

**BEFORE THE WASHINGTON
UTILITIES & TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION,

Complainant,

v.

THE CENTRUYLINK COMPANIES - QWEST CORPORATION; CENTURYTEL OF
WASHINGTON; CENTURYTEL OF INTERISLAND; CENTURYTEL OF
COWICHE; AND UNITED TELEPHONE COMPANY OF THE NORTHWEST

Respondent.

DOCKET UT-240029

**CROSS-EXAMINATION EXHIBIT OF PETER J. GOSE
ON BEHALF OF THE
WASHINGTON STATE OFFICE OF THE ATTORNEY GENERAL
PUBLIC COUNSEL UNIT**

EXHIBIT PJG-__X

Gose, Exhibit PJG-31

July 15, 2024



National Health Interview Survey Early Release Program

Table 1. Modeled estimates (with standard errors) of the percent distribution of personal telephone status for adults aged 18 and over, by state: United States, 2022

Geographic area	Wireless-only adults	Wireless-mostly adults	Dual users	Landline-mostly adults	Landline-only adults	Phoneless adults	Total
Alabama	77.1 (2.0)	10.7 (1.3)	5.0 (0.7)	3.1 (0.5)	2.6 (0.5)	1.5	100.0
Alaska	73.1 (2.5)	18.5 (2.4)	3.9 (0.9)	2.0 (0.5)	1.3 (0.4)	1.3	100.0
Arizona	70.1 (2.2)	19.9 (1.8)	4.4 (0.6)	2.2 (0.4)	1.6 (0.4)	1.8	100.0
Arkansas	75.0 (2.3)	13.9 (1.8)	4.1 (0.7)	3.5 (0.6)	1.9 (0.4)	1.5	100.0
California	73.0 (1.0)	15.4 (0.7)	5.9 (0.4)	2.2 (0.3)	2.2 (0.2)	1.3	100.0
Colorado	77.6 (1.6)	12.1 (1.2)	4.9 (0.7)	3.3 (0.5)	1.3 (0.3)	0.8	100.0
Connecticut	58.1 (2.4)	23.1 (1.9)	9.5 (0.9)	4.7 (0.6)	3.4 (0.5)	1.2	100.0
Delaware	59.2 (2.3)	23.2 (2.1)	9.1 (0.9)	4.7 (0.7)	2.9 (0.6)	0.8	100.0
District of Columbia	72.8 (2.2)	14.5 (1.8)	6.0 (1.0)	4.0 (0.7)	2.1 (0.5)	0.6	100.0
Florida	70.8 (1.3)	17.1 (1.1)	6.1 (0.5)	2.4 (0.3)	2.2 (0.3)	1.3	100.0
Georgia	75.3 (1.5)	14.2 (1.2)	5.3 (0.6)	2.7 (0.4)	1.6 (0.3)	0.9	100.0
Hawaii	65.5 (2.4)	19.1 (1.7)	8.0 (1.1)	2.3 (0.5)	3.5 (0.7)	1.7	100.0
Idaho	82.2 (2.0)	8.5 (1.3)	3.2 (0.6)	2.7 (0.6)	1.9 (0.5)	1.5	100.0
Illinois	71.2 (1.4)	16.5 (1.1)	5.6 (0.5)	3.6 (0.4)	2.0 (0.3)	1.2	100.0
Indiana	73.4 (1.9)	11.9 (1.2)	5.7 (0.7)	4.6 (0.5)	2.9 (0.5)	1.5	100.0
Iowa	75.5 (2.1)	12.3 (1.3)	5.0 (0.7)	3.6 (0.6)	2.3 (0.5)	1.2	100.0
Kansas	77.1 (2.0)	12.5 (1.4)	4.7 (0.7)	2.9 (0.6)	2.0 (0.4)	0.9	100.0
Kentucky	72.0 (2.1)	11.0 (1.3)	6.7 (0.8)	5.1 (0.7)	3.8 (0.6)	1.4	100.0
Louisiana	76.2 (1.5)	13.2 (1.3)	4.6 (0.6)	2.6 (0.4)	2.0 (0.4)	1.4	100.0
Maine	64.2 (3.2)	15.6 (2.0)	8.5 (1.1)	7.4 (1.0)	3.5 (0.7)	0.8	100.0
Maryland	63.0 (2.1)	20.9 (1.7)	9.1 (0.8)	3.6 (0.6)	2.2 (0.4)	1.2	100.0
Massachusetts	56.7 (1.7)	24.2 (1.5)	10.1 (0.8)	5.5 (0.6)	2.6 (0.5)	0.9	100.0
Michigan	74.1 (1.6)	10.7 (1.1)	6.7 (0.7)	5.0 (0.5)	2.5 (0.4)	1.0	100.0
Minnesota	73.5 (1.9)	13.6 (1.5)	6.4 (0.7)	3.7 (0.5)	1.9 (0.4)	1.0	100.0
Mississippi	80.1 (2.2)	9.8 (1.6)	3.8 (0.7)	2.6 (0.5)	2.1 (0.5)	1.6	100.0
Missouri	72.5 (1.7)	14.5 (1.3)	5.8 (0.6)	3.2 (0.5)	2.6 (0.4)	1.4	100.0
Montana	73.6 (2.8)	12.0 (1.6)	4.7 (0.8)	4.8 (0.8)	3.0 (0.6)	1.9	100.0
Nebraska	74.8 (2.0)	14.0 (1.8)	5.4 (0.8)	2.7 (0.5)	1.9 (0.5)	1.2	100.0
Nevada	75.3 (1.7)	14.7 (1.7)	4.2 (0.6)	2.5 (0.5)	1.7 (0.4)	1.6	100.0
New Hampshire	57.3 (2.9)	22.1 (1.9)	10.7 (1.2)	6.6 (0.9)	2.9 (0.6)	0.5	100.0
New Jersey	55.2 (1.9)	26.6 (1.7)	10.9 (0.9)	4.2 (0.6)	2.0 (0.4)	1.2	100.0
New Mexico	74.2 (2.7)	11.6 (1.9)	6.9 (1.0)	2.6 (0.6)	2.8 (0.6)	1.8	100.0
New York	57.1 (1.3)	20.8 (1.0)	12.2 (0.6)	4.7 (0.4)	3.8 (0.4)	1.4	100.0
North Carolina	73.6 (1.3)	13.4 (1.2)	6.1 (0.5)	3.6 (0.4)	2.3 (0.4)	1.1	100.0
North Dakota	67.8 (3.0)	18.0 (2.4)	6.5 (1.0)	3.6 (0.7)	2.8 (0.6)	1.3	100.0
Ohio	72.7 (1.4)	12.5 (1.0)	6.3 (0.6)	4.7 (0.5)	2.6 (0.4)	1.2	100.0
Oklahoma	83.3 (1.8)	8.0 (1.3)	3.9 (0.6)	1.7 (0.4)	1.9 (0.5)	1.2	100.0
Oregon	76.1 (1.7)	12.7 (1.5)	5.1 (0.7)	3.4 (0.5)	1.7 (0.4)	1.1	100.0
Pennsylvania	60.8 (1.5)	18.1 (1.1)	9.9 (0.7)	6.3 (0.6)	3.3 (0.4)	1.6	100.0
Rhode Island	59.4 (2.6)	20.9 (2.3)	9.1 (1.0)	5.2 (0.8)	3.7 (0.6)	1.7	100.0
South Carolina	74.1 (1.9)	11.9 (1.2)	6.6 (0.7)	4.2 (0.6)	2.0 (0.4)	1.1	100.0
South Dakota	73.0 (2.5)	14.4 (1.9)	5.3 (0.8)	3.0 (0.6)	2.8 (0.6)	1.5	100.0
Tennessee	76.5 (1.5)	11.1 (1.1)	5.0 (0.6)	4.1 (0.5)	2.1 (0.4)	1.3	100.0
Texas	80.1 (1.0)	11.8 (0.7)	4.0 (0.3)	1.5 (0.2)	1.4 (0.2)	1.3	100.0
Utah	80.7 (2.0)	14.3 (1.5)	2.7 (0.6)	0.9 (0.3)	0.9 (0.3)	0.4	100.0
Vermont	59.2 (2.4)	17.9 (2.3)	9.0 (1.1)	9.0 (1.1)	4.0 (0.7)	0.8	100.0
Virginia	65.2 (1.7)	19.3 (1.2)	7.3 (0.7)	4.0 (0.5)	2.9 (0.4)	1.4	100.0
Washington	74.2 (1.5)	14.0 (1.3)	6.3 (0.6)	2.7 (0.4)	1.9 (0.3)	0.8	100.0
West Virginia	64.5 (2.9)	12.6 (1.9)	9.3 (1.1)	7.8 (1.0)	4.2 (0.7)	1.6	100.0
Wisconsin	70.6 (1.9)	13.1 (1.3)	6.6 (0.6)	5.5 (0.6)	3.0 (0.5)	1.2	100.0
Wyoming	77.1 (2.1)	13.5 (1.7)	3.2 (0.7)	3.6 (0.6)	1.2 (0.4)	1.4	100.0

See notes on next page.



National Health Interview Survey Early Release Program

NOTES: Small-area statistical modeling techniques were used to combine National Health Interview Survey (NHIS) data collected from within specific geographies (states and some counties) with auxiliary data that are representative of those geographies to produce model-based estimates. Estimates for the 50 states and the District of Columbia were modeled using the procedures described in previous National Health Statistics Reports (e.g., <http://www.cdc.gov/nchs/data/nhsr/nhsr039.pdf>), with a few modifications.

- Models were based on three 12-month periods (2020-2022).
- LASSO regression models (least absolute shrinkage and selection operator) were used to select the best set of covariates for the models. Covariates for these adult models were allowed to differ from the covariates for models based on children.
- Potential covariates originally drawn from infoUSA.com were dropped in favor of additional covariates from the American Community Survey (ACS) on internet and smartphone use.
- ACS data (2020-2022) used as covariates corresponded to the same year as NHIS data. For example, data from the 2022 ACS were used as covariates in the model for direct estimates derived using data from the 2022 NHIS.
- The proportion of adults living in households with no telephone service (“phoneless adults”) was not modeled. Other proportions were adjusted so that this estimate agreed with the 2022 ACS estimate for this proportion.
- The variances for the direct estimates were computed using in-house rather than publicly available sample design variables.

In 2019, the NHIS underwent a questionnaire redesign to better meet the needs of data users. The redesigned NHIS classifies telephone status for adults rather than households. The modeled estimates reported here for 2022 are for adults aged 18 and over who are wireless-only, wireless-mostly, dual users, landline-mostly, and landline-only instead of adults aged 18 and over *living in households* that are wireless-only, wireless-mostly, dual-use, landline-mostly, or landline-only.

Small-area statistical modeling assumes that the design-based estimates of variance are stable and that the direct estimates are unbiased. Users are cautioned that the approach used to create the model-based estimates can produce substantially biased prevalence estimates and unstable variance estimates when the direct estimate from NHIS is based on small sample sizes, when that sample is drawn from only a few geographic areas, and when those few geographic areas are not representative of the state of interest.

SOURCES: NCHS, National Health Interview Survey, 2020-2022; and U.S. Census Bureau, American Community Survey, 2020-2022.

ACKNOWLEDGMENTS: Estimates were calculated by Nadarajasundaram Ganesh of NORC at the University of Chicago, in collaboration with staff of the National Center for Health Statistics, Division of Health Interview Statistics and Division of Research and Methodology.



National Health Interview Survey Early Release Program

Table 2. Modeled estimates (with standard errors) of the percent distribution of household telephone status for children under age 18, by state: United States, 2022

Geographic area	Wireless-only	Wireless and landline	Landline-only	No telephone service	Total
Alabama	85.4 (2.2)	13.7 (2.1)	0.2 (0.1)	0.6	100.0
Alaska	84.3 (2.8)	15.4 (2.8)	0.3 (0.1)	0.0	100.0
Arizona	81.7 (2.6)	17.1 (2.5)	0.2 (0.1)	1.0	100.0
Arkansas	84.3 (2.6)	14.8 (2.6)	0.2 (0.1)	0.7	100.0
California	82.6 (1.2)	16.0 (1.1)	0.8 (0.1)	0.6	100.0
Colorado	85.6 (2.1)	13.6 (2.1)	0.4 (0.1)	0.4	100.0
Connecticut	72.4 (3.0)	26.4 (2.9)	0.5 (0.1)	0.7	100.0
Delaware	72.6 (3.3)	26.4 (3.3)	0.2 (0.1)	0.8	100.0
District of Columbia	84.7 (3.1)	14.4 (3.0)	0.2 (0.1)	0.6	100.0
Florida	81.6 (1.8)	17.7 (1.7)	0.1 (0.0)	0.6	100.0
Georgia	83.9 (2.0)	15.6 (2.0)	0.1 (0.1)	0.4	100.0
Hawaii	78.4 (2.8)	20.4 (2.7)	0.2 (0.1)	1.1	100.0
Idaho	91.9 (1.8)	7.5 (1.8)	0.2 (0.1)	0.5	100.0
Illinois	84.1 (1.6)	15.0 (1.5)	0.2 (0.1)	0.7	100.0
Indiana	83.8 (2.1)	14.5 (1.9)	0.5 (0.2)	1.2	100.0
Iowa	83.5 (2.2)	15.5 (2.2)	0.3 (0.1)	0.7	100.0
Kansas	85.7 (2.3)	13.8 (2.3)	0.2 (0.1)	0.4	100.0
Kentucky	81.9 (2.6)	15.8 (2.4)	0.9 (0.2)	1.3	100.0
Louisiana	85.1 (2.0)	14.1 (1.9)	0.3 (0.1)	0.5	100.0
Maine	76.5 (3.5)	23.0 (3.5)	0.2 (0.1)	0.3	100.0
Maryland	76.0 (2.4)	23.3 (2.4)	0.2 (0.1)	0.5	100.0
Massachusetts	66.4 (2.7)	32.8 (2.6)	0.3 (0.1)	0.4	100.0
Michigan	84.7 (2.1)	14.0 (1.8)	0.6 (0.2)	0.7	100.0
Minnesota	83.1 (2.1)	16.2 (2.1)	0.2 (0.1)	0.5	100.0
Mississippi	89.4 (2.3)	9.6 (2.2)	0.2 (0.1)	0.9	100.0
Missouri	85.1 (2.1)	13.9 (2.0)	0.1 (0.1)	0.9	100.0
Montana	85.8 (2.7)	13.3 (2.7)	0.2 (0.1)	0.7	100.0
Nebraska	84.3 (2.5)	14.8 (2.5)	0.2 (0.1)	0.7	100.0
Nevada	84.1 (2.6)	15.1 (2.5)	0.1 (0.1)	0.7	100.0
New Hampshire	68.2 (3.6)	31.6 (3.6)	0.2 (0.1)	0.1	100.0
New Jersey	66.1 (3.0)	33.0 (2.9)	0.2 (0.1)	0.7	100.0
New Mexico	84.7 (2.7)	14.0 (2.8)	0.4 (0.1)	0.8	100.0
New York	69.4 (1.9)	29.0 (1.9)	0.8 (0.1)	0.8	100.0
North Carolina	83.1 (1.7)	16.4 (1.6)	0.1 (0.0)	0.5	100.0
North Dakota	79.7 (3.4)	19.8 (3.5)	0.2 (0.1)	0.3	100.0
Ohio	83.7 (2.1)	15.0 (2.0)	0.3 (0.1)	0.9	100.0
Oklahoma	92.4 (1.9)	6.8 (1.7)	0.3 (0.1)	0.5	100.0
Oregon	84.5 (2.2)	15.0 (2.1)	0.1 (0.1)	0.4	100.0
Pennsylvania	74.6 (2.1)	23.1 (2.0)	1.2 (0.2)	1.1	100.0
Rhode Island	70.6 (3.3)	28.5 (3.3)	0.3 (0.1)	0.7	100.0
South Carolina	84.3 (2.1)	14.9 (2.1)	0.1 (0.1)	0.6	100.0
South Dakota	84.9 (2.5)	14.3 (2.5)	0.4 (0.1)	0.4	100.0
Tennessee	85.4 (2.0)	13.8 (2.0)	0.1 (0.1)	0.7	100.0
Texas	89.2 (1.1)	10.1 (1.0)	0.1 (0.0)	0.5	100.0
Utah	86.5 (2.1)	13.2 (2.1)	0.1 (0.1)	0.2	100.0
Vermont	73.1 (3.3)	26.3 (3.3)	0.3 (0.1)	0.3	100.0
Virginia	78.4 (2.1)	20.4 (1.9)	0.5 (0.1)	0.8	100.0
Washington	81.9 (2.0)	17.4 (1.9)	0.4 (0.1)	0.3	100.0
West Virginia	78.5 (3.4)	20.6 (3.3)	0.4 (0.2)	0.4	100.0
Wisconsin	83.7 (2.2)	15.0 (2.1)	0.1 (0.1)	1.2	100.0
Wyoming	88.0 (2.5)	11.7 (2.3)	0.2 (0.1)	0.1	100.0

0.0 Quantity more than zero but less than 0.05.

See additional notes on next page.



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- Models were based on three 12-month periods (2020-2022).
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- Potential covariates originally drawn from infoUSA.com were dropped in favor of additional covariates from the American Community Survey (ACS) on internet and smartphone use.
- ACS data (2020-2022) used as covariates corresponded to the same year as NHIS data. For example, data from the 2022 ACS were used as covariates in the model for direct estimates derived using data from the 2022 NHIS.
- The proportion of children living in households with no telephone service was not modeled. Other proportions were adjusted so that this estimate agreed with the 2022 ACS estimate for this proportion.
- The variances for the direct estimates were computed using in-house rather than publicly available sample design variables.

In 2019, the NHIS underwent a questionnaire redesign to better meet the needs of data users. The modeled estimates reported here for 2022 are for children under age 18 *living in households* that are wireless-only, have both wireless and landline telephones, or are landline-only. As of 2019, it is no longer possible to identify children living in wireless-mostly or landline-mostly households.

Small-area statistical modeling assumes that the design-based estimates of variance are stable and that the direct estimates are unbiased. Users are cautioned that the approach used to create the model-based estimates can produce substantially biased prevalence estimates and unstable variance estimates when the direct estimate from NHIS is based on small sample sizes, when that sample is drawn from only a few geographic areas, and when those few geographic areas are not representative of the state of interest.

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