2016

Mecklenburg County Behavioral Risk Factor Surveillance System (BRFSS) 2016

Methodology Report

UNC CHARLOTTE
Urban Institute

Contents

About the UNC Charlotte Urban Institute

The UNC Charlotte Urban Institute ("the Institute") was created in 1969 as a non-profit, non-partisan, applied research and consulting service outreach unit of the University of North Carolina at Charlotte. The Institute provides a wide range of services to the region and beyond in fulfillment of its mission to seek solutions to the economic, environmental, and social challenges facing our communities. For more information about the Institute, visit http://ui.uncc.edu/. For more information about the Institute's survey research services, contact Diane Gavarkavich at d.gavarkavich@uncc.edu.

The Survey Process

A. Background

The Mecklenburg County Health Department contracted the University of North Carolina at Charlotte Urban Institute to administer a county-wide telephone survey modeled after the Behavioral Risk Factor Surveillance System (BRFSS). The BRFSS is a random telephone survey of Mecklenburg County residents aged 18 and older in households with landline telephones and/or cell phones. Through BRFSS, information is collected on a variety of health behaviors and preventive health practices related to the leading causes of death and disability such as cardiovascular disease, cancer, and diabetes. The survey interviews averaged 14.6 minutes to complete. Respondents were screened in order to interview the adult (18+) male/female in the household who had the most recent birthday. Additional screening was performed to ensure residence within Mecklenburg County.

B. Overview

A total of 1,002 surveys were administered by Customer Research International (CRI), an established survey research data collection provider, utilizing a questionnaire designed by staff at the Mecklenburg County Health Department. Three hundred sixty (360) surveys were conducted utilizing a Random Digit Dialing (RDD) sample of landline telephone numbers within Mecklenburg County with an additional 642 surveys utilizing an RDD sample of dedicated to wireless telephone numbers. Both telephone samples were appended with an activity code and only currently active telephone numbers were dialed. Both an English and Spanish language version of the questionnaire was made available. Additionally, in order to oversample Hispanic residents to achieve a sample proportionate to census demographic information, a sample of Hispanic surname households (landlines) was also utilized. A total of 40 Spanish surveys were conducted.

C. Interviewing Process

CRI fields all studies from its outbound call center in San Marcos, TX at 135 S Guadalupe Street. Within the respondent's time zone, interviewers dialed from 5:00 PM to 9:00 PM weeknights, 10:00 AM to 6:00 PM on Saturdays, and 1:00 PM to 9:00 PM on Sundays.

Interviews were conducted using computer-assisted telephone interviewing (CATI) software, which ensured all questions were asked correctly and all logic and skip patterns were implemented properly. The telephone sample was also managed by the CATI system, allowing dialing rules and disposition management to be streamlined. To ensure the highest response rate, each telephone number was called up to five times at various times of the day and week. Additionally, respondents were allowed to request a callback at a more convenient time and date. These appointments were called at the appointed time, and up to five additional times if the respondent was not available at the initially requested time.

D. Sampling

Telephone numbers were purchased by CRI through Marketing Systems Group, a reputable sample provider. A total of 7,932 unique landline telephone numbers and 13,315 unique dedicated to wireless telephone numbers were required to complete the study. The final calling results to each telephone number are indicated in the table below:

Table 1. Final calling results

	Count	Percent
No Answer	2973	13.99%
Phone busy	676	3.18%
Disconnected Phone	3728	17.55%
Business/Government	1324	6.23%
Respondent Not Available	1115	5.25%
Refusal	1762	8.29%
Computer Tone	433	2.04%
Language Barrier	154	0.72%
Schedule Callback – Unknown Eligibility	73	0.38%
Schedule Callback – Qualified Household	7	0.38%
Mid-Interview Terminate	40	0.19%
Answering Machine	6874	32.35%
Terminate – No One in Household 18 or Older	173	0.81%
Terminate – Not in Mecklenburg Co.	755	3.55%
Terminate – Not in Targeted Zip	21	0.10%
Over Quota – Race	40	0.19%
Over Quota – Gender	97	0.46%
Completes	**1002**	**4.72%**
Total Records Dialed	**21247**	**100.00%**

Incidence of eligibility among contacted households (eligible/(eligibility + ineligible)) = 49.1%

The following sample statistics have been calculated based upon AAPOR's Standard Definitions:

Table 2. Sampling Statistics

I=Complete Interviews	1002
P=Partial Interviews	0
R=Refusal and break off	40
NC=Non Contact	1122
O=Other	0
Calculating e: e is the estimated proportion of cases of unknown eligibility that are eligible. This estimate is based on the proportion of eligible units among all units in the sample for which a definitive determination of status was obtained (a conservative estimate).	0.248
UH=Unknown Household	10523
UO=Unknown other	1989
Response Rate 1	
I/(I+P) + (R+NC+O) + (UH+UO)	6.8%
Response Rate 2	
(I+P)/(I+P) + (R+NC+O) + (UH+UO)	6.8%
Response Rate 3	
I/((I+P) + (R+NC+O) + e(UH+UO))	19.0%
Response Rate 4	
(I+P)/((I+P) + (R+NC+O) + e(UH+UO))	19.0%
Cooperation Rate 1	
I/(I+P)+R+O)	96.2%
Cooperation Rate 2	
(I+P)/((I+P)+R+0))	96.2%
Cooperation Rate 3	
I/((I+P)+R))	96.2%
Cooperation Rate 4	
(I+P)/((I+P)+R))	96.2%
Refusal Rate 1	
R/((I+P)+(R+NC+O) + UH + UO))	0.27%
Refusal Rate 2	
R/((I+P)+(R+NC+O) + e(UH + UO))	0.76%
Refusal Rate 3	
R/((I+P)+(R+NC+O))	1.85%
Contact Rate 1	
(I+P)+R+O / (I+P)+R+O+NC+ (UH + UO)	7.10%
Contact Rate 2	
(I+P)+R+O / (I+P)+R+O+NC + e(UH+UO)	19.80%
Contact Rate 3	
(I+P)+R+O / (I+P)+R+O+NC	48.15%

Quality/Data Verification

Project supervisors validated 10% of each interviewer's completed surveys by calling back the respondent and verifying specific responses. Additionally, supervisors continually monitored live calls through CRI's call monitoring system in order to ensure proper interviewing procedures were maintained.

E. Weighting

1. **Design Overview:**

A survey of adults 18 and older residing in Mecklenburg County, NC was of interest for various health related outcomes among its residents. The overall design utilized a dual frame random digital dialing sampling frame with separate design strata within each of the two frames: landline and cell. The landline frame itself was comprised of three overlapping sub-frames including: (1) listed telephone numbers with known Hispanic surnames, (2) an oversample of listed landline households targeted by zip code and (3) all other numbers in landline exchanges serving Mecklenburg County, NC. Similarly the cell frame was comprised of three overlapping sub-frames including: (1) cell phone numbers from rate centers identified to have their boundaries contained within Mecklenburg County, NC; (2) cell phone numbers from MSG's Targeted Consumer Cell Database having an address that was within the boundaries of Mecklenburg County, NC and (3) cell phone numbers from MSG's Targeted Consumer Cell Database having an address that was within the targeted zip code area.

The study secured a total of 1,002 responses – of these, 360 were completed on a landline telephone and the reaming 642 on a cell phone. The distribution of the completed interviews by sub-frame are given in Table 1.

Table 1. Distribution of completed interviews by sub-frame.

Sub-Frame		Respondents	
		n	**%**
1.	Listed Landline Households with Hispanic Surname	37	3.7
2.	Listed Landline Households; ZIP Oversample	158	15.7
3.	Remaining RDD Landline (excluding those in 1)	165	16.5
4.	Cellular RDD; Rate Center Defined	153	15.3
5.	Consumer Cell; Mecklenburg County	266	26.5
6.	Consumer Cell; Zip + CBG Oversample	223	22.3
Total		**1,002**	**100.00%**

2. **Weighting:**

Virtually, all survey data are weighted before they can be used to produce reliable estimates of population parameters. While reflecting the selection probabilities of sampled units, weighting also attempts to compensate for practical limitations of a sample survey, such as differential nonresponse and undercoverage. The weighting process for this survey essentially entailed three major steps. The first step consisted of computation of *base weights* to reflect unequal selection probabilities for different frames and selection of one adult per household. The base weights were computed separately by main sampling frame (e.g. landline vs. cell) and also accounted for the fact that the sub-frames were overlapping resulting in increased selection probabilities for phone numbers that could appear in multiple frames as illustrated in Figure A1.

In the second step, base weights for dual telephone users (i.e. those who could be reached on either a landline or a cell phone) were used to compute a compositing factor to account for the fact that dual users have multiple chances of being included in the final sample via each of the two main frames. A post-stratification adjustment to the total telephone use distribution (i.e. cell phone only, dual users and landline only users) was applied to the base weights followed by the compositing factor for dual users. In the third and final step the adjusted weights were calibrated (i.e. raked) simultaneously along several dimensions using the *WgtAdjust* procedure of SUDAAN. The requisite population totals for weighting have been obtained from 2014 American Community Survey 1-year Public Use Microdata Sample estimates. Since the oversample area was specified by a combination of zip codes and Census Block Groups we turned to Nielsen Claritas 2016 for estimates of the adult population. The ACS population totals were then overlaid on the Claritas distribution. It should be noted that survey data for a number of demographic questions, such as race, age, and education, included missing values. All such missing values were first imputed using a *hot-deck* procedure before construction of the survey weights. As such, respondent counts reflected in the following tables correspond to the post-imputation step.

Table 2. First raking dimension for weight adjustments by gender and age

Age	Males				Females			
	Respondents		Population		Respondents		Population	
18-34	93	20.6%	127,499	35.4%	99	18.0%	132,565	32.9%
35-54	161	35.6%	140,760	39.1%	198	36.0%	153,453	38.0%
55+	198	43.8%	91,542	25.4%	253	46.0%	117,168	29.1%
Total	**452**	**100.0%**	**359,801**	**100.0%**	**550**	**100.0%**	**403,186**	**100.0%**

Table 3. Second raking dimension for weight adjustments by gender and race/ethnicity

Race/Ethnicity	Males				Females			
	Respondents		Population		Respondents		Population	
Non-Hispanic White	232	51.3%	191,183	53.1%	226	41.1%	205,491	51.0%
Non-Hispanic Black	119	26.3%	98,657	27.4%	221	40.2%	128,553	31.9%
Non-Hispanic Other	51	11.3%	27,255	7.6%	37	6.7%	29,586	7.3%
Hispanic	50	11.1%	42,706	11.9%	66	12.0%	39,556	9.8%
Total	**452**	**100.0%**	**359,801**	**100.0%**	**550**	**100.0%**	**403,186**	**100.0%**

Table 4. Third raking dimension for weight adjustments by gender and education

Education	Males				Females			
	Respondents		Population		Respondents		Population	
Less than high school	42	9.3%	41,820	11.6%	49	8.9%	41,143	10.2%
High School or GED	72	15.9%	70,090	19.5%	119	21.6%	75,815	18.8%
Some College / Tech	122	27.0%	104,921	29.2%	153	27.8%	124,865	31.0%
Bachelors or beyond	216	47.8%	142,970	39.7%	229	41.6%	161,363	40.0%
Total	**452**	**100.0%**	**359,801**	**100.0%**	**550**	**100.0%**	**403,186**	**100.0%**

Table 5. Fourth raking dimension for weight adjustments by Age by Race/Ethnicity

Age by Race/Ethnicity	Respondents		Population	
18-34, Non-Hispanic White	55	5.5%	118,369	15.5%
18-34, Non-Hispanic Black	66	6.6%	80,660	10.6%
18-34, Non-Hispanic Other	31	3.1%	24,332	3.2%
18-34, Hispanic	40	4.0%	36,703	4.8%
35-54, Non-Hispanic White	161	16.1%	145,198	19.0%
35-54, Non-Hispanic Black	108	10.7%	90,829	11.9%
35-54, Non-Hispanic Other	36	3.6%	22,172	2.9%
35-54, Hispanic	54	5.4%	36,014	4.7%

55+, Non-Hispanic White	242	24.2%	133,107	17.4%
55+, Non-Hispanic Black	166	16.6%	55,721	7.3%
55+, Non-Hispanic Other	21	2.0%	10,337	1.4%
55+, Hispanic	22	2.2%	9,545	1.3%
Total	**1,002**	**100.0%**	**762,987**	**100.0%**

Table 6. Fifth raking dimension for weight adjustments by Oversample Area

Race	Respondents		Population	
Non-Oversample	572	57.0%	633,992	83.1%
Oversample	430	43.0%	128,995	16.9%
Total	**1,002**	**100.0%**	**762,987**	**100.0%**

Variance Estimation for Weighted Data:

Survey estimates can only be interpreted properly in light of their associated sampling errors. Since weighting often increases variances of estimates, use of standard variance calculation formulae with weighted data can result in misleading statistical inferences. With weighted data, two general approaches for variance estimation can be distinguished. One method is *Taylor Series linearization* and the second is *replication*. There are several statistical software packages that can be used to produce design-proper estimates of variances using linearization or replication methodologies, including:

- SAS: http://www.sas.com
- SUDAAN: http://www.rti.org/sudaan
- WesVar: http://www.westat.com/westat/statistical_software/wesVar
- Stata: http://www.stata.com

An Approximation Method for Variance Estimation can be used to avoid the need for special software packages. Researchers who do not have access to such tools for design-proper estimation of standard errors can approximate the resulting variance inflation due to weighting and incorporate that in subsequent calculations of confidence intervals and tests of significance. With w_i representing the final weight of the i^{th} respondent, the inflation due to weighting, which is commonly referred to as *Design Effect*, can be approximated by:

$$\delta = 1 + \frac{\sum_{i=1}^{n} \frac{(w_i - \overline{w})^2}{n-1}}{\overline{w}^2}$$

For calculation of a confidence interval for an estimated percentage, $\hat{p}$, one can obtain the conventional variance of the given percentage $S^2(\hat{p})$, multiply it by the approximated design effect, δ, and use the resulting quantity as adjusted variance. That is, the adjusted variance $\hat{S}^2(\hat{p})$ would be given by:

$$\hat{S}^2(\hat{p}) \approx \frac{\hat{p}(1-\hat{p})}{n-1}\left(\frac{N-n}{N}\right) \times \delta$$

Subsequently, the (100-α) percent confidence interval for P would be given by:

$$\hat{p} - z_{\alpha/2}\sqrt{\frac{\hat{p}(1-\hat{p})}{n-1}\left(\frac{N-n}{N}\right) \times \delta} \leq P \leq \hat{p} + z_{\alpha/2}\sqrt{\frac{\hat{p}(1-\hat{p})}{n-1}\left(\frac{N-n}{N}\right) \times \delta}$$

Technical Appendix

A.1: Overall Sampling Design

(1) listed telephone numbers with known Hispanic surnames, (2) an oversample of listed landline households targeted by zip code and (3) all other numbers in landline exchanges serving Mecklenburg County, NC. Similarly the cell frame was comprised of three overlapping sub-frames including: (1) cell phone numbers from rate centers identified to have their boundaries contained within Mecklenburg County, NC; (2) cell phone numbers from MSG's Targeted Consumer Cell Database having an address that was within the boundaries of Mecklenburg County, NC and (3) cell phone numbers from MSG's Targeted Consumer Cell Database having an address that was within the targeted zip code area.

The overall sample for this study utilized a "dual frame" RDD approach that selected samples from MSG's Cell Phone RDD frame as well as MSG's Landline Phone RDD frame. But the main frames of landline and cell were comprised of three specific sub-frames for landline and three for cell including:

L-1: Listed telephone numbers with known Hispanic surnames

L-2: Oversample of listed landline households targeted by zip code

L-3: RDD from all landline exchanges serving Mecklenburg County, NC

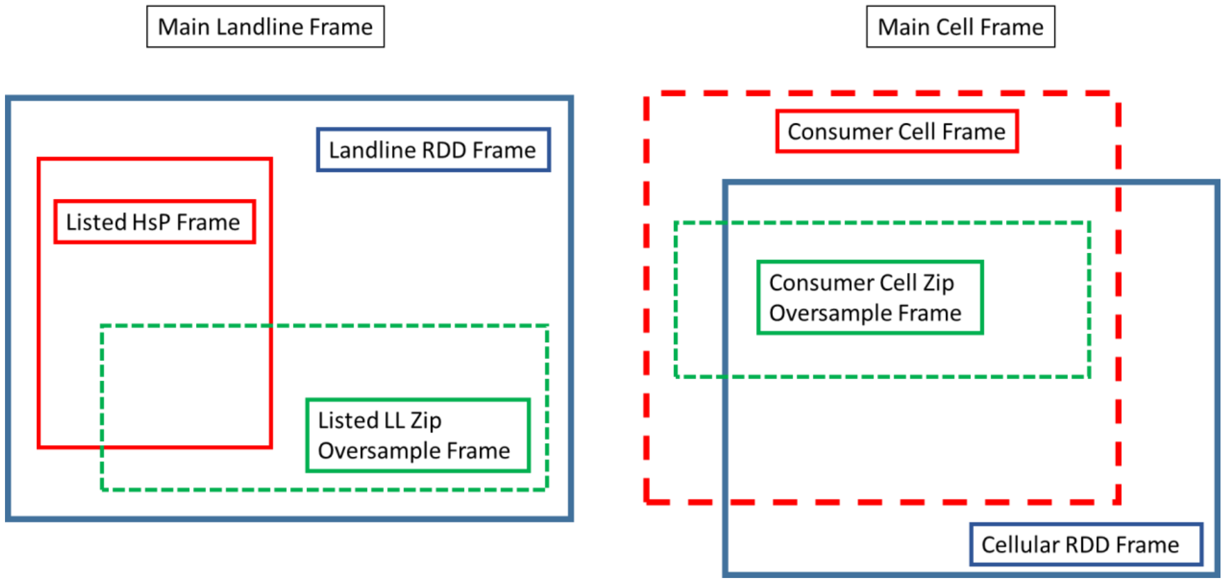
C-1: Cell phone numbers from rate centers within Mecklenburg County, NC;

C-2: Cell phone numbers from Targeted Consumer Cell Database having an address that was within the boundaries of Mecklenburg County, NC

C-3: Cell phone numbers from MSG's Targeted Consumer Cell Database having an address that was within the targeted zip code area.

The first two frames (L-1 and L-2) are wholly contained within the third (L-3) as shown in the left frame of Figure A1. Because it is possible for cell numbers to be assigned from rate centers outside of the county even when a user lives within the county, sub-frames C-2 and C-3 may fall outside of the RDD sub-frame (C-1) as illustrated in the right pane of Figure A1. Independent random samples were selected from each of the 6 sub-frames displayed in Figure A1.

Figure A1: The Landline RDD frame and the Four List-Specific subframes used to generate the final Landline Samples for the Stem 2015 Study. Note: This figure is not drawn to scale.



A2: Weighting Methods

The sample weighting used for this study incorporates several aspects of the sample design including: (a) the inclusion of both landline and cellular numbers; (b) the selection of landline numbers from one of 3 overlapping sub-frames (c) the selection of an eligible adult within each contacted landline household (e.g. via youngest male method) and (d) the selection of the cellular numbers from one of the 3 overlapping sub-frames. In this section we will describe the explicit steps used in computing the inclusion probabilities and resulting sampling weights were computed.

A2.1: Selection and Base Weighting for Landline Numbers

Household Inclusion Probabilities (HHIP)

Landline numbers selected for this study could have multiple chances of being included in the final sample if they were included in more than one of the three overlapping frames depicted in Figure A1. To account for this multiplicity of selection we computed the inclusion probability for landline number i (LLIP(i)) as follows:

$$\text{LLIP(i)} = P(landline_i \in S_L) = 1 - \prod_{\{j: i \in L_j\}} \left[1 - P\left(i \in S_{L_j}\right)\right] \qquad \textit{(Eq:A21)}$$

where S_L is the final landline sample and S_{Lj} is the landline sample taken from landline subframe j (j=1 (Landline RDD frame), 2 (Hispanic Surname), 3 (Zip Oversample). See Buskirk and Best (2012) and Bankier (1986) for more details on this methodology.

Within Household Selection Probabilities (WHHSP)

Within each landline household an adult was selected at random using the Youngest Male method. The within person selection probability for household whose landline number, i, is included in the Final Overall Landline Sample is computed as: WHHSP(i) = 1/min(2, Number of Adults in HH i). Ideally, we would have used the number of males available in the household in the denominator of the WHHSP, however these data were not available for this study. To approximate the number of males in the denominator, we used the number of adults in the household or 2, whichever was smaller.

Device Multiplicity Adjustment (MLLA)

To account for the fact that users having more than one landline phone number within Mecklenburg county have more than one probability of selection we applied a simple multiplicity adjustment to the selection probability defined as MLLA(i)=max(2, number of landlines owned by respondent i). The adjustment can be no larger than 2 as dictated by the underlying distribution of the number of landline devices owned among respondents.

Final Landline Base weight

The final landline base weight for households associated with landline numbers included in the final overall landline sample is the reciprocal of the product of the household and within household probabilities as well as the multiplicity adjustment given by:

$$FLBW(i) = [HHIP(i) * WHHSP(i) * MLLA(i)]^{-1}$$

A2.2: Selection and Weighting for Cellphone Numbers

Cell Phone Inclusion Probability Base (CPIP)

As was the case for numbers sampled within the landline frame, cell phone numbers selected for this study could have multiple chances of being included in the final sample if they were included in more than one of the three overlapping frames depicted in Figure A1 (right). To account for this multiplicity of selection we computed the inclusion probability for cellphone number i (CPIP(i)) as follows:

$$\text{CPIP(i)} = P(cellphone_i \in S_L) = 1 - \prod_{\{j:i \in L_j\}} \left[1 - P\left(i \in S_{L_j}\right)\right] \qquad \textit{(Eq:A21)}$$

where S_L is the final cellphone sample and S_{Lj} is the cellphone sample taken from subframe j (j=1 (Cellphone RDD frame), 2 (Targeted Cellular Frame), 3 (Targeted Cellular Frame Zip Oversample).

Cell Phone Device Multiplicity Adjustment (MCPA)

To account for the fact that users having more than one cell phone number within Mecklenburg county have more than one probability of selection we applied a simple multiplicity adjustment to the selection probability defined as MCPA(i)=max(2, number of cellphones owned by respondent i). Note that this adjustment is applied to the weight derived for respondents who joined the sample via their cell phone. The adjustment can be no larger than 2 as dictated by the underlying distribution of the number of landline devices owned among respondents.

Final Landline Base weight

The final cellphone base weight for a cellphone number included in the sample taken from the cell phone frame is the reciprocal of the product of the cell phone inclusion probability and the multiplicity adjustment given by:

$$FCPBW(i) = [CPIP(i) * MCPA(i)]^{-1}$$

A2.3: Landline and Cellphone Dual User Compositing

A household could be included in the sample by having a phone number included in the landline frame and a second, distinct number, included in the cellphone frame. Such households would be identified as dual users in the sample and as such represent a multiplicity of inclusion that is not accounted for in the separate inclusion probability and weight computations for the overall landline and cell phone samples. We account for this multiplicity of inclusion in a separate compositing step and not within each of the separate frames because we do not have specific landline sub-frame (e.g. L-1, L-2) information for each dual user that responds in the cell phone sample and similarly for landline respondents relative to the cell phone sub-frames. Essentially the compositing step multiplies the weights of the dual users in the landline sample by a compositing factor λ (between 0 and 1) and the corresponding dual users in the cell phone frame by (1-λ). While many recommendations have been provided in the literature as to the specific value of the compositing factor, we compute λ as the ratio of the effective sample size of dual landline users to the total effective sample size of the landline and cellphone users as displayed in Table A1 and discussed by the AAPOR task force report (2010), Brick et al. (2011) and Frankel et al. (2007). This compositing factor for sampled landline numbers was computed as the effective size of the landline sample relative to the total effective sample size of both the landline and cell phone samples as displayed in Table A.1. The effective sample size was computed using the original sample size divided by the unequal weighting affect computed from the final base weights.

The pre-final weight for all sampled members was then computed by the product of the final base weight, a post-stratification factor to account for the phone usage distribution provided in

Table A.2 (right) and the compositing factor (applied to dual users from each of the two main frames). And the final weights were obtained by calibrating these pre-final weights using the population control totals described in the main section of this report.

Table A.1 Computation of Compositing Factor for Dual Phone Users

Completed By	Number of Dual Users		UWE	Effective Sample Size	Compositing Factor, λ
Landline	263	51.1%	2.20	263/2.20=120	λ_{land} =120/(120+76)=.6122
Cell	252	48.9%	3.33	252/3.33=76	λ_{cell} =76/(120+76) = .3878

Table A.2 Post-Stratification adjustment factors for Telephone Usage Status

Phone Status (NHIS State, 2014)	Unweighted Count	(%)	Target Count	(%)
Landline Only	97	9.7%	59,513	7.8%
Cell Phone Only	390	38.9%	335,714	44.0%
Dual-User	515	51.4%	367,760	48.2%

Summary Information for the Weighted Data:

An overall histogram illustrating the design weights computed from the first step as well as the final, calibrated weights from the second are shown in Figures 1 and 2, respectively. The unequal weighting effect for the final ***base weights*** (without the compositing factor or calibration to population totals) is 3.114. The UWE for the final sampling weights was computed as 2.933 and can be used in the computation of confidence intervals for estimates derived using the final sampling weights as described in the previous section.

Figure 1: Distribution of the Base Design Weights computed from Step 1 of the overall weight computation (including base weight-probability of selection as well as multiplicity for within household selection of one adult).

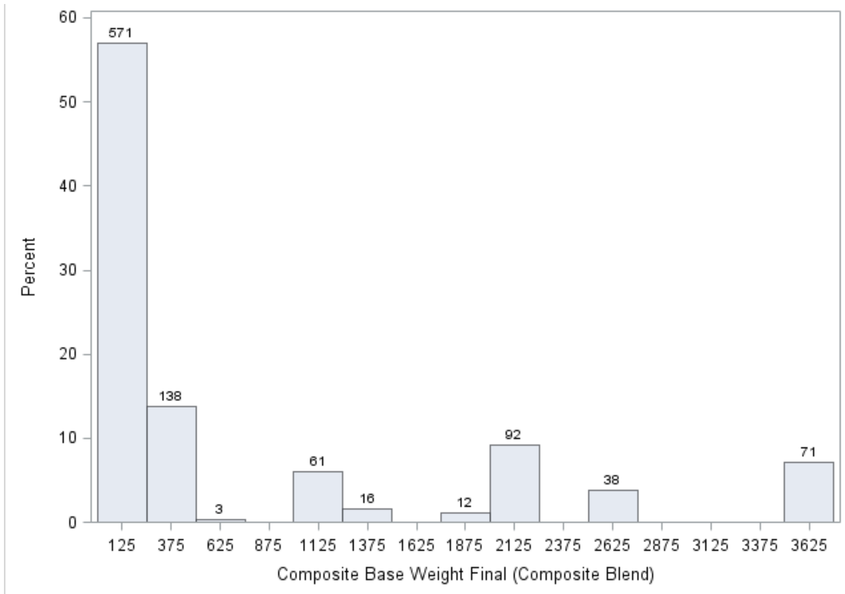
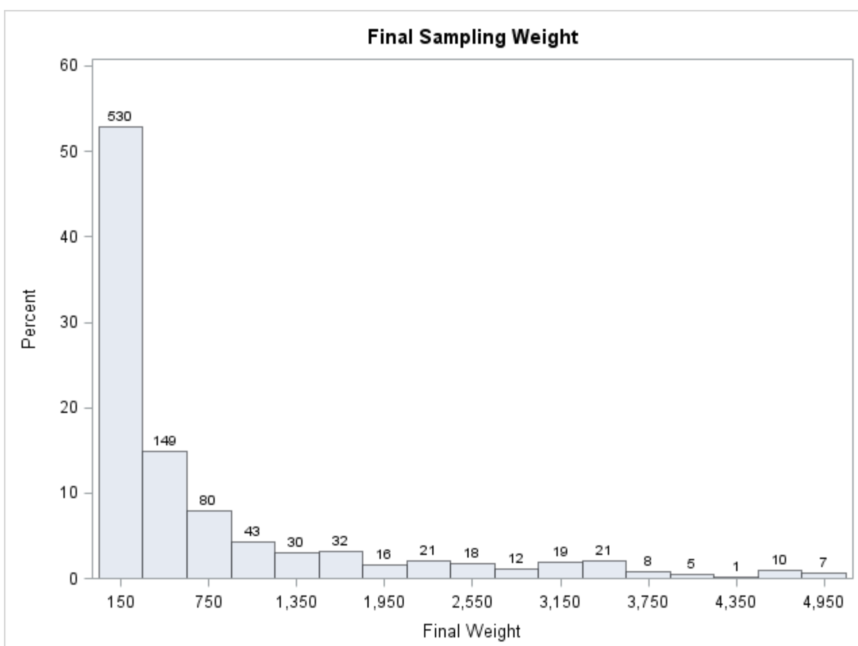


Figure 2: Distribution of the final calibrated sampling weights. These weights should be used in all analyses.



References

Bankier MD (1986). "Estimators Based on Several Stratified Samples with Applications to Multiple Frame Surveys," *Journal of the American Statistical Association*, Vol. 81(396), 1074-1079.

Battaglia, M., Izrael, D., Hoaglin, D. C. and Frankel, M.R. (2009) "Practical Considerations in Raking Survey Data," accessed from: http://www.abtassoc.us/presentations/raking_survey_data_2_JOS.pdf

Buskirk, T. D. and Best, J. (2012) "Venn Diagrams, Probability 101, and Sampling Weights Computed from Dual-Frame Telephone RDD Designs," In JSM Proceedings, Survey Research Methods Section, American Statistical Association, pp. 3696-3710. https://www.amstat.org/sections/SRMS/Proceedings/y2012/Files/304351_72969.pdf

Kalton, Graham and Flores-Cervantes, Ismael. (2003) "Weighting Methods," J*ournal of Official Statistics*, Vol. 19, No. 2, pp. 81-97.

Kish, Leslie. (1965) Survey Sampling. New York: John Wiley & Sons, Inc.

SUDAAN Language Manual, Release 10.0. (2008) Research Triangle Institute.

Wireless Substitution: State-level Estimates from the National Health Interview Survey, 2014 accessed at http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless_state_201602.pdf, Feb 2, 2016.

UNC CHARLOTTE
Urban Institute
9201 University City Blvd.
Charlotte, NC 28223-0001