to a larger universe (Caughey et al., 2010; Mercer, Lau, & Kennedy, 2018); in the case of this project, the Commonwealth of Pennsylvania. A demographic profile (based on known data such as a census age distribution) is often used as a target so that subsequent data analysis can match that profile. Multivariate weighting (i.e., using age and sex, etc.) is a complex, iterative process used to achieve results which are as useful as possible in reflecting real-world results. For this project a multivariate weight was constructed based on the age and sex of the respondent in comparison to the greater PA population. The formula used to calculate the weights is $W = T / A$, where "T" represents the "Target" proportion, "A" represents the "Actual" sample proportions and "W" is the "Weight" value. Target proportions for each age group by sex were derived from the 2015-2019 American Community Survey data for the population of Pennsylvania.

References

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End Notes

[i] These data were provided by the Pennsylvania Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations, or conclusions.

[ii] Counties were designed as rural or urban based on using the Center for Rural Pennsylvania's definition. The Center for Rural Pennsylvania's definition of rural and urban is based on population density. A county is considered rural when the number of people per square mile within the county is fewer than 291, based on 2020 Census Data (Center for Rural Pennsylvania, 2014).