Appendix G – Consumer Survey Methods

As part of the Regional Community Health Assessment, the Columbia Gorge Health Council contracts with Providence Center for Outcomes Research and Education (CORE) to conduct a consumer health survey. The purpose of the community health survey is to 1) use a representative population sample and mail-based survey to provide statistically valid estimates of health and health needs throughout the community, including needs related to the social determinants of health; and 2) to supplement the mailed survey with *hand-fielded* surveys targeted toward communities of special interest, particularly those likely to be underrepresented in the mail survey.

The survey was based on the same form used in the 2016 Community Health Assessment. Most survey items were selected from nationally validated tools during the 2016 design process; only minor changes were implemented in the 2019 survey in order to preserve continuity of findings. Surveys were available in English and Spanish; Spanish translation was performed by a certified translator and all materials underwent plain-language review. The mail survey was fielded via a multi-stage mailing protocol supported by automated phone reminder calls.

Sample and response rate

For the mail surveys, CORE randomly selected 2,500 households to receive the survey. All households received surveys in both English and Spanish, allowing respondents to return whichever version they were most comfortable completing. Fielding efforts revealed that surveys for 333 of the sampled households were not ultimately deliverable, leaving a final deliverable sample of 2,167 households. CORE received 373 completed surveys, yielding a 17.3% response rate. This response rate was lower in 2019 than in 2016; one possible explanation might be the change from a $5 pre-paid incentive in 2016 to a $10 post-paid incentive in 2019. CORE recommends a return to pre-paid incentives in future survey years.

Responses from 373 randomly selected mail surveys and 448 hand-fielded surveys.

Approximately 1,700 hand-fielded surveys were distributed at a variety of community events and locations throughout the fielding period, and CORE received 448 responses.

Data quality and limitations

Data from the mailed surveys are distinct from results gained by hand-fielded surveys delivered in community settings. Because mail surveys are representatively sampled, mail survey data can provide good overall estimates of the true prevalence of certain health conditions and challenges for a community. However, data collected via population mail surveys also have important limitations -- they necessarily only include respondents from people with addresses who can respond to written surveys, and thus may underrepresent those who are unstably housed, challenged by language or literacy barriers, or other vulnerable or underserved populations. Households from diverse racial-ethnic backgrounds or where the primary language is not English are also less likely to respond to population- based mail surveys.

Because of these differences, CORE recommended using results from these two types of surveys in conjunction with each other. Mailed survey results are best used for estimates of total population prevalence, while hand-fielded surveys may provide a deeper view of what experiences look like for specific vulnerable or underserved populations.

Analysis and weighting

CORE entered all data in tabular form and analyzed it with a statistical software package (R version 3.3.3). Results were provided for all respondents and for three key subgroups:

- **Race/ethnicity:** Non-Hispanic white respondents vs. respondents who identify as Hispanic, Latina(o), or other.
- **Household income:** Households reporting earnings less than 200% of the federal poverty level (FPL) vs households reporting earnings 200% of FPL or higher.
- **Insurance coverage type:** Households reporting health coverage from a private employer vs Medicare coverage vs either Medicaid coverage or no coverage.

Testing for Disparities: To test for statistically significant differences between these key subgroups in our data, CORE used two-tailed chi-square tests of association. CORE flagged results with a p-value of .10 or less flagged as "statistically significant," indicating a high degree of confidence that the indicated difference between subgroups was not present in the data by simple chance. CORE performed testing for both mail survey and hand-fielded surveys, though CORE advised interpreting significance tests for the hand-fielded surveys with caution because those data do not conform to the standards of population sampling that underlie most inferential statistics.

Weighting: Since age is a key predictor of health status and survey respondents tend to be older than the general population, CORE weighted our mail survey results to account for the population's actual age distribution and generate better prevalence estimates. CORE did not weight results by race/ethnicity, education, or any other variable, and did not weight hand-fielded surveys.

For protection of participant personal information, responses with an N below 10 were suppressed. Response rates by language:

	MAILED SURVEYS				HAND-FIELDED SURVEYS			
	2016		2019		2016		2019	
	Total (N)	Total (%)	Total (N)	Total (%)	Total (N)	Total (%)	Total (N)	Total (%)
GENDER								
English	641	95.0%	352	94.5%	507	73.1%	334	74.6%
Other	18	2.7%	12	3.2%	127	18.3%	83	18.5%
Did not answer	16	2.4%	<10	-	60	8.6%	31	6.9%

Demographics of responses

	MAILED SURVEYS				HAND-FIELDED SURVEYS			
	2016		2019		2016		2019	
	Total (N)	Total (%)	Total (N)	Total (%)	Total (N)	Total (%)	Total (N)	Total (%)
GENDER								
Male	258	38.3%	142	38.1%	154	22.2%	117	26.1%
Female	389	57.7%	217	58.3%	453	65.4%	301	67.2%
Transgender, non-binary, nonconforming, or no answer	27	4.0%	14	3.6%	86	12.4%	30	6.7%
AGE								
18 to 39 years	78	11.6%	103	29.7%	278	40.1%	118	26.3%
40 to 64 years	283	42.0%	156	45.0%	244	35.0%	154	34.4%
65 to 79 years	225	33.4%	68	19.7%	64	9.4%	90	20.1%
80+ years	70	10.4%	20	5.6%	28	4.0%	38	8.5%
RACE & ETHNICITY								
White, non-Hispanic	574	85.2%	320	85.8%	413	59.5%	248	55.4%
Diverse Communities	100	14.8%	53	14.2%	329	40.5%	200	44.6%
WORK IN SEASONAL AGRICULTURE								
Work in seasonal agriculture	26	3.9%	<10	-	76	11.0%	30	6.7%
INCOME								
100% FPL or lower	64	9.5%	37	9.8%	218	31.4%	150	33.5%
101% to 200% FPL	76	11.3%	60	16.0%	99	14.3%	84	18.8%
201% FPL or higher	337	50.0%	242	64.8%	129	18.6%	175	39.1%
Did not answer	197	29.2%	35	9.4%	248	35.7%	39	8.7%
EMPLOYMENT LEVEL								
Less than 20 hours per week	36	5.3%	42	11.1%	42	6.1%	30	6.7%
20 hours per week or more	290	43.0%	197	52.9%	313	45.1%	195	43.5%
Retired/ Unemployed/ Did not answer	348	51.7%	134	36.0%	379	48.8%	223	49.8%

Diverse Communities representation.

	MAILED SURVEYS		HAND-FIELDED SURVEYS	
	2016	2019	2016	2019
	Total (%)	Total (%)	Total (%)	Total (%)
White, non-Hispanic	85.2%	85.8%	59.5%	55.4%
Diverse Communities	14.8%	14.2%	40.5%	44.6%
Diverse Communities representation				
Latino	5.6%	3.9%	26.9%	30.3%
Black or African American	0.6%	0%	0.3%	0.9%
Asian or Asian American	0.6%	3.4%	0.7%	0.9%
American Indian or Alaska Native	1.2%	2.2%	0.3%	6.9%
Don't Know	4.7%	.6%	4.8%	1.3%
Prefer not to answer	3.3%	3.4%	8.4%	3.6%
Other	4.7%	1.6%	4.9%	7.4%