1. Cigarette Use Variables for PATH Youth Data (Wave 4)

This dictionary includes variables of cigarette, e-products (e-products), traditional cigars, pipes, hookahs, filtered cigars, cigarillos and smokeless tobacco product use that can be used in multiproduct analysis; for example: transition analysis and LCA/LTA analysis.

Note about missing values for all indicators: In PATH, many of the questions depend on the ability to classify individuals by their tobacco product use status. Sometimes we are unable to make this classification due to the skip pattern of the instrument for one or more component variables, or because a "refused", "I don't know" or "improbable" response was provided or because the individual requested their data to be removed; therefore these cases were excluded from the calculation of the indicators below.

UM_W4_Y_100cigs: Youth established cigarette smoker

Description: Youth who have smoked at least 100 or more cigarettes (5 packs or more) in their lifetimes.

Numerator: Number of respondents who have smoked ≥ 100 cigarettes in their lifetimes

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,540	98.26
1 = Yes	217	1.47
Missing	41	0.28
Total	14,798	100

This variable has 14,757 valid cases out of 14,798 total cases.

Missing values: See note about missing values for all indicators.

UM_W4_Y_cigs_30day: In the past 30 days, number of days smoked cigarettes

Description: Number of days a respondent smoked cigarettes in the past 30 days.

Numerator: Respondents who have smoked cigarettes in the past 30 days

Denominator: Total number of respondents¹

Mean: 0.30
Median: 0.00
Mode: 0
Minimum: 0
Maximum: 30

Standard deviation: 2.56

• Never smoked or did not smoked in the past 30 days: 14,304

Missing: 35

¹Those responses that are "not valid" are described for each indicator under "missing values"

UM_W4_Y_cigs1_past30: Youth smoker - smoked at least 1 day in the past 30 days

Description: Respondents who smoked cigarettes at least 1 day in the past 30 days.

Numerator: Number of respondents who smoked cigarettes at least 1 day in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,304	96.66
1 = Yes	459	3.10
Missing	35	0.24
Total	14,798	100

This variable has 14,763 valid cases out of 14,798 total cases.

UM_W4_Y_cigs10_past30: Youth smoker - smoked at least 10 days in the past 30 days

Description: Respondents who smoked cigarettes at least 10 days in the past 30 days.

Numerator: Number of respondents who smoked cigarettes at least 10 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,599	98.66
1 = Yes	164	1.11
Missing	35	0.24
Total	14,798	100

This variable has 14,763 valid cases out of 14,798 total cases.

UM W4 Y cigs25 past30: Youth smoker - smoked at least 25 days in the past 30 days

Description: Respondents who smoked cigarettes at least 25 days in the past 30 days.

Numerator: Number of respondents who smoked cigarettes at least 25 days in the past 30 days

Value	Unweighted frequency	%
0 = No	14,672	99.15
1 = Yes	91	0.61
Missing	35	0.24
Total	14,798	100

¹Those responses that are "not valid" are described for each indicator under "missing values"

UM_W4_Y_cigs1_past30_ESTD: Youth established smoker - smoked at least 1 day in the past 30 days

Description: Established smokers (smoked \geq 100 cigarettes in their lifetimes) who smoked cigarettes at least 1 day in the past 30 days.

Numerator: Number of established smokers who smoked cigarettes at least 1 day in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,598	98.65
1 = Yes	154	1.04
Missing	46	0.31
Total	14,798	100

This variable has 14,752 valid cases out of 14,798 total cases.

UM_W4_Y_cigs10_past30_ESTD: Youth established smoker - smoked at least 10 days in the past 30 days

Description: Established smokers (smoked \geq 100 cigarettes in their lifetimes) who smoked cigarettes at least 10 days in the past 30 days.

Numerator: Number of established smokers who smoked cigarettes at least 10 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,633	98.88
1 = Yes	119	0.80
Missing	46	0.31
Total	14,798	100

This variable has 14,752 valid cases out of 14,798 total cases.

UM_W4_Y_cigs25_past30_ESTD: Youth established smoker - smoked at least 25 days in the past 30 days

Description: Established smokers (smoked \geq 100 cigarettes in their lifetimes) who smoked cigarettes at least 25 days in the past 30 days.

Numerator: Number of established smokers who smoked cigarettes at least 25 days in the past 30 days

	Value	Unweighted frequency	%
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¹Those responses that are "not valid" are described for each indicator under "missing values"

0 = No	14,672	99.15
1 = Yes	80	0.54
Missing	46	0.31
Total	14,798	100

This variable has 14,752 valid cases out of 14,798 total cases.

UM_W4_Y_cigs_perday_cat: In past 30 days, average number of cigarettes smoked per day on days smoked

Description: Number of cigarettes a respondent usually smokes each day.

Numerator: Number of cigarettes smoked per day

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = Not past 30 day smoker	14,304	96.66
1 = <1 cig/day	165	1.12
2 = 1 cig/day	98	0.66
3 = 2-5 cigs/day	143	0.97
4 = 6-10 cigs/day	33	0.22
5 = 11-20 cigs/day	14	0.09
6 = >20 cigs/day	9	0.06
Missing	32	0.22
Total	14,798	100

This variable has 14,766 valid cases out of 14,798 total cases.

UM_W4_Y_cig_menthol: Smoked cigarette(s) flavored to taste like menthol or mint in the past 30 days

Description: Indicator for respondents who smoked cigarettes flavored to taste like menthol or mint in the past 30 days.

Numerator: Number of current smokers who smoked cigarettes flavored to taste like menthol or mint in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	186	1.26
1 = Yes	233	1.57
Missing	14,379	97.17
Total	14,798	100

This variable has 419 valid cases out of 14,798 total cases.

¹Those responses that are "not valid" are described for each indicator under "missing values"



2. E-product Use Variables for PATH Youth Data (Wave 4)

Note about missing values for all indicators: In PATH, many of the questions depend on the ability to classify individuals by their tobacco product use status. Sometimes we are unable to make this classification due to the skip pattern of the instrument for one or more component variables, or because a "refused", "I don't know" or "improbable" response was provided or because the individual requested their data to be removed; therefore these cases were excluded from the calculation of the indicators below.

UM_W4_Y_eprods_reg: Youth regular e-product user

Description: Respondents who have used e-products fairly regularly.

Numerator: Number of respondents who have used e-products fairly regularly

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,298	96.62
1 = Yes	463	3.13
Missing	37	0.25
Total	14,798	100

This variable has 14,761 valid cases out of 14,798 total cases.

Missing values: See note about missing values for all indicators.

UM_W4_Y_eprods_30day: In the past 30 days, number of days used e-products

Description: Number of days a respondent used e-products in the past 30 days.

Numerator: Respondents who have used e-products in the past 30 days

Denominator: Total number of respondents¹

Mean: 0.28
Median: 0.00
Mode: 0
Minimum: 0
Maximum: 30

• Standard deviation: 2.26

Never smoked or did not smoked in the past 30 days: 14,170

Missing: 51

This variable has 14,747 valid cases out of 14,798 total cases.

¹Those responses that are "not valid" are described for each indicator under "missing values"

UM_W4_Y_eprods1_past30: Youth e-product user - used at least 1 day in the past 30 days

Description: Respondents who used e-products at least 1 day in the past 30 days.

Numerator: Number of respondents who used e-products at least 1 day in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,170	95.76
1 = Yes	577	3.90
Missing	51	0.34
Total	14,798	100

This variable has 14,747 valid cases out of 14,798 total cases.

UM_W4_Y_eprods10_past30: Youth e-product user - used at least 10 days in the past 30 days

Description: Respondents who used e-products at least 10 days in the past 30 days.

Numerator: Number of respondents who used e-products at least 10 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,606	98.70
1 = Yes	141	0.95
Missing	51	0.34
Total	14,798	100

This variable has 14,747 valid cases out of 14,798 total cases.

UM_W4_Y_eprods25_past30: Youth e-product user - used at least 25 days in the past 30 days

Description: Respondents who used e-products at least 25 days in the past 30 days.

Numerator: Number of respondents who used e-products at least 25 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,681	99.21
1 = Yes	66	0.45
Missing	51	0.34
Total	14,798	100

This variable has 14,747 valid cases out of 14,798 total cases.

¹Those responses that are "not valid" are described for each indicator under "missing values"

UM_W4_Y_eprod_anyflvr: Used flavored e-product(s) in the past 30 days

Description: Indicator for respondents who used e-products flavored to taste like tobacco, menthol, mint, clove, spice, fruit, chocolate, an alcoholic drink, a non-alcoholic drink, candy, desserts, sweets, or some other flavor in the past 30 days.

Numerator: Number of current e-product users who used e-products flavored to taste like tobacco, menthol, mint, clove, spice, fruit, chocolate, an alcoholic drink, a non-alcoholic drink, candy, desserts, sweets, or some other flavor in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	0	0.00
1 = Yes	581	3.93
Missing	14,217	96.44
Total	14,798	100

This variable has 581 valid cases out of 14,798 total cases.

UM_W4_A_eprod_tobflvrd: Used e-product(s) flavored to taste like tobacco in the past 30 days

Description: Indicator for respondents who used e-products flavored to taste like tobacco in the past 30 days.

Numerator: Number of current e-product users who used e-products flavored to taste like tobacco in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	517	3.49
1 = Yes	64	0.43
Missing	14,217	96.07
Total	14,798	100

This variable has 581 valid cases out of 14,798 total cases.

UM_W4_Y_eprod_menthol: Used e-product(s) flavored to taste like menthol or mint in the past 30 days

Description: Indicator for respondents who used e-products flavored to taste like menthol or mint in the past 30 days.

Numerator: Number of current e-product users who used e-products flavored to taste like menthol or mint in the past 30 days

Denominator: Total number of respondents¹

¹Those responses that are "not valid" are described for each indicator under "missing values"

Value	Unweighted frequency	%
0 = No	439	2.97
1 = Yes	142	0.96
Missing	14,217	96.07
Total	14,798	100

This variable has 581 valid cases out of 14,798 total cases.

¹Those responses that are "not valid" are described for each indicator under "missing values"

3. Other Combustible Product Use Variables for PATH Youth Data (Wave 4)

Note about missing values for all indicators: In PATH, many of the questions depend on the ability to classify individuals by their tobacco product use status. Sometimes we are unable to make this classification due to the skip pattern of the instrument for one or more component variables, or because a "refused", "I don't know" or "improbable" response was provided or because the individual requested their data to be removed; therefore these cases were excluded from the calculation of the indicators below.

UM_W4_Y_cigar_reg: Regular traditional cigar user

Description: Respondents who have smoked traditional cigars fairly regularly.

Numerator: Number of respondents who have smoked traditional cigars fairly regularly

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,714	99.43
1 = Yes	38	0.26
Missing	46	0.31
Total	14,798	100.00

This variable has 14,752 valid cases out of 14,798 total cases.

Missing values: See note about missing values for all indicators.

UM_W4_Y_cigar_30day: In the past 30 days, number of days smoked traditional cigars

Description: Number of days a respondent smoked traditional cigars in the past 30 days.

Numerator: Respondents who have smoked traditional cigars in the past 30 days

Denominator: Total number of respondents¹

Mean: 0.01
Median: 0.00
Mode: 0.00
Minimum: 0.00
Maximum: 30.00

Standard deviation: 0.43

Never smoked or did not smoked in the past 30 days: 14,732 (99.55%)

Missing: 20 (0.14%)

This variable has 14,778 valid cases out of 14,798 total cases.

UM_W4_Y_cigar1_past30: Youth traditional cigar user - smoked at least 1 day in the past 30 days

Description: Respondents who have smoked traditional cigars at least 1 day in the past 30 days.

Numerator: Number of respondents who have smoked traditional cigars at least 1 day in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,732	99.55
1 = Yes	46	0.31
Missing	20	0.14
Total	14,798	100.00

This variable has 14,778 valid cases out of 14,798 total cases.

UM_W4_Y_ cigar10_past30: Youth traditional cigar user - smoked at least 10 days in the past 30 days

Description: Respondents who have smoked traditional cigars at least 10 days in the past 30 days.

Numerator: Number of respondents who have smoked traditional cigars at least 10 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,771	99.82
1 = Yes	7	0.05
Missing	20	0.14
Total	14,798	100.00

This variable has 14,778 valid cases out of 14,798 total cases.

UM_W4_Y_ cigar25_past30: Youth traditional cigar user - smoked at least 25 days in the past 30 days

Description: Respondents who have smoked traditional cigars at least 25 days in the past 30 days.

Numerator: Number of respondents who have smoked traditional cigars at least 25 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,776	99.85
1 = Yes	2	0.01
Missing	20	0.14
Total	14,798	100.00

This variable has 14,778 valid cases out of 14,798 total cases.

¹Those responses that are "not valid" are described for each indicator under "missing values"

UM_W4_Y_cigarillo_reg: Regular cigarillo user

Description: Respondents who have smoked cigarillos fairly regularly.

Numerator: Number of respondents who have smoked cigarillos fairly regularly

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,642	98.95
1 = Yes	103	0.70
Missing	53	0.36
Total	14,798	100.00

This variable has 14,745 valid cases out of 14,798 total cases.

UM_W4_Y_cigarillo_30day: In the past 30 days, number of days smoked cigarillos

Description: Number of days a respondent smoked cigarillos in the past 30 days.

Numerator: Respondents who have smoked cigarillos in the past 30 days

Denominator: Total number of respondents¹

Mean: 0.06
Median: 0.00
Mode: 0.00
Minimum: 0.00
Maximum: 30.00

• Standard deviation: 0.92

Never smoked or did not smoked in the past 30 days: 14,638 (98.92%)

Missing: 22 (0.15%)

This variable has 14,776 valid cases out of 14,798 total cases.

UM_W4_Y_cigarillo1_past30: Youth cigarillo user - smoked at least 1 day in the past 30 days

Description: Respondents who have smoked cigarillos at least 1 day in the past 30 days.

Numerator: Number of respondents who have smoked cigarillos at least 1 day in the past 30 days

Value	Unweighted frequency	%
0 = No	14,638	98.92
1 = Yes	138	0.93
Missing	22	0.15
Total	14,798	100.00

¹Those responses that are "not valid" are described for each indicator under "missing values"

UM_W4_Y_cigarillo10_past30: Youth cigarillo user - smoked at least 10 days in the past 30 days

Description: Respondents who have smoked cigarillos at least 10 days in the past 30 days.

Numerator: Number of respondents who have smoked cigarillos at least 10 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,746	99.65
1 = Yes	30	0.20
Missing	22	0.15
Total	14,798	100.00

This variable has 14,776 valid cases out of 14,798 total cases.

UM_W4_Y_cigarillo25_past30: Youth cigarillo user - smoked at least 25 days in the past 30 days

Description: Respondents who have smoked cigarillos at least 25 days in the past 30 days.

Numerator: Number of respondents who have smoked cigarillos at least 25 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,767	99.79
1 = Yes	9	0.06
Missing	22	0.15
Total	14,798	100.00

This variable has 14,776 valid cases out of 14,798 total cases.

UM_W4_Y_filtcigar_reg: Regular filtered cigar user

Description: Respondents who have smoked filtered cigars fairly regularly.

Numerator: Number of respondents who have smoked filtered cigars fairly regularly

Value	Unweighted frequency	%
0 = No	14,699	99.33
1 = Yes	41	0.28
Missing	58	0.39
Total	14,798	100.00

¹Those responses that are "not valid" are described for each indicator under "missing values"

UM_W4_Y_filtcigar_30day: In the past 30 days, number of days smoked filtered cigars

Description: Number of days a respondent smoked filtered cigars in the past 30 days.

Numerator: Respondents who have smoked filtered cigars in the past 30 days

Denominator: Total number of respondents¹

Mean: 0.02Median: 0.00Mode: 0.00Minimum: 0.00Maximum: 30.00

• Standard deviation: 0.60

Never smoked or did not smoked in the past 30 days: 14,735 (99.57%)

Missing: 33 (0.22%)

This variable has 14,765 valid cases out of 14,798 total cases.

UM_W4_Y_filtcigar1_past30: Youth filtered cigar user - smoked at least 1 day in the past 30 days

Description: Respondents who have smoked filtered cigars at least 1 day in the past 30 days.

Numerator: Number of respondents who have smoked filtered cigars at least 1 day in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,735	99.57
1 = Yes	30	0.20
Missing	33	0.22
Total	14,798	100.00

This variable has 14,765 valid cases out of 14,798 total cases.

UM_W4_Y_ filtcigar10_past30: Youth filtered cigar user - smoked at least 10 days in the past 30 days

Description: Respondents who have smoked filtered cigars at least 10 days in the past 30 days.

Numerator: Number of respondents who have smoked filtered cigars at least 10 days in the past 30 days

Value	Unweighted frequency	%
0 = No	14,755	99.71

¹Those responses that are "not valid" are described for each indicator under "missing values"

1 = Yes	10	0.07
Missing	33	0.22
Total	14,798	100.00

This variable has 14,765 valid cases out of 14,798 total cases.

UM_W4_Y_ filtcigar25_past30: Youth filtered cigar user - smoked at least 25 days in the past 30 days

Description: Respondents who have smoked filtered cigars at least 25 days in the past 30 days.

Numerator: Number of respondents who have smoked filtered cigars at least 25 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,760	99.74
1 = Yes	5	0.03
Missing	33	0.22
Total	14,798	100.00

This variable has 14,765 valid cases out of 14,798 total cases.

UM_W4_Y_ pipe_30day: In the past 30 days, number of days smoked pipes

Description: Number of days a respondent smoked pipes in the past 30 days.

Numerator: Respondents who have smoked pipes in the past 30 days

Denominator: Total number of respondents¹

Mean: 0.01
Median: 0.00
Mode: 0.00
Minimum: 0.00
Maximum: 30.00

Standard deviation: 0.47

• Never smoked or did not smoked in the past 30 days: 14,752 (99.69%)

Missing: 13 (0.09%)

This variable has 14,785 valid cases out of 14,798 total cases.

UM_W4_Y_pipe1_past30: Youth pipe user - smoked at least 1 day in the past 30 days

Description: Respondents who have smoked pipes at least 1 day in the past 30 days.

Numerator: Number of respondents who have smoked pipes at least 1 day in the past 30 days

¹Those responses that are "not valid" are described for each indicator under "missing values"

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,752	99.69
1 = Yes	33	0.22
Missing	13	0.09
Total	14,798	100.00

This variable has 14,785 valid cases out of 14,798 total cases.

UM_W4_Y_pipe10_past30: Youth pipe user - smoked at least 10 days in the past 30 days

Description: Respondents who have smoked pipes at least 10 days in the past 30 days.

Numerator: Number of respondents who have smoked pipes at least 10 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,778	99.86
1 = Yes	7	0.05
Missing	13	0.09
Total	14,798	100.00

This variable has 14,785 valid cases out of 14,798 total cases.

UM_W4_Y_pipe25_past30: Youth pipe user - smoked at least 25 days in the past 30 days

Description: Respondents who have smoked pipes at least 25 days in the past 30 days.

Numerator: Number of respondents who have smoked pipes at least 25 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,783	99.90
1 = Yes	2	0.01
Missing	13	0.09
Total	14,798	100.00

This variable has 14,785 valid cases out of 14,798 total cases.

UM_W4_Y_hook_reg: Regular hookah user

Description: Respondents who have smoked hookah fairly regularly.

Numerator: Number of respondents who have smoked hookah fairly regularly

¹Those responses that are "not valid" are described for each indicator under "missing values"

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,694	99.30
1 = Yes	74	0.50
Missing	30	0.20
Total	14,798	100.00

This variable has 14,768 valid cases out of 14,798 total cases.

UM_W4_Y_hook_past30day: Smoked hookah in the past 30 days

Description: Respondents who last smoked tobacco in a hookah, even one or two puffs, during the past 30 days.

Numerator: Number of respondents who smoked tobacco in a hookah during the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,730	99.54
1 = Yes	56	0.38
Missing	12	0.08
Total	14,798	100.00

This variable has 14,786 valid cases out of 14,798 total cases.

UM_W4_Y_hook_month: Average number of times smoked hookah in a month

Description: On average, how many times a respondent smoked hookah in the past month.

Numerator: Average number of times a respondent smoked hookah in the past month

Denominator: Total number of respondents¹

Mean: 0.17
Median: 0.00
Mode: 0.00
Minimum: 0.00
Maximum: 1260

Standard deviation: 11.01

• Missing: 80 (0.54%)

This variable has 14,718 valid cases out of 14,798 total cases.

UM W4 Y hook1 month: Youth hookah user - smoked at least 1 time in the past month

¹Those responses that are "not valid" are described for each indicator under "missing values"

Description: Respondents who have smoked hookahs at least 1 time in the past month.

Numerator: Number of respondents who have smoked hookahs at least 1 time in the past month

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,682	99.22
1 = Yes	36	0.24
Missing	80	0.54
Total	14,798	100.00

This variable has 14,718 valid cases out of 14,798 total cases.

UM_W4_Y_hook10_month: Youth hookah user - smoked at least 10 times in the past month

Description: Respondents who have smoked hookahs at least 10 times in the past month.

Numerator: Number of respondents who have smoked hookahs at least 10 times in the past month

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,703	99.36
1 = Yes	15	0.10
Missing	80	0.54
Total	14,798	100.00

This variable has 14,718 valid cases out of 14,798 total cases.

UM_W4_Y_hook25_month: Youth hookah user - smoked at least 25 times in the past month

Description: Respondents who have smoked hookahs at least 25 times in the past month.

Numerator: Number of respondents who have smoked hookahs at least 25 times in the past month

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,707	99.39
1 = Yes	11	0.07
Missing	80	0.54
Total	14,798	100.00

This variable has 14,718 valid cases out of 14,798 total cases.

¹Those responses that are "not valid" are described for each indicator under "missing values"

4. Smokeless Tobacco Use Variables for PATH Youth Data (Wave 4)

Note about missing values for all indicators: In PATH, many of the questions depend on the ability to classify individuals by their tobacco product use status. Sometimes we are unable to make this classification due to the skip pattern of the instrument for one or more component variables, or because a "refused", "I don't know" or "improbable" response was provided or because the individual requested their data to be removed; therefore these cases were excluded from the calculation of the indicators below.

UM_W4_Y_snus_reg: Regular snus pouch user

Description: Respondents who have used snus pouches fairly regularly.

Numerator: Number of respondents who have used snus pouches fairly regularly

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,650	99.00
1 = Yes	62	0.42
Missing	86	0.58
Total	14,798	100.00

This variable has 14,712 valid cases out of 14,798 total cases.

Missing values: See note about missing values for all indicators.

UM_W4_Y_snus_30day: In the past 30 days, number of days used snus pouches

Description: Number of days a respondent used snus pouches in the past 30 days.

Numerator: Respondents who have used snus pouches in the past 30 days

Denominator: Total number of respondents¹

Mean: 0.03
Median: 0.00
Mode: 0.00
Minimum: 0.00
Maximum: 30.00

Standard deviation: 0.85

Never smoked or did not smoked in the past 30 days: 14,734 (99.57%)

Missing: 16 (0.11%)

This variable has 14,782 valid cases out of 14,798 total cases.

UM_W4_Y_snus1_past30: Youth snus pouch user - used at least 1 day in the past 30 days

¹Those responses that are "not valid" are described for each indicator under "missing values"

Description: Respondents who have used snus pouches at least 1 day in the past 30 days.

Numerator: Number of respondents who have used snus pouches at least 1 day in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,734	99.57
1 = Yes	48	0.32
Missing	16	0.11
Total	14,798	100.00

This variable has 14,782 valid cases out of 14,798 total cases.

UM_W4_Y_snus10_past30: Youth snus pouch user - used at least 10 days in the past 30 days

Description: Respondents who have used snus pouches at least 10 days in the past 30 days.

Numerator: Number of respondents who have used snus pouches at least 10 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,766	99.78
1 = Yes	16	0.11
Missing	16	0.11
Total	14,798	100.00

This variable has 14,782 valid cases out of 14,798 total cases.

UM_W4_Y_ snus25_past30: Youth snus pouch user - used at least 25 days in the past 30 days

Description: Respondents who have used snus pouches at least 25 days in the past 30 days.

Numerator: Number of respondents who have used snus pouches at least 25 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,771	99.82
1 = Yes	11	0.07
Missing	16	0.11
Total	14,798	100.00

This variable has 14,782 valid cases out of 14,798 total cases.

UM_W4_Y_slt_reg: Other smokeless tobacco product user

¹Those responses that are "not valid" are described for each indicator under "missing values"

Description: Respondents who have used other smokeless tobacco products fairly regularly.

Numerator: Number of respondents who have used other smokeless tobacco products fairly regularly

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,570	98.46
1 = Yes	152	1.03
Missing	76	0.51
Total	14,798	100.00

This variable has 14,722 valid cases out of 14,798 total cases.

UM_W4_Y_slt_30day: In the past 30 days, number of days used smokeless tobacco products

Description: Number of days a respondent used smokeless tobacco products such as loose snus, moist snuff, dip, spit or chewing tobacco in the past 30 days.

Numerator: Respondents who have used smokeless tobacco products in the past 30 days

Denominator: Total number of respondents¹

Mean: 0.11
Median: 0.00
Mode: 0.00
Minimum: 0.00
Maximum: 30.00

Standard deviation: 1.54

• Never smoked or did not smoked in the past 30 days: 14,654 (99.03%)

Missing: 16 (0.11%)

This variable has 14,782 valid cases out of 14,798 total cases.

UM_W4_Y_slt1_past30: Youth smokeless tobacco product user - used at least 1 day in the past 30 days

Description: Respondents who have used smokeless tobacco products such as loose snus, moist snuff, dip, spit or chewing tobacco at least 1 day in the past 30 days.

Numerator: Number of respondents who have used smokeless tobacco products at least 1 day in the past 30 days

Value	Unweighted frequency	%
0 = No	14,654	99.03
1 = Yes	128	0.86

¹Those responses that are "not valid" are described for each indicator under "missing values"

Missing	16	0.11
Total	14,798	100.00

This variable has 14,782 valid cases out of 14,798 total cases.

UM_W4_Y_slt10_past30: Youth smokeless tobacco product user - used at least 10 days in the past 30 days

Description: Respondents who have used smokeless tobacco products such as loose snus, moist snuff, dip, spit or chewing tobacco at least 10 days in the past 30 days.

Numerator: Number of respondents who have used smokeless tobacco products at least 10 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,725	99.51
1 = Yes	57	0.39
Missing	16	0.11
Total	14,798	100.00

This variable has 14,782 valid cases out of 14,798 total cases.

UM_W4_Y_ slt25_past30: Youth smokeless tobacco product user - used at least 25 days in the past 30 days

Description: Respondents who have used smokeless tobacco products such as loose snus, moist snuff, dip, spit or chewing tobacco at least 25 days in the past 30 days.

Numerator: Number of respondents who have used smokeless tobacco products at least 25 days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,750	99.68
1 = Yes	32	0.22
Missing	16	0.11
Total	14,798	100.00

This variable has 14,782 valid cases out of 14,798 total cases.

UM_W4_Y_dissolve_past30D: Youth dissolvable tobacco product user – used dissolvable tobacco products in the past 30 days

¹Those responses that are "not valid" are described for each indicator under "missing values"

Description: Respondents who have used dissolvable tobacco products, even one or two times, in the past 30 days.

Numerator: Number of respondents who have used dissolvable tobacco products in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No	14,785	99.91
1 = Yes	8	0.05
Missing	5	0.03
Total	14,798	100.00

This variable has 14,793 valid cases out of 14,798 total cases.

¹Those responses that are "not valid" are described for each indicator under "missing values"

5. Single, Dual, Poly Use Variables for PATH Youth Data (Wave 4)

Note about missing values for all indicators: In PATH, many of the questions depend on the ability to classify individuals by their tobacco product use status. Sometimes we are unable to make this classification due to the skip pattern of the instrument for one or more component variables, or because a "refused", "I don't know" or "improbable" response was provided or because the individual requested their data to be removed; therefore these cases were excluded from the calculation of the indicators below.

5.1 16 Category Variable for Tobacco Use Pattern (1+ Day Definition)

UM_W4_Y_combust1_past30: Youth other combustible tobacco products user – used at least 1 day in the past 30 days

Description: Respondents who reported using traditional cigars, cigarillos, filtered cigars, pipes or hookahs at least 1 day in the past 30 days.

Numerator: Number of respondents who used traditional cigars, cigarillos, filtered cigars, pipes, or hookahs at least 1 day in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = No*	14,559	98.38
1 = Yes	238	1.61
Missing	1	0.01
Total	14,798	100.00

This variable has 14,797 valid cases out of 14,798 total cases.

UM_W4_Y_sltgroup1_past30: Youth multiple smokeless tobacco products user – used at least 1 day in the past 30 days

Description: Respondents who reported using snus pouches or other smokeless tobacco products at least 1 day in the past 30 days.

Numerator: Number of respondents who used snus pouches or other smokeless tobacco products at least 1 day in the past 30 days

Value	Unweighted frequency	%
0 = No*	14,648	98.99
1 = Yes	150	1.01
Missing	0	0.00
Total	14,798	100.00

¹Those responses that are "not valid" are described for each indicator under "missing values"

^{*} Including people with missing values, as long as they responded 'NO' to at least one product.

This variable has 14,798 valid cases out of 14,798 total cases.

UM_W4_Y_pop_poly_1_past30: Youth tobacco product user – used at least 1 day in the past 30 days (all cigarette smokers / any use of other tobacco products)

Description: Population patterns of single, dual and poly-use among cigarette users and users of e-products, other combustible tobacco products and multiple smokeless tobacco products who used at least 1 day in the past 30 days.

Numerator: Number of respondents who used [VALUE] at least 1 day in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = Never user	13,698	92.57
1 = Cigarettes only user	212	1.43
2 = E-products only user	350	2.37
3 = Other combustibles (OC) only user	83	0.56
4 = Smokeless (SLT) only user	65	0.44
5 = Cigarettes and e-products user	104	0.70
6 = Cigarettes and OC user	48	0.32
7 = Cigarettes and SLT user	26	0.18
8 = E-products and OC user	35	0.24
9 = E-products and SLT user	22	0.15
10 = OC and SLT user	5	0.03
11 = Cigarettes, e-products and OC user	39	0.26
12 = Cigarettes, e-products and SLT user	8	0.05
13 = Cigarettes, OC and SLT user	9	0.06
14 = E-products, OC and SLT user	5	0.03
15 = Cigarettes, e-products, OC and SLT user	10	0.07
Missing	79	0.53
Total	14,798	100.00

This variable has 14,719 valid cases out of 14,798 total cases.

UM_W4_Y_pop_poly_1_past30_ESTC: Youth tobacco product user – used at least 1 day in the past 30 days (established cigarette smokers / any use of other tobacco products)

Description: Population patterns of single, dual and poly-use among established cigarette users and any users of e-products, other combustible tobacco products and multiple smokeless tobacco products who used at least 1 day in the past 30 days.

Numerator: Number of respondents who used [VALUE] at least 1 day in the past 30 days

^{*} Including people with missing values, as long as they responded 'NO' to at least one product.

¹Those responses that are "not valid" are described for each indicator under "missing values"

Value	Unweighted frequency	%
0 = Never user*	13,834	93.49
1 = Cigarettes only user	60	0.41
2 = E-products only user	426	2.88
3 = Other combustibles (OC) only user	112	0.76
4 = Smokeless (SLT) only user	80	0.54
5 = Cigarettes and e-products user	27	0.18
6 = Cigarettes and OC user	20	0.14
7 = Cigarettes and SLT user	11	0.07
8 = E-products and OC user	53	0.36
9 = E-products and SLT user	26	0.18
10 = OC and SLT user	9	0.06
11 = Cigarettes, e-products and OC user	22	0.15
12 = Cigarettes, e-products and SLT user	4	0.03
13 = Cigarettes, OC and SLT user	5	0.03
14 = E-products, OC and SLT user	10	0.07
15 = Cigarettes, e-products, OC and SLT user	5	0.03
Missing	94	0.64
Total	14,798	100.00

This variable has 14,704 valid cases out of 14,798 total cases.

5.2 States for Transition Analysis Based on Current Use

UM_W4_Y_states_1_past30: Youth tobacco product user – used at least 1 day in the past 30 days (all cigarette smokers / any use of other tobacco products)

Description: States for transition analysis based on current use among all cigarette smokers and all users of other tobacco products.

Numerator: Number of respondents who use [VALUE] 1+ days in the past 30 days

Value	Unweighted frequency	%
0 = Never user	11,769	79.53
1 = Former user of any product	1,929	13.04
2 = Cigarettes only user	212	1.43
3 = E-products only user	350	2.37
4 = Other combustibles (OC) only user	83	0.56
5 = Smokeless (SLT) only user	65	0.44
6 = Cigarettes and e-products user	104	0.70
7 = Cigarettes and OC user	48	0.32

¹Those responses that are "not valid" are described for each indicator under "missing values"

^{*} Never established cigarette users and never users of other tobacco products.

8 = Cigarettes and SLT user	26	0.18
9 = Poly user with cigarettes (cigs, e-prods and OC; cigs, e-prods and SLT; cigs, OC and SLT; cigs, e-prods, OC and SLT)	66	0.45
10 = Other dual/poly-user without cigarettes (e-prods and OC; e-prods and SLT; OC and SLT; e-prods, OC and SLT)	67	0.45
Missing	79	0.53
Total	14,798	100.00

This variable has 14,719 valid cases out of 14,798 total cases

UM_W4_Y_states_1_past30_ESTC: States for transition analysis – established cigarette use / any use of other tobacco products

Description: States for transition analysis based on current use among established cigarette smokers and all users of other tobacco products.

Numerator: Number of respondents who use [VALUE] 1+ days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = Never user*	12,080	81.63
1 = Former user of any product	1,754	11.85
2 = Cigarettes only user	60	0.41
3 = E-products only user	426	2.88
4 = Other combustibles (OC) only user	112	0.76
5 = Smokeless (SLT) only user	80	0.54
6 = Cigarettes and e-products user	27	0.18
7 = Cigarettes and OC user	20	0.14
8 = Cigarettes and SLT user	11	0.07
9 = Poly user with cigarettes (cigs, e-prods and OC; cigs,		
e-prods and SLT; cigs, OC and SLT; cigs, e-prods, OC and	36	0.24
SLT)		
10 = Other dual/poly-user without cigarettes (e-prods		
and OC; e-prods and SLT; OC and SLT; e-prods, OC and	98	0.66
SLT)		
Missing	94	0.64
Total	14,798	100.00

This variable has 14,704 valid cases out of 14,798 total cases

UM_W4_Y_states_EF_1_past30: Youth tobacco product user – used at least 1 day in the past 30 days (all cigarette smokers / any use of other tobacco products)

^{*} Never established cigarette users and never users of other tobacco products

¹Those responses that are "not valid" are described for each indicator under "missing values"

Description: States for transition analysis based on current use among all cigarette smokers and all users of other tobacco products. Dual and poly users grouped by current e-product use.

Numerator: Number of respondents who use [VALUE] 1+ days in the past 30 days

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = Never user	11,769	79.53
1 = Former user of any product	1,929	13.04
2 = Cigarettes only user	212	1.43
3 = E-products only user	350	2.37
4 = Other combustibles (OC) only user	83	0.56
5 = Smokeless (SLT) only user	65	0.44
6 = Cigarettes and e-products user	104	0.70
7 = E-products and OC user	35	0.24
8 = E-products and SLT user	22	0.15
9 = Poly user with e-products (cigs, e-prods and OC; cigs, e-prods and SLT; e-prods, OC and SLT; cigs, e-prods, OC and SLT)	62	0.42
10 = Other dual/poly-user without e-products (cigs and OC; cigs and SLT; OC and SLT; cigs, OC and SLT)	88	0.59
Missing	79	0.53
Total	14,798	100.00

This variable has 14,719 valid cases out of 14,798 total cases

UM_W4_Y_states_EF_1_past30_ESTC: States for transition analysis – established cigarette use / any use of other tobacco products

Description: States for transition analysis based on current use among established cigarette smokers and all users of other tobacco products. Dual and poly users grouped by current e-product use.

Numerator: Number of respondents who use [VALUE] 1+ days in the past 30 days

Value	Unweighted frequency	%
0 = Never user*	12,080	81.63
1 = Former user of any product	1,754	11.85
2 = Cigarettes only user	60	0.41
3 = E-products only user	426	2.88
4 = Other combustibles (OC) only user	112	0.76
5 = Smokeless (SLT) only user	80	0.54
6 = Cigarettes and e-products user	27	0.18
7 = E-products and OC user	53	0.36
8 = E-products and SLT user	26	0.18

¹Those responses that are "not valid" are described for each indicator under "missing values"

9 = Poly user with e-products (cigs, e-prods and OC; cigs, e-prods and SLT; e-prods, OC and SLT; cigs, e-prods, OC and SLT)	41	0.28
10 = Other dual/poly-user without e-products (cigs and OC; cigs and SLT; OC and SLT; cigs, OC and SLT)	45	0.30
Missing	94	0.64
Total	14,798	100.00

This variable has 14,704 valid cases out of 14,798 total cases

^{*} Never established cigarette users and never users of other tobacco products.

 $^{^{1}}$ Those responses that are "not valid" are described for each indicator under "missing values"

6. Demographic Variables for PATH Youth Data (Wave 4)

Note about missing values for all indicators: In PATH, many of the questions depend on the ability to classify individuals by their tobacco product use status. Sometimes we are unable to make this classification due to the skip pattern of the instrument for one or more component variables, or because a "refused", "I don't know" or "improbable" response was provided or because the individual requested their data to be removed; therefore these cases were excluded from the calculation of the indicators below.

UM_W4_Y_agegrp: Age range of youth respondents when interviewed

Description: The age (in years) of youth respondents at the time of interview.

Numerator: Number of respondents who were [VALUE] at the time of interview

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
1 = 12 to 14	7,337	49.58
2 = 15 to 17	7,461	50.42
Missing	0	0.00
Total	14,798	100.00

This variable has 14,798 valid cases out of 14,798 total cases.

Missing values: See note about missing values for all indicators.

UM_W4_Y_male: Gender of youth respondents

Description: Gender of youth respondents.

Numerator: Number of respondents who are [VALUE]

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
0 = Female	7,080	47.84
1 = Male	7,666	51.80
Missing	52	0.35
Total	14,798	100.00

This variable has 14,746 valid cases out of 14,798 total cases.

UM_W4_Y_RE: Race/ethnicity of youth respondents

Description: Race/ethnicity of youth respondents.

Numerator: Number of respondents who are [VALUE]

¹Those responses that are "not valid" are described for each indicator under "missing values"

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
1 = Hispanic	4,374	29.56
2 = Non-Hispanic White	6,556	44.30
3 = Non-Hispanic Black	1,912	12.92
4 = Other	1,387	9.37
Missing	569	3.85
Total	14,798	100.00

This variable has 14,229 valid cases out of 14,798 total cases.

UM_W4_Y_educat: Grade level of youth respondents

Description: Grade level youth respondents are in or will be in when returning to school if on a holiday or break.

Numerator: Number of respondents who are or will be in [VALUE]

Denominator: Total number of respondents¹

Value	Unweighted frequency	%
1 = 6 th grade or below	830	5.61
2 = 7 th grade	2,087	14.10
3 = 8 th grade	2,432	16.43
4 = 9 th grade	2,447	16.54
5 = 10 th grade	2,365	15.98
6 = 11 th grade	2,269	15.33
7 = Other	2,299	15.54
Missing	69	0.47
Total	14,798	100.00

This variable has 14,729 valid cases out of 14,798 total cases.

UM_W4_Y_incomecat: Total household income in past 12 months

Description: Total income in the past 12 months, before taxes, of all persons in the youth respondent's household.

Numerator: Number of respondents whose total household income was [VALUE] in the past 12 months

Value	Unweighted frequency	%
1 = Less than \$50,000	6,795	45.92
2 = \$50,000 to \$99,999	3,665	24.77
3 = More than \$100,000	3,580	24.19
Missing	758	5.12

¹Those responses that are "not valid" are described for each indicator under "missing values"

Total	14,798	100.00
1	/	

This variable has 14,040 valid cases out of 14,798 total cases.

¹Those responses that are "not valid" are described for each indicator under "missing values"