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WVU :: School of Medicine :: Community Medicine :: C8

C8 Health Project Results C8 & Other PFC Levels

The tables and graphs on this page (links below) are summary results for the plasma concentrations of C8 and C8 Sulfonate of the participants in the C8 Health Project. These results include participants from whom a sufficient and viable plasma sample was obtained. Plasma concentrations are presented for the overall population, as well as stratified by common demographic characteristics. Demographic data used for age, gender, education and income were those provided by the participants during the completion of the survey. The accuracy of the demographic summaries reflects the accuracy of the responses provided by the participants.

The qualifying water district is the water district for which the participant presented the requisite qualifying documents to be eligible to participate in the C8 Health Project. This "qualifying" water district may or may not reflect the water district or source of exposure to C8 or other PFCs. This concept is important to understand, because "peer review" efforts may take more elaborate approaches and show slightly different geographic distributions.

Results for all participants with detectable levels of C8 and C8 Sulfonate are included in the summary tables and charts on this page. Subsequent reports may use different inclusion/exclusion criteria, population substrata, etc. Small differences can result from such particular analytic decisions. The summary results reported here, then, represent a synopsis that adds to existing knowledge, and which may be further refined by far more detailed work that will be submitted to peer-review journals.

Few, if any, previous human studies of PFCs of this magnitude have been conducted. And, while this is clearly a unique population, little is known about what level is considered to be "acceptable" or "dangerous." Seeking the answer to such questions is, in part, the purpose of the C8 Health Project and the mission of the Science Panel.

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- [C8 & C8 Sulfonate Plasma Concentrations - Population Summary \(58 KB\)](#)
- [C8 & C8 Sulfonate Plasma Concentrations Stratified by Age & Gender \(44 KB\)](#)
- [C8 & C8 Sulfonate Plasma Concentrations Stratified by Qualifying Water District \(41 KB\)](#)
- [C8 & C8 Sulfonate Plasma Concentrations Stratified by Education \(39 KB\)](#)
- [C8 & C8 Sulfonate Plasma Concentrations Stratified by Income \(45 KB\)](#)

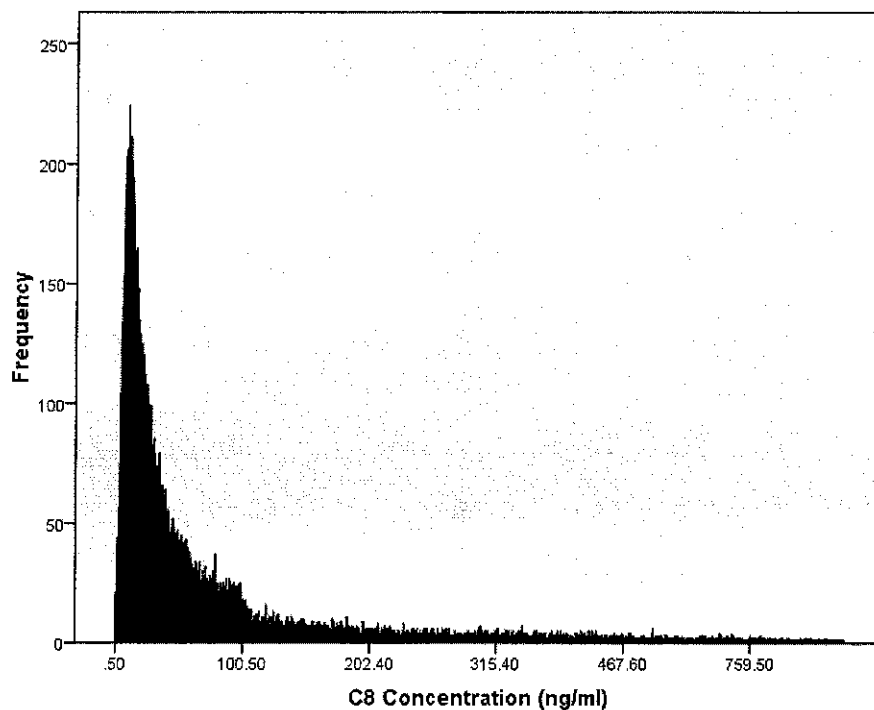
Population Results for C8 and C8 Sulfonate Plasma Concentrations

All Age and Gender Groups

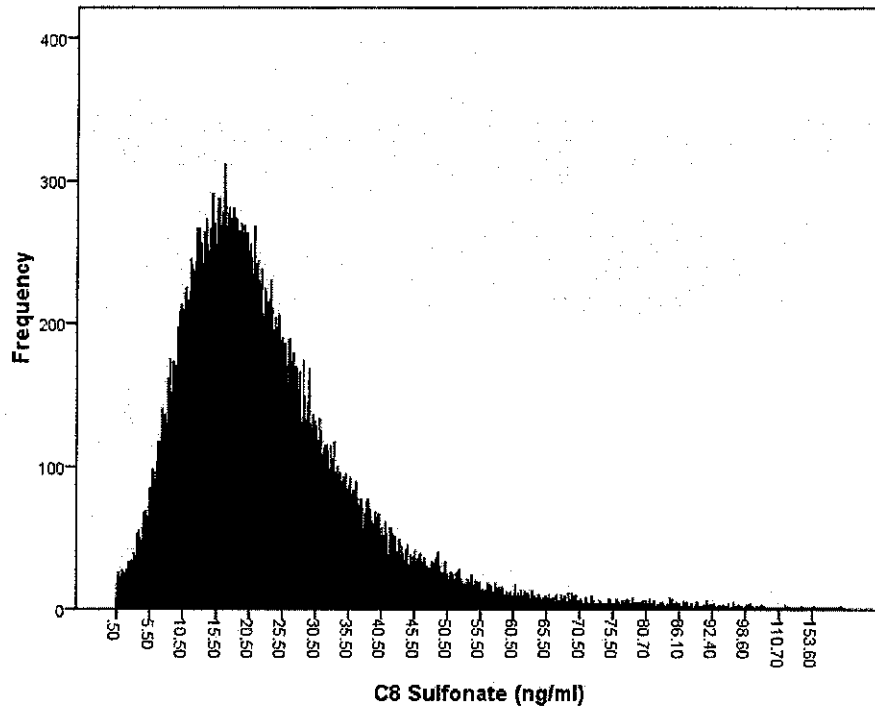
Statistics

		C8	C8 Sulfonate
Mean		82.9848	23.3571
Std. Error of Mean		.93136	.06010
Median		28.2000	20.2000
Mode		9.60	16.60
Std. Deviation		240.82333	15.50915
Variance		57995.875	240.534
Minimum		.50	.50
Maximum		22412.00	759.20
Percentiles	25	13.4000	13.9000
	50	28.2000	20.2000
	75	70.6000	29.0000

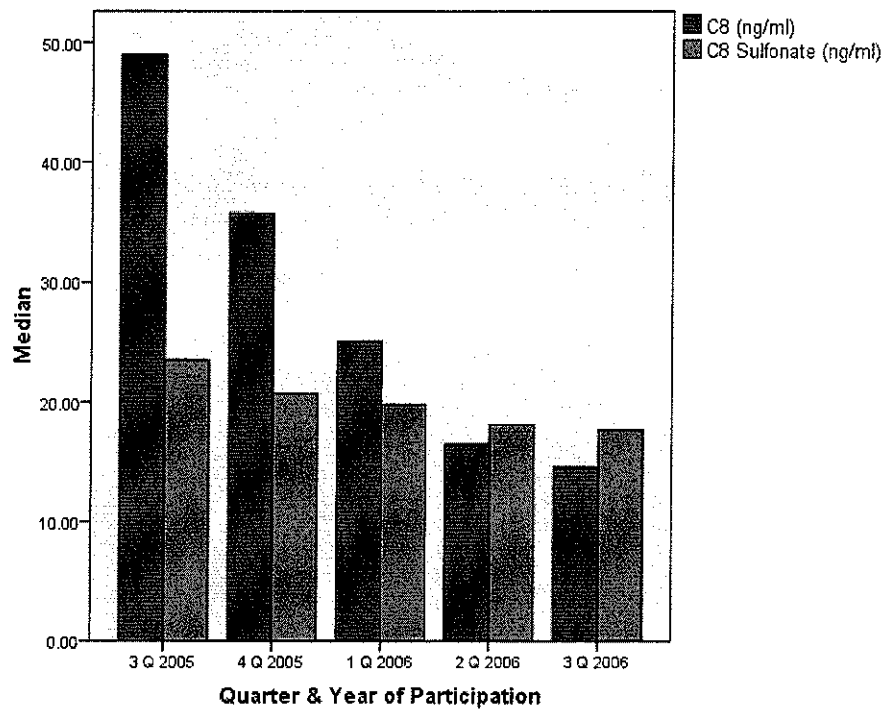
Population Distribution of C8 Concentration



Population Distribution of C8 Sulfonate



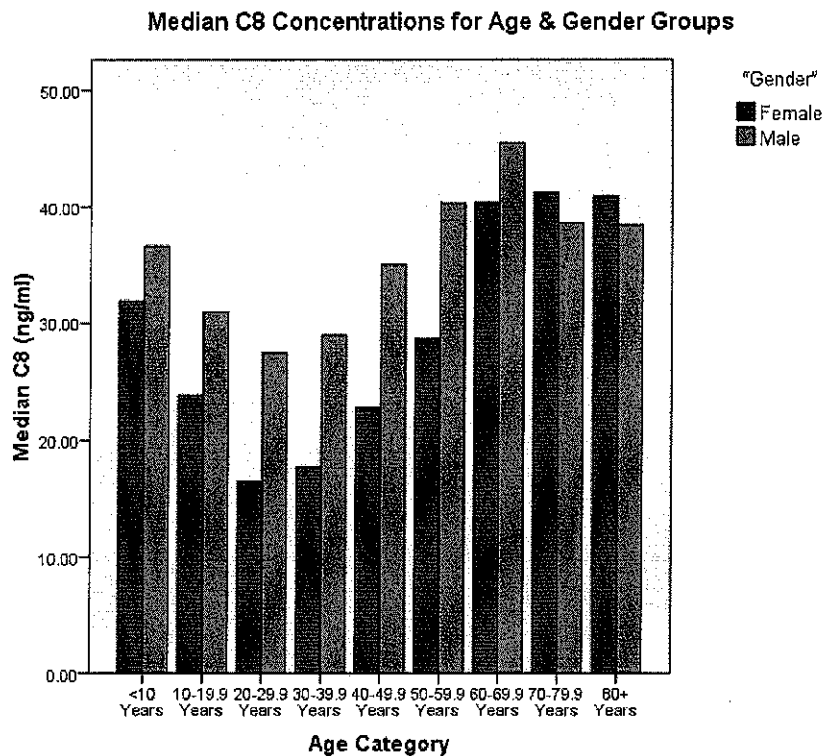
Median Values for C8 and C8 Sulfonate Based on Quarter of Participation



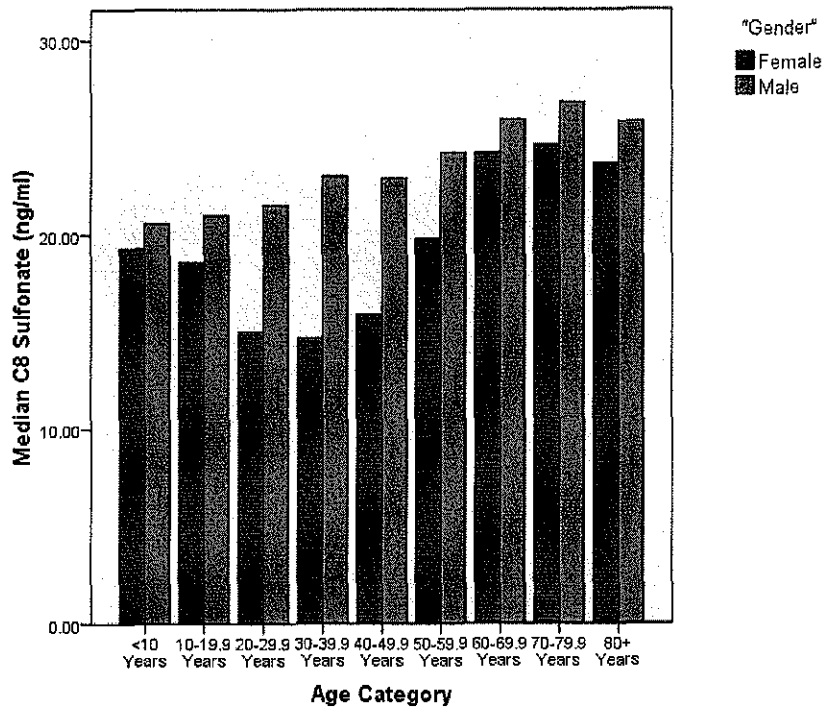
Population Results for C8 and C8 Sulfonate Plasma Concentrations Stratified by Age & Gender Groups

Age Category		C8	C8 Sulfonate
<10 Years	Mean	80.7732	23.0641
	Median	34.0000	20.0000
	Minimum	.70	1.10
	Maximum	2070.60	202.10
	Std. Deviation	131.97626	13.48214
	Std. Error of Mean	2.35785	.24098
10-19.9 Years	Mean	63.0104	22.4855
	Median	27.2000	19.9000
	Minimum	.60	.60
	Maximum	1236.60	198.80
	Std. Deviation	99.93089	12.12196
	Std. Error of Mean	1.04321	.12668
20-29.9 Years	Mean	45.8281	19.9271
	Median	21.2000	17.9000
	Minimum	.60	.50
	Maximum	1102.60	199.80
	Std. Deviation	79.42039	11.50305
	Std. Error of Mean	.79401	.11528
30-39.9 Years	Mean	68.6560	20.4713
	Median	22.4000	18.3000
	Minimum	.50	.60
	Maximum	8162.80	236.30
	Std. Deviation	212.95424	12.02323
	Std. Error of Mean	2.08498	.11799
40-49.9 Years	Mean	90.6931	21.9906
	Median	27.8000	19.1000
	Minimum	.50	.50
	Maximum	17556.60	564.30
	Std. Deviation	299.87368	14.72075
	Std. Error of Mean	2.74675	.13511
50-59.9 Years	Mean	108.1281	25.2993
	Median	33.5000	21.9000
	Minimum	.50	.50
	Maximum	8416.50	291.50
	Std. Deviation	303.90537	16.23525
	Std. Error of Mean	2.95416	.15804
60-69.9 Years	Mean	114.8070	28.9309
	Median	42.7000	24.9000
	Minimum	.60	.50
	Maximum	22412.00	291.50
	Std. Deviation	355.41953	18.65860
	Std. Error of Mean	4.25263	.22380

Age Category		C8	C8 Sulfonate
70-79.9 Years	Mean	113.5256	30.0827
	Median	39.5000	25.6000
	Minimum	.70	.50
	Maximum	4751.50	759.20
	Std. Deviation	227.82005	25.27402
	Std. Error of Mean	3.83175	.42618
80+ Years	Mean	104.2679	29.1912
	Median	39.3000	24.6000
	Minimum	.70	1.50
	Maximum	2299.10	275.50
	Std. Deviation	197.64315	23.20182
	Std. Error of Mean	5.98095	.70406
Total	Mean	82.9848	23.3571
	Median	28.2000	20.2000
	Minimum	.50	.50
	Maximum	22412.00	759.20
	Std. Deviation	240.82333	15.50915
	Std. Error of Mean	.93136	.06010



Median C8 Sulfonate Concentrations for Age & Gender Groups



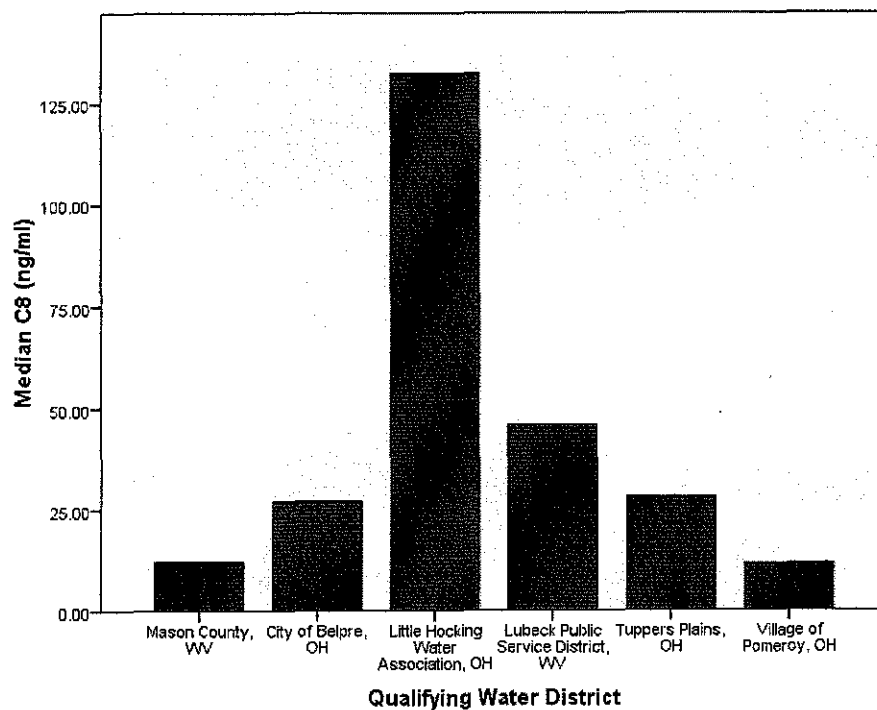
Population Results for C8 and C8 Sulfonate Plasma Concentrations Stratified by Participant's Qualifying Water District

All Age and Gender Groups

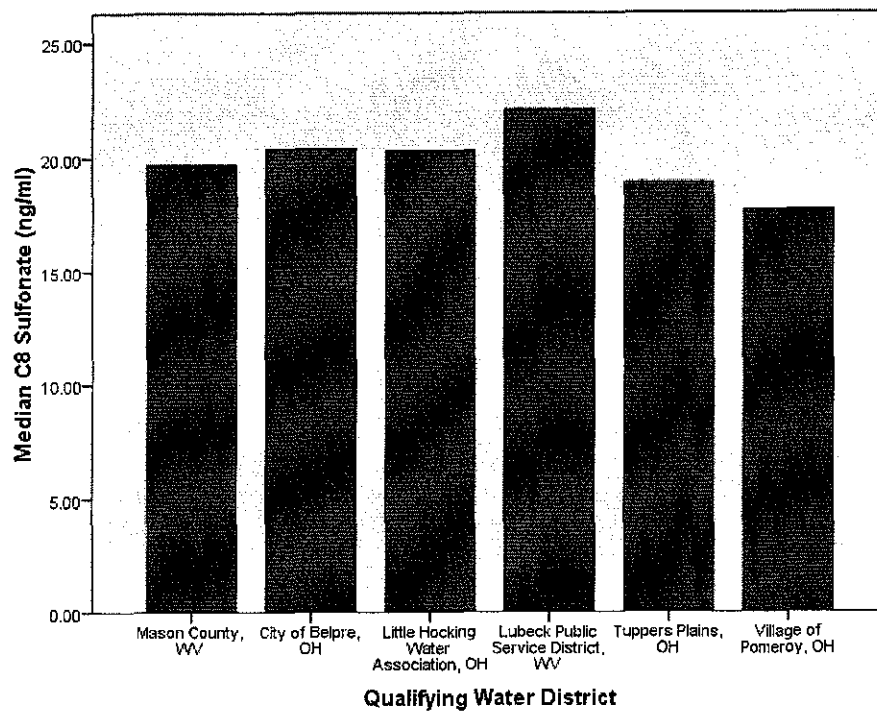
Case Summaries

Qualifying Water District		C8 (Final Test Value; Numeric)	C8S (Final Test Value; Numeric)
Mason County, WV	Mean	14.5561	22.9114
	Median	12.0000	19.7000
	Minimum	.60	.50
	Maximum	525.20	274.90
	Std. Deviation	11.58330	14.59610
	Std. Error of Mean	.10490	.13251
City of Belpre, OH	Mean	43.3626	23.2543
	Median	27.1000	20.4000
	Minimum	.50	.70
	Maximum	7932.00	245.80
	Std. Deviation	107.52400	14.99425
	Std. Error of Mean	1.16957	.16340
Little Hocking Water Association, OH	Mean	226.7114	23.4114
	Median	132.4500	20.3000
	Minimum	.60	.50
	Maximum	22412.00	759.20
	Std. Deviation	349.68251	15.68320
	Std. Error of Mean	3.11943	.14016
Lubeck Public Service District, WV	Mean	94.3865	25.3850
	Median	45.9000	22.1000
	Minimum	.50	.50
	Maximum	17556.60	291.50
	Std. Deviation	325.29059	15.87031
	Std. Error of Mean	2.54172	.12433
Tuppers Plains, OH	Mean	39.5996	21.9942
	Median	28.1000	18.9000
	Minimum	.50	.60
	Maximum	8162.80	585.20
	Std. Deviation	86.44557	15.92322
	Std. Error of Mean	.74184	.13679
Village of Pomeroy, OH	Mean	14.0692	20.6339
	Median	11.5500	17.7000
	Minimum	.60	.60
	Maximum	287.00	207.40
	Std. Deviation	13.21007	13.92657
	Std. Error of Mean	.22209	.23437
Total	Mean	82.8443	23.3475
	Median	28.2000	20.2000
	Minimum	.50	.50
	Maximum	22412.00	759.20
	Std. Deviation	240.09476	15.46953
	Std. Error of Mean	.92960	.06001

Median C8 Values for Qualifying Water Districts



Median C8 Sulfonate Values for Qualifying Water Districts



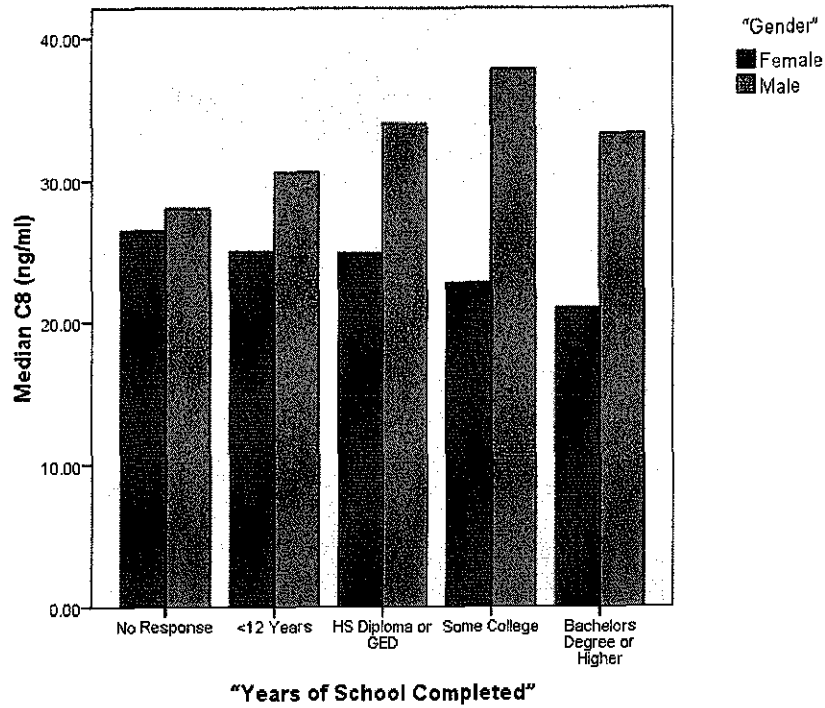
Population Results for C8 and C8 Sulfonate Plasma Concentrations Stratified by Years of Education

All Age & Gender Groups

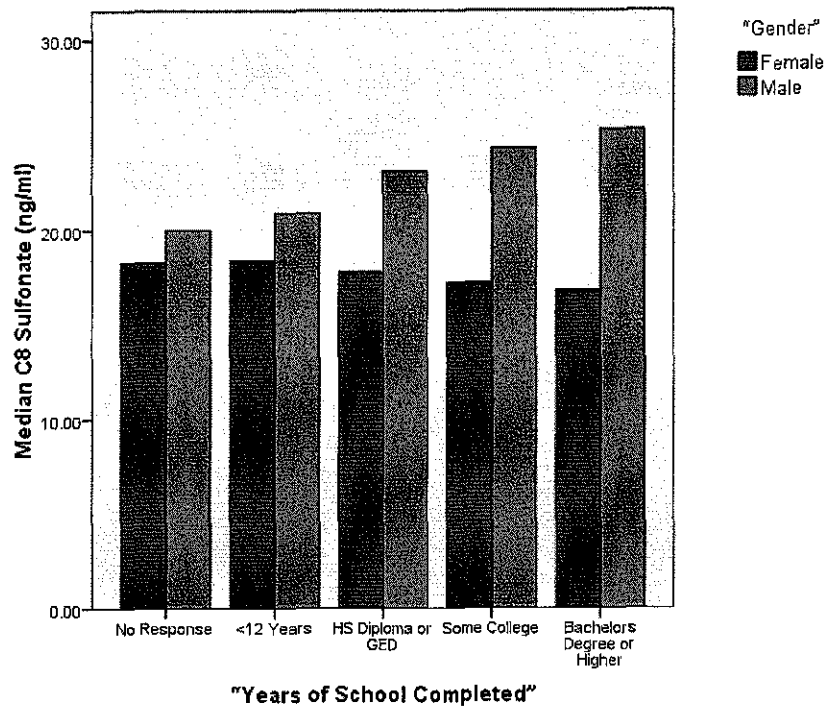
Case Summaries

"Years of School Completed"		C8	C8 Sulfonate
No Response	Mean	74.6807	22.3976
	Median	27.3000	19.2000
	Minimum	.90	1.00
	Maximum	1976.90	112.20
	Std. Deviation	147.11520	13.51821
	Std. Error of Mean	4.37448	.40268
<12 Years	Mean	71.1974	22.8766
	Median	27.9000	19.8000
	Minimum	.60	.50
	Maximum	2523.80	370.10
	Std. Deviation	133.69063	14.90438
	Std. Error of Mean	1.03833	.11595
HS Diploma or GED	Mean	93.2940	23.8737
	Median	29.1000	20.5000
	Minimum	.50	.50
	Maximum	22412.00	759.20
	Std. Deviation	315.30600	16.63157
	Std. Error of Mean	2.04805	.10826
Some College	Mean	85.1287	23.1245
	Median	28.2000	20.2000
	Minimum	.50	.50
	Maximum	8416.50	564.30
	Std. Deviation	230.75127	14.98843
	Std. Error of Mean	1.70838	.11121
Bachelors Degree or Higher	Mean	72.0679	23.5038
	Median	26.1000	20.6000
	Minimum	.50	.60
	Maximum	4751.50	238.90
	Std. Deviation	176.05497	14.55838
	Std. Error of Mean	2.07411	.17176
Total	Mean	82.9848	23.3571
	Median	28.2000	20.2000
	Minimum	.50	.50
	Maximum	22412.00	759.20
	Std. Deviation	240.82333	15.50915
	Std. Error of Mean	.93136	.06010

Median C8 Concentrations for Education Groups



Median C8 Sulfonate Concentrations for Education Groups



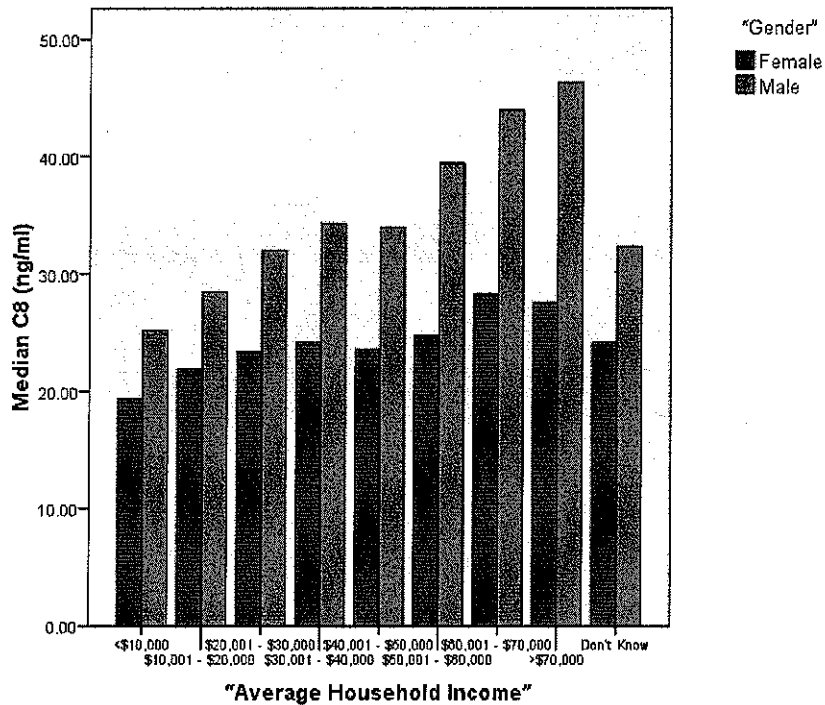
Population Results for C8 and C8 Sulfonate Plasma Concentrations Stratified by Household Income
All Age and Gender Groups

Case Summaries

"Average Household Income"		C8	C8 Sulfonate
<\$10,000	Mean	57.1410	20.7658
	Median	22.1000	17.9000
	Minimum	.60	.50
	Maximum	1979.50	291.50
	Std. Deviation	115.66904	14.39424
	Std. Error of Mean	1.34029	.16724
\$10,001 - \$20,000	Mean	67.8230	21.8999
	Median	24.8000	18.8000
	Minimum	.50	.50
	Maximum	2590.80	585.20
	Std. Deviation	145.93333	16.17785
	Std. Error of Mean	1.55610	.17296
\$20,001 - \$30,000	Mean	78.4169	23.3989
	Median	27.6000	20.2000
	Minimum	.50	.50
	Maximum	3190.60	274.90
	Std. Deviation	161.48672	15.00223
	Std. Error of Mean	1.68124	.15649
\$30,001 - \$40,000	Mean	82.9654	23.9769
	Median	29.0000	20.7000
	Minimum	.50	.50
	Maximum	7534.60	564.30
	Std. Deviation	189.60938	16.94342
	Std. Error of Mean	2.10249	.18826
\$40,001 - \$50,000	Mean	79.1755	23.9217
	Median	28.5500	20.9000
	Minimum	.60	.50
	Maximum	4751.50	272.00
	Std. Deviation	167.34416	14.75490
	Std. Error of Mean	2.05986	.18183
\$50,001 - \$60,000	Mean	98.5455	24.3102
	Median	30.6000	21.4000
	Minimum	.70	.60
	Maximum	22412.00	289.40
	Std. Deviation	399.48548	15.13852
	Std. Error of Mean	5.35752	.20333
\$60,001 - \$70,000	Mean	121.5587	24.6619
	Median	35.1000	21.8000
	Minimum	.50	.60
	Maximum	17556.60	225.00
	Std. Deviation	468.06639	14.49264
	Std. Error of Mean	7.05556	.21891

"Average Household Income"		C8	C8 Sulfonate
>\$70,000	Mean	105.9631	24.9478
	Median	35.8500	22.2000
	Minimum	.60	.60
	Maximum	8416.50	207.40
	Std. Deviation	307.99547	14.38888
	Std. Error of Mean	3.34738	.15663
Don't Know	Mean	75.9945	23.1615
	Median	27.8000	19.6000
	Minimum	.60	.70
	Maximum	3713.20	759.20
	Std. Deviation	155.38809	16.83009
	Std. Error of Mean	1.71274	.18580
Total	Mean	82.9848	23.3571
	Median	28.2000	20.2000
	Minimum	.50	.50
	Maximum	22412.00	759.20
	Std. Deviation	240.82333	15.50915
	Std. Error of Mean	.93136	.06010

Median C8 Values for Household Income Groups



Median C8 Sulfonate Values for Household Income Groups

