Coordination & Engagement on Issues Related to the JH Baxter Facility

COMMUNITY ENGAGEMENT CORE TEAM

Meeting 10
November 16, 2021
Facilitator's Summary

ACTION	WHO	BY WHEN
Reach out to Sheryl Stohs at the EPA regarding the Core Team's questions around continued use of Penta.	Donna	Next CT session
Schedule time for conversation around community frustrations (shared via email).	DSC	TBD
Review the community aspirations and goals and note those that can currently be used, while also providing specific statutes that present barriers or prevent implementation (and the processes by which they could be changed).	Core Team Agencies	Ongoing from 11/2 session
Schedule next Core Team meeting to share soil sampling results.	DSC	When data is available

Participants for all or part of the meeting: Jeremy Aasum (Community Member/BT), Arjorie Arberry-Baribeault (BT), Lisa Arkin (BT), Robin Bloomgarden (Community Member/ABC), Mary Camarata (DEQ), Tori Clemons (OHA), Killian Condon (DEQ), Dylan Darling (DEQ), Steve Dietrich (LRAPA), David Farrer (OHA), Ed Farren (ABC, Community Member), Courtney Fultineer (OHA), Max Hueftle (LRAPA), Travis Knudsen (LRAPA), Mike Kucinski (DEQ), Kelby Land (LCPH), Emily Pyle (ABC), Diana Rohlman (OSU), Julie Sifuentes (OHA), Jeff Soule (OHA, OSCaR) Susan Turnblom (DEQ), Sarah Wheeler (DEQ), Jon Wilson (CoE), and Lin Woodrich (ABC).

Facilitation Team: Donna Silverberg and Emily Stranz, DS Consulting.

Welcome and Introductions - Facilitator, Donna Silverberg, welcomed the group to the 10th Core Team meeting. Group members introduced themselves and their affiliation. Participants included West Eugene community members, and representatives from the Active Bethel Community (ABC), Beyond Toxics (BT), City of Eugene (CoE), Oregon Department of Environmental Quality (DEQ), Lane County Public Health (LCPH), Lane Regional Air Protection Agency (LRAPA), Oregon Health Authority (OHA), and Oregon State University (OSU).

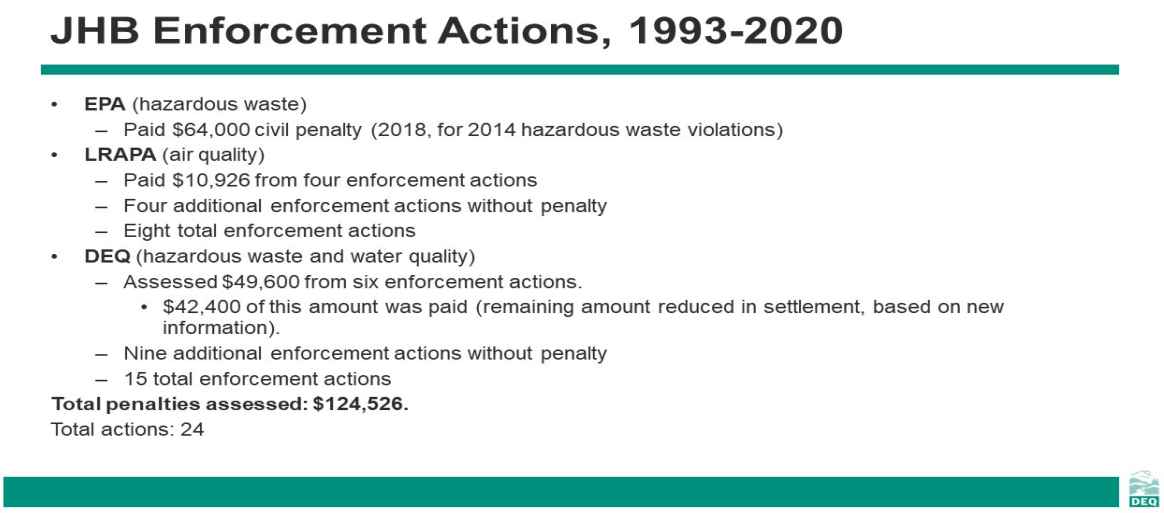
Follow-Up From Last Session – Core Team members offered updates and follow-up on information from the previous session.

- Travis Knudsen, LRAPA, summarized an email that he sent to the Core Team following a meeting between LRAPA, Beyond Toxics, and DEQ regarding an increase in air quality complaints in November (see Travis' emails dated November 12 and 15, 2021).
    - As part of their air contaminant discharge permit, JH Baxter is permitted to open up to two retort doors within a 60-minute period, but not more than two.
    - JH Baxter is still using Pentachlorophenol (penta) and will continue to do so until they run out of their current supply as allowed by US EPA. Max Hueftle, LRAPA, added that LRAPA does not have the authority to regulate chemicals, the US EPA does that. Max explained that Penta is a restricted use pesticide that only licensed practitioners can use.
    - JH Baxter plans to replace penta with DCOI, which is available for general use. Max noted that DCOI does not have a toxicity reference value through Cleaner Air Oregon (CAO) yet, as it is relatively new. DEQ and OHA will be reviewing DCOI soon to assign a toxicity reference value for CAO purposes.

- Penta is still being used by a couple of other facilities in Oregon, including two facilities in Lane County, one Washington County, and another in Yamhill County. All the facilities are moving to use DCOI instead of penta.
  - There was concern from community members regarding the potential harm from DCOI, as well as the continued use of penta. Community members questioned why US EPA is still allowing the reserves to be used. Donna offered to reach out to Sheryl Stohs at US EPA to get the Core Team's questions answered.
- Travis recapped the process that LRAPA uses to investigate and respond to air quality complaints: every complaint undergoes an investigation to determine if the compliant is 'confirmed', 'suspected', 'unconfirmed' or 'other'. LRAPA's determination and handling procedures are outlined in Travis' email. LRAPA has 3-full time field compliance officers who investigate the complaints to determine what follow-up action is needed. Travis noted that LRAPA is in the process of updating their website content to be more transparent and descriptive of the compliant investigation and response processes. Community input of on the ground conditions is important to LRAPA and Travis noted that LRAPA is working more intentionally to bring agency knowledge and community knowledge together for improvements.

- Mike Kucinski, DEQ, reported that he shared the Community member's Goals and Aspirations with the cross-agency managers group, consisting of OHA, DEQ, and LRAPA managers. Mike has not discussed the list with them yet, however, expects to at their next session in December. Mike acknowledged that all points are important, and asked that community members prioritize the list so the agencies may have a sense of which goals are of highest priority.

- Sarah Wheeler, DEQ, provided updated information on the fines and enforcement actions issued from US EPA, LRAPA, and DEQ to JH Baxter from 1993 to 2020. There were 24 enforcement actions within that timeframe, totaling $124,526 in fines (see slide below for more detail). It was noted that in 2021 DEQ fined JH Baxter over $200,000 for violations; DEQ and JH Baxter are in the settlement process now and updates will be provided to the team as things progress.



- Travis mentioned that the agencies are working to create an online StoryMap to make information on JH Baxter readily accessible to the public, and that Core Team input on the draft StoryMap will be requested before being finalized.
- Lisa Arkin, Beyond Toxics, wondered if the agencies feel that the enforcement track-record is good? Donna asked that Lisa's question, along with more discussion around the frustrations shared via recent emails between Core Team members, be tabled for a separate session; while those issues are important, the purpose of this session was to share results from the Oregon Health Authority's cancer investigation and to provide opportunity for questions and discussion of the results. Lisa agreed to this.

Presentation of Cancer Investigation Results & Conclusions

Dave Farrer (OHA) reminded the group that public health is different than health care. Where health care seeks to meet the individual's needs, public health looks at big picture trends to inform ways to reduce disease overall. The tools used to do that are a lot of numbers. Those numbers represent real people: our family members, neighbors, and ourselves. The cancer experience is life-changing. This real-life reality is not intended to be diminished by the numerical presentation of the OSCaR results. That said, the numerical results are from a public health perspective and will show the data trends that were found when looking at cancer rates around JH Baxter, in Lane County, and throughout the state of Oregon.

Diana Rohlman (OSU) recapped the strengths and limitations of cancer analyses and offered a way for the group to interpret results. She noted that the cancer analysis provides specifics on types of cancer, age of diagnosis, and specific census tracts. There is a 2-year lag time in the reporting between when there is a diagnosis and when it is reported. Further, the cancer analysis does not track individuals geographically; so, if a person lived in one place for years and then moved and was diagnosed with cancer, the data would be reflected only at the location of diagnosis.

Diana explained how to interpret the cancer analysis data. She described adjustments made for the size of population and age, as well as the meaning of the 'confidence intervals' and how to read the graphs. (See slide below for more detail.)

- Adjustment for the population size – In order to compare data between populations of different sizes, the data is extrapolated to cancer rates per 100,000 people. This allows for cancer rates in any given area to be compared to rates in other areas, despite different population sizes. Diana explained that the larger the population, the more certain experts are about the rates of cancers in that population because there is more data to inform the rate (see confidence interval below).

- Age adjustment – Cancer rates differ by age because the risk of getting cancer increases as people age. It does not work to compare cancer rates in a college population to rates in an older adult population because the rates of getting cancer are very different in those two populations. So, an age adjustment is used (similar to the population size adjustment) to allow for comparisons across these populations.

- Confidence intervals – As noted above, if a population is larger, there is more data to inform the rate of cancer; a smaller population has more uncertainty due to a more limited data set. Further, the actual number of people in a population is never completely accurate because people move and the census counts are made at a single point in time. If the population is smaller than thought, the cancer rate is likely higher; whereas, if the population is larger than thought, the cancer rate is likely lower. Because of these uncertainties, the OSCaR results include a range, or 'confidence interval', for the rates of cancer within the census tract, county,

and state. They all show different rate ranges and are helpful to compare to each other to understand how the local rates of cancer compare to regional rates.

- Interpreting the result - In the graphs, as you go up the Y-axis, the rate of cancer gets higher. Looking to see how the census tract, county, and state rates compare to each other tells us whether the cancer rates in one place are higher or lower than expected at the county or state level.

Dave presented the results and conclusions from the OSCaR investigation. He noted that the investigation was conducted because it was important to the community members. Unfortunately, these types of investigations often lead to more questions than answers, as they can only say whether the rates are higher or lower than other parts of the state, not *why.* As Diana noted, *t*he method of analysis is place and time specific: six geographical census tracts surrounding JH Baxter were used and data was from 2000-2018. Results compared the observed rates of selected cancers in those census tracts to county and state rates. The 'cancer types' used in the previous cancer analysis were used in this analysis, along with specific cancers that the Core Team members requested. They also looked at cancers associated with the chemicals that JH Baxter uses and other common chemicals in the environment. The investigation included 22 cancer types. (For more information on the previous cancer analysis: https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/TRACKINGASSESSMENT/ENVIRONMENTALHEALTHASSESSMENT/Pages/nweugenesite.aspx.)

The 2021 OSCaR analysis found that 20 of the 22 cancer types had rates of cancer that were equal to or less than expected compared to state and county rates. However, rates for both lung cancer and Hodgkin's lymphoma were higher in the census tracts surrounding JH Baxter than in Lane County and/or the broader state rates.

- *Lung cancer* – Rates are higher than expected in the census tracts. The census tracts rate was 69.9/100,000, versus 58.8/100,000 in Lane County and 61.5/100,000 in Oregon state. The observed number of cases of lung cancer in the census tracts is 404 from 2000-2018. Lung cancer is a common cancer, with risk factors such as cigarette smoke, radon and other substances in homes and workplaces, family history, radiation therapy, and additive effects. Environmental chemical risk factors include PAHs, diesel particulate, and other traffic related pollution. PAHs have a strong causal link to cancer and are emitted from industrial processes, cars/trucks, wildfires, and even certain kinds of cooking.

- *Hodgkin's Lymphoma* – The rates of cancer in the census tract might be higher than in Lane County (there is some overlap of the census tract and county confidence intervals); rates in the census tracts are not higher than the state of Oregon rates (there is total overlap in confidence intervals between the census tracts and state). In the census tract the rate was 3.9/100,000, Lane County was 2.4/100,000 and Oregon state was 2.7/100,000). The observed number of cases of Hodgkin's lymphoma in the census tract from 2000-2018 was 22 cases. Overall, Hodgkin's lymphoma is a very rare cancer. However, for adolescents between 15-19 years old it is considered a common cancer. There is another age window from 50-60 where risk goes up again. Men are at higher risk than women, as are people with prior Epstein-Barr virus infection (the virus that causes mononucleosis or "mono"), or family history. Environmental chemical risk factors contributing to Hodgkin's lymphoma are inconclusive – some studies show evidence of connection to chemical exposure, whereas others do not show evidence of this connection.

The OSCaR investigation does not determine why lung and Hodgkin's lymphoma rates are higher. It would take a robust study following tens-of-thousands of people over more than a decade to try to answer the question of cause. However, the risk assessments that are already underway through CAO and DEQ-Clean-up will determine

how much of each chemical is being emitted from JH Baxter and what risks the levels of exposure might pose for human health. The emissions inventory and the soil samples will provide data to help determine the public health risks from living and working around the facility.

Community Core Team members provided some reflections on how best to provide this information to the broader public:

- The OSCaR data alone is not enough to share, there needs to be more context and results from the other studies provided too.
- However, there is a lot of information to digest and so finding ways to introduce information over time would be helpful.
- Additionally, some felt that the graphs were understandable, whereas others did not, so exploring other ways to display the information may be beneficial.
- Some sort of information round-table was suggested, to allow for plenty of time for a deep dive into the details.

Next Steps – Donna thanked Diana and Dave for their efforts in presenting the OSCaR results, and to the full Core Team for the questions and input. She noted that the next Core Team meeting will be scheduled after the soil sampling results are in and ready to be shared. Also, the agencies will be looking for Core Team input on the JH Baxter StoryMap and agency reps will provide responses to the Community member's Goals and Aspirations.

In the meantime, DS Consulting will work directly with the community members on the Core Team to discuss how to best address some of the frustrations that have been shared via email. And with that, the session was adjourned.

Interpreting a Cancer Analysis

Diana Rohlman
Assistant Professor, Sr. Research
College of Public Health and Human Sciences
Oregon State University
PACIFIC NORTHWEST CENTER for Translational Environmental Health Research

Cancer Analysis *defined*

An analysis to determine the number of cancer cases that occur in a group of people in a particular geographic area over a limited period of time.

Strengths

- Available data
- Rapid process
- Cancer-type specific
- Census-tract specific
- Identifies timing of cancer diagnosis

Limitations

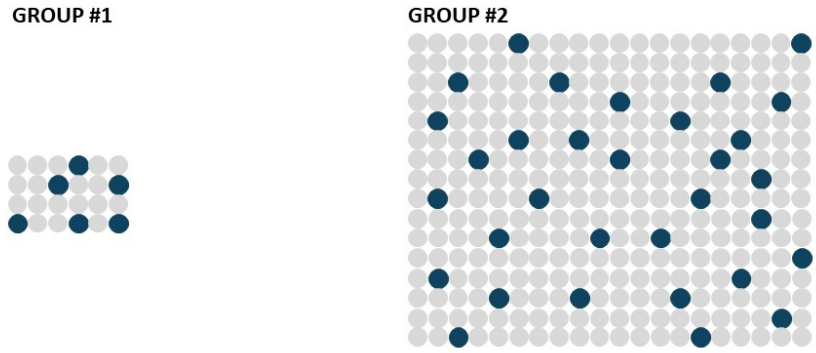
- Lag time in cancer reporting
- Does not track residence before or after diagnosis
- Does not link environmental exposures to cancer incidence

Interpreting a Cancer Analysis

- Use of a rate to adjust for population size
- Age-adjustment
- Confidence intervals
- Interpreting the results

Use of a rate to adjust for population size

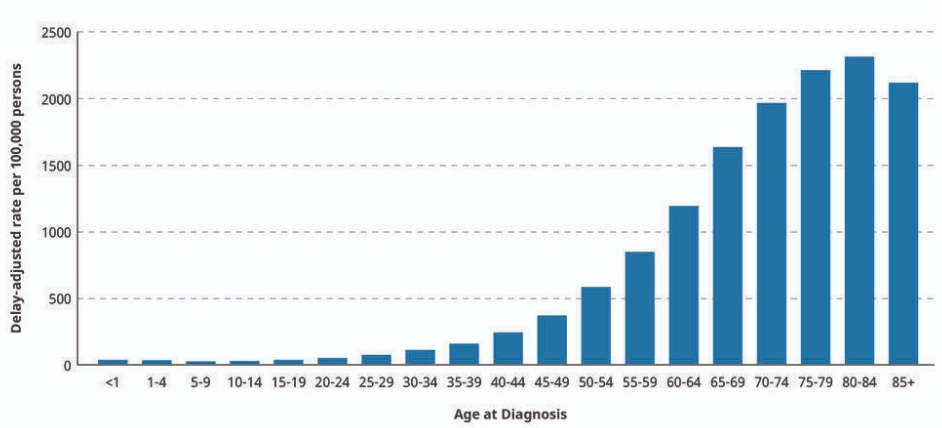
Comparing between populations of different sizes



count	**6 in 24 people**	**32 in 320 people**
extrapolate	25,000 in 100,000	10,000 in 100,000

Age-adjustment

Cancer rates differ by age



Incidence rates by age at diagnosis, all cancer types. Source: SEER 21 2013–2017, all races, both sexes.
Credit: National Cancer Institute. https://www.cancer.gov/about-cancer/causes-prevention/risk/age

Age-adjustment

Cancer rates differ by age

Age range	Count	# in population	Crude Rate (per 100,000)	Population of the United States	Age distribution (% of total US pop)	Rate (Crude * age distribution)
0 - 20	1	2,800	35.7	78,782,657	0.29	10.4
21 – 40	2	3,150	63.5	77,670,618	0.28	17.8
41 – 60	5	2,400	208.3	72,816,615	0.27	56.2
61+	12	1,650	727.3	45,363,752	0.17	123.6
Total	20	10,000	---	274,633,642	1.0	**208**

20 cancer cases in 10,000 people

This is all example data and is not real. US population numbers based on 2020 census

https://seer.cancer.gov/seerstat/tutorials/aarates/step1.html

RATE = 208 out of 100,000 people

Confidence intervals

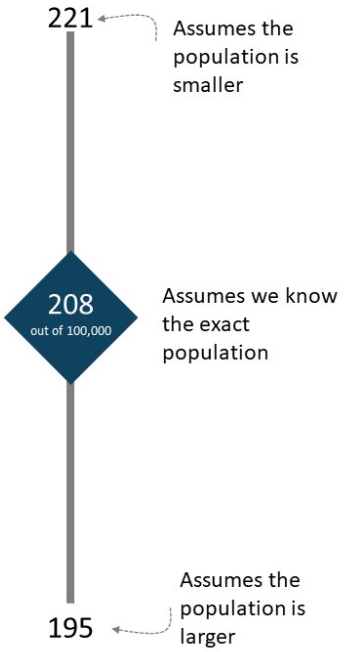
What is the range associated with our rate?

Increasing certainty around population size

Census rate
Based on # of people in the census tracts

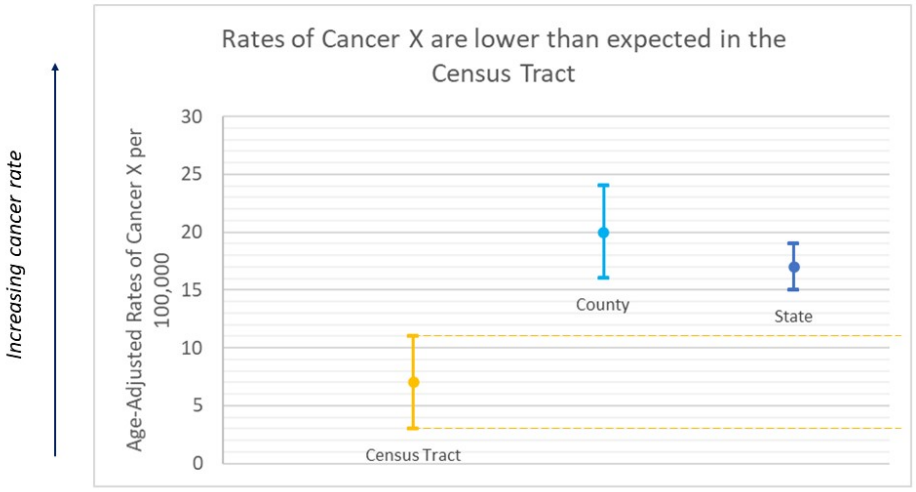
County rate
Based on # of people in the county

State rate
Based on # of people in the state



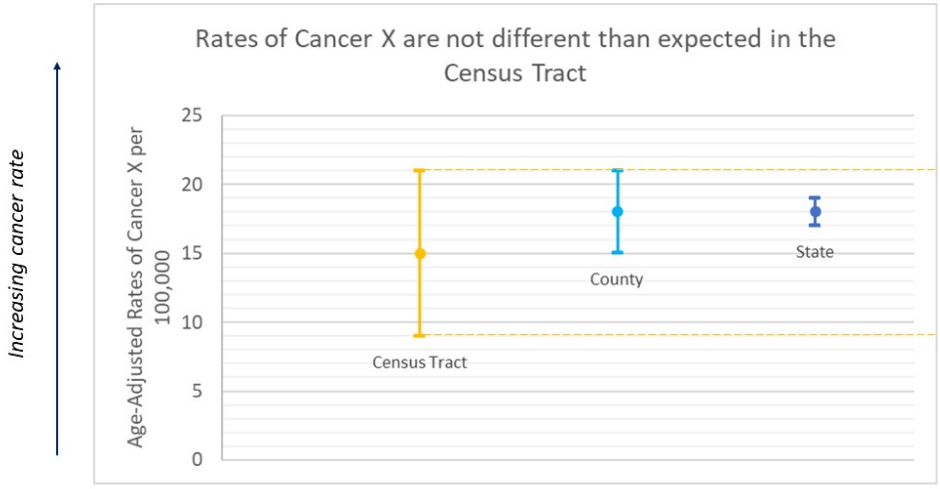
Interpreting the results

Outcome 1: Rates are lower than expected



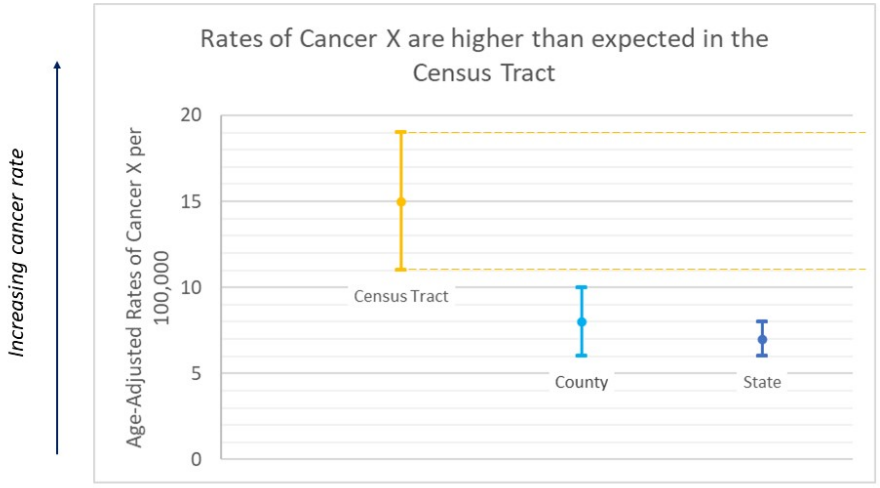
Interpreting the results

Outcome 2: Rates are the same



Interpreting the results

Outcome 3: Rates are higher than expected



JH Baxter Cancer Analysis

David Farrer
Toxicologist

Core Team Meeting
November 16, 2021

Oregon Health Authority

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Refresher

Why did we conduct this investigation?

What **can** this analysis tell us?

What **can't** this analysis tell us?

2

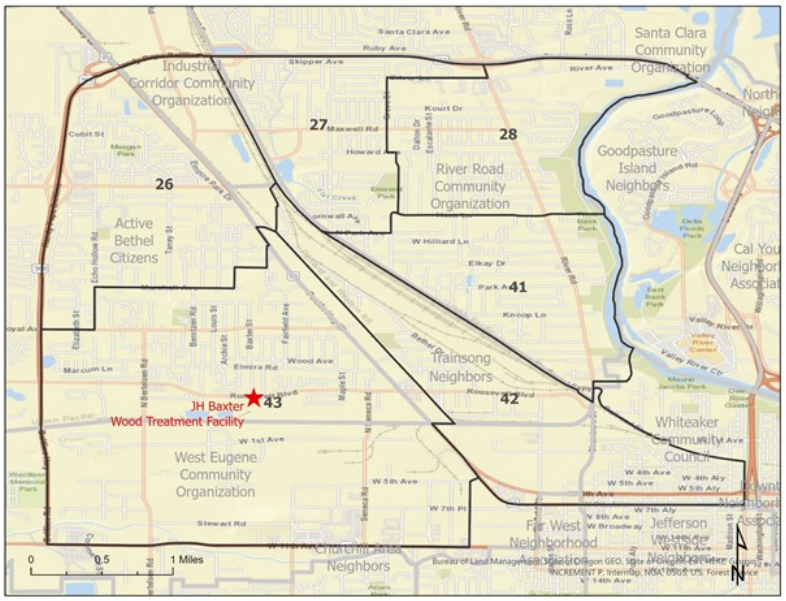
Method of analysis – place and time

Selected six census tracts for the years 2000-2018 to compare:

- Observed rates of selected cancer types

vs.

- Rates at the county and state level for same cancer types



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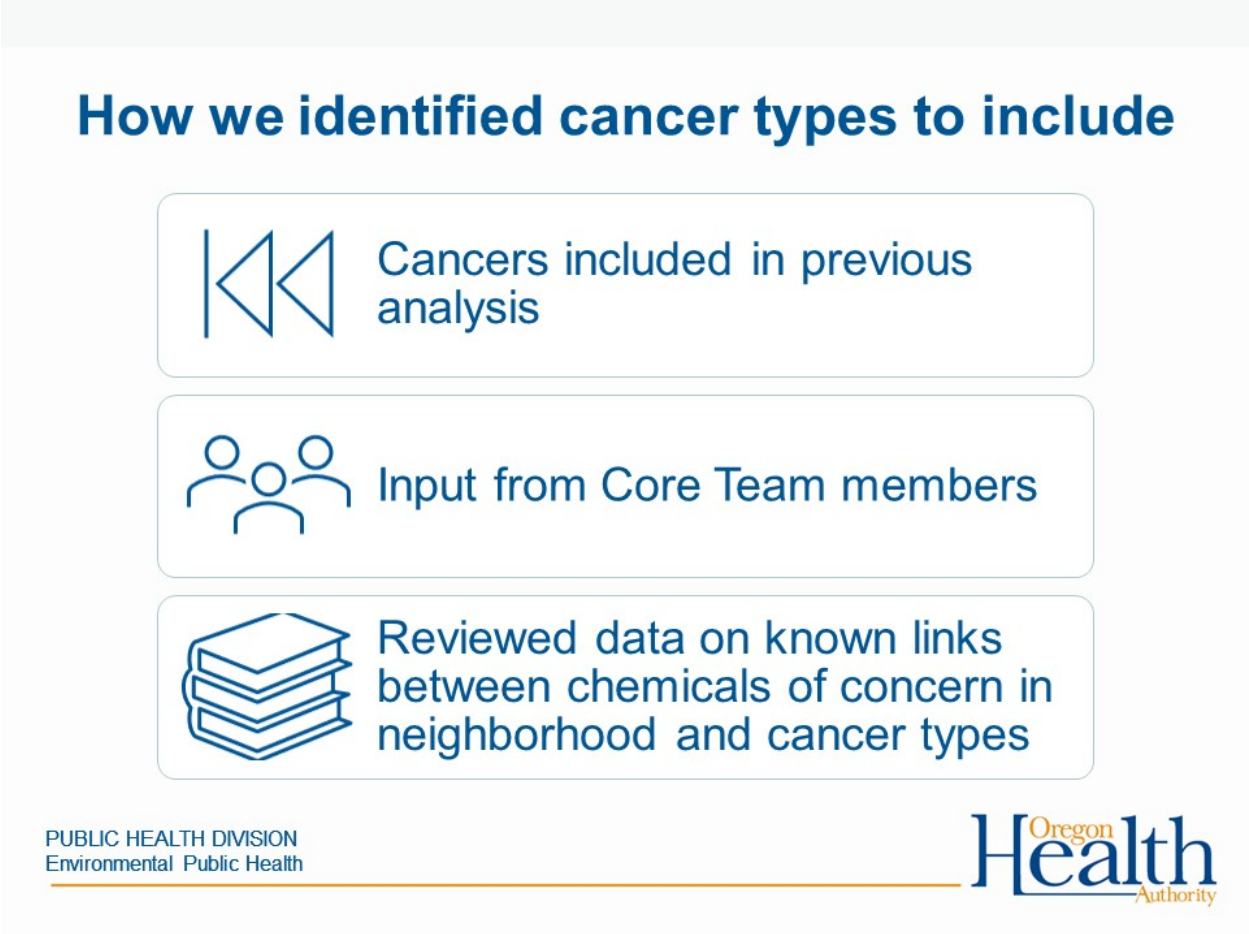
How we identified cancer types to include
Cancers included in previous analysis
Input from Core Team members
Reviewed data on known links between chemicals of concern in neighborhood and cancer types
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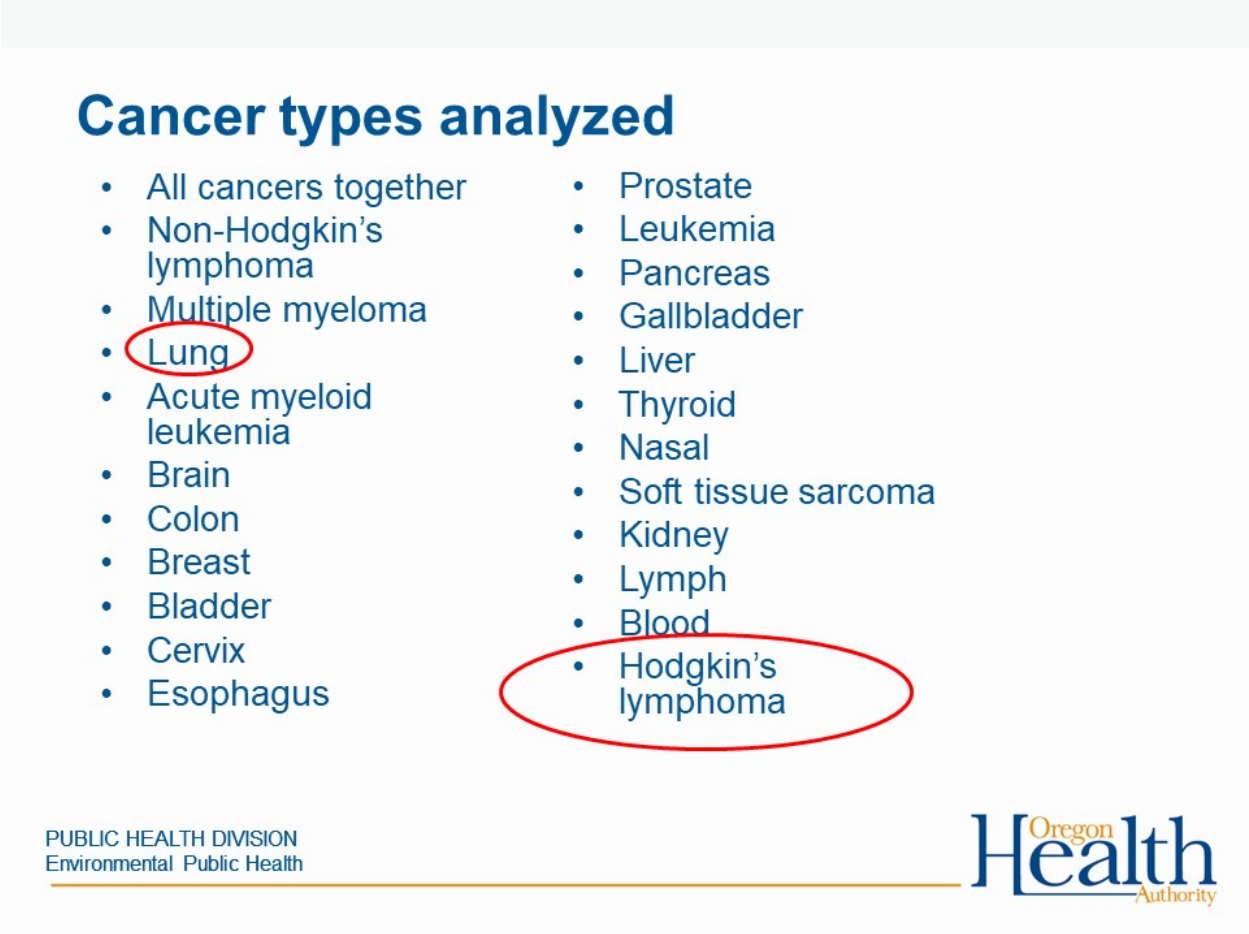
Cancer types analyzed
All cancers together
Non-Hodgkin's lymphoma
Multiple myeloma
Lung
Acute myeloid leukemia
Brain
Colon
Breast
Bladder
Cervix
Esophagus
Prostate
Leukemia
Pancreas
Gallbladder
Liver
Thyroid
Nasal
Soft tissue sarcoma
Kidney
Lymph
Blood
Hodgkin's lymphoma
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Overall Conclusion

- Rates of 20 out of 22 cancers in these six census tracts were the same as or less than expected.
- Rates of lung cancer and Hodgkin's lymphoma in six census tracts around Baxter were higher than expected

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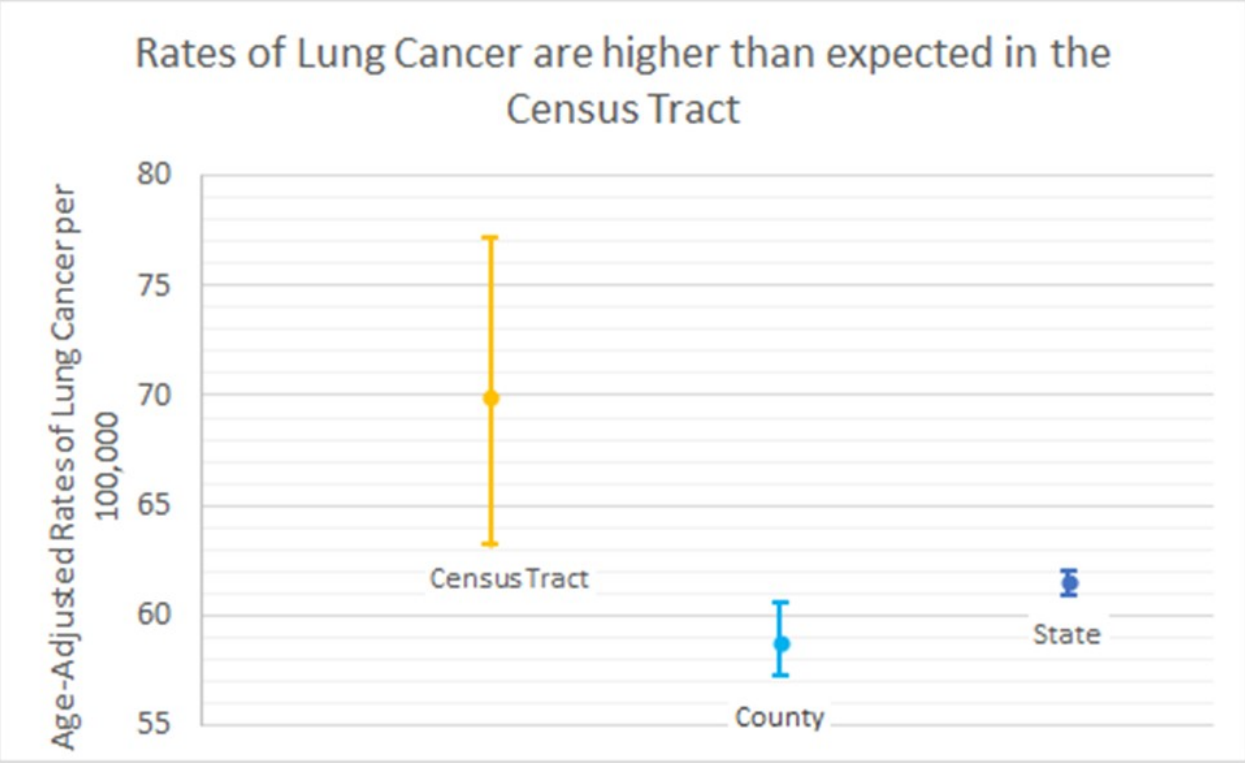
Rates of Lung Cancer are higher than expected in the Census Tract
Age-Adjusted Rates of Lung Cancer per 100,000
80
75
70
65
60
55
Census Tract
County
State
PUBLIC HEALTH DIVISION
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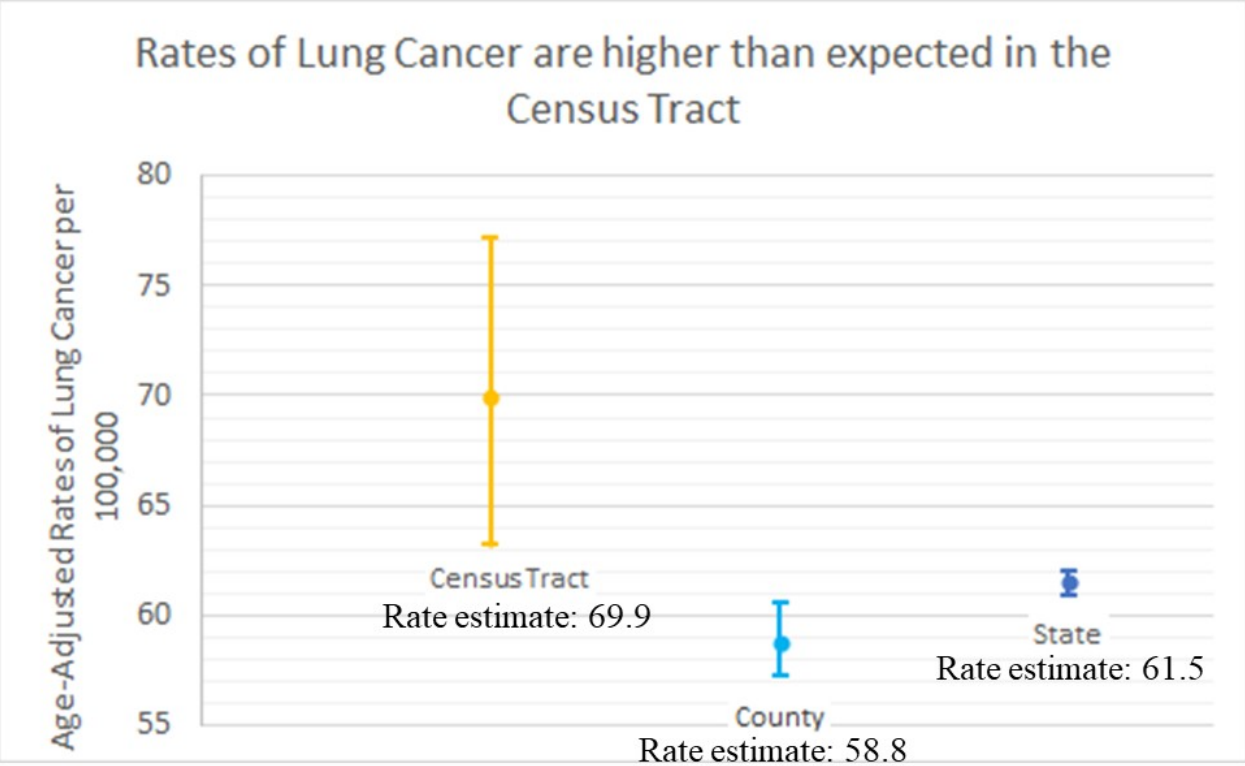
Rates of Lung Cancer are higher than expected in the Census Tract
Age-Adjusted Rates of Lung Cancer per 100,000
80
75
70
65
60
55
Census Tract
Rate estimate: 69.9
County
Rate estimate: 58.8
State
Rate estimate: 61.5
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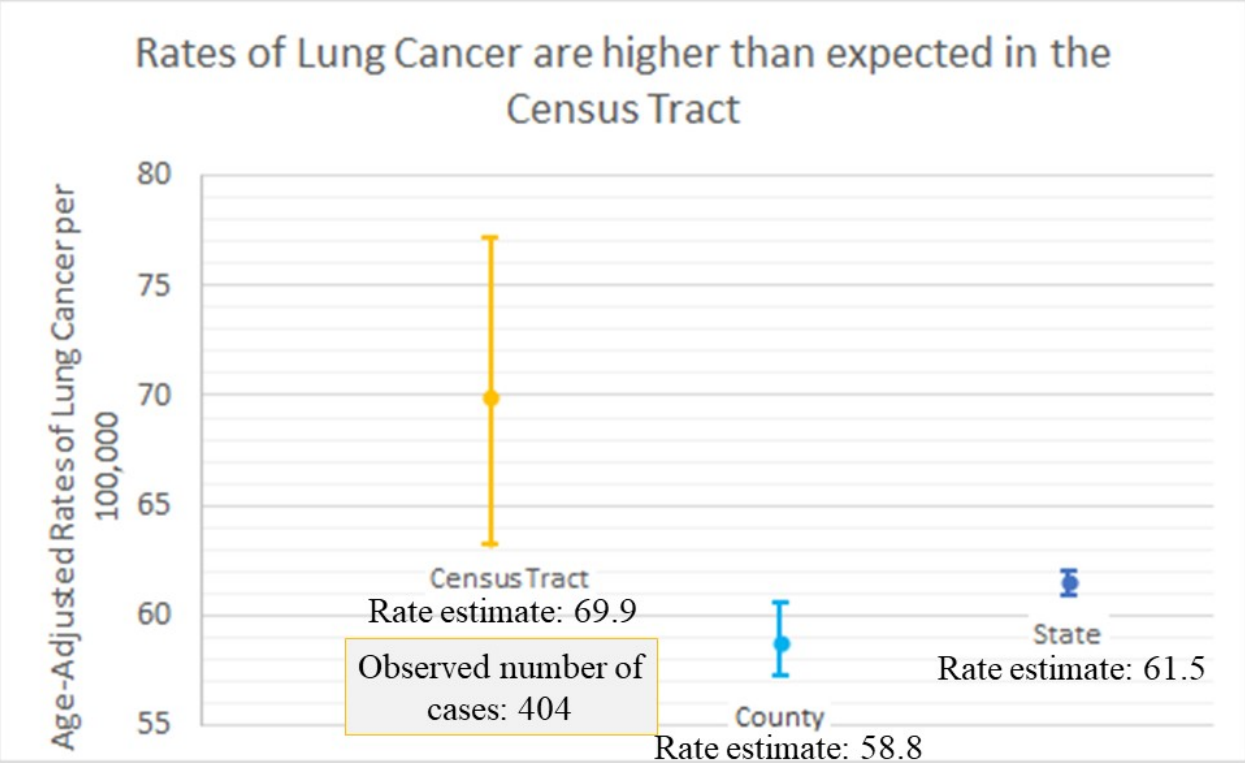
Rates of Lung Cancer are higher than expected in the Census Tract
Age-Adjusted Rates of Lung Cancer per 100,000
80
75
70
65
60
55
Census Tract
Rate estimate: 69.9
Observed number of cases: 404
County
Rate estimate: 58.8
State
Rate estimate: 61.5
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LUNGS
Risk Factors for Lung Cancer
• Cigarette Smoke
• Radon and other substances in homes and workplaces
• Family History
• Radiation Therapy
• Additive effects
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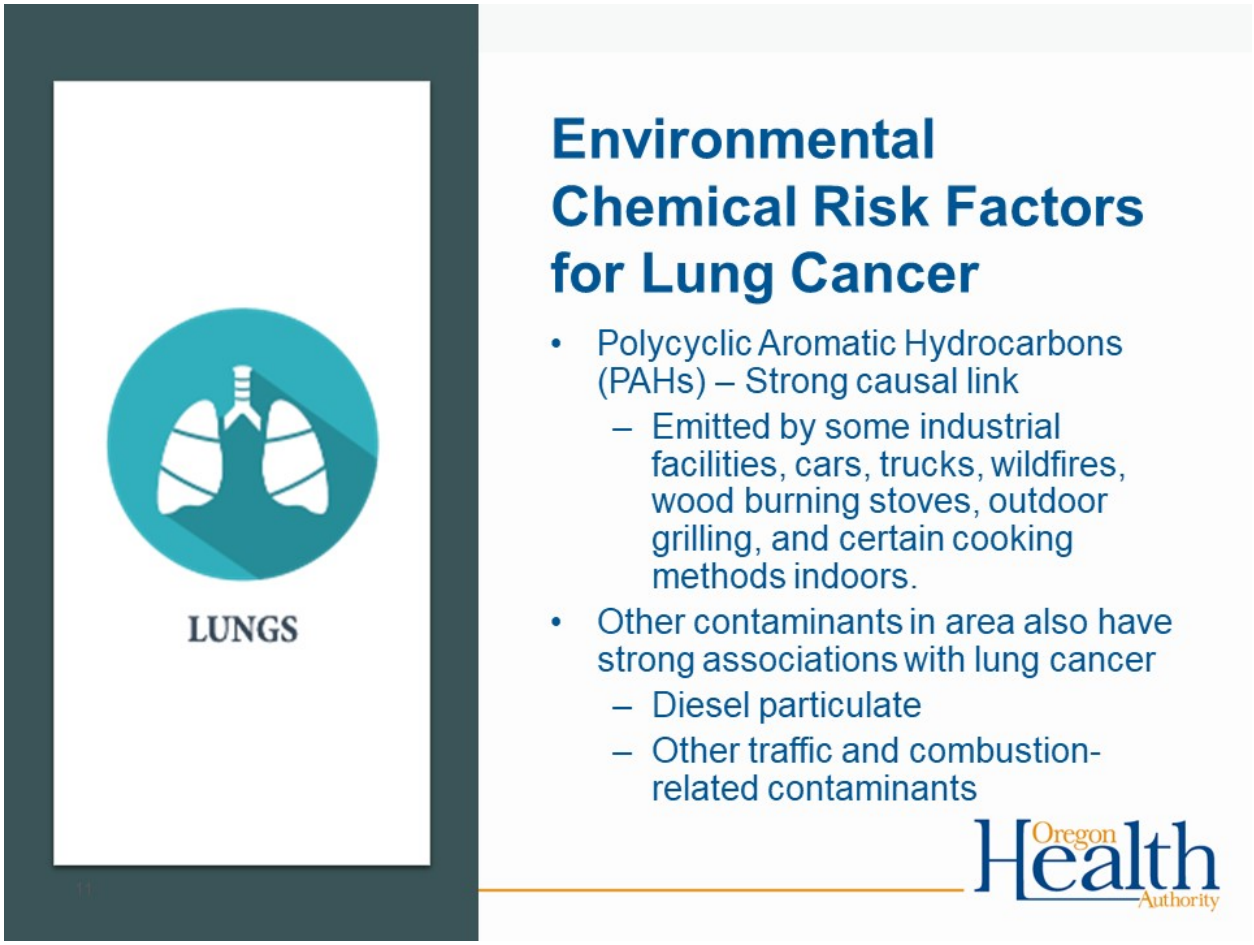
LUNGS
Environmental Chemical Risk Factors for Lung Cancer
• Polycyclic Aromatic Hydrocarbons (PAHs) – Strong causal link
– Emitted by some industrial facilities, cars, trucks, wildfires, wood burning stoves, outdoor grilling, and certain cooking methods indoors.
• Other contaminants in area also have strong associations with lung cancer
– Diesel particulate
– Other traffic and combustion-related contaminants
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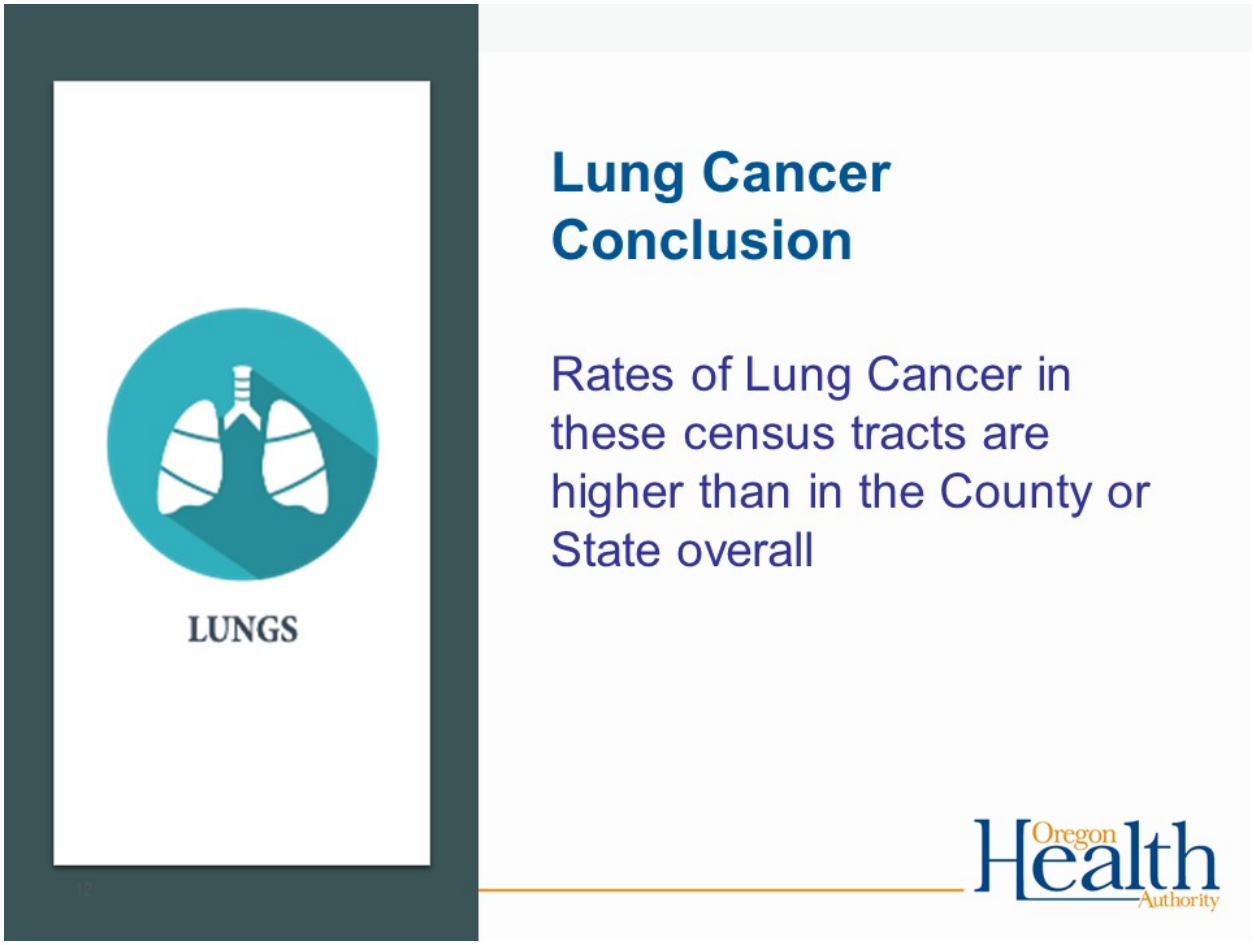
LUNGS
Lung Cancer Conclusion
Rates of Lung Cancer in these census tracts are higher than in the County or State overall
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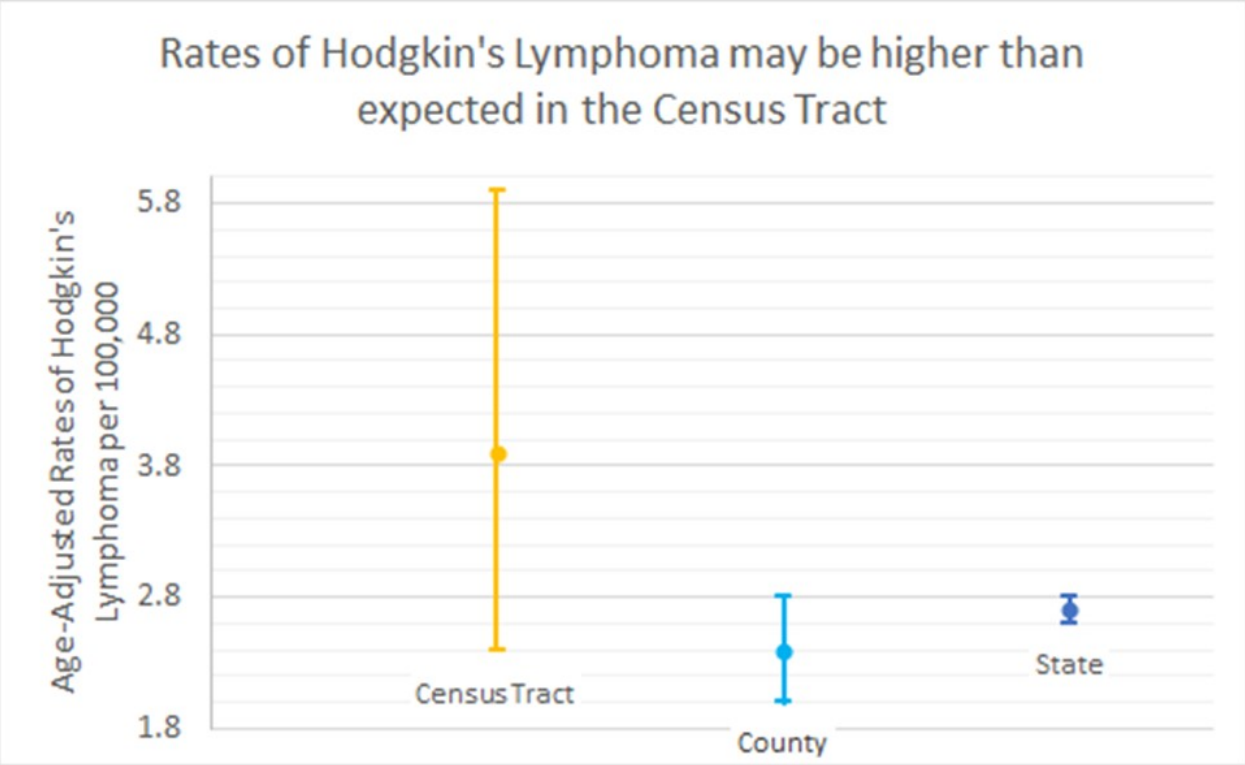
Rates of Hodgkin's Lymphoma may be higher than expected in the Census Tract
Age-Adjusted Rates of Hodgkin's Lymphoma per 100,000
5.8
4.8
3.8
2.8
1.8
Census Tract
County
State
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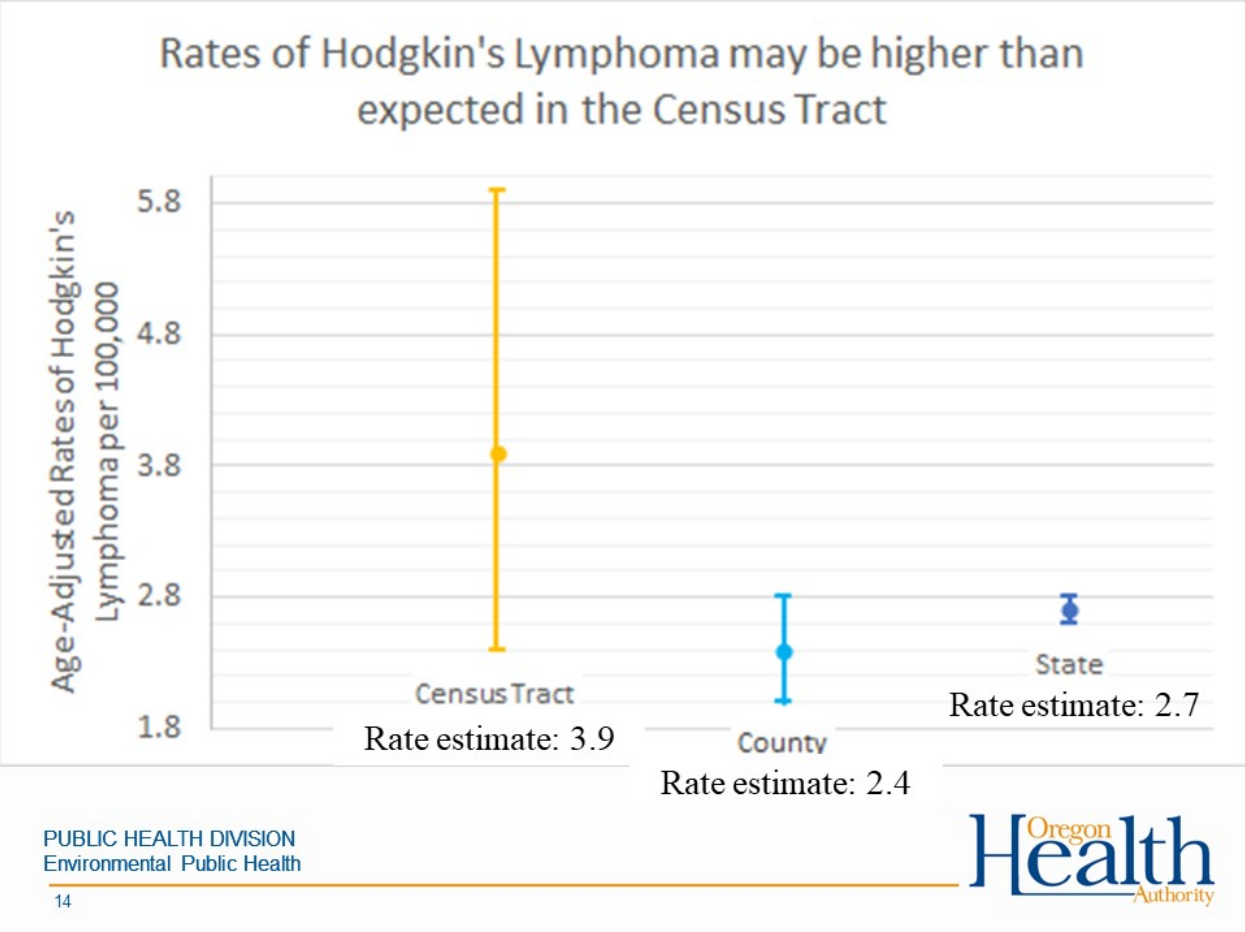
Rates of Hodgkin's Lymphoma may be higher than expected in the Census Tract
Age-Adjusted Rates of Hodgkin's Lymphoma per 100,000
5.8
4.8
3.8
2.8
1.8
Census Tract
Rate estimate: 3.9
County
Rate estimate: 2.4
State
Rate estimate: 2.7
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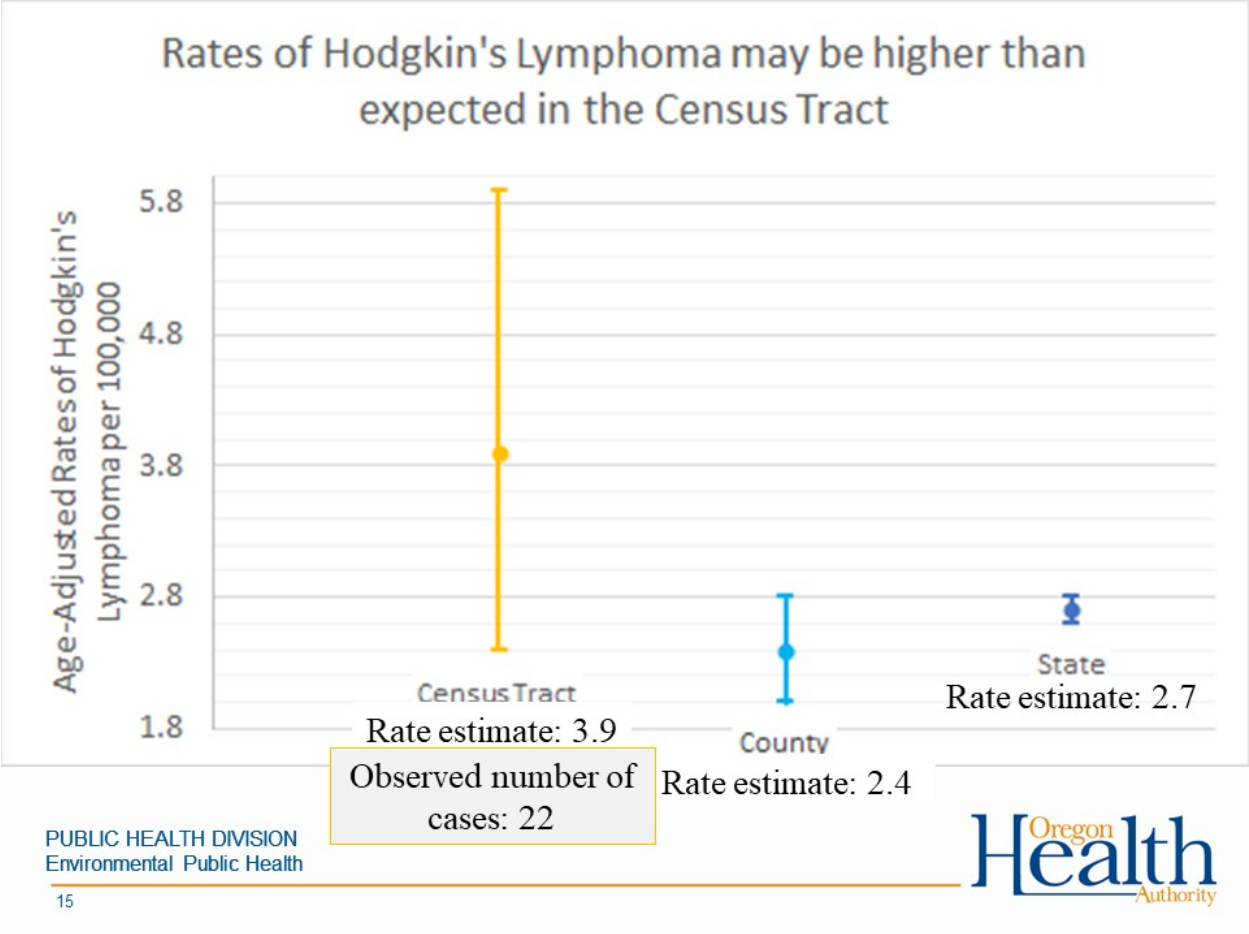
Rates of Hodgkin's Lymphoma may be higher than expected in the Census Tract
Age-Adjusted Rates of Hodgkin's Lymphoma per 100,000
5.8
4.8
3.8
2.8
1.8
Census Tract
Rate estimate: 3.9
Observed number of cases: 22
County
Rate estimate: 2.4
State
Rate estimate: 2.7
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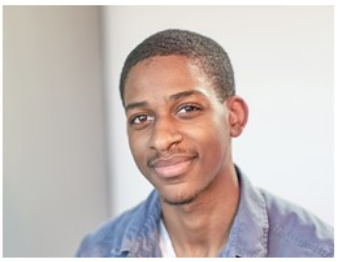
Risk Factors for Hodgkin's Lymphoma?

- Age
- Sex
- Epstein-Barr Virus (mono)
- Family history
- Weakened immune system due to medication or medical condition

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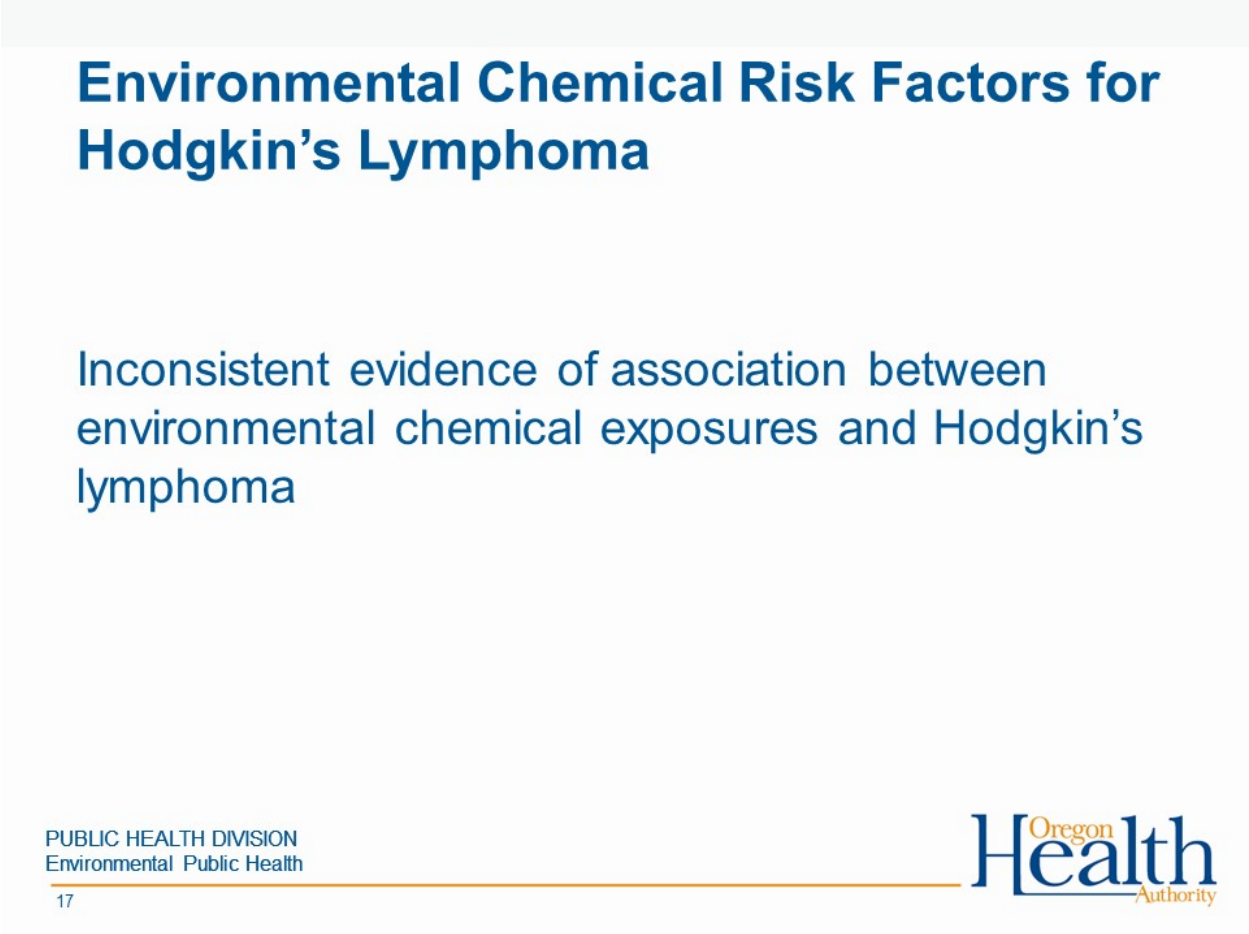
Environmental Chemical Risk Factors for Hodgkin's Lymphoma
Inconsistent evidence of association between environmental chemical exposures and Hodgkin's lymphoma
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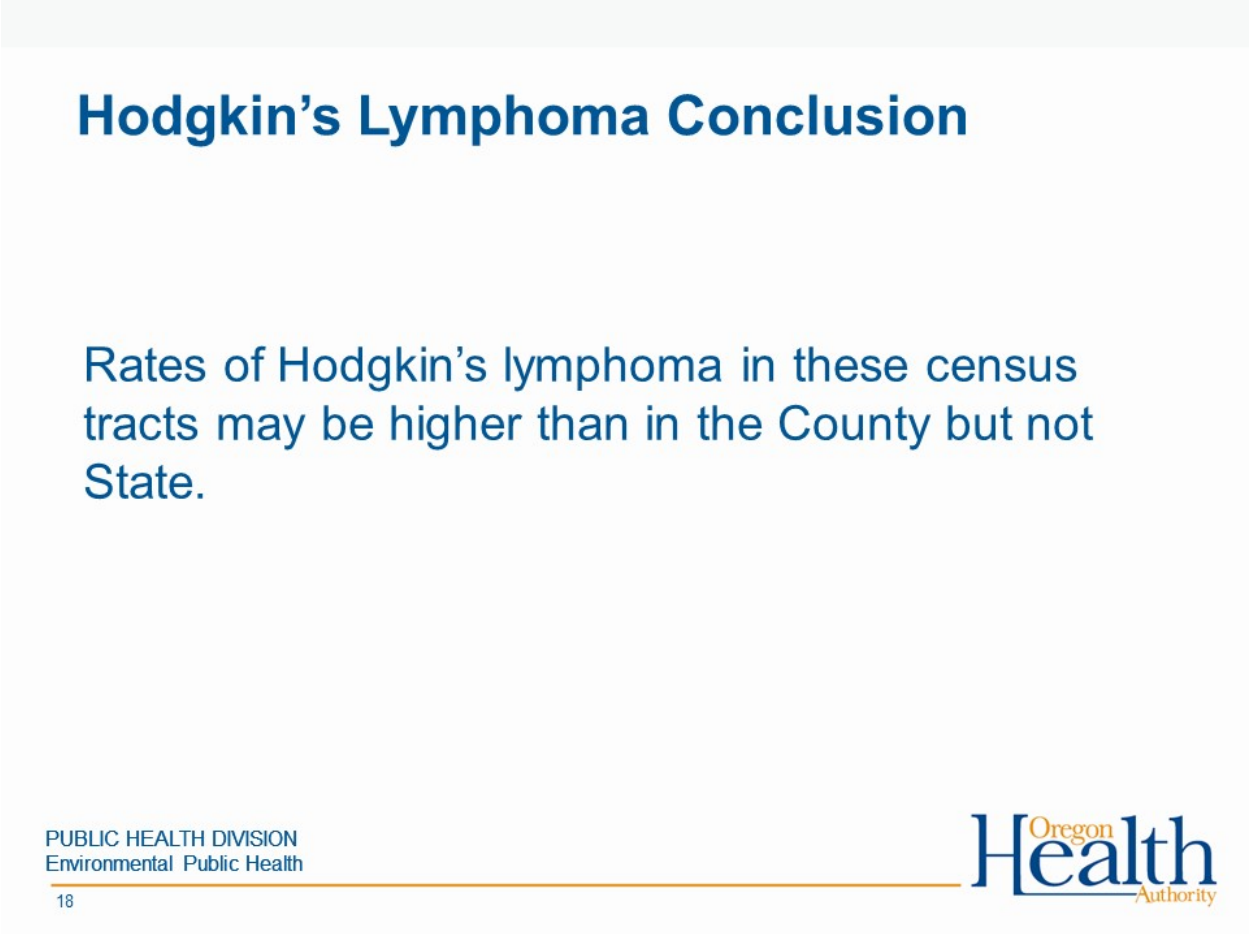
Hodgkin's Lymphoma Conclusion
Rates of Hodgkin's lymphoma in these census tracts may be higher than in the County but not State.
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Overall Conclusion

- Rates of 20 out of 22 cancers in these six census tracts were the same as or less than expected.
- Rates of lung cancer and Hodgkin's lymphoma in six census tracts around Baxter were higher than expected

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What we don't know

- Why lung cancer and Hodgkin's lymphoma rates are higher
- The best way to present results

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Next Steps
RISK ASSESSMENTS
Soil, Water
DEQ Clean- up
What clean-up will be required?
Winter 2022
Soil, water
OHA Public Health Assessment
Health risks from soil and groundwater
Spring 2022
Air
LRAPA Cleaner Air Oregon
Health risks from air emissions
Fall 2022
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What feedback to you have about how to present this information?
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Questions and Discussion
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