

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study

Test (Variable Name) (units)	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
2-hour Postprandial Glucose (AF2HGL) (mg/dl)	5/1/97–end	3.0	1.6	1.5	2.4	1.9	1.8
α -1-Acid Glycoprotein (AFA1AG) (mg/dl)	5/2/97–8/20/97	5.0	4.8	4.8	2.5	2.9	4.4
	8/21/97–end	8.5	7.5	7.6	3.1	3.6	4.7
α -1-Antitrypsin (AFA1AT) (mg/dl)	5/2/97–8/20/97	6.2	4.2	4.5	7.5	3.6	4.7
	8/21/97–end	12.0	9.9	10.1	8.0	4.1	5.7
α -2-Macroglobulin (AFA2MG) (mg/dl)	5/2/97–8/20/97	4.8	4.4	5.0	4.2	3.9	5.2
	8/21/97–end	12.6	10.0	10.0	5.7	5.5	6.1
Albumin (AFALBU) (mg/dl)	5/2/97–8/20/97	4.8	4.4	4.1	3.4	3.1	3.3
	8/21/97–end	7.6	7.5	7.5	4.6	5.1	5.8
Alkaline Phosphatase (ALKA) (U/l)	5/1/97–6/30/97	10.2	4.5	5.1	10.2	4.1	4.9
	7/1/97–end	10.6	4.7	5.4	12.2	5.5	6.0
ALT (ALT) (U/l)	5/1/97–end	4.5	4.5	4.8	3.6	5.5	3.3
Amylase (AMY) (U/l)	5/1/97–end	2.5	1.8	2.2	2.2	1.3	1.1
Apolipoprotein B (AFAPO) (mg/dl)	5/2/97–8/20/97	5.4	5.2	4.9	2.5	2.8	3.0
	8/21/97–end	10.0	9.0	8.6	4.4	4.4	4.3
AST (ASTA) (U/l)	5/1/97–end	7.6	4.3	3.4	7.3	3.7	2.3
C3 Complement (AFC3C) (mg/dl)	5/2/97–8/20/97	8.6	4.8	4.7	9.3	3.6	4.6
	8/21/97–end	9.5	8.9	8.5	7.7	4.7	5.8

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study (Continued)

Test (Variable Name) (unit(s))	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
C4 Complement (AFC4C) (mg/dl)	5/2/97–8/20/97	4.8	5.0	4.9	3.5	3.4	3.9
	8/21/97–end	10.0	8.7	9.0	4.6	4.6	4.9
Cholesterol (CHOLA) (mg/dl)	5/1/97–end	3.8	3.2	2.7	3.0	2.3	3.3
Creatine Phosphokinase (CPKA) (U/l)	5/1/97–end	6.1	2.6	3.8	4.2	3.0	2.6
Creatinine (CRETA) (mg/dl)	5/1/97–end	5.6	3.4	2.6	6.4	2.7	2.3
Direct Bilirubin (DBILA) (mg/dl)	5/1/97–end	25.0	20.0	11.1	39.8	10.7	5.8
Estradiol (AFESTR) (pg/ml)	5/1/97–end	9.8	10.0	10.0	12.6	8.7	9.2
Free Testosterone (AFTESF) (pg/ml)	5/1/97–end	14.2	14.7	15.0	21.2	14.0	12.2
FSH (AFFSHR) (mIU/ml)	5/1/97–9/15/97	5.2	5.4	5.0	5.1	4.4	4.8
	9/16/97–end	5.0	5.3	4.9	6.0	4.5	4.7
GGT (GGTA) (U/l)	5/1/97–end	6.0	2.4	3.8	5.4	1.9	1.5
Glucose (GLUCA) (mg/dl)	5/1/97–end	3.0	1.6	1.5	2.4	1.8	1.8
Glycated Hemoglobin (α -1-C Hemoglobin) (AFHA1C) (percent)	5/1/97–end	12.7	10.1	8.2	8.9	7.5	7.8
Haptoglobin (AFHAPT) (mg/dl)	5/2/97–8/20/97	4.9	4.6	4.6	2.9	3.4	3.8
	8/21/97–end	7.5	7.0	7.0	3.7	4.0	4.1
HDL Cholesterol (HDLA) (mg/dl)	5/1/97–end	6.3	11.4	3.7	7.6	6.8	5.2

**Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study
(Continued)**

Test (Variable Name) (units)	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
Hematocrit (HCT) (percent)	4/22/97–5/21/97	4.8	2.6	2.8	1.9	1.4	1.1
	5/22/97–6/25/97	5.1	2.6	3.1	1.3	1.1	1.2
	6/26/97–7/21/97	5.1	2.6	2.7	2.0	1.2	2.1
	7/22/97–8/13/97	5.2	2.6	2.8	1.0	1.3	0.9
	8/14/97–9/8/97	5.1	2.6	2.7	1.1	0.9	0.9
	9/9/97–10/8/97	5.0	2.6	2.7	1.3	1.5	1.8
	10/9/97–11/12/97	5.0	2.7	2.8	1.4	1.4	1.5
	11/13/97–12/10/97	5.0	2.6	2.7	1.6	1.0	2.4
	12/11/97–1/14/98	5.0	2.6	2.8	2.3	1.4	1.7
	1/15/98–2/11/98	5.0	2.6	2.8	1.7	1.4	1.0
	2/12/98–3/18/98	5.1	2.6	2.8	2.2	1.7	1.6
	3/19/98–end	5.0	2.6	2.8	1.1	0.9	1.1

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study (Continued)

Test (Variable Name) (unit(s))	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
Hemoglobin (HGB) (gm/dl)	4/22/97–5/21/97	2.9	1.6	1.8	1.1	1.0	0.9
	5/22/97–6/25/97	2.9	1.6	1.8	0.8	0.7	1.0
	6/26/97–7/21/97	2.9	1.6	1.8	1.8	0.7	1.0
	7/22/97–8/13/97	3.0	1.6	1.8	1.0	0.6	1.3
	8/14/97–9/8/97	2.9	1.6	1.8	0.5	0.5	0.4
	9/9/97–10/8/97	2.9	1.6	1.8	1.0	0.9	1.3
	10/9/97–11/12/97	2.9	1.6	1.8	1.0	0.9	1.4
	11/13/97–12/10/97	2.9	1.6	1.8	0.9	0.7	1.0
	12/11/97–1/14/98	2.9	1.5	1.8	1.1	0.7	0.8
	1/15/98–2/11/98	2.9	1.6	1.8	0.9	0.8	0.9
	2/12/98–3/18/98	2.9	1.6	1.8	1.1	0.8	0.7
	3/19/98–end	2.9	1.6	1.8	1.1	0.5	0.4
IgA (AFIGA) (mg/dl)	5/2/97–8/20/97	4.9	4.0	4.8	2.9	2.5	3.1
	8/21/97–end	7.6	7.0	7.1	3.8	3.5	3.7
IgG (AFIGG) (mg/dl)	5/2/97–8/20/97	4.7	4.5	5.2	2.3	3.2	3.2
	8/21/97–end	8.0	7.1	6.9	2.9	3.4	3.5
IgM (AFIGM) (mg/dl)	5/2/97–8/20/97	4.3	4.6	4.9	3.3	3.1	3.6
	8/21/97–end	10.0	9.1	8.9	4.3	4.0	4.0
Insulin (AFINS) (μ IU/ml @ 2 hrs.)	5/1/97–2/4/98	7.1	4.4	4.0	5.1	5.2	5.6
	2/5/98–end	7.7	7.4	5.3	6.6	8.3	6.7
LDH (LDHA) (U/l)	5/1/97–end	4.5	3.0	3.3	3.6	3.0	2.7
Luteinizing Hormone (AFLH) (mIU/ml)	5/1/97–end	5.0	4.9	4.9	6.0	5.1	6.1

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study (Continued)

Test (Variable Name) (unit(s))	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
Mean Corpuscular Hemoglobin (MCH) (pg)	4/22/97–5/21/97	2.8	2.0	2.4	1.1	1.0	0.7
	5/22/97–6/25/97	2.8	2.0	2.4	0.9	1.1	1.0
	6/26/97–7/21/97	2.8	2.0	2.4	1.0	0.9	0.8
	7/22/97–8/13/97	2.9	2.0	2.4	1.4	1.3	1.3
	8/14/97–9/8/97	2.8	2.0	2.4	1.1	0.6	0.6
	9/9/97–10/8/97	2.8	2.0	2.4	1.2	0.8	0.9
	10/9/97–11/12/97	2.8	2.0	2.4	1.3	1.0	1.0
	11/13/97–12/10/97	2.8	2.0	2.4	1.5	0.8	1.1
	12/11/97–1/14/98	2.8	2.0	2.4	1.6	1.3	0.9
	1/15/98–2/11/98	2.8	2.0	2.4	1.3	1.1	1.0
	2/12/98–3/18/98	2.8	2.0	2.4	1.3	1.2	1.1
	3/19/98–end	2.9	2.0	2.4	1.0	0.8	0.9

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study (Continued)

Test (Variable Name) (units)	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
Mean Corpuscular Hemoglobin Concentration (MCHC) (gm/dl)	4/22/97–5/21/97	2.5	3.8	3.1	1.1	1.5	0.6
	5/22/97–6/25/97	2.5	3.9	3.2	1.3	1.7	1.5
	6/26/97–7/21/97	2.5	3.8	3.1	1.4	0.9	0.9
	7/22/97–8/13/97	2.5	4.0	3.2	1.2	1.2	1.0
	8/14/97–9/8/97	2.5	3.9	3.2	0.9	1.3	0.8
	9/9/97–10/8/97	2.5	3.9	3.1	1.1	1.2	1.0
	10/9/97–11/12/97	2.5	3.9	3.1	0.9	1.2	1.0
	11/13/97–12/10/97	2.5	3.9	3.1	1.7	1.8	1.3
	12/11/97–1/14/98	2.5	3.9	3.1	2.0	2.4	1.4
	1/15/98–2/11/98	2.5	3.9	3.1	1.5	1.8	1.3
	2/12/98–3/18/98	2.5	3.8	3.1	1.8	1.7	2.0
	3/19/98–end	2.5	3.9	3.1	1.1	1.0	1.1

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study (Continued)

Test (Variable Name) (units)	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
Mean Corpuscular Volume (MCV) (cu. micra)	4/22/97–5/21/97	1.8	1.7	1.7	0.8	0.6	0.7
	5/22/97–6/25/97	1.8	1.7	1.7	1.4	0.8	0.5
	6/26/97–7/21/97	1.8	1.7	1.7	0.9	0.9	1.4
	7/22/97–8/13/97	1.9	1.7	1.7	0.9	1.1	1.0
	8/14/97–9/8/97	1.8	1.7	1.7	0.5	0.5	0.5
	9/9/97–10/8/97	1.8	1.7	1.7	0.7	0.6	0.6
	10/9/97–11/12/97	1.8	1.7	1.7	0.7	0.7	0.7
	11/13/97–12/10/97	1.8	1.7	1.7	1.0	0.7	1.2
	12/11/97–1/14/98	1.8	1.7	1.7	1.2	0.9	0.7
	1/15/98–2/11/98	1.8	1.7	1.7	0.7	0.8	0.7
	2/12/98–3/18/98	1.8	1.7	1.7	1.8	1.3	0.8
	3/19/98–end	1.9	1.7	1.7	0.5	0.3	0.6

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study (Continued)

Test (Variable Name) (units)	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
Platelet Count (PLT) (thousand/mm ³)	4/22/97–5/21/97	10.1	5.5	4.5	4.8	4.5	2.7
	5/22/97–6/25/97	9.4	5.1	4.3	3.0	2.3	3.3
	6/26/97–7/21/97	9.7	5.2	4.5	2.5	2.7	2.0
	7/22/97–8/13/97	9.4	5.0	4.4	3.2	2.2	2.1
	8/14/97–9/8/97	9.4	5.0	4.5	1.8	1.8	1.6
	9/9/97–10/8/97	9.1	5.0	4.4	2.2	1.8	1.8
	10/9/97–11/12/97	9.1	5.1	4.5	4.5	2.6	2.1
	11/13/97–12/10/97	10.1	5.4	4.6	2.2	2.5	2.8
	12/11/97–1/14/98	9.7	5.3	4.6	2.1	2.0	2.2
	1/15/98–2/11/98	10.0	5.4	4.6	2.7	3.5	2.0
	2/12/98–3/18/98	10.3	5.7	4.8	3.3	2.8	2.6
	3/19/98–end	9.9	5.4	4.7	2.1	1.9	2.4
Prealbumin (AFPRAL) (mg/dl)	5/2/97–8/20/97	4.9	4.5	5.0	2.7	3.2	5.4
	8/21/97–end	7.5	7.1	8.0	3.2	3.7	6.4
Prostate Specific Antigen (AFPSA) (ng/ml)	4/30/97–8/10/97	13.2	9.9	10.0	5.6	6.2	6.3
	8/11/97–11/17/97	5.4	5.6	4.4	7.3	5.8	7.1
	11/18/97–2/11/98	5.7	7.0	10.3	5.3	5.5	7.4
	2/12/98–end	5.1	3.8	4.5	4.2	4.5	5.8
Prothrombin Time (AFPTP) (seconds)	5/1/97–end	2.5	2.9	5.0	1.9	2.0	2.2

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study (Continued)

Test (Variable Name) (units)	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
Red Blood Cell Count (RBC) (million/mm ³)	4/22/97–5/21/97	2.2	1.5	1.6	1.5	0.9	1.0
	5/22/97–6/25/97	2.2	1.5	1.6	1.0	0.7	1.1
	6/26/97–7/21/97	2.2	1.5	1.6	1.3	0.8	1.1
	7/22/97–8/13/97	2.2	1.5	1.7	0.9	1.7	1.0
	8/14/97–9/8/97	2.2	1.5	1.6	0.8	0.6	0.6
	9/9/97–10/8/97	2.2	1.5	1.6	1.0	1.5	1.5
	10/9/97–11/12/97	2.2	1.5	1.7	1.4	1.4	1.3
	11/13/97–12/10/97	2.2	1.5	1.6	1.5	1.0	1.5
	12/11/97–1/14/98	2.2	1.4	1.6	1.7	0.7	1.1
	1/15/98–2/11/98	2.2	1.5	1.6	1.2	0.8	0.7
	2/12/98–3/18/98	2.2	1.5	1.6	1.1	0.9	1.0
	3/19/98–end	2.2	1.5	1.6	1.0	0.7	0.8
Rheumatoid Factor (AFLATX) (IU/ml)	5/1/97–end	50.0	5.0	5.0	0.0	3.6	3.5
T ₄ (AFT4) (μg/dl)	5/1/97–10/5/97	7.8	7.8	7.7	7.8	5.6	5.0
	10/6/97–end	7.8	7.8	7.7	11.4	6.5	6.3
Total Bilirubin (TBILA) (mg/dl)	5/1/97–end	15.7	5.8	5.1	8.0	2.8	3.2
Total Testosterone (AFTEST) (ng/dl)	5/1/97–12/3/97	10.4	9.8	4.2	11.5	9.5	7.0
	12/4/97–end	8.2	8.2	7.4	9.0	7.2	6.8
Transferrin (AFTRFR) (mg/dl)	5/2/97–8/26/97	4.6	4.7	4.6	4.6	2.8	3.8
	8/27/97–end	7.6	6.9	7.0	3.8	4.1	5.8
Triglycerides (TRIGA) (mg/dl)	5/1/97–end	16.1	3.7	3.8	15.3	2.9	3.0

Table D-1. Coefficients of Variation for Quality Control—Trilevel Control Data for the 1997 Air Force Health Study (Continued)

Test (Variable Name) (units)	Time Period	Target			Actual		
		Low	Medium	High	Low	Medium	High
TSH (AFTSH) (μ IU/ml)	5/1/97–2/14/98	10.0	8.4	8.3	10.1	9.9	11.2
	2/15/98–end	10.0	7.6	7.8	6.1	5.8	5.9
Urinary pH (UAPH)	4/97–end	8.3	6.7	6.3	2.5	3.2	1.2
White Blood Cell Count (WBC) (thousand/mm ³)	4/22/97–5/21/97	5.7	3.8	2.9	2.8	2.4	1.0
	5/22/97–6/25/97	5.9	4.0	2.8	2.4	3.7	0.9
	6/26/97–7/21/97	5.7	3.8	2.8	2.9	1.6	2.3
	7/22/97–8/13/97	5.6	3.8	2.9	2.7	2.4	1.5
	8/14/97–9/8/97	5.7	3.9	2.8	2.5	1.8	0.6
	9/9/97–10/8/97	5.4	3.8	2.8	2.7	2.0	1.3
	10/9/97–11/12/97	5.4	3.9	2.8	2.6	2.6	1.4
	11/13/97–12/10/97	5.4	3.9	2.7	2.3	2.2	1.1
	12/11/97–1/14/98	5.6	4.0	2.8	3.4	2.0	1.0
	1/15/98–2/11/98	5.9	4.0	2.8	2.9	2.8	1.3
	2/12/98–3/18/98	5.7	3.9	2.8	3.6	1.9	1.2
	3/19/98–end	5.6	3.8	2.8	1.6	1.1	0.9

APPENDIX E

APPENDIX E. STATISTICAL METHODS

Table E-1. Approximate Power To Detect an Initial Dioxin Effect at a 5-Percent Level of Significance (Discrete Dependent Variable)

Prevalence of Condition	Relative Risk								
	1.10	1.20	1.30	1.40	1.50	1.75	2.00	10.00	20.00
0.005	0.05	0.07	0.09	0.13	0.18	0.35	0.56	1.00	1.00
0.01	0.06	0.09	0.14	0.21	0.30	0.59	0.82	1.00	1.00
0.02	0.07	0.13	0.23	0.36	0.52	0.84	0.97	1.00	1.00
0.03	0.08	0.16	0.31	0.49	0.67	0.94	0.99	1.00	1.00
0.04	0.09	0.20	0.39	0.60	0.78	0.98	1.00	1.00	1.00
0.05	0.10	0.24	0.46	0.68	0.85	0.99	1.00	1.00	1.00
0.10	0.14	0.39	0.70	0.90	0.98	1.00	1.00	1.00	1.00
0.15	0.17	0.51	0.82	0.96	0.99	1.00	1.00	1.00	1.00
0.20	0.20	0.59	0.89	0.98	1.00	1.00	1.00	1.00	1.00

Table E-2. Approximate Power To Detect a Categorized Dioxin Effect (Low plus High Ranch Hands vs. Comparisons) at a 5-Percent Level of Significance (Discrete Dependent Variable)

Prevalence of Condition	Relative Risk								
	1.10	1.20	1.30	1.40	1.50	1.75	2.00	10.00	20.00
0.005	0.05	0.06	0.07	0.08	0.09	0.13	0.18	0.95	0.99
0.01	0.05	0.06	0.08	0.10	0.13	0.21	0.30	1.00	1.00
0.02	0.06	0.08	0.11	0.15	0.21	0.36	0.53	1.00	1.00
0.03	0.06	0.09	0.14	0.21	0.28	0.50	0.69	1.00	1.00
0.04	0.06	0.11	0.17	0.26	0.35	0.61	0.81	1.00	1.00
0.05	0.07	0.12	0.20	0.30	0.42	0.70	0.88	1.00	1.00
0.10	0.08	0.18	0.33	0.51	0.67	0.92	0.99	1.00	1.00
0.15	0.10	0.24	0.44	0.65	0.81	0.98	1.00	1.00	1.00
0.20	0.11	0.28	0.52	0.74	0.88	0.99	1.00	1.00	1.00

Table E-3. Approximate Power To Detect a Lipid-adjusted 1987 Dioxin Effect at a 5-Percent Level of Significance (Discrete Dependent Variable)

Prevalence of Condition	Relative Risk								
	1.10	1.20	1.30	1.40	1.50	1.75	2.00	10.00	20.00
0.005	0.06	0.09	0.15	0.23	0.34	0.65	0.89	1.00	1.00
0.01	0.07	0.14	0.25	0.40	0.57	0.90	0.99	1.00	1.00
0.02	0.09	0.22	0.43	0.66	0.84	0.99	1.00	1.00	1.00
0.03	0.11	0.30	0.58	0.82	0.95	1.00	1.00	1.00	1.00
0.04	0.13	0.38	0.69	0.90	0.98	1.00	1.00	1.00	1.00
0.05	0.15	0.45	0.78	0.95	0.99	1.00	1.00	1.00	1.00
0.10	0.25	0.70	0.95	1.00	1.00	1.00	1.00	1.00	1.00
0.15	0.32	0.83	0.99	1.00	1.00	1.00	1.00	1.00	1.00
0.20	0.39	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table E-4. Approximate Power To Detect an Initial Dioxin Effect at a 5-Percent Level of Significance (Continuous Dependent Variable)

Mean Change	Coefficient of Variation (100 σ/μ)					
	5	10	15	25	50	75
0.005	0.82	0.30	0.16	0.09	0.06	0.05
0.01	1.00	0.82	0.49	0.21	0.09	0.07
0.02	1.00	1.00	0.97	0.64	0.21	0.12
0.03	1.00	1.00	1.00	0.93	0.41	0.21
0.04	1.00	1.00	1.00	1.00	0.64	0.34
0.05	1.00	1.00	1.00	1.00	0.82	0.49
0.10	1.00	1.00	1.00	1.00	1.00	0.97

Table E-5. Approximate Power To Detect a Categorized Dioxin Effect (Low plus High Ranch Hands vs. Comparisons) at a 5-Percent Level of Significance (Continuous Dependent Variable)

Mean Change	Coefficient of Variation (100 σ/μ)					
	5	10	15	25	50	75
0.005	0.46	0.15	0.09	0.07	0.05	0.05
0.01	0.96	0.46	0.24	0.12	0.07	0.06
0.02	1.00	0.96	0.70	0.32	0.12	0.08
0.03	1.00	1.00	0.96	0.61	0.20	0.12
0.04	1.00	1.00	1.00	0.84	0.32	0.17
0.05	1.00	1.00	1.00	0.96	0.46	0.24
0.10	1.00	1.00	1.00	1.00	0.96	0.70

Table E-6. Approximate Power To Detect a Lipid-adjusted 1987 Dioxin Effect at a 5-Percent Level of Significance (Continuous Dependent Variable)

Mean Change	Coefficient of Variation (100 σ/μ)					
	5	10	15	25	50	75
0.005	0.99	0.58	0.30	0.14	0.07	0.06
0.01	1.00	0.99	0.82	0.41	0.14	0.09
0.02	1.00	1.00	1.00	0.93	0.41	0.21
0.03	1.00	1.00	1.00	1.00	0.74	0.41
0.04	1.00	1.00	1.00	1.00	0.93	0.63
0.05	1.00	1.00	1.00	1.00	0.99	0.82
0.10	1.00	1.00	1.00	1.00	1.00	1.00

APPENDIX F

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APPENDIX F. DEPENDENT VARIABLE-COVARIATE ASSOCIATIONS

This appendix contains results of tests of association between each dependent variable and covariates for the adjusted analysis of each dependent variable. Pearson's chi-square test (continuity-adjusted for 2x2 tables) is used for significance testing of the associations between each discrete dependent variable and the covariate. When a covariate is continuous in nature (for example, age), the covariate is discretized prior to the analysis of the discrete dependent variable. Pearson's correlation coefficient is used for significance testing of the associations between each continuous dependent variable and a continuous candidate covariate. When a covariate is discrete in nature, means (transformed back to the original scale, if necessary) are presented and an analysis of variance is used to investigate the difference between the means.

Table F-1. Dependent Variable-Covariate Associations for the General Health Assessment

Dependent Variable	Level	Age			Race		
		Born ≥1942	Born <1942	p-Value	Black	Non-Black	p-Value
Self-perception of Health	Fair or Poor	(n=932) 10.7%	(n=1,188) 13.0%	0.132	(n=128) 19.5%	(n=1,992) 11.5%	0.010
Appearance of Illness or Distress	Yes	(n=933) 1.0%	(n=1,188) 1.7%	0.220	(n=128) 4.7%	(n=1,993) 1.2%	0.003
Relative Age Appearance	Older	(n=933) 7.8%	(n=1,188) 10.2%	0.072	(n=128) 7.0%	(n=1,993) 9.3%	0.485
Body Fat		(n=933)	(n=1,188)		(n=128)	(n=1,993)	
(continuous) ^a		r = -0.011			$\bar{x}$ = 22.59	$\bar{x}$ = 22.18	0.410
(discrete)	Obese	30.2%	28.5%	0.399	35.2%	28.9%	0.156
Erythrocyte Sedimentation Rate		(n=933)	(n=1,188)		(n=128)	(n=1,993)	
(continuous) ^b		r = 0.179			$\bar{x}$ = 5.33	$\bar{x}$ = 4.74	0.184
(discrete)	Abnormal	6.1%	8.7%	0.033	10.2%	7.4%	0.326

Dependent Variable	Level	Occupation				Personality Type		
		Officer	Enlisted Flyer	Enlisted Groundcrew	p-Value	Type A	Type B	p-Value
Self-perception of Health	Fair or Poor	(n=835) 7.7%	(n=338) 14.5%	(n=947) 14.9%	0.001	(n=819) 11.4%	(n=1,298) 12.4%	0.513
Appearance of Illness or Distress	Yes	(n=835) 0.8%	(n=338) 1.5%	(n=948) 1.8%	0.219	--	--	--
Relative Age Appearance	Older	(n=835) 5.6%	(n=338) 12.7%	(n=948) 11.0%	0.001	--	--	--
Body Fat		(n=835)	(n=338)	(n=948)				
(continuous)		$\bar{x}$ = 21.94	$\bar{x}$ = 21.97	$\bar{x}$ = 22.52	0.059	--	--	--
(discrete)	Obese	25.3%	28.1%	33.1%	0.001	--	--	--
Erythrocyte Sedimentation Rate		(n=835)	(n=338)	(n=948)		(n=820)	(n=1,298)	
(continuous)		$\bar{x}$ = 4.39	$\bar{x}$ = 5.61	$\bar{x}$ = 4.85	<0.001	$\bar{x}$ = 4.56	$\bar{x}$ = 4.91	0.090
(discrete)	Abnormal	6.5%	9.2%	7.9%	0.240	6.3%	8.3%	0.111

Table F-1. Dependent Variable-Covariate Associations for the General Health Assessment (Continued)

Dependent Variable	Level	Current Cigarette Smoking (cigarettes/day)				p-Value
		0-Never	0-Former	>0-20	>20	
Self-perception of Health	Fair or Poor	(n=595) 7.7%	(n=1,116) 11.9%	(n=272) 19.9%	(n=137) 15.3%	0.001
Appearance of Illness or Distress	Yes	(n=595) 0.5%	(n=1,116) 1.3%	(n=272) 2.9%	(n=137) 2.2%	0.030
Relative Age Appearance	Older	(n=595) 3.9%	(n=1,116) 6.5%	(n=272) 23.2%	(n=137) 25.6%	0.001
Body Fat (continuous) ^a (discrete)	Obese	(n=595) 27.1%	(n=1,116) 33.6%	(n=272) 21.3%	(n=137) 19.0%	$r=-0.187$ 0.001
Erythrocyte Sedimentation Rate (continuous) ^b (discrete)	Abnormal	(n=595) 4.7%	(n=1,116) 7.9%	(n=272) 9.9%	(n=137) 12.4%	$r=0.021$ 0.330 0.003

Dependent Variable	Level	Lifetime Cigarette Smoking History (pack-years)			p-Value
		0	>0-10	>10	
Self-perception of Health	Fair or Poor	(n=595) 7.7%	(n=558) 10.8%	(n=965) 15.2%	0.001
Appearance of Illness or Distress	Yes	(n=595) 0.5%	(n=558) 1.1%	(n=965) 2.1%	0.027
Relative Age Appearance	Older	(n=595) 3.9%	(n=558) 7.7%	(n=965) 13.2%	0.001
Body Fat (continuous) ^a (discrete)	Obese	(n=595) 27.1%	(n=558) 33.7%	(n=965) 28.1%	$r=-0.018$ 0.399 0.026
Erythrocyte Sedimentation Rate (continuous) ^b (discrete)	Abnormal	(n=595) 4.7%	(n=558) 7.2%	(n=965) 9.5%	$r=0.155$ <0.001 0.002

Table F-1. Dependent Variable-Covariate Associations for the General Health Assessment (Continued)

Dependent Variable	Level	Current Alcohol Use (drinks/day)			p-Value
		0-1	>1-4	>4	
Self-perception of Health	Fair or Poor	(n=1,699) 11.7%	(n=371) 13.5%	(n=50) 10.0%	0.580
Appearance of Illness or Distress	Yes	(n=1,699) 1.7%	(n=371) 0.3%	(n=50) 0.0%	0.082
Relative Age Appearance	Older	(n=1,699) 8.7%	(n=371) 11.6%	(n=50) 6.0%	0.161
Body Fat (continuous) ^a	Obese	(n=1,699)	(n=371)	(n=50)	
(discrete)		30.9%	$r=-0.094$ 22.6%	22.0%	<0.001 0.003
Erythrocyte Sedimentation Rate (continuous) ^b	Abnormal	(n=1,699)	(n=371)	(n=50)	
(discrete)		7.5%	$r=-0.027$ 8.4%	4.0%	0.217 0.532

Dependent Variable	Level	Lifetime Alcohol History (drink-years)			p-Value
		0	>0-40	>40	
Self-perception of Health	Fair or Poor	(n=118) 15.3%	(n=1,379) 11.2%	(n=616) 13.3%	0.214
Appearance of Illness or Distress	Yes	(n=118) 0.9%	(n=1,379) 1.1%	(n=616) 2.1%	0.170
Relative Age Appearance	Older	(n=118) 7.6%	(n=1,379) 8.4%	(n=616) 11.2%	0.114
Body Fat (continuous) ^a	Obese	(n=118)	(n=1,379)	(n=616)	
(discrete)		25.4%	$r=-0.050$ 29.5%	29.4%	0.022 0.642
Erythrocyte Sedimentation Rate (continuous) ^b	Abnormal	(n=118)	(n=1,379)	(n=616)	
(discrete)		6.8%	$r=0.051$ 6.7%	9.4%	0.019 0.107

^a Analysis performed on natural logarithm scale; means transformed from natural logarithm scale.

^b Analysis performed on natural logarithm scale of sedimentation rate + 0.1; means transformed from natural logarithm scale of sedimentation rate + 0.1.

--: Covariate not applicable for dependent variable.

Note: Correlations (r) are based on total sample size and are not category-specific.

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment

Dependent Variable	Level	Age			Race		
		Born ≥1942	Born <1942	p-Value	Black	Non-Black	p-Value
Any Skin Neoplasm		(n=855)	(n=1,118)				
	Yes	31.5%	41.0%	<0.001	--	--	--
Malignant Skin Neoplasm		(n=855)	(n=1,118)				
	Yes	10.9%	21.3%	<0.001	--	--	--
Benign Skin Neoplasm		(n=927)	(n=1,173)				
	Yes	22.6%	23.9%	0.509	--	--	--
Skin Neoplasm of Uncertain Behavior or Unspecified Nature		(n=855)	(n=1,118)				
	Yes	0.7%	0.8%	0.999	--	--	--
Any Basal Cell Carcinoma		(n=855)	(n=1,118)				
	Yes	8.8%	18.0%	<0.001	--	--	--
Basal Cell Carcinoma on Ear, Face, Head, or Neck		(n=855)	(n=1,118)				
	Yes	5.5%	14.9%	<0.001	--	--	--
Basal Cell Carcinoma on Trunk		(n=855)	(n=1,118)				
	Yes	2.9%	5.6%	0.007	--	--	--
Basal Cell Carcinoma on Upper Extremities		(n=855)	(n=1,118)				
	Yes	2.0%	3.8%	0.031	--	--	--
Basal Cell Carcinoma on Lower Extremities		(n=855)	(n=1,118)				
	Yes	0.4%	0.6%	0.594	--	--	--
Squamous Cell Carcinoma		(n=855)	(n=1,118)				
	Yes	0.9%	3.0%	0.002	--	--	--
Nonmelanoma		(n=855)	(n=1,118)				
	Yes	9.7%	20.3%	<0.001	--	--	--
Melanoma		(n=855)	(n=1,118)				
	Yes	1.2%	1.7%	0.435	--	--	--
Any Systemic Neoplasm		(n=927)	(n=1,170)		(n=127)	(n=1,970)	
	Yes	21.8%	37.2%	<0.001	24.4%	30.8%	0.159
Malignant Systemic Neoplasm		(n=931)	(n=1,179)		(n=127)	(n=1,983)	
	Yes	2.4%	10.2%	<0.001	6.3%	6.8%	0.986
Benign Systemic Neoplasm		(n=927)	(n=1,170)		(n=127)	(n=1,970)	
	Yes	19.2%	28.9%	<0.001	18.9%	25.0%	0.151
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature		(n=931)	(n=1,179)		(n=127)	(n=1,983)	
	Yes	1.4%	2.4%	0.145	1.6%	2.0%	0.999
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck		(n=931)	(n=1,179)		(n=127)	(n=1,983)	
	Yes	0.4%	1.4%	0.035	0.8%	1.0%	0.999
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx		(n=931)	(n=1,179)		(n=127)	(n=1,983)	
	Yes	0.1%	0.9%	0.041	0.8%	0.5%	0.999
Malignant Systemic Neoplasm of Thymus, Heart, or Mediastinum		(n=931)	(n=1,179)		(n=127)	(n=1,983)	
	Yes	0.2%	0.0%	0.379	0.0%	0.1%	0.999
Malignant Systemic Neoplasm of Thyroid Gland		(n=931)	(n=1,179)		(n=127)	(n=1,983)	
	Yes	0.0%	0.3%	0.202	0.0%	0.2%	0.999
Malignant Systemic Neoplasm of Bronchus or Lung		(n=931)	(n=1,179)		(n=127)	(n=1,983)	
	Yes	0.2%	0.9%	0.070	0.0%	0.7%	0.741

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Age			Race		
		Born ≥1942	Born <1942	p-Value	Black	Non-Black	p-Value
Malignant Systemic Neoplasm of Liver	Yes	(n=931) 0.2%	(n=1,179) 0.2%	0.999	(n=127) 0.0%	(n=1,983) 0.2%	0.999
Malignant Systemic Neoplasm of Colon or Rectum	Yes	(n=931) 0.6%	(n=1,179) 0.8%	0.951	(n=127) 0.0%	(n=1,983) 0.8%	0.661
Malignant Systemic Neoplasm of Kidney or Bladder	Yes	(n=931) 0.2%	(n=1,179) 1.3%	0.014	(n=127) 0.8%	(n=1,983) 0.8%	0.999
Malignant Systemic Neoplasm of Prostate	Yes	(n=931) 0.2%	(n=1,179) 5.3%	<0.001	(n=127) 4.7%	(n=1,983) 3.0%	0.400
Malignant Systemic Neoplasm of Testicles	Yes	(n=931) 0.0%	(n=1,179) 0.3%	0.338	(n=127) 0.0%	(n=1,983) 0.2%	0.999
Malignant Systemic Neoplasm of Connective or Other Soft Tissue	Yes	(n=931) 0.2%	(n=1,179) 0.1%	0.837	(n=127) 0.0%	(n=1,983) 0.2%	0.999
Hodgkin's Disease	Yes	(n=931) 0.2%	(n=1,179) 0.2%	0.999	(n=127) 0.0%	(n=1,983) 0.2%	0.999
Non-Hodgkin's Lymphoma	Yes	(n=931) 0.1%	(n=1,179) 0.3%	0.789	(n=127) 0.0%	(n=1,983) 0.2%	0.999
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue	Yes	(n=931) 0.1%	(n=1,179) 0.4%	0.345	(n=127) 0.0%	(n=1,983) 0.3%	0.999
All Malignant Skin and Systemic Neoplasms	Yes	(n=925) 11.9%	(n=1,164) 26.6%	<0.001	(n=126) 6.4%	(n=1,963) 21.0%	<0.001
All Skin and Systemic Neoplasms	Yes	(n=922) 43.9%	(n=1,156) 59.5%	<0.001	(n=126) 37.3%	(n=1,952) 53.6%	<0.001
Prostate-Specific Antigen		(n=927)	(n=1,092)		(n=121)	(n=1,898)	
(continuous) ^a		r=0.258			$\bar{x} = 1.16$	$\bar{x} = 1.11$	0.535
(discrete)	Abnormal	2.3%	9.7%	<0.001	6.6%	6.3%	0.999

Dependent Variable	Level	Occupation			p-Value
		Officer	Enlisted Flyer	Enlisted Groundcrew	
Any Skin Neoplasm	Yes	(n=809) 41.2%	(n=313) 33.9%	(n=851) 33.8%	0.004
Malignant Skin Neoplasm	Yes	(n=809) 21.3%	(n=313) 16.3%	(n=851) 12.7%	<0.001
Benign Skin Neoplasm	Yes	(n=823) 24.7%	(n=335) 19.7%	(n=942) 23.4%	0.193
Skin Neoplasm of Uncertain Behavior or Unspecified Nature	Yes	(n=809) 0.4%	(n=313) 0.3%	(n=851) 1.3%	0.060
Any Basal Cell Carcinoma	Yes	(n=809) 18.2%	(n=313) 14.4%	(n=851) 9.9%	<0.001
Basal Cell Carcinoma on Ear, Face, Head, or Neck	Yes	(n=809) 13.5%	(n=313) 12.5%	(n=851) 7.6%	<0.001
Basal Cell Carcinoma on Trunk	Yes	(n=809) 7.2%	(n=313) 2.9%	(n=851) 2.4%	<0.001
Basal Cell Carcinoma on Upper Extremities	Yes	(n=809) 5.1%	(n=313) 1.0%	(n=851) 1.8%	<0.001

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Occupation			p-Value
		Officer	Enlisted Flyer	Enlisted Groundcrew	
Basal Cell Carcinoma on Lower Extremities		(n=809)	(n=313)	(n=851)	
	Yes	0.9%	0.0%	0.4%	0.132
Squamous Cell Carcinoma		(n=809)	(n=313)	(n=851)	
	Yes	3.3%	1.6%	1.2%	0.007
Nonmelanoma		(n=809)	(n=313)	(n=851)	
	Yes	20.0%	16.0%	11.5%	<0.001
Melanoma		(n=809)	(n=313)	(n=851)	
	Yes	2.0%	0.3%	1.4%	0.115
Any Systemic Neoplasm		(n=821)	(n=334)	(n=942)	
	Yes	33.9%	31.1%	27.1%	0.008
Malignant Systemic Neoplasm		(n=829)	(n=336)	(n=945)	
	Yes	8.6%	8.6%	4.4%	<0.001
Benign Systemic Neoplasm		(n=821)	(n=334)	(n=942)	
	Yes	25.8%	26.1%	23.0%	0.320
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature		(n=829)	(n=336)	(n=945)	
	Yes	2.9%	0.9%	1.5%	0.031
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck		(n=829)	(n=336)	(n=945)	
	Yes	1.2%	1.2%	0.7%	0.570
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx		(n=829)	(n=336)	(n=945)	
	Yes	0.5%	0.9%	0.4%	0.579
Malignant Systemic Neoplasm of Thymus, Heart, or Mediastinum		(n=829)	(n=336)	(n=945)	
	Yes	0.1%	0.0%	0.1%	0.823
Malignant Systemic Neoplasm of Thyroid Gland		(n=829)	(n=336)	(n=945)	
	Yes	0.4%	0.0%	0.1%	0.318
Malignant Systemic Neoplasm of Bronchus or Lung		(n=829)	(n=336)	(n=945)	
	Yes	0.8%	1.2%	0.2%	0.080
Malignant Systemic Neoplasm of Liver		(n=829)	(n=336)	(n=945)	
	Yes	0.1%	0.3%	0.2%	0.803
Malignant Systemic Neoplasm of Colon or Rectum		(n=829)	(n=336)	(n=945)	
	Yes	0.6%	1.2%	0.6%	0.520
Malignant Systemic Neoplasm of Kidney or Bladder		(n=829)	(n=336)	(n=945)	
	Yes	1.2%	0.9%	0.4%	0.180
Malignant Systemic Neoplasm of Prostate		(n=829)	(n=336)	(n=945)	
	Yes	4.6%	3.3%	1.7%	0.002
Malignant Systemic Neoplasm of Testicles		(n=829)	(n=336)	(n=945)	
	Yes	0.1%	0.3%	0.1%	0.709
Malignant Systemic Neoplasm of Connective or Other Soft Tissue		(n=829)	(n=336)	(n=945)	
	Yes	0.0%	0.3%	0.2%	0.355
Hodgkin's Disease		(n=829)	(n=336)	(n=945)	
	Yes	0.4%	0.0%	0.1%	0.318
Non-Hodgkin's Lymphoma		(n=829)	(n=336)	(n=945)	
	Yes	0.2%	0.0%	0.2%	0.677
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue		(n=829)	(n=336)	(n=945)	
	Yes	0.4%	0.3%	0.2%	0.838
All Malignant Skin and Systemic Neoplasms		(n=817)	(n=333)	(n=939)	
	Yes	25.8%	21.0%	14.8%	<0.001
All Skin and Systemic Neoplasms		(n=811)	(n=331)	(n=936)	
	Yes	57.7%	53.2%	48.0%	<0.001

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Occupation			p-Value
		Officer	Enlisted Flyer	Enlisted Groundcrew	
Prostate-Specific Antigen		(n=778)	(n=321)	(n=920)	
(continuous) ^a		$\bar{x} = 1.22$	$\bar{x} = 1.24$	$\bar{x} = 1.00$	<0.001
(discrete)	Abnormal	7.7%	7.8%	4.6%	0.014

Dependent Variable	Level	Skin Color			Hair Color		
		Non-Peach	Peach	p-Value	Black, Dark Brown	Light Brown, Blonde, Red, Bald	p-Value
Any Skin Neoplasm		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	28.7%	39.3%	<0.001	35.5%	39.6%	0.090
Malignant Skin Neoplasm		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	12.1%	18.2%	0.003	15.5%	19.7%	0.025
Benign Skin Neoplasm		(n=575)	(n=1,525)		(n=1,466)	(n=632)	
	Yes	19.8%	24.6%	0.025	23.3 %	23.1%	0.955
Skin Neoplasm of Uncertain Behavior or Unspecified Nature		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	0.7%	0.8%	0.999	0.7%	0.8%	0.999
Any Basal Cell Carcinoma		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	10.5%	15.0%	0.019	12.7%	16.8%	0.019
Basal Cell Carcinoma on Ear, Face, Head, or Neck		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	7.7%	11.7%	0.018	9.4%	13.7%	0.005
Basal Cell Carcinoma on Trunk		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	3.3%	4.8%	0.231	4.0%	5.3%	0.251
Basal Cell Carcinoma on Upper Extremities		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	2.4%	3.2%	0.503	2.7%	3.7%	0.286
Basal Cell Carcinoma on Lower Extremities		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	0.9%	0.4%	0.371	0.5%	0.6%	0.825
Squamous Cell Carcinoma		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	0.9%	2.5%	0.054	1.9%	2.6%	0.469
Nonmelanoma		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	11.2%	17.1%	0.003	14.4%	18.7%	0.016
Melanoma		(n=456)	(n=1,517)		(n=1,345)	(n=626)	
	Yes	1.1%	1.6%	0.594	1.4%	1.6%	0.907
Any Systemic Neoplasm		--	--	--	--	--	--
Malignant Systemic Neoplasm		--	--	--	--	--	--
Benign Systemic Neoplasm		--	--	--	--	--	--
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature		--	--	--	--	--	--
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck		--	--	--	--	--	--

**Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment
(Continued)**

Dependent Variable	Level	Skin Color			Hair Color		
		Non-Peach	Peach	p-Value	Black, Dark Brown	Light Brown, Blonde, Red, Bald	p-Value
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx		--	--	--	--	--	--
Malignant Systemic Neoplasm of Thymus, Heart, and Mediastinum		--	--	--	--	--	--
Malignant Systemic Neoplasm of Thyroid Gland		--	--	--	--	--	--
Malignant Systemic Neoplasm of Bronchus or Lung		--	--	--	--	--	--
Malignant Systemic Neoplasm of Liver		--	--	--	--	--	--
Malignant Systemic Neoplasm of Colon or Rectum		--	--	--	--	--	--
Malignant Systemic Neoplasm of Kidney or Bladder		--	--	--	--	--	--
Malignant Systemic Neoplasm of Prostate		--	--	--	--	--	--
Malignant Systemic Neoplasm of Testicles		--	--	--	--	--	--
Malignant Systemic Neoplasm of Connective or Other Soft Tissue		--	--	--	--	--	--
Hodgkin's Disease		--	--	--	--	--	--
Non-Hodgkin's Lymphoma		--	--	--	--	--	--
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue		--	--	--	--	--	--
All Malignant Skin and Systemic Neoplasms	Yes	(n=572) 13.6%	(n=1,517) 22.5%	<0.001	(n=1,460) 18.2%	(n=627) 24.7%	<0.001
All Skin and Systemic Neoplasms	Yes	(n=569) 44.1%	(n=1,509) 55.8%	<0.001	(n=1,453) 51.3%	(n=623) 55.5%	0.088
Prostate-Specific Antigen		--	--	--	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Eye Color			p-Value
		Brown	Hazel, Green	Gray, Blue	
Any Skin Neoplasm		(n=604)	(n=523)	(n=846)	
	Yes	32.5%	39.2%	38.5%	0.026
Malignant Skin Neoplasm		(n=604)	(n=523)	(n=846)	
	Yes	13.4%	17.4%	18.8%	0.023
Benign Skin Neoplasm		(n=727)	(n=527)	(n=846)	
	Yes	21.2%	25.2%	23.9%	0.213
Skin Neoplasm of Uncertain Behavior or Unspecified Nature		(n=604)	(n=523)	(n=846)	
	Yes	1.0%	1.3%	0.2%	0.054
Any Basal Cell Carcinoma		(n=604)	(n=523)	(n=846)	
	Yes	10.9%	15.3%	15.4%	0.034
Basal Cell Carcinoma on Ear, Face, Head, or Neck		(n=604)	(n=523)	(n=846)	
	Yes	8.6%	11.1%	12.2%	0.095
Basal Cell Carcinoma on Trunk		(n=604)	(n=523)	(n=846)	
	Yes	3.2%	5.9%	4.4%	0.076
Basal Cell Carcinoma on Upper Extremities		(n=604)	(n=523)	(n=846)	
	Yes	1.2%	4.2%	3.6%	0.005
Basal Cell Carcinoma on Lower Extremities		(n=604)	(n=523)	(n=846)	
	Yes	0.3%	0.6%	0.6%	0.765
Squamous Cell Carcinoma		(n=604)	(n=523)	(n=846)	
	Yes	1.5%	1.9%	2.7%	0.257
Nonmelanoma		(n=604)	(n=523)	(n=846)	
	Yes	12.6%	16.8%	17.3%	0.039
Melanoma		(n=604)	(n=523)	(n=846)	
	Yes	1.0%	1.0%	2.1%	0.109
Any Systemic Neoplasm		--	--	--	--
Malignant Systemic Neoplasm		--	--	--	--
Benign Systemic Neoplasm		--	--	--	--
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature		--	--	--	--
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck		--	--	--	--
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx		--	--	--	--
Malignant Systemic Neoplasm of Thymus, Heart, and Mediastinum		--	--	--	--
Malignant Systemic Neoplasm of Thyroid Gland		--	--	--	--
Malignant Systemic Neoplasm of Bronchus or Lung		--	--	--	--
Malignant Systemic Neoplasm of Liver		--	--	--	--
Malignant Systemic Neoplasm of Colon or Rectum		--	--	--	--
Malignant Systemic Neoplasm of Kidney or Bladder		--	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Eye Color			p-Value
		Brown	Hazel, Green	Gray, Blue	
Malignant Systemic Neoplasm of Prostate		--	--	--	--
Malignant Systemic Neoplasm of Testicles		--	--	--	--
Malignant Systemic Neoplasm of Connective or Other Soft Tissue		--	--	--	--
Hodgkin's Disease		--	--	--	--
Non-Hodgkin's Lymphoma		--	--	--	--
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue		--	--	--	--
All Malignant Skin and Systemic Neoplasms	Yes	(n=724) 14.4%	(n=525) 23.2%	(n=840) 23.1%	<0.001
All Skin and Systemic Neoplasms	Yes	(n=722) 45.4%	(n=520) 57.7%	(n=836) 55.6%	<0.001
Prostate-Specific Antigen		--	--	--	--

Dependent Variable	Level	Skin Reaction to Sun after First Exposure				p-Value
		No Reaction	Some Redness Only	Burns	Painfully Burns	
Any Skin Neoplasm		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	30.8%	37.6%	43.5%	48.1%	<0.001
Malignant Skin Neoplasm		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	9.8%	18.5%	23.6%	26.9%	<0.001
Benign Skin Neoplasm		(n=819)	(n=809)	(n=311)	(n=160)	
	Yes	22.2%	22.7%	25.1%	28.1%	0.346
Skin Neoplasm of Uncertain Behavior or Unspecified Nature		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	0.7%	0.9%	0.7%	0.6%	0.967
Any Basal Cell Carcinoma		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	8.1%	15.0%	20.9%	22.5%	<0.001
Basal Cell Carcinoma on Ear, Face, Head, or Neck		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	6.2%	11.3%	16.3%	18.8%	<0.001
Basal Cell Carcinoma on Trunk		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	2.5%	4.8%	6.3%	7.5%	0.006
Basal Cell Carcinoma on Upper Extremities		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	1.3%	3.4%	4.3%	6.3%	<0.001
Basal Cell Carcinoma on Lower Extremities		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	0.0%	1.0%	0.3%	0.6%	0.051
Squamous Cell Carcinoma		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	1.3%	1.9%	3.3%	5.0%	0.011
Nonmelanoma		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	9.1%	17.0%	22.9%	25.6%	<0.001
Melanoma		(n=715)	(n=796)	(n=301)	(n=160)	
	Yes	0.8%	2.0%	1.0%	2.5%	0.158
Any Systemic Neoplasm		--	--	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Skin Reaction to Sun after First Exposure				p-Value
		No Reaction	Some Redness Only	Burns	Painfully Burns	
Malignant Systemic Neoplasm		--	--	--	--	--
Benign Systemic Neoplasm		--	--	--	--	--
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature		--	--	--	--	--
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck		--	--	--	--	--
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx		--	--	--	--	--
Malignant Systemic Neoplasm of Thymus, Heart, and Mediastinum		--	--	--	--	--
Malignant Systemic Neoplasm of Thyroid Gland		--	--	--	--	--
Malignant Systemic Neoplasm of Bronchus or Lung		--	--	--	--	--
Malignant Systemic Neoplasm of Liver		--	--	--	--	--
Malignant Systemic Neoplasm of Colon or Rectum		--	--	--	--	--
Malignant Systemic Neoplasm of Kidney or Bladder		--	--	--	--	--
Malignant Systemic Neoplasm of Prostate		--	--	--	--	--
Malignant Systemic Neoplasm of Testicles		--	--	--	--	--
Malignant Systemic Neoplasm of Connective or Other Soft Tissue		--	--	--	--	--
Hodgkin's Disease		--	--	--	--	--
Non-Hodgkin's Lymphoma		--	--	--	--	--
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue		--	--	--	--	--
All Malignant Skin and Systemic Neoplasms	Yes	(n=813) 13.3%	(n=806) 22.2%	(n=310) 26.8%	(n=159) 31.5%	<0.001
All Skin and Systemic Neoplasms	Yes	(n=806) 47.5%	(n=804) 53.9%	(n=308) 59.1%	(n=159) 59.8%	<0.001
Prostate-Specific Antigen		--	--	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Skin Reaction to Sun after Repeated Exposure				p-Value
		Deep Tan	Moderate Tan	Mild Tan	Freckles	
Any Skin Neoplasm		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	31.1%	36.7%	43.2%	50.7%	<0.001
Malignant Skin Neoplasm		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	9.2%	16.1%	26.4%	35.2%	<0.001
Benign Skin Neoplasm		(n=620)	(n=1,011)	(n=383)	(n=85)	
	Yes	23.4%	24.0%	21.2%	23.5%	0.728
Skin Neoplasm of Uncertain Behavior or Unspecified Nature		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	1.1%	0.5%	0.5%	2.8%	0.122
Any Basal Cell Carcinoma		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	7.6%	13.2%	22.8%	29.6%	<0.001
Basal Cell Carcinoma on Ear, Face, Head, or Neck		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	6.5%	10.2%	15.8%	26.8%	<0.001
Basal Cell Carcinoma on Trunk		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	1.6%	4.5%	7.1%	11.3%	<0.001
Basal Cell Carcinoma on Upper Extremities		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	0.9%	3.2%	5.2%	5.6%	<0.001
Basal Cell Carcinoma on Lower Extremities		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	0.5%	0.3%	0.8%	1.4%	0.452
Squamous Cell Carcinoma		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	0.9%	2.1%	2.7%	8.5%	<0.001
Nonmelanoma		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	8.7%	14.8%	25.3%	33.8%	<0.001
Melanoma		(n=553)	(n=980)	(n=368)	(n=71)	
	Yes	0.9%	1.7%	1.4%	2.8%	0.455
Any Systemic Neoplasm		--	--	--	--	--
Malignant Systemic Neoplasm		--	--	--	--	--
Benign Systemic Neoplasm		--	--	--	--	--
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature		--	--	--	--	--
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck		--	--	--	--	--
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx		--	--	--	--	--
Malignant Systemic Neoplasm of Thymus, Heart, or Mediastinum		--	--	--	--	--
Malignant Systemic Neoplasm of Thyroid Gland		--	--	--	--	--
Malignant Systemic Neoplasm of Bronchus or Lung		--	--	--	--	--
Malignant Systemic Neoplasm of Liver		--	--	--	--	--
Malignant Systemic Neoplasm of Colon or Rectum		--	--	--	--	--
Malignant Systemic Neoplasm of Kidney or Bladder		--	--	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Skin Reaction to Sun after Repeated Exposure				p-Value
		Deep Tan	Moderate Tan	Mild Tan	Freckles	
Malignant Systemic Neoplasm of Prostate		--	--	--	--	--
Malignant Systemic Neoplasm of Testicles		--	--	--	--	--
Malignant Systemic Neoplasm of Connective or Other Soft Tissue		--	--	--	--	--
Hodgkin's Disease		--	--	--	--	--
Non-Hodgkin's Lymphoma		--	--	--	--	--
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue		--	--	--	--	--
All Malignant Skin and Systemic Neoplasms	Yes	(n=617) 13.9%	(n=1,005) 19.7%	(n=382) 28.8%	(n=84) 31.0%	<0.001
All Skin and Systemic Neoplasms	Yes	(n=613) 48.6%	(n=999) 52.5%	(n=381) 58.5%	(n=84) 57.1%	
Prostate-Specific Antigen		--	--	--	--	--

Dependent Variable	Level	Composite Skin-Reaction Index			p-Value
		Low	Medium	High	
Any Skin Neoplasm	Yes	(n=1,304) 33.4%	(n=471) 41.4%	(n=197) 48.7%	<0.001
Malignant Skin Neoplasm	Yes	(n=1,304) 13.0%	(n=471) 22.5%	(n=197) 27.9%	
Benign Skin Neoplasm	Yes	(n=1,394) 22.9%	(n=494) 22.7%	(n=211) 27.5%	0.314
Skin Neoplasm of Uncertain Behavior or Unspecified Nature	Yes	(n=1,304) 0.8%	(n=471) 0.6%	(n=197) 1.0%	
Any Basal Cell Carcinoma	Yes	(n=1,304) 10.5%	(n=471) 19.8%	(n=197) 23.4%	<0.001
Basal Cell Carcinoma on Ear, Face, Head, or Neck	Yes	(n=1,304) 8.5%	(n=471) 13.6%	(n=197) 19.3%	
Basal Cell Carcinoma on Trunk	Yes	(n=1,304) 3.2%	(n=471) 5.7%	(n=197) 9.1%	<0.001
Basal Cell Carcinoma on Upper Extremities	Yes	(n=1,304) 2.0%	(n=471) 4.5%	(n=197) 6.1%	
Basal Cell Carcinoma on Lower Extremities	Yes	(n=1,304) 0.4%	(n=471) 0.6%	(n=197) 1.0%	0.458
Squamous Cell Carcinoma	Yes	(n=1,304) 1.5%	(n=471) 2.3%	(n=197) 5.6%	
Nonmelanoma	Yes	(n=1,304) 11.9%	(n=471) 21.9%	(n=197) 26.4%	<0.001
Melanoma	Yes	(n=1,304) 1.5%	(n=471) 0.9%	(n=197) 3.1%	
Any Systemic Neoplasm		--	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Composite Skin-Reaction Index			p-Value
		Low	Medium	High	
Malignant Systemic Neoplasm		--	--	--	--
Benign Systemic Neoplasm		--	--	--	--
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature		--	--	--	--
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck		--	--	--	--
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx		--	--	--	--
Malignant Systemic Neoplasm of Thymus, Heart, or Mediastinum		--	--	--	--
Malignant Systemic Neoplasm of Thyroid Gland		--	--	--	--
Malignant Systemic Neoplasm of Bronchus or Lung		--	--	--	--
Malignant Systemic Neoplasm of Liver		--	--	--	--
Malignant Systemic Neoplasm of Colon or Rectum		--	--	--	--
Malignant Systemic Neoplasm of Kidney or Bladder		--	--	--	--
Malignant Systemic Neoplasm of Prostate		--	--	--	--
Malignant Systemic Neoplasm of Testicles		--	--	--	--
Malignant Systemic Neoplasm of Connective or Other Soft Tissue		--	--	--	--
Hodgkin's Disease		--	--	--	--
Non-Hodgkin's Lymphoma		--	--	--	--
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue		--	--	--	--
All Malignant Skin and Systemic Neoplasms	Yes	(n=1,386) 16.7%	(n=493) 25.6%	(n=209) 29.7%	<0.001
All Skin and Systemic Neoplasms	Yes	(n=1,378) 50.0%	(n=490) 56.9%	(n=209) 59.8%	0.003
Prostate-Specific Antigen		--	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Average Lifetime Residential History			Ionizing Radiation Exposure		
		<37°	≥37°	p-Value	No	Yes	p-Value
Any Skin Neoplasm	Yes	(n=993) 39.5%	(n=980) 34.2%	0.017	(n=1,484) 34.9%	(n=489) 42.7%	0.002
Malignant Skin Neoplasm	Yes	(n=993) 20.3%	(n=980) 13.2%	<0.001	(n=1,484) 15.7%	(n=489) 20.0%	0.031
Benign Skin Neoplasm	Yes	(n=1,073) 22.7%	(n=1,027) 23.9%	0.580	(n=1,572) 22.5%	(n=528) 25.8%	0.135
Skin Neoplasm of Uncertain Behavior or Unspecified Nature	Yes	(n=993) 0.6%	(n=980) 0.9%	0.586	(n=1,484) 0.7%	(n=489) 1.0%	0.639
Any Basal Cell Carcinoma	Yes	(n=993) 17.9%	(n=980) 10.0%	<0.001	(n=1,484) 13.1%	(n=489) 16.6%	0.069
Basal Cell Carcinoma on Ear, Face, Head, or Neck	Yes	(n=993) 14.1%	(n=980) 7.5%	<0.001	(n=1,484) 10.0%	(n=489) 13.3%	0.049
Basal Cell Carcinoma on Trunk	Yes	(n=993) 5.9%	(n=980) 2.9%	<0.001	(n=1,484) 4.3%	(n=489) 4.7%	0.812
Basal Cell Carcinoma on Upper Extremities	Yes	(n=993) 3.8%	(n=980) 2.1%	0.039	(n=1,484) 3.2%	(n=489) 2.5%	0.516
Basal Cell Carcinoma on Lower Extremities	Yes	(n=993) 0.5%	(n=980) 0.5%	0.999	(n=1,484) 0.6%	(n=489) 0.2%	0.472
Squamous Cell Carcinoma	Yes	(n=993) 3.0%	(n=980) 1.2%	0.009	(n=1,484) 2.0%	(n=489) 2.7%	0.450
Nonmelanoma	Yes	(n=993) 19.9%	(n=980) 11.4%	<0.001	(n=1,484) 14.9%	(n=489) 18.2%	0.095
Melanoma	Yes	(n=993) 0.7%	(n=980) 2.2%	0.008	(n=1,484) 1.3%	(n=489) 2.0%	0.316
Any Systemic Neoplasm	Yes	--	--	--	(n=1,565) 29.8%	(n=532) 32.0%	0.389
Malignant Systemic Neoplasm	Yes	--	--	--	(n=1,573) 5.8%	(n=537) 9.5%	0.004
Benign Systemic Neoplasm	Yes	--	--	--	(n=1,565) 24.6%	(n=532) 24.6%	0.999
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature	Yes	--	--	--	(n=1,573) 1.9%	(n=537) 2.1%	0.981
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck	Yes	--	--	--	(n=1,573) 0.9%	(n=537) 1.3%	0.561
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx	Yes	--	--	--	(n=1,573) 0.3%	(n=537) 1.1%	0.061
Malignant Systemic Neoplasm of Thymus, Heart, or Mediastinum	Yes	--	--	--	(n=1,573) 0.1%	(n=537) 0.2%	0.999
Malignant Systemic Neoplasm of Thyroid Gland	Yes	--	--	--	(n=1,573) 0.3%	(n=537) 0.0%	0.552
Malignant Systemic Neoplasm of Bronchus or Lung	Yes	--	--	--	(n=1,573) 0.5%	(n=537) 0.9%	0.447
Malignant Systemic Neoplasm of Liver	Yes	--	--	--	(n=1,573) 0.1%	(n=537) 0.4%	0.580
Malignant Systemic Neoplasm of Colon or Rectum	Yes	--	--	--	(n=1,573) 0.6%	(n=537) 1.1%	0.317

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Average Lifetime Residential History			Ionizing Radiation Exposure		
		<37°	≥37°	p-Value	No	Yes	p-Value
Malignant Systemic Neoplasm of Kidney or Bladder	Yes	--	--	--	(n=1,573) 0.6%	(n=537) 1.5%	0.076
Malignant Systemic Neoplasm of Prostate	Yes	--	--	--	(n=1,573) 2.6%	(n=537) 4.5%	0.044
Malignant Systemic Neoplasm of Testicles	Yes	--	--	--	(n=1,573) 0.2%	(n=537) 0.0%	0.727
Malignant Systemic Neoplasm of Connective or Other Soft Tissue	Yes	--	--	--	(n=1,573) 0.1%	(n=537) 0.4%	0.329
Hodgkin's Disease	Yes	--	--	--	(n=1,573) 0.2%	(n=537) 0.2%	0.999
Non-Hodgkin's Lymphoma	Yes	--	--	--	(n=1,573) 0.2%	(n=537) 0.2%	0.999
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue	Yes	--	--	--	(n=1,573) 0.3%	(n=537) 0.4%	0.999
All Malignant Skin and Systemic Neoplasms	Yes	(n=1,067) 23.0%	(n=1,022) 17.1%	<0.001	(n=1,562) 18.6%	(n=527) 24.5%	0.005
All Skin and Systemic Neoplasms	Yes	(n=1,061) 54.3%	(n=1,017) 50.8%	0.126	(n=1,556) 51.0%	(n=522) 57.3%	0.015
Prostate-Specific Antigen					(n=1,518) $\bar{x} = 1.10$	(n=501) $\bar{x} = 1.17$	0.112
(continuous) ^a (discrete)	Abnormal	--	--	--	6.0%	7.2%	0.398

Dependent Variable	Level	Industrial Chemicals Exposure			Herbicide Exposure		
		No	Yes	p-Value	No	Yes	p-Value
Any Skin Neoplasm	Yes	(n=759) 36.6%	(n=1,214) 37.0%	0.910	--	--	--
Malignant Skin Neoplasm	Yes	(n=759) 17.1%	(n=1,214) 16.6%	0.788	--	--	--
Benign Skin Neoplasm	Yes	(n=796) 23.6%	(n=1,304) 23.1%	0.819	--	--	--
Skin Neoplasm of Uncertain Behavior or Unspecified Nature	Yes	(n=759) 0.4%	(n=1,214) 1.0%	0.226	--	--	--
Any Basal Cell Carcinoma	Yes	(n=759) 14.6%	(n=1,214) 13.6%	0.564	--	--	--
Basal Cell Carcinoma on Ear, Face, Head, or Neck	Yes	(n=759) 10.9%	(n=1,214) 10.7%	0.933	--	--	--
Basal Cell Carcinoma on Trunk	Yes	(n=759) 5.1%	(n=1,214) 4.0%	0.257	--	--	--
Basal Cell Carcinoma on Upper Extremities	Yes	(n=759) 3.4%	(n=1,214) 2.7%	0.446	--	--	--
Basal Cell Carcinoma on Lower Extremities	Yes	(n=759) 0.5%	(n=1,214) 0.5%	0.999	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Industrial Chemicals Exposure			Herbicide Exposure		
		No	Yes	p-Value	No	Yes	p-Value
Squamous Cell Carcinoma		(n=759)	(n=1,214)				
	Yes	2.6%	1.8%	0.284	--	--	--
Nonmelanoma		(n=759)	(n=1,214)				
	Yes	16.5%	15.2%	0.505	--	--	--
Melanoma		(n=759)	(n=1,214)				
	Yes	1.2%	1.7%	0.524	--	--	--
Any Systemic Neoplasm					(n=762)	(n=1,335)	
	Yes	--	--	--	26.4%	32.7%	0.003
Malignant Systemic Neoplasm					(n=765)	(n=1,345)	
	Yes	--	--	--	4.6%	8.0%	0.004
Benign Systemic Neoplasm					(n=762)	(n=1,335)	
	Yes	--	--	--	22.1%	26.1%	0.045
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature					(n=765)	(n=1,345)	
	Yes	--	--	--	1.4%	2.2%	0.270
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck					(n=765)	(n=1,345)	
	Yes	--	--	--	0.8%	1.1%	0.611
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx					(n=765)	(n=1,345)	
	Yes	--	--	--	0.3%	0.7%	0.349
Malignant Systemic Neoplasm of Thymus, Heart, or Mediastinum					(n=765)	(n=1,345)	
	Yes	--	--	--	0.0%	0.2%	0.740
Malignant Systemic Neoplasm of Thyroid Gland					(n=765)	(n=1,345)	
	Yes	--	--	--	0.3%	0.2%	0.959
Malignant Systemic Neoplasm of Bronchus or Lung					(n=765)	(n=1,345)	
	Yes	--	--	--	0.1%	0.9%	0.063
Malignant Systemic Neoplasm of Liver					(n=765)	(n=1,345)	
	Yes	--	--	--	0.0%	0.3%	0.323
Malignant Systemic Neoplasm of Colon or Rectum					(n=765)	(n=1,345)	
	Yes	--	--	--	0.7%	0.7%	0.999
Malignant Systemic Neoplasm of Kidney or Bladder					(n=765)	(n=1,345)	
	Yes	--	--	--	0.4%	1.0%	0.177
Malignant Systemic Neoplasm of Prostate					(n=765)	(n=1,345)	
	Yes	--	--	--	2.0%	3.7%	0.035
Malignant Systemic Neoplasm of Testicles					(n=765)	(n=1,345)	
	Yes	--	--	--	0.0%	0.2%	0.480
Malignant Systemic Neoplasm of Connective or Other Soft Tissue					(n=765)	(n=1,345)	
	Yes	--	--	--	0.1%	0.2%	0.999
Hodgkin's Disease					(n=765)	(n=1,345)	
	Yes	--	--	--	0.1%	0.2%	0.999
Non-Hodgkin's Lymphoma					(n=765)	(n=1,345)	
	Yes	--	--	--	0.1%	0.2%	0.999
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue					(n=765)	(n=1,345)	
	Yes	--	--	--	0.3%	0.3%	0.999
All Malignant Skin and Systemic Neoplasms		(n=794)	(n=1,295)		(n=762)	(n=1,327)	
	Yes	21.0%	19.5%	0.440	15.8%	22.6%	<0.001
All Skin and Systemic Neoplasms		(n=789)	(n=1,289)		(n=759)	(n=1,319)	
	Yes	54.3%	51.6%	0.258	45.9%	56.5%	<0.001

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Industrial Chemicals Exposure			Herbicide Exposure		
		No	Yes	p-Value	No	Yes	p-Value
Prostate-Specific Antigen					(n=739)	(n=1,280)	
(continuous) ^a		--	--	--	$\bar{x} = 1.12$	$\bar{x} = 1.11$	0.808
(discrete)	Abnormal	--	--	--	5.8%	6.6%	0.570

Dependent Variable	Level	Lifetime Cigarette Smoking History (pack-years)			
		0	>0-10	>10	p-Value
Any Skin Neoplasm		--	--	--	--
Malignant Skin Neoplasm		--	--	--	--
Benign Skin Neoplasm		--	--	--	--
Skin Neoplasm of Uncertain Behavior or Unspecified Nature		--	--	--	--
Any Basal Cell Carcinoma		--	--	--	--
Basal Cell Carcinoma on Ear, Face, Head, or Neck		--	--	--	--
Basal Cell Carcinoma on Trunk		--	--	--	--
Basal Cell Carcinoma on Upper Extremities		--	--	--	--
Basal Cell Carcinoma on Lower Extremities		--	--	--	--
Squamous Cell Carcinoma		--	--	--	--
Nonmelanoma		--	--	--	--
Melanoma		--	--	--	--
Any Systemic Neoplasm		(n=589)	(n=553)	(n=952)	
	Yes	29.4%	28.8%	31.9%	0.357
Malignant Systemic Neoplasm		(n=592)	(n=556)	(n=959)	
	Yes	5.4%	4.1%	9.1%	<0.001
Benign Systemic Neoplasm		(n=589)	(n=553)	(n=952)	
	Yes	25.0%	25.1%	24.1%	0.870
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature		(n=592)	(n=556)	(n=959)	
	Yes	1.4%	1.6%	2.5%	0.227
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck		(n=592)	(n=556)	(n=959)	
	Yes	1.0%	0.4%	1.4%	0.170
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx		(n=592)	(n=556)	(n=959)	
	Yes	0.3%	0.2%	0.8%	0.179
Malignant Systemic Neoplasm of Thymus, Heart, and Mediastinum		(n=592)	(n=556)	(n=959)	
	Yes	0.0%	0.0%	0.2%	0.302
Malignant Systemic Neoplasm of Thyroid Gland		(n=592)	(n=556)	(n=959)	
	Yes	0.5%	0.0%	0.1%	0.102

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Lifetime Cigarette Smoking History (pack-years)			p-Value
		0	>0-10	>10	
Malignant Systemic Neoplasm of Bronchus or Lung		(n=592)	(n=556)	(n=959)	
	Yes	0.0%	0.0%	1.4%	<0.001
Malignant Systemic Neoplasm of Liver		(n=592)	(n=556)	(n=959)	
	Yes	0.0%	0.2%	0.3%	0.388
Malignant Systemic Neoplasm of Colon or Rectum		(n=592)	(n=556)	(n=959)	
	Yes	0.7%	0.5%	0.8%	0.800
Malignant Systemic Neoplasm of Kidney or Bladder		(n=592)	(n=556)	(n=959)	
	Yes	0.0%	0.4%	1.6%	<0.001
Malignant Systemic Neoplasm of Prostate		(n=592)	(n=556)	(n=959)	
	Yes	3.0%	1.4%	4.1%	0.017
Malignant Systemic Neoplasm of Testicles		(n=592)	(n=556)	(n=959)	
	Yes	0.0%	0.2%	0.2%	0.550
Malignant Systemic Neoplasm of Connective or Other Soft Tissue		(n=592)	(n=556)	(n=959)	
	Yes	0.0%	0.2%	0.2%	0.550
Hodgkin's Disease		(n=592)	(n=556)	(n=959)	
	Yes	0.3%	0.2%	0.1%	0.589
Non-Hodgkin's Lymphoma		(n=592)	(n=556)	(n=959)	
	Yes	0.3%	0.4%	0.0%	0.187
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue		(n=592)	(n=556)	(n=959)	
	Yes	0.2%	0.4%	0.3%	0.812
All Malignant Skin and Systemic Neoplasms		(n=585)	(n=552)	(n=949)	
	Yes	20.7%	17.4%	21.4%	0.163
All Skin and Systemic Neoplasms		(n=583)	(n=549)	(n=943)	
	Yes	52.0%	51.7%	53.6%	0.740
Prostate-Specific Antigen (continuous) ^a		(n=569)	(n=542)	(n=906)	
(discrete)			r=-0.016		0.468
	Abnormal	7.7%	5.2%	6.0%	0.187

Dependent Variable	Level	Lifetime Alcohol History (drink-years)			p-Value
		0	>0-40	>40	
Any Skin Neoplasm		--	--	--	--
Malignant Skin Neoplasm		--	--	--	--
Benign Skin Neoplasm		--	--	--	--
Skin Neoplasm of Uncertain Behavior or Unspecified Nature		--	--	--	--
Any Basal Cell Carcinoma		--	--	--	--
Basal Cell Carcinoma on Ear, Face, Head, or Neck		--	--	--	--
Basal Cell Carcinoma on Trunk		--	--	--	--
Basal Cell Carcinoma on Upper Extremities		--	--	--	--

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Lifetime Alcohol History (drink-years)			p-Value
		0	>0-40	>40	
Basal Cell Carcinoma on Lower Extremities		--	--	--	--
Squamous Cell Carcinoma		--	--	--	--
Nonmelanoma		--	--	--	--
Melanoma		--	--	--	--
Any Systemic Neoplasm	Yes	(n=115) 34.8%	(n=1,368) 30.4%	(n=607) 29.5%	0.527
Malignant Systemic Neoplasm	Yes	(n=118) 6.8%	(n=1,374) 6.3%	(n=610) 7.7%	0.494
Benign Systemic Neoplasm	Yes	(n=115) 30.4%	(n=1,368) 24.6%	(n=607) 23.6%	0.292
Systemic Neoplasm of Uncertain Behavior or Unspecified Nature	Yes	(n=118) 0.0%	(n=1,374) 1.9%	(n=610) 2.5%	0.202
Malignant Systemic Neoplasm on Eye, Ear, Face, Head, or Neck	Yes	(n=118) 0.0%	(n=1,374) 1.0%	(n=610) 1.3%	0.400
Malignant Systemic Neoplasm of Oral Cavity, Pharynx, or Larynx	Yes	(n=118) 0.0%	(n=1,374) 0.4%	(n=610) 0.8%	0.397
Malignant Systemic Neoplasm of Thymus, Heart, or Mediastinum	Yes	(n=118) 0.0%	(n=1,374) 0.2%	(n=610) 0.0%	0.588
Malignant Systemic Neoplasm of Thyroid Gland	Yes	(n=118) 0.0%	(n=1,374) 0.2%	(n=610) 0.2%	0.859
Malignant Systemic Neoplasm of Bronchus or Lung	Yes	(n=118) 0.0%	(n=1,374) 0.7%	(n=610) 0.5%	0.560
Malignant Systemic Neoplasm of Liver	Yes	(n=118) 0.0%	(n=1,374) 0.2%	(n=610) 0.2%	0.859
Malignant Systemic Neoplasm of Colon or Rectum	Yes	(n=118) 0.9%	(n=1,374) 0.7%	(n=610) 0.8%	0.908
Malignant Systemic Neoplasm of Kidney or Bladder	Yes	(n=118) 3.4%	(n=1,374) 0.2%	(n=610) 1.6%	<0.001
Malignant Systemic Neoplasm of Prostate	Yes	(n=118) 1.7%	(n=1,374) 3.0%	(n=610) 3.4%	0.585
Malignant Systemic Neoplasm of Testicles	Yes	(n=118) 0.0%	(n=1,374) 0.2%	(n=610) 0.0%	0.451
Malignant Systemic Neoplasm of Connective or Other Soft Tissue	Yes	(n=118) 0.9%	(n=1,374) 0.2%	(n=610) 0.0%	0.083
Hodgkin's Disease	Yes	(n=118) 0.0%	(n=1,374) 0.2%	(n=610) 0.2%	0.859
Non-Hodgkin's Lymphoma	Yes	(n=118) 0.0%	(n=1,374) 0.2%	(n=610) 0.3%	0.613
Other Malignant Systemic Neoplasms of Lymphoid or Histiocytic Tissue	Yes	(n=118) 0.0%	(n=1,374) 0.3%	(n=610) 0.3%	0.828
All Malignant Skin and Systemic Neoplasms	Yes	(n=115) 19.1%	(n=1,364) 19.7%	(n=602) 21.3%	0.688
All Skin and Systemic Neoplasms	Yes	(n=113) 54.0%	(n=1,358) 52.7%	(n=600) 52.3%	0.949

Table F-2. Dependent Variable-Covariate Associations for the Neoplasia Assessment (Continued)

Dependent Variable	Level	Lifetime Alcohol History (drink-years)			p-Value
		0 (n=112)	>0-40 (n=1,317)	>40 (n=583)	
Prostate-Specific Antigen (continuous) ^a			r=-0.011		0.616
(discrete)	Abnormal	7.1%	6.5%	5.8%	0.818

^a Analysis performed on natural logarithm scale; means transformed from natural logarithm scale.

--: Covariate not applicable for dependent variable.

Note: Correlations (r) are based on total sample size and are not category-specific.

Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment

Dependent Variable	Level	Age			Race		
		Born ≥1942	Born <1942	p-Value	Black	Non-Black	p-Value
Inflammatory Diseases		(n=926)	(n=1,182)		(n=128)	(n=1,980)	
	Yes	0.4%	0.3%	0.999	0.0%	0.4%	0.999
Hereditary and Degenerative Diseases		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Peripheral Disorders	Yes	7.0 %	10.4%	0.009	7.0%	9.0%	0.547
	Yes	(n=928)	(n=1,182)		(n=128)	(n=1,982)	
Other Neurological Disorders	Yes	14.9%	24.6%	<0.001	17.2%	20.5%	0.424
Smell		(n=925)	(n=1,181)		(n=127)	(n=1,979)	
	Yes	13.4%	22.0%	<0.001	33.1%	17.3%	<0.001
	Abnormal	(n=926)	(n=1,183)		(n=128)	(n=1,981)	
Visual Fields		1.6%	2.0%	0.597	3.1%	1.8%	0.443
	Abnormal	(n=928)	(n=1,183)		(n=127)	(n=1,984)	
Light Reaction		0.2%	0.4%	0.660	1.6%	0.3%	0.086
	Abnormal	(n=926)	(n=1,182)		(n=128)	(n=1,980)	
Ocular Movement		0.4%	0.8%	0.497	2.3%	0.5%	0.046
	Abnormal	(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Facial Sensation		1.2%	1.7%	0.440	0.8%	1.5%	0.775
	Abnormal	(n=929)	(n=1,184)		(n=128)	(n=1,985)	
Jaw Clench		0.0%	0.3%	0.204	0.0%	0.2%	0.999
	Abnormal	(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Smile		0.0%	0.2%	0.590	0.0%	0.1%	0.999
	Abnormal	(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Palpebral Fissure		0.4%	0.6%	0.840	1.6%	0.5%	0.290
	Abnormal	(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Balance		0.5%	1.2%	0.186	2.3%	0.8%	0.192
	Abnormal	(n=929)	(n=1,185)		(n=127)	(n=1,987)	
Speech		0.7%	0.7%	0.999	0.8%	0.7%	0.999
	Abnormal	(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Tongue Position Relative to Midline		0.5%	0.8%	0.726	0.8%	0.7%	0.999
	Deviated	(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Palate and Uvula Movement		0.0%	0.2%	0.590	0.0%	0.1%	0.999
	Deviated	(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Cranial Nerve Index		0.0%	0.1%	0.999	0.0%	0.1%	0.999
	Abnormal	(n=917)	(n=1,178)		(n=128)	(n=1,967)	
Neck Range of Motion		4.4%	7.5%	0.004	10.2%	5.9%	0.075
	Abnormal	(n=929)	(n=1,186)		(n=128)	(n=1,987)	
Pinprick		9.9%	22.0%	<0.001	10.9%	17.1%	0.093
	Abnormal	(n=910)	(n=1,097)		(n=124)	(n=1,883)	
Light Touch		4.5%	7.6%	0.006	4.0%	6.3%	0.405
	Abnormal	(n=910)	(n=1,097)		(n=124)	(n=1,883)	
Muscle Status		3.0%	5.1%	0.022	4.0%	4.1%	0.999
	Abnormal	(n=928)	(n=1,186)		(n=128)	(n=1,986)	
Patellar Reflex		2.7%	4.3%	0.064	3.1%	3.6%	0.960
	Abnormal	(n=928)	(n=1,183)		(n=128)	(n=1,983)	
Achilles Reflex		1.3%	4.0%	<0.001	6.3%	2.6%	0.030
	Abnormal	(n=925)	(n=1,184)		(n=128)	(n=1,981)	
	Abnormal	9.3%	22.8%	<0.001	20.3%	16.7%	0.343

Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment (Continued)

Dependent Variable	Level	Age			Race		
		Born ≥1942	Born <1942	p-Value	Black	Non-Black	p-Value
Biceps Reflex		(n=928)	(n=1,186)		(n=128)	(n=1,986)	
	Abnormal	1.0%	1.3%	0.668	0.8%	1.2%	0.999
Babinski Reflex		(n=929)	(n=1,183)		(n=127)	(n=1,985)	
	Abnormal	0.7%	1.3%	0.227	0.8%	1.0%	0.999
Polyneuropathy Severity Index		(n=907)	(n=1,096)		(n=123)	(n=1,880)	
	None/Mild	99.2%	97.1%	0.002	97.6%	98.1%	0.005
	Moderate	0.7%	2.6%		0.8%	1.8%	
	Severe	0.1%	0.4%		1.6%	0.2%	
Polyneuropathy Prevalence Index		(n=907)	(n=1,097)		(n=124)	(n=1,880)	
	Abnormal	8.8%	20.9%	<0.001	18.6%	15.2%	0.385
Multiple Polyneuropathy Index		(n=907)	(n=1,097)		(n=124)	(n=1,880)	
	Abnormal	1.8%	5.7%	<0.001	4.0%	3.9%	0.999
Confirmed Polyneuropathy Indicator		(n=905)	(n=1,082)		(n=121)	(n=1,866)	
	Abnormal	0.2%	1.5%	0.007	0.8%	0.9%	0.999
Tremor		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	Abnormal	6.0%	8.0%	0.095	6.3%	7.2%	0.821
Coordination		(n=928)	(n=1,185)		(n=127)	(n=1,986)	
	Abnormal	1.8%	2.8%	0.198	3.2%	2.3%	0.766
Romberg Sign		(n=929)	(n=1,185)		(n=127)	(n=1,987)	
	Abnormal	0.7%	0.7%	0.999	0.8%	0.7%	0.999
Gait		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	Abnormal	2.8%	6.8%	<0.001	4.7%	5.1%	0.999
Central Nervous System Index		(n=928)	(n=1,186)		(n=128)	(n=1,986)	
	Abnormal	8.7%	14.7%	<0.001	10.9%	12.1%	0.792

Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment (Continued)

Dependent Variable	Level	Occupation			p-Value
		Officer	Enlisted Flyer	Enlisted Groundcrew	
Inflammatory Diseases		(n=830)	(n=336)	(n=942)	
	Yes	0.2%	0.6%	0.4%	0.642
Hereditary and Degenerative Diseases		(n=833)	(n=338)	(n=944)	
	Yes	8.0%	11.2%	8.8%	0.217
Peripheral Disorders		(n=831)	(n=336)	(n=943)	
	Yes	20.3%	23.8%	19.1%	0.182
Other Neurological Disorders		(n=830)	(n=337)	(n=939)	
	Yes	8.1%	27.0%	24.1%	<0.001
Smell		(n=829)	(n=338)	(n=942)	
	Abnormal	1.8%	2.1%	1.8%	0.947
Visual Fields		(n=832)	(n=337)	(n=942)	
	Abnormal	0.1%	0.9%	0.3%	0.116
Light Reaction		(n=829)	(n=338)	(n=941)	
	Abnormal	0.4%	1.5%	0.5%	0.078
Ocular Movement		(n=833)	(n=338)	(n=944)	
	Abnormal	0.8%	1.5%	2.0%	0.122
Facial Sensation		(n=832)	(n=338)	(n=943)	
	Abnormal	0.2%	0.3%	0.1%	0.717
Jaw Clench		(n=833)	(n=338)	(n=944)	
	Deviated	0.2%	0.0%	0.0%	0.214
Smile		(n=833)	(n=338)	(n=944)	
	Abnormal	0.4%	0.3%	0.7%	0.442
Palpebral Fissure		(n=833)	(n=338)	(n=944)	
	Abnormal	0.8%	0.6%	1.1%	0.718
Balance		(n=833)	(n=337)	(n=944)	
	Abnormal	0.8%	0.3%	0.6%	0.578
Speech		(n=833)	(n=338)	(n=944)	
	Abnormal	0.4%	0.3%	1.1%	0.128
Tongue Position Relative to Midline		(n=833)	(n=338)	(n=944)	
	Deviated	0.2%	0.0%	0.0%	0.214
Palate and Uvula Movement		(n=833)	(n=338)	(n=944)	
	Deviated	0.1%	0.0%	0.0%	0.463
Cranial Nerve Index		(n=821)	(n=337)	(n=937)	
	Abnormal	5.2%	6.8%	6.6%	0.405
Neck Range of Motion		(n=833)	(n=338)	(n=944)	
	Abnormal	18.1%	20.7%	14.0%	0.006
Pinprick		(n=791)	(n=327)	(n=889)	
	Abnormal	5.3%	10.1%	5.5%	0.006
Light Touch		(n=791)	(n=327)	(n=889)	
	Abnormal	3.5%	6.7%	3.7%	0.036
Muscle Status		(n=833)	(n=338)	(n=943)	
	Abnormal	3.7%	5.0%	3.0%	0.211
Patellar Reflex		(n=833)	(n=337)	(n=941)	
	Abnormal	3.4%	2.4%	2.4%	0.443
Achilles Reflex		(n=831)	(n=337)	(n=941)	
	Abnormal	17.9%	19.9%	14.9%	0.064
Biceps Reflex		(n=833)	(n=338)	(n=943)	
	Abnormal	1.3%	1.2%	1.0%	0.765

**Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment
(Continued)**

Dependent Variable	Level	Occupation			p-Value
		Officer	Enlisted Flyer	Enlisted Groundcrew	
Babinski Reflex		(n=832)	(n=336)	(n=944)	
	Abnormal	0.6%	1.2%	1.3%	0.337
Polyneuropathy Severity Index		(n=790)	(n=326)	(n=887)	
	None/Mild	98.0%	97.2%	98.4%	0.378
	Moderate	1.7%	2.8%	1.4%	
	Severe	0.4%	0.0%	0.2%	
Polyneuropathy Prevalence Index		(n=790)	(n=327)	(n=887)	
	Abnormal	16.5%	20.8%	12.5%	<0.001
Multiple Polyneuropathy Index		(n=790)	(n=327)	(n=887)	
	Abnormal	4.2%	6.7%	2.7%	0.006
Confirmed Polyneuropathy Indicator		(n=786)	(n=322)	(n=879)	
	Abnormal	1.0%	1.2%	0.7%	0.605
Tremor		(n=833)	(n=338)	(n=944)	
	Abnormal	6.1%	8.9%	7.4%	0.229
Coordination		(n=833)	(n=337)	(n=943)	
	Abnormal	2.2%	1.5%	2.9%	0.317
Romberg Sign		(n=833)	(n=337)	(n=944)	
	Abnormal	0.8%	0.3%	0.6%	0.578
Gait		(n=833)	(n=338)	(n=944)	
	Abnormal	5.4%	6.5%	4.2%	0.222
Central Nervous System Index		(n=833)	(n=338)	(n=943)	
	Abnormal	11.0%	15.4%	11.8%	0.110

Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment (Continued)

Dependent Variable	Level	Lifetime Alcohol History (drink-years)			p-Value
		0	>0-10	>10	
Inflammatory Diseases		(n=116)	(n=1,371)	(n=613)	
	Yes	0.0%	0.4%	0.5%	0.725
Hereditary and Degenerative Diseases		(n=118)	(n=1,374)	(n=615)	
	Yes	5.9%	8.4%	10.6%	0.154
Peripheral Disorders		(n=118)	(n=1,371)	(n=613)	
	Yes	24.6%	19.4%	21.9%	0.233
Other Neurological Disorders		(n=117)	(n=1,368)	(n=613)	
	Yes	18.8%	17.9%	18.9%	0.854
Smell		(n=117)	(n=1,369)	(n=615)	
	Abnormal	1.7%	2.1%	1.3%	0.514
Visual Fields		(n=118)	(n=1,372)	(n=613)	
	Abnormal	0.0%	0.4%	0.2%	0.502
Light Reaction		(n=118)	(n=1,369)	(n=613)	
	Abnormal	0.9%	0.7%	0.5%	0.861
Ocular Movement		(n=118)	(n=1,374)	(n=615)	
	Abnormal	2.5%	1.5%	1.3%	0.589
Facial Sensation		(n=118)	(n=1,372)	(n=615)	
	Abnormal	0.0%	0.1%	0.5%	0.129
Jaw Clench		(n=118)	(n=1,374)	(n=615)	
	Deviated	0.0%	0.1%	0.2%	0.787
Smile		(n=118)	(n=1,374)	(n=615)	
	Abnormal	0.9%	0.4%	0.8%	0.386
Palpebral Fissure		(n=118)	(n=1,374)	(n=615)	
	Abnormal	1.7%	0.6%	1.3%	0.163
Balance		(n=118)	(n=1,373)	(n=615)	
	Abnormal	0.9%	0.5%	1.0%	0.482
Speech		(n=118)	(n=1,374)	(n=615)	
	Abnormal	0.0%	0.6%	1.0%	0.400
Tongue Position Relative to Midline		(n=118)	(n=1,374)	(n=615)	
	Deviated	0.0%	0.1%	0.2%	0.787
Palate and Uvula Movement		(n=118)	(n=1,374)	(n=615)	
	Deviated	0.0%	0.0%	0.2%	0.297
Cranial Nerve Index		(n=116)	(n=1,356)	(n=615)	
	Abnormal	7.8%	5.5%	6.8%	0.387
Neck Range of Motion		(n=118)	(n=1,374)	(n=615)	
	Abnormal	15.3%	15.8%	19.2%	0.156
Pinprick		(n=107)	(n=1,309)	(n=583)	
	Abnormal	9.4%	5.4%	7.2%	0.122
Light Touch		(n=107)	(n=1,309)	(n=583)	
	Abnormal	4.7%	3.5%	5.3%	0.180
Muscle Status		(n=118)	(n=1,373)	(n=615)	
	Abnormal	5.1%	3.1%	4.4%	0.257
Patellar Reflex		(n=118)	(n=1,370)	(n=615)	
	Abnormal	5.1%	2.6%	2.8%	0.300
Achilles Reflex		(n=118)	(n=1,368)	(n=615)	
	Abnormal	18.6%	15.4%	20.2%	0.027

**Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment
(Continued)**

Dependent Variable	Level	Lifetime Alcohol History (drink-years)			p-Value
		0	>0-10	>10	
Biceps Reflex		(n=118)	(n=1,373)	(n=615)	
	Abnormal	1.7%	1.2%	0.8%	0.635
Babinski Reflex		(n=118)	(n=1,371)	(n=615)	
	Abnormal	2.5%	0.9%	0.8%	0.184
Polyneuropathy Severity Index		(n=107)	(n=1,305)	(n=583)	
	None/Mild	99.1%	98.3%	97.3%	0.088
	Moderate	0.0%	1.6%	2.2%	
	Severe	0.9%	0.1%	0.5%	
Polyneuropathy Prevalence Index		(n=107)	(n=1,306)	(n=583)	
	Abnormal	13.1%	13.5%	20.2%	<0.001
Multiple Polyneuropathy Index		(n=107)	(n=1,306)	(n=583)	
	Abnormal	3.7%	3.2%	5.5%	0.062
Confirmed Polyneuropathy Indicator		(n=105)	(n=1,299)	(n=575)	
	Abnormal	1.0%	0.9%	1.0%	0.917
Tremor		(n=118)	(n=1,374)	(n=615)	
	Abnormal	3.4%	7.0%	8.3%	0.152
Coordination		(n=118)	(n=1,372)	(n=615)	
	Abnormal	0.9%	2.0%	3.4%	0.095
Romberg Sign		(n=118)	(n=1,373)	(n=615)	
	Abnormal	0.9%	0.5%	1.0%	0.482
Gait		(n=118)	(n=1,374)	(n=615)	
	Abnormal	5.1%	4.9%	5.5%	0.829
Central Nervous System Index		(n=118)	(n=1,373)	(n=615)	
	Abnormal	9.3%	11.4%	14.2%	0.146

Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment (Continued)

Dependent Variable	Level	Insecticide Exposure			Industrial Chemical Exposure		
		No	Yes	p-Value	No	Yes	p-Value
Inflammatory Diseases		(n=619)	(n=1,489)		(n=796)	(n=1,312)	
	Yes	0.7%	0.3%	0.371	0.1%	0.5%	0.266
Hereditary and Degenerative Diseases		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Yes	7.1%	9.6%	0.073	7.0%	10.0%	0.022
Peripheral Disorders		(n=621)	(n=1,489)		(n=798)	(n=1,312)	
	Yes	16.9%	21.8%	0.014	20.2%	20.4%	0.934
Other Neurological Disorders		(n=620)	(n=1,486)		(n=797)	(n=1,309)	
	Yes	15.7%	19.3%	0.054	13.3%	21.2%	<0.001
Smell		(n=621)	(n=1,488)		(n=798)	(n=1,311)	
	Abnormal	1.5%	2.0%	0.482	1.9%	1.8%	0.999
Visual Fields		(n=620)	(n=1,491)		(n=798)	(n=1,313)	
	Abnormal	0.5%	0.3%	0.712	0.5%	0.2%	0.505
Light Reaction		(n=621)	(n=1,487)		(n=797)	(n=1,311)	
	Abnormal	1.1%	0.4%	0.103	0.8%	0.5%	0.737
Ocular Movement		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Abnormal	1.3%	1.5%	0.811	1.4%	1.5%	0.937
Facial Sensation		(n=621)	(n=1,492)		(n=798)	(n=1,315)	
	Abnormal	0.0%	0.3%	0.458	0.1%	0.2%	0.991
Jaw Clench		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Deviated	0.0%	0.1%	0.892	0.1%	0.1%	0.999
Smile		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Abnormal	0.3%	0.6%	0.628	0.4%	0.6%	0.683
Palpebral Fissure		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Abnormal	0.5%	1.1%	0.293	1.1%	0.8%	0.530
Balance		(n=620)	(n=1,494)		(n=798)	(n=1,316)	
	Abnormal	0.5%	0.7%	0.721	0.5%	0.8%	0.664
Speech		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Abnormal	0.8%	0.6%	0.819	0.8%	0.6%	0.907
Tongue Position Relative to Midline		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Deviated	0.0%	0.1%	0.892	0.1%	0.1%	0.999
Palate and Uvula Movement		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Deviated	0.0%	0.1%	0.999	0.0%	0.1%	0.999
Cranial Nerve Index		(n=617)	(n=1,478)		(n=792)	(n=1,303)	
	Abnormal	5.4%	6.4%	0.401	6.4%	5.9%	0.691
Neck Range of Motion		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Abnormal	15.3%	17.3%	0.297	17.8%	16.0%	0.327
Pinprick		(n=597)	(n=1,410)		(n=751)	(n=1,256)	
	Abnormal	5.7%	6.4%	0.629	6.3%	6.1%	0.985
Light Touch		(n=597)	(n=1,410)		(n=751)	(n=1,256)	
	Abnormal	3.5%	4.4%	0.434	4.7%	3.8%	0.425
Muscle Status		(n=621)	(n=1,493)		(n=799)	(n=1,315)	
	Abnormal	2.4%	4.1%	0.080	3.4%	3.7%	0.768
Patellar Reflex		(n=620)	(n=1,491)		(n=798)	(n=1,313)	
	Abnormal	2.7%	2.8%	0.999	2.6%	2.9%	0.827
Achilles Reflex		(n=619)	(n=1,490)		(n=796)	(n=1,313)	
	Abnormal	15.8%	17.3%	0.445	17.8%	16.3%	0.392
Biceps Reflex		(n=620)	(n=1,494)		(n=798)	(n=1,316)	
	Abnormal	1.1%	1.1%	0.999	1.5%	0.9%	0.301

**Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment
(Continued)**

Dependent Variable	Level	Insecticide Exposure			Industrial Chemical Exposure		
		No	Yes	p-Value	No	Yes	p-Value
Babinski Reflex		(n=619)	(n=1,493)		(n=797)	(n=1,315)	
	Abnormal	1.1%	0.9%	0.868	0.6%	1.2%	0.273
Polyneuropathy Severity Index		(n=596)	(n=1,407)		(n=749)	(n=1,254)	
	None/Mild	98.7%	97.8%	0.443	98.0%	98.1%	0.561
	Moderate	1.2%	1.9%		1.6%	1.8%	
	Severe	0.2%	0.3%		0.4%	0.2%	
Polyneuropathy Prevalence Index		(n=597)	(n=1,407)		(n=750)	(n=1,254)	
	Abnormal	14.1%	16.0%	0.307	16.7%	14.7%	0.258
Multiple Polyneuropathy Index		(n=597)	(n=1,407)		(n=750)	(n=1,254)	
	Abnormal	3.7%	4.1%	0.795	4.4%	3.7%	0.486
Confirmed Polyneuropathy Indicator		(n=591)	(n=1,396)		(n=744)	(n=1,243)	
	Abnormal	0.5%	1.1%	0.337	0.8%	1.0%	0.907
Tremor		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Abnormal	4.5%	8.2%	0.003	5.0%	8.4%	0.004
Coordination		(n=619)	(n=1,494)		(n=797)	(n=1,316)	
	Abnormal	1.6%	2.7%	0.192	2.3%	2.4%	0.915
Romberg Sign		(n=620)	(n=1,494)		(n=798)	(n=1,316)	
	Abnormal	0.5%	0.7%	0.721	0.5%	0.8%	0.664
Gait		(n=621)	(n=1,494)		(n=799)	(n=1,316)	
	Abnormal	3.9%	5.6%	0.132	5.0%	5.1%	0.999
Central Nervous System Index		(n=620)	(n=1,494)		(n=798)	(n=1,316)	
	Abnormal	8.2%	13.7%	<0.001	9.9%	13.4%	0.021

Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment (Continued)

Dependent Variable	Level	Degreasing Chemical Exposure			Diabetic Class			
		No	Yes	p-Value	Normal	Impaired	Diabetic	p-Value
Inflammatory Diseases	Yes	(n=751) 0.1%	(n=1,357) 0.5%	0.318	(n=1,453) 0.5%	(n=273) 0.0%	(n=355) 0.3%	0.470
Hereditary and Degenerative Diseases	Yes	(n=752) 9.2%	(n=1,363) 8.7%	0.792	(n=1,458) 8.0%	(n=273) 10.6%	(n=357) 10.9%	0.123
Peripheral Disorders	Yes	(n=752) 18.5%	(n=1,358) 21.4%	0.130	(n=1,454) 17.5%	(n=273) 18.7%	(n=356) 33.4%	<0.001
Other Neurological Disorders	Yes	(n=748) 13.9%	(n=1,358) 20.6%	<0.001	(n=1,451) 16.0%	(n=272) 21.3%	(n=356) 23.9%	<0.001
Smell	Abnormal	(n=750) 2.0%	(n=1,359) 1.8%	0.831	(n=1,454) 1.5%	(n=273) 2.9%	(n=355) 1.7%	0.257
Visual Fields	Abnormal	(n=751) 0.1%	(n=1,360) 0.4%	0.434	(n=1,456) 0.3%	(n=273) 0.4%	(n=355) 0.6%	0.698
Light Reaction	Abnormal	(n=750) 0.7%	(n=1,358) 0.6%	0.999	(n=1,453) 0.6%	(n=273) 0.4%	(n=355) 1.1%	0.394
Ocular Movement	Abnormal	(n=752) 1.2%	(n=1,363) 1.6%	0.565	(n=1,458) 1.3%	(n=273) 1.5%	(n=357) 2.2%	0.422
Facial Sensation	Abnormal	(n=750) 0.1%	(n=1,363) 0.2%	0.999	(n=1,457) 0.2%	(n=272) 0.0%	(n=357) 0.3%	0.711
Jaw Clench	Deviated	(n=752) 0.1%	(n=1,363) 0.1%	0.999	(n=1,458) 0.0%	(n=273) 0.4%	(n=357) 0.3%	0.093
Smile	Abnormal	(n=752) 0.3%	(n=1,363) 0.7%	0.373	(n=1,458) 0.4%	(n=273) 0.0%	(n=357) 1.4%	0.030
Palpebral Fissure	Abnormal	(n=752) 0.4%	(n=1,363) 1.2%	0.117	(n=1,458) 0.8%	(n=273) 0.0%	(n=357) 2.2%	0.007
Balance	Abnormal	(n=752) 0.8%	(n=1,362) 0.6%	0.771	(n=1,458) 0.5%	(n=273) 0.4%	(n=356) 1.7%	0.036
Speech	Abnormal	(n=752) 0.5%	(n=1,363) 0.7%	0.789	(n=1,458) 0.6%	(n=273) 0.7%	(n=357) 0.8%	0.890
Tongue Position Relative to Midline	Deviated	(n=752) 0.1%	(n=1,363) 0.1%	0.999	(n=1,458) 0.0%	(n=273) 0.4%	(n=357) 0.3%	0.093
Palate and Uvula Movement	Deviated	(n=752) 0.0%	(n=1,363) 0.1%	0.999	(n=1,458) 0.0%	(n=273) 0.0%	(n=357) 0.3%	0.088
Cranial Nerve Index	Abnormal	(n=743) 5.8%	(n=1,352) 6.3%	0.718	(n=1,443) 5.2%	(n=271) 6.3%	(n=354) 9.3%	0.014
Neck Range of Motion	Abnormal	(n=752) 17.8%	(n=1,363) 16.1%	0.330	(n=1,458) 15.6%	(n=273) 15.4%	(n=357) 21.6%	0.022
Pinprick	Abnormal	(n=712) 6.0%	(n=1,295) 6.3%	0.924	(n=1,408) 4.1%	(n=251) 4.0%	(n=322) 16.8%	<0.001
Light Touch	Abnormal	(n=712) 4.1%	(n=1,295) 4.2%	0.999	(n=1,408) 3.0%	(n=251) 2.0%	(n=322) 10.6%	<0.001
Muscle Status	Abnormal	(n=752) 3.9%	(n=1,362) 3.5%	0.721	(n=1,457) 3.3%	(n=273) 2.6%	(n=357) 5.6%	0.068
Patellar Reflex	Abnormal	(n=751) 2.8%	(n=1,360) 2.8%	0.999	(n=1,455) 1.8%	(n=273) 2.6%	(n=356) 7.3%	<0.001
Achilles Reflex	Abnormal	(n=748) 18.9%	(n=1,361) 15.8%	0.084	(n=1,453) 13.4%	(n=272) 16.2%	(n=357) 31.9%	<0.001

Table F-3. Dependent Variable-Covariate Associations for the Neurology Assessment (Continued)

Dependent Variable	Level	Degreasing Chemical Exposure			Diabetic Class			
		No	Yes	p-Value	Normal	Impaired	Diabetic	p-Value
Biceps Reflex	Abnormal	(n=751) 1.3%	(n=1,363) 1.0%	0.676	(n=1,458) 0.7%	(n=272) 1.8%	(n=357) 2.5%	0.007
Babinski Reflex	Abnormal	(n=751) 0.9%	(n=1,361) 1.0%	0.999	(n=1,456) 0.9%	(n=273) 1.1%	(n=356) 1.4%	0.678
Polyneuropathy Severity Index	None/Mild	(n=710) 98.0%	(n=1,293) 98.0%	0.482	(n=1,405) 98.9%	(n=251) 99.6%	(n=321) 93.2%	<0.001
	Moderate	1.6%	1.8%		0.9%	0.4%	5.9%	
	Severe	0.4%	0.2%		0.1%	0.0%	0.9%	
Polyneuropathy Prevalence Index	Abnormal	(n=710) 16.5%	(n=1,294) 14.8%	0.364	(n=1,405) 12.0%	(n=251) 12.4%	(n=322) 32.9%	<0.001
Multiple Polyneuropathy Index	Abnormal	(n=710) 3.9%	(n=1,294) 3.9%	0.999	(n=1,405) 2.4%	(n=251) 1.2%	(n=322) 12.7%	<0.001
Confirmed Polyneuropathy Indicator	Abnormal	(n=704) 0.7%	(n=1,283) 1.0%	0.664	(n=1,397) 0.6%	(n=251) 0.0%	(n=313) 2.9%	<0.001
Tremor	Abnormal	(n=752) 6.4%	(n=1,363) 7.6%	0.360	(n=1,458) 7.2%	(n=273) 7.3%	(n=357) 6.4%	0.870
Coordination	Abnormal	(n=751) 2.7%	(n=1,362) 2.2%	0.605	(n=1,458) 1.9%	(n=272) 2.2%	(n=356) 4.5%	0.013
Romberg Sign	Abnormal	(n=752) 0.8%	(n=1,362) 0.6%	0.771	(n=1,458) 0.5%	(n=273) 0.4%	(n=356) 1.7%	0.036
Gait	Abnormal	(n=752) 4.9%	(n=1,363) 5.1%	0.910	(n=1,458) 3.9%	(n=273) 5.1%	(n=357) 9.2%	<0.001
Central Nervous System Index	Abnormal	(n=751) 11.2%	(n=1,363) 12.6%	0.396	(n=1,458) 11.0%	(n=272) 12.9%	(n=357) 15.4%	0.062

Dependent Variable	Level	Composite Exposure to Heavy Metals			Worked With Vibrating Power Equipment or Tools		
		No	Yes	p-Value	No	Yes	p-Value
Confirmed Polyneuropathy Indicator	Abnormal	(n=1,714) 0.8%	(n=272) 1.5%	0.476	(n=1,446) 1.0%	(n=538) 0.7%	0.839

Table F-4. Dependent Variable-Covariate Associations for the Psychology Assessment

Dependent Variable	Level	Age			Race		
		Born ≥1942	Born <1942	p-Value	Black	Non-Black	p-Value
Psychoses		(n=929)	(n=1,187)		(n=128)	(n=1,988)	
	Yes	4.2%	3.6%	0.571	3.9%	3.9%	0.999
Alcohol Dependence		(n=928)	(n=1,187)		(n=127)	(n=1,988)	
	Yes	6.6%	7.1%	0.713	10.2%	6.6%	0.169
Drug Dependence		(n=929)	(n=1,187)		(n=128)	(n=1,988)	
	Yes	0.5%	0.1%	0.124	1.6%	0.2%	0.051
Anxiety		(n=926)	(n=1,183)		(n=128)	(n=1,981)	
	Yes	28.3%	25.7%	0.198	25.0%	27.0%	0.703
Other Neuroses		(n=921)	(n=1,174)		(n=127)	(n=1,968)	
	Yes	54.8%	53.0%	0.424	55.9%	53.7%	0.689
SCL-90-R Anxiety		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	11.8%	9.4%	0.087	11.7%	10.4%	0.751
SCL-90-R Depression		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	16.8%	13.5%	0.040	14.1%	15.0%	0.873
SCL-90-R Hostility		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	9.6%	7.0%	0.038	8.6%	8.1%	0.976
SCL-90-R Interpersonal Sensitivity		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	17.3%	13.6%	0.020	16.4%	15.2%	0.797
SCL-90-R Obsessive-Compulsive Behavior		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	15.5%	15.4%	0.970	14.1%	15.5%	0.756
SCL-90-R Paranoid Ideation		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	9.0%	5.2%	0.001	10.9%	6.6%	0.093
SCL-90-R Phobic Anxiety		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	12.4%	8.5%	0.005	14.8%	9.9%	0.102
SCL-90-R Psychoticism		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	15.6%	12.1%	0.025	18.8%	13.3%	0.111
SCL-90-R Somatization		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	17.2%	15.5%	0.319	20.3%	16.0%	0.247
SCL-90-R Global Severity Index		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	16.6%	13.4%	0.048	15.6%	14.8%	0.886
SCL-90-R Positive Symptom Total		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	17.6%	14.6%	0.074	18.0%	15.8%	0.589
SCL-90-R Positive Symptom Distress Index		(n=929)	(n=1,186)		(n=128)	(n=1,987)	
	High	8.4%	6.3%	0.082	8.6%	7.2%	0.662