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TSCA Confidential Business Information Center (7407M)
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Washington, DC 20460-0001

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Re: Submission To TSCA 8(e)/FYI Database Re: PFOA/PFOS

To TSCA 8(e)/FYI Database:

We are hereby providing the following information for inclusion in the TSCA 8(e)/FYI databases with respect to PFOA/PFOS:

1. C-8 Science Panel Status Report, "Association of Perfluorooctanic Acid (PFOA) and Perfluorooctanesulfonate (PFOS) with Uric Acid Among Adults with Elevated Community Exposure to PFOA" (Jan. 23, 2009);
2. Fei, C., et al, "Maternal Levels of Perfluorinated Chemicals and Subfecundity," 1 Hum. Reprod. 1-6 (Jan. 28, 2009);
3. West Virginia University, "C-8 Health Project Results: C-8 and Other Clinical Conditions and Diagnoses" (Jan. 2009); and
4. West Virginia University, "C-8 Health Project Results: C-8 and Other Laboratory Values" (Tabular Format) (Jan. 2009).

Very truly yours,

Robert A. Bilott



RAB:mdm
Enclosures

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Status report: Association of perfluorooctanic acid (PFOA) and perfluorooctanesulfonate (PFOS) with uric acid among adults with elevated community exposure to PFOA

The C8 Science Panel (Kyle Steenland, Tony Fletcher, David Savitz)

January 23, 2009

This report summarizes the findings relating PFOA (C8) and PFOS (C8S) to levels of uric acid in the serum of the participants in the C8 Health Project, which was carried out in 2005-2006 in the Mid-Ohio Valley. A full report of these findings will be submitted to a peer-reviewed scientific journal.

Background: Perfluorooctanoic acid (PFOA, also known as C8) and perfluorooctanesulfonate (PFOS, also known as C8S) are compounds which do not occur in nature but have been widely used in chemical production since WWII, and persist indefinitely in the environment. They are present in the serum of most Americans at median (50th percentile) levels of 4 ng/ml (nanogram/milliliter) and 21 ng/ml, respectively, and also present in the serum of residents of many other countries. PFOA has been associated with elevated uric acid in one study of exposed workers, but not previously studied in a general population. Uric acid is a risk factor for hypertension and possibly for other cardiovascular disease.

Methods: We conducted a cross sectional study to examine the association between PFOA and PFOS and uric acid in the serum among 55,388 community residents age 18 and older in Ohio and West Virginia, who lived or worked in six water districts contaminated with PFOA from a chemical plant. All these residents participated in the C8 Health Project in 2005-2006. At that time they gave blood, which was used to measure both PFOA and uric acid in the serum (the liquid clear part of the blood after blood cells have been taken out). We compared their levels of uric acid in relation to levels of C8 via multiple regression techniques, while adjusting for other variables which could influence uric acid.

Results: The median (50th percentile) of uric acid level in the population was 5.5 mg/dl (milligram/deciliter). The median level of PFOA was 30 ng/ml, while the median level of PFOS was 20 ng/ml. Both PFOA and PFOS were significantly associated with increases in uric acid levels, with an increase of 0.2-0.3 mg/dl in uric acid associated with an increase from the lowest to highest decile (each decile represents 10% of the population) of either PFOA or PFOS. The risk of excessive uric acid (defined as >6 mg/dl in women, >6.8mg/dl in men) increased modestly with increasing quartile of each of the two chemicals; the ratios of risk for each quartile

versus the first quartile were 1.00, 1.24 (95% confidence interval 1.16-1.32), 1.34 (95% confidence interval 1.26-1.43), and 1.38 (95% confidence interval 1.30-1.47) for PFOA and 1.00, 1.06 (95% confidence interval 0.99-1.12), 1.17 (95% confidence interval 1.10-1.24), and 1.25 (95% confidence interval 1.17-1.33) for PFOS.

Conclusion: Higher serum levels of both PFOA and PFOS were associated with a higher risk of excessive uric acid in the blood. However, because of the fact that uric acid and PFOA/PFOS were measured at the same time, we cannot know if an increase in either PFOA or PFOS would lead to an increase in uric acid. Other possibilities include that both uric acid and these two chemicals increase in relation to some other unknown chemical in the blood, or even that an increase in uric acid in fact causes an increase in PFOA or PFOS for unknown reasons.

Therefore no firm conclusions about a causal relationship between PFOA or PFOS and uric acid can be drawn from these findings.

Maternal levels of perfluorinated chemicals and subfecundity

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BACKGROUND: Perfluorooctanoate (PFOA) and perfluorooctane sulfonate (PFOS) are ubiquitous man-made compounds that are possible hormonal disruptors. We examined whether exposure to these compounds may decrease fecundity in humans.

METHODS: Plasma levels of PFOS and PFOA were measured at weeks 4–14 of pregnancy among 1240 women from the Danish National Birth Cohort recruited from 1996 to 2002. For this pregnancy, women reported time to pregnancy (TTP) in five categories (<1, 1–2, 3–5, 6–12 and >12 months). Infertility was defined as having a TTP of >12 months or received infertility treatment to establish this pregnancy.

RESULTS: Longer TTP was associated with higher maternal levels of PFOA and PFOS ($P < 0.001$). Compared with women in the lowest exposure quartile, the adjusted odds of infertility increased by 70–134 and 60–154% among women in the higher three quartiles of PFOS and PFOA, respectively. Fecundity odds ratios (FORs) were also estimated using Cox discrete-time models. The adjusted FORs were virtually identical for women in the three highest exposure groups of PFOS (FOR = 0.70, 0.67 and 0.74, respectively) compared with the lowest quartile. A linear-like trend was observed for PFOA (FOR = 0.72, 0.73 and 0.60 for three highest quartiles versus lowest quartile). When all quartiles were included in a likelihood ratio test, the trends were significant for PFOS and PFOA ($P = 0.002$ and $P < 0.001$, respectively).

CONCLUSIONS: These findings suggest that PFOA and PFOS exposure at plasma levels seen in the general population may reduce fecundity; such exposure levels are common in developed countries.

Key words: maternal blood / time to pregnancy / fecundity / perfluorooctanoate / perfluorooctane sulfonate

Introduction

Perfluorooctane sulfonate (PFOS) and perfluorooctanoate (PFOA) belong to a class of perfluorinated chemicals (PFCs) that are widely used in many consumer products (paper wraps, fire-fighting foams, pesticides, textiles including clothing, upholstery, carpets and personal care products) and in manufacturing processes (industrial surfactants and emulsifiers). They are persistent in the environment and have been detected in wildlife and humans around the world (Giesy and Kannan, 2001; Kannan et al., 2004; Apelberg et al., 2007; Calafat et al., 2007; Fei et al., 2007). They were considered biologically inactive when first commercially introduced in the 1950's, but animal studies of PFOA and PFOS have since indicated toxic effects on the liver, immune system and developmental and reproductive organs (Kennedy et al., 2004; Lau et al., 2004, 2007). PFOA and PFOS may affect sex hormone homeostasis, and have been associated with increased incidence of fetal resorptions and pregnancy loss in

animals (Case et al., 2001; Butenhoff et al., 2004; Lau et al., 2006; Wolf et al., 2007).

In recent decades, a remarkable decline in fertility rates has been observed in developed countries, which can largely be explained by social changes in desired family sizes and better contraceptive methods, but may also in part be attributed to reduced fecundity, the biological capacity to reproduce (Olsen and Rachootin, 2003). In the USA, 2% of women of reproductive age had an infertility-related medical appointment within the previous year, and 8% had an infertility-related medical visit at some point in the past (Centers for Disease Control and Prevention (CDC), 2008). Infertility is associated with psychological stress and anxiety for women and couples, and with adverse birth outcomes or diseases (Zhu et al., 2007; Jensen et al., 2008), and treatment carries financial burdens for individuals and for society.

Environmental pollutants, such as polychlorinated biphenyls, pesticides and other chemicals (Taskinen et al., 1999; Law et al., 2005),

have been linked to subfecundity. In a previous paper (Fei et al., 2007), we reported that maternal PFOS and PFOA levels were inversely related to parity, perhaps due to fetal uptake during pregnancy or excretion by breast milk, but this association could also be explained by a link between exposure to PFOS or PFOA and subfecundity. We used data from the Danish National Birth Cohort (DNBC) to assess whether maternal plasma PFOS and PFOA levels, measured in early pregnancy, were associated with a longer time to pregnancy (TTP), a measure that has been used to estimate fecundity in epidemiologic studies for more than 25 years (Rachootin and Olsen, 1982).

Materials and Methods

The women were enrolled into the DNBC, a nationwide follow-up study of almost 100 000 children and their mothers. More details about the cohort have been presented elsewhere (Olsen et al., 2001). Briefly, pregnant women were recruited through their general practitioners around weeks 6–12 of gestation. Approximately 50% of all general practitioners in Denmark participated in the study, and approximately 60% of invited women accepted the invitation to participate. Self-reported data were collected by computer-assisted telephone interviews twice during pregnancy and twice after birth. A study biobank was set up, consisting of two maternal blood samples taken during pregnancy, and one umbilical cord blood sample obtained shortly after birth.

We measured plasma PFOA and PFOS levels in a subset of DNBC participants. Among all participants ($n = 43\,045$) who provided the first maternal blood sample, gave birth to a single live born child without congenital malformation, and completed all four telephone interviews, we randomly selected 1400 women. Detailed information about sampling has been described elsewhere (Fei et al., 2007). We excluded 160 with unplanned pregnancies or unknown TTP. Altogether, 1240 women were included in our main analyses.

Written informed consent was obtained from all participants at recruitment. The UCLA Office for Protection of Research Subjects (Reference No. 06-08-023-01) and the Danish Data Protection Agency (Reference No. J.Nr 2006-41-6324) approved the study protocol.

Time to pregnancy

In the first interview (at approximately 12 weeks of gestation), women were asked if their pregnancy was planned, partly planned or not planned. All except those responding 'not planned' were further asked, 'For how long did you try to get pregnant before you succeeded?' followed by five fixed answering categories of TTP: got pregnant immediately (i.e. <1 months), 1–2, 3–5, 6–12 and >12 months. Infertility was defined as having a TTP of >12 months or infertility treatment to establish the current pregnancy.

PFOA and PFOS exposure

We used the maternal blood samples taken at the first antenatal visit (weeks 4–14 of pregnancy) for this study. Concentrations of PFOS and PFOA in plasma were measured by high performance liquid chromatography/tandem mass spectrometry at the 3M Toxicology Laboratory (Ehresman et al., 2007). Stable labeled analogs of PFOS ($^{18}\text{O}_2$ PFOS) and PFOA ($^{13}\text{C}_2$ PFOA) were used in extraction procedures, and the extractions were performed using solid phase extraction techniques and based on 100 μl of plasma. All values were above LLOQ (the lower limit of quantification: 1 ng/ml), except one PFOA value that was assigned a value of half the LLOQ. Further details about the analysis methods were given in our earlier report (Fei et al., 2007). The laboratory was blinded to any information on the pregnant women.

Statistical analysis

PFOA and PFOS levels were analyzed as continuous variables and were also categorized a priori into quartiles using the lowest quartile as the reference group. We first used logistic regression to estimate the odds ratios (ORs) of infertility for women who were exposed to higher levels of PFOA or PFOS compared with the reference level. Fecundity odds ratios (FORs) were then estimated using the Cox model modified for discrete time data (Allison 1995). Approximate median numbers of months (i.e. 1, 2, 4 and 9) were assigned to the first four reported categories of TTP. TTP was censored at the 13th month if women had a TTP >12 months or received infertility treatment for this pregnancy ($n = 201$). In our study, FORs measure the odds of a successful conception for women who had higher levels of PFOA or PFOS compared with the reference levels within a given calendar month, given that the women did not become pregnant in the previous month. FORs <1 therefore indicate decreased fecundity and a longer TTP. A value of $P < 0.05$ was considered statistically significant.

Potential confounders included maternal age at delivery, parity, pre-pregnancy body mass index (BMI), maternal socio-occupational status, paternal education, paternal age and alcohol consumption before pregnancy. Age at menarche, irregular menstrual periods, history of spontaneous miscarriages, abdominal diseases (e.g. endometriosis, pain), paternal occupation and gestational weeks at blood drawing were also considered, but were not included in the final models as they had little effect on the estimated associations. Information on smoking and coffee consumption were only reported after pregnancy and women with TTP >12 months were more likely to have stopped smoking; furthermore, adjustment for these variables did not change the associations between PFOA or PFOS and the outcome, and were therefore not included in the models.

Results

Half of the women became pregnant within the first 2 months of trying, while 379 (30%) had a TTP of ≥ 6 months, 188 of whom had a TTP of >12 months. The average age of the women was 30.6 years and 15% were above 35 years of age at delivery. About half of the women were expecting their first child (Table I), and one-third were overweight or obese. Eighteen per cent had a history of spontaneous miscarriages and 14% reported experiencing irregular menstrual cycles prior to this pregnancy.

The median plasma PFOA and PFOS levels among the planned or partly planned pregnancies were 5.3 ng/ml [interquartile (IQR): 4.0, 7.0] and 33.7 ng/ml (IQR: 26.6, 43.5), respectively. As previously reported (Fei et al., 2007), PFOS and PFOA levels decreased with increasing age or parity and with decreasing pre-pregnancy BMI. PFOA levels were associated with irregular menstrual periods (9.0% in the lowest quartile versus 15.0% in the upper three quartiles), as well as PFOS (11.6% in the lowest quartile versus 14.2% in the upper three quartiles). Compared with women who got pregnant in the first 6 months of waiting time, women who had a longer TTP had higher PFOA and PFOS levels ($P < 0.001$ for both), and they were more likely to be older, of middle socio-occupational status, and to have a history of spontaneous miscarriages or irregular menstrual cycles (Table I). Those with younger partners or partners with higher education levels had a shorter TTP.

The proportion of women with TTP >12 months (infertility) was higher in the higher three quartiles of PFOA and PFOS versus the lowest quartile (Table II). We estimated that the odds of infertility

Table 1 Characteristics of study subjects and TTP among women with planned pregnancy^a

	Women with planned pregnancy (n = 1240)%	<6 months (n = 861)%	6–12 months (n = 191)%	>12 months (n = 188)%	PFOA (ng/ml) ^b	PFOS (ng/ml) ^b
PFOS, ng/ml ^b	35.5 ± 12.8	34.6 ± 12.7	36.6 ± 12.5	38.3 ± 13.0	–	–
PFOA, ng/ml ^b	5.6 ± 2.6	5.4 ± 2.2	6.0 ± 3.4	6.3 ± 2.7	–	–
Maternal age at delivery						
<25 years	7.8	8.8	8.4	2.1	6.1 ± 1.9	38.0 ± 10.9
25–29 years	40.0	42.1	39.3	31.4	6.1 ± 2.8	37.1 ± 12.6
30–34 years	37.0	37.0	35.1	39.4	5.2 ± 2.3	34.2 ± 13.3
≥35 years	15.2	12.1	17.3	27.1	5.2 ± 2.4	33.2 ± 12.5
Parity						
0	44.7	41.9	49.2	54.8	6.7 ± 2.7	37.8 ± 12.7
1	36.3	39.4	32.5	33.0	4.8 ± 2.0	33.7 ± 12.7
≥2	19.0	18.7	18.3	12.2	4.6 ± 2.2	33.5 ± 12.3
Pre-pregnancy BMI						
<18.5 kg/m ²	4.2	3.8	5.9	4.3	5.2 ± 2.1	32.9 ± 13.8
18.5–24.9 kg/m ²	66.3	67.9	61.0	64.2	5.6 ± 2.7	35.0 ± 12.8
25.0–29.9 kg/m ²	22.3	21.9	24.6	21.4	5.7 ± 2.3	36.7 ± 11.8
≥30.0 kg/m ²	7.2	6.3	8.6	10.2	6.1 ± 2.6	38.8 ± 13.8
Maternal SES						
Higher	51.9	54.2	45.3	47.6	5.6 ± 2.4	34.2 ± 12.5
Middle	40.2	37.4	47.4	46.0	5.7 ± 2.8	37.1 ± 12.8
Lower	7.9	8.4	7.4	6.4	5.6 ± 2.2	36.9 ± 13.8
Alcohol consumption before pregnancy (drinks/week)						
0 to <1	22.0	20.8	23.7	25.7	5.3 ± 2.2	35.4 ± 12.4
1–1.5	24.0	22.7	22.6	31.6	5.8 ± 2.4	37.0 ± 12.8
2–3	22.0	23.3	20.5	17.6	5.5 ± 2.2	35.7 ± 13.1
>3	32.0	33.3	33.2	25.1	5.9 ± 3.1	34.4 ± 12.8
Smoking in early pregnancy						
Yes	22.7	22.5	27.2	19.0	5.6 ± 2.3	34.4 ± 11.7
No	77.3	77.5	72.8	81.0	5.6 ± 2.6	35.8 ± 13.1
History of spontaneous miscarriages						
No	82.0	85.2	74.9	74.3	5.7 ± 2.6	35.6 ± 12.7
Yes	18.0	14.8	25.1	25.7	5.3 ± 2.2	35.1 ± 13.4
Irregular menstrual periods						
No	86.4	88.2	87.9	77.1	5.6 ± 2.6	35.4 ± 13.0
Yes	13.6	11.8	12.1	22.9	5.8 ± 2.0	36.0 ± 11.6
Paternal age						
<30 years	29.4	32.3	28.4	17.1	6.2 ± 2.4	38.0 ± 12.3
30–34 years	39.3	41.0	35.8	35.3	5.5 ± 2.8	35.0 ± 12.9
35–39 years	23.1	20.1	24.7	35.3	5.3 ± 2.2	34.3 ± 13.4
≥40 years	8.2	6.7	11.0	12.3	5.2 ± 2.5	33.3 ± 11.3
Paternal education						
Lower	20.2	19.2	24.6	20.7	5.7 ± 2.1	38.2 ± 12.4
Middle	33.9	31.7	36.1	41.5	5.9 ± 3.0	37.5 ± 12.8
Higher	41.6	45.1	34.6	33.0	5.4 ± 2.4	32.8 ± 12.5
Other or unknown	4.3	4.1	4.7	4.8	5.7 ± 2.6	33.4 ± 12.9

^aMissing data: maternal age at delivery (n = 1), pre-pregnancy BMI (n = 27), maternal socio-occupational class (n = 1), history of spontaneous miscarriages (n = 1), alcohol consumption before pregnancy (n = 3), paternal age (n = 11); data are mean ± SD. PFOA, perfluorooctanoic acid; PFOS, perfluorooctane sulfonate.

Table II Estimated OR for infertility (TTP > 12 months) and FOR according to plasma concentrations of PFOS or PFOA (ng/ml) in early pregnancy^a

Exposure	No. of planned pregnancy	Infertility		FOR (95% CI) ^c
		Per cent	OR (95% CI) ^b	
PFOS (ng/ml)				
6.4–26.0	293	10.6	1.00	1.00
26.1–33.3	305	15.4	1.70 (1.01, 2.86)	0.70 (0.56, 0.87)
33.4–43.2	317	19.5	2.34 (1.40, 3.89)	0.67 (0.53, 0.84)
≥43.3	317	18.6	1.77 (1.06, 2.95)	0.74 (0.58, 0.93)
P-value for trend ^d			0.025	0.002
PFOA (ng/ml)				
<LLOQ–3.91	293	8.9	1.00	1.00
3.91–5.20	308	18.2	2.06 (1.22, 3.51)	0.72 (0.57, 0.90)
5.21–6.96	315	15.5	1.60 (0.93, 2.78)	0.73 (0.58, 0.92)
≥6.97	316	21.5	2.54 (1.47, 4.39)	0.60 (0.47, 0.76)
P-value for trend ^d			0.006	<0.001

^aThe estimates were adjusted for maternal age at delivery, parity, pre-pregnancy BMI, maternal SES, alcohol consumption before pregnancy, paternal age, and paternal education; seven women (from a total of 1240) were excluded because of missing data on covariates. ^bLogistic regression; ^cCox discrete-time model; ^dThe P-values for trend tests of FORs were given for the four-quartile comparison of PFOA and PFOS levels using a likelihood ratio test. CI, confidence interval; FOR, fecundity odds ratio; LLOQ, lower limit of quantification.

increased by 70–134% for women in each of the higher exposure categories of PFOS, and 60–154% for women in each of the higher exposure categories of PFOA, compared with the lowest quartile. Women who were exposed to higher levels of PFOA or PFOS had a longer TTP; the adjusted FORs were 0.70, 0.67 and 0.74 for the top three quartiles of PFOS and 0.72, 0.73 and 0.60 for the top three quartiles of PFOA (versus the lowest quartile) (Table II). When all quartiles were included in a likelihood ratio test, the trends were significant for PFOS and PFOA ($P = 0.002$ and < 0.001 , respectively).

Women who were carrying unplanned pregnancies had lower PFC levels. The median level was 4.8 ng/ml (IQR: 3.5, 6.6) for PFOA and 30.0 ng/ml (IQR: 26.6, 43.5) for PFOS. They were of younger age (< 25 years) or much older (≥ 35 years), more often parous and of lower socio-occupational status. They were less likely to take contraceptive pills and to drink alcohol before pregnancy, but more likely to smoke in early pregnancy. Including these women as having a TTP of ' < 1 month' strengthened the observed associations (data not shown). Only including women with regular menstrual periods slightly lessened the association (data not shown).

Discussion

To our knowledge, this is the first study to assess the associations between PFOA and PFOS plasma levels and TTP in humans. Higher maternal PFOA and PFOS levels measured in early pregnancy were found to be associated with longer TTP. The odds of a conception leading to a recognized pregnancy were reduced for women who were exposed to PFOS and PFOA above the lowest quartile, and the magnitude of the reduction in fecundity was similar for the three higher quartiles.

The exposure time window of interest is at the start of pregnancy planning, but our exposure data were taken at 4–14 weeks gestation. PFOA and PFOS levels were, however, rather stable over pregnancy (Fei et al., 2007). We assume that our exposure assessment reflects the exposure level during the entire pregnancy planning time period. Information on TTP was obtained during the first trimester when women should be able to recall this with reasonable accuracy (Joffe et al., 2005). We further provided five response categories in order to facilitate valid recall, at the expense of precision. Differential recall by women according to PFC levels is unlikely to be a problem in our study since the exposure levels were unknown to them.

Maternal age, paternal age and paternal education substantially changed the associations between PFOS and TTP, while parity and paternal education were the most influential confounders in the analysis of PFOA. We did not have information on some important determinants of TTP, including frequency and timing of intercourse, and sperm quality. Sperm quality could potentially contribute to the associations between maternal PFC levels and TTP, if these compounds impact sperm quality and if PFC levels in male and female partners are similar, which is likely to some extent since the couples may share some aspects of lifestyle and around 99% subjects in this sub-cohort had a spouse or partner. Adjustment for paternal occupation did not change the estimates.

There are several potential limitations of our study. First, we studied TTP of pregnancies which led to the birth of a child, limiting conclusions that can be drawn regarding women who were unable to get pregnant, even after infertility treatment. Only couples who planned or partly planned their pregnancy can report a TTP. Ninety per cent of the women planned or partly planned their pregnancy in our study. Selection bias resulting from exclusion of fertile women who did not plan their pregnancy is possible, and our data showed that the associations between PFC levels and longer TTP

were stronger after inclusion of unplanned pregnancies in the analyses.

The biological mechanism by which exposure to PFOS and PFOA may reduce fecundity is unknown. PFCs may interfere with hypothalamic–pituitary–ovarian regulation, possibly causing irregular menstrual cycles, delayed ovulation or early abortions not recognized by the mother. In this study, we found similarly higher proportions of women reporting irregular menstrual periods in the upper three quartiles of PFCs compared with the lowest. Similarly, exposure to PFOS can reduce the number of regular estrous cycles in rats (Austin et al., 2003). Although the doses administered to rats were higher than the levels found in our study, but close to those found in occupationally exposed human populations (Olsen et al., 1999), the findings of Austin et al. (2003) may not apply to man, since the rodent estrous cycle is not an ideal model for the human cycle and the half-lives of these chemicals in humans greatly differ from those in animals. Increased levels of estrogen and/or decreased levels of testosterone have also been found in male rats given oral doses of PFOA at 2 mg/kg/day or higher (Cook et al., 1992; Biegel et al., 1995; Liu et al., 1996; Martin et al., 2007). A dose of 3 mg/kg/day is approximately equivalent to 4000 ng/ml in rat serum, which is slightly higher than levels observed in occupationally exposed populations (Butenhoff et al., 2004), but female rats were not studied as often as male rats in the studies of PFOA. Abnormal hormone levels may have an impact on infertility, and results from several animal studies, although not all, showed that exposure to PFOA or PFOS increased the incidence of spontaneous miscarriages (Case et al., 2001; Butenhoff et al., 2004; Lau et al., 2006; Wolf et al., 2007).

In conclusion, our data suggest that exposure to PFOA and PFOS at levels found in the general population may increase TTP. Whether our results will add PFCs to the list of risk factors for subfecundity remains to be seen, but PFCs may explain some of the fertility differences seen among different populations in developed countries.

Authors' contributions

C.F. designed the study, analyzed and interpreted the data, drafted the paper. J.O. monitored each step of the study, designed the study, guided analysis and interpretation of the data, and revised the paper. J.K.M. designed the study, interpreted the data and revised the paper. L.L. interpreted the data and revised the paper.

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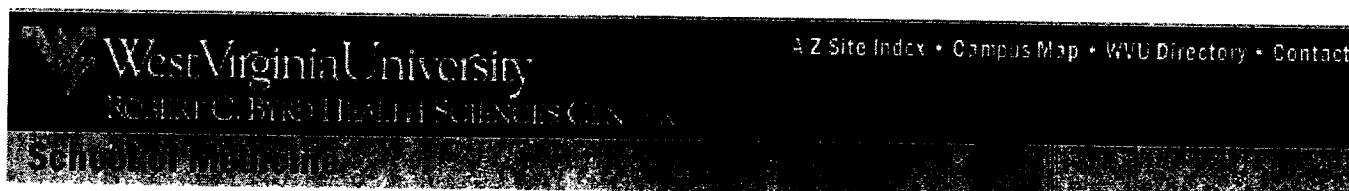
The original study was supported by the International Epidemiology Institute (IEI), which received a funding grant from the 3M Company. The 3M Company has no control over the design, data analysis and interpretation or writing of this study. J.K.M. and L.L. were employed by IEI. J.O. and C.F. independently work at the University of California, Los Angeles and have no competing financial interest.

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C8 Health Project Results

C8 and Other Clinical Conditions and Diagnoses

The WVU website is a communication vehicle to depict associations or their public use. These tables and graphs show many comparisons between diag reported and / or validated) and corresponding population serum PFOA (C8) lev appears that there is a clear relationship between serum C8 and a clinical di meaning of that relationship still requires thought and discussion. Some of the r while real, are weak and not likely to be important. Several are strong, inte potentially important, and none of them can be taken to show an etiologic (cause relationship or its absence without more work. When it comes to causes, scienti these preliminary data with deference to additional work that needs to be done.

These data concerning associations are for public use. They will receive collaborative work in peer review format. We hope they prompt public c suggestions of interested scientists.

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Congenital Malformations, Deformations and Chromosomal Abnormal Defects)

-

Diseases of the Blood and Blood-Forming Organs and Certain Disorders In Immune Mechanism

-

Diseases of the Circulatory System

- [Self-Reported Raynaud's Syndrome](#) (44 KB)

Diseases of the Digestive System

-

Diseases of the Genitourinary System

- [Self-Reported Endometriosis](#) (40 KB)
- [Self-Reported Kidney Disease](#) (59 KB)
- [Self-Reported Uterine Fibroids](#) (40 KB)

Diseases of the Musculoskeletal System and Connective Tissue

- [Self-Reported Osteoarthritis](#) (58 KB)

Diseases of the Respiratory System

-

Diseases of the Skin and Subcutaneous Tissue

-

Diseases of the Nervous System

- [Self-Reported Parkinson's Disease](#) (35 KB)

Endocrine, Nutritional and Metabolic Diseases

- [Self-Reported Thyroid Disease](#) (74 KB)

Infectious Diseases

-

Mental and Behavioral Disorders

-

Neoplasms (Cancer)

-

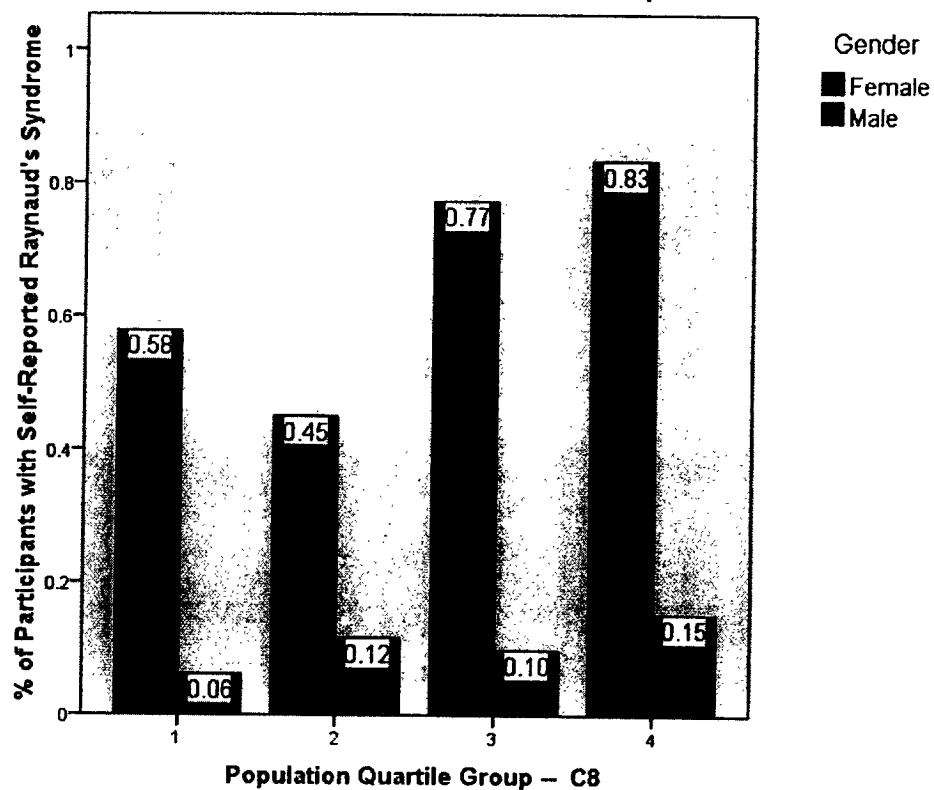
Self-Reported Raynaud's Syndrome and C8/PFOA

Adults (>=18YO) Only

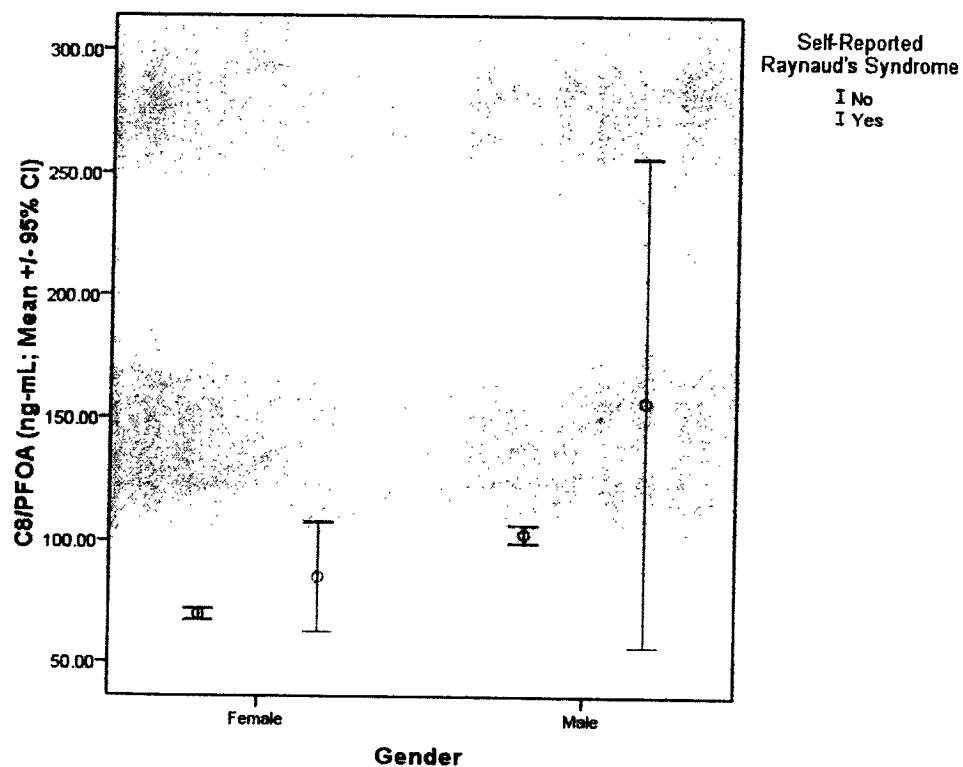
NOTE: All results reported here are based on information as reported by participants and were not independently verified. The association between self-reported Raynaud's Syndrome and C8/PFOA is unadjusted for any potential confounders or covariates. Caution in interpretation is warranted.

				Self-Reported Raynaud's Syndrome		
				No/No Response	Yes	Total
Female	Quartile Group -- C8	1	Count	9119	53	9172
			% within Quartile Group -- C8	99.4%	.6%	100.0%
			% within Self-Reported Raynaud's Syndrome	31.1%	27.9%	31.1%
		2	Count	7289	33	7322
			% within Quartile Group -- C8	99.5%	.5%	100.0%
			% within Self-Reported Raynaud's Syndrome	24.9%	17.4%	24.8%
		3	Count	6680	52	6732
			% within Quartile Group -- C8	99.2%	.8%	100.0%
			% within Self-Reported Raynaud's Syndrome	22.8%	27.4%	22.8%
		4	Count	6190	52	6242
			% within Quartile Group -- C8	99.2%	.8%	100.0%
			% within Self-Reported Raynaud's Syndrome	21.1%	27.4%	21.2%
		Total	Count	29278	190	29468
			% within Quartile Group -- C8	99.4%	.6%	100.0%
			% within Self-Reported Raynaud's Syndrome	100.0%	100.0%	100.0%
Male	Quartile Group -- C8	1	Count	4839	3	4842
			% within Quartile Group -- C8	99.9%	.1%	100.0%
			% within Self-Reported Raynaud's Syndrome	18.1%	10.0%	18.1%
		2	Count	6853	8	6861
			% within Quartile Group -- C8	99.9%	.1%	100.0%
			% within Self-Reported Raynaud's Syndrome	25.7%	26.7%	25.7%
		3	Count	7121	7	7128
			% within Quartile Group -- C8	99.9%	.1%	100.0%
			% within Self-Reported Raynaud's Syndrome	26.7%	23.3%	26.7%
		4	Count	7864	12	7876
			% within Quartile Group -- C8	99.8%	.2%	100.0%
			% within Self-Reported Raynaud's Syndrome	29.5%	40.0%	29.5%
		Total	Count	26677	30	26707
			% within Quartile Group -- C8	99.9%	.1%	100.0%
			% within Self-Reported Raynaud's Syndrome	100.0%	100.0%	100.0%

Participants with Self-Reported Raynaud's Syndrome within C8/PFOA Population Quartile Group



C8/PFOA for Participants Stratified by Self-Reported Raynaud's Syndrome



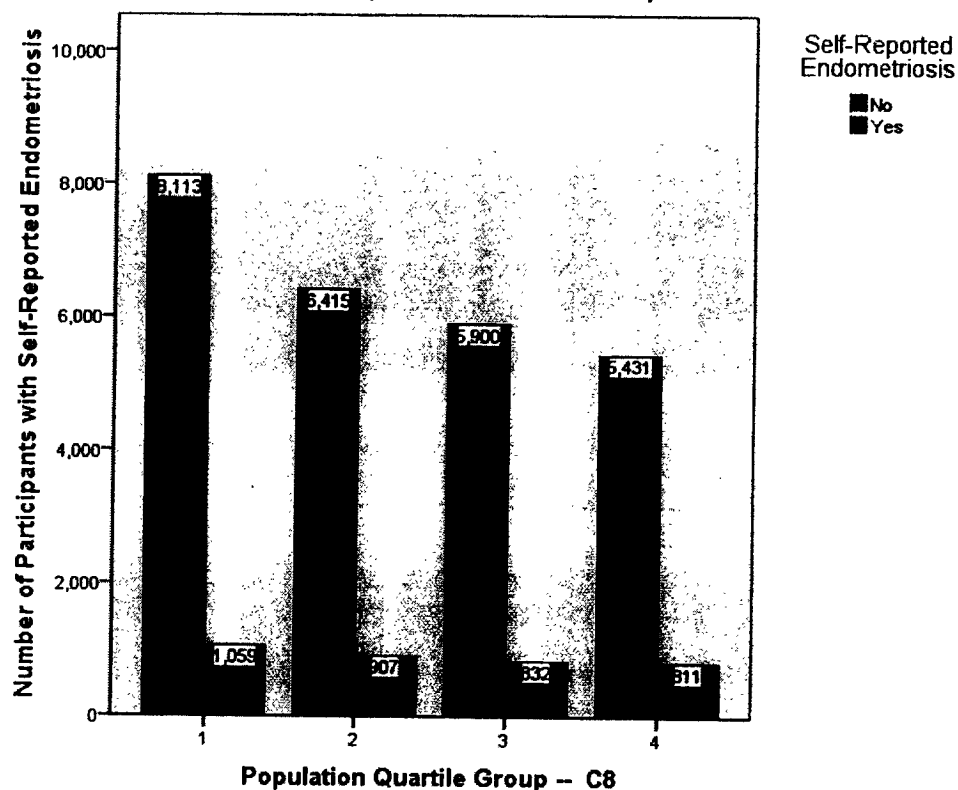
Self-Reported Endometriosis and C8/PFOA

Adult (>=18YO) Women Only

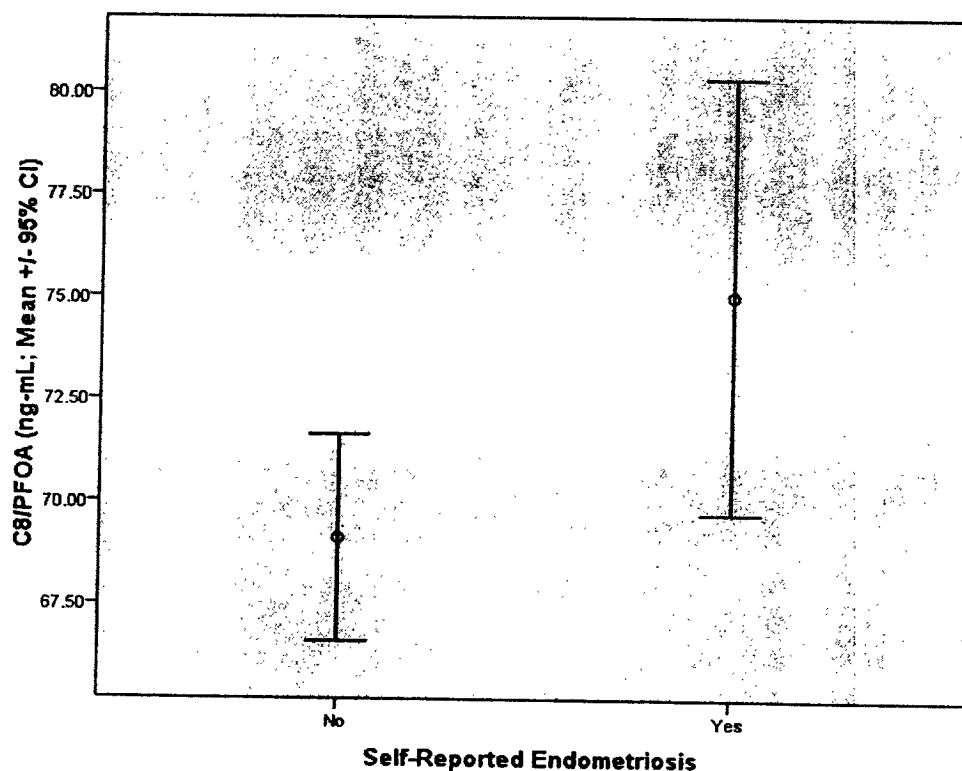
NOTE: All results reported here are based on information as reported by participants and were not independently verified. The association between self-reported endometriosis and C8/PFOA is unadjusted for any potential confounders or covariates. Caution in interpretation is warranted.

				Self-Reported Endometriosis		
				No/No Response	Yes	Total
Female Quartile Group -- C8	1	Count		8113	1059	9172
		% within Quartile Group -- C8		88.5%	11.5%	100.0%
		% within Self-Reported Endometriosis		31.4%	29.3%	31.1%
	2	Count		6415	907	7322
		% within Quartile Group -- C8		87.6%	12.4%	100.0%
		% within Self-Reported Endometriosis		24.8%	25.1%	24.8%
	3	Count		5900	832	6732
		% within Quartile Group -- C8		87.6%	12.4%	100.0%
		% within Self-Reported Endometriosis		22.8%	23.1%	22.8%
	4	Count		5431	811	6242
		% within Quartile Group -- C8		87.0%	13.0%	100.0%
		% within Self-Reported Endometriosis		21.0%	22.5%	21.2%
	Total	Count		25859	3609	29468
		% within Quartile Group -- C8		87.8%	12.2%	100.0%
		% within Self-Reported Endometriosis		100.0%	100.0%	100.0%

Number of Participants with Self-Reported Endometriosis within C8/PFOA Population Quartile Group



C8/PFOA for Participants Stratified by Self-Reported Endometriosis



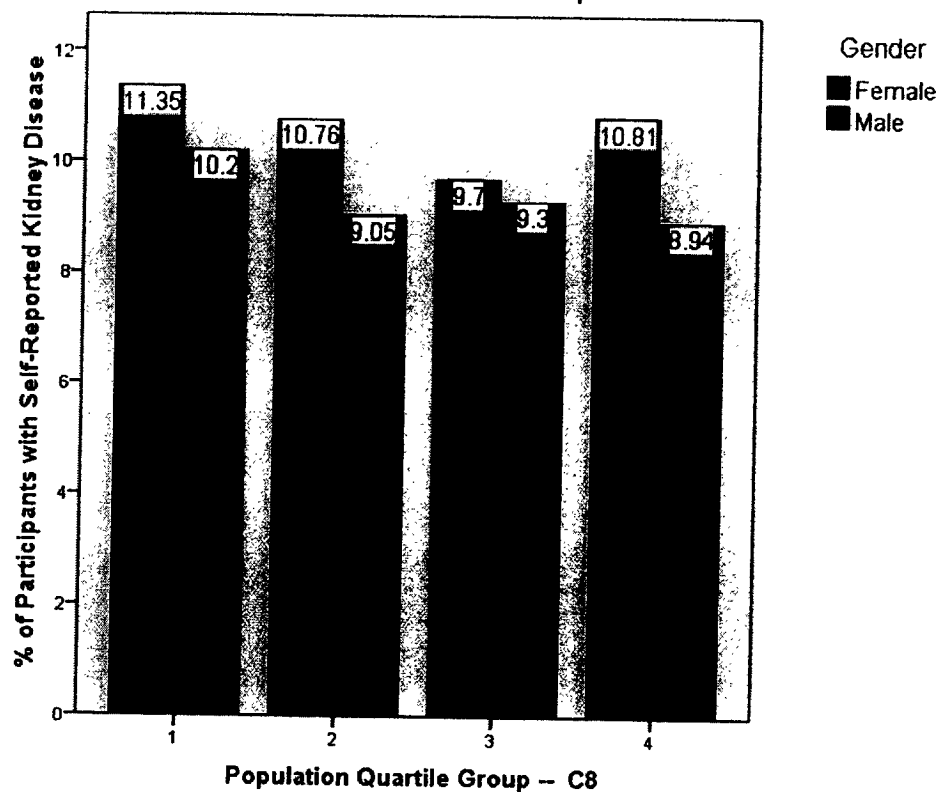
Self-Reported Kidney Disease and C8/PFOA

Adults (>=18YO) Only

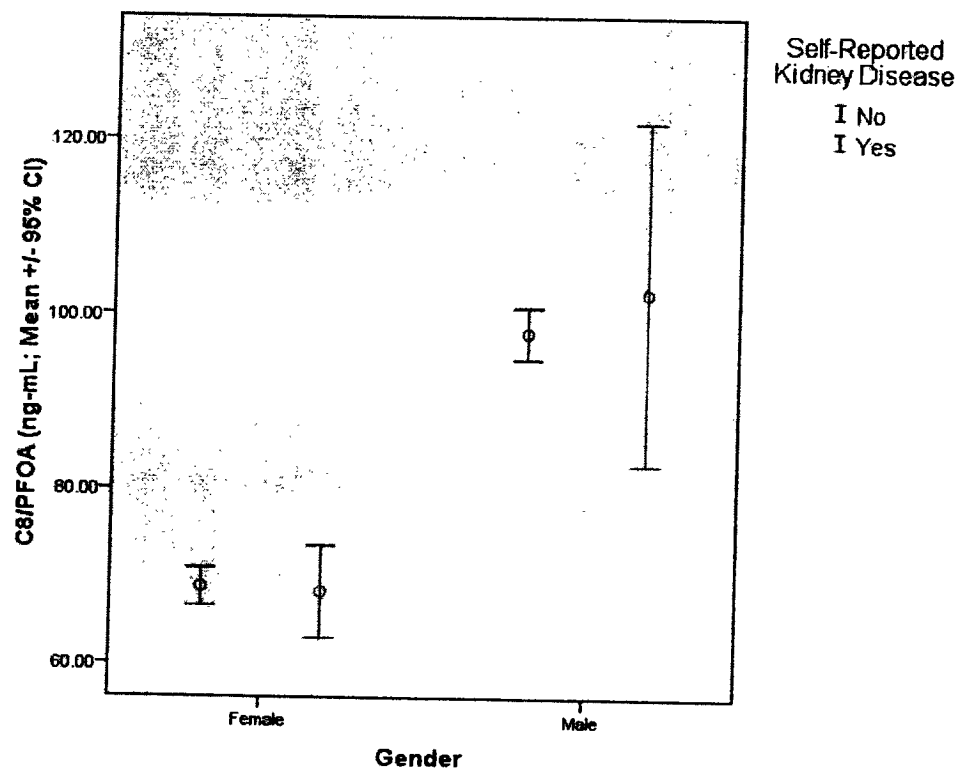
NOTE: All results reported here are based on information as reported by participants and were not independently verified. The association between self-reported kidney disease and C8/PFOA is unadjusted for any potential confounders or covariates. Caution in interpretation is warranted.

				Self-Reported Kidney Disease		
				No/No Response	Yes	Total
Female	Quartile Group – C8	1	Count	8131	1041	9172
			% within Quartile Group – C8	88.7%	11.3%	100.0%
			% within Self-Reported Kidney Disease	30.9%	33.0%	31.1%
		2	Count	6534	788	7322
			% within Quartile Group – C8	89.2%	10.8%	100.0%
			% within Self-Reported Kidney Disease	24.8%	25.0%	24.8%
		3	Count	6079	653	6732
			% within Quartile Group – C8	90.3%	9.7%	100.0%
			% within Self-Reported Kidney Disease	23.1%	20.7%	22.8%
		4	Count	5567	675	6242
			% within Quartile Group – C8	89.2%	10.8%	100.0%
			% within Self-Reported Kidney Disease	21.2%	21.4%	21.2%
		Total	Count	26311	3157	29468
			% within Quartile Group – C8	89.3%	10.7%	100.0%
			% within Self-Reported Kidney Disease	100.0%	100.0%	100.0%
Male	Quartile Group – C8	1	Count	4348	494	4842
			% within Quartile Group – C8	89.8%	10.2%	100.0%
			% within Self-Reported Kidney Disease	17.9%	19.9%	18.1%
		2	Count	6240	621	6861
			% within Quartile Group – C8	90.9%	9.1%	100.0%
			% within Self-Reported Kidney Disease	25.8%	25.0%	25.7%
		3	Count	6465	663	7128
			% within Quartile Group – C8	90.7%	9.3%	100.0%
			% within Self-Reported Kidney Disease	26.7%	26.7%	26.7%
		4	Count	7172	704	7876
			% within Quartile Group – C8	91.1%	8.9%	100.0%
			% within Self-Reported Kidney Disease	29.6%	28.4%	29.5%
		Total	Count	24225	2482	26707
			% within Quartile Group – C8	90.7%	9.3%	100.0%
			% within Self-Reported Kidney Disease	100.0%	100.0%	100.0%

Participants with Self-Reported Kidney Disease within C8/PFOA Population Quartile Group



C8/PFOA for Participants Stratified by Self-Reported Kidney Disease



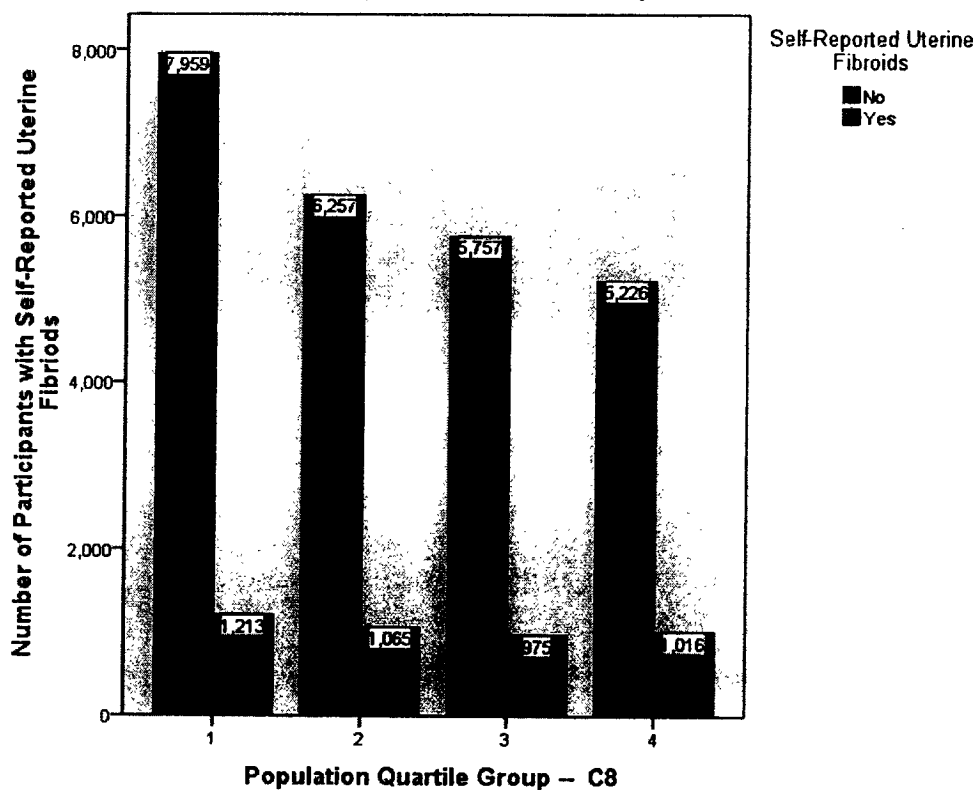
Self-Reported Uterine Fibroids and C8/PFOA

Adult (>=18YO) Women Only

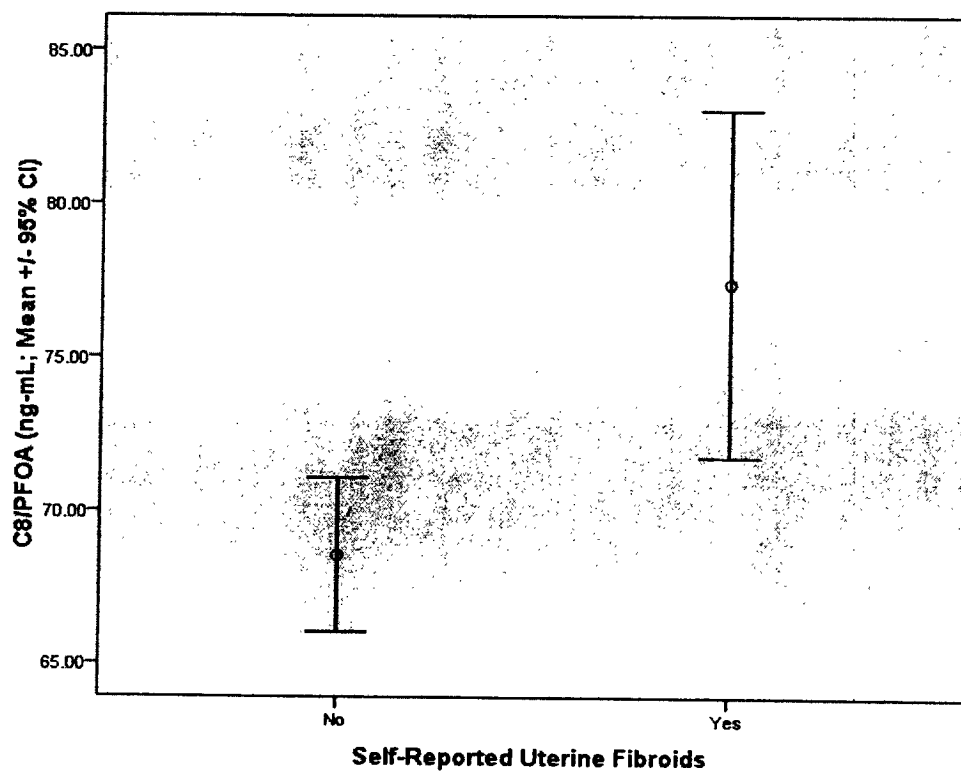
NOTE: All results reported here are based on information as reported by participants and were not independently verified. The association between self-reported uterine fibroids and C8/PFOA is unadjusted for any potential confounders or covariates. Caution in interpretation is warranted.

				Self-Reported Uterine Fibriods		
				No/No Response	Yes	Total
Female	Quartile Group -- C8	1	Count	7959	1213	9172
			% within Quartile Group – C8	86.8%	13.2%	100.0%
			% within Self-Reported Uterine Fibriods	31.6%	28.4%	31.1%
		2	Count	6257	1065	7322
			% within Quartile Group – C8	85.5%	14.5%	100.0%
			% within Self-Reported Uterine Fibriods	24.8%	24.9%	24.8%
		3	Count	5757	975	6732
			% within Quartile Group – C8	85.5%	14.5%	100.0%
			% within Self-Reported Uterine Fibriods	22.8%	22.8%	22.8%
		4	Count	5226	1016	6242
			% within Quartile Group – C8	83.7%	16.3%	100.0%
			% within Self-Reported Uterine Fibriods	20.7%	23.8%	21.2%
Total	Count	25199	4269	29468		
	% within Quartile Group – C8	85.5%	14.5%	100.0%		
	% within Self-Reported Uterine Fibriods	100.0%	100.0%	100.0%		

Number of Participants with Self-Reported Uterine Fibroids within C8/PFOA Population Quartile Group



C8/PFOA for Participants with Self-Reported Uterine Fibroids



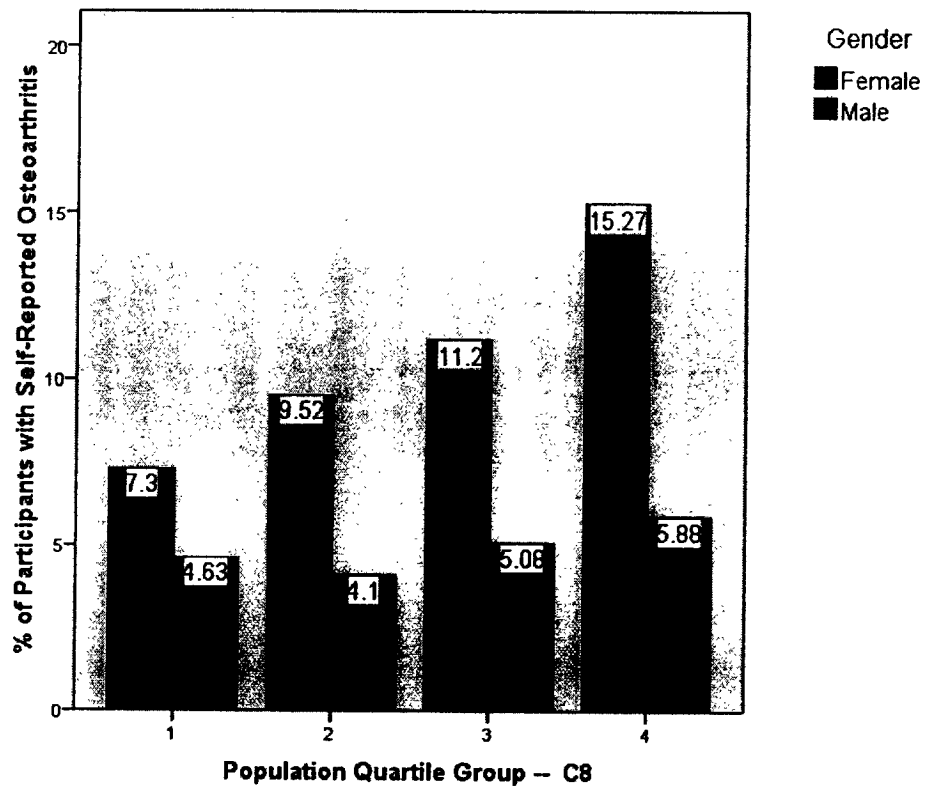
Self-Reported Osteoarthritis and C8/PFOA

Adults (>=18YO) Only

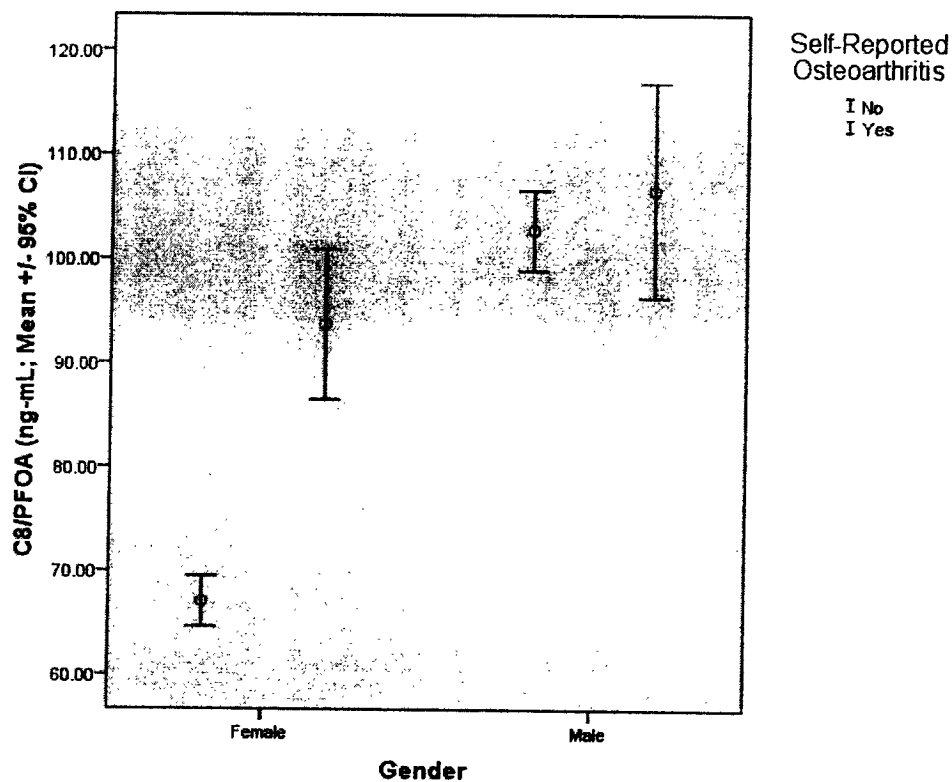
NOTE: All results reported here are based on information as reported by participants and were not independently verified. The association between self-reported osteoarthritis and C8/PFOA is unadjusted for any potential confounders or covariates. Caution in interpretation is warranted.

				Self-Reported Osteoarthritis		
				No/No Response	Yes	Total
Female	Quartile Group – C8	1	Count	8502	670	9172
			% within Quartile Group – C8	92.7%	7.3%	100.0%
			% within Self-Reported Osteoarthritis	32.2%	21.8%	31.1%
		2	Count	6625	697	7322
			% within Quartile Group – C8	90.5%	9.5%	100.0%
			% within Self-Reported Osteoarthritis	25.1%	22.7%	24.8%
		3	Count	5978	754	6732
			% within Quartile Group – C8	88.8%	11.2%	100.0%
			% within Self-Reported Osteoarthritis	22.6%	24.5%	22.8%
		4	Count	5289	953	6242
			% within Quartile Group – C8	84.7%	15.3%	100.0%
			% within Self-Reported Osteoarthritis	20.0%	31.0%	21.2%
		Total	Count	26394	3074	29468
			% within Quartile Group – C8	89.6%	10.4%	100.0%
			% within Self-Reported Osteoarthritis	100.0%	100.0%	100.0%
Male	Quartile Group – C8	1	Count	4618	224	4842
			% within Quartile Group – C8	95.4%	4.6%	100.0%
			% within Self-Reported Osteoarthritis	18.2%	16.8%	18.1%
		2	Count	6580	281	6861
			% within Quartile Group – C8	95.9%	4.1%	100.0%
			% within Self-Reported Osteoarthritis	25.9%	21.1%	25.7%
		3	Count	6766	362	7128
			% within Quartile Group – C8	94.9%	5.1%	100.0%
			% within Self-Reported Osteoarthritis	26.7%	27.2%	26.7%
		4	Count	7413	463	7876
			% within Quartile Group – C8	94.1%	5.9%	100.0%
			% within Self-Reported Osteoarthritis	29.2%	34.8%	29.5%
		Total	Count	25377	1330	26707
			% within Quartile Group – C8	95.0%	5.0%	100.0%
			% within Self-Reported Osteoarthritis	100.0%	100.0%	100.0%

Participants with Self-Reported Osteoarthritis within C8/PFOA Population Quartile Group



C8/PFOA for Participants Stratified by Self-Reported Osteoarthritis



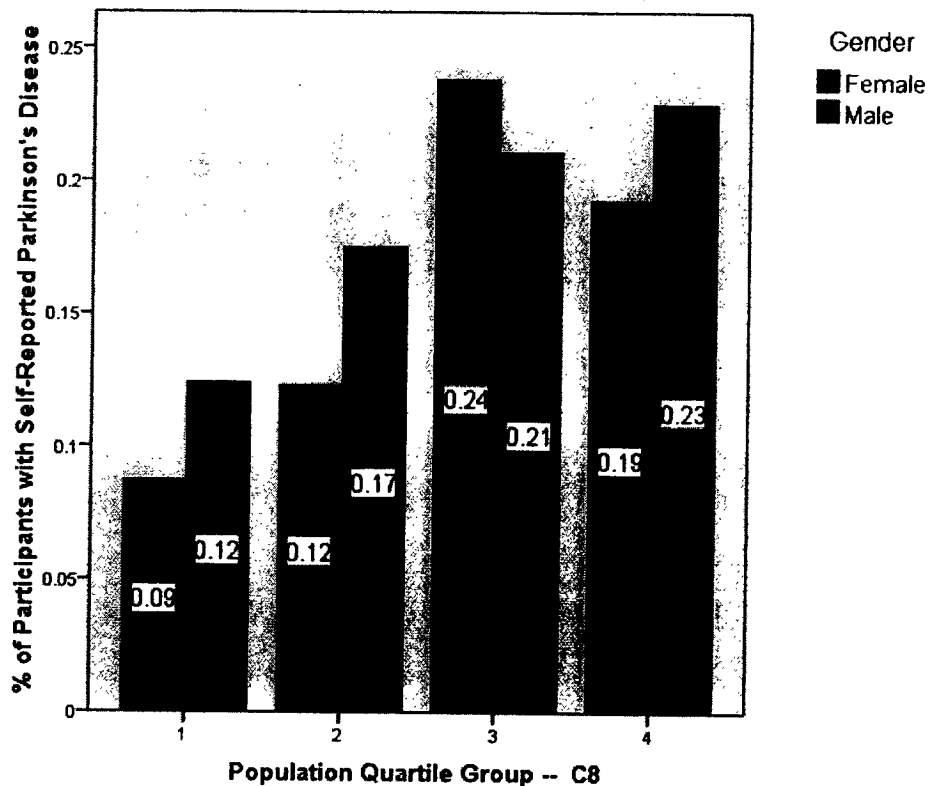
Self-Reported Parkinson's and C8/PFOA

Adults (>=18YO) Only

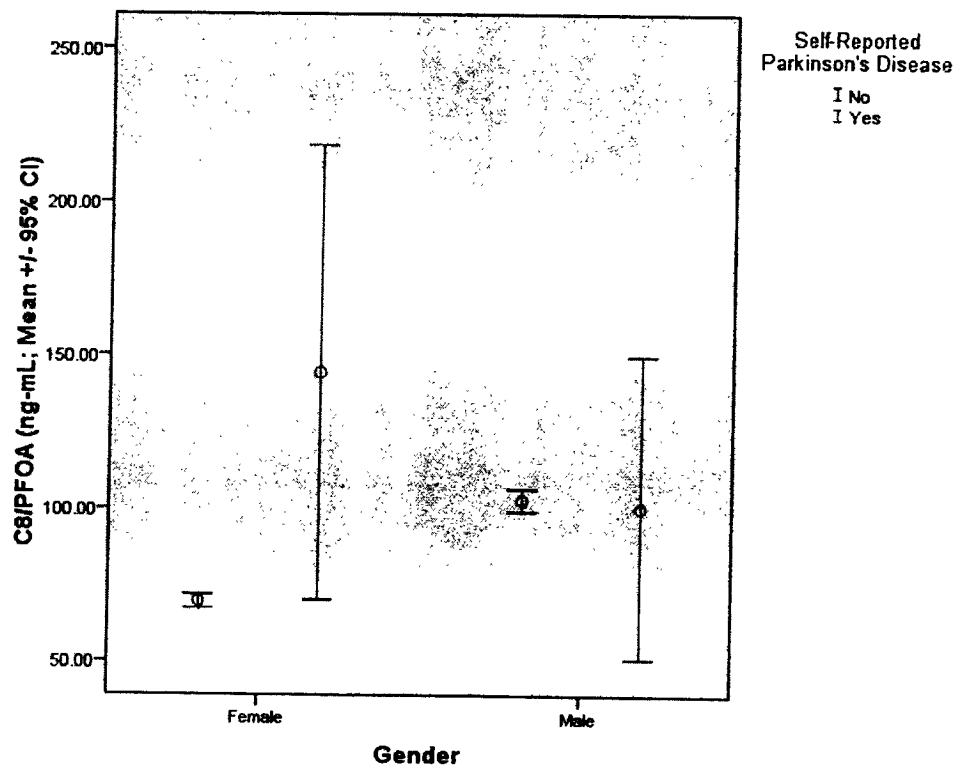
NOTE: All results reported here are based on information as reported by participants and were not independently verified. The association between self-reported Parkinson's and C8/PFOA is unadjusted for any potential confounders or covariates. Caution in interpretation is warranted.

				Self-Reported Parkinson's Disease		
				No/No Response	Yes	Total
Female	Quartile Group -- C8	1	Count	9164	8	9172
			% within Quartile Group -- C8	99.9%	.1%	100.0%
			% within Self-Reported Parkinson's Disease	31.1%	17.8%	31.1%
		2	Count	7313	9	7322
			% within Quartile Group -- C8	99.9%	.1%	100.0%
			% within Self-Reported Parkinson's Disease	24.9%	20.0%	24.8%
		3	Count	6716	16	6732
			% within Quartile Group -- C8	99.8%	.2%	100.0%
			% within Self-Reported Parkinson's Disease	22.8%	35.6%	22.8%
		4	Count	6230	12	6242
			% within Quartile Group -- C8	99.8%	.2%	100.0%
			% within Self-Reported Parkinson's Disease	21.2%	26.7%	21.2%
		Total	Count	29423	45	29468
			% within Quartile Group -- C8	99.8%	.2%	100.0%
			% within Self-Reported Parkinson's Disease	100.0%	100.0%	100.0%
Male	Quartile Group -- C8	1	Count	4836	6	4842
			% within Quartile Group -- C8	99.9%	.1%	100.0%
			% within Self-Reported Parkinson's Disease	18.1%	11.8%	18.1%
		2	Count	6849	12	6861
			% within Quartile Group -- C8	99.8%	.2%	100.0%
			% within Self-Reported Parkinson's Disease	25.7%	23.5%	25.7%
		3	Count	7113	15	7128
			% within Quartile Group -- C8	99.8%	.2%	100.0%
			% within Self-Reported Parkinson's Disease	26.7%	29.4%	26.7%
		4	Count	7858	18	7876
			% within Quartile Group -- C8	99.8%	.2%	100.0%
			% within Self-Reported Parkinson's Disease	29.5%	35.3%	29.5%
		Total	Count	26656	51	26707
			% within Quartile Group -- C8	99.8%	.2%	100.0%
			% within Self-Reported Parkinson's Disease	100.0%	100.0%	100.0%

Participants with Self-Reported Parkinson's Disease within C8/PFOA Population Quartile Group



C8/PFOA for Participants Stratified by Self-Reported Parkinson's Disease



Self-Reported Thyroid Disease and C8/PFOA

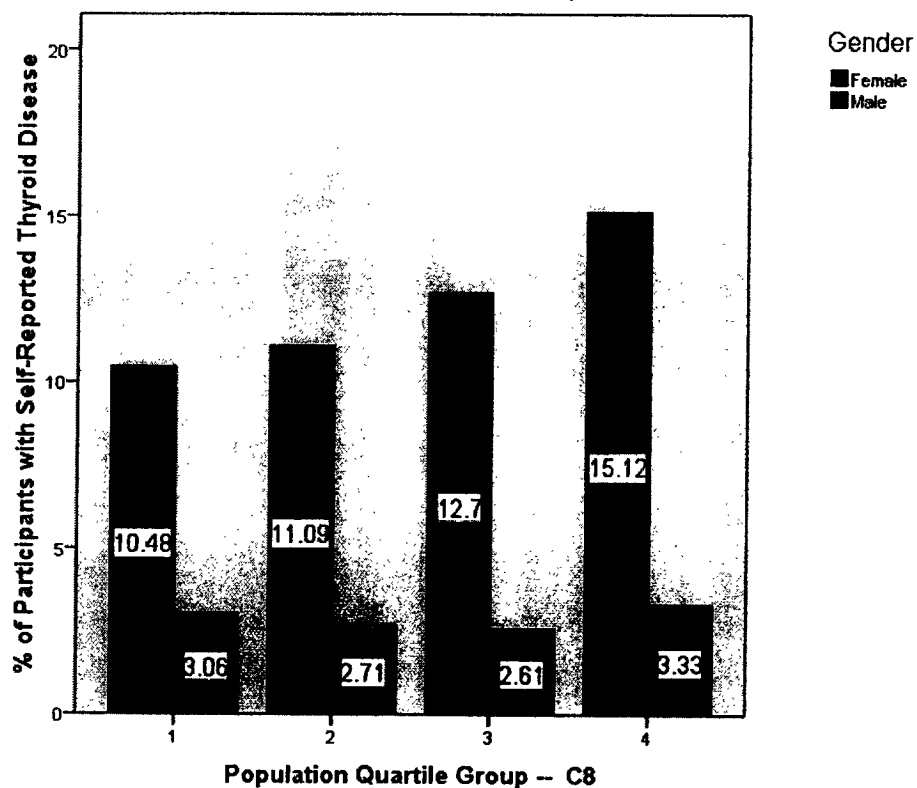
Adults (>=18YO) Only

NOTE: All results reported here are based on information as reported by participants and were not independently verified. The association between self-reported thyroid disease and C8/PFOA is unadjusted for any potential confounders or covariates. Caution in interpretation is warranted.

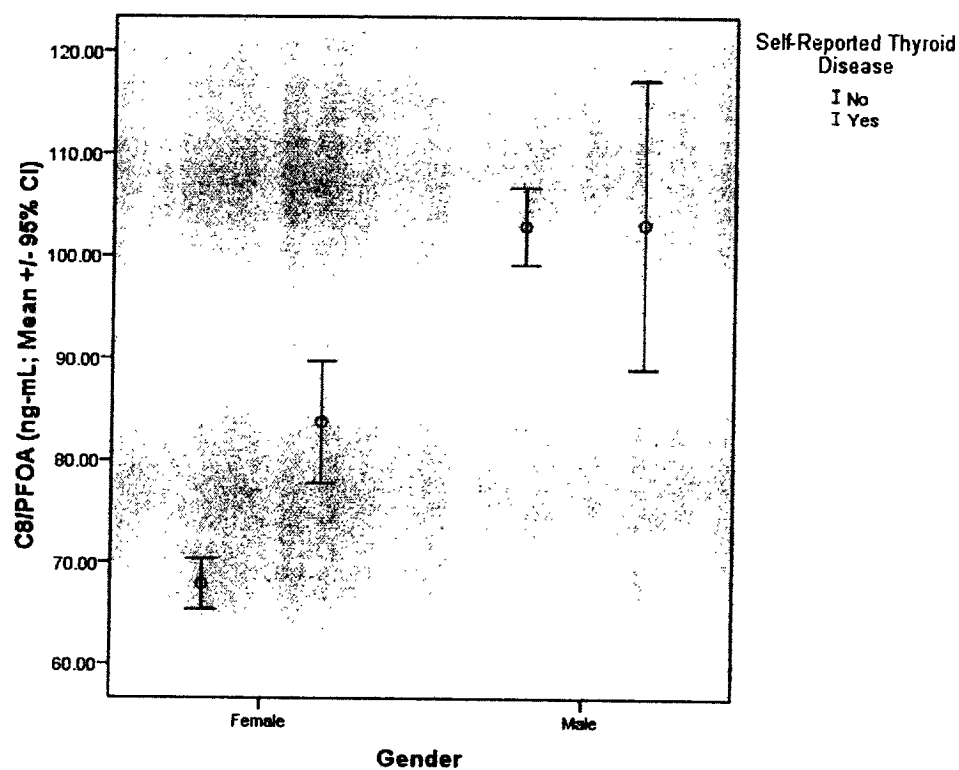
				Self-Reported Thyroid Disease		
				No/No Response	Yes	Total
Female	Quartile Group -- C8	1	Count	8211	961	9172
			% within Quartile Group -- C8	89.5%	10.5%	100.0%
			% within Self-Reported Thyroid Disease	31.7%	26.9%	31.1%
		2	Count	6510	812	7322
			% within Quartile Group -- C8	88.9%	11.1%	100.0%
			% within Self-Reported Thyroid Disease	25.1%	22.7%	24.8%
		3	Count	5877	855	6732
			% within Quartile Group -- C8	87.3%	12.7%	100.0%
			% within Self-Reported Thyroid Disease	22.7%	23.9%	22.8%
		4	Count	5298	944	6242
			% within Quartile Group -- C8	84.9%	15.1%	100.0%
			% within Self-Reported Thyroid Disease	20.5%	26.4%	21.2%
Male	Quartile Group -- C8	1	Total Count	25896	3572	29468
			% within Quartile Group -- C8	87.9%	12.1%	100.0%
			% within Self-Reported Thyroid Disease	100.0%	100.0%	100.0%
		2	Count	4694	148	4842
			% within Quartile Group -- C8	96.9%	3.1%	100.0%
			% within Self-Reported Thyroid Disease	18.1%	18.9%	18.1%
		3	Count	6675	186	6861
			% within Quartile Group -- C8	97.3%	2.7%	100.0%
			% within Self-Reported Thyroid Disease	25.7%	23.8%	25.7%
		4	Count	6942	186	7128
			% within Quartile Group -- C8	97.4%	2.6%	100.0%
			% within Self-Reported Thyroid Disease	26.8%	23.8%	26.7%
	Total	4	Count	7614	262	7876
			% within Quartile Group -- C8	96.7%	3.3%	100.0%
			% within Self-Reported Thyroid Disease	29.4%	33.5%	29.5%
		Total	Count	25925	782	26707
			% within Quartile Group -- C8	97.1%	2.9%	100.0%
			% within Self-Reported Thyroid Disease	100.0%	100.0%	100.0%

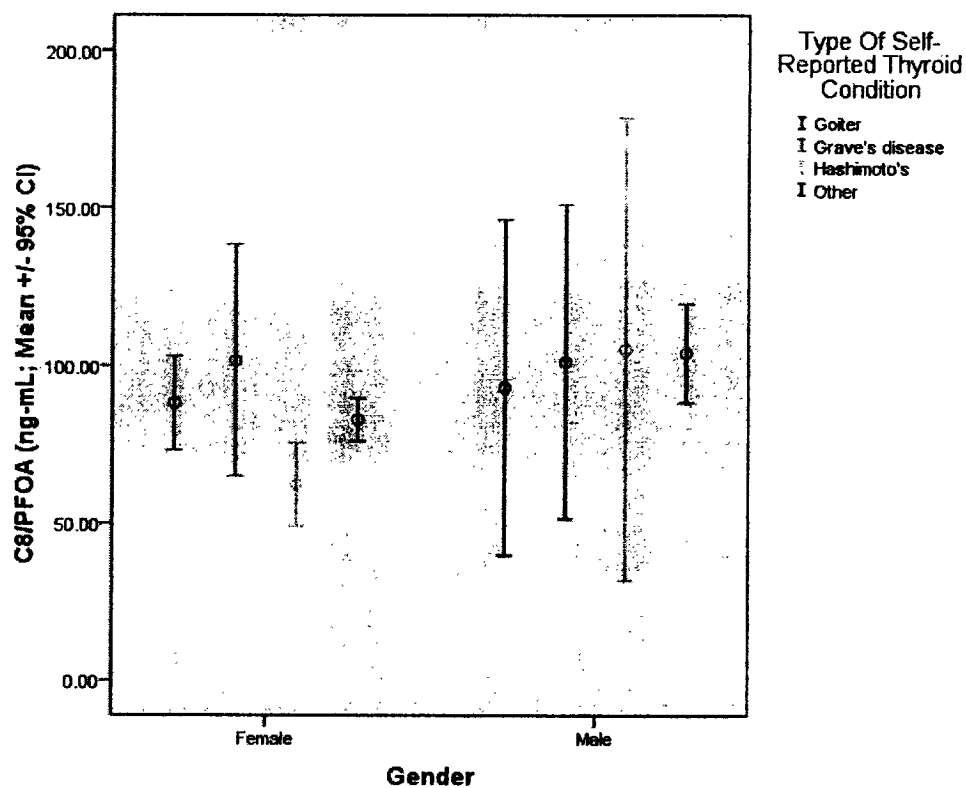
				Type Of Self-Reported Thyroid Condition				
				Goiter	Grave's disease	Hashimoto's	Other	Total
Female	Quartile Group -- C8	1	Count	135	59	53	714	961
			% within Quartile Group -- C8	14.0%	6.1%	5.5%	74.3%	100.0%
			% within Type Of Self-Reported Thyroid Condition	23.9%	27.4%	29.1%	27.4%	26.9%
		2	Count	136	45	51	580	812
			% within Quartile Group -- C8	16.7%	5.5%	6.3%	71.4%	100.0%
			% within Type Of Self-Reported Thyroid Condition	24.0%	20.9%	28.0%	22.2%	22.7%
		3	Count	144	48	30	633	855
			% within Quartile Group -- C8	16.8%	5.6%	3.5%	74.0%	100.0%
			% within Type Of Self-Reported Thyroid Condition	25.4%	22.3%	16.5%	24.3%	23.9%
		4	Count	151	63	48	682	944
			% within Quartile Group -- C8	16.0%	6.7%	5.1%	72.2%	100.0%
			% within Type Of Self-Reported Thyroid Condition	26.7%	29.3%	26.4%	26.1%	26.4%
Male	Quartile Group -- C8	1	Total Count	566	215	182	2609	3572
			% within Quartile Group -- C8	15.8%	6.0%	5.1%	73.0%	100.0%
			% within Type Of Self-Reported Thyroid Condition	100.0%	100.0%	100.0%	100.0%	100.0%
		2	Count	11	8	3	126	148
			% within Quartile Group -- C8	7.4%	5.4%	2.0%	85.1%	100.0%
			% within Type Of Self-Reported Thyroid Condition	20.4%	21.6%	12.0%	18.9%	18.9%
		3	Count	17	5	10	154	186
			% within Quartile Group -- C8	9.1%	2.7%	5.4%	82.8%	100.0%
			% within Type Of Self-Reported Thyroid Condition	31.5%	13.5%	40.0%	23.1%	23.8%
		4	Count	13	8	4	161	186
			% within Quartile Group -- C8	7.0%	4.3%	2.2%	86.6%	100.0%
			% within Type Of Self-Reported Thyroid Condition	24.1%	21.6%	16.0%	24.2%	23.8%
	Total	4	Count	13	16	8	225	262
			% within Quartile Group -- C8	5.0%	6.1%	3.1%	85.9%	100.0%
			% within Type Of Self-Reported Thyroid Condition	24.1%	43.2%	32.0%	33.8%	33.5%
		Total	Count	54	37	25	666	782
			% within Quartile Group -- C8	6.9%	4.7%	3.2%	85.2%	100.0%
			% within Type Of Self-Reported Thyroid Condition	100.0%	100.0%	100.0%	100.0%	100.0%

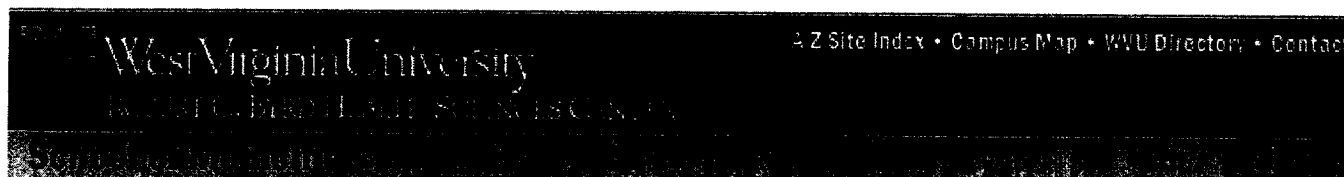
Participants with Self-Reported Thyroid Disease within C8/PFOA Population Quartile Group



C8/PFOA for Participants Stratified Self-Reported Thyroid Disease



C8/PFOA for Participants Stratified by Type of Self-Reported Thyroid Disease

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C8 Health Project Results

C8 and Other Laboratory Values

The WVU website is a communication vehicle to depict associations or their public use. These tables and graphs show many comparisons between lab corresponding population serum PFOA (C8) levels. When it appears that their relationship between serum C8 and a clinical laboratory value, the near relationship still requires thought and discussion. Some of the relationships, weak and not likely to be important. Several are strong, interesting and potential and none of them can be taken to show an etiologic (cause and effect) relationship without more work. When it comes to causes, scientists interpret these data with deference to additional work that needs to be done.

These data concerning associations are for public use. They will receive collaborative work in peer review format. We hope they prompt public suggestions of interested scientists.

The results summarized on this page include differences in C8 values based on abnormal clinical laboratory results (normal / abnormal laboratory cutoff values; referenced on each graph), and for differences on clinical laboratory values by deciles. The files below present the summaries for C8 deciles in a graphical format (results in tabular format, please [click here](#). For a summary of C8 decile cutoffs, [here](#)).

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Other Laboratory Values

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Alpha-Fetoprotein Tumor Marker (Serum)

- [Description of AFP \(39 KB\)](#)
- [Serum C8 By AFP for Participants 1-2 Years of Age \(24 KB\)](#)
- [Serum C8 By AFP for Participants >= 3 Years of Age \(24 KB\)](#)
- [C8 Population Deciles & Alpha-Fetoprotein Tumor Marker \(35 KB\)](#)

Albumin (Serum)

- [Description of Albumin \(37 KB\)](#)
- [Serum C8 By Albumin \(Serum\) Levels In Participants <18 Years Of Age \(24 KB\)](#)
- [Serum C8 By Albumin \(Serum\) Levels In Participants >=18 Years Of Age \(24 KB\)](#)
- [C8 Population Deciles & Albumin \(37 KB\)](#)

Alkaline Phosphatase (Serum)

- [Description of Alkaline Phosphatase \(40 KB\)](#)
- [Serum C8 By Alkaline Phosphatase Levels in Participants 1-3 Years of Age \(24 KB\)](#)
- [Serum C8 By Alkaline Phosphatase Levels in Participants 4-6 Years of Age \(24 KB\)](#)
- [Serum C8 By Alkaline Phosphatase Levels in Participants 7-9 Years of Age \(24 KB\)](#)

Girls (Female, <18YO)

Population Decile Group -- C8 (PFOA)			Baso (Absolute) (x10e3-uL)	Basos (%)	Bilirubin, Direct (mg-dL)	Bilirubin, Total (mg-dL)	BUN (mg-dL)	BUN-Creatinine Ratio (Final Recoded Value)	Calcium, Serum (mg-dL)	Cancer Antigen (CA-125) (U-mL)
1	Mean	0.02	0.23	0.10	0.35	11.77	18.76	10.03	16.59	
	Median	0.00	0.00	0.09	0.30	11.00	17.00	10.00	15.00	
	Std. Deviation	0.04	0.43	0.05	0.22	3.15	7.20	0.36	8.41	
2	Mean	0.02	0.25	0.11	0.40	12.02	19.09	10.03	16.84	
	Median	0.00	0.00	0.09	0.30	12.00	18.00	10.00	15.10	
	Std. Deviation	0.04	0.43	0.06	0.31	3.26	7.34	0.36	8.17	
3	Mean	0.02	0.23	0.10	0.35	12.05	19.62	10.04	16.45	
	Median	0.00	0.00	0.09	0.30	12.00	18.00	10.10	15.10	
	Std. Deviation	0.04	0.42	0.05	0.21	3.14	7.65	0.36	8.95	
4	Mean	0.02	0.27	0.10	0.36	12.01	19.55	10.06	16.47	
	Median	0.00	0.00	0.09	0.30	12.00	18.00	10.00	14.60	
	Std. Deviation	0.04	0.44	0.05	0.24	3.12	7.44	0.35	9.24	
5	Mean	0.02	0.27	0.10	0.36	11.94	19.73	10.05	17.08	
	Median	0.00	0.00	0.09	0.30	12.00	18.00	10.10	14.30	
	Std. Deviation	0.04	0.45	0.05	0.22	3.28	8.00	0.35	19.67	
6	Mean	0.03	0.29	0.10	0.35	12.23	20.28	10.08	16.91	
	Median	0.00	0.00	0.09	0.30	12.00	19.00	10.10	15.00	
	Std. Deviation	0.04	0.45	0.05	0.24	3.02	7.66	0.37	8.78	
7	Mean	0.03	0.30	0.10	0.36	12.44	20.47	10.09	16.57	
	Median	0.00	0.00	0.09	0.30	12.00	19.00	10.10	15.00	
	Std. Deviation	0.05	0.47	0.05	0.23	3.49	8.43	0.35	7.71	
8	Mean	0.02	0.26	0.10	0.36	12.57	21.34	10.10	15.59	
	Median	0.00	0.00	0.08	0.30	12.00	20.00	10.10	14.65	
	Std. Deviation	0.04	0.44	0.05	0.25	3.36	8.36	0.34	6.39	
9	Mean	0.03	0.29	0.10	0.38	12.26	20.79	10.10	16.23	
	Median	0.00	0.00	0.09	0.30	12.00	19.00	10.10	14.50	
	Std. Deviation	0.05	0.46	0.06	0.27	3.00	8.14	0.36	8.03	
10	Mean	0.03	0.28	0.10	0.37	12.33	20.62	10.13	16.95	
	Median	0.00	0.00	0.09	0.30	12.00	19.00	10.10	15.00	
	Std. Deviation	0.04	0.46	0.05	0.25	3.11	7.84	0.33	10.45	
Total	Mean	0.02	0.27	0.10	0.36	12.15	19.96	10.07	16.58	
	Median	0.00	0.00	0.09	0.30	12.00	18.00	10.10	14.90	
	Std. Deviation	0.04	0.45	0.05	0.25	3.20	7.82	0.35	10.09	

Girls (Female, <18YO)

Population Decile Group -- C8 (PFOA)	CEA (ng-mL)	Chloride, Serum (mmol-L)	Cholesterol, Total (mg-dL)	Cortisol (ug-dL)	C-Reactive Protein, Quant (mg-L)	Creatinine, Serum (mg-dL)	Eos (%)	Eos (Absolute) (x10e3-uL)
1								
Mean	0.55	104.07	159.39	9.96	1.69	0.67	2.33	0.18
Median	0.25	104.00	156.50	8.20	0.50	0.70	2.00	0.10
Std. Deviation	0.51	1.89	29.53	5.85	4.80	0.15	2.14	0.17
2								
Mean	0.55	103.94	163.12	10.35	1.46	0.67	2.42	0.18
Median	0.25	104.00	160.00	8.60	0.50	0.70	2.00	0.10
Std. Deviation	0.47	1.95	28.67	6.34	2.60	0.14	2.23	0.17
3								
Mean	0.58	103.84	161.81	9.63	1.65	0.65	2.53	0.20
Median	0.25	104.00	159.00	8.30	0.60	0.60	2.00	0.10
Std. Deviation	0.50	1.95	28.13	5.47	3.49	0.14	3.58	0.38
4								
Mean	0.55	103.87	163.93	9.40	1.63	0.65	2.46	0.19
Median	0.25	104.00	161.00	8.00	0.40	0.70	2.00	0.10
Std. Deviation	0.41	1.85	29.77	5.39	5.52	0.14	2.50	0.20
5								
Mean	0.55	103.64	163.14	9.59	1.58	0.64	2.43	0.18
Median	0.25	104.00	160.00	8.20	0.40	0.60	2.00	0.10
Std. Deviation	0.45	1.93	28.97	5.88	7.10	0.15	2.07	0.15
6								
Mean	0.58	103.58	163.95	8.81	1.90	0.65	2.46	0.19
Median	0.25	103.00	161.00	7.60	0.50	0.60	2.00	0.10
Std. Deviation	0.49	1.98	31.61	5.25	6.26	0.15	2.43	0.19
7								
Mean	0.59	103.53	165.43	9.03	1.56	0.65	2.44	0.19
Median	0.25	104.00	161.50	7.60	0.40	0.60	2.00	0.10
Std. Deviation	0.55	1.91	31.08	6.11	4.82	0.15	2.34	0.19
8								
Mean	0.57	103.46	161.99	8.61	1.50	0.63	2.33	0.18
Median	0.25	103.50	160.00	7.40	0.40	0.60	2.00	0.10
Std. Deviation	0.47	1.90	28.54	4.86	3.79	0.15	1.98	0.17
9								
Mean	0.62	103.60	163.53	8.52	1.46	0.63	2.57	0.20
Median	0.25	103.00	160.00	7.20	0.40	0.60	2.00	0.10
Std. Deviation	0.65	1.94	27.61	5.16	4.15	0.16	2.84	0.28
10								
Mean	0.61	103.20	167.17	8.94	1.41	0.64	2.49	0.19
Median	0.25	103.00	166.00	7.40	0.40	0.60	2.00	0.10
Std. Deviation	0.56	1.97	29.34	5.19	4.35	0.15	2.24	0.18
Total								
Mean	0.57	103.69	163.23	9.33	1.59	0.65	2.44	0.19
Median	0.25	104.00	160.00	7.90	0.50	0.60	2.00	0.10
Std. Deviation	0.51	1.94	29.42	5.63	4.83	0.15	2.48	0.22

Girls (Female, <18YO)

Population Decile Group -- C8 (PFOA)	Estradiol (pg-mL)	Folates (Folic Acid), Serum (ng-mL)	Free Testosterone, Direct (pg-mL)	Free Thyroxine Index (Final Recoded Value)	GGT (IU-L)	Globulin, Total (g-dL)	Glucose, Serum (mg-dL)	HDL Cholesterol (mg-dL)
1								
Mean	201.29	21.03	0.55	2.25	12.07	2.83	89.53	50.15
Median	32.00	18.60	0.40	2.20	11.00	2.80	88.00	49.00
Std. Deviation	1414.40	9.68	0.52	0.41	7.41	0.33	19.76	10.91
2								
Mean	114.37	21.89	0.56	2.26	12.12	2.82	90.33	51.09
Median	24.00	19.30	0.40	2.20	11.00	2.80	89.00	50.00
Std. Deviation	948.63	9.87	0.58	0.40	4.94	0.36	18.79	11.76
3								
Mean	62.36	21.24	0.53	2.27	12.83	2.88	90.84	49.78
Median	22.50	18.65	0.40	2.20	11.00	2.90	89.50	49.00
Std. Deviation	307.18	9.32	0.54	0.41	6.19	0.34	18.43	11.30
4								
Mean	98.60	22.21	0.52	2.28	13.20	2.84	89.24	51.35
Median	24.00	19.30	0.30	2.30	11.00	2.80	88.00	51.00
Std. Deviation	652.21	9.80	0.51	0.43	11.24	0.34	11.33	11.83
5								
Mean	65.45	21.55	0.53	2.29	12.16	2.81	90.77	50.93
Median	23.00	19.00	0.30	2.30	11.00	2.80	89.00	50.00
Std. Deviation	555.40	9.63	0.89	0.40	5.52	0.34	18.57	10.81
6								
Mean	119.86	21.01	0.55	2.33	12.33	2.86	90.30	50.45
Median	23.00	18.60	0.30	2.30	11.00	2.80	89.00	49.00
Std. Deviation	1161.05	9.80	0.60	0.40	5.05	0.36	13.47	11.62
7								
Mean	70.11	20.45	0.52	2.35	12.22	2.83	90.05	51.76
Median	22.00	18.10	0.30	2.30	11.00	2.80	88.00	50.00
Std. Deviation	696.43	9.23	0.67	0.40	5.36	0.35	12.24	10.91
8								
Mean	41.79	22.04	0.52	2.31	11.65	2.82	89.40	51.42
Median	19.00	19.50	0.30	2.30	11.00	2.80	88.00	51.00
Std. Deviation	141.67	9.45	0.82	0.38	4.52	0.35	13.96	11.12
9								
Mean	41.47	22.52	0.43	2.31	11.68	2.81	89.51	50.04
Median	20.00	19.00	0.20	2.30	11.00	2.80	89.00	49.00
Std. Deviation	56.25	10.18	0.51	0.39	3.81	0.35	14.26	10.36
10								
Mean	33.63	22.28	0.46	2.29	12.09	2.82	89.95	50.92
Median	20.00	19.70	0.20	2.30	11.00	2.80	89.00	50.00
Std. Deviation	35.54	9.72	0.64	0.38	4.43	0.35	13.12	11.14
Total								
Mean	89.04	21.58	0.52	2.29	12.24	2.83	90.02	50.77
Median	23.00	19.00	0.30	2.30	11.00	2.80	89.00	50.00
Std. Deviation	784.26	9.66	0.63	0.40	6.19	0.35	15.87	11.21

Girls (Female, <18YO)

Population Decile Group -- C8 (PFOA)			Hematocrit (%)	Hemoglobin (g-dL)	Immunoglobulin A, Qn, Serum (mg-dL)	Immunoglobulin E, Total (IU-mL)	Immunoglobulin G, Qn, Serum (mg-dL)	Immunoglobulin M, Qn, Serum (mg-dL)	Insulin, Fasting (uIU-mL)
1	Mean	39.44	13.39	150.51	92.80	1047.55	126.98	22.20	
	Median	39.40	13.40	142.00	17.00	1035.00	118.50	13.70	
	Std. Deviation	2.56	0.86	70.98	411.57	227.28	55.67	29.86	
2	Mean	39.51	13.45	144.17	91.38	1035.65	130.59	19.89	
	Median	39.50	13.40	134.00	18.00	1012.00	121.00	12.30	
	Std. Deviation	2.51	0.82	69.23	262.68	238.17	58.20	24.32	
3	Mean	39.51	13.45	152.67	130.18	1064.68	127.56	20.76	
	Median	39.40	13.40	144.00	20.00	1055.00	119.50	12.40	
	Std. Deviation	2.54	0.85	70.00	606.50	227.86	56.70	31.56	
4	Mean	39.61	13.48	141.35	93.52	1038.90	128.03	20.65	
	Median	39.60	13.50	131.00	16.00	1023.50	115.50	10.90	
	Std. Deviation	2.61	0.86	70.57	360.84	237.94	62.64	33.02	
5	Mean	39.79	13.51	139.02	87.74	1007.31	134.20	19.29	
	Median	39.70	13.50	132.00	18.00	1005.00	126.00	10.90	
	Std. Deviation	2.56	0.85	71.62	234.13	215.10	66.81	29.09	
6	Mean	39.40	13.37	139.76	97.65	1026.48	134.95	19.08	
	Median	39.30	13.40	130.00	17.00	1007.00	124.50	12.00	
	Std. Deviation	2.57	0.84	65.01	445.35	227.98	61.29	27.90	
7	Mean	39.52	13.43	137.60	109.71	1006.03	129.68	19.23	
	Median	39.50	13.40	128.00	19.00	999.00	124.00	11.40	
	Std. Deviation	2.76	0.90	67.10	454.36	229.69	58.26	25.26	
8	Mean	39.34	13.36	130.24	74.17	996.13	124.73	18.15	
	Median	39.30	13.40	118.00	16.00	976.00	116.00	11.85	
	Std. Deviation	2.69	0.90	68.65	184.85	214.67	55.96	20.41	
9	Mean	39.47	13.43	132.21	122.69	998.59	127.57	17.16	
	Median	39.40	13.40	125.00	18.00	992.00	116.00	11.60	
	Std. Deviation	2.48	0.82	67.24	617.77	240.98	59.48	19.92	
10	Mean	39.71	13.51	132.46	91.23	1001.52	126.33	19.96	
	Median	39.70	13.50	124.00	16.00	987.00	116.00	12.30	
	Std. Deviation	2.42	0.79	65.59	231.98	237.23	58.97	28.07	
Total	Mean	39.52	13.44	140.58	99.32	1023.94	129.22	19.70	
	Median	39.50	13.40	131.00	17.00	1010.00	120.00	12.00	
	Std. Deviation	2.57	0.85	68.99	410.24	230.81	59.43	27.33	

Girls (Female, <18YO)

Population Decile Group -- C8 (PFOA)	Insulin-Like Growth Factor I (ng-mL)	Iron, Serum (ug- dL)	LDH (IU-L)	LDL Cholesterol (Calculated)	Lymphs (%)	Lymphs (Absolute) (x10e3-uL)	Magnesium, Serum (mg-dL)	MCH (pg)	MCHC (g-dL)
1									
Mean	338.49	84.00	194.11	86.13	34.66	2.47	2.01	29.61	33.96
Median	337.00	79.00	185.00	84.00	34.00	2.40	2.00	29.70	34.00
Std. Deviation	145.68	36.84	49.18	25.30	9.56	0.77	0.14	1.65	0.62
2									
Mean	322.62	84.76	198.17	89.01	34.45	2.47	2.03	29.69	34.06
Median	310.00	82.00	190.00	87.00	34.00	2.40	2.00	29.70	34.10
Std. Deviation	139.22	35.21	48.91	24.26	8.60	0.74	0.14	1.51	0.60
3									
Mean	301.68	81.29	202.36	89.09	33.98	2.48	2.04	29.53	34.04
Median	279.00	79.50	197.00	87.00	34.00	2.40	2.00	29.60	34.10
Std. Deviation	141.31	31.96	50.86	24.01	8.95	0.77	0.15	1.58	0.64
4									
Mean	317.05	84.52	201.40	90.21	34.65	2.51	2.04	29.57	34.04
Median	308.00	81.00	198.00	88.00	34.00	2.40	2.00	29.60	34.10
Std. Deviation	141.43	34.74	48.50	25.25	9.11	0.76	0.14	1.53	0.58
5									
Mean	304.51	84.88	204.33	89.38	35.17	2.58	2.04	29.42	33.98
Median	285.00	80.00	197.50	87.00	34.00	2.50	2.00	29.50	34.00
Std. Deviation	146.99	37.80	58.40	25.92	9.19	0.81	0.14	1.68	0.67
6									
Mean	291.09	78.56	204.63	89.45	34.62	2.59	2.04	29.34	33.95
Median	281.00	76.00	199.00	87.00	34.00	2.50	2.00	29.40	34.00
Std. Deviation	134.66	34.08	49.30	25.32	9.30	0.77	0.14	1.58	0.63
7									
Mean	302.31	82.49	205.83	90.91	35.27	2.60	2.05	29.48	33.99
Median	295.00	77.50	202.50	89.00	35.00	2.50	2.00	29.50	34.00
Std. Deviation	142.89	35.11	46.43	26.95	8.76	0.76	0.14	1.54	0.60
8									
Mean	282.54	80.88	211.30	86.92	35.52	2.63	2.08	29.32	33.96
Median	264.00	77.00	212.00	85.00	35.00	2.50	2.10	29.40	34.00
Std. Deviation	140.40	33.75	49.08	25.99	9.11	0.82	0.15	1.58	0.62
9									
Mean	296.63	84.41	206.58	90.18	35.42	2.58	2.07	29.40	34.02
Median	269.00	81.00	205.00	87.00	35.00	2.50	2.10	29.40	34.00
Std. Deviation	148.86	36.53	46.74	25.04	9.49	0.83	0.15	1.48	0.58
10									
Mean	281.67	81.22	207.77	91.26	35.53	2.66	2.08	29.41	34.02
Median	266.00	81.00	210.00	90.00	35.00	2.60	2.10	29.40	34.00
Std. Deviation	135.61	33.80	47.24	24.88	9.40	0.87	0.14	1.46	0.58
Total									
Mean	305.17	82.72	203.25	89.19	34.88	2.55	2.05	29.49	34.00
Median	292.00	79.00	199.00	87.00	34.00	2.40	2.00	29.50	34.00
Std. Deviation	142.64	35.06	49.75	25.31	9.14	0.79	0.14	1.56	0.61

Tabular (Numeric) Summary for Clinical Lab Values within Population C8/PFOA Deciles, Stratified by Age & Gender

Boys (Male, <18YO)

Population Decile Group -- C8 (PFOA)	A-G Ratio (Final Recoded Value)	AFP Tumor Marker, Serum (ng-mL)	Albumin, Serum (g-dL)	Alkaline Phosphatase, Serum (IU-L)	ALT (SGPT) (IU-L)	Antinuclear Antibodies Direct (U-mL)	AST (SGOT) (IU-L)	Baso (Absolute) (x10e3-uL)	Basos (%)	Bilirubin, Direct (mg-dL)
1 Mean Median Std. Deviation	1.89 1.70 3.62	2.06 2.00 0.96	4.59 4.60 0.29	247.07 247.00 84.46	20.27 17.00 13.05	25.17 22.00 12.76	26.76 26.00 8.38	0.02 0.00 0.04	0.22 0.00 0.41	0.11 0.10 0.06
2 Mean Median Std. Deviation	1.71 1.70 0.23	2.06 2.00 1.12	4.62 4.60 0.26	245.82 241.00 120.76	20.79 18.00 17.43	27.98 23.00 40.84	26.87 25.00 12.86	0.02 0.00 0.04	0.27 0.00 0.44	0.12 0.10 0.06
3 Mean Median Std. Deviation	1.66 1.70 0.23	2.08 2.00 1.29	4.62 4.60 0.25	241.96 233.00 121.39	19.66 17.00 10.50	28.52 23.00 25.44	26.25 25.00 8.64	0.02 0.00 0.04	0.27 0.00 0.44	0.11 0.10 0.06
4 Mean Median Std. Deviation	1.72 1.70 0.23	2.14 2.00 1.25	4.66 4.70 0.25	235.14 227.00 104.31	20.70 17.00 13.41	26.39 23.00 16.48	27.57 27.00 11.97	0.02 0.00 0.04	0.26 0.00 0.44	0.11 0.09 0.06
5 Mean Median Std. Deviation	1.71 1.70 0.23	2.09 2.00 1.23	4.63 4.60 0.25	243.59 239.00 99.32	19.81 17.00 11.21	29.14 25.00 29.75	26.37 25.00 7.04	0.03 0.00 0.04	0.30 0.00 0.46	0.11 0.09 0.06
6 Mean Median Std. Deviation	1.70 1.70 0.24	2.06 2.00 1.00	4.63 4.60 0.25	239.76 237.00 93.03	20.13 17.00 11.52	31.24 24.00 58.96	26.31 25.00 7.32	0.03 0.00 0.05	0.36 0.00 0.49	0.11 0.09 0.06
7 Mean Median Std. Deviation	1.71 1.70 0.22	2.05 2.00 0.91	4.67 4.70 0.24	250.03 244.00 142.46	19.59 17.00 10.40	29.84 25.00 28.25	26.89 26.00 7.27	0.03 0.00 0.05	0.34 0.00 0.49	0.11 0.09 0.06
8 Mean Median Std. Deviation	1.72 1.70 0.23	2.14 2.00 2.22	4.66 4.70 0.25	246.07 242.50 93.88	19.47 17.00 10.42	28.91 26.00 15.23	26.95 26.00 7.73	0.03 0.00 0.05	0.34 0.00 0.48	0.11 0.09 0.06
9 Mean Median Std. Deviation	1.71 1.70 0.23	2.11 2.00 0.91	4.66 4.70 0.24	246.18 238.50 94.08	19.44 17.00 10.47	27.50 24.00 21.65	26.89 26.00 6.78	0.03 0.00 0.05	0.36 0.00 0.49	0.11 0.09 0.06
10 Mean Median Std. Deviation	1.72 1.70 0.23	2.14 2.00 1.21	4.68 4.70 0.25	244.01 241.00 90.63	20.01 17.00 11.22	28.00 24.00 15.70	27.10 26.00 7.24	0.03 0.00 0.05	0.32 0.00 0.48	0.10 0.09 0.06
Total	1.72 1.70 0.95	2.09 2.00 1.29	4.64 4.60 0.25	244.04 239.00 106.91	19.98 17.00 12.16	28.45 24.00 30.71	26.79 26.00 8.78	0.03 0.00 0.05	0.31 0.00 0.47	0.11 0.09 0.06

Boys (Male, <18YO)

Population Decile Group -- C8 (PFOA)	Billirubin, Total (mg-dL)	BUN (mg-dL)	BUN-Creatinine Ratio (Final Recoded Value)	Calcium, Serum (mg-dL)	Cancer Antigen (CA-125) (U-mL)	CEA (ng-mL)	Chloride, Serum (mmol-L)	Cholesterol, Total (mg-dL)	Cortisol (ug-dL)	C-Reactive Protein, Quant (mg-L)
1	Mean Median Std. Deviation	0.40 0.30 0.26	13.01 13.00 3.26	20.26 19.00 8.46	10.05 10.10 0.34	13.62 12.75 6.25	0.67 0.50 0.54	103.38 103.00 2.01	153.53 152.00 30.42	9.75 9.00 4.33
2	Mean Median Std. Deviation	0.43 0.30 0.32	13.12 13.00 3.45	19.63 18.00 7.75	10.05 10.00 0.34	13.75 12.35 6.16	0.70 0.50 0.59	103.34 103.00 2.00	156.25 154.00 26.34	10.43 9.45 4.78
3	Mean Median Std. Deviation	0.41 0.30 0.29	13.39 13.00 4.46	20.04 19.00 7.46	10.06 10.10 0.33	13.57 12.30 6.63	0.71 0.50 0.62	103.02 103.00 1.94	157.12 154.00 29.09	9.76 8.90 4.72
4	Mean Median Std. Deviation	0.41 0.30 0.31	13.36 13.00 3.41	20.72 19.00 8.32	10.08 10.10 0.33	13.89 12.70 6.19	0.71 0.50 0.63	103.14 103.00 1.96	157.85 157.00 28.74	9.86 9.20 4.92
5	Mean Median Std. Deviation	0.41 0.30 0.31	13.35 13.00 3.46	20.73 19.50 8.33	10.07 10.10 0.34	13.86 12.50 7.04	0.74 0.50 0.67	102.99 103.00 2.02	156.78 154.00 27.86	9.12 8.40 4.47
6	Mean Median Std. Deviation	0.39 0.30 0.28	13.40 13.00 3.33	20.60 19.00 8.05	10.07 10.10 0.33	14.46 13.10 7.35	0.73 0.60 0.68	103.08 103.00 1.93	159.02 156.00 29.69	9.06 8.40 4.35
7	Mean Median Std. Deviation	0.40 0.30 0.30	13.56 13.00 3.42	21.16 20.00 8.63	10.08 10.10 0.33	14.47 13.40 6.79	0.70 0.50 0.59	102.96 103.00 1.91	160.08 158.00 28.16	9.03 8.00 4.66
8	Mean Median Std. Deviation	0.41 0.30 0.32	13.39 13.00 3.48	21.10 20.00 8.63	10.08 10.10 0.34	13.99 13.10 6.02	0.70 0.50 0.60	102.91 103.00 1.84	160.24 157.00 28.27	9.13 8.20 4.71
9	Mean Median Std. Deviation	0.39 0.30 0.26	13.32 13.00 3.30	21.09 20.00 8.47	10.10 10.10 0.32	13.81 12.60 6.23	0.70 0.50 0.66	102.90 103.00 1.83	159.60 156.50 29.79	9.18 8.30 4.63
10	Mean Median Std. Deviation	0.39 0.30 0.31	13.39 13.00 3.47	21.05 19.00 8.79	10.11 10.10 0.34	14.24 13.20 6.24	0.67 0.50 0.59	102.84 103.00 2.03	160.27 159.00 30.06	8.82 8.00 4.55
Total	Mean Median Std. Deviation	0.41 0.30 0.30	13.34 13.00 3.53	20.65 19.00 8.33	10.08 10.10 0.33	13.99 12.80 6.51	0.70 0.50 0.62	103.04 103.00 1.95	158.30 156.00 29.04	9.40 8.50 4.65

Boys (Male, <18YO)

Population Decile Group -- C8 (PFOA)	Creatinine, Serum (mg-dL)	Eos (%)	Eos (Absolute) (x10e3-uL)	Estradiol (pg-mL)	Folates (Folic Acid), Serum (ng-mL)	Free Testosterone, Direct (pg-mL)	Free Thyroxine Index (Final Recorded Value)	GGT (IU-L)	Globulin, Total (g-dL)	Glucose, Serum (mg-dL)
1										
Mean	0.70	2.93	0.20	16.86	22.11	4.63	2.18	14.82	2.73	93.34
Median	0.70	2.00	0.20	16.00	19.25	3.00	2.20	13.00	2.70	92.00
Std. Deviation	0.20	2.46	0.17	9.19	9.65	4.88	0.39	7.80	0.36	19.73
2										
Mean	0.72	2.77	0.19	16.26	21.67	4.78	2.17	15.72	2.74	93.30
Median	0.70	2.00	0.10	16.00	19.20	1.95	2.20	13.00	2.70	92.00
Std. Deviation	0.19	2.34	0.17	9.24	9.52	5.34	0.39	14.31	0.33	14.36
3										
Mean	0.72	2.81	0.20	15.31	21.91	4.53	2.19	15.34	2.79	92.91
Median	0.70	2.00	0.20	15.00	19.00	1.10	2.20	13.00	2.80	91.00
Std. Deviation	0.26	2.40	0.18	8.84	9.81	5.45	0.41	9.61	0.33	15.84
4										
Mean	0.71	2.80	0.21	15.08	21.62	4.57	2.21	15.50	2.74	92.72
Median	0.70	2.00	0.10	14.00	18.85	1.00	2.20	13.00	2.70	92.00
Std. Deviation	0.21	2.71	0.21	9.01	9.44	5.70	0.41	8.69	0.32	13.57
5										
Mean	0.70	2.78	0.20	15.37	21.33	4.47	2.20	15.31	2.75	92.37
Median	0.70	2.00	0.20	14.00	18.45	0.90	2.20	13.00	2.70	91.00
Std. Deviation	0.20	2.44	0.18	8.71	9.48	5.63	0.39	8.93	0.33	12.95
6										
Mean	0.71	2.81	0.21	16.10	20.96	4.67	2.21	14.92	2.77	92.61
Median	0.70	2.00	0.20	15.00	18.60	1.30	2.20	13.00	2.80	91.00
Std. Deviation	0.20	2.75	0.22	8.70	9.13	5.80	0.38	6.15	0.34	13.13
7										
Mean	0.70	2.82	0.20	15.12	21.36	4.19	2.24	14.70	2.76	93.12
Median	0.70	2.00	0.20	14.00	18.50	0.60	2.20	13.00	2.70	91.00
Std. Deviation	0.20	2.36	0.18	8.81	9.17	5.66	0.39	8.04	0.33	17.95
8										
Mean	0.69	2.83	0.21	14.46	21.52	4.01	2.27	14.62	2.76	92.69
Median	0.70	2.00	0.20	13.00	19.15	0.60	2.30	13.00	2.70	92.00
Std. Deviation	0.19	2.42	0.19	8.57	9.38	5.30	0.39	6.93	0.33	12.56
9										
Mean	0.69	2.79	0.21	15.38	22.58	3.99	2.28	14.45	2.76	93.44
Median	0.60	2.00	0.10	15.00	18.10	0.60	2.30	13.00	2.70	91.00
Std. Deviation	0.20	2.35	0.19	8.08	9.58	5.48	0.45	7.01	0.33	16.12
10										
Mean	0.69	2.75	0.21	14.99	22.74	3.78	2.22	14.69	2.76	92.57
Median	0.70	2.00	0.10	14.00	19.60	0.40	2.20	13.00	2.70	91.00
Std. Deviation	0.19	2.38	0.20	8.52	9.65	5.16	0.39	8.08	0.33	20.94
Total										
Mean	0.70	2.82	0.20	15.45	21.76	4.35	2.22	15.01	2.76	92.89
Median	0.70	2.00	0.10	15.00	19.00	0.85	2.20	13.00	2.70	92.00
Std. Deviation	0.21	2.46	0.19	8.78	9.48	5.46	0.40	8.92	0.33	15.85

Boys (Male, <18YO)

Population Decile Group - C8 (PFOA)	HDL Cholesterol (mg-dL)	Hematocrit (%)	Hemoglobin (g-dL)	Immunoglobulin A, Qn, Serum (mg-dL)	Immunoglobulin E, Total (U-mL)	Immunoglobulin G, Qn, Serum (mg-dL)	Immunoglobulin M, Qn, Serum (mg-dL)	Insulin, Fasting (uIU-mL)	Insulin-Like Growth Factor I (ng-mL)
1 Mean Median Std. Deviation	46.64 45.00 11.21	41.31 40.90 4.03	14.08 14.00 1.33	146.85 135.00 76.95	95.91 22.00 216.29	984.05 987.00 225.97	92.30 83.00 47.65	20.00 12.40 31.24	281.52 274.00 134.19
2 Mean Median Std. Deviation	47.95 47.00 11.72	41.59 41.30 3.66	14.19 14.10 1.20	145.77 136.00 70.20	110.45 29.00 252.44	1009.00 992.00 224.70	92.88 88.00 42.96	21.44 13.00 34.52	284.54 263.00 138.34
3 Mean Median Std. Deviation	47.99 46.00 11.82	41.56 41.20 3.81	14.18 14.10 1.26	152.46 140.00 71.94	121.66 28.00 270.40	1023.22 1024.00 211.05	96.65 89.00 44.44	19.21 11.00 26.40	264.74 243.00 129.15
4 Mean Median Std. Deviation	47.81 47.00 10.93	41.41 41.10 3.89	14.12 14.00 1.26	139.04 130.00 68.05	105.02 24.00 366.52	978.64 966.00 214.49	94.63 86.00 48.33	19.07 11.40 36.53	258.63 244.00 138.16
5 Mean Median Std. Deviation	47.83 47.00 10.91	41.38 40.80 4.03	14.09 13.90 1.33	138.74 126.00 69.51	154.93 29.50 560.71	970.77 966.50 221.08	93.26 85.00 45.10	17.90 10.75 24.25	265.53 257.00 133.83
6 Mean Median Std. Deviation	47.80 47.00 11.11	41.59 41.10 3.90	14.16 14.00 1.29	140.44 129.00 71.72	140.43 26.00 304.29	988.82 977.50 225.14	95.48 86.00 46.37	20.09 11.70 36.30	265.91 254.00 137.62
7 Mean Median Std. Deviation	48.46 47.00 11.81	41.27 40.90 3.77	14.06 13.90 1.25	136.24 127.00 66.10	148.13 26.00 589.17	974.63 955.00 225.79	96.28 88.00 47.26	17.83 10.40 24.25	252.00 230.00 133.92
8 Mean Median Std. Deviation	47.82 47.00 11.00	41.36 40.90 3.76	14.08 13.90 1.24	133.56 125.50 61.91	121.16 28.00 249.54	973.48 965.00 223.89	96.76 89.00 46.35	18.51 12.20 23.28	249.59 231.50 125.77
9 Mean Median Std. Deviation	48.63 48.00 11.15	41.38 41.00 3.68	14.08 13.90 1.22	135.67 127.00 68.70	125.82 26.00 281.14	974.31 949.00 223.71	95.33 88.00 44.93	18.69 10.50 31.20	251.26 223.50 132.97
10 Mean Median Std. Deviation	48.03 47.00 10.80	41.43 41.00 3.69	14.13 14.00 1.21	137.82 131.00 66.13	125.05 27.00 261.12	981.68 974.00 216.57	98.84 89.00 48.07	17.06 11.15 20.91	247.58 231.50 125.17
Total Mean Median Std. Deviation	47.94 47.00 11.27	41.43 41.00 3.81	14.12 14.00 1.25	140.40 131.00 68.99	125.92 27.00 359.11	986.23 975.00 221.78	95.41 87.00 46.11	18.97 11.40 29.23	261.49 244.00 133.29

Boys (Male, <18YO)

Population Decile Group -- C8 (PFOA)	Iron, Serum (ug- dL)	LDH (IU-L)	LDL Cholesterol (Calculated)	Lymphs (%)	Lymphs (Absolute) (x10e3-uL)	Magnesium, Serum (mg-dL)	MCH (pg)	MCHC (g-dL)	MCV (fL)	Monocytes (%)	Monocytes(Absolute) (x10e3-uL)
1 Mean Median Std. Deviation	85.98 82.00 37.97	214.38 214.00 48.85	81.95 79.00 26.18	36.01 36.00 9.10	2.48 2.30 0.88	2.05 2.00 0.14	29.24 29.20 1.58	34.09 34.10 0.62	85.83 86.00 4.39	7.16 7.00 2.17	0.49 0.50 0.17
2 Mean Median Std. Deviation	90.04 87.00 35.19	213.08 212.00 47.88	84.18 83.00 24.65	35.08 35.00 8.44	2.36 2.30 0.69	2.05 2.10 0.14	29.41 29.50 1.45	34.14 34.10 0.57	86.16 86.00 4.11	7.28 7.00 2.12	0.49 0.50 0.17
3 Mean Median Std. Deviation	86.92 84.00 33.31	211.85 214.00 47.20	84.41 82.50 24.43	34.67 34.00 8.43	2.44 2.30 0.72	2.06 2.10 0.14	29.40 29.40 1.46	34.14 34.20 0.60	86.14 86.00 4.05	7.13 7.00 2.14	0.50 0.50 0.18
4 Mean Median Std. Deviation	87.16 82.00 33.44	217.14 219.00 48.08	86.19 85.00 25.78	35.25 36.00 8.90	2.50 2.40 0.75	2.06 2.10 0.14	29.36 29.40 1.44	34.13 34.10 0.63	86.07 86.00 4.03	6.92 7.00 2.02	0.49 0.50 0.16
5 Mean Median Std. Deviation	86.30 82.50 37.18	212.68 212.00 45.26	84.95 84.00 23.97	35.31 35.00 8.80	2.47 2.30 0.72	2.07 2.10 0.13	29.19 29.30 1.57	34.08 34.10 0.59	85.71 86.00 4.25	7.14 7.00 1.91	0.50 0.50 0.16
6 Mean Median Std. Deviation	84.90 82.00 33.79	214.62 214.00 44.52	86.55 84.00 25.69	35.36 35.00 8.77	2.50 2.40 0.74	2.08 2.10 0.13	29.29 29.30 1.36	34.05 34.00 0.60	86.08 86.00 3.77	7.32 7.00 2.22	0.52 0.50 0.18
7 Mean Median Std. Deviation	84.36 81.00 33.25	217.68 216.50 46.11	86.13 85.00 23.82	36.06 36.00 8.37	2.55 2.50 0.76	2.09 2.10 0.14	29.23 29.20 1.45	34.07 34.00 0.59	85.86 86.00 4.05	7.16 7.00 1.98	0.51 0.50 0.18
8 Mean Median Std. Deviation	85.81 82.00 32.68	216.97 216.50 42.86	86.59 86.00 23.57	35.75 35.00 8.48	2.52 2.40 0.77	2.08 2.10 0.13	29.19 29.10 1.49	34.06 34.10 0.57	85.74 86.00 4.20	7.12 7.00 2.06	0.50 0.50 0.17
9 Mean Median Std. Deviation	86.54 83.00 34.76	219.78 219.00 43.12	86.47 83.00 26.33	35.35 35.00 9.04	2.50 2.40 0.75	2.09 2.10 0.14	29.11 29.20 1.52	34.05 34.00 0.59	85.53 86.00 4.15	7.19 7.00 1.99	0.51 0.50 0.17
10 Mean Median Std. Deviation	84.39 81.00 34.31	219.77 220.00 43.86	86.27 85.00 25.04	36.21 35.00 9.14	2.58 2.50 0.76	2.10 2.10 0.13	29.21 29.20 1.43	34.12 34.10 0.58	85.61 85.00 3.83	7.10 7.00 2.09	0.51 0.50 0.18
Total Mean Median Std. Deviation	86.21 83.00 34.46	215.86 216.00 45.69	85.50 84.00 24.89	35.50 35.00 8.73	2.49 2.40 0.75	2.08 2.10 0.14	29.26 29.30 1.47	34.08 34.10 0.59	85.88 86.00 4.07	7.16 7.00 2.07	0.50 0.50 0.17

Boys (Male, <18YO)

Population Decile Group -- Cs (PFOA)	Neutrophils (%)	Neutrophils (Absolute) (x10e3-uL)	Phosphorus, Serum (mg-dL)	Platelets (x10e3-uL)	Potassium, Serum (mmol-L)	Prolactin (ng-mL)	Prostate-Specific Antigen, Serum (ng-mL)	Protein, Total, Serum (g-dL)	RDW (%)	Red Blood Cell Count (x10e6-uL)
1										
Mean	53.68	3.83	4.76	316.63	4.16	7.22	0.23	7.32	13.74	4.82
Median	54.00	3.50	4.80	305.00	4.10	6.50	0.05	7.30	13.50	4.79
Std. Deviation	9.88	1.59	0.72	78.15	0.27	3.78	0.27	0.41	0.91	0.42
2										
Mean	54.60	3.84	4.67	306.76	4.14	7.06	0.24	7.36	13.65	4.83
Median	55.00	3.60	4.70	302.00	4.10	6.30	0.05	7.40	13.60	4.82
Std. Deviation	9.27	1.48	0.73	74.47	0.29	3.71	0.41	0.41	0.69	0.37
3										
Mean	55.12	4.10	4.77	308.78	4.13	7.33	0.21	7.41	13.57	4.83
Median	56.00	3.70	4.80	303.00	4.10	6.50	0.05	7.40	13.50	4.83
Std. Deviation	9.50	1.78	0.69	67.96	0.30	3.85	0.29	0.38	0.75	0.38
4										
Mean	54.77	4.06	4.74	312.72	4.12	7.43	0.19	7.40	13.58	4.81
Median	55.00	3.80	4.70	307.00	4.10	6.40	0.05	7.40	13.40	4.80
Std. Deviation	9.98	1.57	0.69	73.59	0.26	4.42	0.22	0.40	0.78	0.40
5										
Mean	54.47	4.01	4.83	303.95	4.14	7.44	0.19	7.38	13.57	4.83
Median	55.00	3.70	4.90	293.00	4.10	6.50	0.05	7.40	13.50	4.82
Std. Deviation	9.91	1.62	0.70	71.45	0.29	4.46	0.25	0.40	0.76	0.40
6										
Mean	54.05	4.04	4.75	311.98	4.15	7.36	0.20	7.40	13.56	4.84
Median	54.00	3.70	4.80	302.50	4.10	6.40	0.05	7.40	13.50	4.83
Std. Deviation	9.95	1.74	0.70	81.29	0.29	4.27	0.24	0.41	0.70	0.39
7										
Mean	53.62	3.93	4.79	305.98	4.14	7.41	0.19	7.43	13.54	4.81
Median	54.00	3.70	4.80	300.00	4.10	6.40	0.05	7.40	13.50	4.80
Std. Deviation	9.41	1.48	0.69	68.19	0.31	4.19	0.25	0.41	0.73	0.38
8										
Mean	53.95	3.92	4.73	310.18	4.15	7.42	0.18	7.42	13.48	4.83
Median	54.00	3.70	4.80	302.00	4.10	6.60	0.05	7.40	13.40	4.80
Std. Deviation	9.33	1.42	0.67	73.17	0.30	3.59	0.23	0.39	0.68	0.39
9										
Mean	54.32	3.99	4.84	318.08	4.16	7.39	0.18	7.42	13.57	4.84
Median	54.00	3.70	4.90	310.00	4.10	6.40	0.05	7.40	13.50	4.81
Std. Deviation	9.85	1.49	0.72	72.23	0.29	4.25	0.26	0.41	0.82	0.37
10										
Mean	53.63	4.04	4.86	314.03	4.17	7.15	0.18	7.44	13.43	4.84
Median	54.00	3.70	4.90	305.00	4.20	6.40	0.05	7.40	13.30	4.81
Std. Deviation	10.25	1.76	0.71	72.56	0.32	3.53	0.35	0.40	0.73	0.39
Total										
Mean	54.22	3.98	4.77	310.61	4.15	7.32	0.20	7.40	13.56	4.83
Median	54.00	3.70	4.80	303.00	4.10	6.50	0.05	7.40	13.50	4.81
Std. Deviation	9.72	1.60	0.70	73.37	0.29	4.00	0.29	0.40	0.75	0.39

Tabular (Numeric) Summary for Clinical Lab Values within Population C8/PFOA Deciles, Stratified by Age & Gender

Women (Female, >=18YO)

Population Decile Group – C8 (PFOA)	A-G Ratio (Final Recorded Value)	AFP Tumor Marker, Serum (ng-mL)	Albumin, Serum (g-dL)	Alkaline Phosphatase, Serum (IU-L)	ALT (SGPT) (IU-L)	Antinuclear Antibodies Direct (U-mL)	AST (SGOT) (IU-L)	Baso (Absolute) (x10e3-uL)	Basos (%)
1	Mean Median Std. Deviation	6.78 2.00 28.83	4.31 4.30 0.34	82.54 78.00 28.89	19.98 17.00 15.51	38.71 27.00 63.51	20.34 18.00 11.30	0.02 0.00 0.04	0.26 0.00 0.44
2	Mean Median Std. Deviation	4.60 2.00 18.40	4.35 4.40 0.30	83.29 79.00 27.79	20.29 17.00 12.84	40.23 28.00 74.82	20.62 19.00 8.75	0.02 0.00 0.04	0.25 0.00 0.44
3	Mean Median Std. Deviation	4.77 2.00 18.78	4.37 4.40 0.30	82.71 78.00 27.34	20.75 17.00 14.53	40.49 29.00 69.15	20.94 19.00 10.10	0.02 0.00 0.04	0.27 0.00 0.45
4	Mean Median Std. Deviation	4.62 2.00 23.12	4.36 4.40 0.29	83.65 80.00 30.01	20.84 18.00 14.01	42.37 28.00 76.19	21.16 19.00 9.89	0.03 0.00 0.04	0.29 0.00 0.47
5	Mean Median Std. Deviation	5.58 2.00 92.43	4.38 4.40 0.29	83.28 79.00 35.10	20.71 17.00 12.61	44.55 29.00 90.46	21.39 19.00 12.35	0.02 0.00 0.04	0.29 0.00 0.46
6	Mean Median Std. Deviation	3.77 2.00 13.65	4.38 4.40 0.30	83.22 79.00 27.09	20.83 18.00 13.70	41.60 29.00 61.58	21.46 19.00 10.17	0.03 0.00 0.04	0.31 0.00 0.47
7	Mean Median Std. Deviation	3.81 2.00 14.72	4.38 4.40 0.29	82.64 78.00 27.87	21.18 18.00 26.94	44.09 30.00 70.51	21.74 20.00 20.09	0.03 0.00 0.05	0.32 0.00 0.48
8	Mean Median Std. Deviation	3.33 2.00 10.11	4.38 4.40 0.29	83.62 79.00 31.39	21.56 18.00 16.37	49.92 30.00 118.30	22.25 20.00 11.77	0.03 0.00 0.04	0.32 0.00 0.47
9	Mean Median Std. Deviation	3.21 2.00 7.40	4.38 4.40 0.28	83.27 79.00 29.93	20.74 18.00 11.85	46.08 30.00 83.39	21.66 20.00 9.14	0.03 0.00 0.04	0.31 0.00 0.46
10	Mean Median Std. Deviation	3.06 2.00 8.12	4.41 4.40 0.27	84.38 81.00 27.39	21.84 19.00 15.18	49.01 29.00 109.70	22.28 20.00 9.58	0.03 0.00 0.04	0.29 0.00 0.46
Total	Mean Median Std. Deviation	4.52 2.00 33.76	4.37 4.40 0.30	83.21 79.00 29.34	20.80 17.00 15.77	43.24 29.00 82.09	21.29 19.00 11.66	0.03 0.00 0.04	0.29 0.00 0.46

Women (Female, >=18YO)

Population Decile Group ~ C8 (PFOA)	Bilirubin, Direct (mg-dL)	Bilirubin, Total (mg-dL)	BUN (mg-dL)	BUN-Creatinine Ratio (Final Recoded Value)	Calcium, Serum (mg-dL)	Cancer Antigen (CA-125) (U-mL)	CEA (ng-mL)	Chloride, Serum (mmol-L)	Cholesterol, Total (mg-dL)
1	Mean Median Std. Deviation	0.10 0.09 0.05	0.35 0.30 0.21	12.78 15.69 15.00 5.07	9.72 9.70 0.40	16.47 12.90 17.12	1.25 0.80 4.62	103.79 104.00 2.46	193.64 189.00 42.57
2	Mean Median Std. Deviation	0.10 0.10 0.05	0.37 0.30 0.21	12.90 15.80 15.00 5.04	9.77 9.80 0.40	27.92 12.50 750.79	1.25 0.80 3.85	103.66 104.00 2.43	196.22 191.00 42.29
3	Mean Median Std. Deviation	0.11 0.10 0.05	0.38 0.30 0.22	12.97 15.79 15.00 4.82	9.79 9.80 0.39	14.66 12.20 10.94	1.28 0.80 2.21	103.52 104.00 2.41	197.95 194.00 41.70
4	Mean Median Std. Deviation	0.11 0.10 0.05	0.38 0.30 0.23	13.35 15.50 5.00	9.81 9.80 0.40	14.81 12.20 19.81	1.22 0.90 2.63	103.43 104.00 2.46	199.29 195.00 41.72
5	Mean Median Std. Deviation	0.11 0.10 0.05	0.38 0.30 0.21	13.34 16.06 16.00 4.94	9.82 9.80 0.40	15.15 12.30 21.86	1.52 0.90 11.48	103.35 103.00 2.56	200.55 197.50 41.32
6	Mean Median Std. Deviation	0.11 0.10 0.05	0.38 0.30 0.21	13.61 16.23 16.00 5.01	9.82 9.80 0.41	14.74 12.10 14.19	1.28 0.90 1.87	103.33 103.00 2.56	202.81 199.00 43.12
7	Mean Median Std. Deviation	0.11 0.10 0.05	0.38 0.30 0.21	13.94 16.44 16.00 5.08	9.83 9.80 0.39	14.77 12.20 11.59	1.52 0.90 8.82	103.10 103.00 2.52	203.21 200.00 43.07
8	Mean Median Std. Deviation	0.11 0.10 0.05	0.39 0.30 0.22	13.91 16.45 16.00 5.11	9.84 9.80 0.42	14.70 12.10 11.88	1.49 0.90 5.33	102.97 103.00 2.60	204.69 200.00 42.41
9	Mean Median Std. Deviation	0.11 0.10 0.06	0.38 0.30 0.21	13.86 16.36 16.00 4.98	9.84 9.80 0.40	14.77 12.10 14.87	1.41 1.00 1.72	103.13 103.00 2.62	204.20 201.00 41.64
10	Mean Median Std. Deviation	0.11 0.10 0.05	0.38 0.30 0.20	14.12 16.45 16.00 4.95	9.88 9.90 0.41	14.41 11.80 14.72	1.62 1.10 3.03	102.81 103.00 2.69	208.27 205.00 43.34
Total	Mean Median Std. Deviation	0.11 0.10 0.05	0.38 0.30 0.21	13.41 16.09 16.00 5.01	9.80 9.80 0.40	16.52 12.30 255.27	1.37 0.90 5.45	103.35 103.00 2.54	200.44 196.00 42.52

Women (Female, >=18YO)

Population Decile Group - C8 (PFOA)	Cortisol (ug-dL)	C-Reactive Protein, Quant (mg-L)	Creatinine, Serum (mg-dL)	Eos (%)	Eos (Absolute) (x10e3-uL)	Estradiol (pg-mL)	Folates (Folic Acid), Serum (ng-mL)	Free Testosterone, Direct (pg-mL)	Free Thyroxine Index (Final Recorded Value)
1 Mean Median Std. Deviation	12.33 11.00 6.40	4.91 2.50 8.08	0.83 0.80 0.36	2.02 2.00 1.68	0.16 0.10 0.13	441.04 43.50 2311.97	17.52 14.50 10.31	0.76 0.60 1.40	2.36 2.30 0.50
2 Mean Median Std. Deviation	12.51 11.10 6.70	4.83 2.50 8.24	0.82 0.80 0.18	2.02 2.00 1.61	0.15 0.10 0.12	262.21 36.00 1720.56	17.76 14.70 10.32	0.75 0.60 0.88	2.40 2.40 0.51
3 Mean Median Std. Deviation	12.42 11.20 6.39	4.73 2.40 7.76	0.82 0.80 0.16	2.02 2.00 1.52	0.15 0.10 0.11	264.31 34.00 1563.34	17.55 14.70 10.25	0.79 0.60 0.84	2.38 2.40 0.49
4 Mean Median Std. Deviation	12.37 11.20 6.49	4.74 2.50 8.24	0.84 0.80 0.25	2.04 2.00 1.63	0.15 0.10 0.13	206.20 31.00 1310.70	17.85 14.60 10.56	0.72 0.60 0.65	2.39 2.40 0.53
5 Mean Median Std. Deviation	12.23 11.00 6.58	4.49 2.40 6.87	0.84 0.80 0.19	2.04 2.00 1.60	0.15 0.10 0.12	176.27 31.00 1318.58	18.30 14.95 10.61	0.78 0.60 1.02	2.40 2.40 0.50
6 Mean Median Std. Deviation	12.17 10.90 6.32	4.39 2.30 6.45	0.84 0.80 0.17	2.13 2.00 1.65	0.16 0.10 0.14	143.16 29.00 1053.12	18.44 15.30 10.48	0.77 0.60 1.70	2.40 2.40 0.46
7 Mean Median Std. Deviation	12.10 11.10 6.00	4.35 2.30 7.40	0.85 0.80 0.19	2.11 2.00 1.69	0.16 0.10 0.13	148.35 27.00 1023.75	18.73 15.50 10.66	0.72 0.60 0.69	2.39 2.40 0.48
8 Mean Median Std. Deviation	12.15 11.10 6.02	3.98 2.10 5.66	0.85 0.80 0.18	2.09 2.00 1.54	0.15 0.10 0.11	139.30 26.00 1162.83	19.26 16.00 10.77	0.73 0.60 0.78	2.44 2.40 0.50
9 Mean Median Std. Deviation	11.97 10.90 6.07	4.22 2.10 7.62	0.85 0.80 0.18	2.20 2.00 1.78	0.16 0.10 0.13	100.37 26.00 649.82	19.93 16.35 10.82	0.67 0.50 0.72	2.43 2.40 0.51
10 Mean Median Std. Deviation	11.78 11.00 5.59	4.07 2.00 6.71	0.86 0.80 0.24	2.13 2.00 1.59	0.16 0.10 0.12	84.43 24.00 648.83	20.52 17.20 10.91	0.67 0.50 0.77	2.41 2.40 0.50
Total Mean Median Std. Deviation	12.23 11.00 6.30	4.51 2.30 7.43	0.84 0.80 0.22	2.07 2.00 1.63	0.16 0.10 0.13	212.99 31.00 1448.15	18.46 15.20 10.59	0.74 0.60 1.02	2.40 2.40 0.50

Women (Female, >=18YO)

Population Decile Group – C8 (PFOA)	GGT (IU-L)	Globulin, Total (g-dL)	Glucose, Serum (mg-dL)	HDL Cholesterol (mg-dL)	Hematocrit (%)	Hemoglobin (g-dL)	Immunoglobulin A, Qn, Serum (mg-dL)	Immunoglobulin E, Total (IU-mL)
1	Mean Median Std. Deviation	23.10 16.00 31.33	2.92 2.90 0.38	101.61 93.00 35.97	53.20 51.00 14.31	39.94 40.10 3.67	13.42 13.60 1.29	217.05 202.00 98.89
2	Mean Median Std. Deviation	24.83 17.00 35.29	2.94 2.90 0.37	101.03 93.00 37.79	54.00 52.00 14.32	40.54 40.70 3.25	13.65 13.70 1.10	217.52 203.00 98.13
3	Mean Median Std. Deviation	24.21 17.00 29.61	2.94 2.90 0.36	101.46 93.00 35.19	54.44 53.00 14.53	40.73 40.80 3.19	13.72 13.80 1.08	216.30 200.00 98.79
4	Mean Median Std. Deviation	24.87 17.00 32.64	2.94 2.90 0.37	101.32 93.00 35.91	54.38 53.00 14.35	40.78 40.80 3.26	13.73 13.80 1.11	215.28 200.00 98.02
5	Mean Median Std. Deviation	24.53 17.00 27.33	2.95 2.90 0.36	100.13 93.00 30.69	54.61 53.00 14.58	40.82 40.90 3.30	13.73 13.80 1.13	215.42 199.00 99.09
6	Mean Median Std. Deviation	24.21 17.00 25.57	2.94 2.90 0.35	101.30 93.00 35.48	55.40 54.00 14.66	40.91 41.00 3.33	13.76 13.80 1.11	211.45 195.00 99.30
7	Mean Median Std. Deviation	25.58 17.00 39.51	2.94 2.90 0.36	101.39 94.00 32.15	55.48 54.00 14.76	40.86 40.90 3.26	13.74 13.80 1.11	212.06 197.00 101.84
8	Mean Median Std. Deviation	25.52 17.00 31.51	2.92 2.90 0.36	100.12 94.00 28.87	55.98 54.00 15.07	41.01 41.00 3.31	13.78 13.80 1.12	208.14 192.00 105.55
9	Mean Median Std. Deviation	25.61 17.00 40.96	2.95 2.90 0.36	100.82 94.00 29.65	56.19 54.00 14.61	41.01 41.00 3.25	13.79 13.80 1.09	214.50 196.00 112.15
10	Mean Median Std. Deviation	26.73 18.00 36.28	2.93 2.90 0.37	102.33 95.00 31.17	56.31 54.00 15.27	41.02 41.10 3.36	13.81 13.80 1.15	211.54 195.00 111.69
Total	Mean Median Std. Deviation	24.79 17.00 33.14	2.94 2.90 0.37	101.16 93.00 34.21	54.85 53.00 14.64	40.71 40.80 3.35	13.70 13.70 1.14	214.25 198.00 101.96

Women (Female, >=18YO)

Population Decile Group -- C8 (PFOA)	Immunoglobulin G, Qn, Serum (mg-dL)	Immunoglobulin M, Qn, Serum (mg-dL)	Insulin, Fasting (uIU-mL)	Insulin-Like Growth Factor I (ng-mL)	Iron, Serum (ug- dL)	LDH (IU-L)	LDL Cholesterol (Calculated)	Lymphs (%)	Lymphs (Absolute) (x10e3-uL)
1	Mean Median Std. Deviation	1082.24 1043.00 265.75	140.28 123.00 156.28	19.97 11.80 26.83	164.08 151.00 74.79	75.30 71.00 35.29	167.32 162.00 35.30	109.40 106.00 34.88	28.97 29.00 7.64
2	Mean Median Std. Deviation	1068.15 1047.00 248.02	137.43 122.00 86.07	20.70 11.90 30.48	157.56 142.00 73.63	79.62 75.00 34.20	169.05 165.00 40.60	110.74 108.00 33.49	29.23 29.00 7.68
3	Mean Median Std. Deviation	1063.10 1043.00 248.19	135.67 121.00 80.90	20.35 12.20 28.31	155.79 142.00 70.73	80.24 76.00 34.07	168.46 164.00 33.98	111.92 109.00 34.16	29.46 29.00 7.57
4	Mean Median Std. Deviation	1059.83 1039.00 253.38	133.95 117.00 86.86	20.09 12.30 23.80	149.95 136.00 70.70	80.12 76.00 33.38	169.54 165.00 33.41	112.63 109.00 35.08	29.54 29.00 7.35
5	Mean Median Std. Deviation	1055.02 1028.00 251.13	134.24 118.00 83.64	19.84 11.50 31.20	149.67 135.00 72.47	80.79 77.00 33.60	170.96 166.00 50.83	113.86 110.00 34.81	29.46 29.00 7.69
6	Mean Median Std. Deviation	1042.23 1020.00 235.82	136.06 119.00 92.69	20.18 11.20 32.06	146.29 133.00 69.67	81.03 76.00 33.59	172.48 168.00 35.67	114.77 111.00 35.82	29.48 29.00 7.29
7	Mean Median Std. Deviation	1037.47 1016.00 248.61	130.35 114.00 84.55	18.76 11.70 23.23	141.00 128.00 65.11	82.45 79.00 33.64	172.60 168.00 33.36	114.18 111.00 34.44	29.53 29.00 7.64
8	Mean Median Std. Deviation	1029.35 997.00 258.12	133.73 114.00 89.46	18.51 11.20 26.12	138.67 125.00 66.36	83.61 79.00 34.47	173.96 169.00 34.57	115.87 112.00 36.24	29.81 29.00 7.41
9	Mean Median Std. Deviation	1037.79 1015.00 246.25	132.48 116.00 93.00	18.19 11.10 24.11	136.55 123.00 63.51	81.82 78.00 32.68	173.62 170.00 44.94	114.58 111.00 34.59	29.65 30.00 7.51
10	Mean Median Std. Deviation	1025.85 1002.00 255.99	133.63 113.00 128.28	17.35 10.30 20.96	130.97 119.00 58.56	81.39 78.00 31.02	177.47 174.00 36.41	117.12 113.00 36.15	29.68 29.00 7.60
Total	Mean Median Std. Deviation	1049.95 1028.00 252.21	135.16 118.00 103.35	19.51 11.60 27.14	148.55 135.00 70.07	80.32 76.00 33.62	171.13 167.00 38.31	113.16 110.00 34.98	29.45 29.00 7.55

Women (Female, >=18YO)

Population Decile Group -- C6 (PFOA)	Magnesium, Serum (mg-dL)	MCH (pg)	MCHC (g-dL)	MCV (fL)	Monocytes (%)	Monocytes(Absolute) (x10e3-uL)	Neutrophils (%)	Neutrophils (Absolute) (x10e3- uL)	Phosphorus, Serum (mg-dL)	Platelets (x10e3- uL)
1	Mean Median Std. Deviation	30.16 30.50 0.17	33.60 33.70 0.77	89.79 90.00 5.89	5.68 6.00 1.97	0.42 0.40 0.16	63.06 63.00 8.66	4.84 4.60 1.85	3.64 3.60 0.59	298.33 290.00 73.95
2	Mean Median Std. Deviation	30.43 30.60 0.17	33.67 33.70 0.68	90.37 91.00 5.08	5.75 6.00 2.00	0.42 0.40 0.16	62.74 63.00 8.77	4.78 4.40 1.89	3.62 3.60 0.56	294.88 290.00 69.57
3	Mean Median Std. Deviation	30.50 30.60 0.16	33.69 33.70 0.64	90.55 91.00 4.66	5.85 6.00 2.01	0.42 0.40 0.16	62.40 63.00 8.61	4.73 4.40 1.80	3.64 3.60 0.56	293.45 288.00 67.08
4	Mean Median Std. Deviation	30.52 30.60 0.17	33.68 33.70 0.64	90.64 91.00 4.73	5.83 6.00 1.92	0.42 0.40 0.16	62.30 62.00 8.34	4.71 4.40 1.76	3.65 3.60 0.58	295.88 290.00 68.82
5	Mean Median Std. Deviation	30.52 30.60 0.17	33.63 33.70 0.67	90.76 91.00 5.02	5.83 6.00 2.03	0.42 0.40 0.16	62.38 63.00 8.72	4.72 4.40 1.81	3.65 3.60 0.55	293.54 287.00 68.15
6	Mean Median Std. Deviation	30.60 30.70 0.17	33.64 33.70 0.63	91.01 91.00 4.75	5.94 6.00 2.00	0.43 0.40 0.16	62.13 62.00 8.22	4.66 4.40 1.75	3.65 3.70 0.54	295.01 290.00 70.80
7	Mean Median Std. Deviation	30.71 30.80 0.17	33.64 33.70 0.65	91.33 91.00 4.67	6.01 6.00 2.09	0.43 0.40 0.17	62.03 62.00 8.69	4.66 4.40 1.75	3.67 3.70 0.55	292.02 288.00 67.85
8	Mean Median Std. Deviation	30.76 30.90 0.17	33.60 33.60 0.64	91.58 92.00 4.89	6.02 6.00 2.05	0.43 0.40 0.17	61.75 62.00 8.44	4.55 4.30 1.68	3.68 3.70 0.53	291.10 285.00 67.61
9	Mean Median Std. Deviation	30.69 30.80 0.16	33.61 33.60 0.64	91.34 91.50 4.83	5.99 6.00 2.03	0.42 0.40 0.16	61.85 62.00 8.52	4.55 4.30 1.65	3.69 3.70 0.53	292.26 285.00 72.75
10	Mean Median Std. Deviation	30.80 30.90 0.16	33.65 33.70 0.65	91.53 92.00 4.94	5.96 6.00 1.99	0.43 0.40 0.17	61.94 62.00 8.45	4.61 4.30 1.71	3.73 3.70 0.56	291.10 285.00 68.70
Total	Mean Median Std. Deviation	30.54 30.70 0.17	33.64 33.70 0.67	90.80 91.00 5.04	5.87 6.00 2.01	0.42 0.40 0.16	62.32 63.00 8.56	4.70 4.40 1.76	3.66 3.70 0.56	294.25 288.00 69.77

Women (Female, >=18YO)

Population Decile Group – C8 (PFOA)	Potassium, Serum (mmol/L)	Prolactin (ng-mL)	Protein, Total, Serum (g-dL)	RDW (%)	Red Blood Cell Count (x10e6-uL)	Sodium, Serum (mmol/L)	T3 Uptake (%)	Testosterone, Serum (ng-dL)	Thyroxine (T4) (ng-dL)
1									
Mean	4.08	14.35	7.24	14.24	4.46	140.39	29.23	41.11	8.21
Median	4.10	8.10	7.20	13.90	4.47	140.00	30.00	38.00	8.00
Std. Deviation	0.32	27.10	0.46	1.56	0.40	2.18	4.09	22.55	1.91
2									
Mean	4.07	11.99	7.29	13.96	4.50	140.48	29.07	40.49	8.37
Median	4.10	8.00	7.30	13.70	4.50	141.00	30.00	37.00	8.10
Std. Deviation	0.32	19.65	0.43	1.33	0.37	2.17	3.89	28.12	1.94
3									
Mean	4.08	12.12	7.31	13.89	4.51	140.53	29.03	40.88	8.31
Median	4.10	7.80	7.30	13.60	4.51	141.00	29.00	38.00	8.10
Std. Deviation	0.34	21.30	0.43	1.21	0.36	2.13	3.85	23.16	1.90
4									
Mean	4.09	11.94	7.31	13.87	4.51	140.60	29.00	39.11	8.36
Median	4.10	7.80	7.30	13.70	4.52	141.00	30.00	37.00	8.10
Std. Deviation	0.34	22.40	0.43	1.19	0.37	2.19	3.82	18.47	1.96
5									
Mean	4.10	10.80	7.32	13.92	4.51	140.58	29.17	39.90	8.34
Median	4.10	7.80	7.30	13.70	4.52	141.00	29.00	37.00	8.10
Std. Deviation	0.33	16.28	0.43	1.24	0.37	2.28	3.65	25.00	1.91
6									
Mean	4.12	10.94	7.32	13.87	4.51	140.66	29.28	39.05	8.33
Median	4.10	7.80	7.30	13.70	4.51	141.00	30.00	37.00	8.10
Std. Deviation	0.34	17.10	0.43	1.12	0.39	2.28	3.86	21.68	1.85
7									
Mean	4.11	10.61	7.32	13.88	4.48	140.54	29.21	38.08	8.30
Median	4.10	7.60	7.30	13.60	4.49	141.00	30.00	36.00	8.10
Std. Deviation	0.34	15.76	0.43	1.17	0.38	2.19	3.64	19.39	1.86
8									
Mean	4.13	10.46	7.31	13.90	4.49	140.57	29.36	38.03	8.41
Median	4.10	7.60	7.30	13.70	4.50	141.00	30.00	36.00	8.20
Std. Deviation	0.36	15.37	0.43	1.22	0.38	2.36	3.61	19.28	1.89
9									
Mean	4.14	9.83	7.32	13.86	4.50	140.69	29.36	37.33	8.38
Median	4.10	7.50	7.30	13.70	4.51	141.00	30.00	35.00	8.20
Std. Deviation	0.36	12.22	0.42	1.18	0.38	2.34	3.49	20.44	1.87
10									
Mean	4.16	9.53	7.33	13.87	4.49	140.62	29.41	37.03	8.28
Median	4.10	7.30	7.30	13.60	4.49	141.00	30.00	35.00	8.10
Std. Deviation	0.37	17.70	0.42	1.23	0.38	2.35	3.39	20.81	1.87
Total									
Mean	4.10	11.47	7.30	13.94	4.49	140.55	29.20	39.30	8.32
Median	4.10	7.80	7.30	13.70	4.50	141.00	30.00	36.00	8.10
Std. Deviation	0.34	19.57	0.43	1.28	0.38	2.24	3.75	22.33	1.90

Tabular (Numeric) Summary for Clinical Lab Values within Population C8/PFOA Deciles, Stratified by Age & Gender

Men (Male, >=18YO)

Population Decile Group -- C8 (PFOA)	A-G Ratio (Final Recoded Value)	AFP Tumor Marker, Serum (ng-mL)	Albumin, Serum (g-dL)	Alkaline Phosphatase, Serum (IU-L)	ALT (SGPT) (IU-L)	Antinuclear Antibodies Direct (U-mL)	AST (SGOT) (IU-L)	Baso (Absolute) (x10e3-uL)	Basos (%)	Bilirubin, Direct (mg-dL)	Bilirubin, Total (mg-dL)	BUN (mg-dL)
1 Mean Median Std. Deviation	1.59 1.60 0.27	2.45 2.00 1.01	4.40 4.40 0.34	86.70 82.00 32.12	28.46 25.00 17.99	38.02 26.00 47.67	24.41 22.00 11.64	0.02 0.00 0.04	0.26 0.00 0.44	0.13 0.11 0.07	0.47 0.40 0.32	16.20 15.00 7.34
2 Mean Median Std. Deviation	1.61 1.60 0.24	2.50 2.00 1.06	4.49 4.50 0.29	86.54 83.00 31.09	31.37 26.00 36.36	37.96 27.00 56.61	25.98 22.00 26.23	0.02 0.00 0.04	0.25 0.00 0.44	0.13 0.12 0.09	0.50 0.40 0.29	15.33 14.00 5.46
3 Mean Median Std. Deviation	1.62 1.60 0.24	2.55 2.00 2.20	4.51 4.50 0.29	85.22 82.00 26.14	30.46 26.00 21.08	37.30 27.00 56.66	24.83 22.00 12.40	0.02 0.00 0.04	0.26 0.00 0.44	0.13 0.12 0.06	0.50 0.40 0.29	14.97 14.00 5.10
4 Mean Median Std. Deviation	1.63 1.60 0.24	2.56 2.00 1.29	4.53 4.50 0.29	84.78 82.00 25.79	32.18 26.00 34.52	37.01 27.00 52.36	25.55 23.00 16.57	0.02 0.00 0.04	0.28 0.00 0.45	0.14 0.12 0.25	0.52 0.40 0.46	14.99 14.00 4.65
5 Mean Median Std. Deviation	1.62 1.60 0.24	12.47 2.00 524.43	4.54 4.50 0.28	85.28 82.00 23.82	31.69 26.00 20.68	38.13 28.00 62.32	25.32 23.00 11.29	0.02 0.00 0.04	0.27 0.00 0.45	0.13 0.12 0.06	0.51 0.40 0.29	15.15 15.00 4.88
6 Mean Median Std. Deviation	1.62 1.60 0.24	2.54 2.00 1.43	4.53 4.50 0.28	84.08 80.00 31.75	31.24 26.00 26.21	40.19 28.00 77.25	25.77 23.00 18.61	0.03 0.00 0.04	0.30 0.00 0.46	0.14 0.12 0.15	0.51 0.40 0.35	15.45 15.00 5.13
7 Mean Median Std. Deviation	1.62 1.60 0.24	2.57 2.00 1.26	4.53 4.50 0.29	84.02 81.00 25.89	31.08 26.00 20.23	40.43 30.00 59.23	25.61 23.00 15.69	0.03 0.00 0.04	0.30 0.00 0.47	0.13 0.12 0.06	0.52 0.40 0.29	15.28 15.00 5.18
8 Mean Median Std. Deviation	1.61 1.60 0.24	2.58 2.00 1.25	4.52 4.50 0.29	83.56 81.00 23.80	30.73 26.00 19.29	42.44 30.00 73.78	25.36 23.00 14.03	0.03 0.00 0.05	0.33 0.00 0.48	0.13 0.12 0.06	0.52 0.40 0.30	15.30 15.00 4.80
9 Mean Median Std. Deviation	1.61 1.60 0.23	2.60 2.00 1.28	4.53 4.50 0.27	83.38 80.00 26.02	30.55 26.00 18.49	39.85 29.00 51.89	25.37 23.00 11.15	0.03 0.00 0.05	0.33 0.00 0.47	0.13 0.12 0.06	0.51 0.40 0.28	15.40 15.00 4.59
10 Mean Median Std. Deviation	1.62 1.60 0.24	2.61 2.00 1.06	4.53 4.50 0.27	84.04 81.00 24.02	31.64 27.00 19.67	41.48 29.00 58.48	25.65 23.00 11.54	0.03 0.00 0.05	0.32 0.00 0.47	0.13 0.12 0.06	0.51 0.40 0.29	15.58 15.00 4.83
Total Mean Median Std. Deviation	1.62 1.60 0.24	3.60 2.00 169.61	4.52 4.50 0.29	84.58 81.00 26.81	31.04 26.00 23.92	39.47 28.00 60.89	25.42 23.00 15.19	0.03 0.00 0.04	0.29 0.00 0.46	0.13 0.12 0.11	0.51 0.40 0.32	15.34 15.00 5.13

Men (Male, >=18YO)

Population Decile Group -- C8 (PFOA)	BUN-Creatinine Ratio (Final Recoded Value)	Calcium, Serum (mg-dL)	Cancer Antigen (CA-125) (U-mL)	CEA (ng-mL)	Chloride, Serum (mmol-L)	Cholesterol, Total (mg-dL)	Cortisol (ug-dL)	C-Reactive Protein, Quant (mg-L)	Creatinine, Serum (mg-dL)	Eos (%)	Eos (Absolute) (x10e3-uL)
1	Mean Median Std. Deviation	14.81 14.00 4.42	13.33 10.60 12.64	9.79 9.80 0.41	1.67 1.30 1.69	188.39 185.00 44.02	13.02 12.30 5.33	4.30 1.80 8.26	1.14 1.00 0.77	2.50 2.00 1.81	0.19 0.20 0.15
2	Mean Median Std. Deviation	14.75 14.00 4.32	12.41 10.70 8.66	9.85 9.80 0.39	1.53 1.30 1.24	189.19 187.00 41.13	13.31 12.70 5.45	4.08 1.70 10.94	1.05 1.00 0.36	2.42 2.00 1.80	0.18 0.10 0.14
3	Mean Median Std. Deviation	14.44 14.00 4.14	12.64 10.70 8.70	9.87 9.90 0.37	1.51 1.20 1.24	191.66 188.00 43.47	13.32 12.90 5.50	3.39 1.60 7.17	1.05 1.00 0.24	2.45 2.00 1.86	0.18 0.10 0.15
4	Mean Median Std. Deviation	14.42 14.00 4.11	13.88 10.70 73.26	9.89 9.90 0.38	3.15 1.30 62.47	192.90 191.00 42.00	13.42 12.70 5.61	3.25 1.50 8.12	1.05 1.00 0.24	2.41 2.00 1.76	0.18 0.10 0.14
5	Mean Median Std. Deviation	14.52 14.00 3.93	13.21 11.00 22.52	9.89 9.90 0.37	1.49 1.20 1.25	195.14 191.00 44.09	13.50 12.90 5.59	3.19 1.50 7.11	1.05 1.00 0.19	2.38 2.00 1.69	0.18 0.10 0.13
6	Mean Median Std. Deviation	14.72 14.00 4.14	13.05 10.80 15.51	9.87 9.90 0.38	1.82 1.20 14.59	192.45 188.00 43.16	13.24 12.70 5.54	3.16 1.40 7.72	1.06 1.00 0.21	2.41 2.00 1.73	0.18 0.10 0.13
7	Mean Median Std. Deviation	14.52 14.00 3.93	13.18 10.70 20.14	9.88 9.90 0.39	1.73 1.30 9.33	195.74 193.00 44.01	13.11 12.50 5.55	2.98 1.40 6.82	1.06 1.00 0.21	2.36 2.00 1.69	0.17 0.10 0.12
8	Mean Median Std. Deviation	14.58 14.00 4.03	13.00 10.90 13.39	9.88 9.90 0.38	1.53 1.20 1.52	194.47 191.00 41.37	13.04 12.50 5.51	2.98 1.40 6.41	1.06 1.00 0.21	2.48 2.00 1.86	0.18 0.10 0.15
9	Mean Median Std. Deviation	14.71 14.00 3.90	12.64 10.90 10.13	9.88 9.90 0.38	1.63 1.30 1.92	196.86 194.00 40.88	12.74 12.20 5.38	2.84 1.40 5.79	1.06 1.00 0.18	2.44 2.00 1.80	0.18 0.10 0.14
10	Mean Median Std. Deviation	14.75 14.00 4.06	12.92 11.00 8.55	9.89 9.90 0.38	1.55 1.30 1.18	199.15 197.00 41.34	12.76 12.10 5.46	2.81 1.30 6.41	1.07 1.00 0.20	2.49 2.00 1.73	0.18 0.10 0.13
Total	Mean Median Std. Deviation	14.62 14.00 4.08	13.03 10.80 27.20	9.87 9.90 0.38	1.77 1.30 20.89	194.12 191.00 42.59	13.13 12.50 5.50	3.22 1.50 7.41	1.06 1.00 0.29	2.43 2.00 1.77	0.18 0.10 0.14

Men (Male, >=18YO)

Population Decile Group -- C8 (PFOA)	Estradiol (pg- mL)	Folates (Folic Acid), Serum (ng-mL)	Free Testosterone, Direct (pg-mL)	Free Thyroxine Index (Final Recoded Value)	GGT (IU-L)	Globulin, Total (g-dL)	Glucose, Serum (mg-dL)	HDL Cholesterol (mg-dL)	Hematocrit (%)	Hemoglobin (g- dL)	Immunoglobulin A, Qn, Serum (mg-dL)
1 Mean Median Std. Deviation	25.56 24.00 13.15	17.82 14.60 10.86	9.68 9.00 4.82	2.37 2.30 0.47	39.99 27.00 54.56	2.83 2.80 0.42	117.95 100.00 56.00	43.36 42.00 11.60	44.81 45.30 4.04	15.15 15.30 1.40	237.76 218.50 122.04
2 Mean Median Std. Deviation	24.75 24.00 9.44	17.13 13.70 10.12	9.94 9.30 4.11	2.42 2.40 0.48	40.63 27.00 82.21	2.83 2.80 0.36	111.76 99.00 47.73	43.75 42.00 11.65	45.46 45.70 3.37	15.40 15.50 1.16	236.86 216.00 115.60
3 Mean Median Std. Deviation	24.82 24.00 9.58	16.62 13.80 9.66	10.16 9.60 4.55	2.41 2.40 0.45	36.84 26.00 45.57	2.84 2.80 0.36	107.28 98.00 37.98	43.71 42.00 11.37	45.56 45.80 3.33	15.44 15.50 1.15	234.06 217.00 105.95
4 Mean Median Std. Deviation	25.20 24.00 9.71	16.81 14.30 9.80	10.42 9.80 4.85	2.42 2.40 0.48	36.85 26.00 47.34	2.83 2.80 0.36	106.10 97.00 34.28	43.69 42.00 11.67	45.71 45.90 3.32	15.50 15.60 1.13	230.69 215.00 108.89
5 Mean Median Std. Deviation	25.14 24.00 9.41	17.14 14.40 9.89	10.31 9.90 4.03	2.41 2.40 0.46	37.72 27.00 41.93	2.85 2.80 0.36	106.25 97.00 38.14	43.89 42.00 11.09	45.79 45.90 3.36	15.51 15.60 1.14	230.56 214.00 105.94
6 Mean Median Std. Deviation	25.23 24.00 9.62	17.28 14.15 10.08	10.44 9.80 4.76	2.40 2.40 0.50	39.01 26.00 80.87	2.85 2.80 0.38	106.50 97.00 37.81	43.98 42.00 11.99	45.53 45.80 3.43	15.44 15.50 1.17	227.05 211.00 106.64
7 Mean Median Std. Deviation	29.04 24.00 203.00	17.22 14.40 9.66	10.35 9.80 4.53	2.41 2.40 0.48	37.42 26.00 49.47	2.85 2.80 0.36	107.68 98.00 38.96	43.94 42.00 11.85	45.78 45.90 3.36	15.50 15.60 1.14	229.14 212.00 109.04
8 Mean Median Std. Deviation	24.93 24.00 9.36	17.35 14.20 10.06	10.40 9.90 4.43	2.42 2.40 0.44	37.60 26.00 50.72	2.86 2.80 0.35	106.99 97.00 37.74	43.71 42.00 11.29	45.76 45.80 3.24	15.48 15.50 1.11	228.09 213.00 109.47
9 Mean Median Std. Deviation	25.39 24.00 9.94	18.10 15.10 10.22	10.19 9.70 4.26	2.42 2.40 0.44	35.58 27.00 36.79	2.85 2.80 0.35	106.83 98.00 37.26	44.53 43.00 11.84	45.69 45.80 3.22	15.47 15.50 1.10	226.16 210.00 119.77
10 Mean Median Std. Deviation	25.89 25.00 9.29	18.31 15.20 10.10	10.11 9.60 4.06	2.40 2.40 0.49	37.42 28.00 36.06	2.84 2.80 0.36	106.33 97.00 35.93	44.57 43.00 11.89	45.61 45.70 3.29	15.46 15.50 1.12	224.98 208.50 103.67
Total Mean Median Std. Deviation	25.64 24.00 66.97	17.41 14.40 10.02	10.23 9.70 4.44	2.41 2.40 0.47	37.70 27.00 53.34	2.84 2.80 0.37	107.80 98.00 39.63	43.96 42.00 11.62	45.61 45.80 3.38	15.45 15.50 1.16	229.82 213.00 110.30

Men (Male, >=18YO)

Population Decile Group -- C8 (PFOA)	Immunoglobulin E, Total (IU-mL)	Immunoglobulin G, Qn, Serum (mg-dL)	Immunoglobulin M, Qn, Serum (mg-dL)	Insulin, Fasting (uIU-mL)	Insulin-Like Growth Factor I (ng-mL)	Iron, Serum (ug-dL)	LDH (IU-L)	LDL Cholesterol (Calculated)	Lymphs (%)	Lymphs (Absolute) (x10e3-uL)	Magnesium, Serum (mg-dL)	MCH (pg)
1												
Mean	115.25	1031.10	99.86	26.37	150.68	89.57	171.24	104.20	27.97	2.07	2.02	30.89
Median	31.00	1000.50	86.00	13.70	141.00	85.00	167.00	101.00	28.00	2.00	2.00	31.00
Std. Deviation	305.31	288.67	72.63	40.05	61.09	34.74	34.15	35.01	7.91	0.74	0.16	1.93
2												
Mean	124.30	1045.34	103.17	24.51	154.58	93.70	172.01	107.44	28.68	2.05	2.03	30.98
Median	29.00	1025.00	88.00	13.40	144.00	89.00	167.00	104.50	29.00	2.00	2.00	31.00
Std. Deviation	378.58	242.18	76.32	34.18	62.31	34.92	40.88	34.31	7.42	0.66	0.16	1.60
3												
Mean	122.34	1052.60	105.26	23.67	156.37	92.89	169.82	108.70	28.73	2.09	2.03	30.87
Median	30.00	1032.00	92.00	13.60	147.00	89.00	166.00	107.00	28.00	2.00	2.00	30.80
Std. Deviation	390.73	237.76	66.15	33.72	62.43	33.42	32.47	34.90	7.34	0.68	0.15	1.55
4												
Mean	98.26	1042.80	102.04	23.34	153.43	94.53	171.14	110.44	29.02	2.06	2.04	30.88
Median	28.00	1019.00	90.00	12.95	146.00	89.00	168.00	108.00	29.00	2.00	2.00	30.90
Std. Deviation	266.30	236.73	66.89	33.04	58.00	35.11	33.57	35.74	7.37	0.72	0.15	1.57
5												
Mean	108.88	1042.40	104.57	21.67	154.33	95.13	170.71	111.68	28.76	2.07	2.04	30.93
Median	29.00	1022.00	88.00	12.30	144.00	91.00	167.00	109.00	28.00	2.00	2.00	30.90
Std. Deviation	308.85	239.54	77.07	29.84	60.44	34.23	31.94	36.36	7.49	0.87	0.15	1.53
6												
Mean	101.34	1046.13	101.76	22.23	150.74	93.78	171.08	109.04	28.53	2.01	2.04	30.97
Median	28.00	1029.00	88.00	12.60	142.00	89.00	167.00	107.00	28.00	1.90	2.00	31.00
Std. Deviation	270.33	271.93	76.36	28.74	58.46	34.09	40.37	35.25	7.31	0.64	0.15	1.56
7												
Mean	106.00	1037.83	105.88	22.80	150.95	95.18	171.69	111.61	29.00	2.09	2.04	31.01
Median	26.00	1014.00	90.00	12.90	139.00	91.00	167.00	109.00	29.00	2.00	2.00	31.00
Std. Deviation	323.16	239.94	87.14	32.77	62.98	33.39	37.46	35.42	7.60	2.48	0.15	1.52
8												
Mean	102.86	1035.99	105.09	22.87	145.76	94.63	171.00	111.46	28.54	2.04	2.05	31.00
Median	29.00	1012.00	90.00	12.60	135.00	90.00	167.00	109.00	28.00	1.90	2.00	31.00
Std. Deviation	254.38	238.91	83.94	33.18	60.16	33.11	33.19	35.33	7.44	0.98	0.15	1.51
9												
Mean	99.62	1034.26	104.91	21.37	143.57	94.17	171.39	112.53	28.79	2.05	2.05	31.01
Median	27.00	1007.00	89.00	12.10	135.00	90.00	168.00	111.00	29.00	1.90	2.10	31.00
Std. Deviation	316.21	249.87	82.82	30.30	56.05	33.41	30.88	34.65	7.49	1.23	0.15	1.59
10												
Mean	93.22	1028.10	102.49	20.33	144.21	95.55	172.42	114.25	28.64	2.01	2.05	31.07
Median	26.00	1007.00	87.00	11.80	135.00	90.00	169.00	112.00	29.00	1.90	2.10	31.00
Std. Deviation	238.53	241.11	88.22	25.78	56.45	34.35	30.49	34.70	7.31	0.63	0.15	1.55
Total												
Mean	105.82	1039.42	103.67	22.64	150.03	94.15	171.27	110.61	28.70	2.05	2.04	30.97
Median	28.00	1017.00	89.00	12.70	140.00	90.00	167.00	108.00	28.00	2.00	2.00	31.00
Std. Deviation	304.74	247.71	78.98	31.82	59.79	34.05	34.45	35.27	7.45	1.13	0.15	1.58

Men (Male, >=18YO)

Population Decile Group -- C8 (PFOA)	MCHC (g-dL)	MCV (fL)	Monocytes (%)	Monocytes/Absolu te) (x10e3-uL)	Neutrophils (%)	Neutrophils (Absolute) (x10e3-uL)	Phosphorus, Serum (mg-dL)	Platelets (x10e3-uL)	Potassium, Serum (mmol-L)	Prolactin (ng- mL)	Prostate-Specific Antigen, Serum (ng-mL)	Protein, Total, Serum (g-dL)
1												
Mean	33.79	91.42	6.69	0.49	62.59	4.81	3.53	268.06	4.23	7.78	1.03	7.24
Median	33.80	92.00	7.00	0.50	63.00	4.50	3.50	261.00	4.20	6.70	0.70	7.20
Std. Deviation	0.68	5.15	2.18	0.19	8.98	1.78	0.69	71.48	0.38	5.70	1.46	0.48
2												
Mean	33.89	91.48	6.77	0.48	61.88	4.60	3.50	259.31	4.19	9.09	1.00	7.32
Median	33.90	91.00	7.00	0.50	62.00	4.30	3.50	253.00	4.20	6.90	0.60	7.30
Std. Deviation	0.62	4.42	2.05	0.17	8.26	1.75	0.62	58.97	0.35	60.83	1.95	0.42
3												
Mean	33.86	91.14	6.78	0.49	61.78	4.65	3.50	262.71	4.19	8.08	0.91	7.36
Median	33.90	91.00	7.00	0.50	62.00	4.30	3.50	260.00	4.20	7.00	0.60	7.30
Std. Deviation	0.60	4.22	2.21	0.18	8.42	1.72	0.60	61.03	0.31	15.63	1.10	0.42
4												
Mean	33.90	91.14	6.80	0.48	61.49	4.53	3.49	261.90	4.19	8.41	1.04	7.36
Median	33.90	91.00	7.00	0.50	62.00	4.20	3.50	258.00	4.20	6.90	0.60	7.40
Std. Deviation	0.62	4.26	2.13	0.18	8.33	1.68	0.59	61.08	0.33	31.87	5.10	0.41
5												
Mean	33.87	91.37	6.74	0.48	61.55	4.61	3.49	261.54	4.21	7.62	1.04	7.38
Median	33.90	91.00	7.00	0.50	62.00	4.30	3.50	256.00	4.20	6.80	0.70	7.40
Std. Deviation	0.61	4.20	2.15	0.18	8.39	1.93	0.59	59.36	0.32	3.96	2.32	0.42
6												
Mean	33.91	91.37	6.83	0.48	61.93	4.54	3.52	258.40	4.21	7.80	1.02	7.37
Median	33.90	91.00	7.00	0.50	62.00	4.20	3.50	253.00	4.20	7.00	0.60	7.40
Std. Deviation	0.61	4.27	2.18	0.18	8.34	1.69	0.61	60.62	0.35	4.25	2.21	0.43
7												
Mean	33.87	91.62	6.88	0.49	61.45	4.49	3.52	257.49	4.22	9.17	1.31	7.38
Median	33.90	91.00	7.00	0.50	62.00	4.20	3.50	254.00	4.20	6.90	0.60	7.40
Std. Deviation	0.59	4.21	2.11	0.17	8.53	1.62	0.60	57.01	0.35	59.21	20.59	0.42
8												
Mean	33.83	91.68	6.84	0.48	61.60	4.52	3.50	258.35	4.24	8.52	1.06	7.38
Median	33.80	91.00	7.00	0.50	62.00	4.20	3.50	254.00	4.20	7.00	0.70	7.40
Std. Deviation	0.59	4.19	2.13	0.18	8.40	1.62	0.57	63.53	0.33	43.85	2.16	0.42
9												
Mean	33.86	91.62	6.92	0.49	61.52	4.47	3.53	257.83	4.24	10.06	1.07	7.38
Median	33.90	91.00	7.00	0.50	62.00	4.20	3.50	253.00	4.20	6.90	0.70	7.40
Std. Deviation	0.61	4.35	2.08	0.18	8.47	1.66	0.57	59.20	0.34	98.23	1.82	0.41
10												
Mean	33.90	91.71	6.92	0.49	61.63	4.51	3.55	258.31	4.26	8.44	1.16	7.37
Median	33.90	92.00	7.00	0.50	62.00	4.20	3.50	253.00	4.20	6.80	0.70	7.40
Std. Deviation	0.59	4.30	2.11	0.28	8.38	1.94	0.56	58.42	0.34	26.47	2.21	0.41
Total												
Mean	33.87	91.47	6.83	0.49	61.75	4.56	3.51	260.05	4.22	8.53	1.07	7.36
Median	33.90	91.00	7.00	0.50	62.00	4.30	3.50	255.00	4.20	6.90	0.70	7.40
Std. Deviation	0.61	4.33	2.14	0.19	8.44	1.74	0.60	60.78	0.34	47.03	7.15	0.42

Men (Male, >=18YO)

Population Decile Group -- C8 (PFOA)	RDW (%)	Red Blood Cell Count (x10 ⁶ /uL)	Sodium, Serum (mmol/L)	T3 Uptake (%)	Testosterone, Serum (ng-dL)	Thyroxine (T4) (ng-dL)	Triglycerides (mg-dL)	TSH (uIU-mL)	Uric Acid, Serum (mg-dL)	Vitamin B12 (pg-mL)	VDL Cholesterol (Calculated) (mg-dL)	White Blood Cell Count (x10 ³ -uL)
1												
Mean	14.10	4.92	140.82	32.17	368.81	7.41	227.79	2.24	6.17	498.27	34.27	7.5773
Median	13.80	4.97	141.00	32.00	350.00	7.40	169.00	1.72	6.10	435.00	31.00	7.3000
Std. Deviation	1.32	0.49	2.41	3.00	164.51	1.52	204.97	4.60	1.42	293.16	18.86	2.14875
2												
Mean	13.81	4.98	140.77	32.13	370.68	7.58	204.45	2.17	6.18	475.49	34.08	7.3220
Median	13.70	5.01	141.00	32.00	348.50	7.50	163.00	1.66	6.10	432.00	31.00	7.0000
Std. Deviation	0.96	0.42	2.18	3.00	161.00	1.53	157.54	4.07	1.36	244.98	16.96	2.12782
3												
Mean	13.75	5.01	140.91	32.07	369.03	7.56	210.52	2.01	6.32	469.84	33.69	7.4239
Median	13.60	5.03	141.00	32.00	350.00	7.50	163.00	1.69	6.20	429.00	30.00	7.1000
Std. Deviation	0.96	0.41	2.15	3.01	152.36	1.46	184.32	1.43	1.36	224.40	16.91	2.12238
4												
Mean	13.72	5.03	140.97	32.04	374.51	7.59	211.81	2.14	6.37	468.99	34.65	7.2665
Median	13.60	5.04	141.00	32.00	351.00	7.50	171.00	1.70	6.30	424.00	32.00	6.9000
Std. Deviation	0.96	0.41	2.12	3.09	161.57	1.56	159.38	2.61	1.37	214.36	17.26	2.08487
5												
Mean	13.70	5.02	140.92	32.08	367.07	7.56	214.90	2.16	6.40	473.37	34.70	7.3487
Median	13.60	5.05	141.00	32.00	351.00	7.55	170.00	1.71	6.30	431.00	32.00	7.0000
Std. Deviation	0.94	0.42	2.24	3.03	146.26	1.49	193.97	3.58	1.37	221.26	16.84	2.34641
6												
Mean	13.73	4.99	140.88	32.15	379.58	7.52	213.40	2.21	6.31	480.26	34.32	7.2174
Median	13.60	5.03	141.00	32.00	354.00	7.50	167.00	1.73	6.20	431.00	31.00	6.9000
Std. Deviation	1.05	0.43	2.24	3.08	194.50	1.51	183.14	3.08	1.36	255.18	17.05	2.05305
7												
Mean	13.68	5.01	140.93	32.13	368.96	7.54	218.79	2.31	6.37	467.49	35.41	7.2451
Median	13.60	5.03	141.00	32.00	345.00	7.50	173.00	1.72	6.30	428.00	32.00	6.9000
Std. Deviation	0.96	0.42	2.28	3.01	153.02	1.51	189.84	5.09	1.35	201.36	17.14	3.13498
8												
Mean	13.67	5.00	140.81	32.09	373.01	7.58	214.44	2.17	6.38	476.98	35.54	7.2307
Median	13.50	5.01	141.00	32.00	355.00	7.60	175.00	1.74	6.30	430.00	33.00	6.9000
Std. Deviation	0.86	0.40	2.22	2.84	156.51	1.44	158.74	2.46	1.38	242.89	16.95	2.15060
9												
Mean	13.70	5.00	140.88	31.90	371.30	7.63	216.17	2.13	6.36	484.29	35.62	7.1924
Median	13.60	5.02	141.00	32.00	352.00	7.60	176.00	1.75	6.30	434.00	33.00	6.9000
Std. Deviation	0.93	0.40	2.32	2.94	145.68	1.59	169.82	2.05	1.33	258.18	17.14	2.33300
10												
Mean	13.67	4.99	140.83	31.96	380.90	7.55	222.71	2.23	6.41	480.92	35.95	7.2096
Median	13.50	4.99	141.00	32.00	362.00	7.50	179.00	1.78	6.30	437.00	33.00	6.9000
Std. Deviation	0.96	0.41	2.28	2.88	152.22	1.49	174.93	2.90	1.33	232.96	16.97	2.38990
Total												
Mean	13.73	5.00	140.86	32.06	372.75	7.56	215.50	2.18	6.34	476.98	34.92	7.2863
Median	13.60	5.02	141.00	32.00	353.00	7.50	171.00	1.73	6.30	431.00	32.00	6.9000
Std. Deviation	0.98	0.42	2.24	3.01	158.83	1.51	177.48	3.27	1.36	237.83	17.03	2.32800