Web Material

Exposure to total hydrocarbons during clean-up of the *Deepwater Horizon* oil spill and risk of

heart attack across 5 years of follow-up

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Web Table 1. Conditional Hazard Ratios for the Associations of Maximum Total Hydrocarbon (THC) Exposure, and Median THC Exposure Before the Oil Well was Capped, with Self-Reported MI/Fatal CHD. GuLF STUDY 2010-2016

Max THC exposure (ppm)	Cases/Total N[a] (307/23,520)	HR[b]	95% CI
No censoring weights			
<0.30	41/5,246	1.00	Referent
0.30-0.99	105/7,719	1.40	0.97, 2.03
1.00-2.99	114/7,209	1.34	0.92, 1.94
≥3.00	47/3,346	1.51	0.98, 2.33
IP censoring weighted[c]			
<0.30	41/5,215	1.00	Referent
0.30-0.99	105/7,682	1.49	1.03, 2.16
1.00-2.99	114/7,178	1.51	1.04, 2.20
≥3.00	47/3,334	1.66	1.08, 2.56

Median THC exposure (ppm)	Cases/Total N[a] (289/22,200)	HR[b]	95% CI
No censoring weights			
<0.10	40/4,386	1.00	Referent
0.10-0.29	106/7,715	1.28	0.88, 1.86
0.30-0.99	126/8,940	1.12	0.77, 1.62
≥1.00	17/1,159	1.03	0.58, 1.85
IP censoring weighted[c]			
<0.10	40/4,363	1.00	Referent
0.10-0.29	106/7,682	1.43	0.98, 2.09
0.30-0.99	126/8,904	1.21	0.84, 1.73
≥1.00	17/1,154	1.16	0.64, 2.10

95% CI: 95% confidence interval; CHD: coronary heart disease; HR: Hazard ratio; IP: Inverse probability; Max THC exposure: Maximum total hydrocarbon exposure during clean-up work; Median THC exposure: Median total hydrocarbon exposure before the oil well was capped on July 15, 2010; MI: myocardial infarction; ppm: parts per million

[a]Total N for models without censoring weights is where THC exposure, gender, age, smoking, education, residential proximity to the spill are non-missing; total N for models with censoring weights is where ethnicity is also non-missing

[b]Models were adjusted for gender, age, smoking, education, residential proximity to the oil spill

[c]Censoring weights account for age, ethnicity, education, residential proximity to the oil spill, smoking, and maximum THC exposure

Web Table 2. Marginal Hazard Ratios of the Association of Total Hydrocarbon (THC) Exposure and Self-Reported MI/Fatal CHD, adjusting for category of body mass index at enrollment. GuLF STUDY 2010-2016

Max THC exposure (ppm)	Cases (n=307)/Total N[a] (N=23,271)	HR[b]	(95% CI)
No censoring weights			
<0.30	41/5,173	ref	
0.30-0.99	105/7,641	1.58	(1.05, 2.38)
1.00-2.99	114/7,143	1.44	(0.96, 2.16)
≥3.00	47/3,314	1.68	(1.04, 2.71)
IP censoring weighted[c]			
<0.30	41/5,145	ref	
0.30-0.99	105/7,610	1.64	(1.08, 2.49)
1.00-2.99	114/7,113	1.61	(1.06, 2.46)
≥3.00	47/3,302	1.79	(1.10, 2.91)
Median THC exposure (ppm)	Cases (n=289)/Total N[a] (N=21,960)	HR[b]	95% CI
No censoring weights			
<0.10	40/4,327	1.00	Referent
0.10-0.29	106/7,635	1.43	1.00, 2.04
0.30-0.99	126/8,844	1.26	0.88, 1.79
≥1.00	17/1,154	1.33	0.74, 2.40
IP censoring weighted[c]			
<0.10	40/4,307	1.00	Referent
0.10-0.29	106/7,606	1.57	1.03, 2.38
0.30-0.99	126/8,811	1.32	0.87, 1.98
≥1.00	17/1,149	1.45	0.77, 2.74

95% CI: 95% confidence interval; BMI: Body mass index, kg/m^2 (Underweight or Healthy weight: <25.0; Overweight: 25.0–29.9; Obese: ≥30.0); CHD: Coronary heart disease; HR: Hazard ratio; IP: Inverse probability; Max THC exposure: Maximum total hydrocarbon exposure during clean-up work; MI: Myocardial infarction; ppm: parts per million
[a]Total N for models without censoring weights is where THC exposure, gender, age, smoking, education, residential proximity to the spill are non-missing; total N for models with censoring weights is where ethnicity is also non-missing
[b]Models control for gender, age, BMI, smoking, education, residence proximity to the oil spill
[c]Censoring weights account for age, ethnicity, education, residential proximity to the oil spill, smoking, and maximum total hydrocarbon exposure

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Web Table 3. Marginal Hazard Ratios of the Association of Maximum Total Hydrocarbon (THC) Exposure and Self-Reported MI/Fatal CHD Until December 31, 2014. GuLF STUDY 2010-2016

Max THC exposure (ppm)	Cases/Total N[a] (275/21,474)	HR[b]	95% CI
No censoring weights			
<0.30	36/4,837	1.00	Referent
0.30-0.99	95/7,033	1.70	1.11, 2.60
1.00-2.99	101/6,566	1.49	0.98, 2.28
≥3.00	43/3,038	1.82	1.10, 3.00
IP censoring weighted[c]			
<0.30	36/4,810	1.00	Referent
0.30-0.99	95/6,998	1.82	1.18, 2.81
1.00-2.99	101/6,537	1.78	1.15, 2.76
≥3.00	43/3,027	2.01	1.21, 3.34

95% CI: 95% confidence interval; CHD: Coronary heart disease; HR: Hazard ratio; IP: Inverse probability; Max THC exposure: Maximum total hydrocarbon exposure during clean-up work; MI: Myocardial infarction; ppm: parts per million

[a]Total N for models without censoring weights is where maximum THC exposure, gender, age, smoking, education, residential proximity to the spill are non-missing; total N for models with censoring weights is where ethnicity is also non-missing

[b]Models control for gender, age, smoking, education, residential proximity to the oil spill

[c]Censoring weights account for age, ethnicity, education, residential proximity to the oil spill, smoking, and maximum total hydrocarbon exposure

Web Table 4. Marginal Hazard Ratios of the Association of Maximum Total Hydrocarbon (THC) Exposure and Self-Reported Nonfatal MI. GuLF STUDY 2010-2016

Max THC exposure (ppm)	Cases/Total N[a] (278/23,520)	HR[b]	95% CI
No censoring weights			
<0.30	40/5,246	1.00	Referent
0.30-0.99	96/7,719	1.49	1.04, 2.12
1.00-2.99	99/7,209	1.29	0.90, 1.87
≥3.00	34/3,346	1.59	1.05, 2.40
IP censoring weighted[c]			
<0.30	40/5,215	1.00	Referent
0.30-0.99	96/7,682	1.57	1.02, 2.40
1.00-2.99	99/7,178	1.43	0.93, 2.22
≥3.00	43/3,334	1.68	1.02, 2.76

95% CI: 95% confidence interval; HR: Hazard ratio; IP: Inverse probability; Max THC exposure: Maximum total hydrocarbon exposure during clean-up work; MI: Myocardial infarction; ppm: parts per million

[a]Total N for models without censoring weights is where maximum THC exposure, gender, age, smoking, education, residential proximity to the spill are non-missing; total N for models with censoring weights is where ethnicity is also non-missing

[b]Models control for gender, age, smoking, education, residential proximity to the oil spill

[c]Censoring weights account for age, ethnicity, education, residential proximity to the oil spill, smoking, and maximum total hydrocarbon exposure

Web Table 5. Risk of Self-Reported MI/Fatal CHD by Maximum Total Hydrocarbon (THC) Exposure by Time Since Initiating Oil Spill Clean-up, Until December 31, 2014. GuLF STUDY, 2010-2016 (n=21,751)

Time since initiating clean-up:	12 months		24 months		36 months		48 months	
Max THC exposure (ppm)	Risk[a]	RD	Risk[a]	RD	Risk[a]	RD	Risk[a]	RD
<0.30	0.002	ref	0.005	ref	0.007	ref	0.010	ref
0.30-0.99	0.004	0.002	0.010	0.005	0.012	0.005	0.017	0.007
1.00-2.99	0.004	0.002	0.008	0.003	0.012	0.005	0.016	0.006
≥3.00	0.006	0.004	0.010	0.005	0.014	0.007	0.020	0.010

CHD: coronary heart disease; Max THC exposure: Maximum total hydrocarbon exposure during clean-up work; MI: myocardial infarction; ppm: parts per million; RD: Risk difference
[a]Risk estimates account for confounders (age, gender, education, smoking, residential proximity to the spill) and predictors of censoring (age, education, ethnicity, smoking, clean-up work duration, residential proximity to the spill) using inverse probability weights

Web Table 6. Marginal Hazard Ratios of the Association of Maximum Total Hydrocarbon (THC) Exposure and Self-Reported MI/Fatal CHD, Among Non-Federally-Employed Clean-up Workers. GuLF STUDY 2010-2016 (N=19,756)

Max THC exposure (ppm)	Cases/Total N[a] (290/19,020)	HR[b]	95% CI
No censoring weights			
<0.30	30/3,137	1.00	Referent
0.30-0.99	101/6,652	1.63	1.05, 2.54
1.00-2.99	113/6,439	1.51	0.97, 2.34
≥3.00	46/2,792	1.80	1.08, 2.99
IP censoring weighted[c]			
<0.30	30/3,126	1.00	Referent
0.30-0.99	101/6,625	1.69	1.08, 2.66
1.00-2.99	113/6,416	1.68	1.07, 2.64
≥3.00	46/2,785	1.92	1.14, 3.23

95% CI: 95% confidence interval; CHD: Coronary heart disease; HR: Hazard ratio; IP: Inverse probability; Max THC exposure: Maximum total hydrocarbon exposure during clean-up work; MI: Myocardial infarction; ppm: parts per million;
[a]Total N where maximum oil exposure, gender, age, smoking, education, residential proximity to the spill are non-missing
[b]Models control for gender, age, smoking, education, residential proximity to the oil spill
[c]Censoring weights account for age, ethnicity, education, residential proximity to the oil spill, smoking, and maximum total hydrocarbon exposure

Web Table 7. Marginal Hazard Ratios for the Association of Maximum Total Hydrocarbon (THC) Exposure with Self-Reported MI/Fatal CHD, Adjusting for Duration of Clean-up Work. GuLF STUDY 2010-2016

Max THC exposure (ppm)	Cases/Total N[a] (307/23,520)	HR[b]	95% CI
No censoring weights			
<0.30	41/5,246	1.00	Referent
0.30-0.99	105/7,719	1.76	1.16, 2.68
1.00-2.99	114/7,209	1.50	0.99, 2.28
≥3.00	47/3,346	1.86	1.04, 3.33
IP censoring weighted[c]			
<0.30	41/5,215	1.00	Referent
0.30-0.99	105/7,682	1.82	1.18, 2.79
1.00-2.99	114/7,178	1.68	1.09, 2.59
≥3.00	47/3,334	2.12	1.12, 4.03

95% CI: 95% confidence interval; CHD: Coronary heart disease HR: Hazard ratio; IP: Inverse probability; Max THC exposure: Maximum total hydrocarbon exposure during clean-up work; MI: Myocardial infarction; ppm: parts per million
[a]Total N for models without censoring weights is where maximum THC exposure, gender, age, smoking, education, residential proximity to the spill and work duration are non-missing; total N for models with censoring weights is where ethnicity is also non-missing
[b]Models control for gender, age, smoking, education, residential proximity to the oil spill and work duration
[c]Censoring weights account for age, education, residential proximity to the oil spill, smoking, and maximum THC exposure