

Oil and Natural Gas Production (ONGP) Health Concerns

ONGP in Pennsylvania

In Pennsylvania, the unconventional oil and gas development (UOGD) activity began in 2005. Unconventional wells differ from conventional wells by the geologic formation being tapped. UOGD uses horizontal and vertical drilling and hydraulic fracturing (“fracking”) to access the reservoirs of oil and natural gas.

As of June 30, 2025, the Pennsylvania Department of Environmental Protection (DEP) reported 13,157 active unconventional wells across 36 of the state’s 67 counties; Washington (2,117), Susquehanna (2,048), and Bradford (1,676) counties have the greatest numbers.*

ONGP Health Information Database

In response to growing concerns about UOGD, the Pennsylvania Department of Health (DOH) tracks public health complaints in a confidential database.

As of June 30, 2025, DOH received 221 ONGP-related health complaints, the most from Washington (56), Susquehanna (46), and Bradford (24) counties. Seven complaints were received in the first half of 2025.

Figure 1. Total Health Complaints Logged by DOH Division of Environmental Health Epidemiology Since 2011 (N=221)

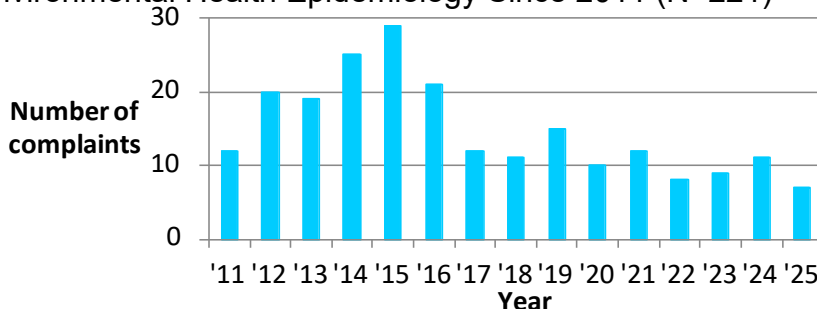


Table 1. Reason for Contact (N=221)

Reason	Jan-June 2025	Total since 2011	% of total since 2011
General inquiry	0	24	10.9%
News update/alert	0	3	1.4%
Information sharing	0	12	5.4%
Formal health	7	182	82.4%

^aGeneral inquiries, news updates/alerts and information sharing cases were no longer logged in the health complaints registry effective March 2017.

Table 2. Environmental Source of Concern^a (N=221)

Source	Jan-June 2025	Total since 2011	% of total since 2011
Water	5	160	72.4%
Air	4	123	55.7%
Soil	3	38	17.2%
Noise	0	62	28.1%
Truck traffic	1	55	24.9%
Other ^b	1	54	24.4%
Missing	0	9	4.1%

^aMore than one environmental source of concern may be selected per complaint.

^bOther category includes light, drilling mud or solid waste, vibrations or seismic testing, etc.

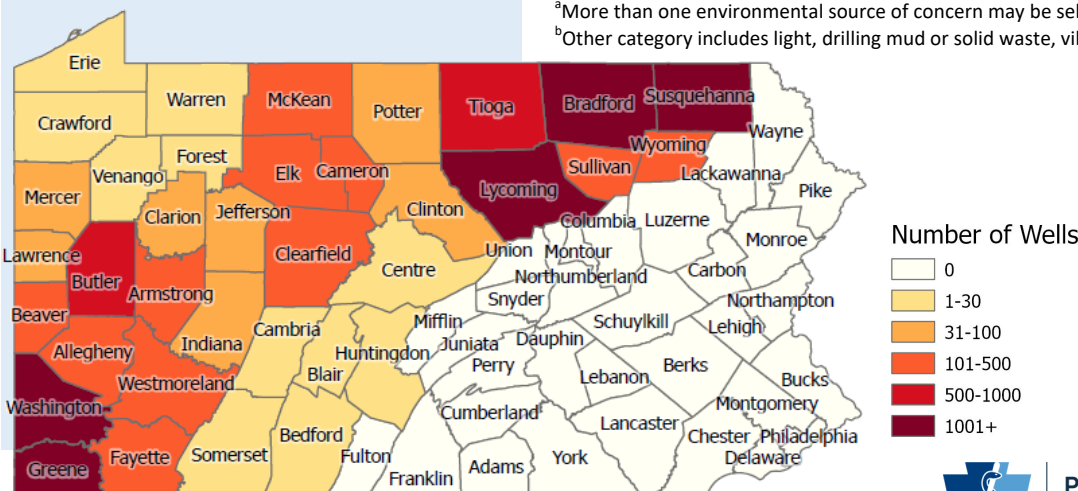


Figure 2. Active Unconventional Oil and Gas Wells in Pennsylvania

*Based on the number of active wells from DEP Spud Data Report, Wells Drilled by County, 6/30/2025

Referrals

Seven formal health complaints were received in the first half of 2025; 4 were referred by the DEP and 3 were direct to the DOH.



Table 3. Demographic Information of Individuals in ONGP Registry with a Formal Health Complaint (N=182 formal health complaints, 374 individuals*)

Characteristic	Jan-June 2025 YTD	Total since 2011	% of total since 2011
Female	8	199	53.2%
Male	5	169	45.2%
Missing	0	6	1.6%
Non-Hispanic white	13	212	56.7%
Non-Hispanic black	0	0	0.0%
Hispanic	0	1	0.3%
Other	0	5	1.3%
Missing	0	156	41.7%
0-17 years old	1	60	16.0%
18-64 years old	7	186	49.6%
65+ years old	5	76	20.3%
Missing	0	52	13.9%
Any private	9	140	37.4%
Public only	3	63	16.8%
Uninsured	1	9	2.4%
Missing	0	162	43.3%

*Table excludes general inquiries, news updates and information sharing complaints. Each health complaint may pertain to more than one individual.

Race/ethnicity, age, and health insurance were not systematically collected until March 2017. Percentages within each group may not sum to 100% due to rounding.

Table 4. Symptoms reported by Individuals in ONGP Registry who reported a Formal Health Complaint (N=182 formal health complaints, 374 individuals*)

Symptom group	Jan-June 2025	Total since 2011	% of total since 2011
Cardiovascular	5	53 (12)†	14.2%
Dermatological	5	143	38.2%
Ear	3	48	12.8%
Eye	7	84	22.5%
Gastrointestinal	6	141	37.7%
General systemic ^a	5	137	36.6%
Neurological	7	169(10)†	45.2%
Psychological	3	91 (8)†	24.3%
Respiratory	9	188 (22)†	50.3%
Urogenital	1	42 (8)†	11.2%
Missing/None	0	41	11.0%

*Table excludes general inquiries, news updates and information sharing complaints. Each health complaint may pertain to more than one individual.

^aIncludes sleep disturbance, fatigue, fever, chills, night sweats, shaking, weight loss/gain, decreased appetite, muscle aches/cramps, joint pain, fainting, and swelling

†Numbers in parentheses correspond to newly diagnosed conditions relevant to that symptom group: heart disease and/or hypertension (cardiovascular group), neurological disease (neurological), psychological disease (psychological), asthma or COPD (respiratory), kidney disease or failure (urogenital). They do not represent pre-existing conditions.

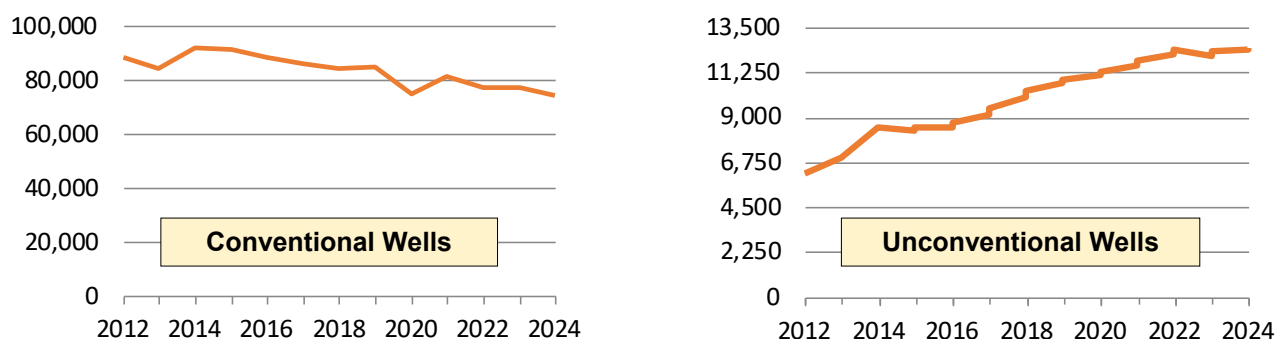
Therefore, someone could report that UOGD exacerbated their asthma (noted in the respiratory count) but was diagnosed before UOGD activity started in their area (not in parentheses).

Health Overview 2025 Year-to-Date Based on Formal Health Complaints (N=7 complaints, 13 individuals)

- Individuals who reported being in poor or fair health: 46%
- Individuals who reported being disabled: 0%
- Individuals who reported being diagnosed with cancer: 0%
- Individuals who visited the doctor for their health concerns: 85%
- Four (57%) of 2025 YTD complaint cases had concerns about animal health (livestock or pets).



Figure 3. Total Number of Active Oil and Gas Wells in Pennsylvania, 2012 to 2024



The tables below show data for counties with more than 500 active unconventional oil and gas wells as of December 31, 2024: Washington (2,117), Susquehanna (2,048), Bradford (1,676), Greene (1,583), Lycoming (1,074), Tioga (953), and Butler (671).

Table 5. Environmental Source of Concern by County (All Complaints Since 2011)

Source	Washington	Susquehanna	Greene	Bradford	Lycoming	Tioga	Butler
Water	34	40	10	22	2	8	4
Air	41	22	7	6	4	2	2
Soil	12	5	3	4	0	2	0
Noise	25	11	4	4	0	1	1
Truck traffic	22	10	4	4	1	2	1
Other ^a	22	11	2	5	0	1	1
Missing	3	0	0	0	1	0	0

County-specific numbers of complaint cases are as follows: 56 (Washington), 46 (Susquehanna), 13 (Greene), 24 (Bradford), 6 (Lycoming), 8 (Tioga), and 4 (Butler). More than one environmental source of concern may be selected per complaint.

^aOther category includes light, drilling mud or solid waste, vibrations or seismic testing, etc.

Table 6. Health Symptoms by County (Individuals with a Formal Health Complaint Since 2011)

Symptom	Washington	Susquehanna	Greene	Bradford	Lycoming	Tioga	Butler
Cardiovascular	10	8	3	14	0	1	0
Dermatological	30	48	14	12	6	3	1
Ear	15	9	0	3	2	1	1
Eye	24	18	4	6	3	5	0
Gastrointestinal	33	41	7	17	0	4	3
General	42	29	11	12	0	4	2
Neurological	46	37	9	16	1	8	4
Psychological	34	21	4	5	3	1	3
Respiratory	58	42	15	17	4	6	3
Urogenital	8	15	3	5	3	0	1
Missing/None	19	3	3	8	0	0	1

County-specific numbers of individuals are as follows: 101 (Washington), 92 (Susquehanna), 28 (Greene), 38 (Bradford), 8 (Lycoming), 16 (Tioga), and 6 (Butler).

^aIncludes sleep disturbance, fatigue, fever, chills, night sweats, shaking, weight loss/gain, decreased appetite, muscle aches/cramps, joint pain, fainting, and swelling. Each individual can report more than one symptom or symptom category.

Nearly all oil and gas-related complaints received by DOH since 2011 are related to UOGD; only 7 complaints are related to conventional oil and gas. Symptoms are self-reported, are not clinically verified, and general in nature and cannot specifically be attributed to ONGP. Figures in this report may slightly differ from previous reports due to ongoing data collection.

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