Appendix 6.4-1: ALCS Analyses of PATH Data for Section 6.4 - Effect on Tobacco Use Initiation among Nonusers

1. **Statement of Purpose/ Objective:** To substantiate PATH analyses in Section 6.4

2. **Source and data set up**

   Data were downloaded from the PATH website,
   http://www.icpsr.umich.edu/icpsrweb/NAHDAP/studies/36498

   2.1. PATH Wave 1 Adult Public Use File, 2013-2014

   Analysis weight (R01_A_PWGT) was used to account for selection probabilities, differential nonresponse rates, and possible deficiencies in the sampling frame (e.g., under coverage of certain population groups). Variance estimation was implemented to account for the multi-stage complex sampling using balanced repeated replication weight method, as recommended by the PATH survey team. Data were set up using the following command in Stata 15.0:

   ```
   svyset [pweight= R01_A_PWGT], brr(R01_A_PWGT1 – R01_A_PWGT100)
   vce(brr) mse fay(.3)
   ```

   2.2. PATH Wave 1 Adolescent Public Use File, 2013-2014

   Similar setup was applied to the adolescent data using the following command in Stata 15.0:

   ```
   svyset [pweight= R01_Y_PWGT], brr(R01_Y_PWGT1 – R01_Y_PWGT100)
   vce(brr) mse fay(.3)
   ```

   2.3. PATH prospective analysis using wave 1 and 2 Adolescent Public Use Files, 2013-2015

   The two waves of data were merged based on the variable `PERSONID`

   Data were set up using the following command in Stata 15.0:

   ```
   svyset [pweight= R02_Y_PWGT], brr(R02_Y_PWGT1 – R02_Y_PWGT100)
   vce(brr) mse fay(.3)
   ```

   Only adolescents who were 12-17 at both waves were included in the analysis.

3. **Summary of outcomes assessed**

We conducted analysis for thirteen outcomes (four for adults and nine for adolescents) using PATH wave 1 and wave 2 public use files for section 6.4. These outcomes are listed in the table below along with the survey questions and the variables used to derive the outcome variables.

	Outcome Measure	Corresponding Variables & Questions	
		Variable	Question
		Cross-sectional analysis	
		Adults (18+)	
1	Ever use of Smokeless Tobacco	R01R_A_NVR_SMKL	PATH derived variables for "Has never used smokeless tobacco, even once or twice."
		R01R_A_NVR_SNUS	These variables were reversely coded in the analysis. Please see syntax for details.
2	Past 30-day use of Smokeless Tobacco	R01R_A_P30D_SMKL	PATH derived variables for "Has ever used smokeless tobacco and has used at least once in the past 30 days."
		R01R_A_ P30D _SNUS	
3	Frequent use of Smokeless Tobacco	R01_AS1022SM R01_AS1022SU	(Note: Frequent use was defined as at least 20 days of smokeless tobacco use during the past 30 days.) On how many of the past 30 days did you use [SMKLSSFILL]? R01_AS1022SM is for smokeless tobacco excluding snus pouches, and R01_AS1022SU is for snus pouches.
4	Copenhagen as usual brand of smokeless tobacco (only measured among user who had ever used smokeless tobacco and had been a regular user, i.e., ever used "Fairly Regularly.")	R01_AS1070SM_PRODUCT=10409	You selected [BRANDFILL] as your brand. What kind of [BRANDFILL] [do I did] you [usually I last] use? Please select it from the choices below by touching the screen. [If you do not see it below, touch the button marked "NEXT". I If you do not see it below, touch the box marked "Something else".

	Outcome Measure	Corresponding Variables & Questions	
		Variable	Question
		Cross-sectional analysis	
		Adolescents (12-17)	
5	Ever use of Smokeless Tobacco	R01R_Y_EVR_SMKLS	PATH derived variables for Wave 1 Youth respondents who have ever used smokeless tobacco.
		R01R_Y_EVR_SNUS	PATH derived variables for Wave 1 Youth respondents who have ever used snus pouches.
6	Past 30-day use of Smokeless Tobacco	R01R_Y_CUR_SMKL	PATH derived variables for Wave 1 Youth respondents who have ever used smokeless tobacco and have used in the past 30 days.
		R01R_Y_CUR _SNUS	PATH derived variables for Wave 1 Youth respondents who have ever used snus pouches and have used in the past 30 days.
7	Frequent use of Smokeless Tobacco	R01_YS1022SM R01_YS1022SU	(Note: Frequent use was defined as at least 20 days of smokeless tobacco use during the past 30 days.) In the past 30 days, on how many days did you use [SMKLSSFILL]? R01_YS1022SM is for smokeless tobacco excluding snus pouches, and R01_YS1022SU is for snus pouches.
8	Method of obtaining smokeless tobacco	R01_YS1118SM	In the past 30 days, how did you usually get your own [SMKLSSFILL]? 1. I bought it myself 2. I gave someone else money to buy it for me 3. I asked someone to give me some 4. Someone offered it to me 5. I bought it from another person 6. I took it from a store or another person 7. I got it some other way SPECIFY -8 DON'T KNOW -7 REFUSED
9	Percent who perceive "a lot of harm" with respect to using Smokeless Tobacco	R01_YS1125	How much do you think people harm themselves when they use smokeless tobacco?
10	Percent who perceive	R01_YC1125	How much do you think people harm

Outcome Measure	Corresponding Variables & Questions	
	Variable	Question
Cross-sectional analysis		
Adolescents (12-17)		
"a lot of harm" with respect to tobacco cigarette smoking		themselves when they smoke cigarettes?
11 Usual brand of smokeless tobacco among past 30-day users (only measured among non-light users who used smokeless tobacco for at least 10 times during lifetime and had used during past 30 days)	R01_YS1070SM_PRODUCT=10409	You selected [BRANDFILL] as your brand. What kind of [BRANDFILL] [do I did] you [usually I last] use?

Outcome Measure	Corresponding Variables & Questions	
	Variable	Question
Longitudinal analysis among adolescents		
12 New cigarette smokers	R02R_Y_NEW_CIGS	PATH derived variable to identify individuals who smoked cigarette for the first time between wave 1 and wave 2
13 New smokeless tobacco users	R02R_Y_NEW_SMKLS	PATH derived variable to identify individuals who used smokeless tobacco for the first time between wave 1 and wave 2

More information can be found in PATH documentations at
http://www.icpsr.umich.edu/icpsrweb/NAHDAP/studies/36498

4. **User Groups**

This section describes the definition of the user groups and variables used to identify these groups, as presented in section 6.4.

User Groups	Definitions	Variables / Syntax
Adults		
Young Adults (18-24 year olds)	Respondents who were 18-24 years of age at the time of assessment	R01R_A_AGECAT7==1
Adults 25+	Respondents who were 25 years of age or older at the time of assessment	R01R_A_AGECAT7_IMP=2 to 7
Adolescents		
Youth (12-17 year olds)	Respondents who were 12-17 years of age at the time of assessment	All
Current smokeless tobacco users aged 15-17	Respondents who were 15-17 years of age at the time of assessment and had used smokeless tobacco during the past 30 days	R01R_Y_AGECAT2=1 & R01_YS1118SM>0
12-17 year olds who have seen or heard of smokeless tobacco	Respondents who were 12-17 years of age at the time of assessment and had seen or heard of smokeless tobacco	R01_YS1001=1

User Groups	Definitions	Variables / Syntax
Longitudinal analysis among adolescents		
12-17 year olds who had never smoked at wave 1	Respondents who were 12-17 years of age and had not smoked cigarettes at wave 1	R01R_Y_EVR_CIGS==0
Exclusive ST	12-17 year old never smokers who had used smokeless tobacco but had not used any other tobacco product* at wave 1	R01R_Y_EVR_SMKLS==1 & R01R_Y_EVR_CIGS==0 & othertb==0
ST+ other tobacco	12-17 year old never smokers who had used both smokeless tobacco and at least one other tobacco product* at wave 1	R01R_Y_EVR_SMKLS==1 & R01R_Y_EVR_CIGS==0 & othertb==1
Other tobacco, no ST	12-17 year old never smokers who had not used smokeless tobacco but had used at least one other tobacco product* at wave 1	R01R_Y_EVR_SMKLS==0 & R01R_Y_EVR_CIGS==0 & othertb==1
No tobacco	12-17 year old never smokers who had not use any other tobacco product* at wave 1	R01R_Y_EVR_SMKLS==0 & R01R_Y_EVR_CIGS==0 & othertb==0
12-17 year olds who had never used smokeless tobacco at wave 1	Respondents who were 12-17 years of age and had not used smokeless tobacco at wave 1	R01R_Y_EVR_SMKLS==0
Exclusive cigarettes	12-17 year old never smokeless tobacco users who had smoked cigarettes but had not used any other tobacco product* at wave 1	R01R_Y_EVR_CIGS==1 & R01R_Y_EVR_SMKLS==0 & othertb==0
cigarettes+ other tobacco	12-17 year old never smokeless tobacco users who had smoked cigarettes and had used at least one other tobacco product* at wave 1	R01R_Y_EVR_CIGS==1 & R01R_Y_EVR_SMKLS==0 & othertb==1
Other tobacco, no cigarettes	12-17 year old never smokeless tobacco users who had not smoked but had used at least one other tobacco product* at wave 1	R01R_Y_EVR_CIGS==0 & R01R_Y_EVR_SMKLS==0 & othertb==1
No tobacco	12-17 year old never smokeless tobacco users who had not use any other tobacco product* at wave 1	R01R_Y_EVR_CIGS==0 & R01R_Y_EVR_SMKLS==0 & othertb==0

*other tobacco products include cigars, hookah, pipe, bidi, kretek, snus, dissolvable tobacco, and e-cigarettes. The variable 'othertb' is generated to indicate the use of other tobacco product. The syntax is shown above Table 12.

Footnote: n=9110 for 18-24 year olds, n=13,651 for 12-17 year olds, n=154 for 15-17 year old past 30-day smokeless tobacco users, and n=10,122 for 12-17 year olds who had seen or heard of smokeless tobacco.

Sample sizes may slightly vary from one analysis to another due to missing values ("don't' know" and "refused" answers as well as improbably responses removed by PATH team) on the outcome variables. Actual sample size for each analysis is shown in the size of the subgroup population (i.e., "Subpop. no. obs" in the output).

5. Results: Syntax and Output

2.1. PATH Adult

In this section, we present Stata syntax and original output tables to generate results shown in section 6.4.

*Syntax used to generate the outcome variables for outcome 1 and outcome 2

```
recode R01R_A_NVR_SMKL (1=2) (2=1), gen(R01R_A_EVR_SMKLS)
recode R01R_A_NVR_SNUS (1=2) (2=1), gen(R01R_A_EVR_SNUS)
foreach name in EVR P30D {
gen smlt`name'=1 if R01R_A_`name'_SMKLS==1 | R01R_A_`name'_SNUS==1
replace smlt`name'=0 if  R01R_A_`name'_SMKLS==2 & R01R_A_`name'_SNUS==2
}
```

Outcome 1: Ever use of Smokeless Tobacco

* Table 1. Syntax and output for ever use of Smokeless Tobacco among 18-24 year olds

```
. svy, subpop(if R01R_A_AGECAT7==1): tab smltEVR, perc ci format(%2.1f)
(running tabulate on estimation sample)


                                         Number of obs     =       32,293
                                         Population size    =  236,610,960
                                         Subpop. no. obs    =        9,083
                                         Subpop. size       = 30,626,127.9
                                         Replications       =          100
                                         Design df          =           99


        ------------------------------------------------
         smltEVR | percentage          lb           ub
        ---------+--------------------------------------
               0 |        83.1         82.0         84.1
               1 |        16.9         15.9         18.0
                 |
           Total |       100.0
        ------------------------------------------------
         Key:  percentage  =  cell percentage
               lb          =  lower 95% confidence bound for cell percentage
               ub          =  upper 95% confidence bound for cell percentage
```

Outcome 2: Past 30-day use of Smokeless Tobacco

* Table 2. Syntax and output for past 30-day use of Smokeless Tobacco among 18-24 year olds

```
. svy, subpop(if R01R_A_AGECAT7==1): tab smltP30D, perc ci format(%2.1f)
(running tabulate on estimation sample)


                                       Number of obs     =       32,252
                                       Population size    =  236,499,715
                                       Subpop. no. obs    =        9,042
                                       Subpop. size       = 30,514,882.9
                                       Replications       =          100
                                       Design df          =           99


     ------------------------------------------------
     smltP30D | percentage        lb          ub
     ---------+--------------------------------------
            0 |       94.7       94.1        95.2
            1 |        5.3        4.8         5.9
              |
        Total |      100.0
     ------------------------------------------------
       Key:  percentage   =  cell percentage
             lb           =  lower 95% confidence bound for cell percentage
             ub           =  upper 95% confidence bound for cell percentage
```

Outcome 3: Frequent use of smokeless tobacco

*Recode of outcome variable

```
recode R01_AS1022SM (-1/19=0) (20/30=1) (else=.), gen(smkl20)
recode R01_AS1022SU (-1/19=0) (20/30=1) (else=.), gen(snus20)
gen smlt20=1 if smkl20==1 | snus20==1 | R01R_A_EDY_SNUS==1 | R01R_A_EDY_SM==1
replace smlt20=0 if smkl20==0 & snus20==0 & R01R_A_EDY_SNUS==2 & R01R_A_EDY_SM==2
```

* Table 3. Syntax and output frequent use of smokeless tobacco among 18-24 year olds

```
. svy, subpop(if R01R_A_AGECAT7==1): tab smlt20, perc ci format(%2.1f)
(running tabulate on estimation sample)


                                          Number of obs      =        32,238
                                          Population size    =   236,455,222
                                          Subpop. no. obs    =         9,028
                                          Subpop. size       =  30,470,390.1
                                          Replications       =           100
                                          Design df          =            99


          --------------------------------------------------
           smlt20 |  percentage           lb           ub
          ---------+----------------------------------------
               0 |        97.6         97.2         97.9
               1 |         2.4          2.1          2.8
                 |
           Total |       100.0
          --------------------------------------------------
            Key:   percentage  =  cell percentage
                   lb          =  lower 95% confidence bound for cell percentage
                   ub          =  upper 95% confidence bound for cell percentage
```

Outcome 4: Copenhagen Snuff as the usual brand

*Recode of outcome variable
```
recode R01_YS1070SM_PRODUCT (10409=1) (min/-1=.) (else=0), gen(cs)
```

* Table 4. Syntax and output for Copenhagen Snuff as the usual brand among adolescent non-light current users
```
. svy, subpop(if R01_YS1070SM_PRODUCT>=0): tab cs, per obs
(running tabulate on estimation sample)
```

```
                                       Number of obs    =        13,651
                                       Population size  =    24,852,363
                                       Subpop. no. obs  =           138
                                       Subpop. size     =   268,931.624
                                       Replications     =           100
                                       Design df        =            99

          ----------------------------------
          RECODE of |
          R01_YS107 |
          0SM_PRODU |
          CT        |
                    | percentage        obs
          ----------+-----------------------
                  0 |      98.49        136
                  1 |      1.512          2
                    |
              Total |        100        138
          ----------------------------------
            Key:  percentage  =  cell percentage
                  obs         =  number of observations
```

PATH Adolescents

In this section, we present Stata syntax and original output tables to generate results shown in section 6.4.

*Syntax used to generate the outcome variables for outcome 1 and outcome 2

```
foreach name in EVR CUR {
gen smlt`name'=1 if R01R_Y_`name'_SMKLS==1 | R01R_Y_`name'_SNUS==1
replace smlt`name'=0 if  R01R_Y_`name'_SMKLS==2 & R01R_Y_`name'_SNUS==2
}
```

Outcome 5: Ever use of Smokeless Tobacco

* Table 5. Syntax and output for ever use of Smokeless Tobacco among 12-17 year olds

```
. svy: tab smltEVR, perc ci format(%2.1f)
(running tabulate on estimation sample)
```

```
                                               Number of obs    =      13,496
                                               Population size   =  24,571,848
                                               Replications      =         100
                                               Design df         =          99


        ------------------------------------------------
         smltEVR | percentage          lb           ub
        ---------+--------------------------------------
               0 |        95.2        94.7         95.7
               1 |         4.8         4.3          5.3
                 |
           Total |       100.0
        ------------------------------------------------

          Key:  percentage  =  cell percentage
                lb          =  lower 95% confidence bound for cell percentage
                ub          =  upper 95% confidence bound for cell percentage
```

Outcome 6: Past 30-day use of Smokeless Tobacco

* Table 6. Syntax and output for past 30-day use of Smokeless Tobacco among 12-17 year olds

```
. svy: tab smltCUR, perc ci format(%2.1f)
(running tabulate on estimation sample)
```

```
                                              Number of obs     =       13,470
                                              Population size   =   24,524,473
                                              Replications      =          100
                                              Design df         =           99


         -------------------------------------------------
          smltCUR | percentage            lb           ub
         ----------+--------------------------------------
                0 |       98.4          98.1         98.7
                1 |        1.6           1.3          1.9
                  |
            Total |      100.0
         -------------------------------------------------

          Key:  percentage  =  cell percentage
                lb          =  lower 95% confidence bound for cell percentage
                ub          =  upper 95% confidence bound for cell percentage
```

Outcome 7: Frequent use of smokeless tobacco

*Recode of outcome variable

```
recode R01_YS1022SM (-1/19=0) (20/30=1) (else=.), gen(smkl20)
recode R01_YS1022SU (-1/19=0) (20/30=1) (else=.), gen(snus20)
gen smksnu20=1 if smkl20==1 | snus20==1
replace smksnu20=0 if smkl20==0 & snus20==0
```

* Table 7. Syntax and output frequent use of smokeless tobacco among 12-17 year olds

```
. svy: tab smksnu20, perc ci format(%2.1f)
(running tabulate on estimation sample)


                                              Number of obs    =       13,647
                                              Population size   =   24,844,980
                                              Replications      =          100
                                              Design df         =           99


           ------------------------------------------------
            smksnu20 | percentage          lb          ub
           ----------+-------------------------------------
                   0 |       99.4        99.2        99.5
                   1 |        0.6         0.5         0.8
                     |
               Total |      100.0
           ------------------------------------------------
             Key:  percentage  =  cell percentage
                   lb          =  lower 95% confidence bound for cell percentage
                   ub          =  upper 95% confidence bound for cell percentage
```

Outcome 8: Method of obtaining smokeless tobacco

*Recode of outcome variable

```
recode R01_YS1118SM (2=1) (3/4=2) (1=3) (5/7=4), gen(smklsource)
```

* Table 8. Syntax and output for method of obtaining smokeless tobacco among 15-17 year olds who used smokeless tobacco during the past 30 days

```
. svy, subpop(if R01R_Y_AGECAT2==2 & R01_YS1118SM>0):tab smklsource, per ci format(%2.1f)
(running tabulate on estimation sample)


                                            Number of obs     =       13,651
                                            Population size    =   24,852,363
                                            Subpop. no. obs    =          150
                                            Subpop. size       =  291,363.322
                                            Replications       =          100
                                            Design df          =           99


-------------------------------------------------------------------------------
RECODE of                             |
R01_YS111                             |
8SM                                   |   percentage          lb           ub
--------------------------------------+----------------------------------------
 Bought by giving someone money to purchase |       38.0        30.2         46.5
 From others                          |       32.0        23.6         41.7
 Bought myself                        |       23.8        17.5         31.5
   Others                             |        6.2         3.6         10.4
                                      |
    Total                             |      100.0
-------------------------------------------------------------------------------
  Key:  percentage  =  cell percentage
        lb          =  lower 95% confidence bound for cell percentage
        ub          =  upper 95% confidence bound for cell percentage
```

Outcome 9: Perception of "a lot of harm" with respect to using Smokeless Tobacco

* Table 9. Syntax and output for the perception of "a lot of harm" with respect to using Smokeless Tobacco among 12-17 year olds who have seen or heard smokeless tobacco

```
. svy, subpop(if R01_YS1125>=0 ): tab R01_YS1125, perc ci format(%2.1f)
(running tabulate on estimation sample)

                                    Number of obs    =       13,651
                                    Population size   =   24,852,363
                                    Subpop. no. obs   =        9,963
                                    Subpop. size      =   18,538,645
                                    Replications      =          100
                                    Design df         =           99


      -----------------------------------------------------------
      R01_YS112           |
      5:                  | percentage         lb          ub
      --------------------+--------------------------------------
       1 = No harm        |         1.1        0.9         1.3
       2 = Little harm    |         7.3        6.7         7.9
       3 = Some harm      |        31.0       29.9        32.2
       4 = A lot of harm  |        60.6       59.2        62.1
                          |
           Total          |       100.0
      -----------------------------------------------------------
        Key:  percentage  =  cell percentage
              lb          =  lower 95% confidence bound for cell percentage
              ub          =  upper 95% confidence bound for cell percentage
```

Outcome 10: Perception of "a lot of harm" with respect to tobacco cigarette smoking

* Table 10. Syntax and output for the perception of "a lot of harm" with respect to tobacco cigarette smoking among 12-17 year olds

```
. svy, subpop(if R01_YC1125>=0 ): tab R01_YC1125, perc ci format(%2.1f)
(running tabulate on estimation sample)


                                           Number of obs    =       13,651
                                           Population size   =   24,852,363
                                           Subpop. no. obs   =       13,619
                                           Subpop. size      =   24,798,789
                                           Replications      =          100
                                           Design df         =           99



         ---------------------------------------------------------
         R01_YC112        |
         5:               |  percentage         lb           ub
         -----------------+---------------------------------------
          1 = No harm     |        0.9          0.7          1.0
          2 = Little harm |        2.1          1.9          2.4
          3 = Some harm   |       14.7         14.0         15.5
          4 = A lot of harm|       82.3         81.5         83.1
                          |
             Total        |      100.0
         ---------------------------------------------------------
           Key:  percentage  =  cell percentage
                 lb          =  lower 95% confidence bound for cell percentage
                 ub          =  upper 95% confidence bound for cell percentage
```

Outcome 11: Copenhagen Snuff as the usual brand

*Recode of group variable

```
recode R01R_A_AGECAT7_IMP (1=1) (2/7=2), gen(age2)
```

*Recode of outcome variable

```
recode R01_AS1070SM_PRODUCT (10409=1) (min/-1=.) (else=0), gen(cs)
```

* Table 11. Syntax and output for Copenhagen as the usual brand among 18-24 year olds and 25+

```
.  svy, subpop(if R01_AS1070SM_PRODUCT>=0 & R01R_A_P30D_SMKLS==1): tab age2 cs, row per
obs
(running tabulate on estimation sample)
                                                Subpop. no. obs   =        1,516

-------------------------------
RECODE of |
R01R_A_AG |
ECAT7_IMP |
(R01R_A_A |
GECAT7_IM |       RECODE of
P:        |R01_AS1070SM_PRODUCT
IMPUTED - |(R01_AS1070SM_PRODUC
Age range |    T: Sub-brand of
(7        |     smokeless tob
levels)   |     0       1  Total
----------+--------------------
        1 | 98.09   1.913     100
          |   430       9     439
          |
        2 | 90.56   9.439     100
          |   976     101    1077
          |
    Total | 91.97   8.027     100
          |  1406     110    1516
-------------------------------

  Key:  row percentage
        number of observations
```

PATH Adolescents longitudinal analysis

Outcome 12: Incidence of cigarette smoking

Incidence of cigarette smoking is defined as the weighted number of individuals who smoked cigarettes for the first time between wave 1 and wave 2 assessments among wave 1 never smokers.

Syntax to recode user groups by smokeless tobacco and other tobacco product use history

```
*recode missings
foreach var of varlist  R01R_Y_EVR_TOB R01R_Y_EVR_CIGS R01R_Y_EVR_SMKLS R01R_Y_EVR_ECIG
R01R_Y_EVR_CIGAR R01R_Y_EVR_PIPE R01R_Y_EVR_HOOK R01R_Y_EVR_SNUS R01R_Y_EVR_DISSBL
R01R_Y_EVR_BIDI R01R_Y_EVR_KRETEK  {
recode `var' (min/-1=.) (2=0) (1=1)
}
*recode for lifetime history of other tobacco products
gen othertb=R01R_Y_EVR_ECIG+R01R_Y_EVR_CIGAR+R01R_Y_EVR_PIPE+R01R_Y_EVR_HOOK+
R01R_Y_EVR_SNUS+R01R_Y_EVR_DISSBL+R01R_Y_EVR_BIDI+R01R_Y_EVR_KRETEK
recode othertb (1/8=1) (0=0)
* recode groups based on cigarettes, smokeless tobacco, and other tobacco use
gen smklcat8=1 if R01R_Y_EVR_SMKLS==1 & R01R_Y_EVR_CIGS==0 & othertb==0
replace smklcat8=2 if R01R_Y_EVR_SMKLS==1 & R01R_Y_EVR_CIGS==1  & othertb==0
replace smklcat8=3 if R01R_Y_EVR_SMKLS==1 & R01R_Y_EVR_CIGS==1  & othertb==1
replace smklcat8=4 if R01R_Y_EVR_SMKLS==1 & R01R_Y_EVR_CIGS==0 & othertb==1
replace smklcat8=5 if R01R_Y_EVR_SMKLS==0 & R01R_Y_EVR_CIGS==1 & othertb==0
replace smklcat8=6 if R01R_Y_EVR_SMKLS==0 & R01R_Y_EVR_CIGS==1 & othertb==1
replace smklcat8=7 if R01R_Y_EVR_SMKLS==0 & R01R_Y_EVR_CIGS==0 & othertb==1
replace smklcat8=0 if R01R_Y_EVR_SMKLS==0 & R01R_Y_EVR_CIGS==0 & othertb==0
label def smklcat8 1 "Exclusive ST" 2 "ST+cigs, no other TB" 3 "ST+cigs+other TB" 4
"ST+other TB, no cigs" ///
5 "Cigs, no ST, no other TB" 6 "Cigs+other TB, no ST" 7 "other TB, no ST, no cigs" 0 "no
TB", modify
label value smklcat8 smklcat8
```

Syntax to recode outcome variable

```
recode R02R_Y_NEW_CIGS (min/-1=.) (2=0) (1=1)
```

* Table 12-1. Syntax and output for incidence of tobacco cigarette smoking among 12-17 year olds

```
. svy, subpop(if R01R_Y_EVR_CIGS==0): tab smklcat8 R02R_Y_NEW_CIGS, row per ci obs
format(%2.1f)
(running tabulate on estimation sample)
BRR *: for rows
                                          Number of obs    =      11,735
                                          Subpop. no. obs  =       8,608
                                          Replications     =         100
                                          Design df        =          99


         ------------------------------------------------------
                  |   R02R_Y_NEW_CIGS: DERIVED - Wave 2
                  | Youth Never to Ever Cigarette Smoker
         smklcat8 |        0        1 = Yes        Total
         ---------+--------------------------------------------
            no TB |      97.0          3.0          100.0
                  | [96.6,97.4]    [2.6,3.4]
                  |    7756.0        241.0         7997.0
          Excl ST |      92.7          7.3          100.0
                  | [79.1,97.7]    [2.3,20.9]
                  |      54.0          5.0           59.0
         ST+other |      77.3         22.7          100.0
                  | [63.1,87.1]   [12.9,36.9]
                  |      31.0         10.0           41.0
         other TB |      86.4         13.6          100.0
                  | [82.8,89.4]   [10.6,17.2]
                  |     442.0         69.0          511.0
            Total |      96.2          3.8          100.0
                  | [95.8,96.6]    [3.4,4.2]
                  |    8283.0        325.0         8608.0
         ------------------------------------------------------

           Key:  row percentage
                 [95% confidence interval for row percentage]
                 number of observations
```

* Table 12-2. Syntax and output for cross-group comparison of incidence of tobacco cigarette smoking among 12-17 year olds

```
. xi: svy, subpop(if smklcat8~=. & R01R_Y_EVR_CIGS==0): logistic R02R_Y_NEW_CIGS
i.smklcat8
i.smklcat8        _Ismklcat8_0-7        (naturally coded; _Ismklcat8_0 omitted)
(running logistic on estimation sample)

BRR replications (100)
----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5
..................................................     50
..................................................    100
```

```
Survey: Logistic regression              Number of obs   =      12,163
                                         Population size  =  24,652,237
                                         Subpop. no. obs  =       8,608
                                         Subpop. size     =  17,584,527
                                         Replications     =         100
                                         Design df        =          99
                                         F(   3,     97)  =       38.01
                                         Prob > F         =      0.0000
```

```
-------------------------------------------------------------------------------
                |                  BRR *
R02R_Y_NEW_CIGS | Odds Ratio  Std. Err.      t    P>|t|     [95% Conf. Interval]
----------------+--------------------------------------------------------------
   _Ismklcat8_1 |   2.539754   1.718119    1.38   0.171     .6634931   9.721804
   _Ismklcat8_4 |   9.470521   3.575667    5.95   0.000     4.477334   20.03218
   _Ismklcat8_7 |   5.062412   .8541182    9.61   0.000      3.62216    7.07534
          _cons |   .0310685   .0020858  -51.71   0.000     .0271936   .0354956
-------------------------------------------------------------------------------
Note: _cons estimates baseline odds.
```

* Table 12-3. Syntax and output for composition of new smokers among 12-17 year olds

```
. svy, subpop(if smklcat8~=. & R02R_Y_NEW_CIGS==1): tab smklcat8 , per obs ci
format(%4.1f)
(running tabulate on estimation sample)


                                        Number of obs    =        12,172
                                        Population size  =    24,670,517
                                        Subpop. no. obs  =           325
                                        Subpop. size     =    664,617.64
                                        Replications     =           100
                                        Design df        =            99


          -----------------------------------------------------------
          smklcat8 | percentage        lb          ub         obs
          ---------+-------------------------------------------------
             no TB |     74.0         68.2        79.1       241.0
          Exclusiv |      1.3          0.5         3.7         5.0
          ST+other |      3.4          1.7         6.7        10.0
          other TB |     21.3         16.6        26.9        69.0
                   |
             Total |    100.0                                325.0
          -----------------------------------------------------------

           Key:  percentage  =  cell percentage
                 lb          =  lower 95% confidence bound for cell percentage
                 ub          =  upper 95% confidence bound for cell percentage
                 obs         =  number of observations
```

Outcome 13: Incidence of smokeless tobacco use

Incidence of smokeless tobacco use is defined as the weighted number of individuals who used smokeless tobacco for the first time between wave 1 and wave 2 assessments among wave 1 never users of smokeless tobacco.

Syntax to recode user groups by cigarette smoking and other tobacco product use history

```
gen cigcat8=1 if R01R_Y_EVR_CIGS==1 & R01R_Y_EVR_SMKLS==0 & othertb==0
replace cigcat8=2 if R01R_Y_EVR_CIGS==1 & R01R_Y_EVR_SMKLS==1  & othertb==0
replace cigcat8=3 if R01R_Y_EVR_CIGS==1 & R01R_Y_EVR_SMKLS==1  & othertb==1
replace cigcat8=4 if R01R_Y_EVR_CIGS==1 & R01R_Y_EVR_SMKLS==0 & othertb==1
replace cigcat8=5 if R01R_Y_EVR_CIGS==0 & R01R_Y_EVR_SMKLS==1 & othertb==0
replace cigcat8=6 if R01R_Y_EVR_CIGS==0 & R01R_Y_EVR_SMKLS==1 & othertb==1
replace cigcat8=7 if R01R_Y_EVR_CIGS==0 & R01R_Y_EVR_SMKLS==0 & othertb==1
replace cigcat8=0 if R01R_Y_EVR_CIGS==0 & R01R_Y_EVR_SMKLS==0 & othertb==0
label def cigcat8 1 "Exclusive cig" 2 "cig+ST, no other TB" 3 "cigs+ST+other TB" 4
"Cig+other TB, no ST" ///
5 "ST, no cig, no other TB" 6 "ST+other TB, no cig" 7 "other TB, no cigs, no ST" 0 "no
TB", modify
label value cigcat8 cigcat8
```

Syntax to recode outcome variable

```
recode R02R_Y_NEW_SMKL (min/-1=.) (2=0) (1=1)
```

* Table 13-1. Syntax and output for incidence of smokeless tobacco use among 12-17 year olds

```
. svy, subpop(if smklcat8~=. & R01R_Y_EVR_SMKL==0): tab smklcat8 R02R_Y_NEW_SMKL, row per
ci obs format(%2.1f)
(running tabulate on estimation sample)
BRR *: for rows
                                          Number of obs    =     12,019
                                          Subpop. no. obs  =      9,143
                                          Replications     =        100
                                          Design df        =         99

          ----------------------------------------------------
          |  R02R_Y_NEW_SMKLS: DERIVED - Wave 2
          | Youth Never to Ever Smokeless Tobacco
          |                  User
 smklcat8 |         0        1 = Yes        Total
----------+-----------------------------------------
    no TB |      99.0            1.0        100.0
          | [98.7,99.2]     [0.8,1.3]
          |    7799.0           74.0       7873.0
 Cigs, no |      92.3            7.7        100.0
          | [88.6,94.9]     [5.1,11.4]
          |     263.0           17.0        280.0
 Cigs+oth |      95.1            4.9        100.0
          | [92.2,97.0]     [3.0,7.8]
          |     461.0           23.0        484.0
 other TB |      95.7            4.3        100.0
          | [92.5,97.5]     [2.5,7.5]
          |     487.0           19.0        506.0
          |
    Total |      98.4            1.6        100.0
          | [98.0,98.7]     [1.3,2.0]
          |    9010.0          133.0       9143.0
          ----------------------------------------------------

  Key:   row percentage
         [95% confidence interval for row percentage]
         number of observations
```

* Table 13-2. Syntax and output for cross-group comparison of incidence of smokeless tobacco use among 12-17 year olds

```
. xi: svy, subpop(if smklcat8~=. & R01R_Y_EVR_SMKL==0): logistic R02R_Y_NEW_SMKL
i.smklcat8
i.smklcat8        _Ismklcat8_0-7      (naturally coded; _Ismklcat8_0 omitted)
(running logistic on estimation sample)


BRR replications (100)
----+--- 1 ---+--- 2 ---+--- 3 ---+--- 4 ---+--- 5
..................................................    50
..................................................   100


Survey: Logistic regression                 Number of obs   =        12,019
                                            Population size  =    24,377,330
                                            Subpop. no. obs  =         9,143
                                            Subpop. size     =    18,638,490
                                            Replications     =           100
                                            Design df        =            99
                                            F(   3,     97)  =         25.08
                                            Prob > F         =        0.0000


------------------------------------------------------------------------------
                 |                 BRR *
R02R_Y_NEW_SMKLS | Odds Ratio  Std. Err.      t    P>|t|     [95% Conf. Interval]
-----------------+------------------------------------------------------------
   _Ismklcat8_5  |  7.956813   2.009558     8.21   0.000     4.820601    13.1334
   _Ismklcat8_6  |  4.907076   1.556736     5.01   0.000      2.61483   9.208782
   _Ismklcat8_7  |  4.345421   1.471993     4.34   0.000     2.218824   8.510218
           _cons |  .0104368   .0014144   -33.67   0.000      .007976   .0136569
------------------------------------------------------------------------------
```

* Table 13-3. Syntax and output for composition of new smokeless tobacco users among 12-17 year olds

```
. svy, subpop(if cigcat8~=. & R02R_Y_NEW_SMKLS==1): tab cigcat8, per obs ci format(%2.1f)
(running tabulate on estimation sample)


                                              Number of obs     =      12,172
                                              Population size   =  24,670,517
                                              Subpop. no. obs   =         133
                                              Subpop. size      = 300,565.408
                                              Replications      =         100
                                              Design df         =          99


        ----------------------------------------------------------
         cigcat8 | percentage           lb          ub         obs
        ---------+------------------------------------------------
           no TB |       55.3         45.0        65.1        74.0
        Exclusiv |       14.3          9.9        20.4        17.0
        Cig+othe |       15.5          9.4        24.4        23.0
        other TB |       14.9          8.7        24.3        19.0
                 |
           Total |      100.0                                133.0
        ----------------------------------------------------------

          Key:  percentage  =  cell percentage
                lb          =  lower 95% confidence bound for cell percentage
                ub          =  upper 95% confidence bound for cell percentage
                obs         =  number of observations
```