Supplementary Material

Title: Active Smoking, Secondhand Smoke Exposure, and Serum Cotinine Levels among Cheyenne River Sioux Communities in Context of a Tribal Public Health Policy

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SMOKING INFORMATION QUESTIONNAIRE

The Cheyenne River Sioux Tribe, The Black Hills Center for American Indian Health, and University of New Mexico are doing a study about the health effects of mercury in people's bodies.

We would like to ask you some questions related to smoking habits to be able to determine your eligibility in this study.

Do you smoke <u>currently</u>?
YES NO

How many cigarettes do you smoke per day?
1-5

6-10

11-20

More than 20

Do you use smokeless tobacco, snuff or dip for chewing?
YES NO

Does anyone <u>in your home</u> smoke any cigarettes, pipe, etc.
YES NO

If yes, continue with next question:

How many cigarettes do others smoke in your home per day?
1-5

6-10

11-20

More than 20

Did your parents or others in your home smoke when you were a child?
YES NO

Is there tobacco smoking at your workplace?
YES NO

Do you routinely spend time in a smoky environment while you are off work, on holidays or during the weekends?
YES NO

Supplementary Table S1. CRST participants' serum cotinine concentrations by selected tobacco-related and demographic variables

	N (%)	Mean (±SD) cotinine [ng/ml]	Median (min; max) cotinine [ng/ml]	p Value‡1
Current CoSHS among non-tobacco users				
Yes	35 (15.5)	18.1 (55)	2.7 (0.4; 247.5)	0.4783
No	53 (23.5)	15.7 (51.9)	3.5 (0.4; 356.9)	

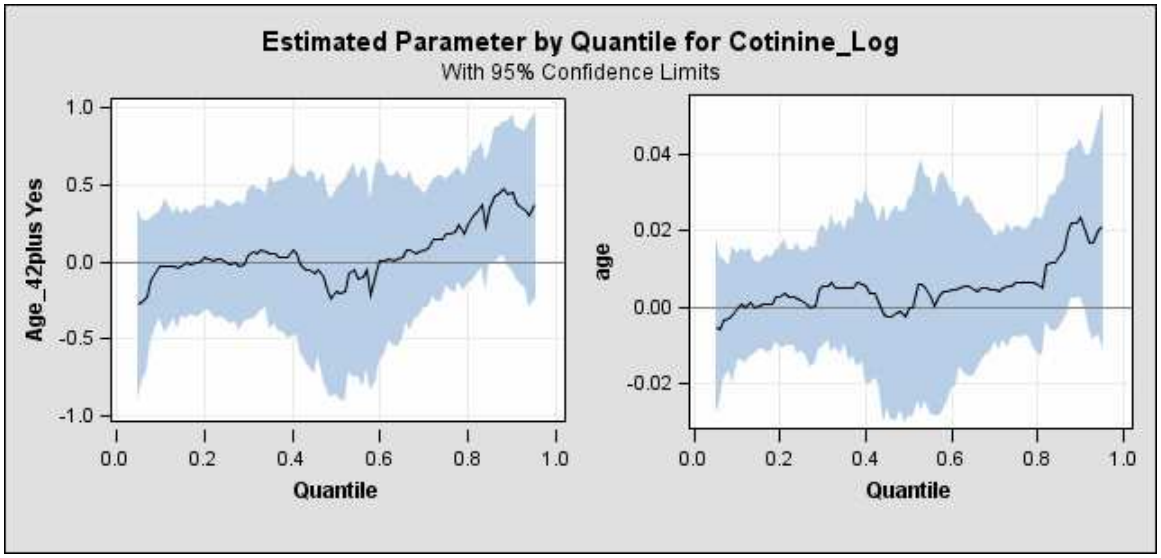
Note. ‡1 p Values were derived from Wilcoxon rank-sum test for two group's comparison.

Supplementary Table S2. Frequencies of CRST participants in selected groups

	N (%)	p Value‡1
Exposed to CoSHS in		
2014‡2	49 (66.2)	0.1758
2015	41 (54.7)	
2016	39 (52)	
Current smokers in		
2014	43 (57.3)	0.3629
2015	36 (48)	
2016	35 (46.7)	
Current tobacco chewers in		
2014	15 (20)	0.6205
2015	11 (14.7)	
2016	15 (20)	
Tobacco users in		
2014	48 (64)	0.7846
2015	45 (60)	
2016	44 (58.7)	
Exposed to CoSHS among		
Smokers	85 (74.6)	<0.0001
Non-smokers‡2	44 (40)	
Current tobacco chewers in		
Younger age group	30 (25.4)	0.0033
Older age group	11 (10.3)	
Older participants (42-77 y/o) in		
2014	33 (44)	0.4647
2015	40 (53.3)	
2016	34 (45.3)	
Female participants in		
2014	40 (53.3)	0.576
2015	35 (46.7)	
2016	41 (54.7)	
Current anglers/fishermen in		
2014	56 (74.7)	0.6978
2015	56 (74.7	
2016	52 (69.3)	

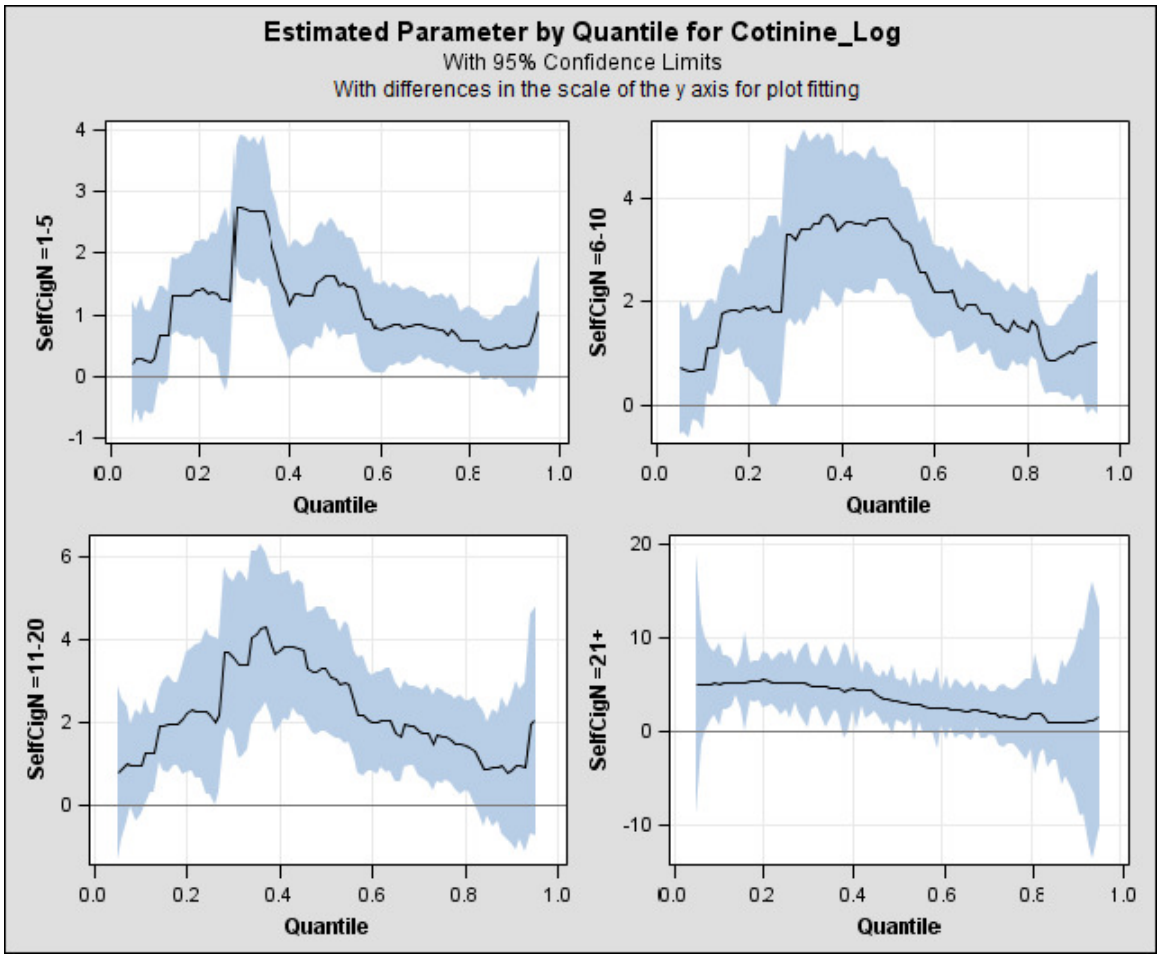
Note. ‡1 p Values were derived from Chi-Square and Fisher's Exact tests.
‡2 Missing CoSHS data for 1 participant.

Plots on other QRMs that considered age as a continuous variable or dose of daily cigarette consumption are shown in Supplementary Figures S1 and S2, respectively. The QRM with the continuous age variable included the same other predictor covariates as the original model (Table 2).



Supplementary Figure S1. QRM estimated parameters by quantile for serum cotinine natural log (with 95% CI): age group (on the left) and continuous age in years (on the right) - the comparison of the two modeling approaches.

The model that considered smoking dose instead of current smoking status used the same set of predictors that were used in the original model (Table 2), except the following: current smoking status was replaced with categories of daily cigarette use, the binary "SHS exposure at work" variable was utilized instead of CoSHS, and interaction between smoking and chewing was omitted from the model. This was done because the categories of daily cigarette use were highly correlated with CoSHS.



Supplementary Figure S2. QRM estimated parameters by quantile for serum cotinine natural log (with 95% CI): serum cotinine changes with respect to daily dose of commercial cigarette consumption.