2025 NWHRN Healthcare System Hazard Vulnerability Assessment (HVA)

Prepared by:

The Northwest Healthcare Response Network (NWHRN)

June 2025

NORTHWEST HEALTHCARE Response Network.

Contents

NORTHWEST HEALTHCARE Response Network.

EXECUTIVE OVERVIEW

Introduction/Purpose

The Northwest Healthcare Response Network (NWHRN) conducts an annual Hazard Vulnerability Assessment (HVA) to align coalition activities to the most impactful hazards faced by NWHRN healthcare partners. NWHRN integrates the data and results gathered during the HVA process into its ongoing and future preparedness, response, and recovery initiatives in an effort to mitigate impacts and strengthen capabilities.

In 2024, NWHRN partnered with Jensen Hughes to review the existing HVA process, identify areas of enhancement, and to deliver a final product more attuned to the healthcare partners NWHRN serves. This third-party review of the HVA process allowed NWHRN to strategically allocate its resources and efforts, while validating the positive impact the HVA process and report have on NWHRN partners.

Data Collection

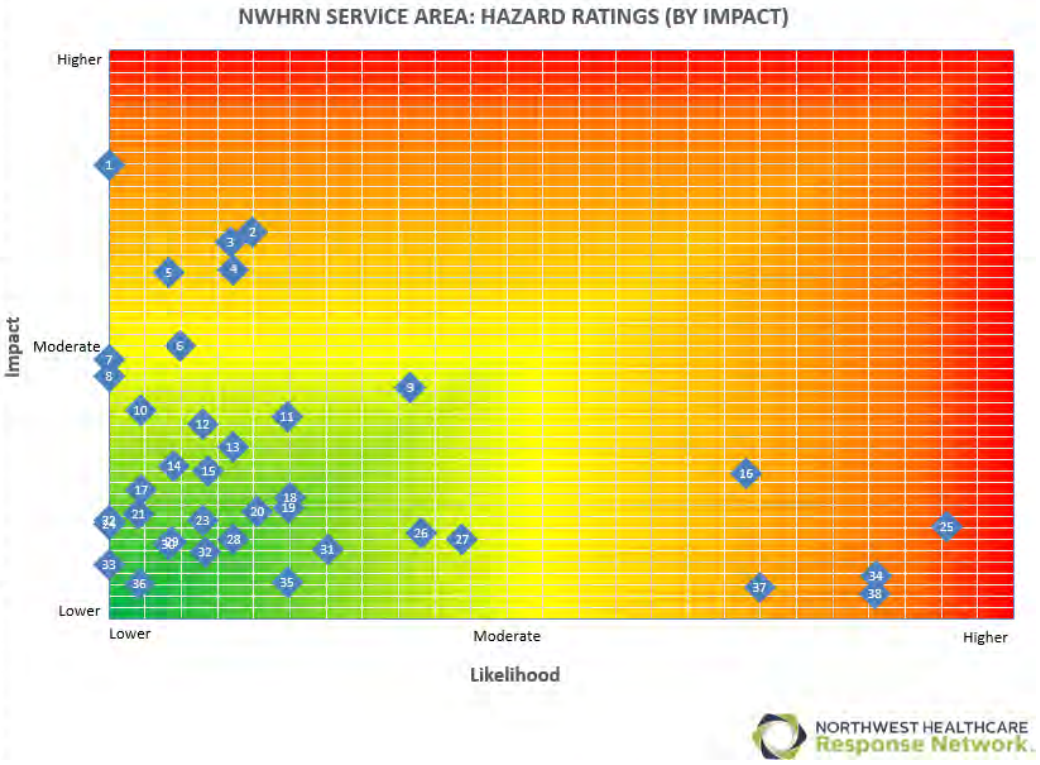
The HVA is built on the data it collects from its partners organizations. In 2024, NWHRN distributed a survey to its healthcare partners and requested data on activations and alerts received for specific hazards. This alert and activation data was then documented, analyzed, and presented to NWHRN healthcare partners.

Following the data analysis, each hazard and its associated data were presented to partners. During live events conducted by NWHRN for each district and catchment area that NWHRN serves, each hazard was individually reviewed. Taking consideration to their local vulnerabilities to each hazard, partners were then asked to rate both the impact and likelihood of each hazard. Upon completion of all polling events, the likelihood and impact data was analyzed to determine which hazards poise the greatest impact to NWHRN healthcare partners, both regionally and across the entire service area.

Overview of Results

The graphic below depicts the average impact and likelihood ratings for all hazards across the NWHRN service area. All hazards were first rated by each district/catchment area individually. The percentage of votes cast as “high” for the impact of each hazard in each district/catchment area was then calculated. This percentage was then averaged across all districts/catchment areas, resulting in the hazard impact list to the left of the graphic, and whose data points are plotted on the heat map. Data specific to each district/catchment area can be found in later sections of this report, as well as a larger version of the graphic below.

1	Mass Casualty Incident - Complex Event
2	Earthquake - Major Damage
3	Loss of Generator Power
4	Cyber Attack
5	Mass Casualty Incident - Direct Attack
6	Loss of Commercial or Primary Power - Extended
7	Loss of Facility Water Supply (Potable)
8	Loss of Medical Gas / Vacuum System(s)
9	Loss of Commercial or Primary Power - Brief
10	Loss of Sewer / Waste System(s)
11	Infectious Disease Outbreak
12	Supply Shortage / Chain Interruption (Pharm)
13	Loss of Internet / Network System(s)
14	Supply Chain Shortage / Disruption (Patient Care)
15	Supply Shortage / Chain Interruption (Staffing)
16	Wildfire - Direct Impact
17	Supply Shortage / Chain Interruption (Nutrition)
18	Surge - Medical Event
19	Surge - Traumatic Event
20	Transportation Disruption / Failure
21	Hazardous Materials (External Event)
22	Loss of Natural Gas / Propane
23	Loss of Cooling
24	Loss of Heating
25	Wildfire - Indirect Impact
26	Earthquake - Minor Damage
27	Building / Campus Lockdown
28	Social Unrest
29	Flooding Internal / Water Intrusion
30	Hazardous Materials (Internal Event)
31	Loss of Telephone System(s)
32	Surge - Other
33	Supply Shortage / Chain Interruption (Utility & Mort)
34	Severe Weather
35	Flooding - External
36	Decontamination
37	Contamination of Outside Air
38	Extreme Heat



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PROJECT OVERVIEW

The Northwest Healthcare Response Network (NWHRN) leads a coalition of healthcare organizations, local health jurisdictions, and emergency management partners to ensure the healthcare community across the NWHRN service area can best prepare for, respond to, and recover from impactful and likely incidents.

NWHRN leads multi-agency and cross jurisdictional initiatives to prepare partners through collaborative planning, information sharing, engagement, training, exercises, and advocacy. NWHRN collaborates with all partners across the service area to accurately assess and understand their hazards, to ensure preparedness and response activities align with identified vulnerabilities, and to help inform the annual NWHRN Healthcare System Hazard Vulnerability Assessment (HVA).

The purpose of the HVA is to provide an accurate representation and portrayal of hazards that could have the greatest impact on healthcare across the NWHRN service area.

METHODS

A modified version of the Delphi Technique is used for assessing hazard impact and likelihood for the NWHRN HVA. This technique is utilized given its success in previous NWHRN HVA projects and approval by NWHRN partners. A further explanation of this technique is described in the subsequent section of this report.

NWHRN conducted virtual HVA polling events across all NWHRN districts and catchment areas upon the completion of the alert/activation data analysis. Recognizing that geographical differences may lead to varying likelihood and impact results, these virtual events allowed for more accurate polling data to be captured in each district/catchment area and allowed for direct partner interaction and feedback.

During the live HVA polling events, participants were informed of the changes made since the previous HVA was administered, and instructions for how the updated HVA would be administered. Each hazard was then presented to participants individually. Participants were asked to rate both the likelihood of the hazard occurring, and the impact of the hazard to their local organization and community. Participants were told to consider any/all local vulnerabilities to each hazard when submitting their ratings.

Participants rated the impact of the hazard using a three-point Likert-type scale (low, moderate, or high). NWHRN provided the following definitions to help guide participants:

- Low – Causes minimal disruption and can be managed at the daily operational level
- Moderate – Cannot be managed through normal operational means (e.g., activation of incident command structure and/or emergency operations plan) but does not threaten the ability of the healthcare system to continue providing essential services
- High – Cause significant disruption and threatens the ability of the healthcare system to continue to provide essential services

NWHRN had participants utilize the categories below when rating the likelihood of each hazard. These categories are broken into components and utilize data gathered in partner alert/activation surveys. Participants were instructed to consider local vulnerabilities for each hazard as part of the rating process. Graphics showing hazard rating by district/catchment area are available at the end of this report.

- Low
  - *Chance*: Could occur at some time.
  - *Frequency*: 0-3 activations per year (average) over the last 5 years.
- Moderate
  - *Chance*: Might occur at some time.
  - *Frequency*: 4-7 activations per year (average) over the last 5 years.
- High
  - *Chance*: Will likely occur at some time.
  - *Frequency*: 8+ activations per year (average) over the last 5 years.

REVIEW AND VALIDATION

The modified Delphi Technique utilized by NWHRN offers a structured and collaborative method to assess risk, making it a compelling tool in situations that demand thorough and well-rounded evaluation. Its primary strength lies in its ability to harness the collective knowledge and expertise of a diverse group of professionals while mitigating the common pitfalls of groupthink, dominant personalities, or interpersonal bias. By enabling experts to contribute their insights anonymously and iteratively, the technique fosters open, unbiased discussion and allows for the progressive refinement of ideas. This approach is especially effective in addressing complex or uncertain risks, where diverse viewpoints and a structured consensus-building process are critical.

A significant advantage of the Delphi Technique is its capacity to provide organizations like NWHRN with a broad and nuanced understanding of risks, even in situations where data may be incomplete or future scenarios are difficult to predict. The iterative nature of the process ensures that expert opinions are carefully examined, reconsidered, and refined over multiple rounds, enhancing the quality and reliability of the final assessment. Additionally, the anonymity of participants minimizes external pressures or conflicts that could distort individual contributions, ensuring that the focus remains on the substance of the ideas rather than the status of the contributors.

However, forecasting future threats can be challenging. As an illustration of that point, the amount of peer-reviewed literature that currently explores the validity and reliability of the process or outcomes is minimal. Forecasting generally is based, at least partially, on the assumption that the future will reflect the past. But, that is not always true, as there are "new" threats that emerge over time. The challenge for Emergency

Managers and leaders is to be aware of, but not limited by, the threats of the past while preparing for the threats of the future.

The Delphi Technique is best suited for scenarios where the risks are complex, multifaceted, and uncertain; as well as situations that require thorough deliberation and informed decision-making. The Delphi Technique is particularly valuable when an organization needs to draw on expertise from multiple fields, integrate diverse perspectives, and systematically prioritize potential risks. Its structured, methodical approach ensures that the outcomes are comprehensive, reliable, and actionable.

The Delphi Technique employed by NWHRN offers valuable insights for predicting risks. Ultimately, this method empowers decision-makers with a deeper understanding of potential risks and a clearer path to mitigating them. For more thorough and actionable results, coupling the Delphi technique with other tools, such as poignant hazard definitions that are specific to healthcare, statistical modeling, or scenario planning, may help address limitations and provide a more balanced view of risk identification and stratification. For organizations like NWHRN that aim to navigate uncertainty and make informed, strategic decisions, the Delphi Technique remains a powerful tool for risk assessment and planning.

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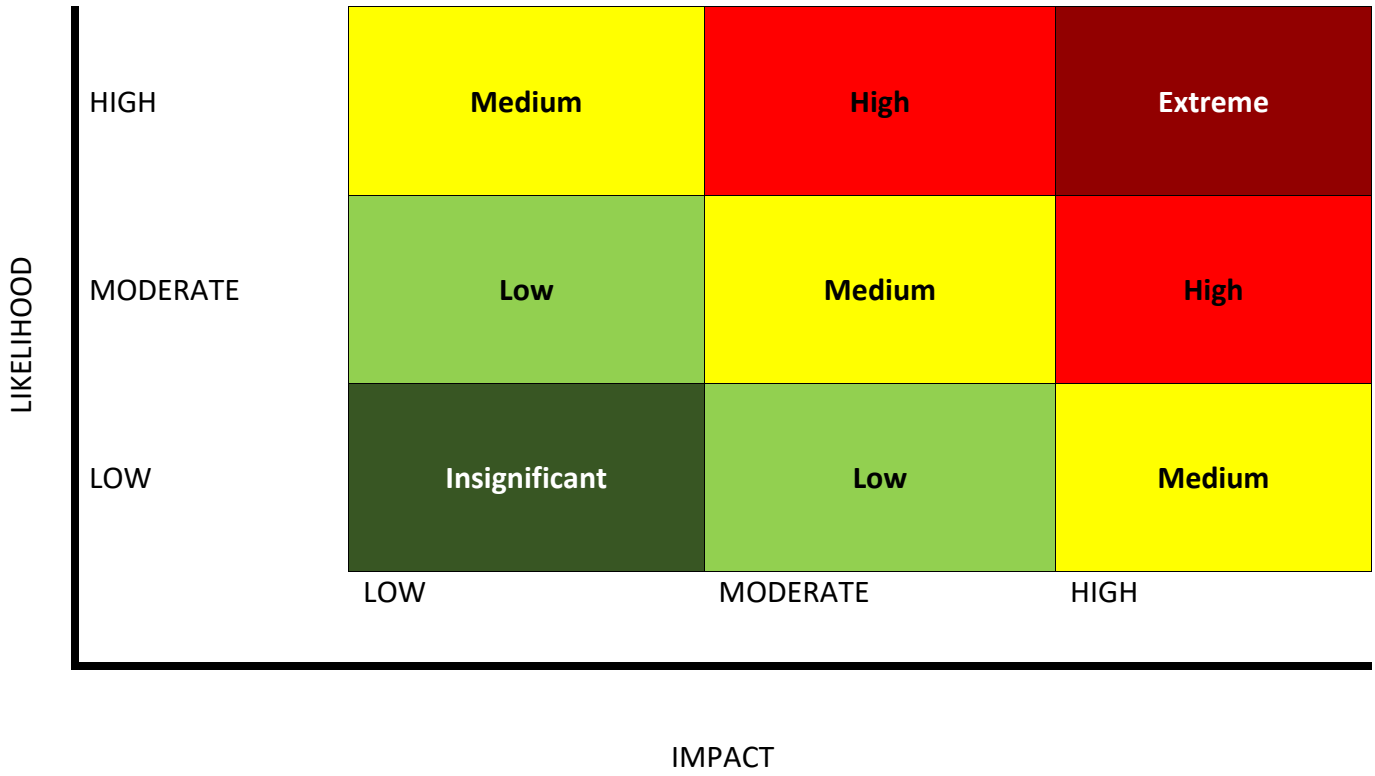
RISK MATRIX

The risk matrix below provides a high-level summary of the stratified hazard risk levels for the districts and catchment areas in the NWHRN service area. Hazards considered high in both likelihood and impact are rated as 'extreme,' and those with low likelihood and impact are rated as 'insignificant'.

Figure 1: Hazard Risk Matrix



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HAZARDS

Hazard	Definition
Building/Campus Lockdown	The need to partially or completely lock down a building(s) and/or campus due to an external threat, or to control access.
Contamination of Outside Air	Air quality outside of the facility is degraded and presents possible impacts and/or dangers (i.e. smoke, chemicals, etc.).
Cyber Threat/Attack	A human-caused technological threat and/or attack caused accidentally or deliberately. Cyber Threats/Attacks include disruptions to information technology, communications systems, and/or critical infrastructure.
Decontamination	Patients needing removal of and/or neutralization of contaminants that have accumulated on their persons and/or medical equipment.
Earthquake: Minor Damage	Modified Mercalli Intensity (MMI) I-VII ranging from not felt to minor structural damage (6 or below on Richter magnitude scale).
Earthquake: Major Damage	Modified Mercalli Intensity (MMI) VIII-X+ ranging from destructive to catastrophic (above 6 on Richter magnitude scale).
Extreme Heat	Temperatures substantially hotter and/or more humid than average and posing a high or very high risk for much of the population, especially those who are heat sensitive and those without effective cooling and/or adequate hydration.
Flooding - External	An overflow of water onto normally dry land. The inundation of a normally dry area caused by rising water in an existing waterway and/or ponding of water. May last days to weeks.
Flooding – Internal (Water Intrusion)	The unintentional entry of water and/or water vapor into a structure, causing damage to the structure and/or materials of the structure.
Hazardous Materials - Internal	Internal Hazardous Materials incidents include the unwanted, unplanned, and/or deliberate release or escape of substances within the facility footprint that may cause or create a potential risk to healthcare, safety, and/or the environment.
Hazardous Materials - External	External Hazardous Materials incidents include the unwanted, unplanned, and/or deliberate release or escape of substances in the community that may cause or create a potential risk to healthcare, safety, and/or the environment.
Infectious Disease Outbreak	An outbreak that can be characterized by the extent of the spread of a disease. Includes pandemics.
Loss of Cooling	Loss of cooling system to a significant portion of a building or entirely for up to 24 hours.
Loss of Commercial or Primary Power - Brief	Loss of commercial power feed for less than 24 hours.

Loss of Commercial or Primary Power - Extended	Loss of commercial power feed for greater than 72 hours.
Loss of Facility Water Supply (Potable)	Loss of potable water feed for facility purposes (dialysis, sterilization, boiler system, cooling towers, etc.) for greater than 12 hours.
Loss of Generator Power	Loss of generator power abilities, at any level. (i.e. generator failure, electrical system failure, etc.) both when primary power is available and unavailable.
Loss of Heating	Loss of heating system to a significant portion of a building or entirely for up to 24 hours.
Loss of Internet / Network System(s)	Loss of Internet or Network system(s) to a significant portion of a building or entirely for >6hrs.
Loss of Medical Gas / Vacuum System(s)	Loss of medical Oxygen, Air, and/or Vacuum system(s) to a significant portion of a building or entirely.
Loss of Natural Gas / Propane	Loss of commercial natural gas or propane feed for greater than 24 hours.
Loss of Sewer / Waste System(s)	Loss of Sewer / Waste system to a significant portion of a building or entirely.
Loss of Telephone System	Loss of telephone system to a significant portion of a building or entirely for >6hrs.
Mass Casualty Incident- Direct Attack	Direct attack on a healthcare entity. Often a short duration incident (includes Active Shooter events).
Mass Casualty Incident- Complex Event	Coordinated attack on multiple healthcare entities in the community. May include the targeting of critical infrastructure. Highly dynamic and variable in duration.
Severe Weather	An atmospheric disturbance featuring sustained strong winds (40+ mph) and/or significant precipitation (rain or snow).
Social Unrest	Includes civil disorders, acts of mass civil disobedience. Acts by groups of people that are intended to disrupt a community or organization, and differ in legality, tactics, and violence.
Supply Shortage / Supply Chain Interruption – Food and Nutrition Supplies	Supply shortage / Supply Chain Interruption of critical food and nutrition supplies for patients/residents and/or staff (includes drinking water).
Supply Shortage / Supply Chain Interruption – Patient/Resident Care Supplies	Supply shortage / Supply Chain Interruption of critical Patient/Resident care supplies (i.e. blood products, standard care products, etc.).
Supply Shortage / Supply Chain Interruption – Pharmaceutical Supplies	Supply shortage / Supply Chain Interruption of critical pharmaceutical supplies (i.e. emergency pharmaceuticals, standard care products, etc.).
Supply Shortage / Supply Chain Interruption – Staff Supplies	Supply shortage / Supply Chain interruption of critical staff supplies (i.e. gloves, masks, gowns, etc.).

Supply Shortage / Supply Chain Interruption – Utility and Mortuary Supplies	Supply shortage / Supply Chain interruption of critical utility and/or mortuary supplies (i.e. filters, cleaning supplies, etc.).
Surge – Medical Event	Surge of patients/residents from a medical event (i.e. Pandemic, Flu, Nora Virus, RSV, etc.), not related to day-to-day surge and capacity strain.
Surge – Traumatic Event	Surge of patients / residents from trauma in nature event (i.e. vehicle crash, shootings, construction accident, etc.).
Surge - Other	Surge of patients / residents from an "other" type event (ex: facility evacuation, community-wide power outage, significant weather event, etc.).
Transportation Disruption / Failure	Any significant delay, interruption, and/or stoppage in the flow or access of resources (via aviation, road, rail, pipeline and/or marine).
Wildfire: Direct Impact	An uncontrolled fire in an area of combustible vegetation that directly threatens a healthcare facility(s).
Wildfire: Indirect Impact	An uncontrolled fire in an area of combustible vegetation that is impacting a community at large.

NWHRN SERVICE AREA RESULTS & ANALYSIS

This comprehensive hazard vulnerability assessment showcases hazards that could significantly disrupt and impact operations and necessitate emergency response planning to address risk mitigation. Damage to the built environment can limit or halt services provided by critical and essential institutions, including health and medical systems. The impact on healthcare could be direct in the form of damage caused by the event, or indirect due to damage to the supporting services and infrastructure. Even in the absence of physical damage, the health and medical system could be strained due to trauma and/or non-trauma patient surge.

The hazards of most concern and impact ultimately vary across the NWHRN service area, and are specific to the district/catchment area and local healthcare community. The graphics in the subsequent section of this report breakdown hazards for each district/catchment area, and offer an opportunity to understand the unique and local challenges each consider the most impactful to their local community.

The graphic below, as shown previously, depicts the average impact and likelihood ratings for all hazards across the NWHRN service area. All hazards were first rated by each district/catchment area individually. The percentage of votes cast as "high" for the impact of each hazard in each district/catchment area was then calculated. This percentage was then averaged across all districts/catchment areas, resulting in the hazard impact list to the left of the graphic, and whose data points are plotted on the heat map.

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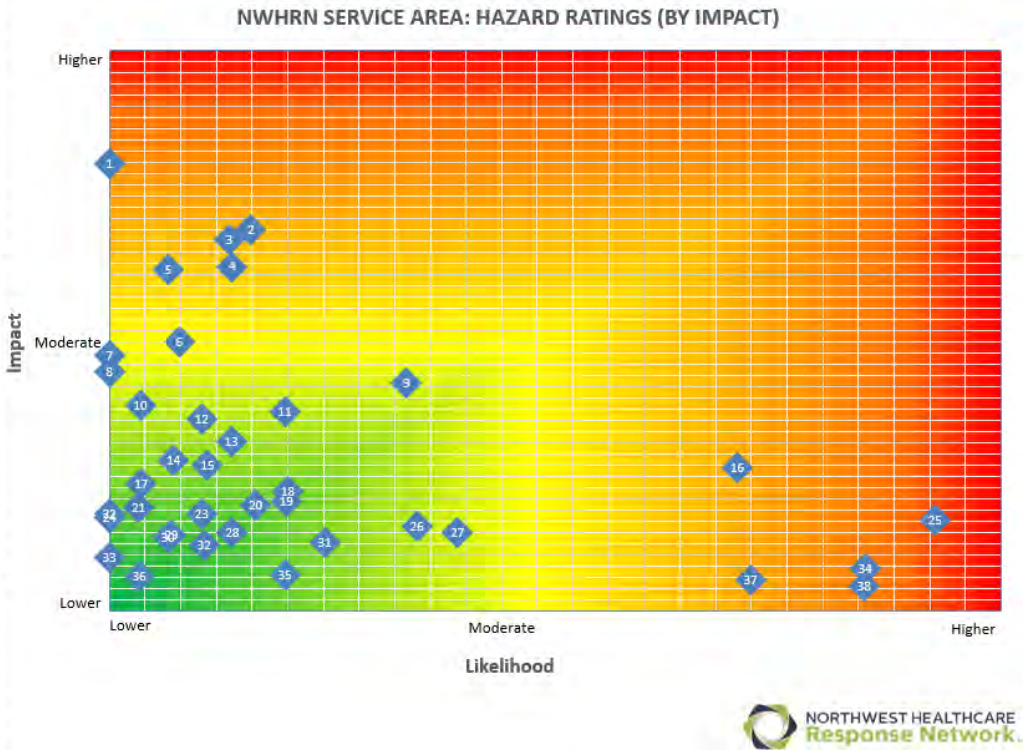
9	Loss of Commercial or Primary Power - Brief
10	Loss of Sewer / Waste System(s)
11	Infectious Disease Outbreak
12	Supply Shortage / Chain Interruption (Pharm)
13	Loss of Internet / Network System(s)
14	Supply Chain Shortage / Disruption (Patient Care)
15	Supply Shortage / Chain Interruption (Staffing)
16	Wildfire - Direct Impact
17	Supply Shortage / Chain Interruption (Nutrition)
18	Surge - Medical Event
19	Surge - Traumatic Event
20	Transportation Disruption / Failure
21	Hazardous Materials (External Event)
22	Loss of Natural Gas / Propane
23	Loss of Cooling
24	Loss of Heating
25	Wildfire - Indirect Impact
26	Earthquake - Minor Damage
27	Building / Campus Lockdown
28	Social Unrest
29	Flooding Internal / Water Intrusion
30	Hazardous Materials (Internal Event)
31	Loss of Telephone System(s)
32	Surge - Other
33	Supply Shortage / Chain Interruption (Utility & Mort)
34	Severe Weather
35	Flooding - External
36	Decontamination
37	Contamination of Outside Air
38	Extreme Heat



CONCLUSIONS AND FUTURE WORK

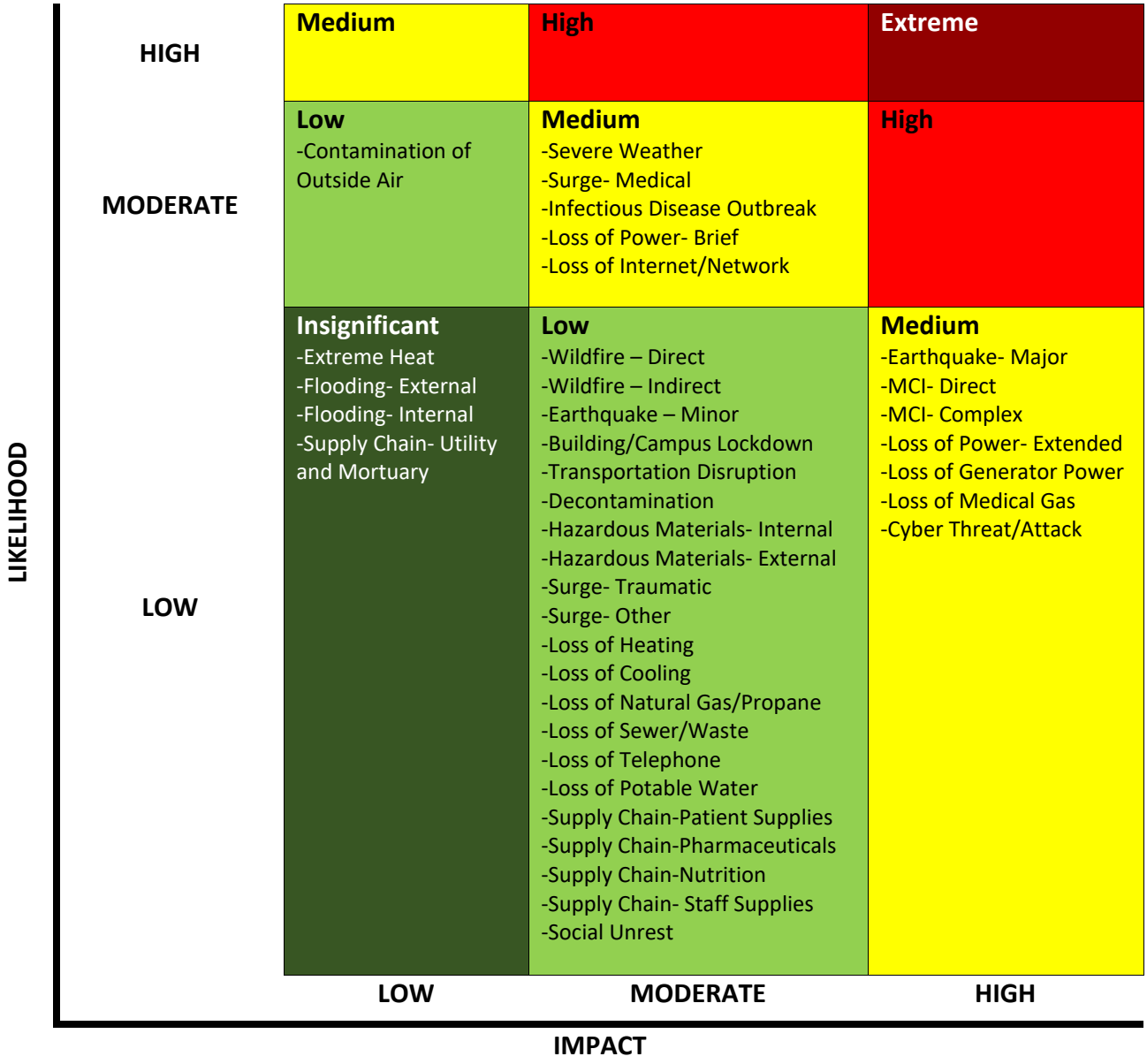
The HVA results help guide and prioritize planning and response efforts across the NWHRN service area and for NWHRN itself. All HVA hazards are reviewed by NWHRN and partners on a yearly basis, giving all an opportunity to assess hazards regularly and ensure the NWHRN HVA final report accurately depicts the hazards faced by healthcare. The HVA process will continue to be refined and updated based on participant feedback, internal review, and external consultation (as necessary).

NORTHWEST HEALTHCARE Response Network.

CENTRAL DISTRICT: KING and PIERCE COUNTIES

MATRIX DESIGNATION	HAZARD
Extreme	
High	
Medium	• Severe Weather • Earthquake – Major Damage • Surge – Medical Event • Infectious Disease Outbreak • Mass Casualty Incident – Direct Attack • Mass Casualty Incident – Complex Event • Loss of Commercial/Primary Power – Brief • Loss of Commercial/Primary Power – Extended • Loss of Generator Power • Loss of Medical Gas / Vacuum System(s) • Loss of Internet / Network System(s) • Cyber Threat / Attack
Low	• Wildfire – Direct Impact • Wildfire – Indirect Impact • Earthquake – Minor Damage • Building/Campus Lockdown • Transportation Disruption/Failure • Decontamination • Hazardous Materials – Internal Event • Hazardous Materials – External Event • Contamination of Outside Air • Surge – Traumatic Event • Surge – Other Event • Loss of Heating • Loss of Cooling • Loss of Natural Gas / Propane • Loss of Sewer/Waste System(s) • Loss of Telephone System(s) • Loss of Facility Water Supply (Potable) • Supply Shortage/Chain Interruption - Patient Care Supplies • Supply Shortage/Chain Interruption – Pharmaceutical Supplies • Supply Shortage/Chain Interruption – Food and Nutrition Supplies • Supply Shortage/Chain Interruption – Staff Supplies • Social Unrest
Insignificant	• Extreme Heat • Flooding- External • Flooding Internal (Water Intrusion) • Supply Shortage/Chain Interruption – Utility and Mortuary Supplies

Figure 3: Hazard Risk Matrix



Results Analysis

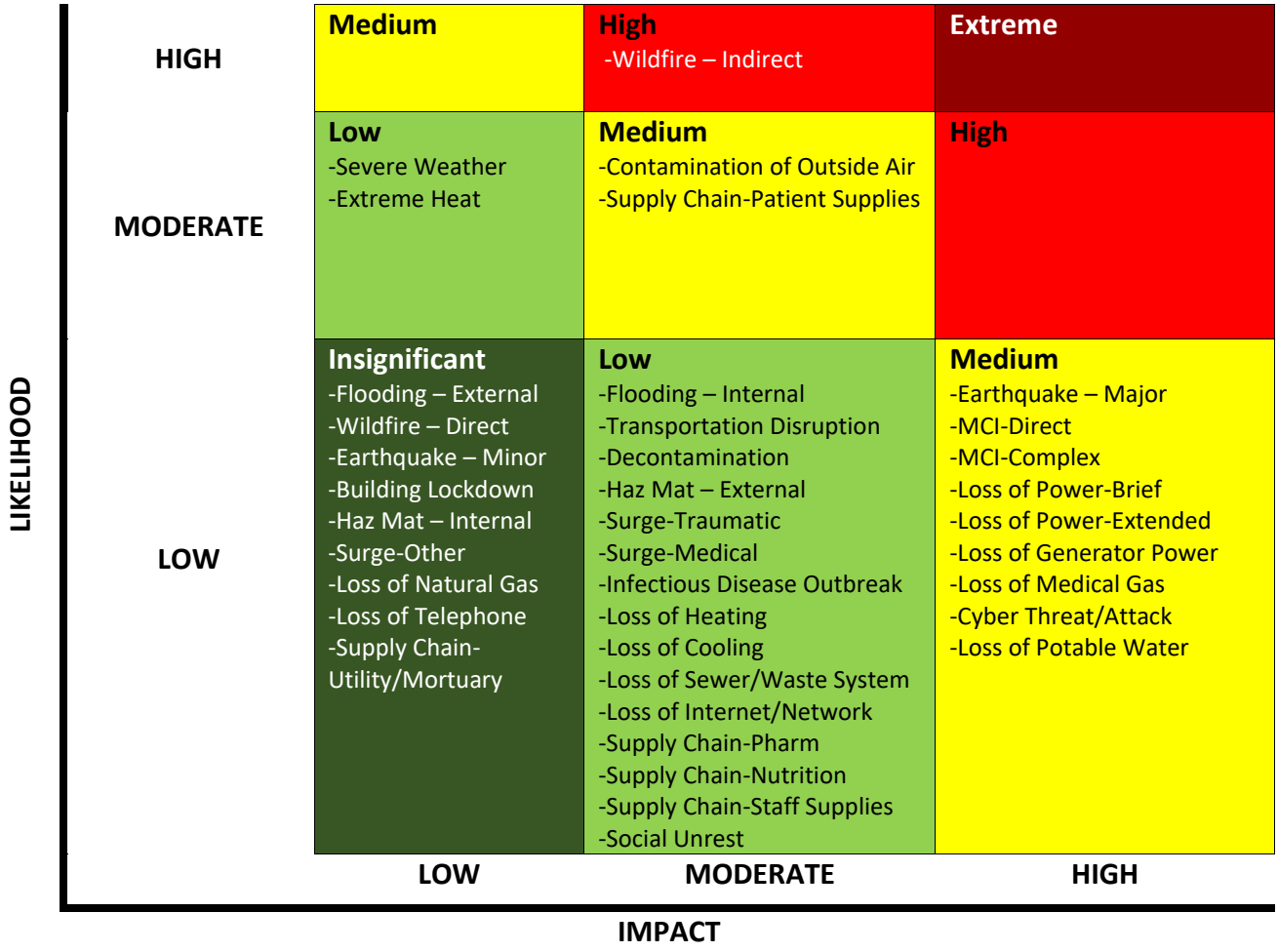
The Central District participants did not rate any hazard in the high category. However, this district identified a variety of hazards as being moderately impactful and likely to their facility(s).

NORTHWEST HEALTHCARE Response Network.

NORTH DISTRICT: ISLAND, SAN JUAN, SKAGIT, SNOHOMISH and WHATCOM COUNTIES

MATRIX DESIGNATION	HAZARD
Extreme	
High	• Wildfire – Indirect Impact
Medium	• Earthquake – Major Damage • Contamination of Outside Air • Mass Casualty Incident – Direct Attack • Mass Casualty Incident – Complex Event • Loss of Commercial/Primary Power-Brief • Loss of Commercial/Primary Power-Extended • Loss of Generator Power • Loss of Medical Gas / Vacuum System(s) • Cyber Threat/Attack • Loss of Facility Water Supply (Potable) • Supply Shortage/Chain Interruption-Patient Care Supplies
Low	• Severe Weather • Extreme Heat • Flooding – Internal (Water Intrusion) • Transportation Disruption/Failure • Decontamination • Hazardous Materials – External Event • Surge- Traumatic Event • Surge- Medical Event • Infectious Disease Outbreak • Loss of Heating • Loss of Cooling • Loss of Sewer/Waste System(s) • Loss of Internet/Network System(s) • Supply Shortage/Chain Interruption-Pharmaceutical Supplies • Supply Shortage/Chain Interruption- Food and Nutrition Supplies • Supply Shortage/Chain Interruption- Staff Supplies • Social Unrest
Insignificant	• Flooding – External • Wildfire – Direct Impact • Earthquake – Minor Damage • Building/Capus Lockdown • Hazardous Materials – Internal Event • Surge-Other • Loss of Natural Gas/Propane • Loss of Telephone System(s) • Supply Shortage/Chain Interruption-Utility and Mortuary Supplies

Figure 3: Hazard Risk Matrix



Results Analysis

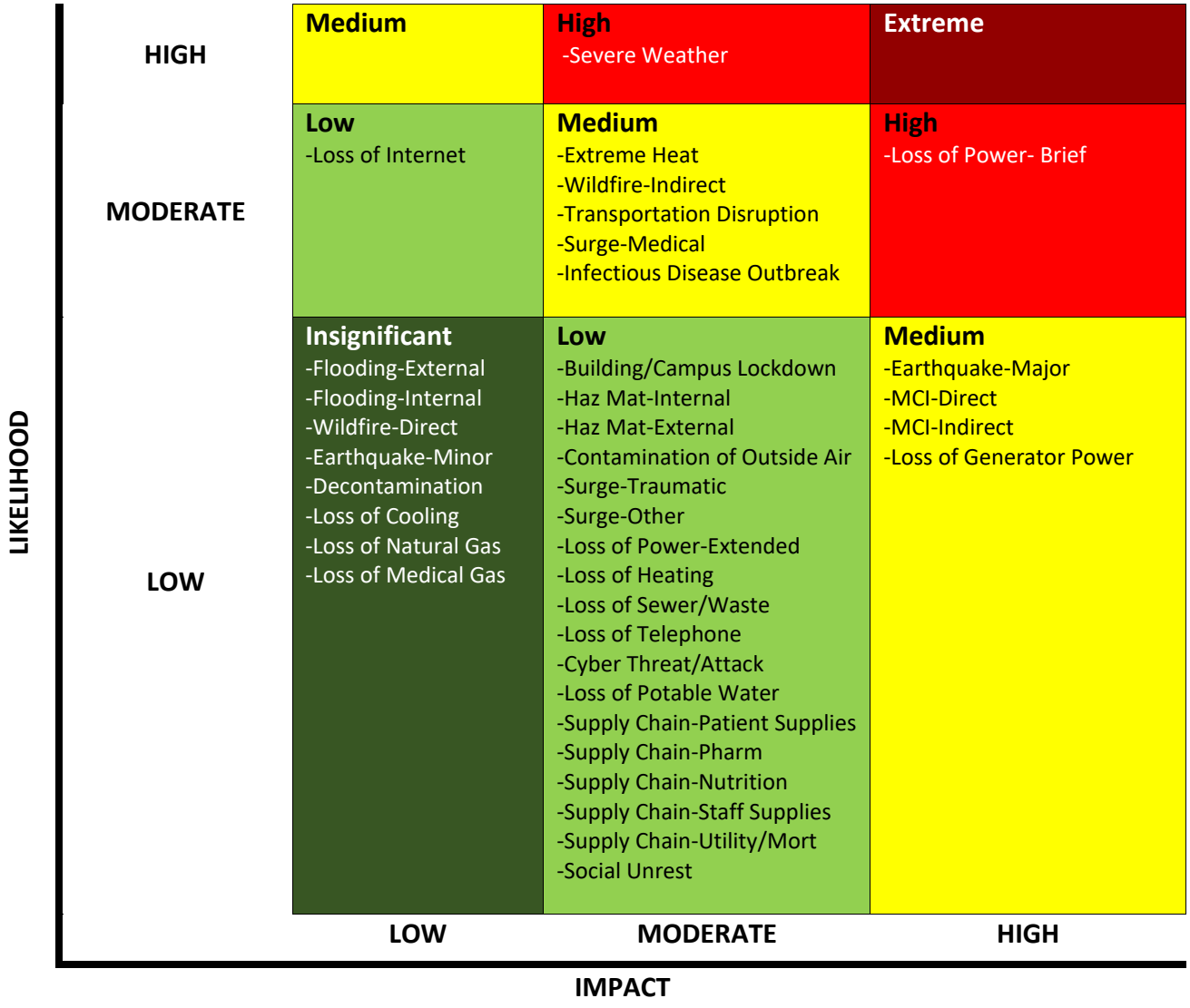
The sole high hazard rated by the North District was Wildfire-Indirect. Likelihood and impact rating graphics for each district can be found in appendix 3 of this report.

NORTHWEST HEALTHCARE Response Network.

NORTHWEST DISTRICT: CLALLAM, KITSAP, and JEFFERSON COUNTIES

MATRIX DESIGNATION	HAZARD
Extreme	
High	• Severe Weather • Loss of Commercial/Primary Power-Brief
Medium	• Extreme Heat • Wildfire-Indirect Impact • Earthquake-Major Damage • Transportation Disruption/Failure • Surge-Medical Event • Infectious Disease Outbreak • Mass Casualty Incident-Direct Attack • Mass Casualty Incident- Complex Event • Loss of Generator Power
Low	• Building/Campus Lockdown • Hazardous Materials- Internal Event • Hazardous Materials- External Event • Contamination of Outside Air • Surge-Traumatic • Surge-Other • Loss of Commercial/Primary Power-Extended • Loss of Heating • Loss of Sewer/Waste System(s) • Loss of Telephone System(s) • Loss of Internet/Network System(s) • Cyber Threat/Attack • Loss of Facility Water Supply (Potable) • Supply Shortage/Chain Interruption-Patient Care Supplies • Supply Shortage/Chain Interruption-Pharmaceutical Supplies • Supply Shortage/Chain Interruption-Food and Nutrition Supplies • Supply Shortage/Chain Interruption-Staff Supplies • Supply Shortage/Chain Interruption-Utility/Mortuary Supplies • Social Unrest
Insignificant	• Flooding-External • Flooding-Internal (Water Intrusion) • Wildfire-Direct Impact • Earthquake-Minor Damage • Decontamination • Loss of Cooling • Loss of Natural Gas / Propane • Loss of Medical Gas/ Vacuum System(s)

Figure 3: Hazard Risk Matrix



Results Analysis

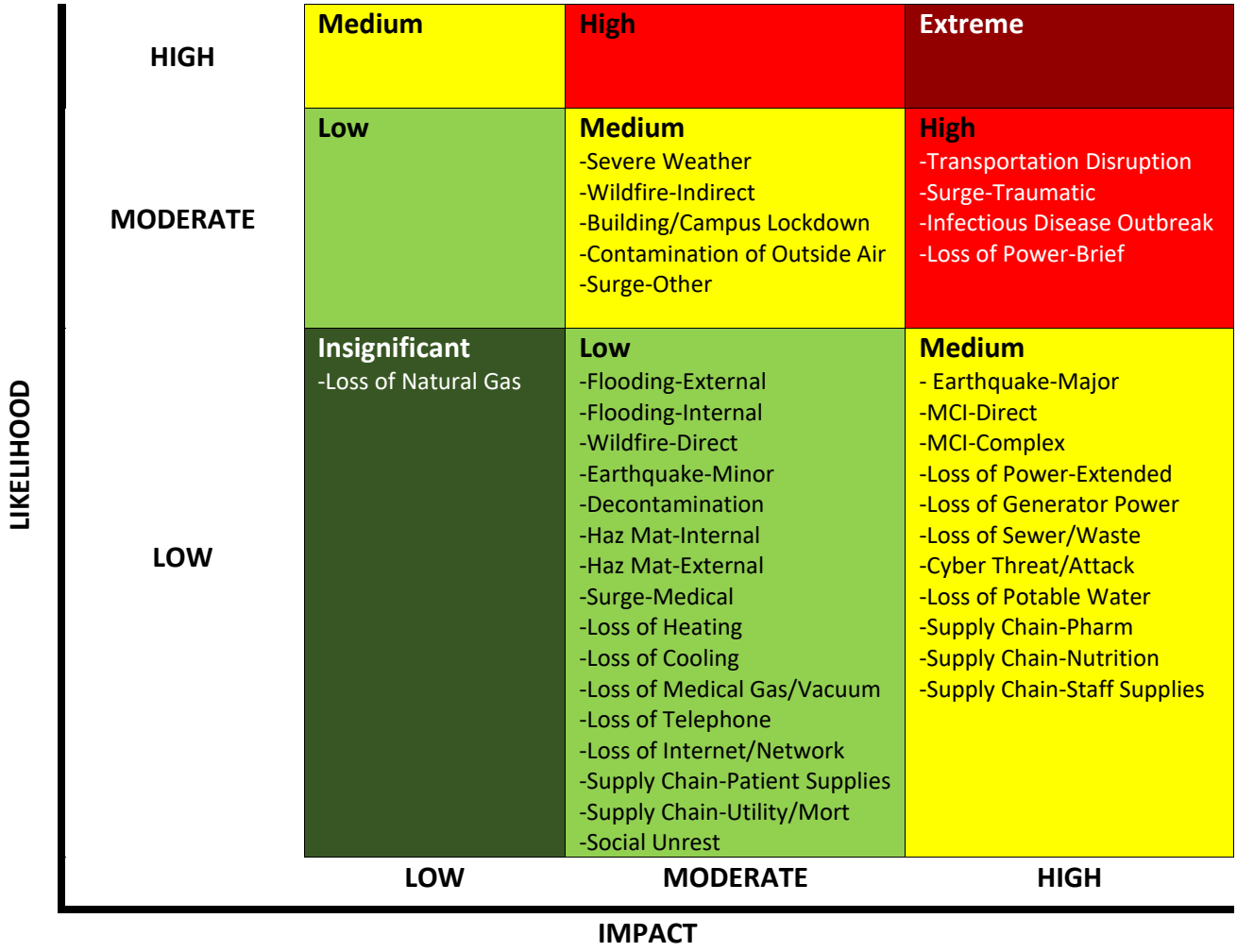
The highest rated hazards for the Northwest District included both Severe Weather and Loss of Power-Brief. Likelihood and impact rating graphics for each district can be found in appendix 3 of this report.

NORTHWEST HEALTHCARE Response Network.

WEST DISTRICT: GRAYS HARBOR, LEWIS, MASON, PACIFIC, and THURSTON COUNTIES

MATRIX DESIGNATION	HAZARD
Extreme	
High	• Transportation Disruption/Failure • Surge- Traumatic Event • Infectious Disease Outbreak • Loss of Commercial/Primary Power- Brief
Medium	• Severe Weather • Wildfire-Indirect Impact • Earthquake-Major Damage • Building/Campus Lockdown • Contamination of Outside Air • Surge-Other Event • Mass Casualty Incident- Direct Attack • Mass Casualty Incident- Complex Event • Loss of Commercial/Primary Power-Extended • Loss of Generator Power • Loss of Sewer/Waste System(s) • Cyber Threat/Attack • Loss of Facility Water Supply (Potable) • Supply Shortage/Chain Interruption- Pharmaceutical Supplies • Supply Shortage/Chain Interruption- Food and Nutrition Supplies • Supply Shortage/Chain Interruption- Staff Supplies
Low	• Flooding-External • Flooding-Internal (Water Intrusion) • Wildfire-Direct Impact • Earthquake-Minor Damage • Decontamination • Hazardous Materials- Internal Event • Hazardous Materials- External Event • Surge-Medical Event • Loss of Heating • Loss of Cooling • Loss of Medical Gas/Vacuum System(s) • Loss of Telephone System(s) • Loss of Internet/Network System(s) • Supply Shortage/Chain Interruption- Patient Care Supplies • Supply Shortage/Chain Interruption- Utility and Mortuary Supplies • Social Unrest
Insignificant	• Loss of Natural Gas/Propane

Figure 3: Hazard Risk Matrix



Results Analysis

The West District rated Transportation Disruption, Surge-Traumatic, Infectious Disease Outbreak, and Loss of Power-Brief as their highest hazards. In error by NWHRN, the West District did not rate the Extreme Heat hazard, and therefore, it is not represented on their risk matrix.

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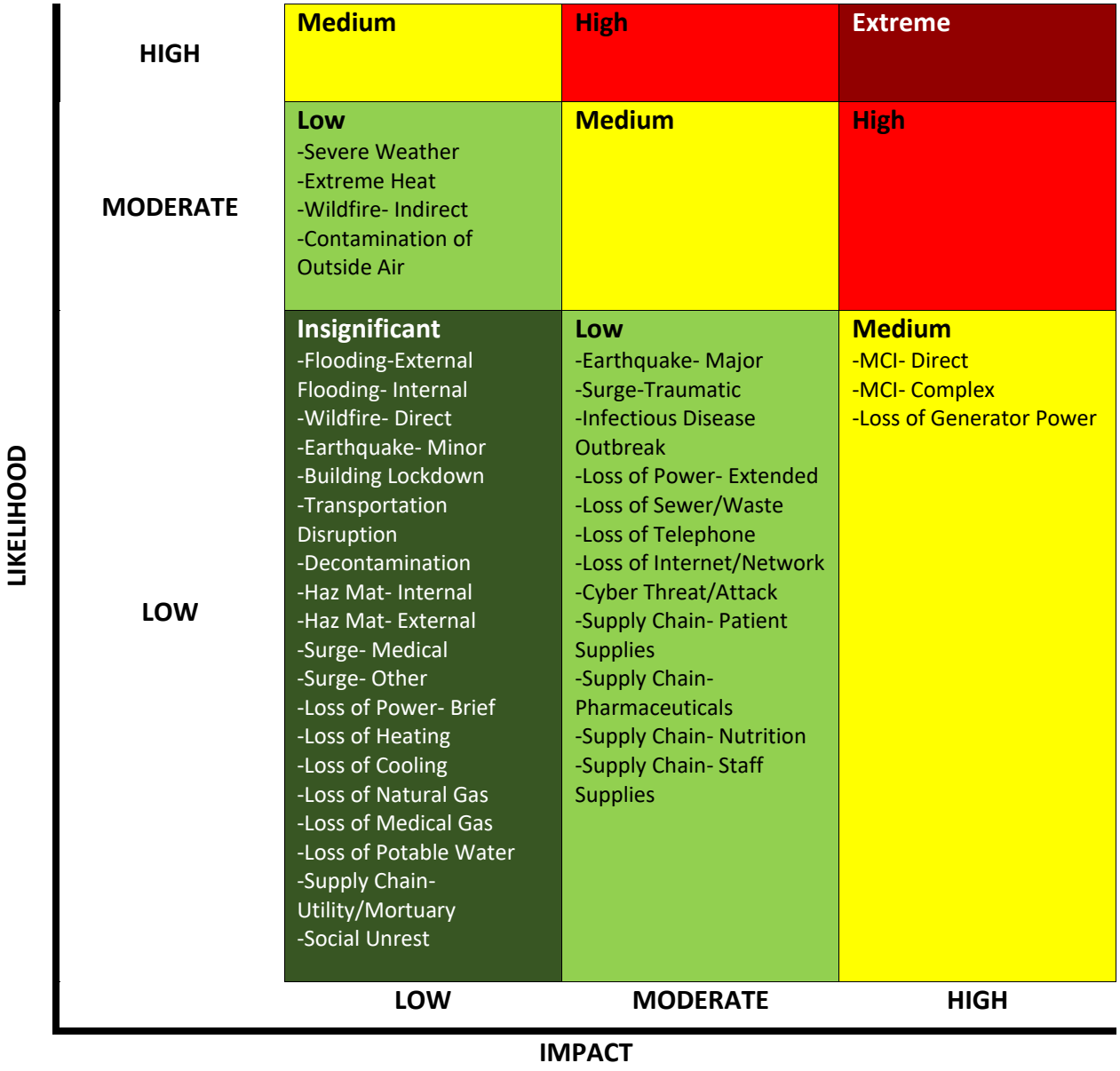
WENATCHEE CATCHMENT: CHELAN, DOUGLAS, GRANT, KITTITAS and OKANOGAN COUNTIES

MATRIX DESIGNATION	HAZARD
Extreme	
High	
Medium	• Mass Casualty Incident- Direct Attack • Mass Casualty Incident- Complex Event • Loss of Generator Power
Low	• Severe Weather • Extreme Heat • Wildfire- Indirect Impact • Earthquake- Major Damage • Contamination of Outside Air • Surge- Traumatic Event • Infectious Disease Outbreak • Loss of Commercial/Primary Power- Extended • Loss of Sewer/Waste System(s) • Loss of Telephone System(s) • Loss of Internet/Network System(s) • Cyber Threat/Attack • Supply Shortage/Chain Interruption- Patient Care Supplies • Supply Shortage/Chain Interruption- Pharmaceutical Supplies • Supply Shortage/Chain Interruption- Food and Nutrition Supplies • Supply Shortage/Chain Interruption- Staff Supplies
Insignificant	• Flooding- External • Flooding- Internal (Water Intrusion) • Wildfire- Direct Impact • Earthquake- Minor Damage • Building/Campus Lockdown • Transportation Disruption/Failure • Decontamination • Hazardous Materials- Internal Event • Hazardous Materials- External Event • Surge- Medical Event • Surge-Other • Loss of Commercial/Primary Power- Brief • Loss of Heating • Loss of Cooling • Loss of Natural Gas/Propane • Loss of Medical Gas/Vacuum System(s) • Loss of Facility Water Supply (Potable) • Supply Shortage/Chain Interruption- Utility and Mortuary Supplies • Social Unrest

Figure 3: Hazard Risk Matrix



Results Analysis

The Wenatchee Catchment Area did not rate any hazard in the High category. Likelihood and impact rating graphics for each district can be found in appendix 3 of this report.

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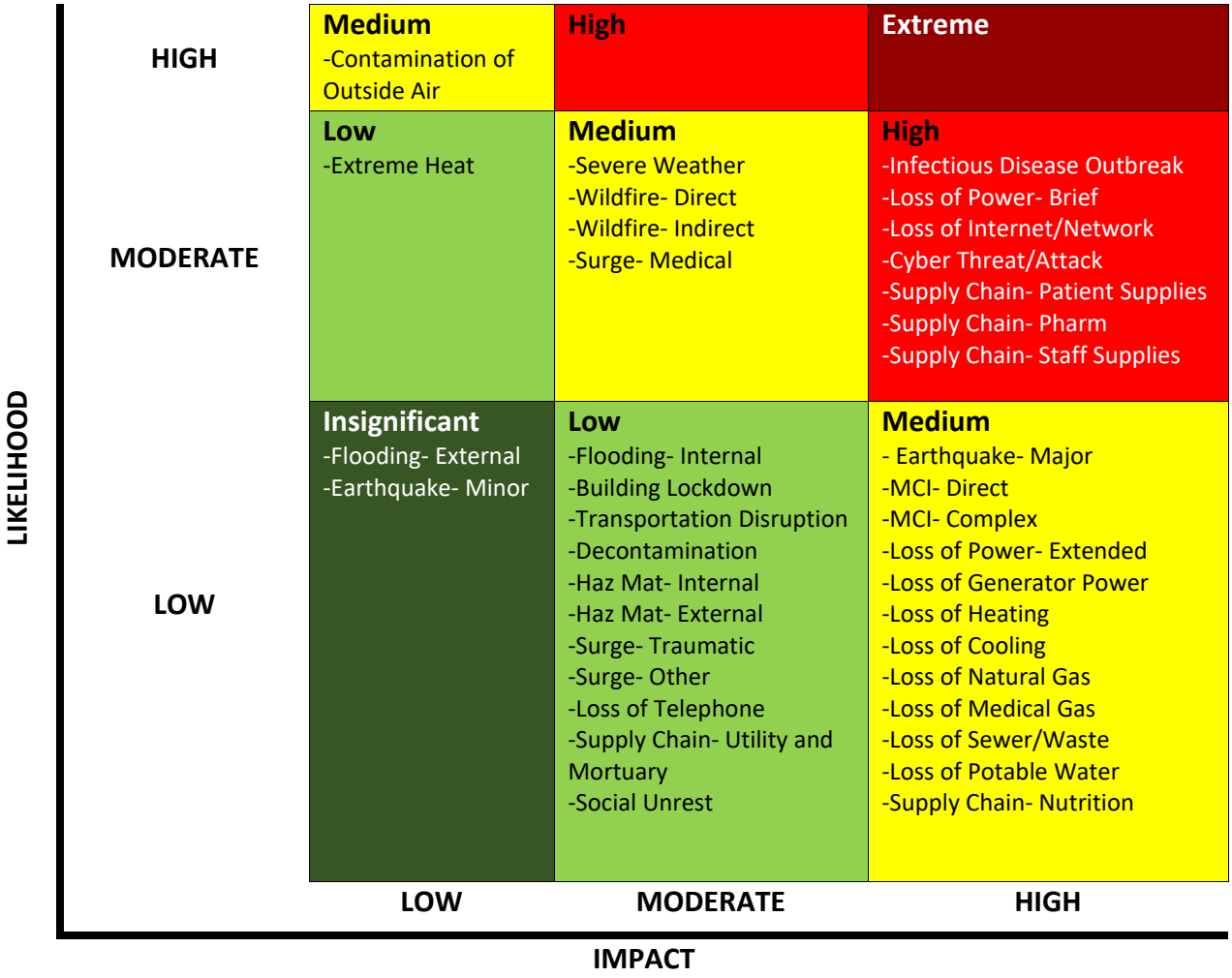
SPOKANE CATCHMENT AREA: ADAMS, ASOTIN, COLUMBIA, FERRY, GARFIELD, LINCOLN, PEND OREILLE, SPOKANE, STEVENS and WHITMAN COUNTIES

MATRIX DESIGNATION	HAZARD
Extreme	
High	• Infectious Disease Outbreak • Loss of Commercial/Primary Power- Brief • Loss of Internet/Network System(s) • Cyber Threat/Attack • Supply Shortage/Chain Interruption- Patient Care Supplies • Supply Shortage/Chain Interruption- Pharmaceutical Supplies • Supply Shortage/Chain Interruption- Staff Supplies
Medium	• Severe Weather • Wildfire- Direct Impact • Wildfire- Indirect Impact • Earthquake- Major Damage • Contamination of Outside Air • Surge- Medical Event • Mass Casualty Incident- Direct Attack • Mass Casualty Incident- Complex Event • Loss of Commercial/Primary Power- Extended • Loss of Generator Power • Loss of Heating • Loss of Cooling • Loss of Natural Gas/Propane • Loss of Medical Gas/Vacuum System(s) • Loss of Sewer/Waste System(s) • Loss of Facility Water Supply (Potable) • Supply Shortage/Chain Interruption- Food and Nutrition Supplies
Low	• Extreme Heat • Flooding- Internal (Water Intrusion) • Building/Campus Lockdown • Transportation Disruption/Failure • Decontamination • Hazardous Materials- Internal Event • Hazardous Materials- External Event • Surge- Traumatic Event • Surge- Other Event • Loss of Telephone System(s) • Supply Shortage/Chain Interruption- Utility and Mortuary Supplies • Social Unrest
Insignificant	• Flooding- External • Earthquake- Minor Damage

Figure 3: Hazard Risk Matrix



Results Analysis

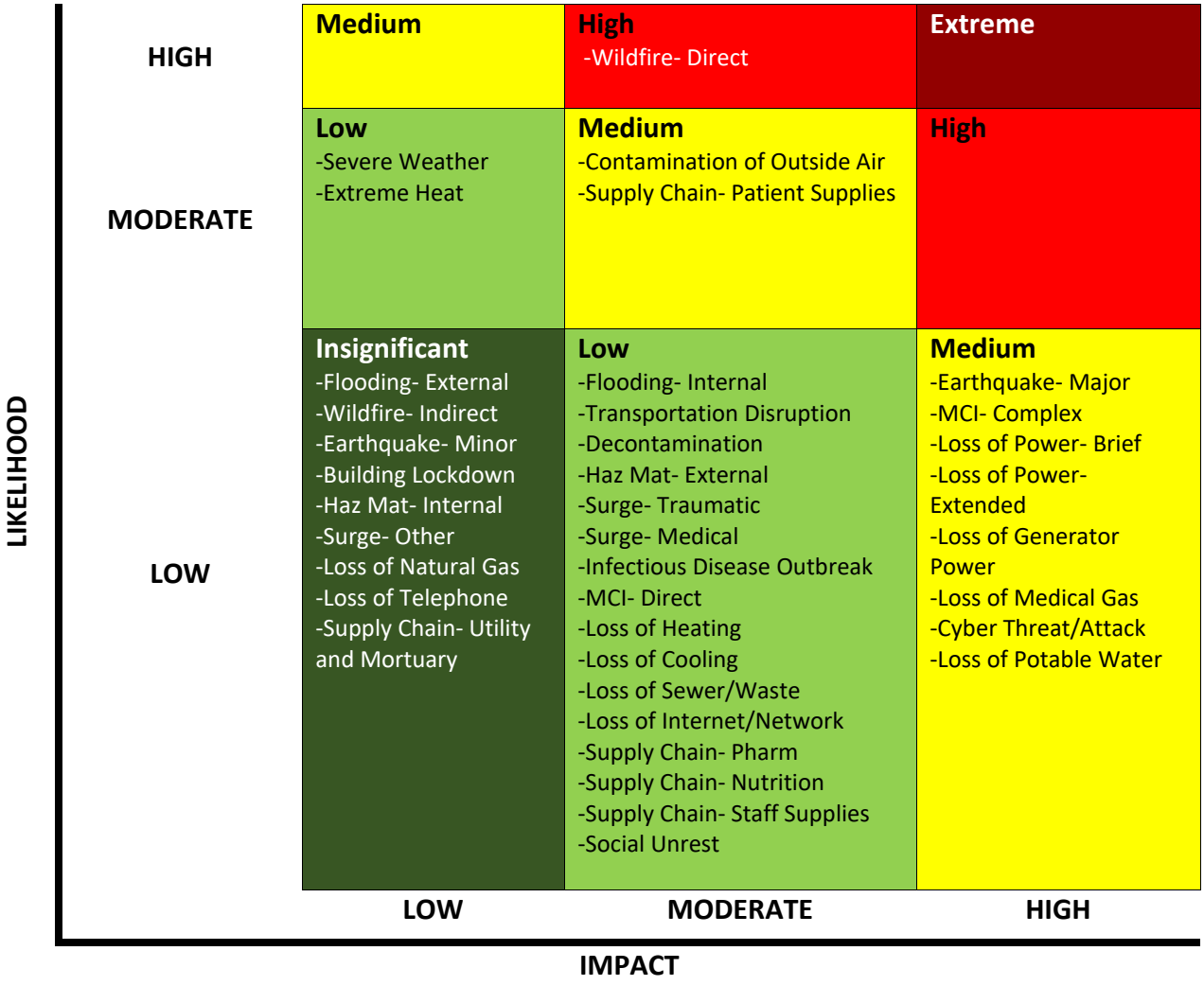
The Spokane Catchment Area rated a variety of hazards as high in their area. Likelihood and impact rating graphics for each district can be found in appendix 3 of this report.

NORTHWEST HEALTHCARE Response Network.

TRI-CITIES CATCHMENT AREA: BENTON, FRANKLIN, WALLA WALLA, and YAKIMA COUNTIES

MATRIX DESIGNATION	HAZARD
Extreme	
High	• Wildfire- Direct Impact
Medium	• Earthquake- Major Damage • Contamination of Outside Air • Mass Casualty Incident- Complex Event • Loss of Commercial/Primary Power- Brief • Loss of Commercial/Primary Power- Extended • Loss of Generator Power • Loss of Medical Gas/Vacuum System(s) • Cyber Threat/Attack • Loss of Facility Water Supply (Potable) • Supply Shortage/Chain Interruption- Patient/Resident Care Supplies
Low	• Severe Weather • Extreme Heat • Flooding- Internal (Water Intrusion) • Transportation Disruption/Failure • Decontamination • Hazardous Materials- External Event • Surge- Traumatic Event • Surge- Medical Event • Infectious Disease Outbreak • Mass Casualty Incident- Direct Attack • Loss of Heating • Loss of Cooling • Loss of Sewer/Waste System(s) • Loss of Internet/Network System(s) • Supply Shortage/Chain Interruption- Pharmaceutical Supplies • Supply Shortage/Chain Interruption- Food and Nutrition Supplies • Supply Shortage/Chain Interruption- Staff Supplies • Social Unrest
Insignificant	• Flooding-External • Wildfire- Indirect Impact • Earthquake- Minor Damage • Building/Campus Lockdown • Hazardous Materials- Internal Event • Surge- Other Event • Loss of Natural Gas/Propane • Loss of Telephone System(s) • Supply Shortage/Chain Interruption- Utility and Mortuary Supplies

Figure 3: Hazard Risk Matrix



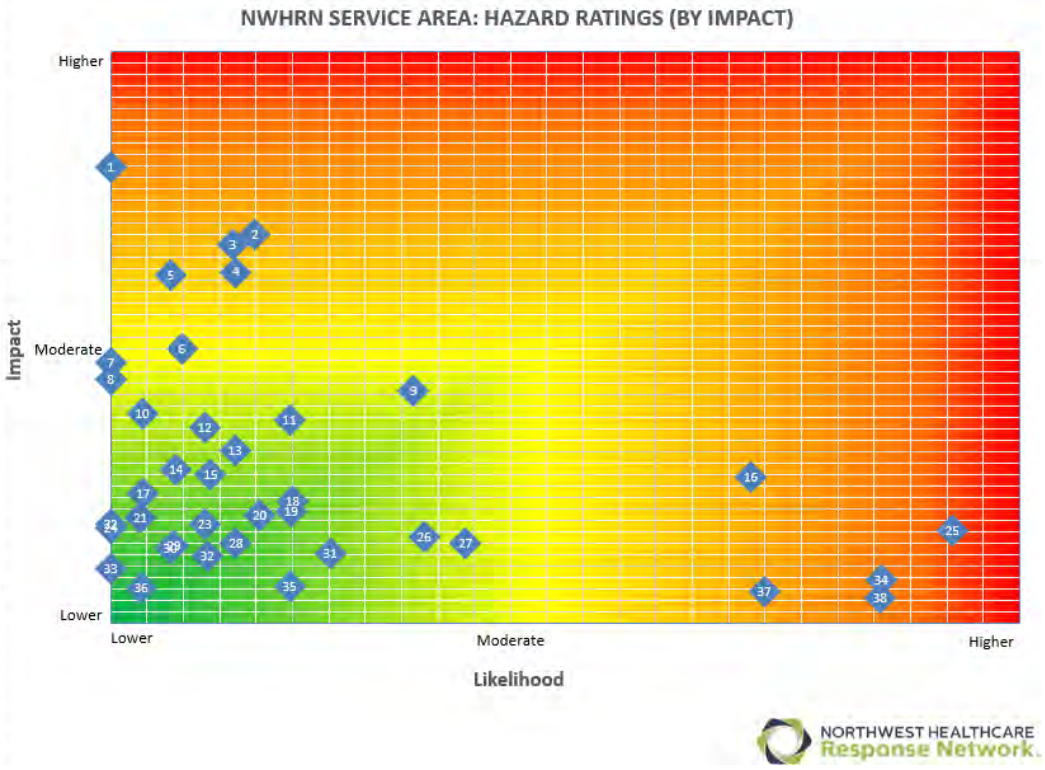
Results Analysis

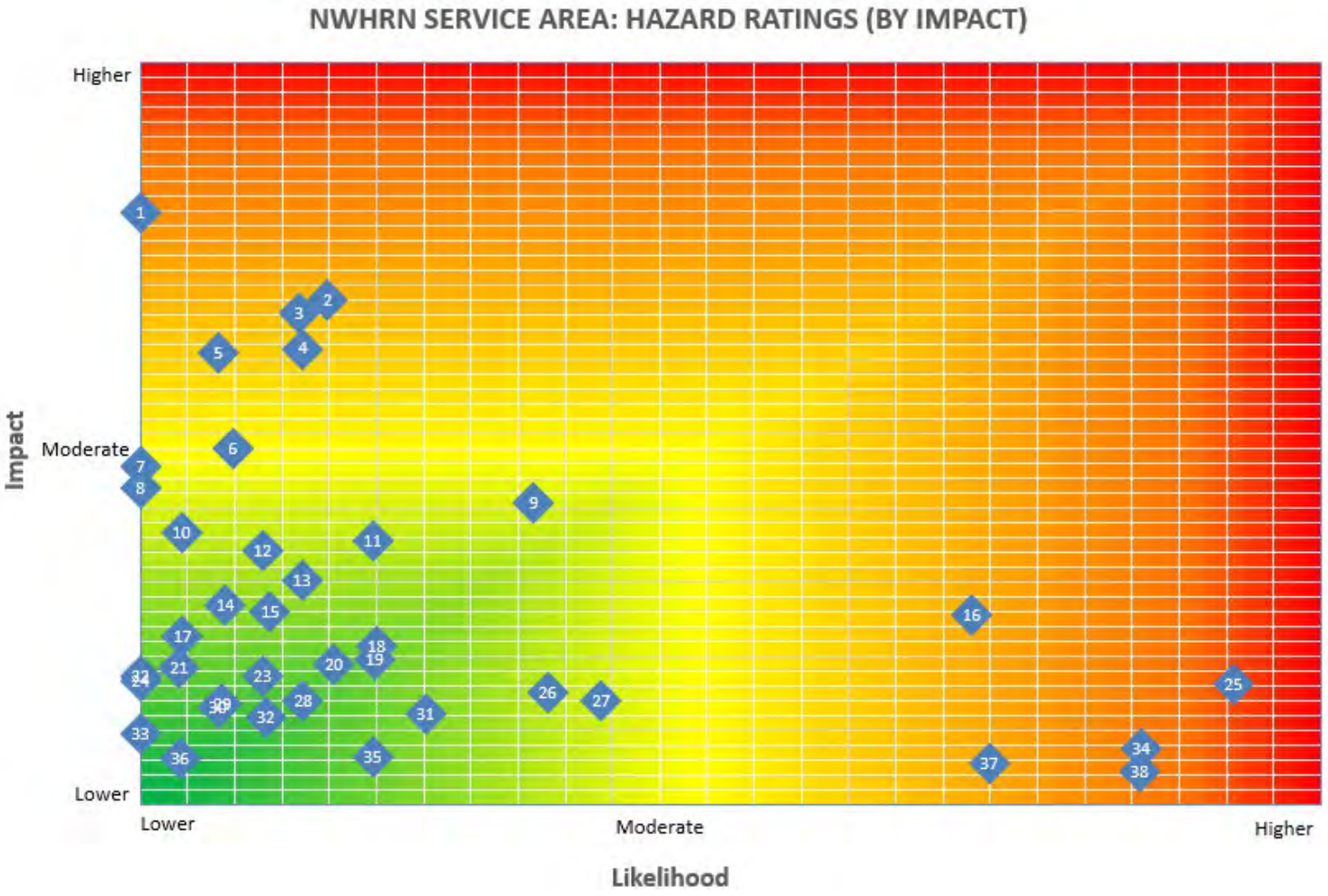
The only hazard that the Tri-Cities Catchment Area rated as high was Wildfire-Direct. Likelihood and impact rating graphics for each district can be found in appendix 3 of this report.

NORTHWEST HEALTHCARE Response Network.

Appendix 1: Graphics – NWHRN Service Area Hazard Ratings

1	Mass Casualty Incident - Complex Event
2	Earthquake - Major Damage
3	Loss of Generator Power
4	Cyber Attack
5	Mass Casualty Incident - Direct Attack
6	Loss of Commercial or Primary Power - Extended
7	Loss of Facility Water Supply (Potable)
8	Loss of Medical Gas / Vacuum System(s)
9	Loss of Commercial or Primary Power - Brief
10	Loss of Sewer / Waste System(s)
11	Infectious Disease Outbreak
12	Supply Shortage / Chain Interruption (Pharm)
13	Loss of Internet / Network System(s)
14	Supply Chain Shortage / Disruption (Patient Care)
15	Supply Shortage / Chain Interruption (Staffing)
16	Wildfire - Direct Impact
17	Supply Shortage / Chain Interruption (Nutrition)
18	Surge - Medical Event
19	Surge - Traumatic Event
20	Transportation Disruption / Failure
21	Hazardous Materials (External Event)
22	Loss of Natural Gas / Propane
23	Loss of Cooling
24	Loss of Heating
25	Wildfire - Indirect Impact
26	Earthquake - Minor Damage
27	Building / Campus Lockdown
28	Social Unrest
29	Flooding Internal / Water Intrusion
30	Hazardous Materials (Internal Event)
31	Loss of Telephone System(s)
32	Surge - Other
33	Supply Shortage / Chain Interruption (Utility & Mort)
34	Severe Weather
35	Flooding - External
36	Decontamination
37	Contamination of Outside Air
38	Extreme Heat

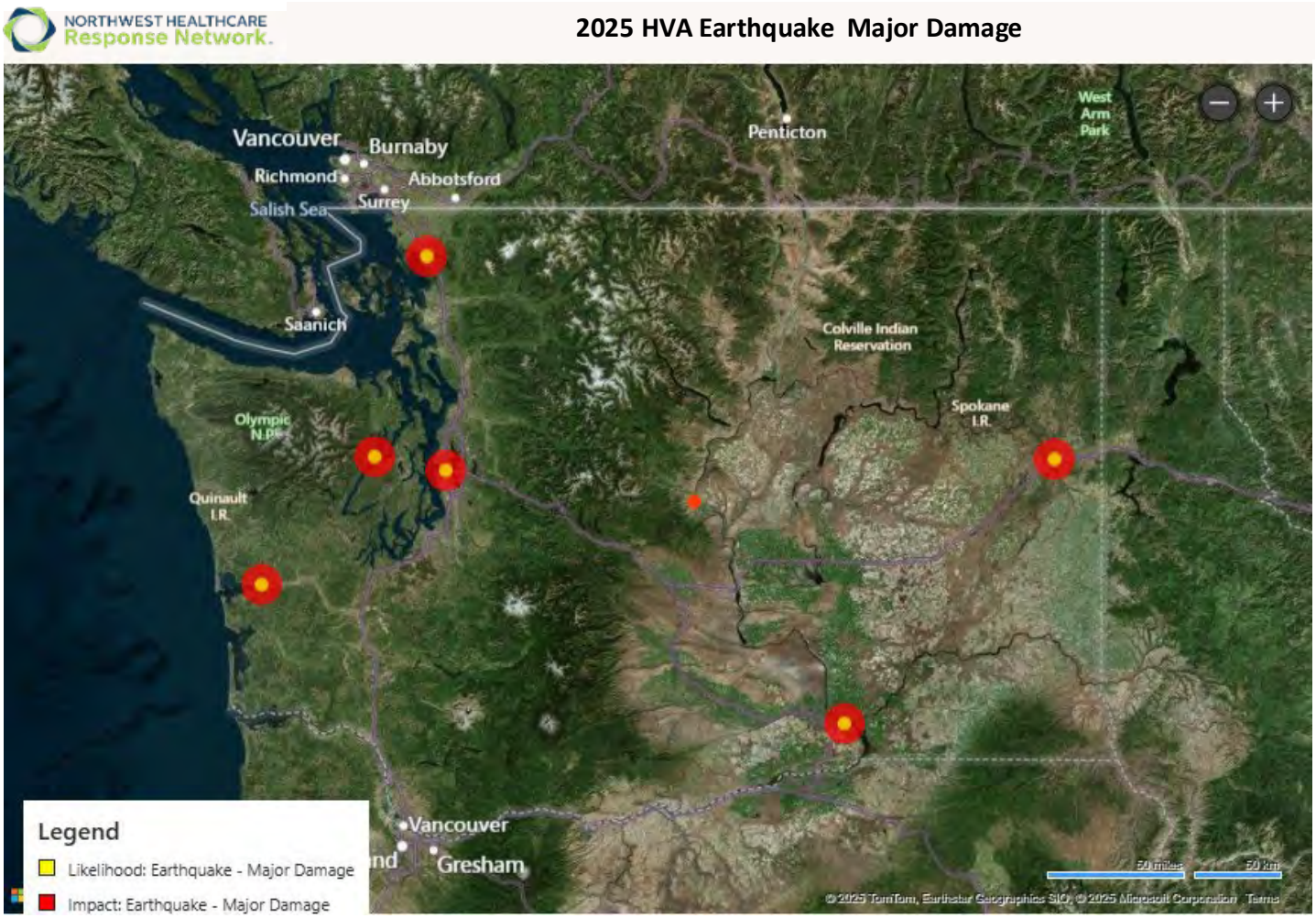



NWHRN SERVICE AREA: HAZARD RATINGS (BY IMPACT)
Higher
Moderate
Lower
Impact
Lower
Moderate
Higher
Likelihood
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
23
25
26
27
28
31
32
33
34
35
36
37
38

1	Mass Casualty Incident - Complex Event
2	Earthquake - Major Damage
3	Loss of Generator Power
4	Cyber Attack
5	Mass Casualty Incident - Direct Attack
6	Loss of Commercial or Primary Power - Extended
7	Loss of Facility Water Supply (Potable)
8	Loss of Medical Gas / Vacuum System(s)
9	Loss of Commercial or Primary Power - Brief
10	Loss of Sewer / Waste System(s)
11	Infectious Disease Outbreak
12	Supply Shortage / Chain Interruption (Pharm)
13	Loss of Internet / Network System(s)
14	Supply Chain Shortage / Disruption (Patient Care)
15	Supply Shortage / Chain Interruption (Staffing)
16	Wildfire - Direct Impact
17	Supply Shortage / Chain Interruption (Nutrition)
18	Surge - Medical Event
19	Surge - Traumatic Event
20	Transportation Disruption / Failure
21	Hazardous Materials (External Event)
22	Loss of Natural Gas / Propane
23	Loss of Cooling
24	Loss of Heating
25	Wildfire - Indirect Impact
26	Earthquake - Minor Damage
27	Building / Campus Lockdown
28	Social Unrest
29	Flooding Internal / Water Intrusion
30	Hazardous Materials (Internal Event)
31	Loss of Telephone System(s)
32	Surge - Other
33	Supply Shortage / Chain Interruption (Utility & Mort)
34	Severe Weather
35	Flooding - External
36	Decontamination
37	Contamination of Outside Air
38	Extreme Heat

Appendix 2: Graphics – Heat Maps (High Hazards)

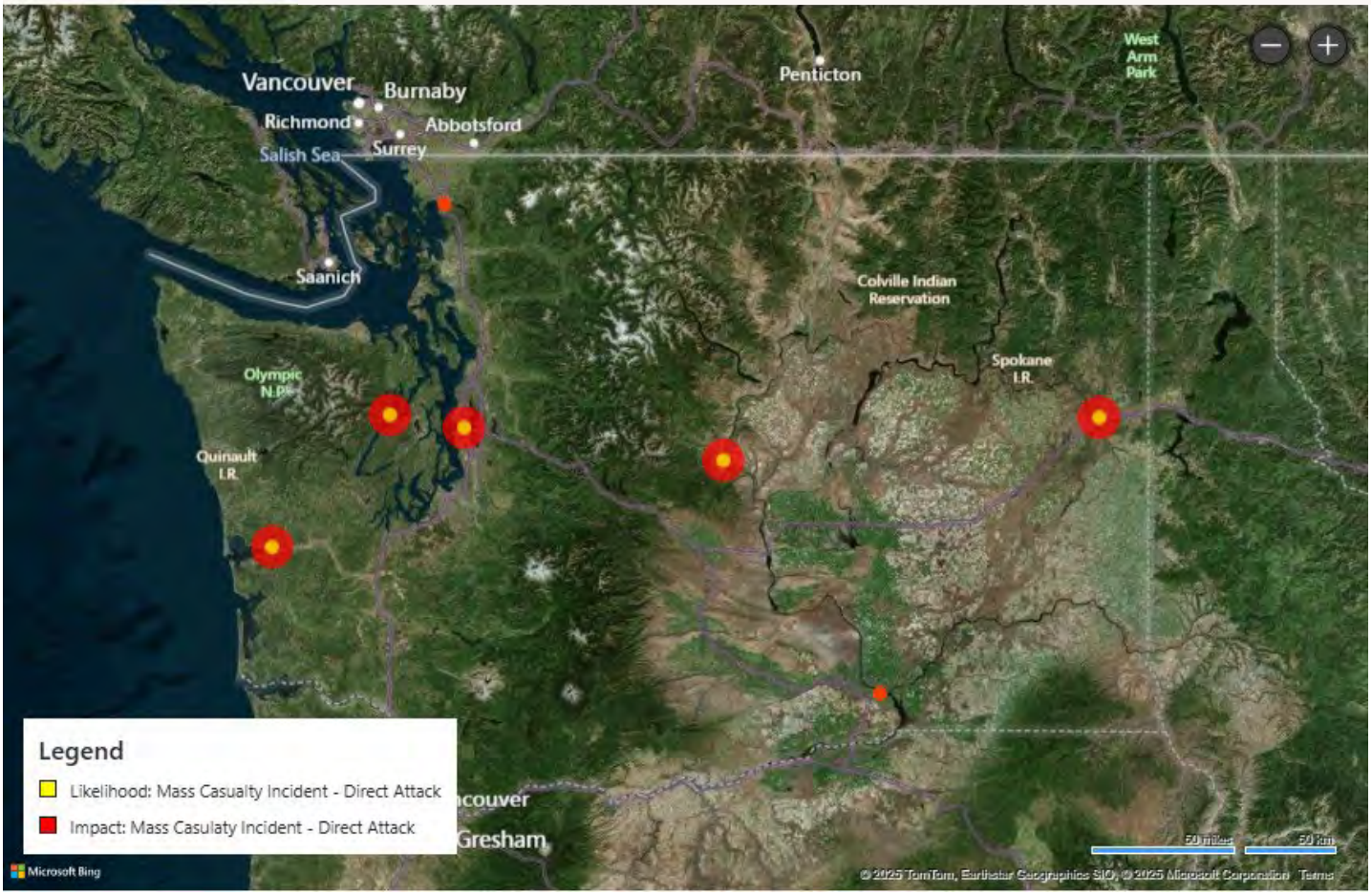
The graphics below display how the high hazards were rated across the NWHRN service area, with contrasting colors representing the likelihood and impact of each hazard.



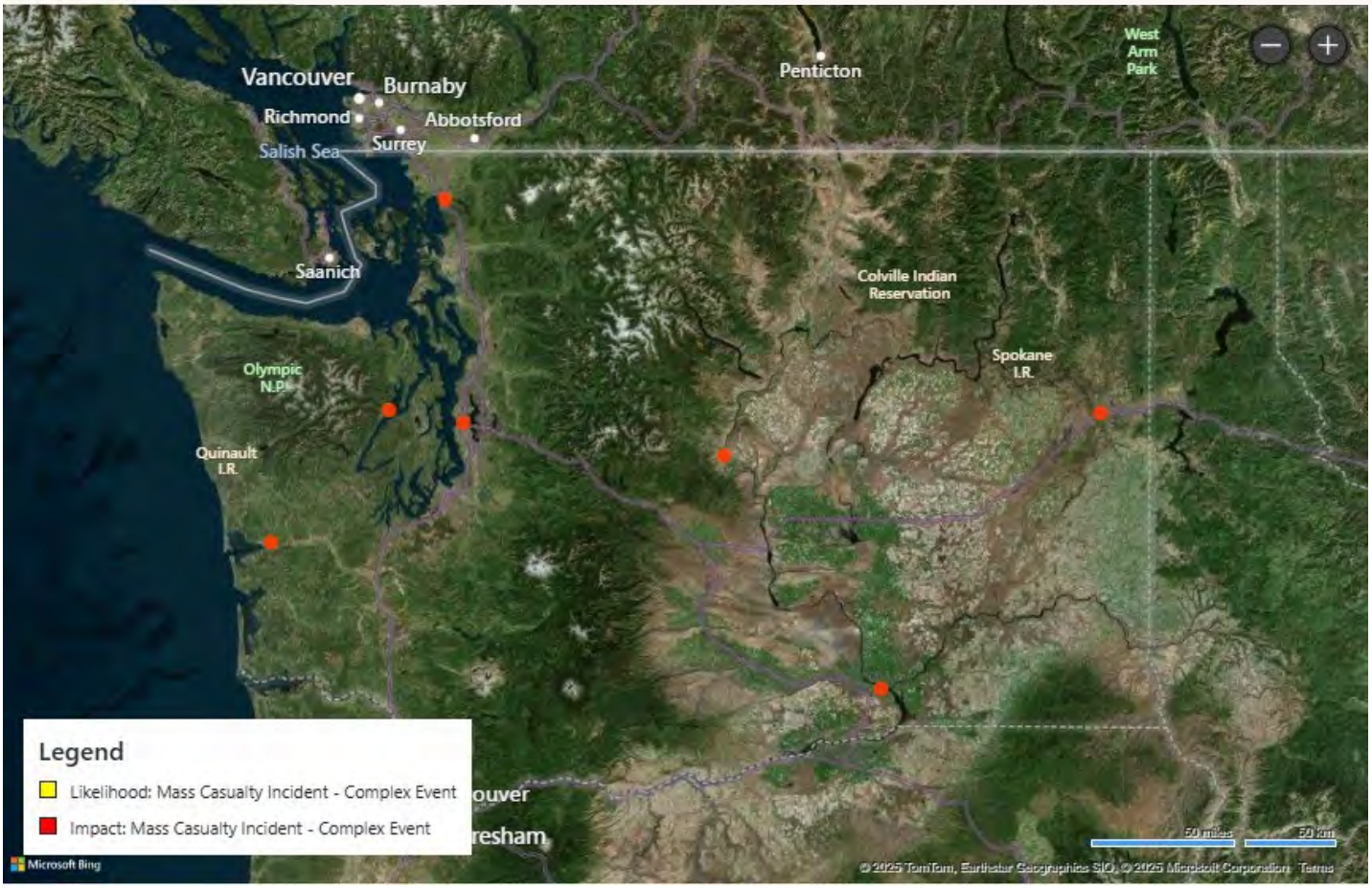
NORTHWEST HEALTHCARE
Response Network.

NORTHWEST HEALTHCARE
Response Network.

2025 HVA Mass Casualty Incident - Direct Attack

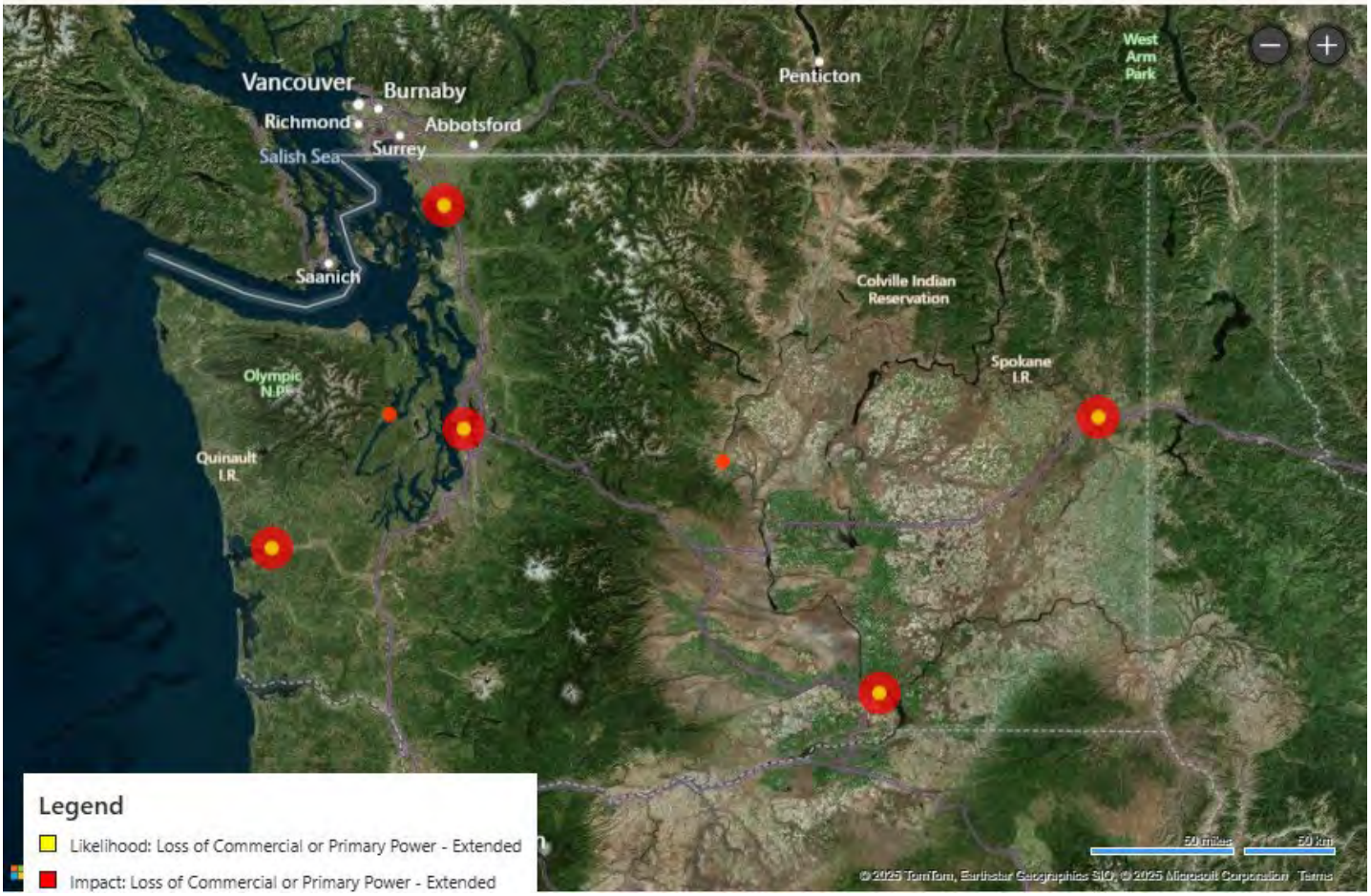


2025 HVA MCI - Complex Event



NORTHWEST HEALTHCARE
Response Network.

2025 HVA Loss of Commercial or Primary Power Extended

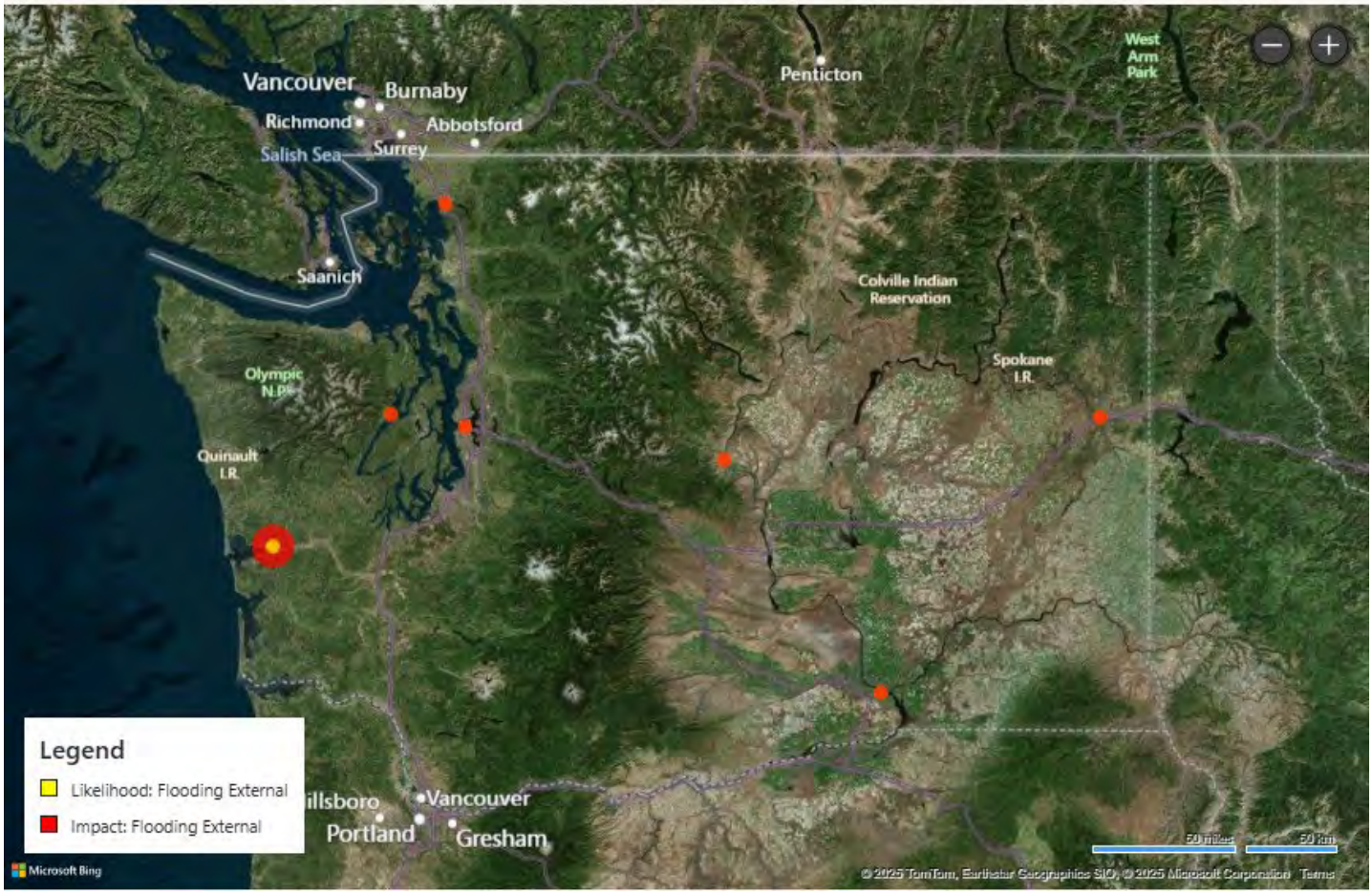


NORTHWEST HEALTHCARE
Response Network.

NORTHWEST HEALTHCARE
Response Network.

2025 HVA Loss of Generator Power

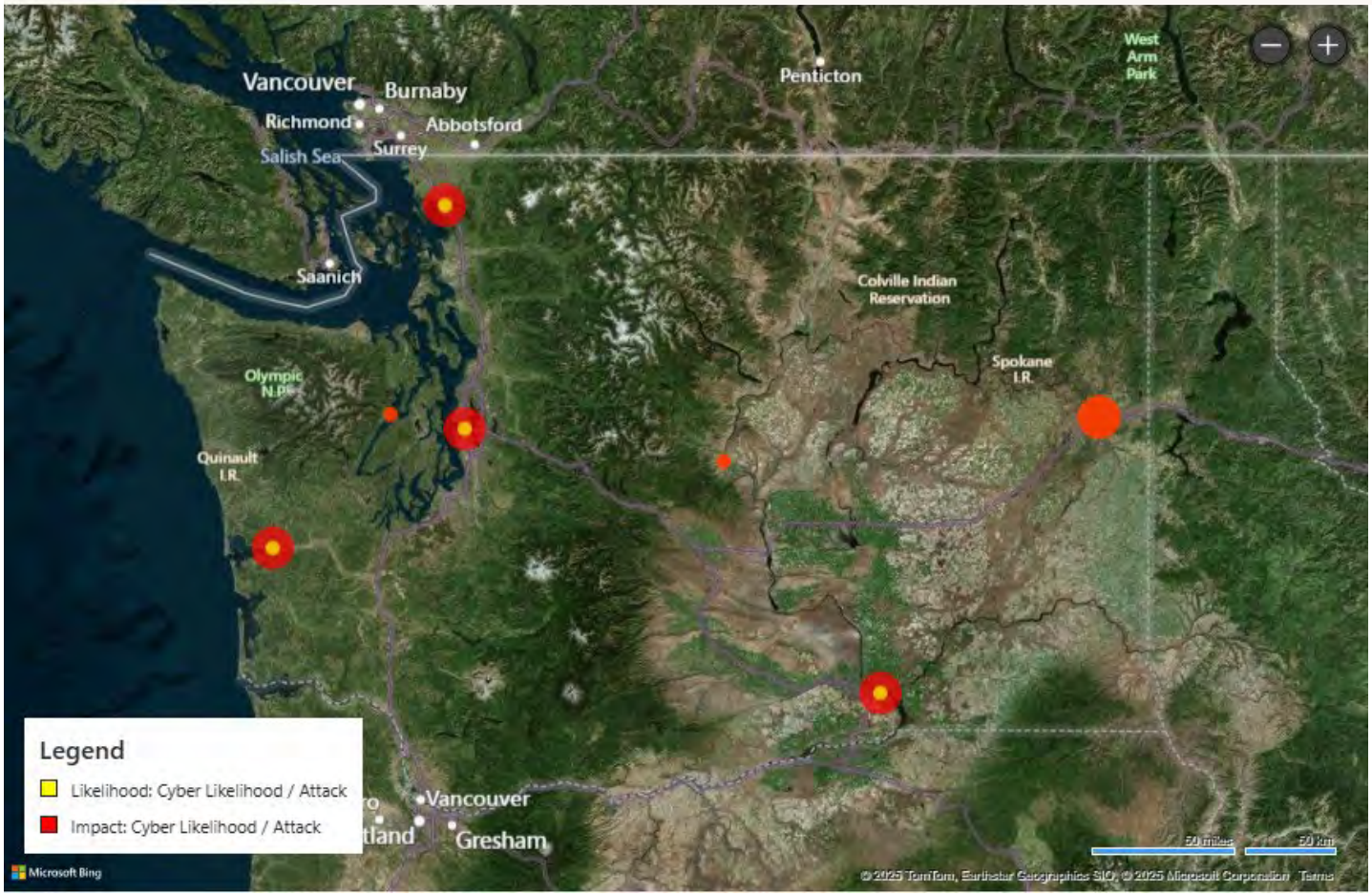
2025 HVA Loss of Medical Gas / Vacuum System(s)



NORTHWEST HEALTHCARE
Response Network.

NORTHWEST HEALTHCARE
Response Network.

2025 HVA Cyber Threat or Attack



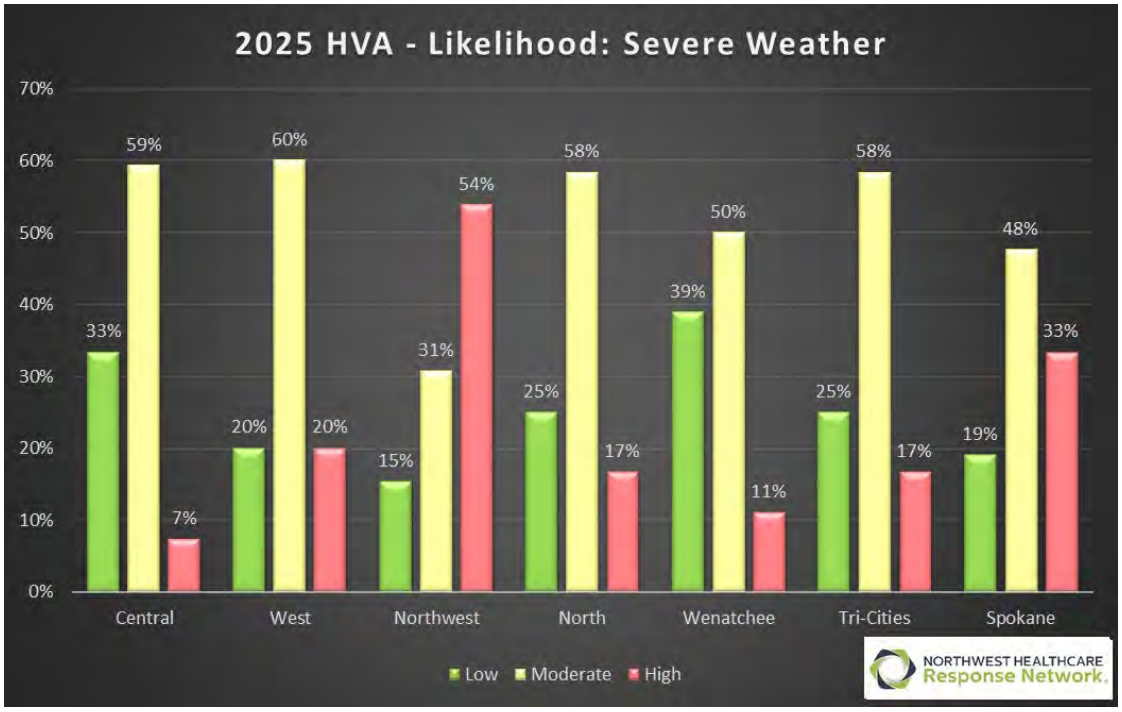
NORTHWEST HEALTHCARE
Response Network.

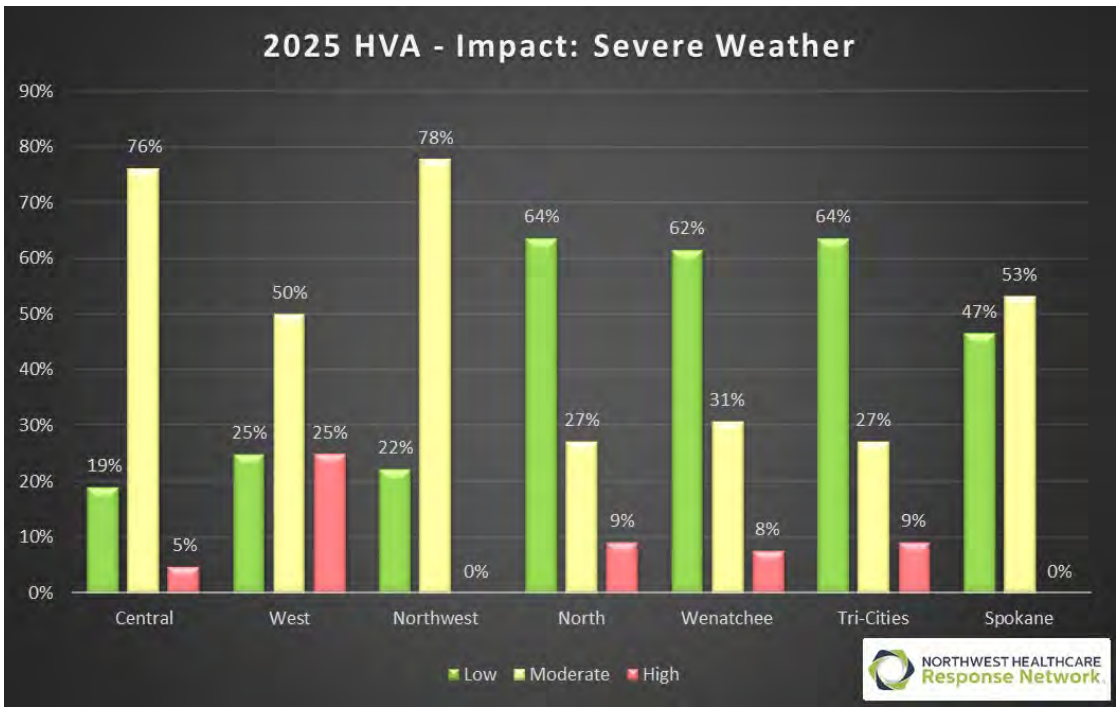
NORTHWEST HEALTHCARE
Response Network.

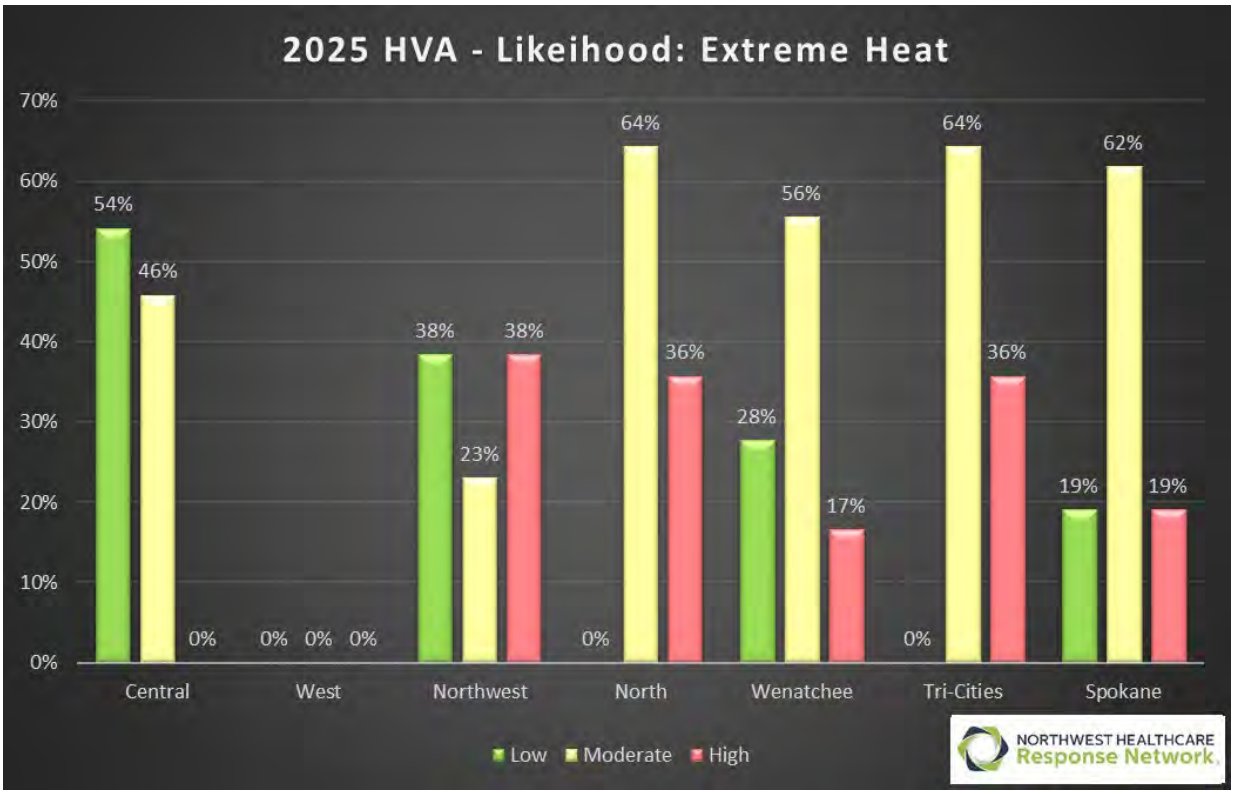
2025 HVA Loss of Facility Water Supply (Potable)

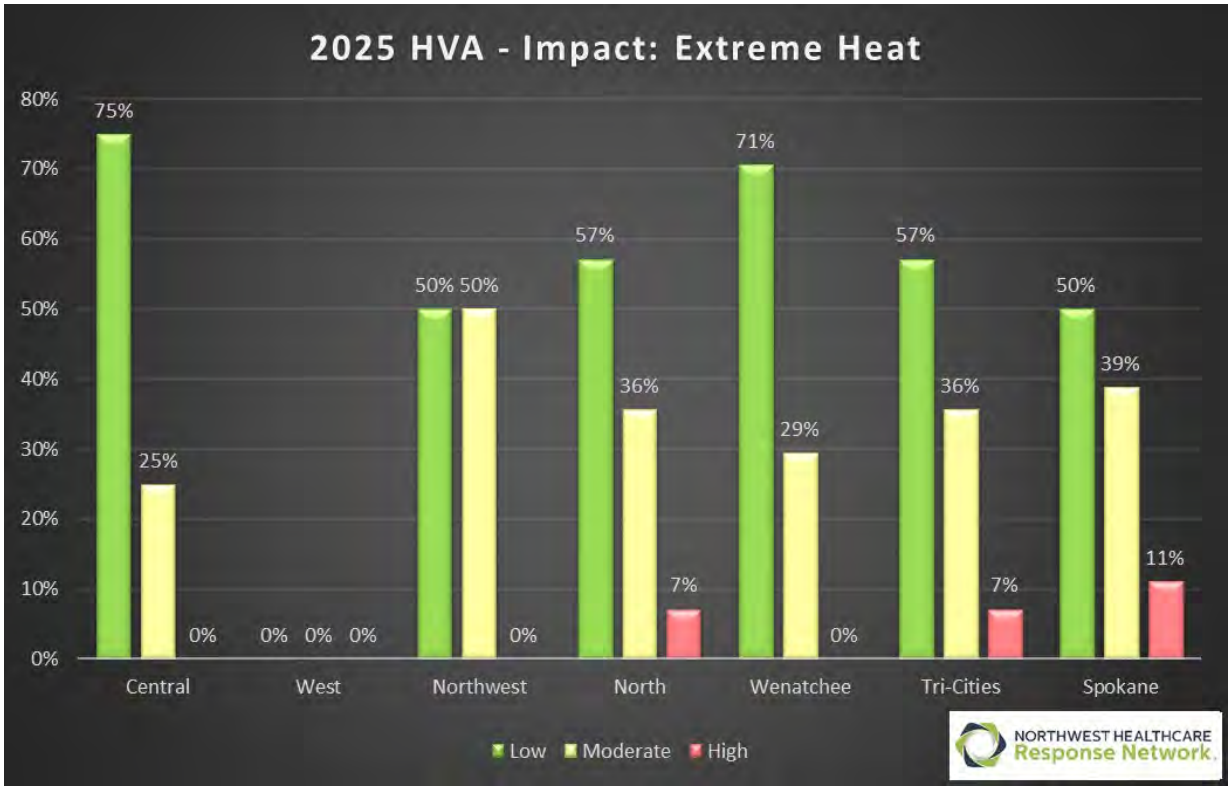
Appendix 3: Graphics – Likelihood and Impact Ratings by District/Catchment Area

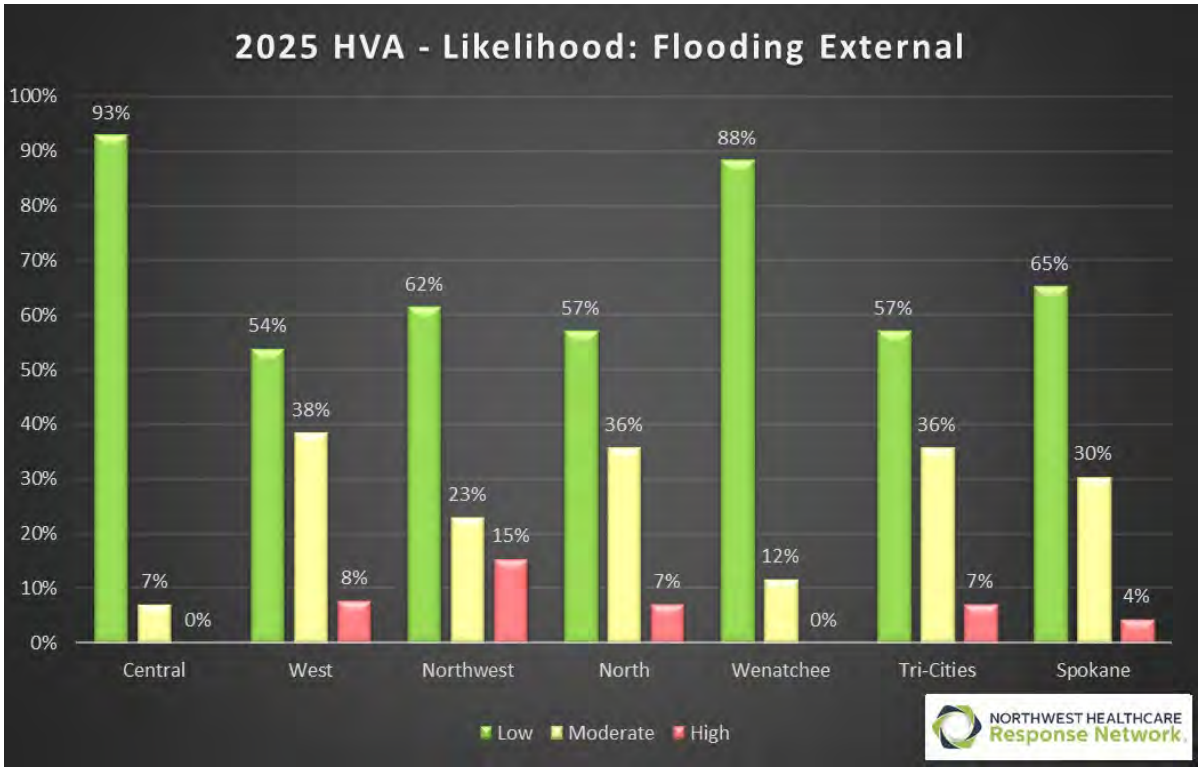
The graphics below breakdown the likelihood and impact ratings for each hazard in all districts/areas.

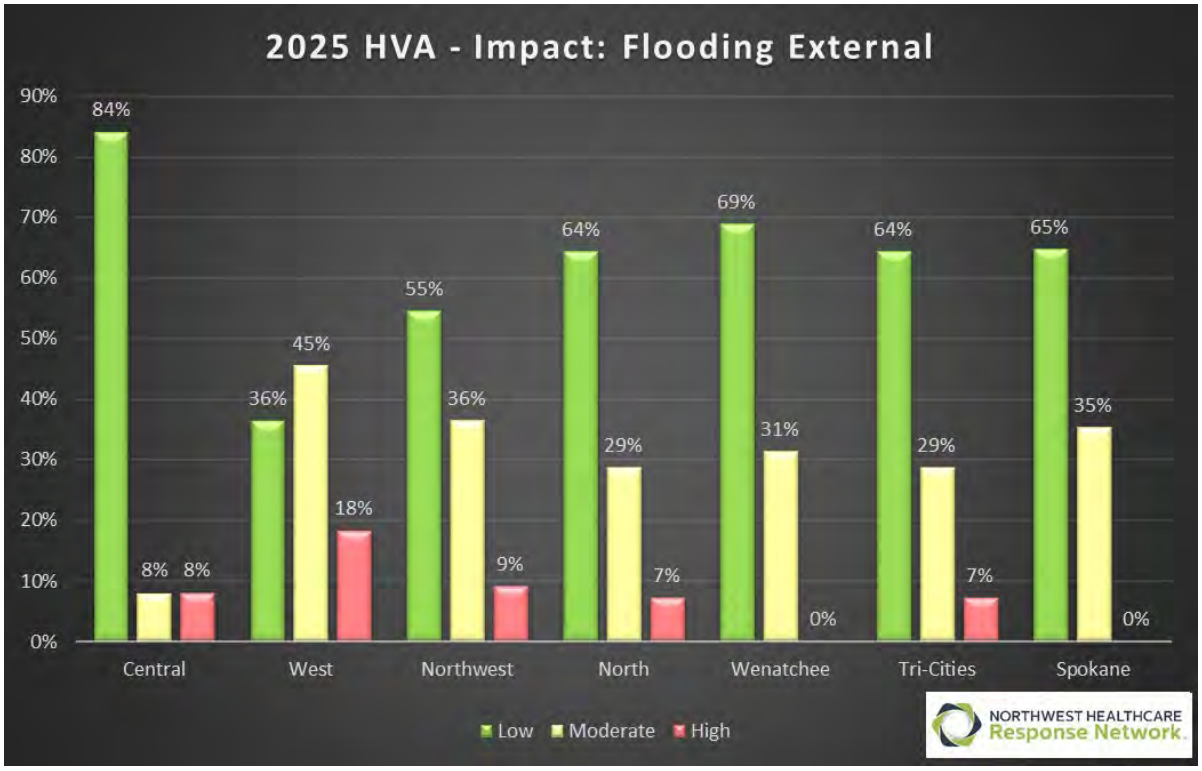


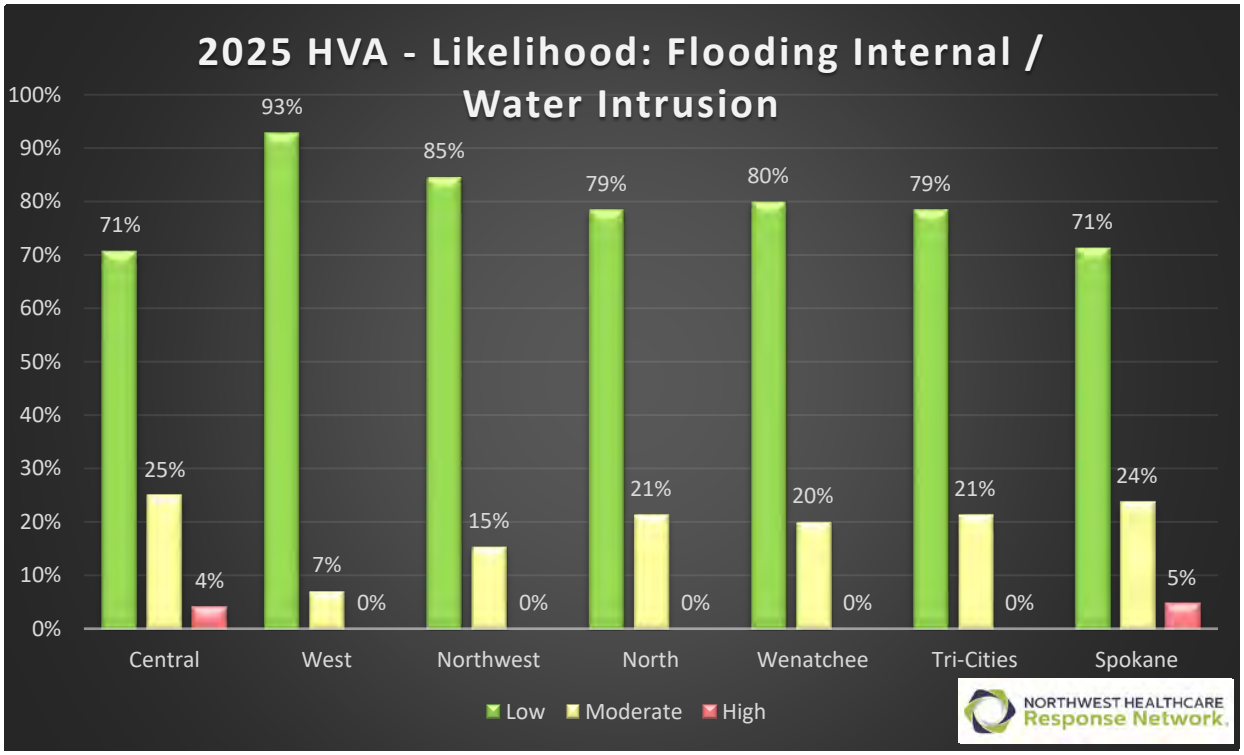


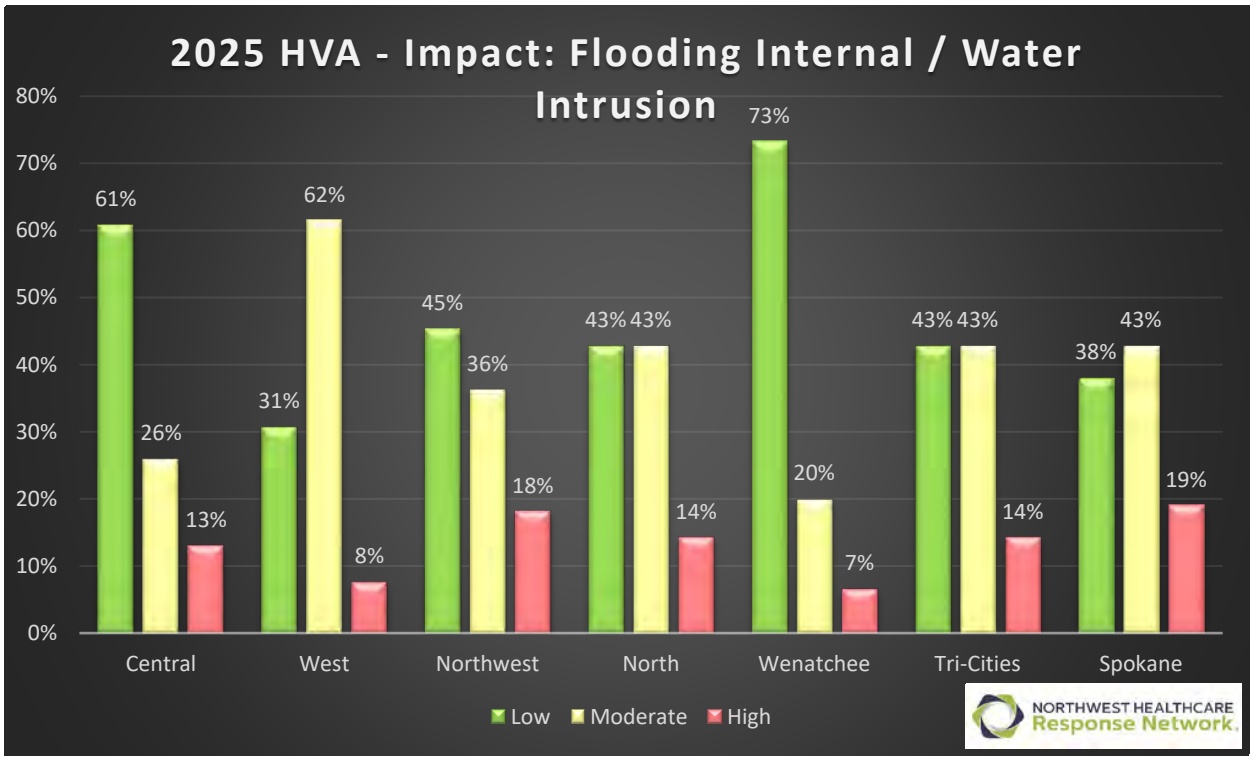

2025 HVA - Likeihood: Extreme Heat
70%
60%
50%
40%
30%
20%
10%
0%
54%
46%
0%
0%
0%
0%
38%
23%
38%
0%
64%
36%
28%
56%
17%
0%
64%
36%
19%
62%
19%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

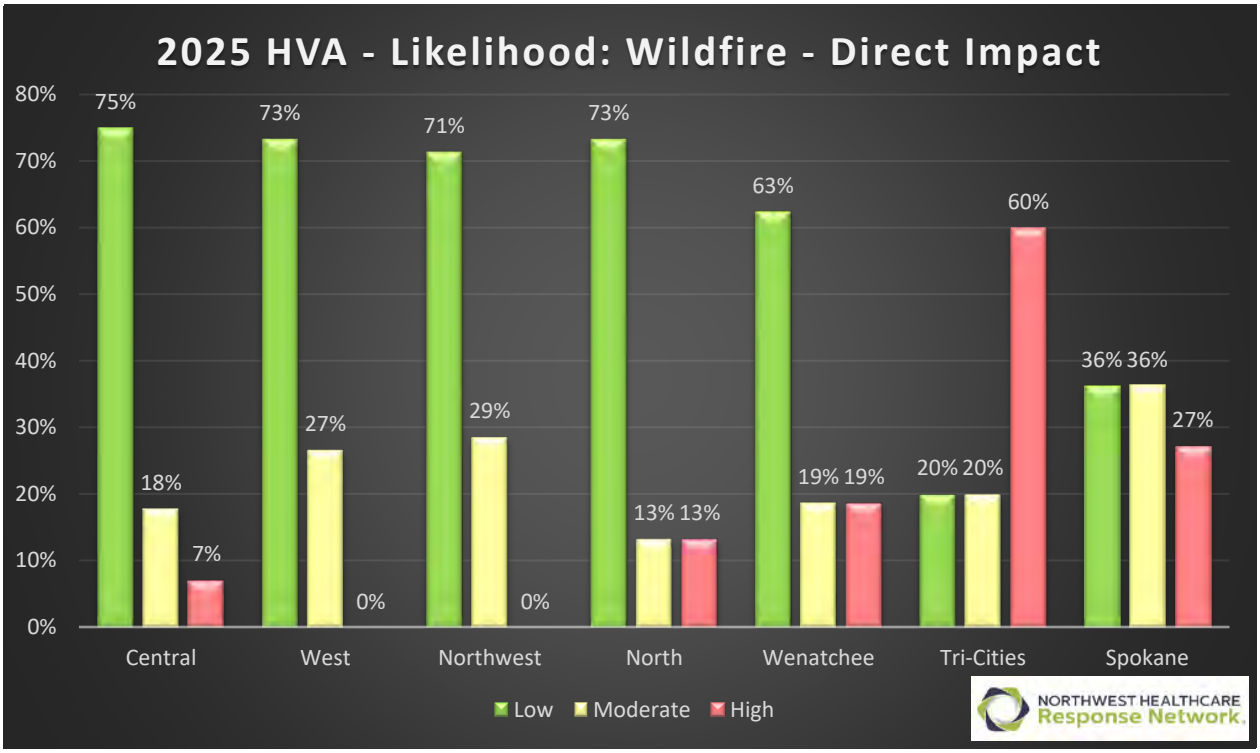

2025 HVA - Impact: Extreme Heat
80%
70%
60%
50%
40%
30%
20%
10%
0%
75%
25%
0%
0%
0%
0%
50%
50%
0%
57%
36%
7%
71%
29%
0%
57%
36%
7%
50%
39%
11%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

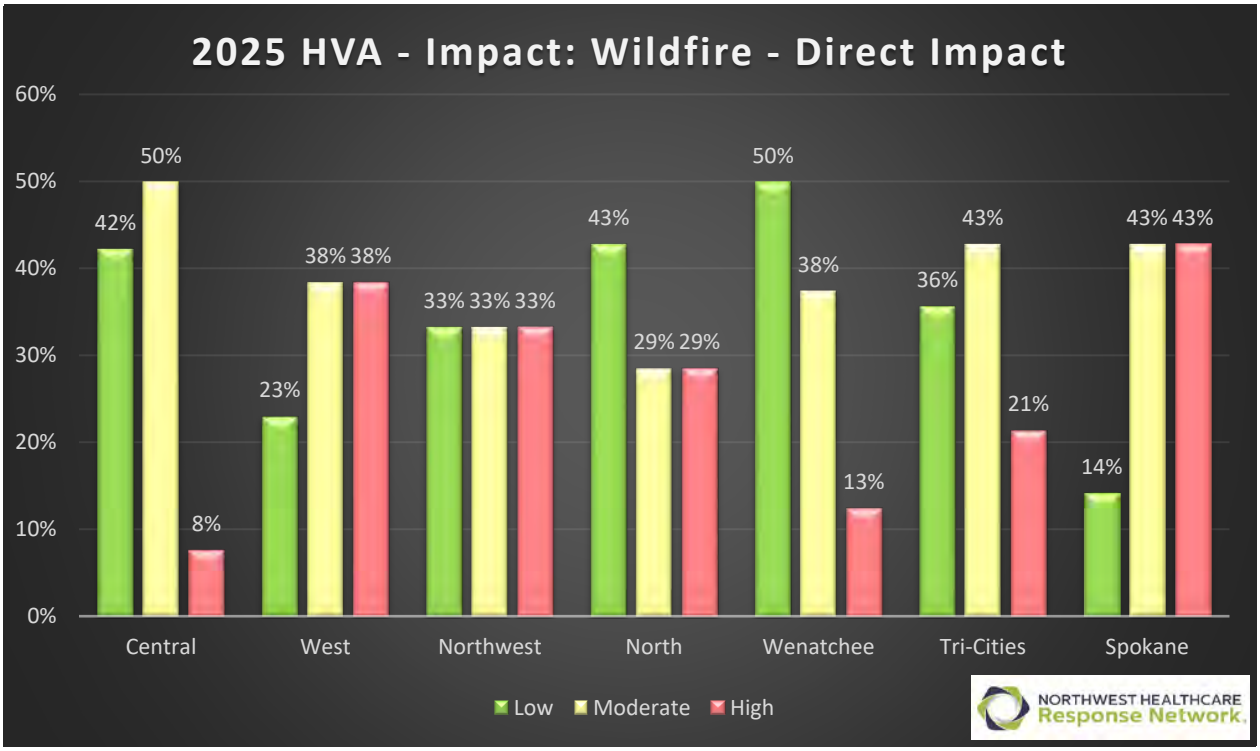

2025 HVA - Likelihood: Flooding External
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
93%
7%
0%
54%
38%
8%
62%
23%
15%
57%
36%
7%
88%
12%
0%
57%
36%
7%
65%
30%
4%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

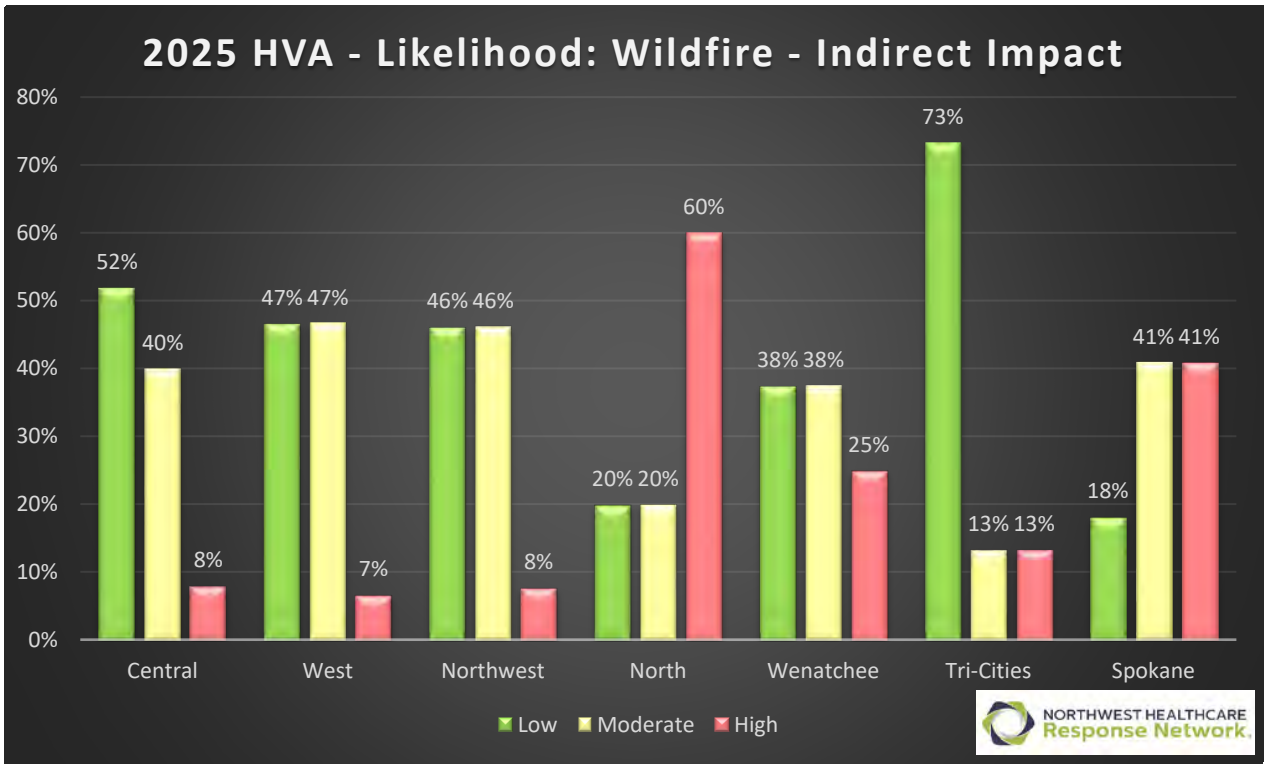

2025 HVA - Impact: Flooding External
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
84%
8%
8%
36%
45%
18%
55%
36%
9%
64%
29%
7%
69%
31%
0%
64%
29%
7%
65%
35%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

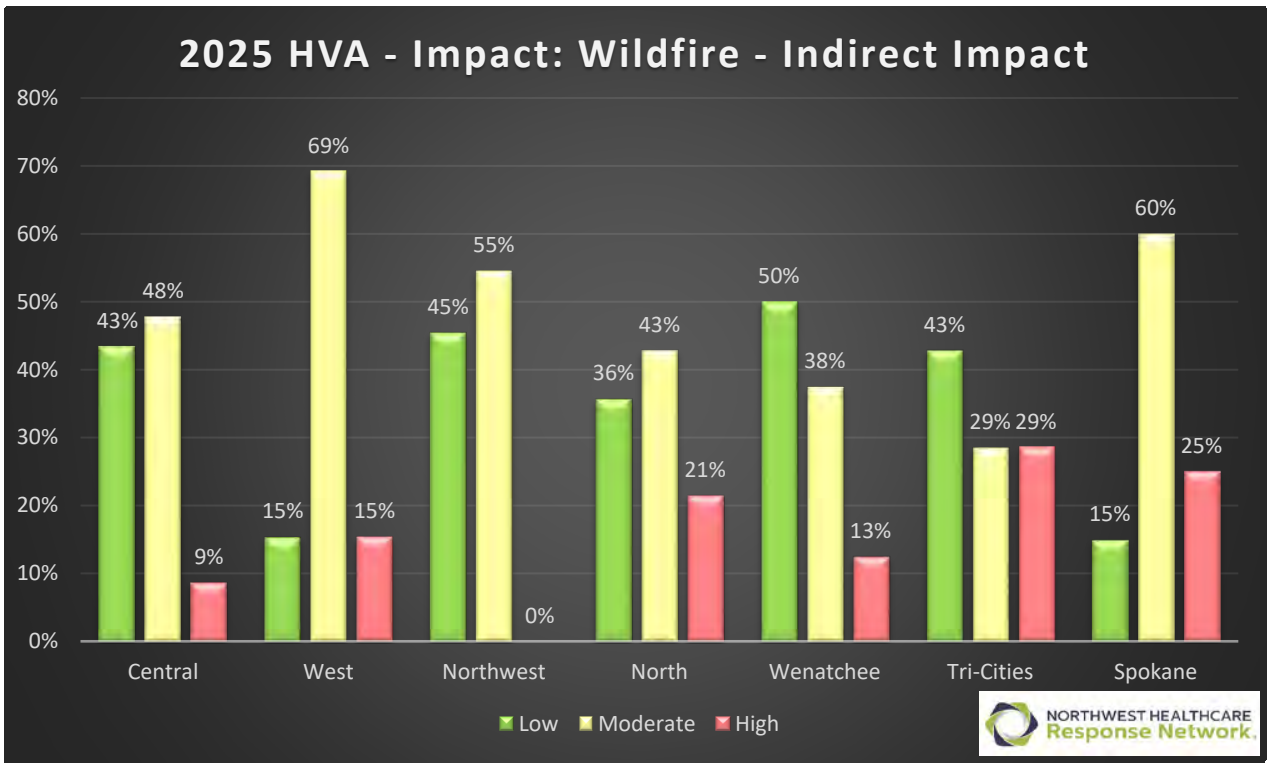

2025 HVA - Likelihood: Flooding Internal / Water Intrusion
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
71%
25%
4%
93%
7%
0%
85%
15%
0%
79%
21%
0%
80%
20%
0%
79%
21%
0%
71%
24%
5%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

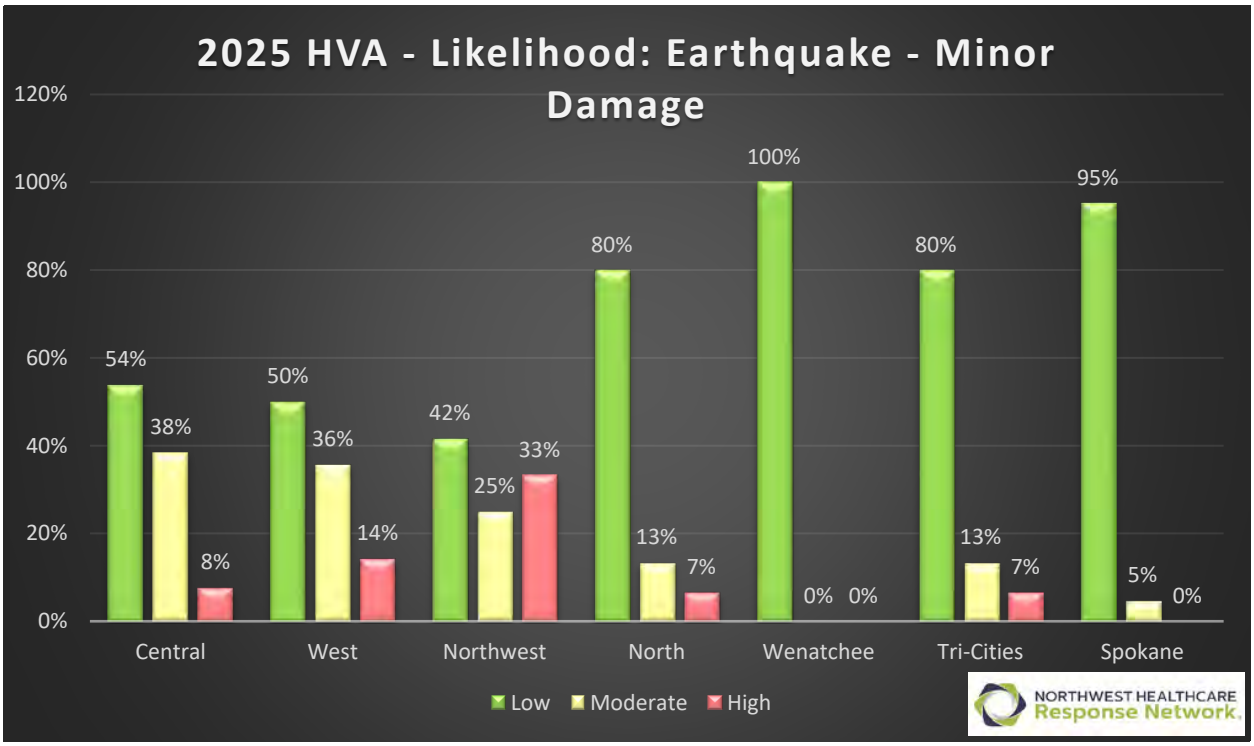

2025 HVA - Impact: Flooding Internal / Water Intrusion
80%
70%
60%
50%
40%
30%
20%
10%
0%
61%
26%
13%
31%
62%
8%
45%
36%
18%
43%
43%
14%
73%
20%
7%
43%
43%
14%
38%
43%
19%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

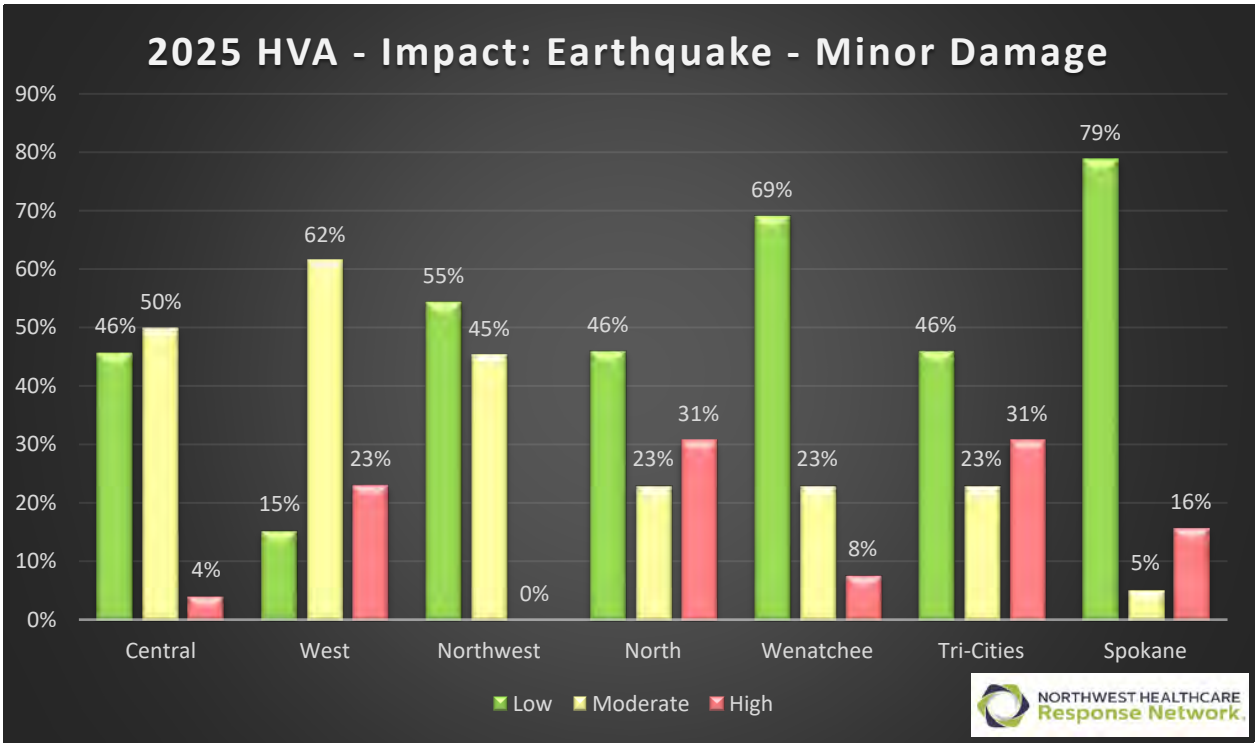

2025 HVA - Likelihood: Wildfire - Direct Impact
80%
70%
60%
50%
40%
30%
20%
10%
0%
75%
18%
7%
73%
27%
0%
71%
29%
0%
73%
13% 13%
63%
19% 19%
20% 20%
60%
36% 36%
27%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

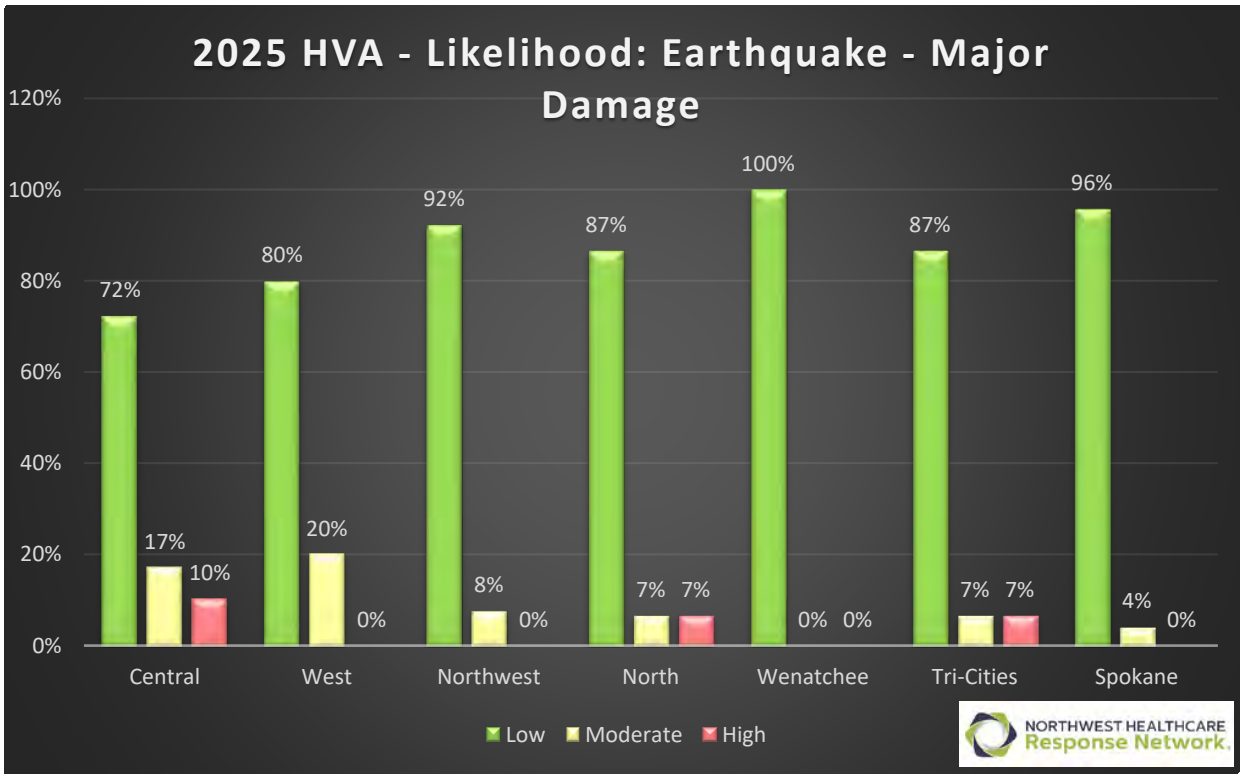

2025 HVA - Impact: Wildfire - Direct Impact
60%
50%
40%
30%
20%
10%
0%
42%
50%
8%
23%
38% 38%
33% 33% 33%
43%
29% 29%
50%
38%
13%
36%
43%
21%
14%
43% 43%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

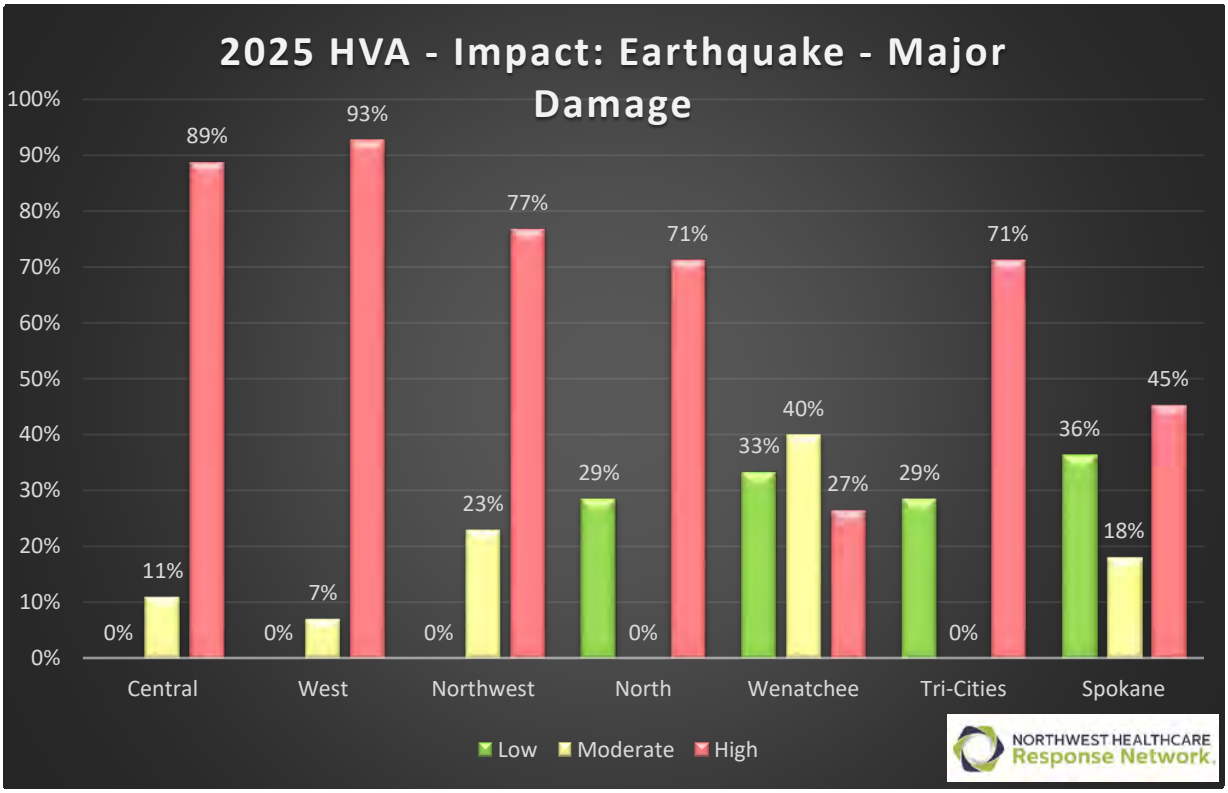

2025 HVA - Likelihood: Wildfire - Indirect Impact
80%
70%
60%
50%
40%
30%
20%
10%
0%
52%
40%
8%
47% 47%
7%
46% 46%
8%
20% 20%
60%
38% 38%
25%
73%
13% 13%
18%
41% 41%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

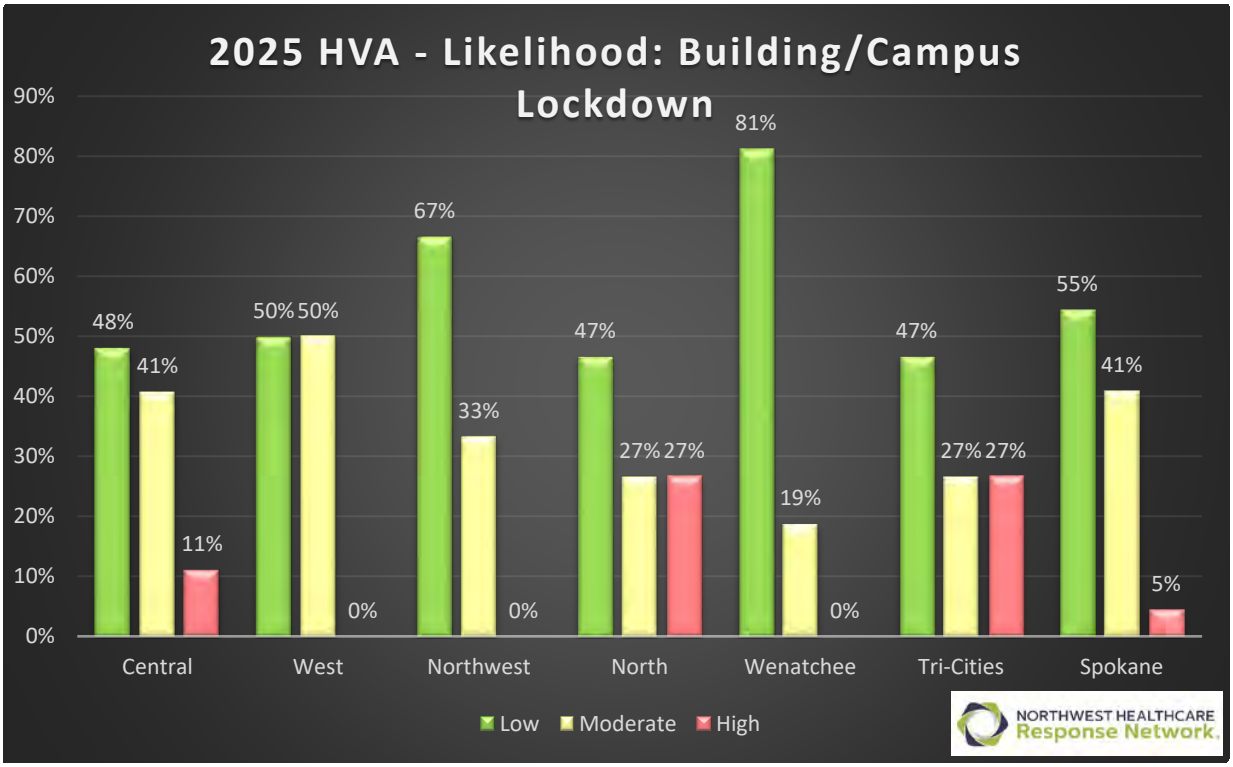

2025 HVA - Impact: Wildfire - Indirect Impact
80%
70%
60%
50%
40%
30%
20%
10%
0%
43%
48%
9%
15%
69%
15%
45%
55%
0%
36%
43%
21%
50%
38%
13%
43%
29% 29%
15%
60%
25%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

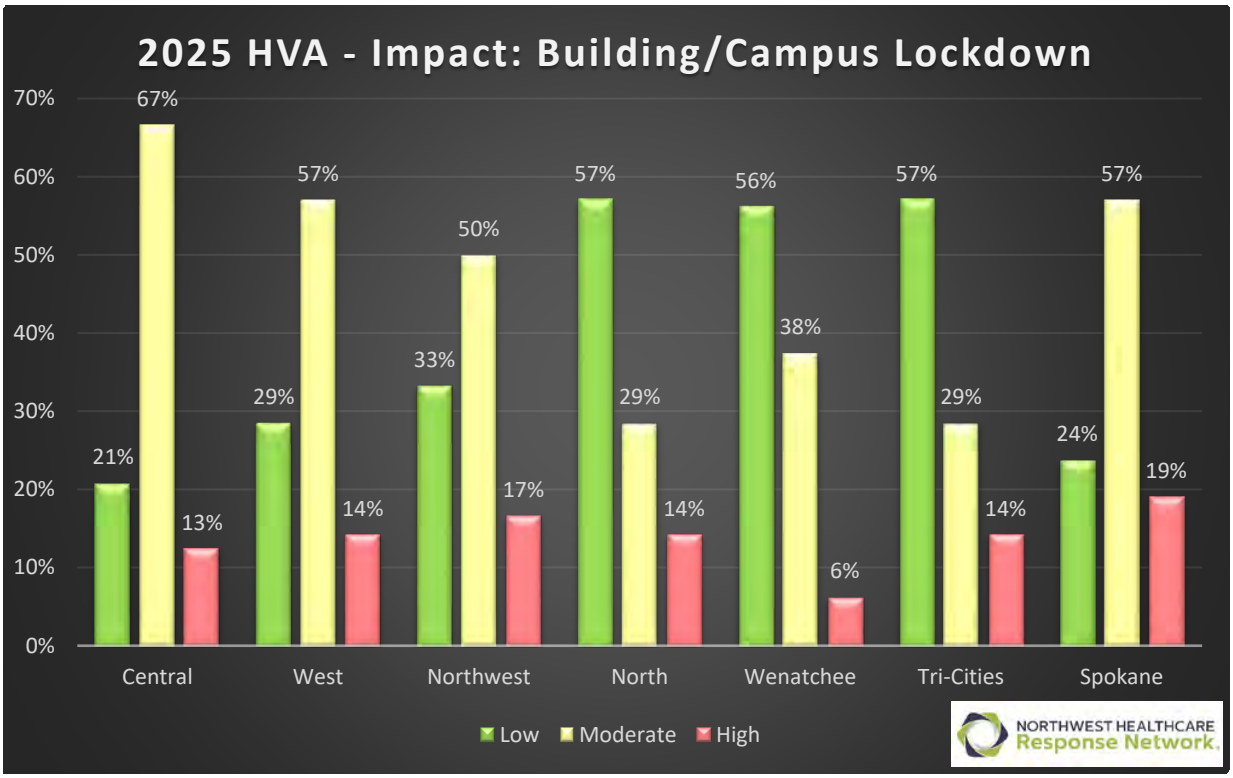

2025 HVA - Likelihood: Earthquake - Minor Damage
120%
100%
80%
60%
40%
20%
0%
54%
38%
8%
50%
36%
14%
42%
25%
33%
80%
13%
7%
100%
0%
0%
80%
13%
7%
95%
5%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

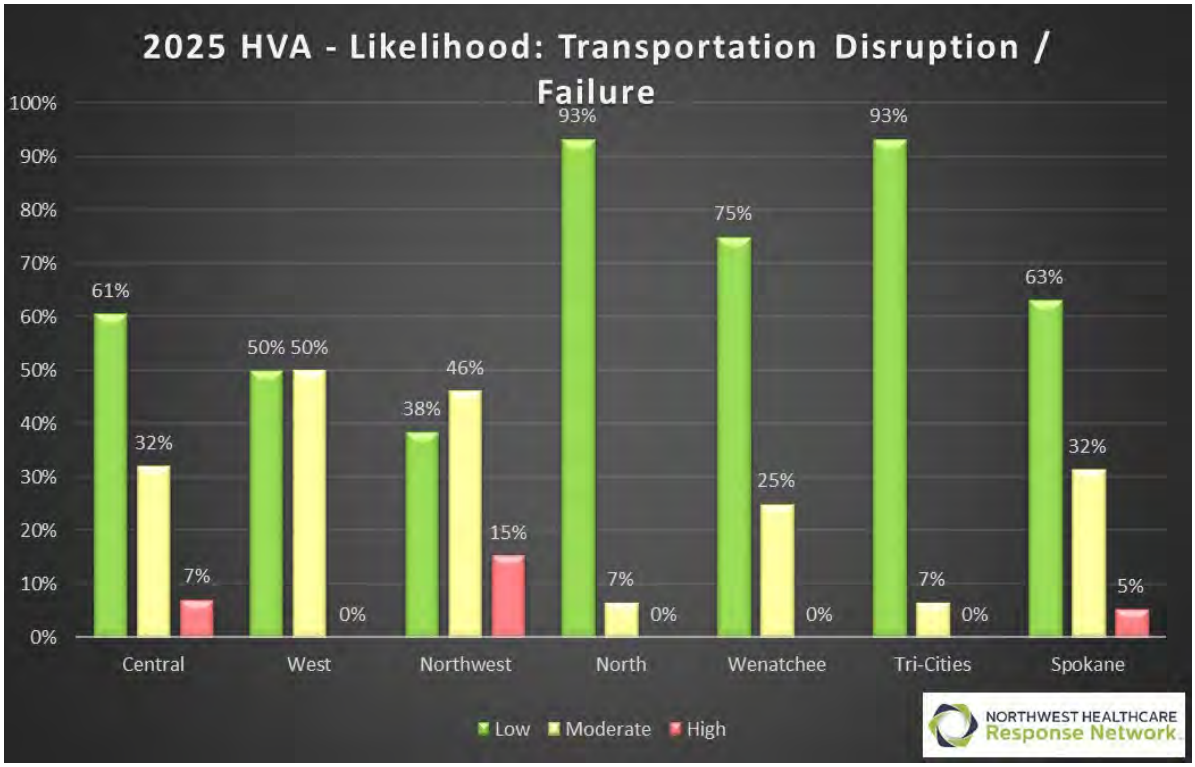

2025 HVA - Impact: Earthquake - Minor Damage
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
46%
50%
4%
15%
62%
23%
55%
45%
0%
46%
23%
31%
69%
23%
8%
46%
23%
31%
79%
5%
16%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

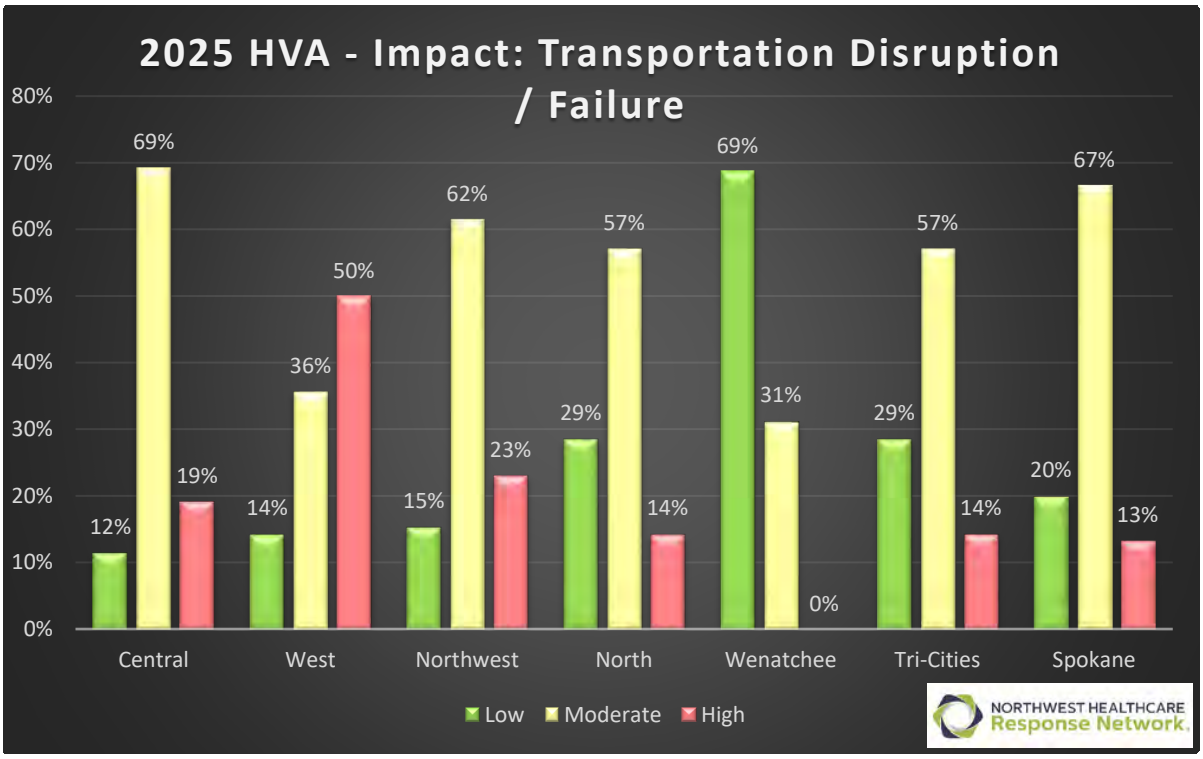

2025 HVA - Likelihood: Earthquake - Major Damage
120%
100%
80%
60%
40%
20%
0%
72%
17%
10%
80%
20%
0%
92%
8%
0%
87%
7%
7%
100%
0%
0%
87%
7%
7%
96%
4%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

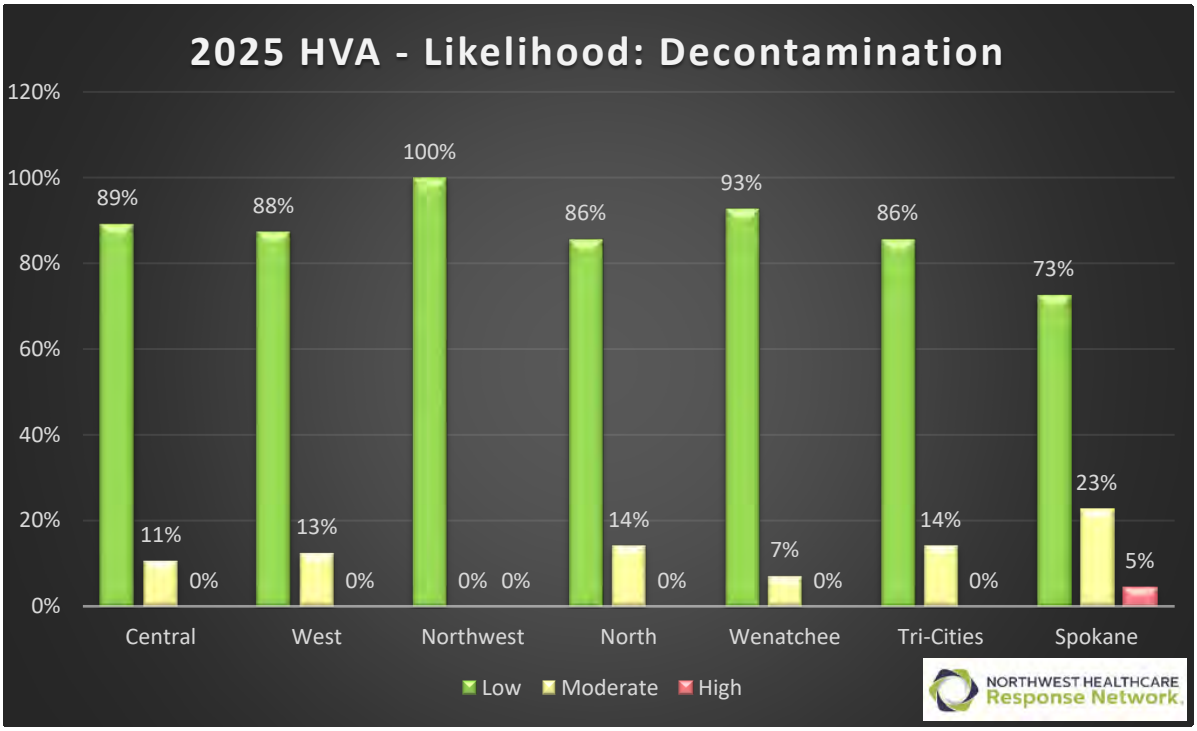

2025 HVA - Impact: Earthquake - Major Damage
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0%
11%
89%
0%
7%
93%
0%
23%
77%
29%
0%
71%
33%
40%
27%
29%
0%
71%
36%
18%
45%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

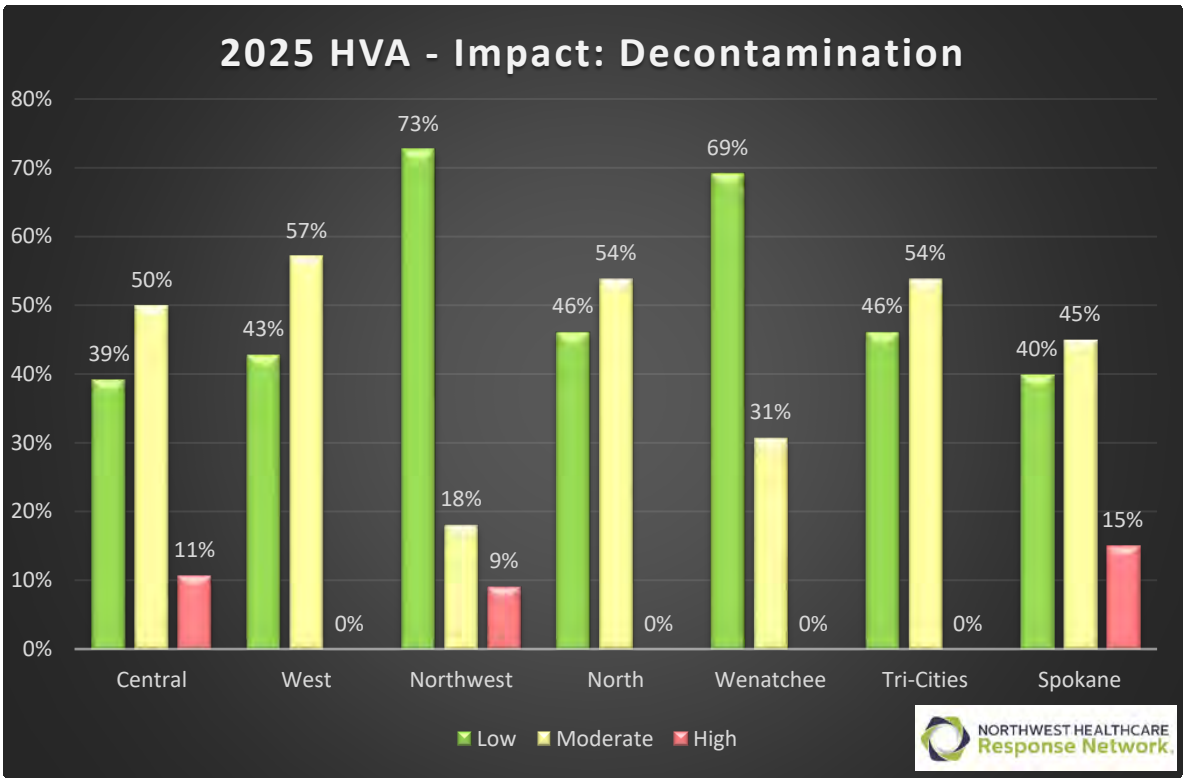

2025 HVA - Likelihood: Building/Campus Lockdown
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
48%
41%
11%
50%
50%
0%
67%
33%
0%
47%
27%
27%
81%
19%
0%
47%
27%
27%
55%
41%
5%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

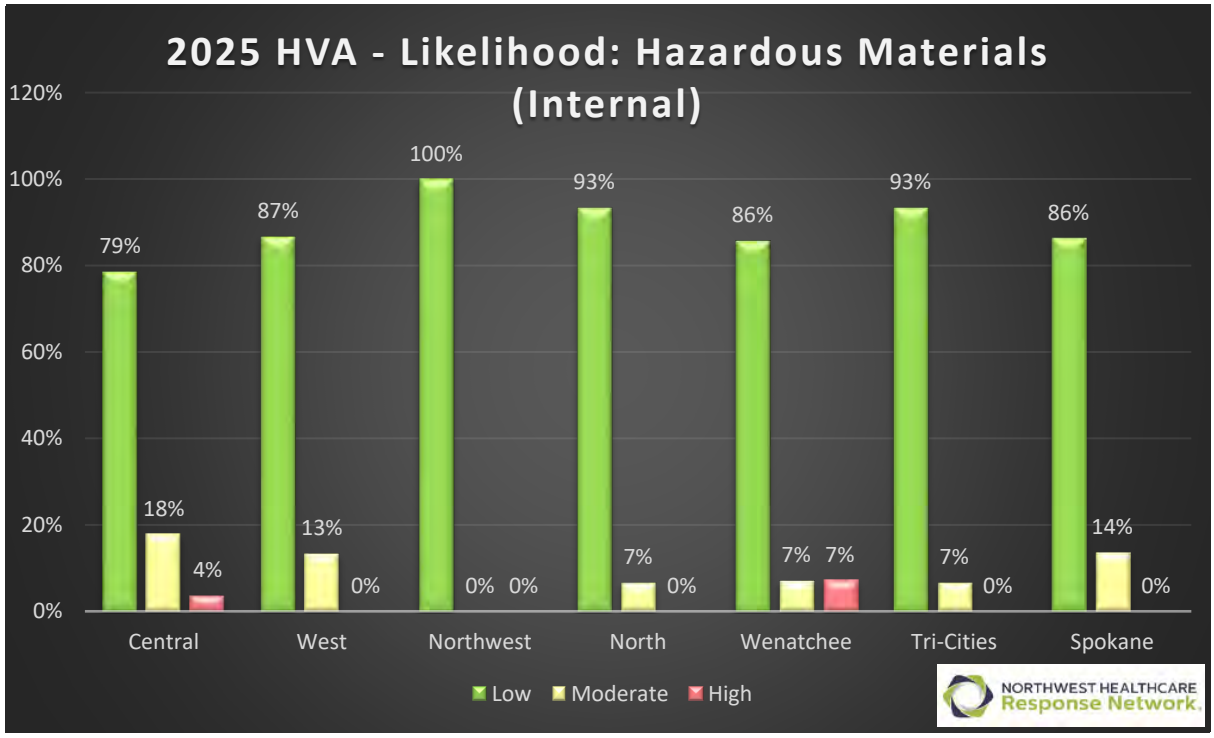

2025 HVA - Impact: Building/Campus Lockdown
70%
60%
50%
40%
30%
20%
10%
0%
21%
67%
13%
29%
57%
14%
33%
50%
17%
57%
29%
14%
56%
38%
6%
57%
29%
14%
24%
57%
19%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

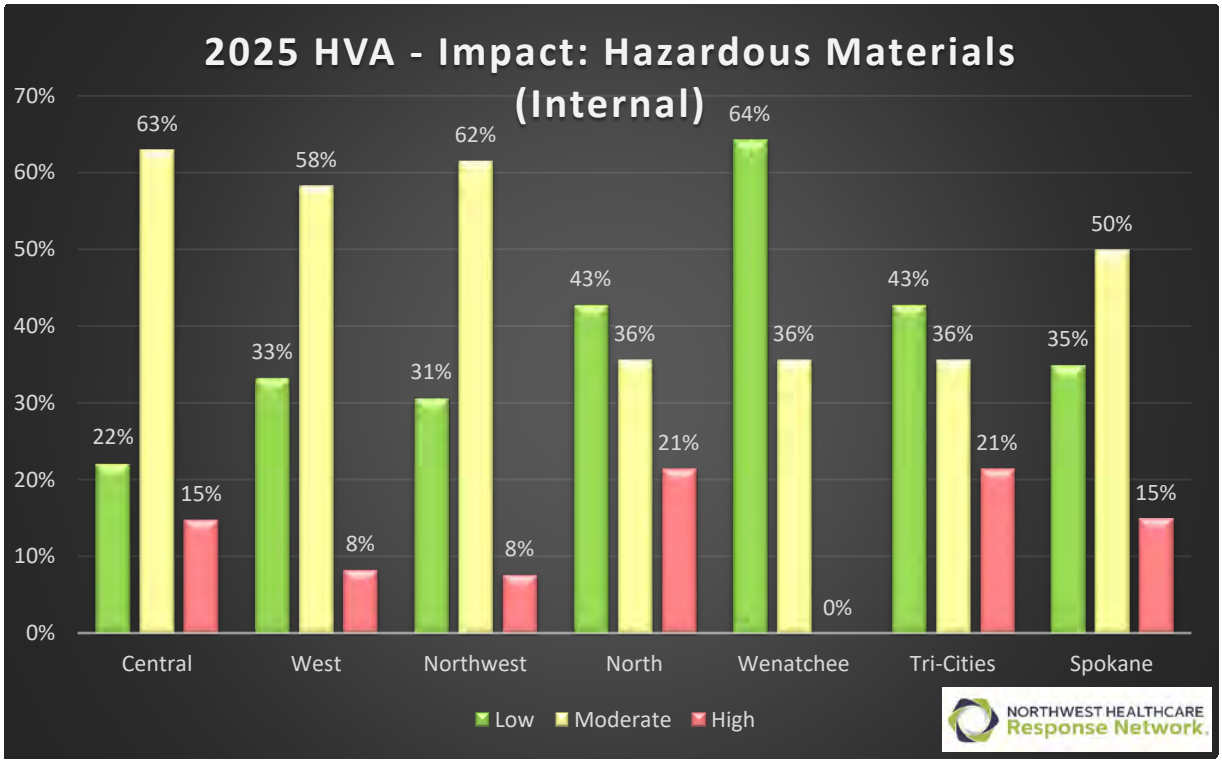

2025 HVA - Likelihood: Transportation Disruption / Failure
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
61%
32%
7%
50%
50%
0%
38%
46%
15%
93%
7%
0%
75%
25%
0%
93%
7%
0%
63%
32%
5%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

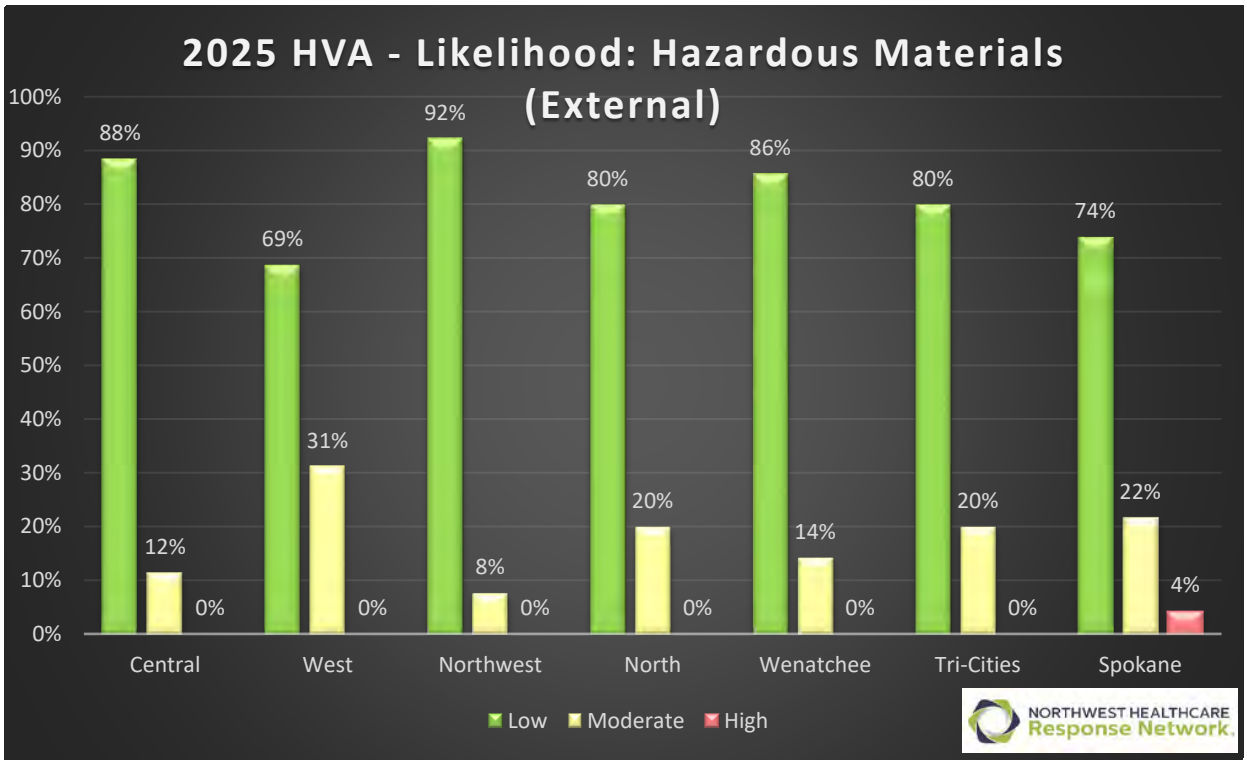

2025 HVA - Impact: Transportation Disruption / Failure
80%
70%
60%
50%
40%
30%
20%
10%
0%
12%
69%
19%
14%
36%
50%
15%
62%
23%
29%
57%
14%
69%
31%
0%
29%
57%
14%
20%
67%
13%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

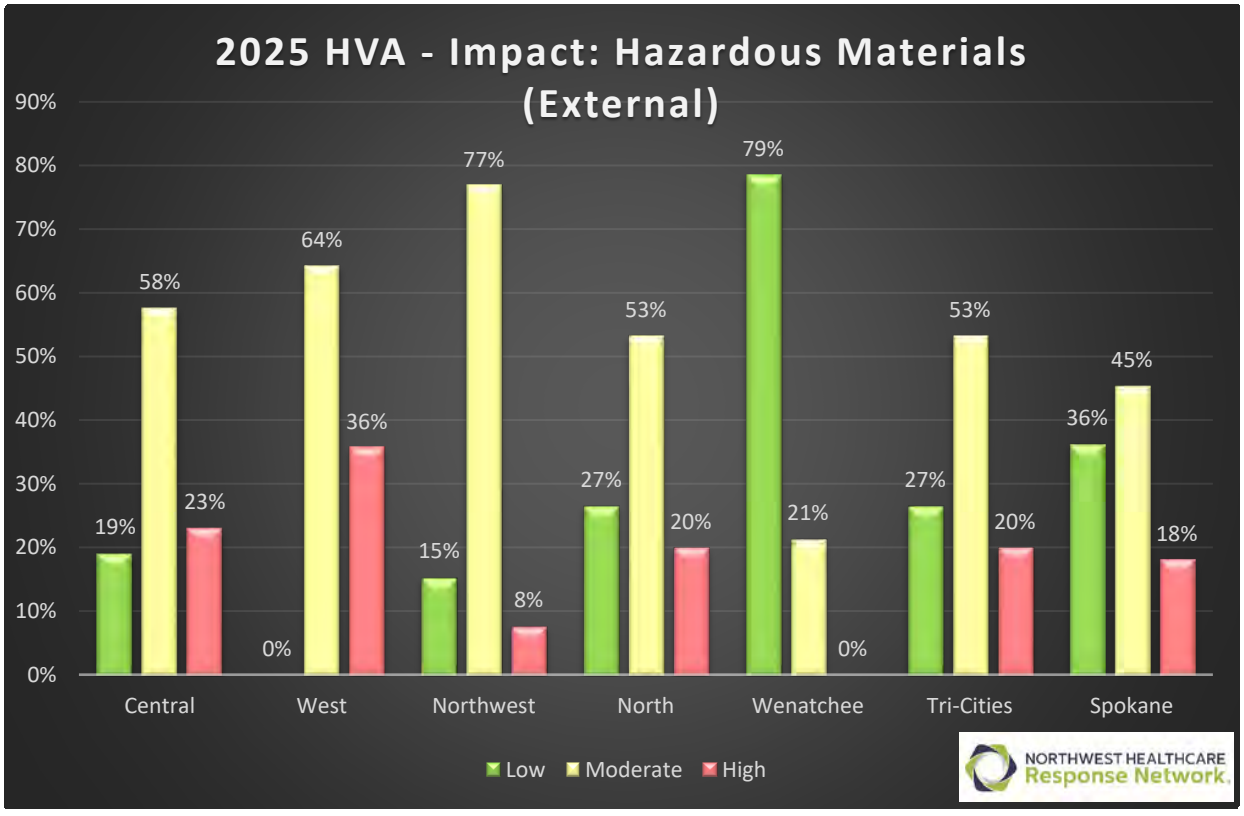

2025 HVA - Likelihood: Decontamination
120%
100%
80%
60%
40%
20%
0%
89%
11%
0%
88%
13%
0%
100%
0%
0%
86%
14%
0%
93%
7%
0%
86%
14%
0%
73%
23%
5%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

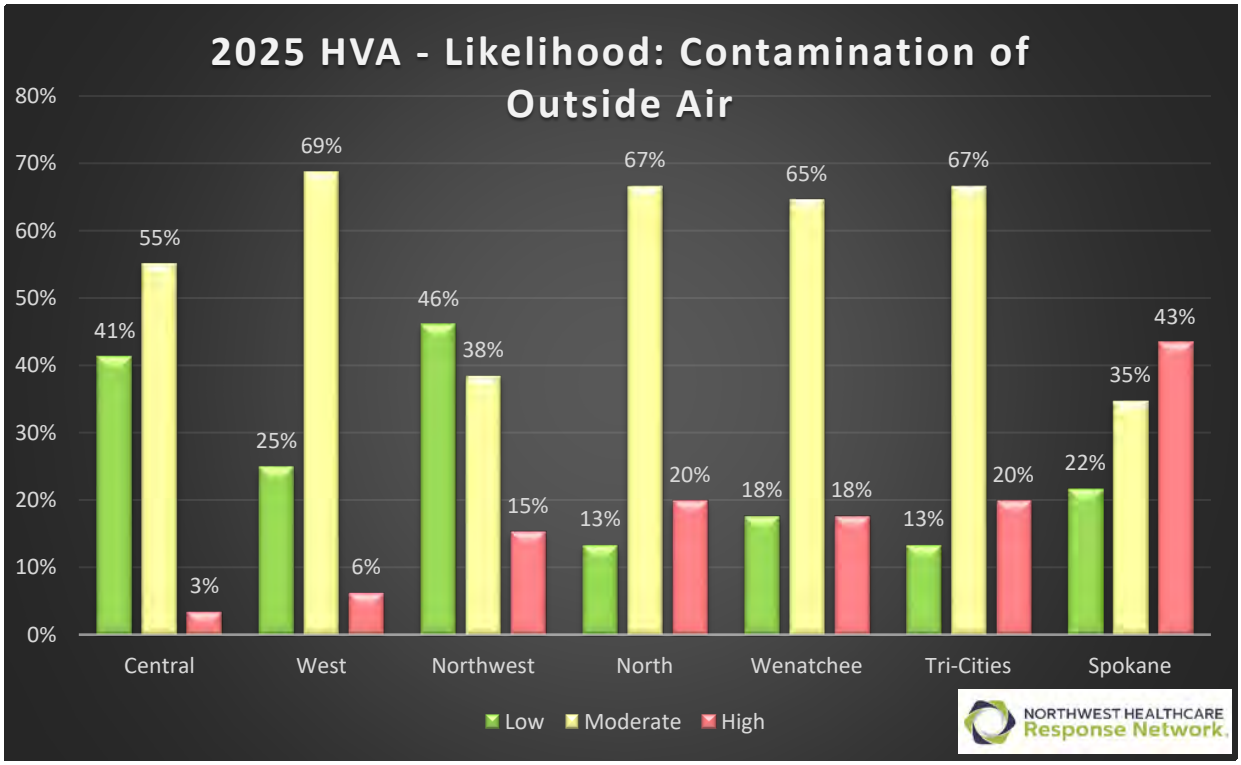

2025 HVA - Impact: Decontamination
80%
70%
60%
50%
40%
30%
20%
10%
0%
39%
50%
11%
43%
57%
0%
73%
18%
9%
46%
54%
0%
69%
31%
0%
46%
54%
0%
40%
45%
15%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

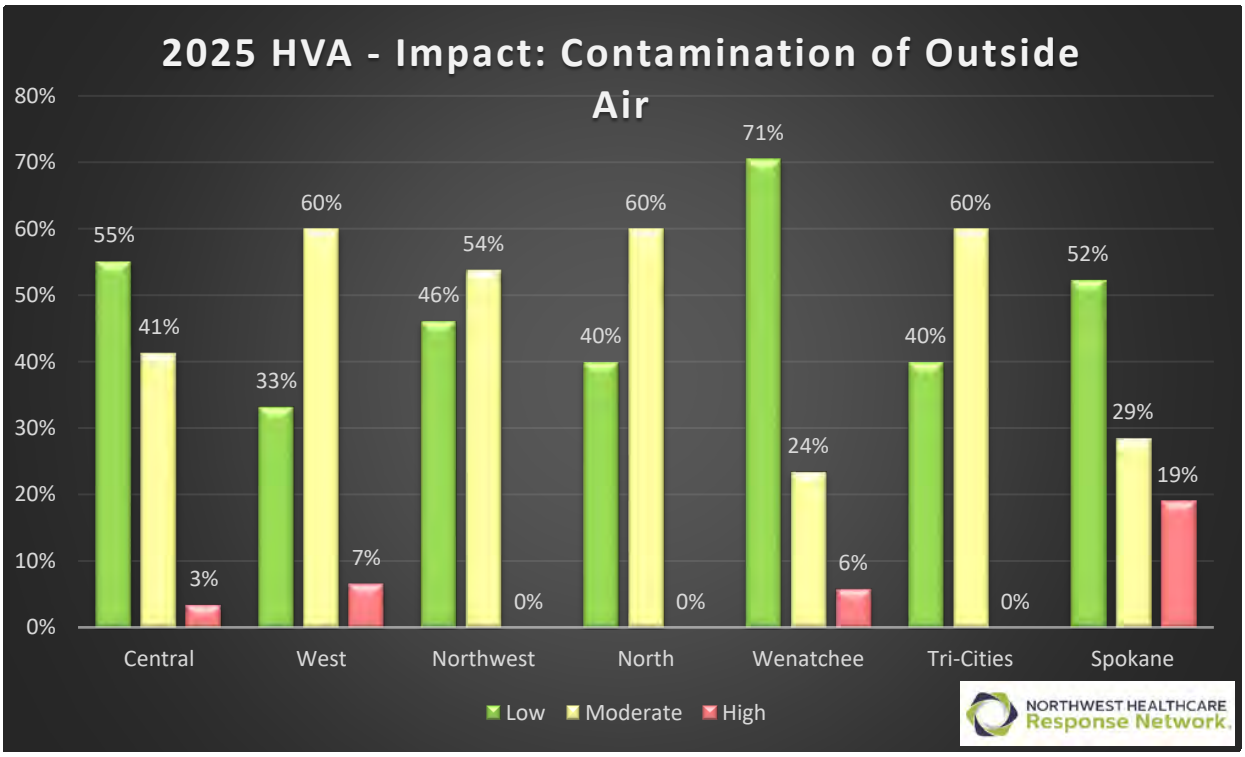

2025 HVA - Likelihood: Hazardous Materials (Internal)
120%
100%
80%
60%
40%
20%
0%
79%
18%
4%
87%
13%
0%
100%
0%
0%
93%
7%
0%
86%
7%
7%
93%
7%
0%
86%
14%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

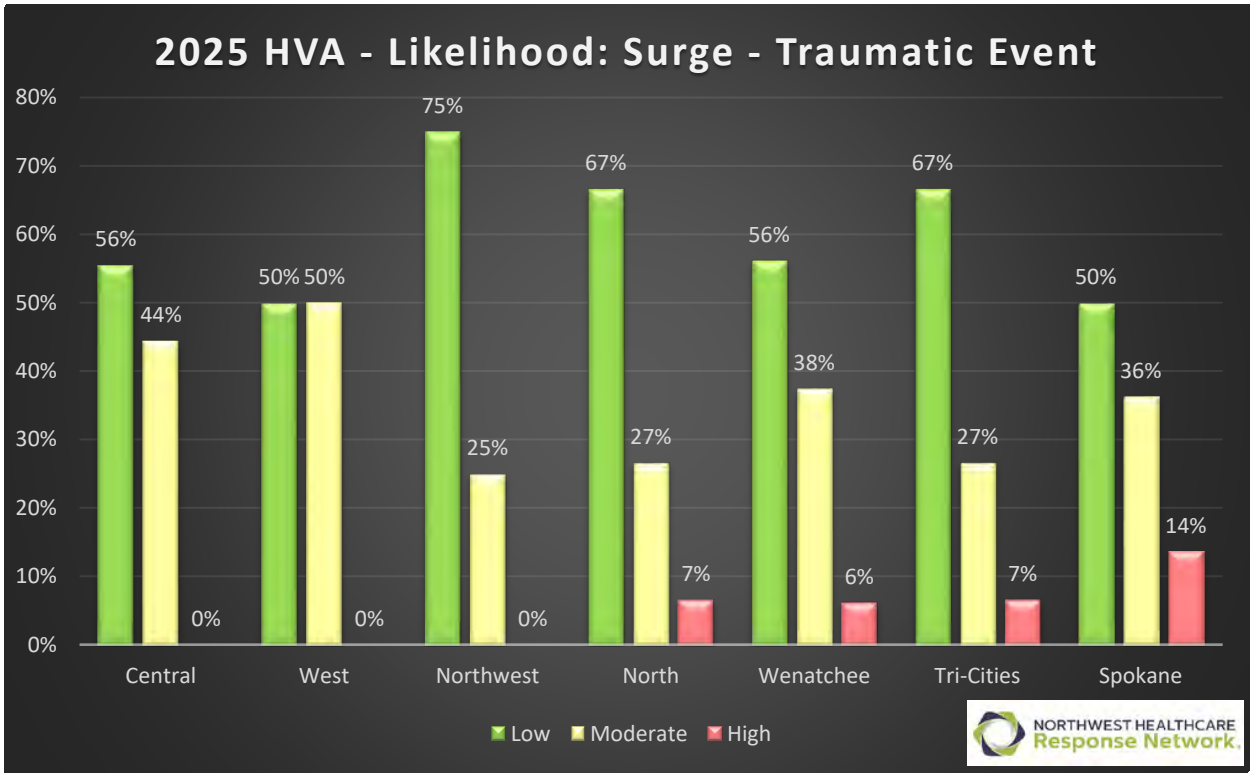

2025 HVA - Impact: Hazardous Materials (Internal)
70%
60%
50%
40%
30%
20%
10%
0%
22%
63%
15%
33%
58%
8%
31%
62%
8%
43%
36%
21%
64%
36%
0%
43%
36%
21%
35%
50%
15%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

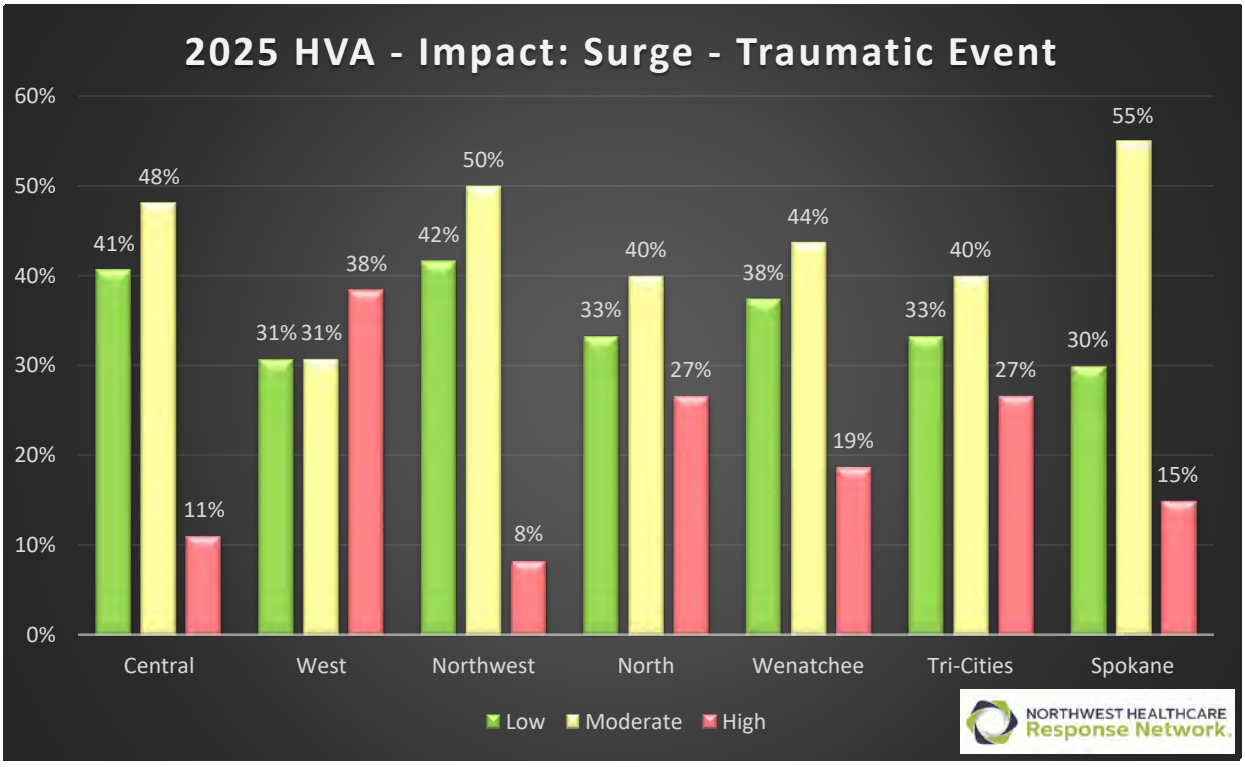

2025 HVA - Likelihood: Hazardous Materials (External)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
88%
12%
0%
69%
31%
0%
92%
8%
0%
80%
20%
0%
86%
14%
0%
80%
20%
0%
74%
22%
4%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

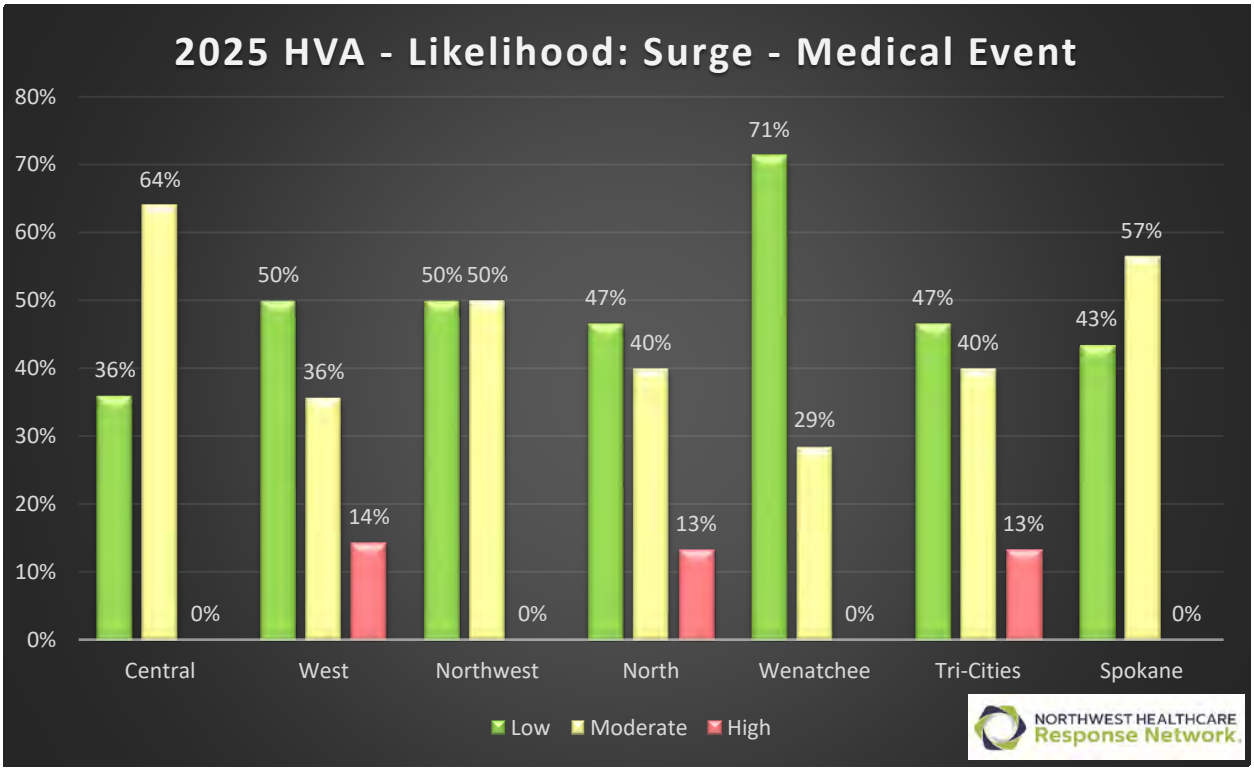

2025 HVA - Impact: Hazardous Materials (External)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
19%
58%
23%
0%
64%
36%
15%
77%
8%
27%
53%
20%
79%
21%
0%
27%
53%
20%
36%
45%
18%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

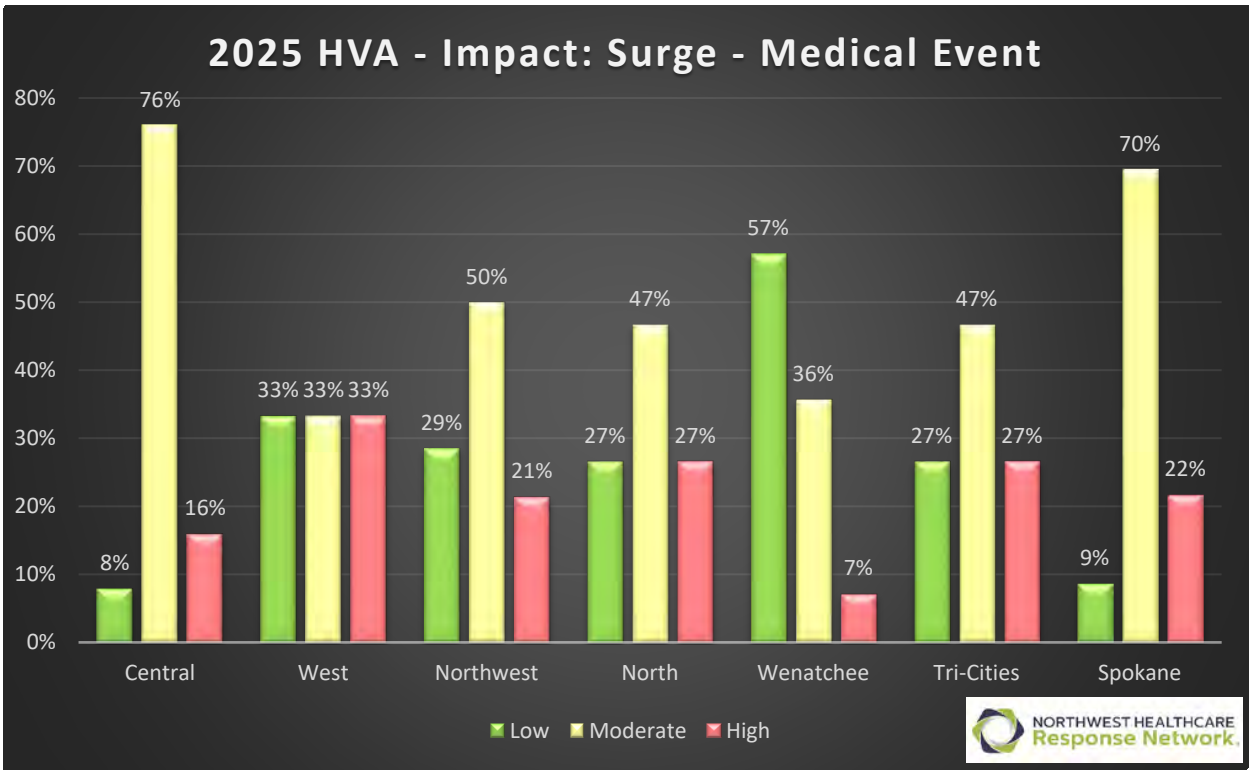

2025 HVA - Likelihood: Contamination of Outside Air
80%
70%
60%
50%
40%
30%
20%
10%
0%
41%
55%
3%
25%
69%
6%
46%
38%
15%
13%
67%
20%
18%
65%
18%
13%
67%
20%
22%
35%
43%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

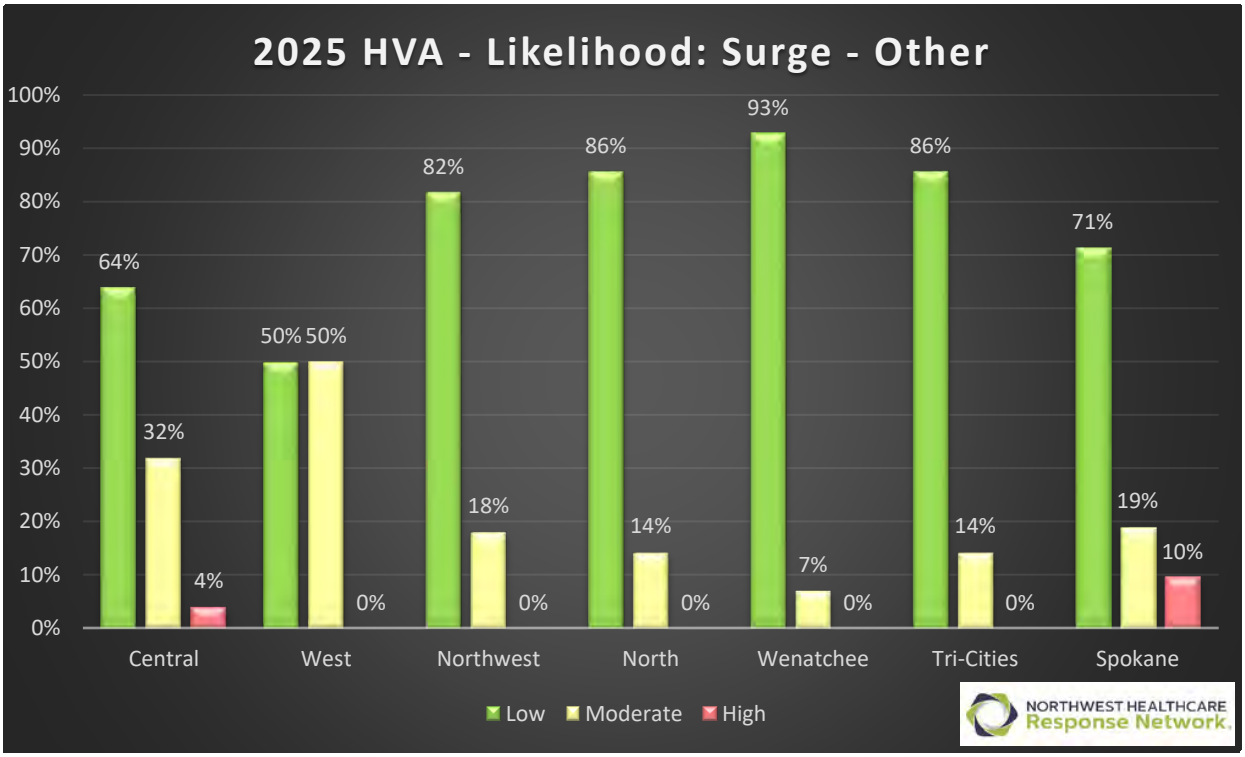

2025 HVA - Impact: Contamination of Outside Air
80%
70%
60%
50%
40%
30%
20%
10%
0%
55%
41%
3%
33%
60%
7%
46%
54%
0%
40%
60%
0%
71%
24%
6%
40%
60%
0%
52%
29%
19%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

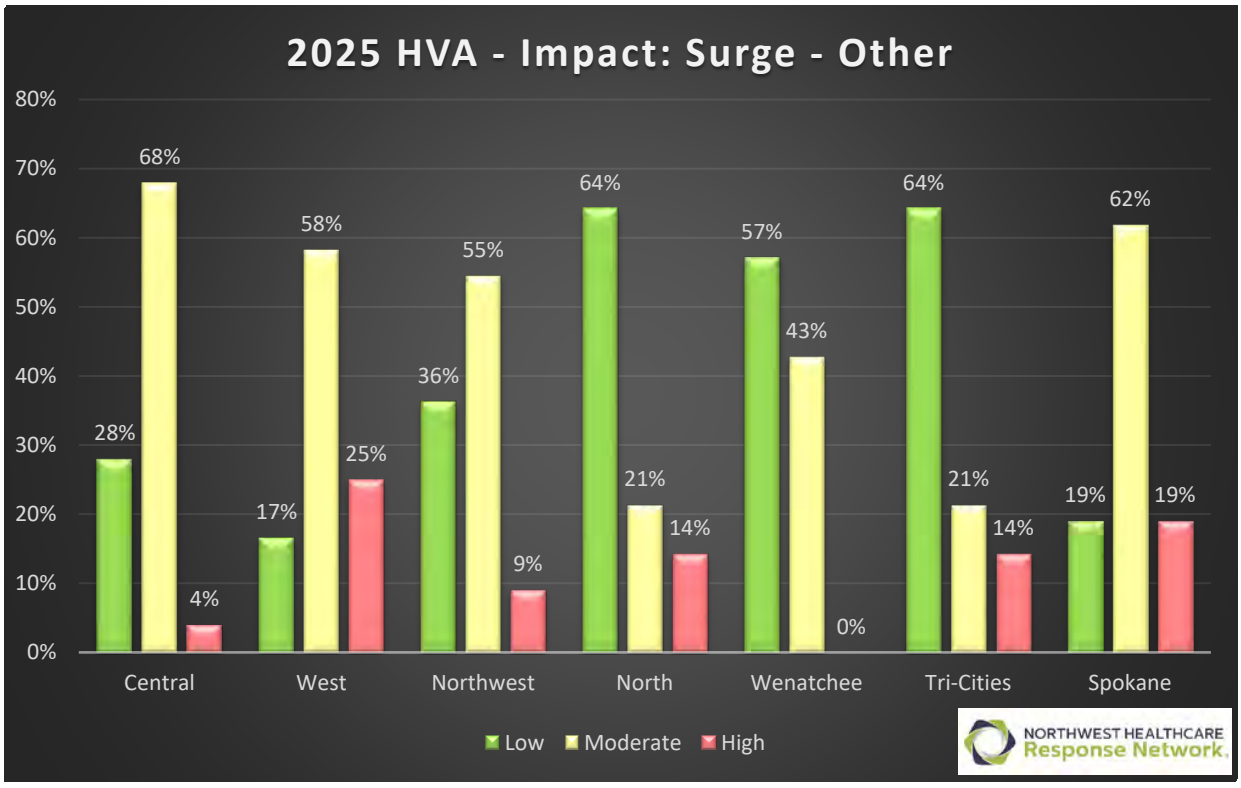

2025 HVA - Likelihood: Surge - Traumatic Event
80%
70%
60%
50%
40%
30%
20%
10%
0%
56%
44%
0%
50%
50%
0%
75%
25%
0%
67%
27%
7%
56%
38%
6%
67%
27%
7%
50%
36%
14%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

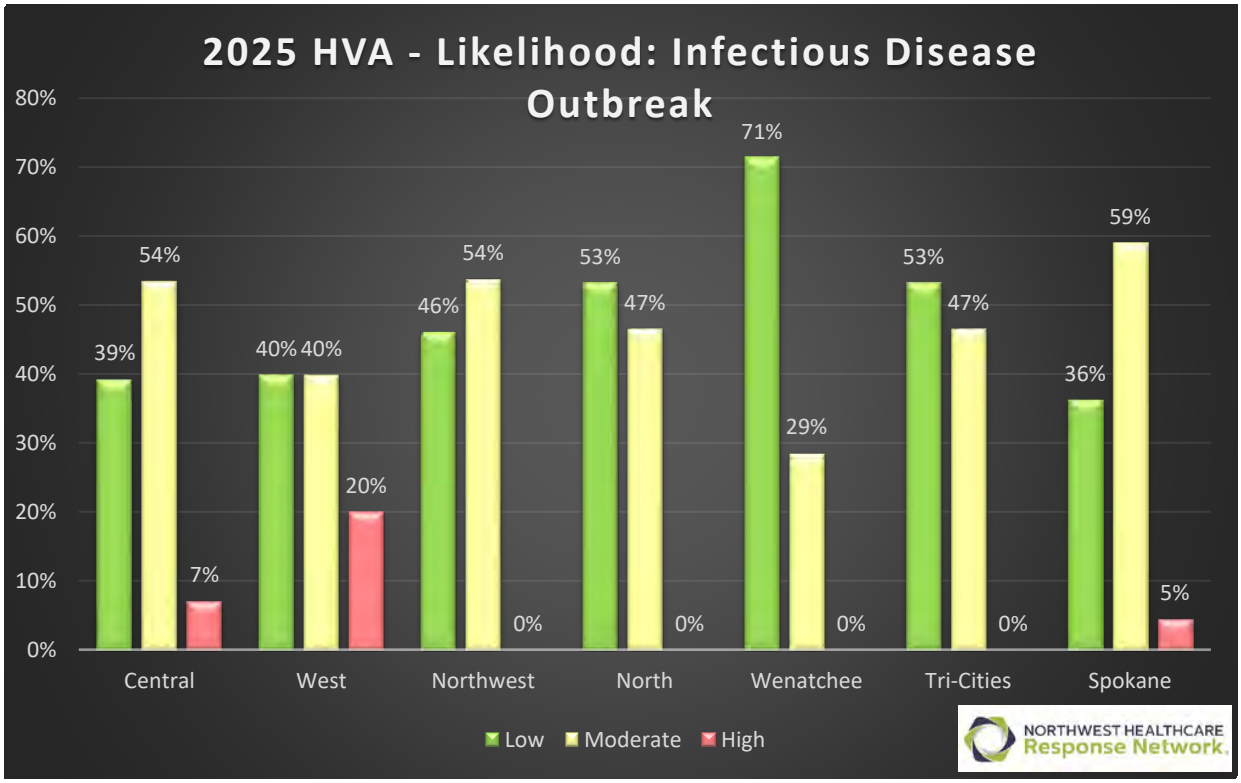

2025 HVA - Impact: Surge - Traumatic Event
60%
50%
40%
30%
20%
10%
0%
41%
48%
11%
31%
31%
38%
42%
50%
8%
33%
40%
27%
38%
44%
19%
33%
40%
27%
30%
55%
15%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

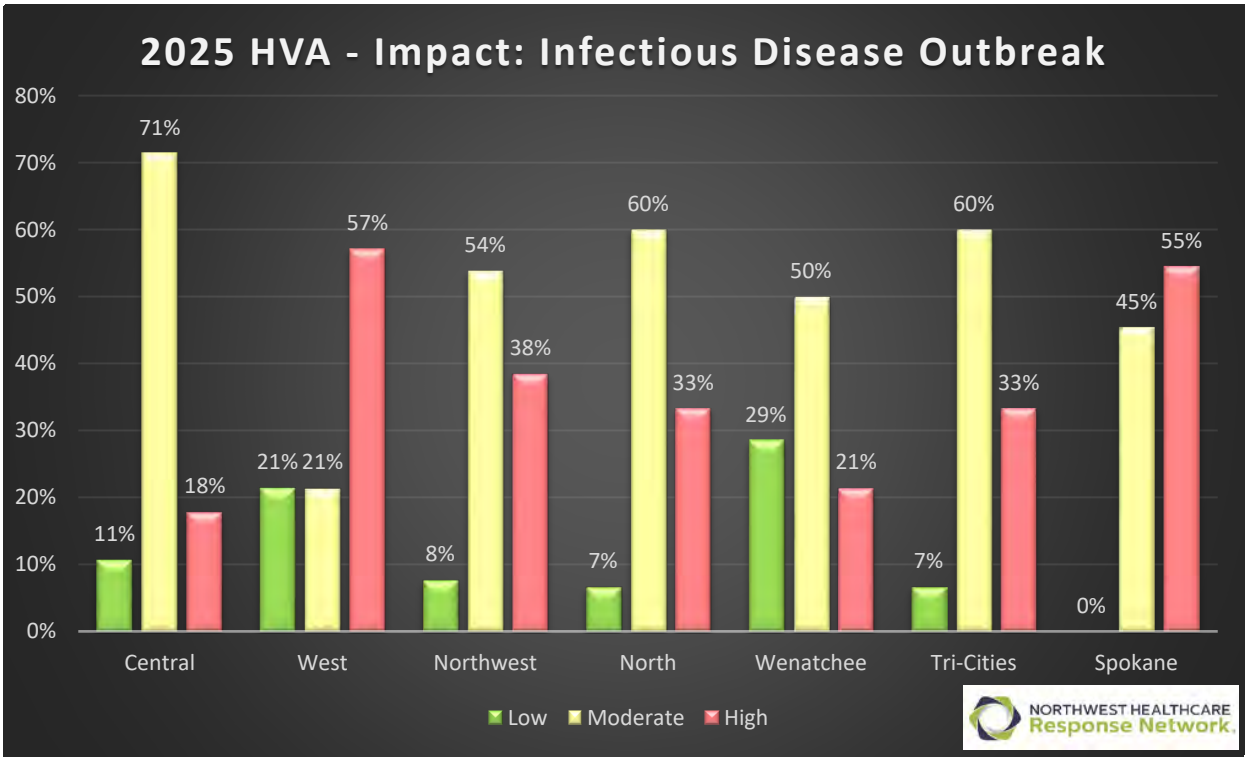

2025 HVA - Likelihood: Surge - Medical Event
80%
70%
60%
50%
40%
30%
20%
10%
0%
36%
64%
0%
50%
36%
14%
50%
50%
0%
47%
40%
13%
71%
29%
0%
47%
40%
13%
43%
57%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

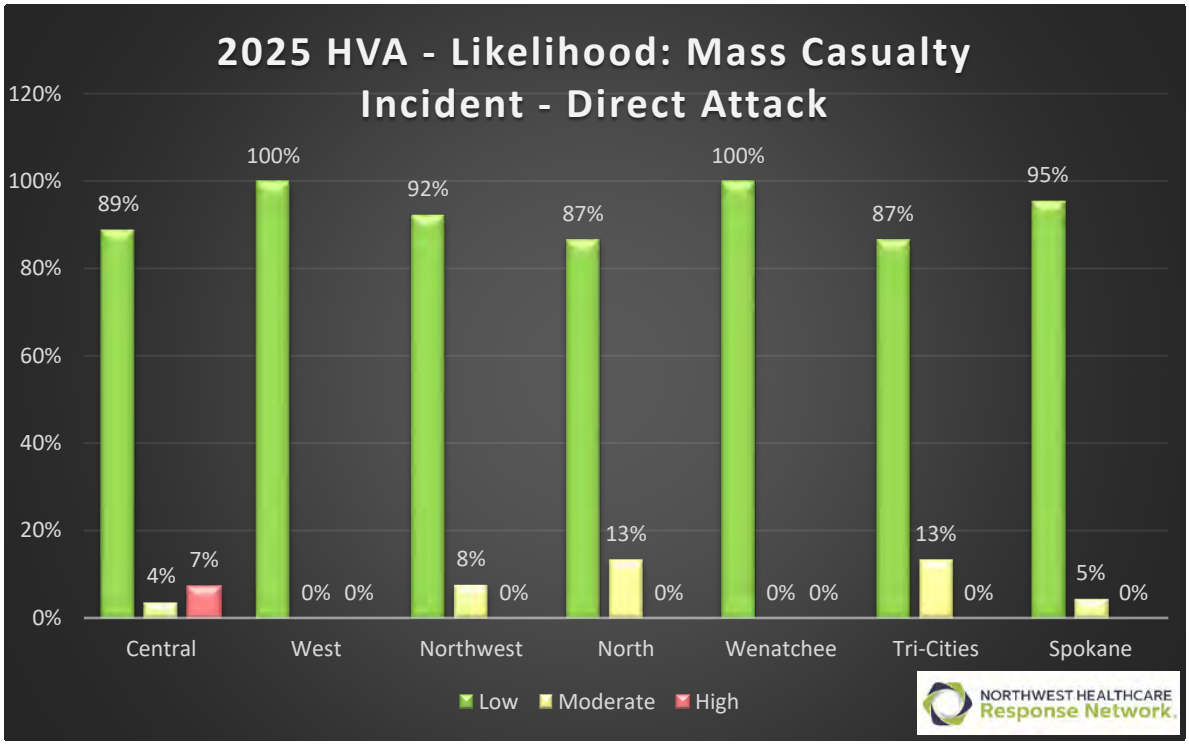

2025 HVA - Impact: Surge - Medical Event
80%
70%
60%
50%
40%
30%
20%
10%
0%
8%
76%
16%
33%
33%
33%
29%
50%
21%
27%
47%
27%
57%
36%
7%
27%
47%
27%
9%
70%
22%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

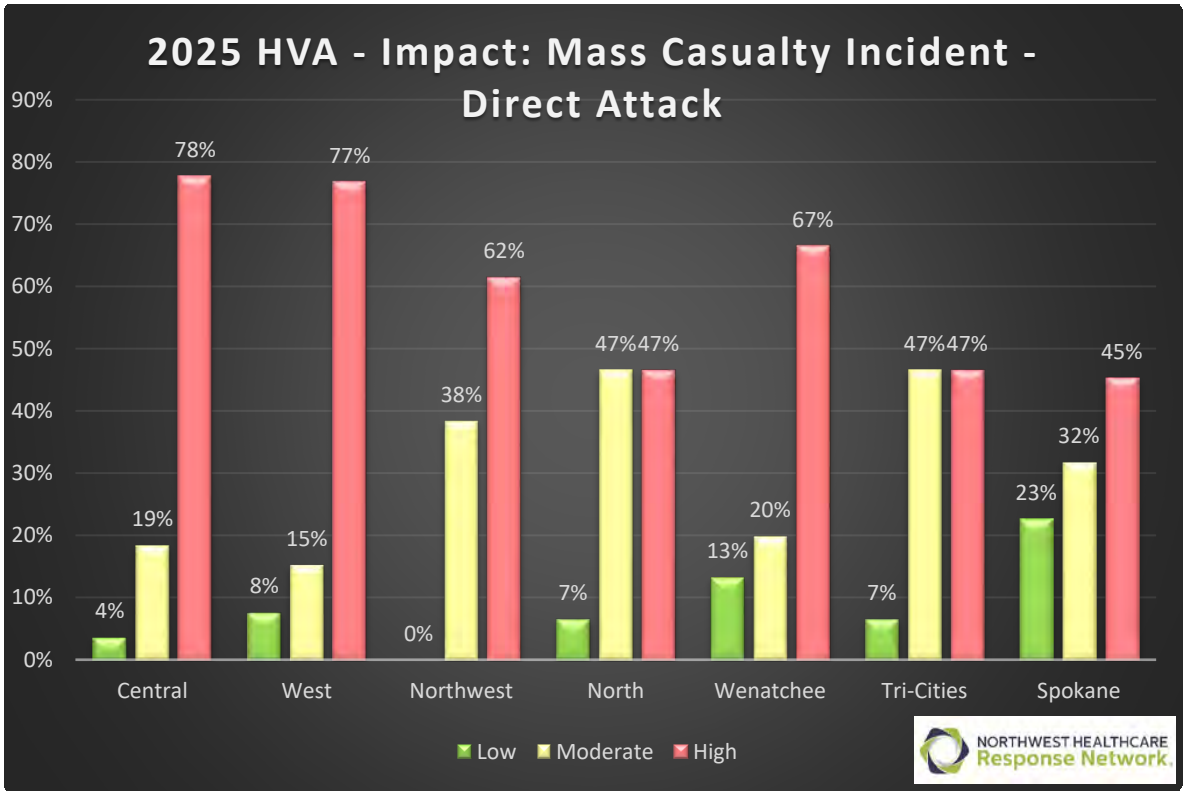

2025 HVA - Likelihood: Surge - Other
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
64%
32%
4%
50%
50%
0%
82%
18%
0%
86%
14%
0%
93%
7%
0%
86%
14%
0%
71%
19%
10%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

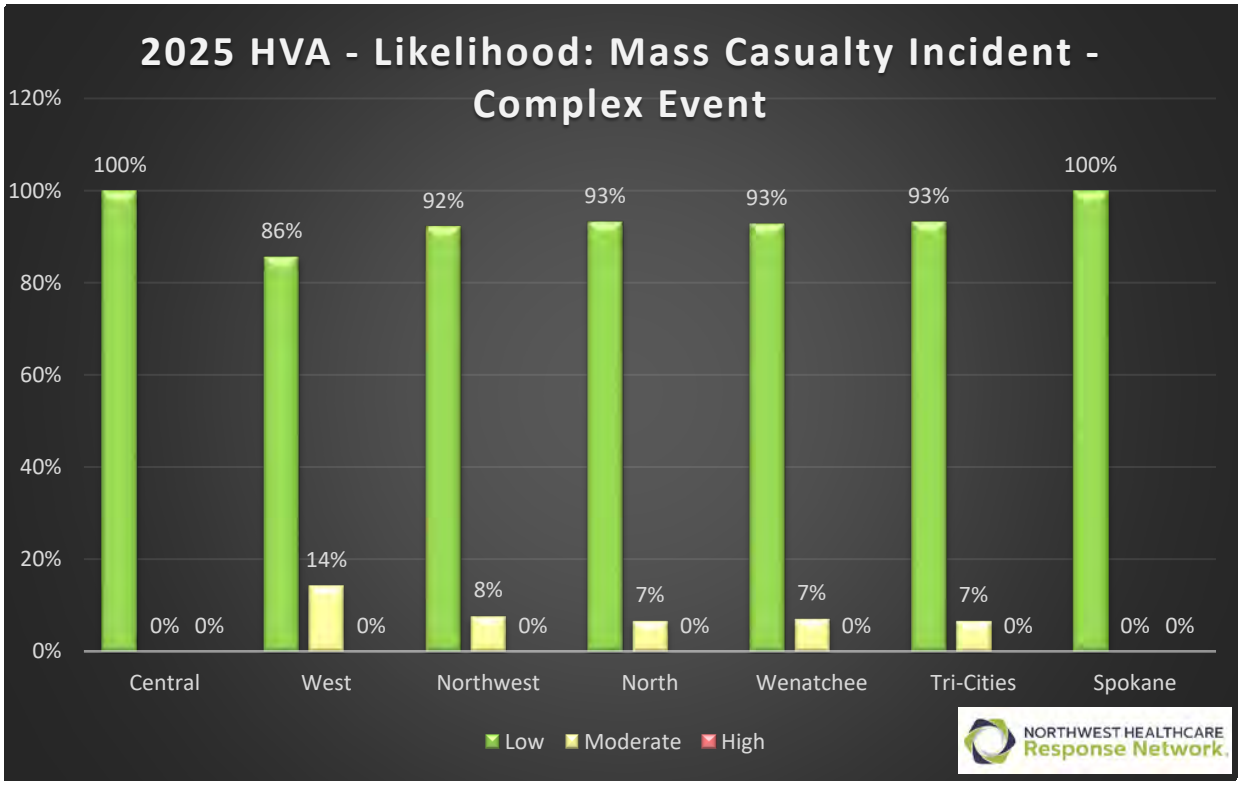

2025 HVA - Impact: Surge - Other
80%
70%
60%
50%
40%
30%
20%
10%
0%
28%
68%
4%
17%
58%
25%
36%
55%
9%
64%
21%
14%
57%
43%
0%
64%
21%
14%
19%
62%
19%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

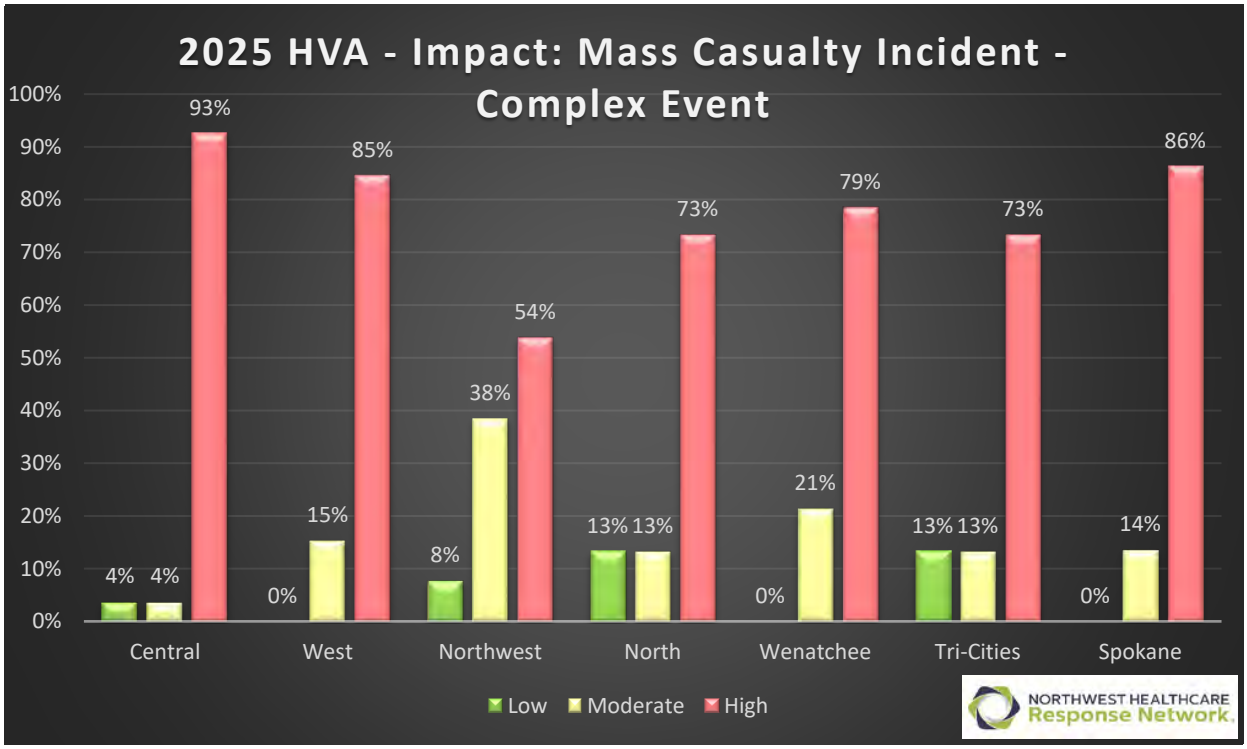

2025 HVA - Likelihood: Infectious Disease Outbreak
80%
70%
60%
50%
40%
30%
20%
10%
0%
39%
54%
7%
40%
40%
20%
46%
54%
0%
53%
47%
0%
71%
29%
0%
53%
47%
0%
36%
59%
5%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

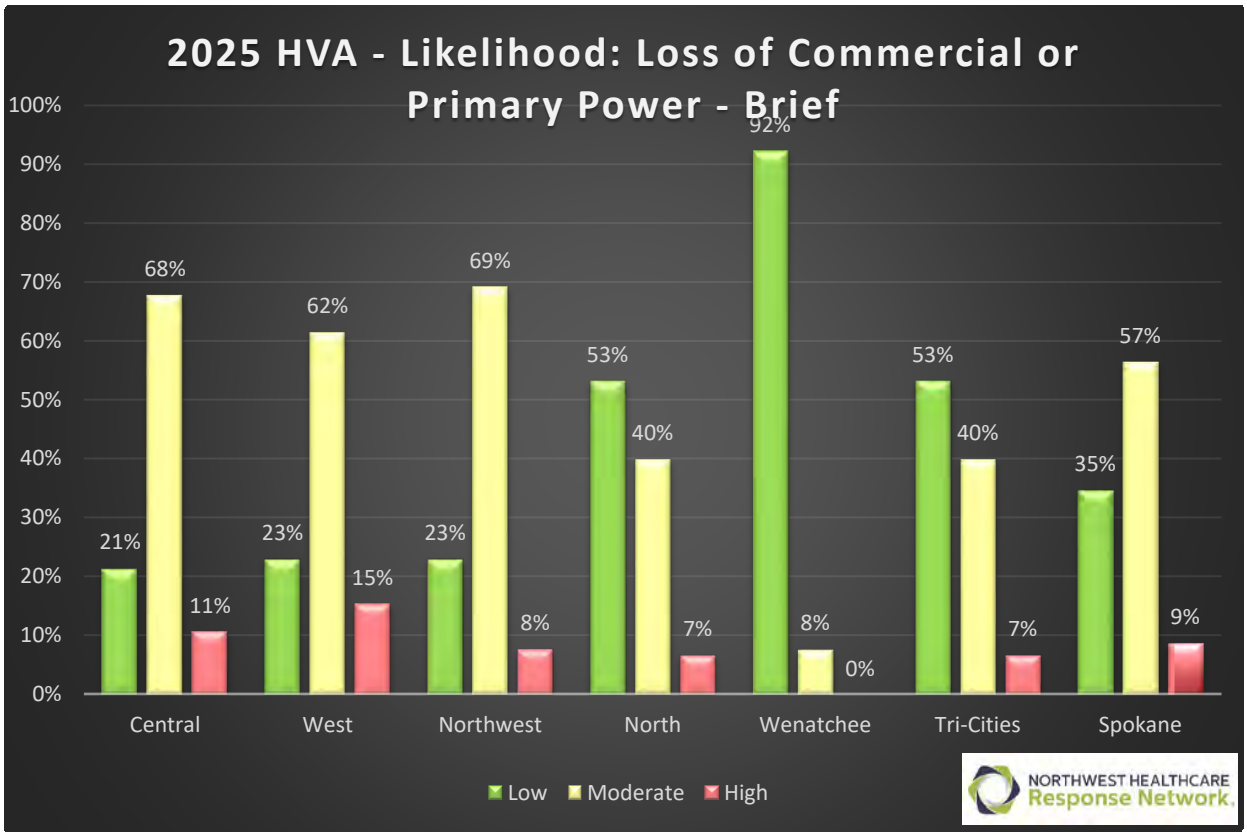

2025 HVA - Impact: Infectious Disease Outbreak
80%
70%
60%
50%
40%
30%
20%
10%
0%
11%
71%
18%
21%
21%
57%
8%
54%
38%
7%
60%
33%
29%
50%
21%
7%
60%
33%
0%
45%
55%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

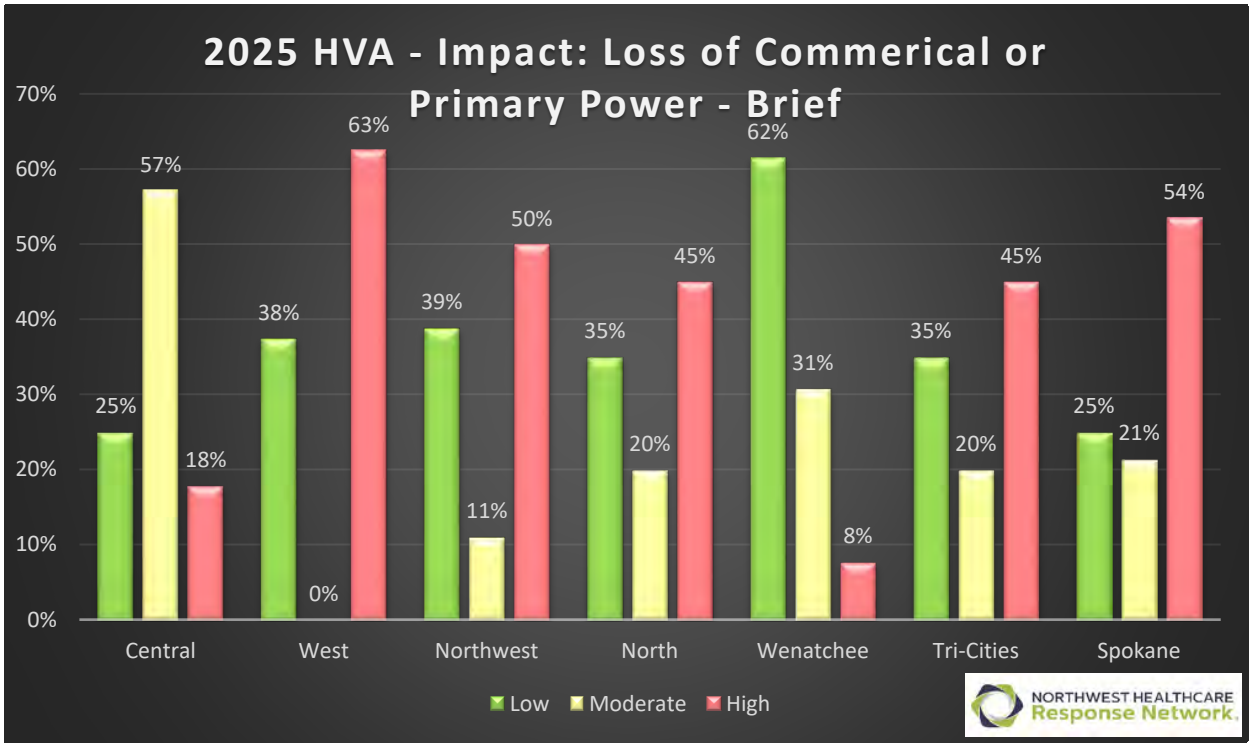

2025 HVA - Likelihood: Mass Casualty Incident - Direct Attack
120%
100%
80%
60%
40%
20%
0%
89%
4%
7%
100%
0%
0%
92%
8%
0%
87%
13%
0%
100%
0%
0%
87%
13%
0%
95%
5%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

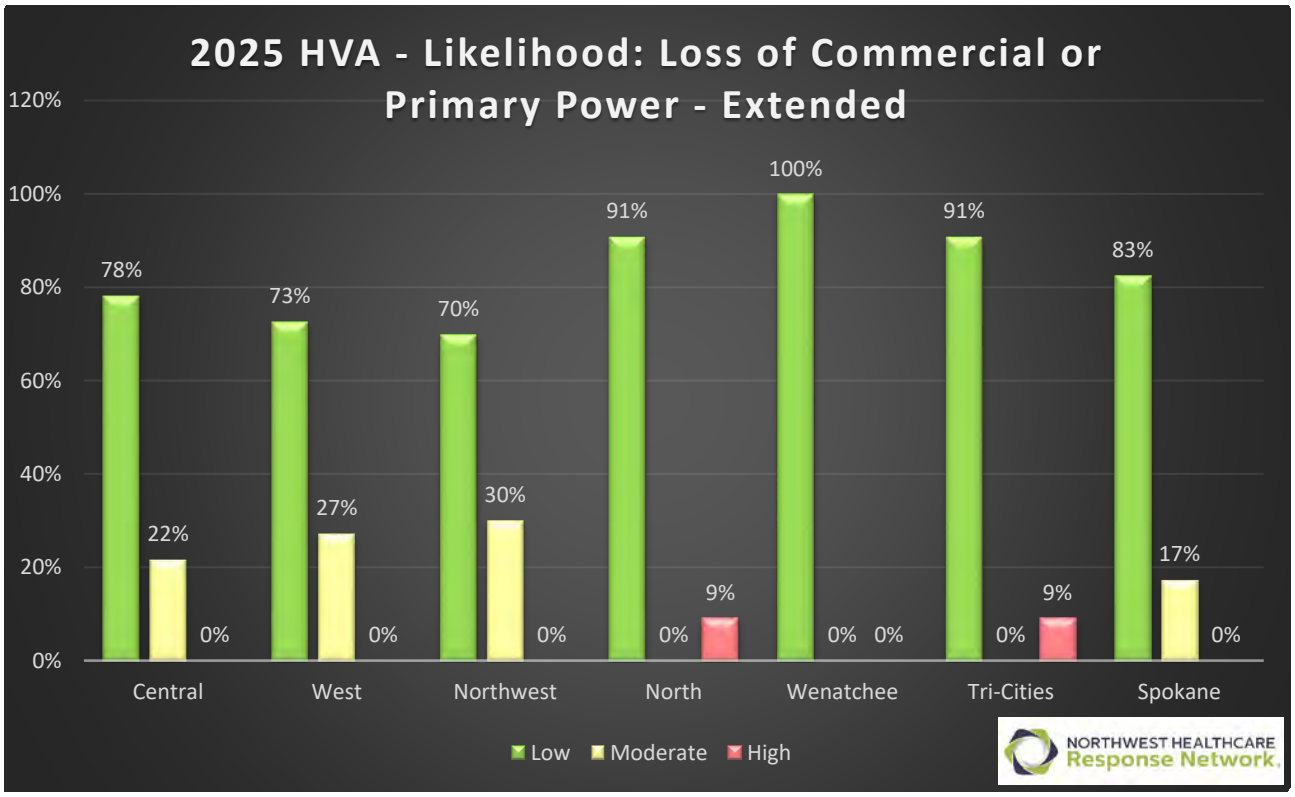

2025 HVA - Impact: Mass Casualty Incident - Direct Attack
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
4%
19%
78%
8%
15%
77%
0%
38%
62%
7%
47%
47%
13%
20%
67%
7%
47%
47%
23%
32%
45%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

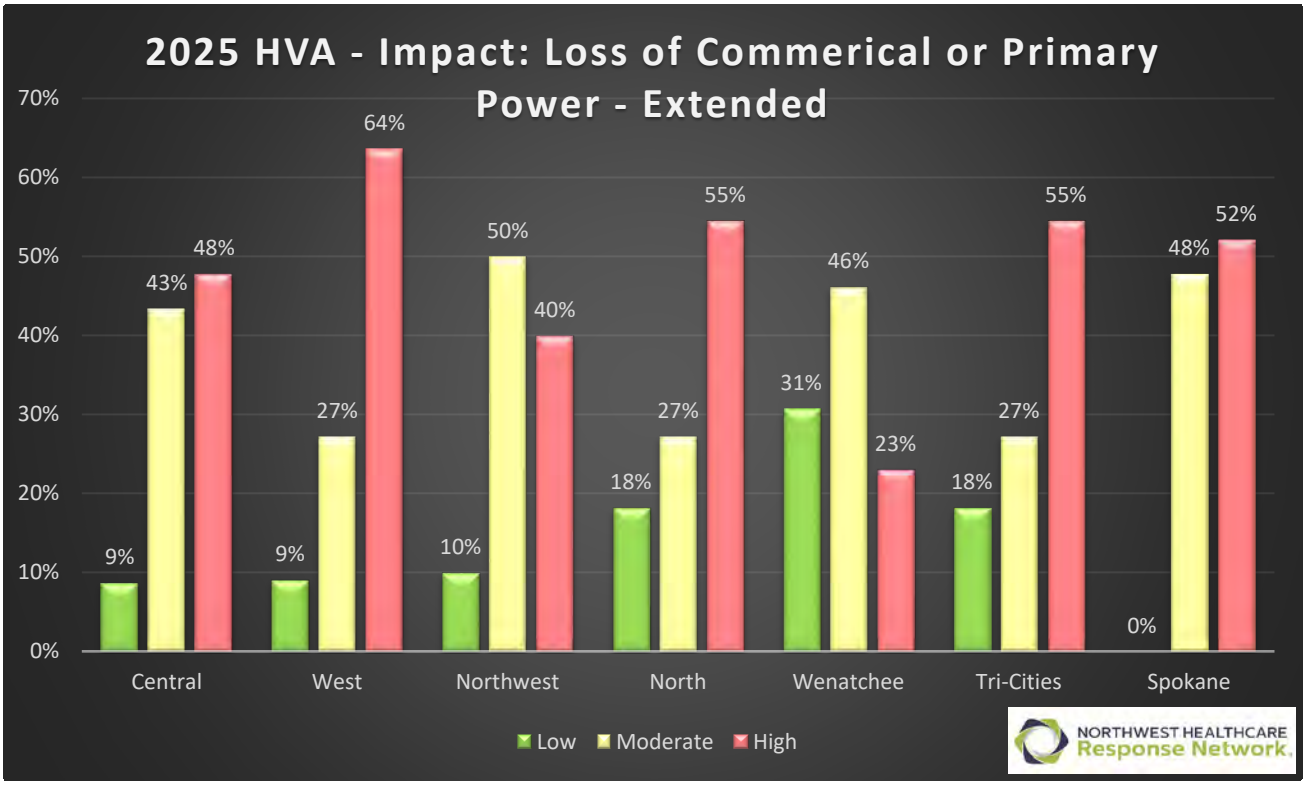

2025 HVA - Likelihood: Mass Casualty Incident - Complex Event
120%
100%
80%
60%
40%
20%
0%
100%
0%
0%
86%
14%
0%
92%
8%
0%
93%
7%
0%
93%
7%
0%
93%
7%
0%
100%
0%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

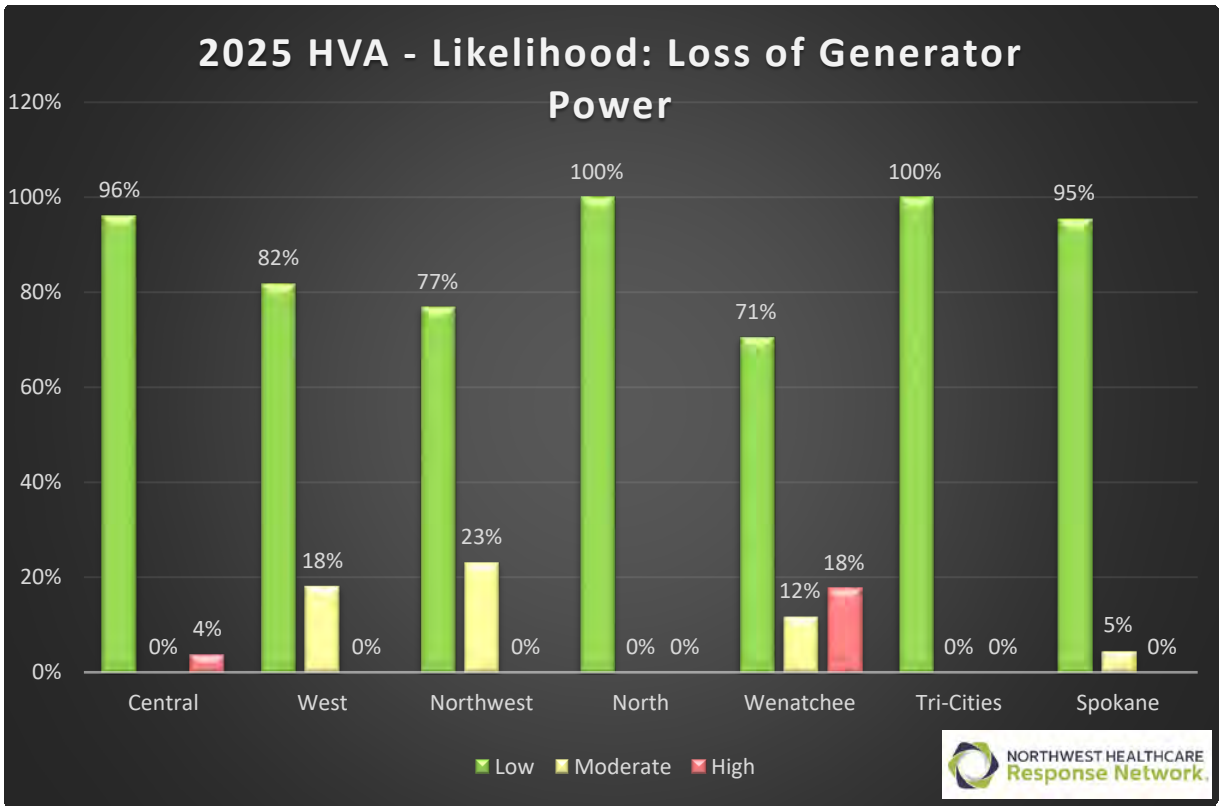

2025 HVA - Impact: Mass Casualty Incident - Complex Event
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
4%
4%
93%
0%
15%
85%
8%
38%
54%
13%
13%
73%
0%
21%
79%
13%
13%
73%
0%
14%
86%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

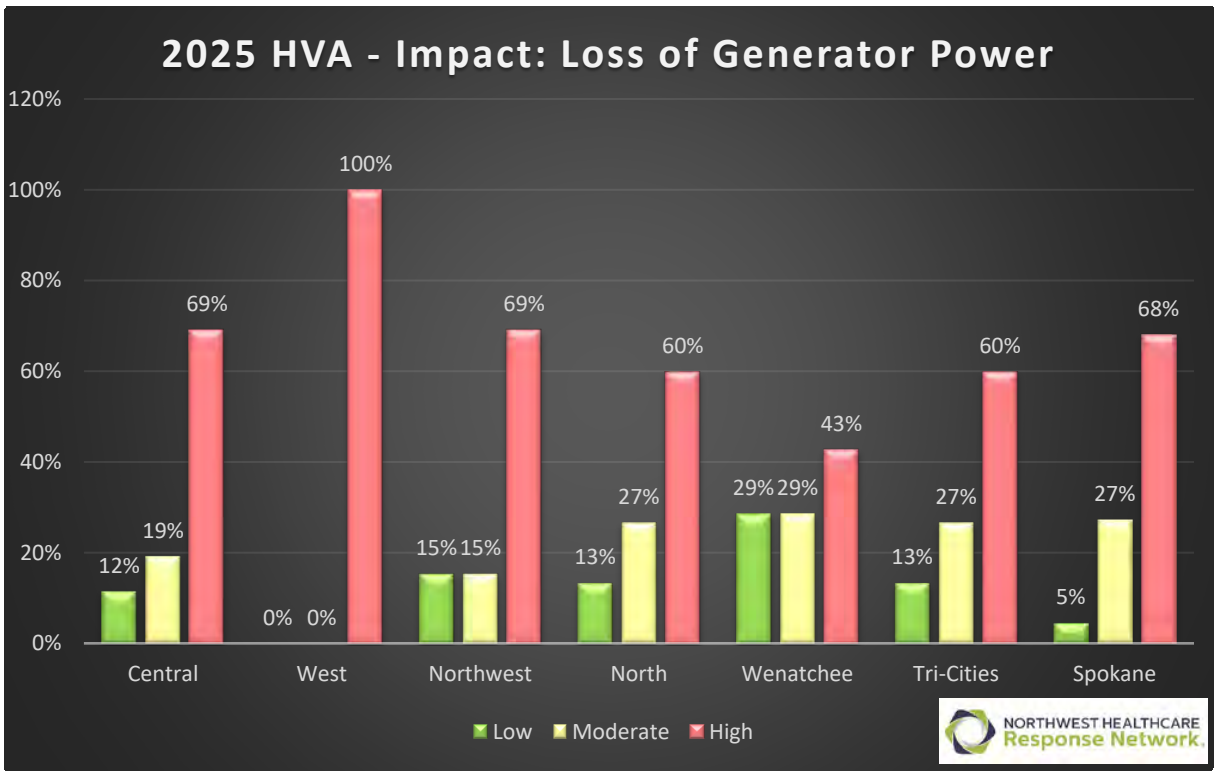

2025 HVA - Likelihood: Loss of Commercial or Primary Power - Brief
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
21%
68%
11%
23%
62%
15%
23%
69%
8%
53%
40%
7%
92%
8%
0%
53%
40%
7%
35%
57%
9%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

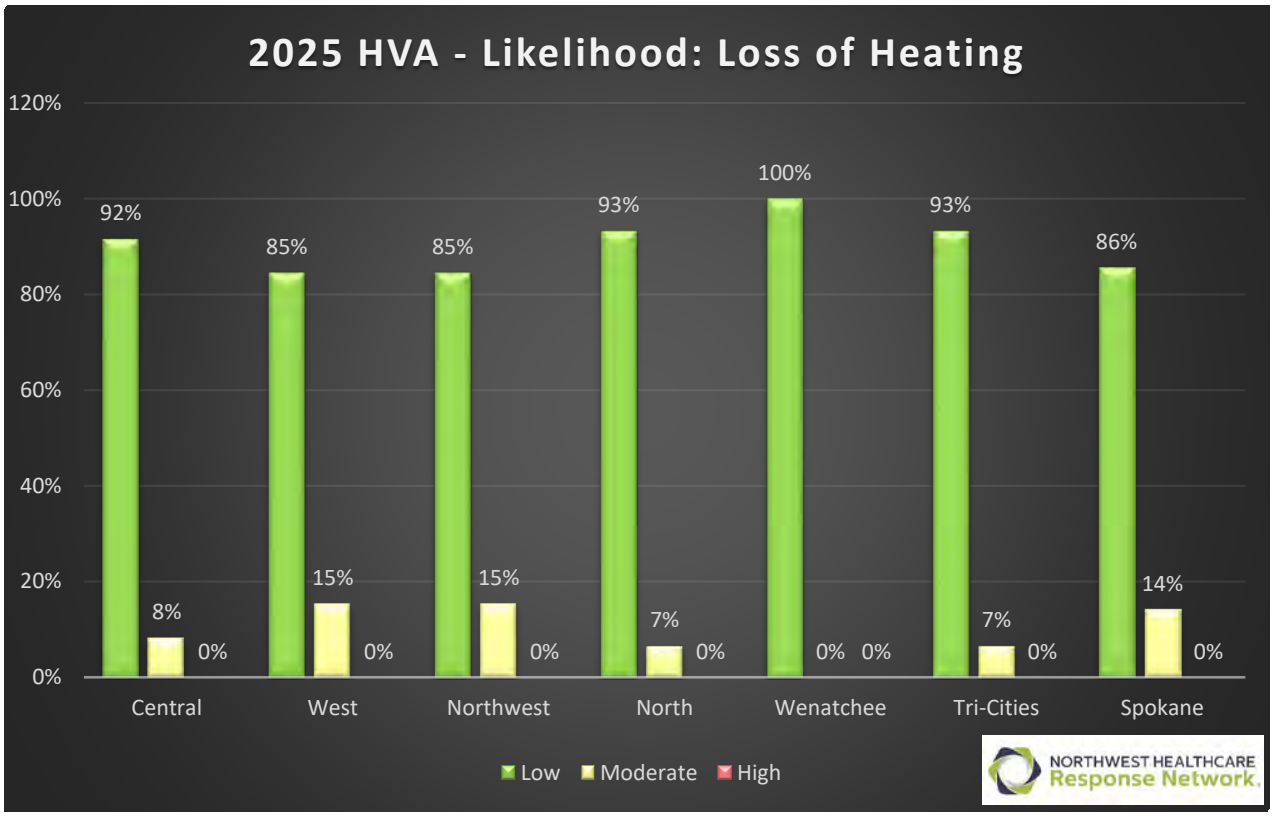

2025 HVA - Impact: Loss of Commerical or Primary Power - Brief
70%
60%
50%
40%
30%
20%
10%
0%
25%
57%
18%
38%
0%
63%
39%
11%
50%
35%
20%
45%
62%
31%
8%
35%
20%
45%
25%
21%
54%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

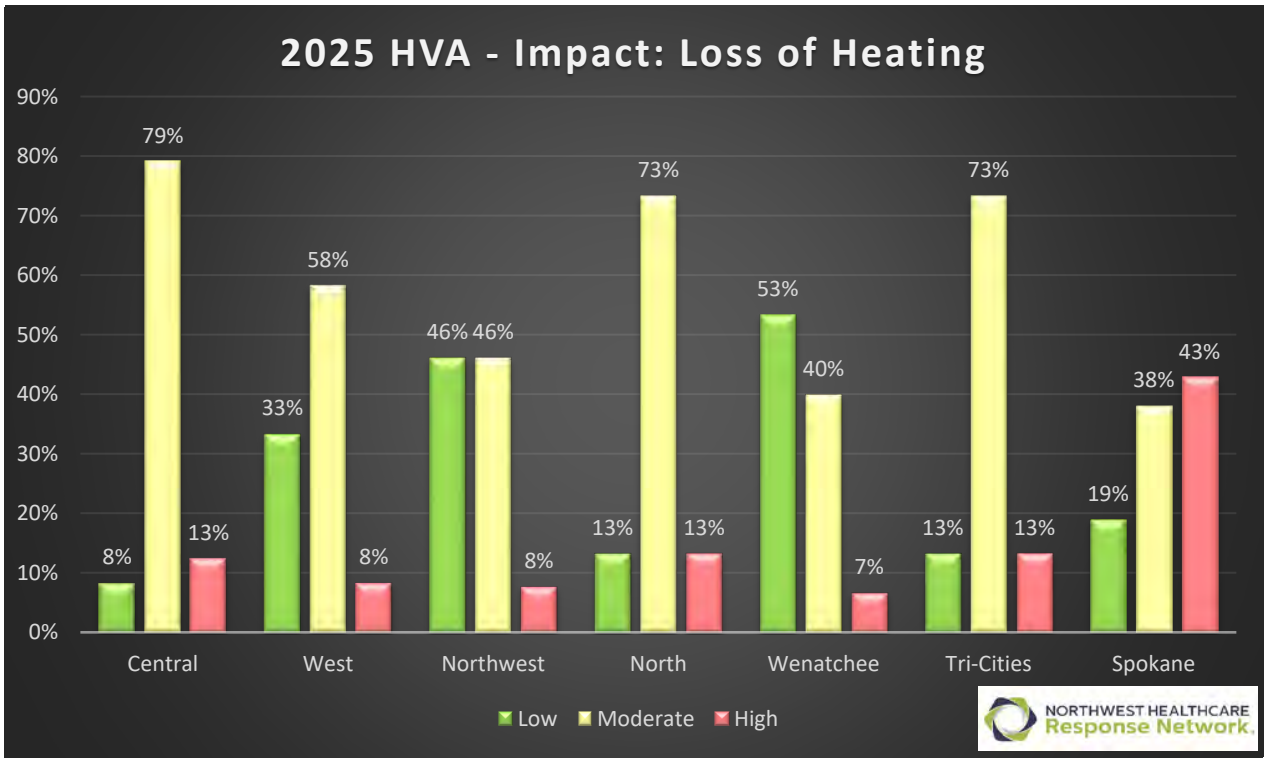

2025 HVA - Likelihood: Loss of Commercial or Primary Power - Extended
120%
100%
80%
60%
40%
20%
0%
78%
22%
0%
73%
27%
0%
70%
30%
0%
91%
0%
9%
100%
0%
0%
91%
0%
9%
83%
17%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

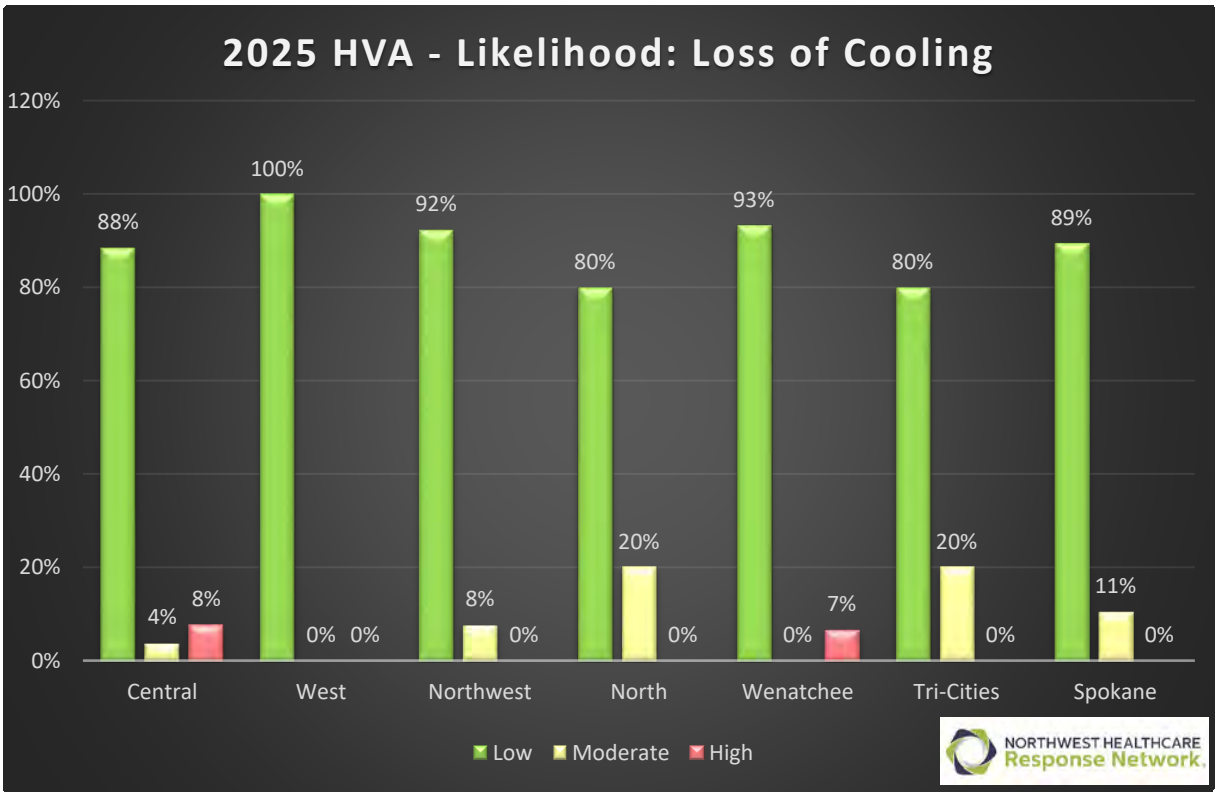

2025 HVA - Impact: Loss of Commerical or Primary Power - Extended
70%
60%
50%
40%
30%
20%
10%
0%
9%
43%
48%
9%
27%
64%
10%
50%
40%
18%
27%
55%
31%
46%
23%
18%
27%
55%
0%
48%
52%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

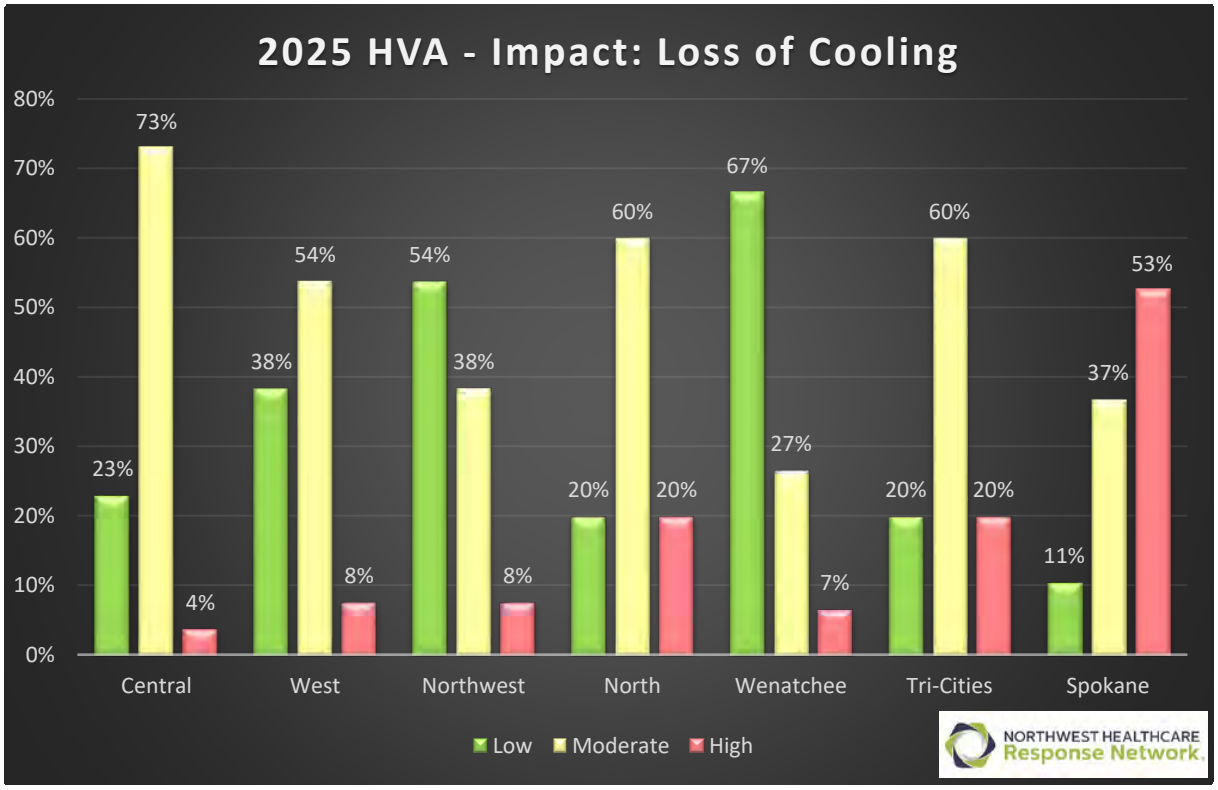

2025 HVA - Likelihood: Loss of Generator Power
120%
100%
80%
60%
40%
20%
0%
96%
0%
4%
82%
18%
0%
77%
23%
0%
100%
0%
0%
71%
12%
18%
100%
0%
0%
95%
5%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

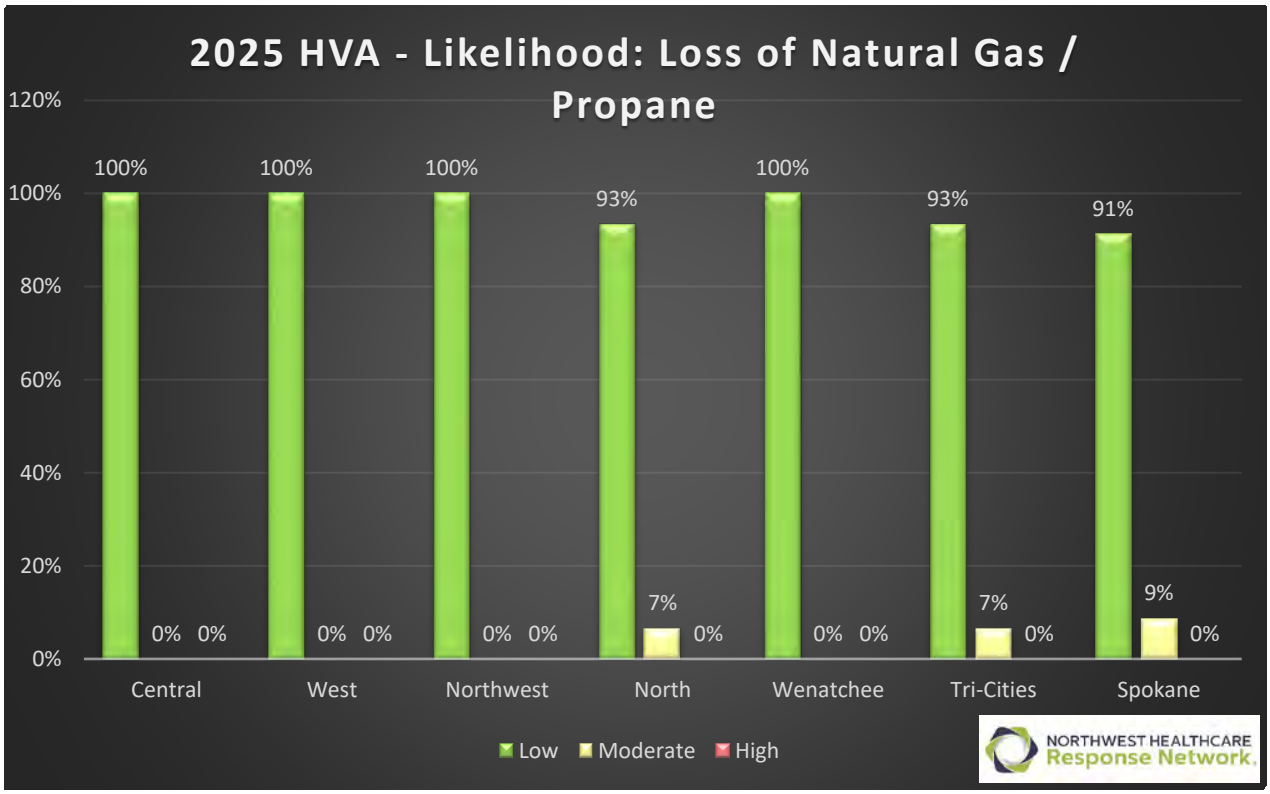

2025 HVA - Impact: Loss of Generator Power
120%
100%
80%
60%
40%
20%
0%
12%
19%
69%
0%
0%
100%
15%
15%
69%
13%
27%
60%
29%
29%
43%
13%
27%
60%
5%
27%
68%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

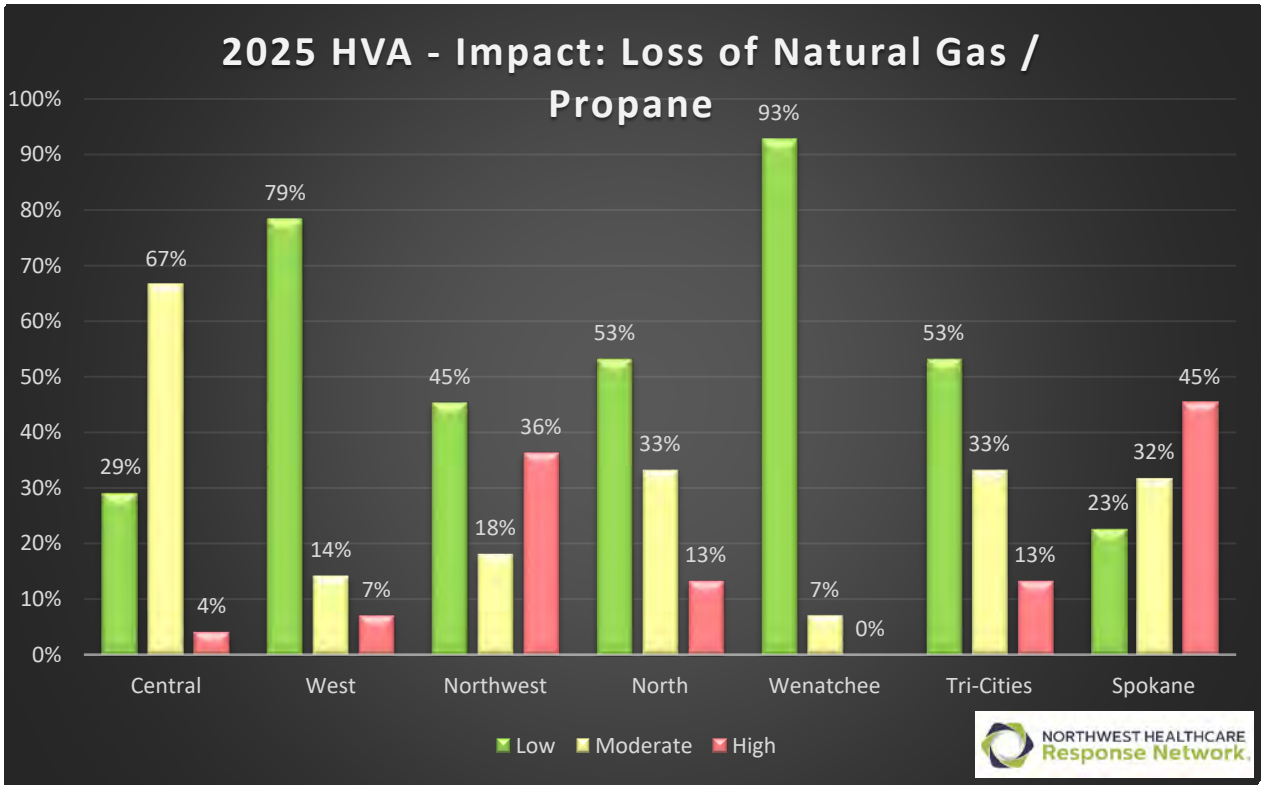

2025 HVA - Likelihood: Loss of Heating
120%
100%
80%
60%
40%
20%
0%
92%
8%
0%
85%
15%
0%
85%
15%
0%
93%
7%
0%
100%
0%
0%
93%
7%
0%
86%
14%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

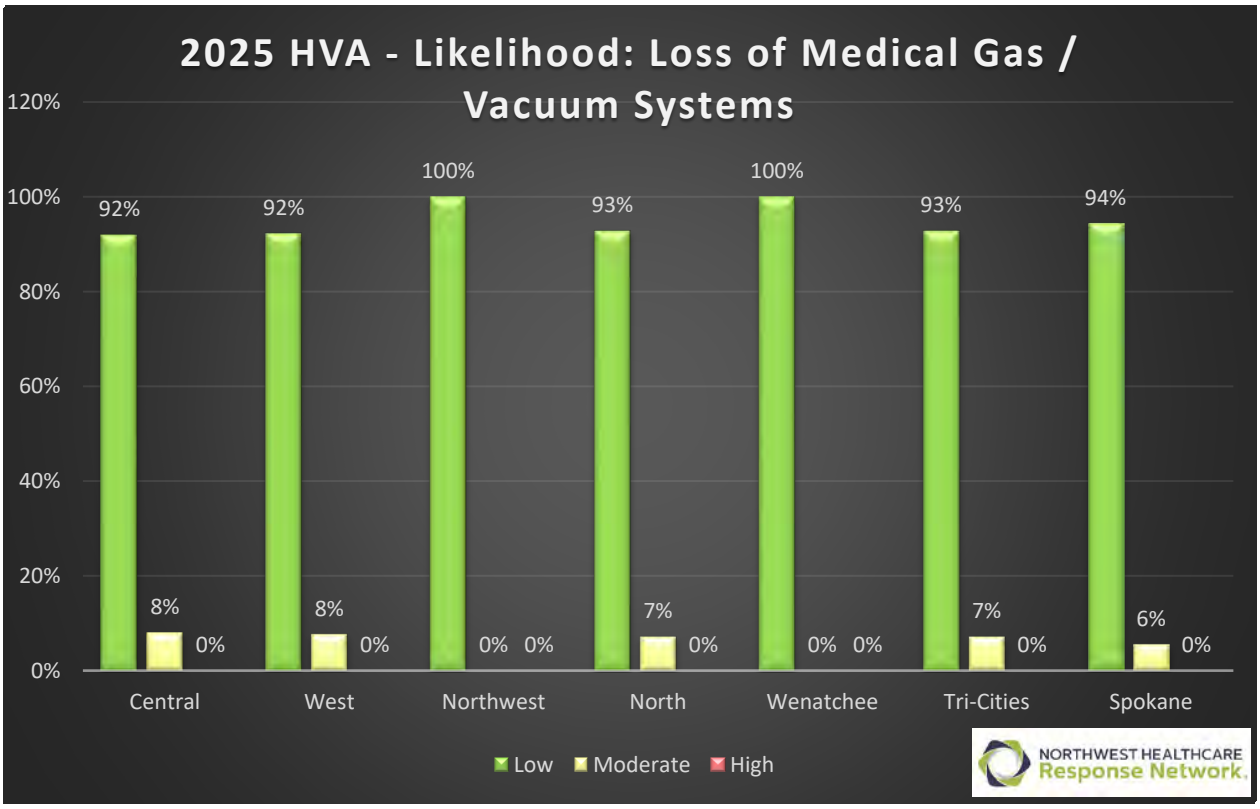

2025 HVA - Impact: Loss of Heating
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
8%
79%
13%
33%
58%
8%
46%
46%
8%
13%
73%
13%
53%
40%
7%
13%
73%
13%
19%
38%
43%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

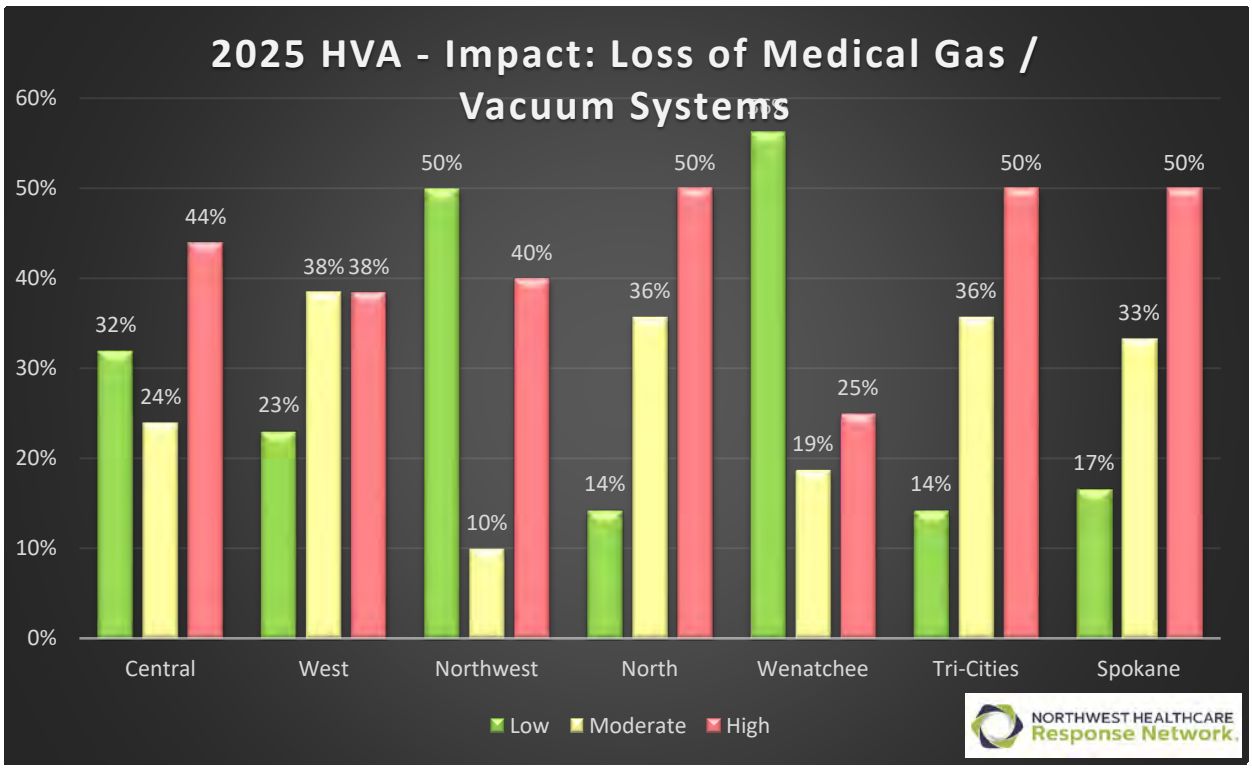

2025 HVA - Likelihood: Loss of Cooling
120%
100%
80%
60%
40%
20%
0%
88%
4%
8%
100%
0%
0%
92%
8%
0%
80%
20%
0%
93%
0%
7%
80%
20%
0%
89%
11%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

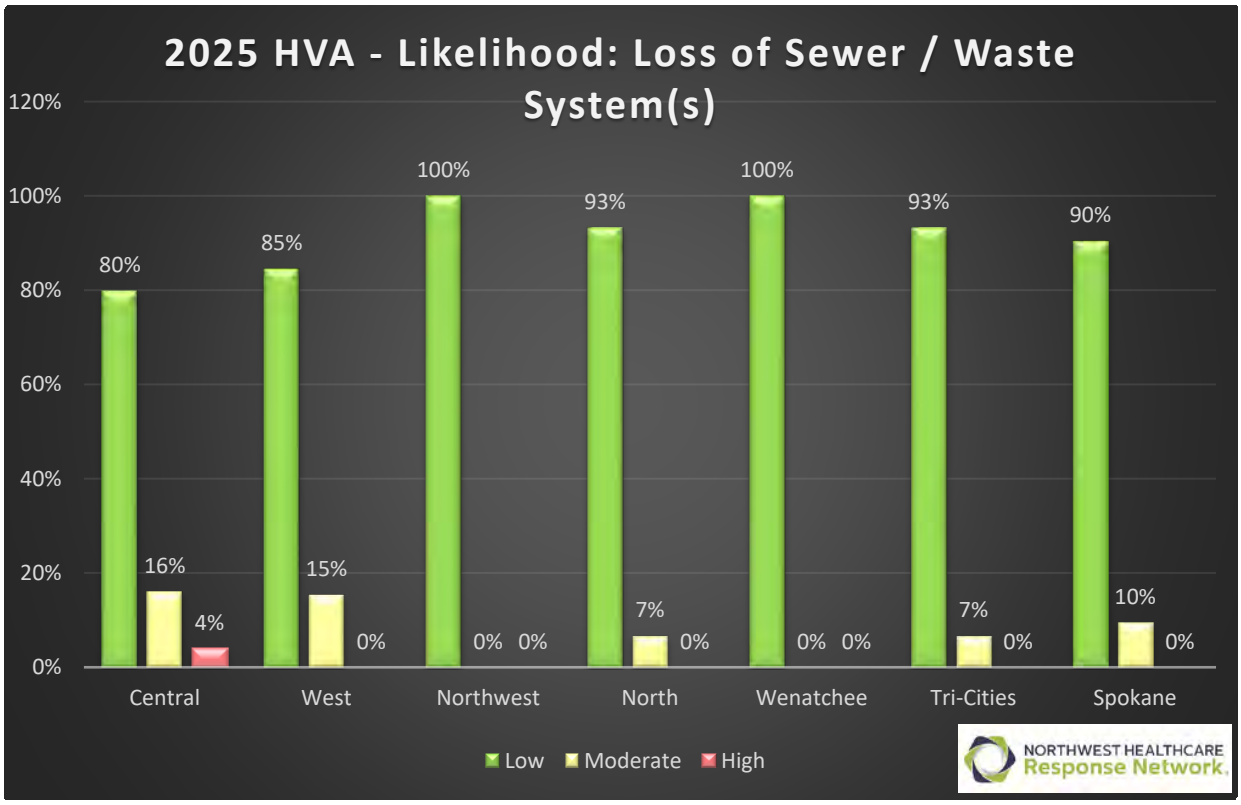

2025 HVA - Impact: Loss of Cooling
80%
70%
60%
50%
40%
30%
20%
10%
0%
23%
73%
4%
38%
54%
8%
54%
38%
8%
20%
60%
20%
67%
27%
7%
20%
60%
20%
11%
37%
53%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

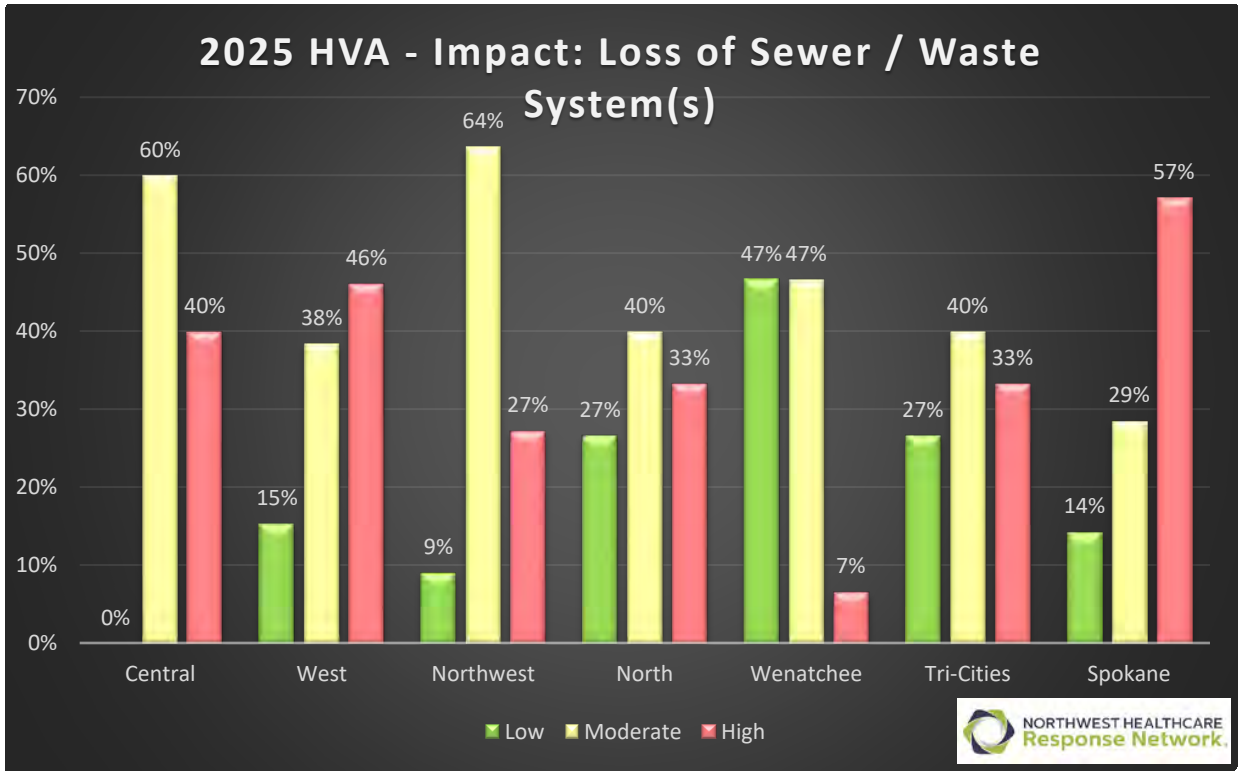

2025 HVA - Likelihood: Loss of Natural Gas / Propane
120%
100%
80%
60%
40%
20%
0%
100%
0%
0%
100%
0%
0%
100%
0%
0%
93%
7%
0%
100%
0%
0%
93%
7%
0%
91%
9%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

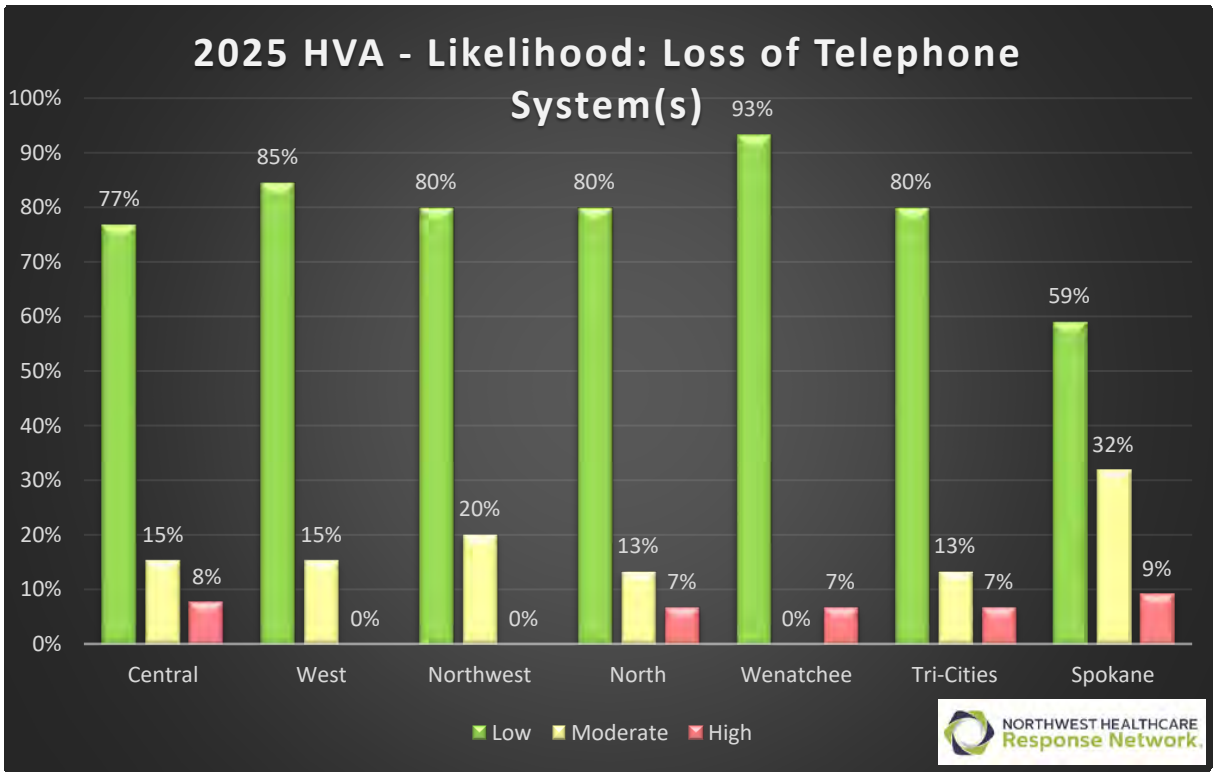

2025 HVA - Impact: Loss of Natural Gas / Propane
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
29%
67%
4%
79%
14%
7%
45%
18%
36%
53%
33%
13%
93%
7%
0%
53%
33%
13%
23%
32%
45%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

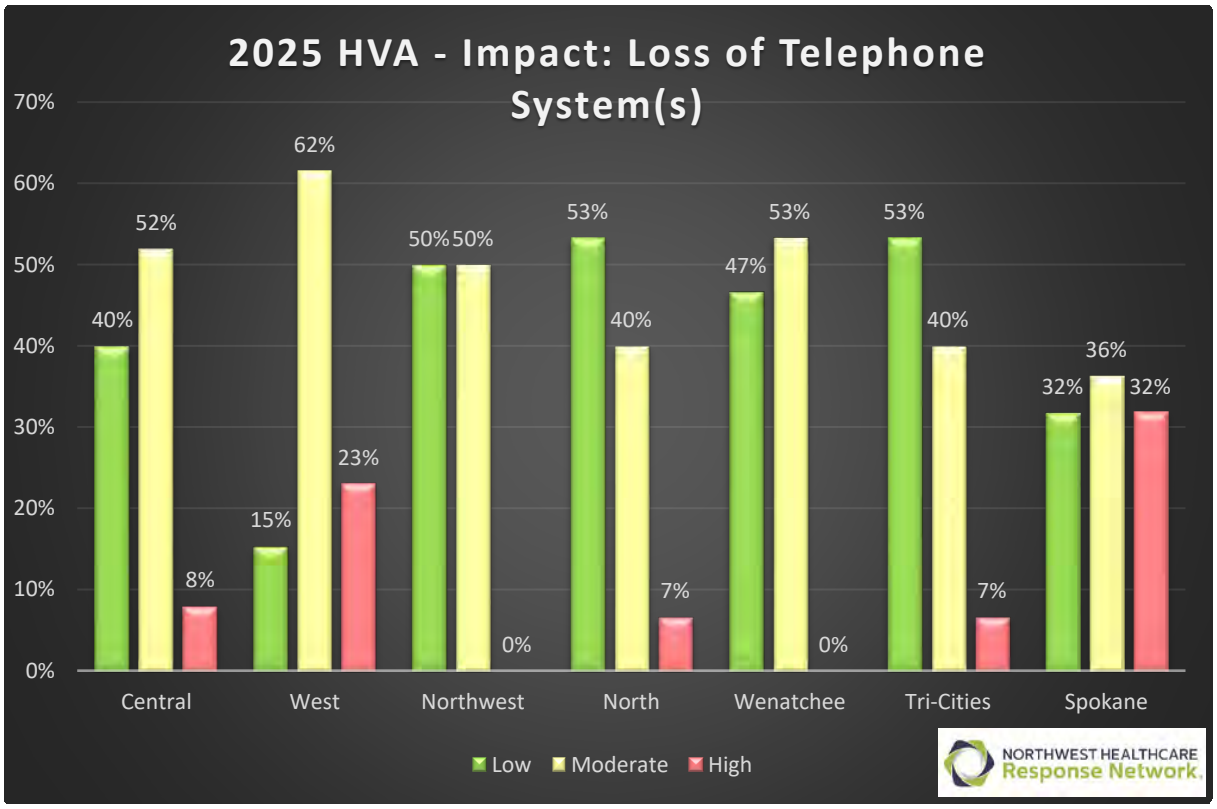

2025 HVA - Likelihood: Loss of Medical Gas / Vacuum Systems
120%
100%
80%
60%
40%
20%
0%
92%
8%
0%
92%
8%
0%
100%
0%
0%
93%
7%
0%
100%
0%
0%
93%
7%
0%
94%
6%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

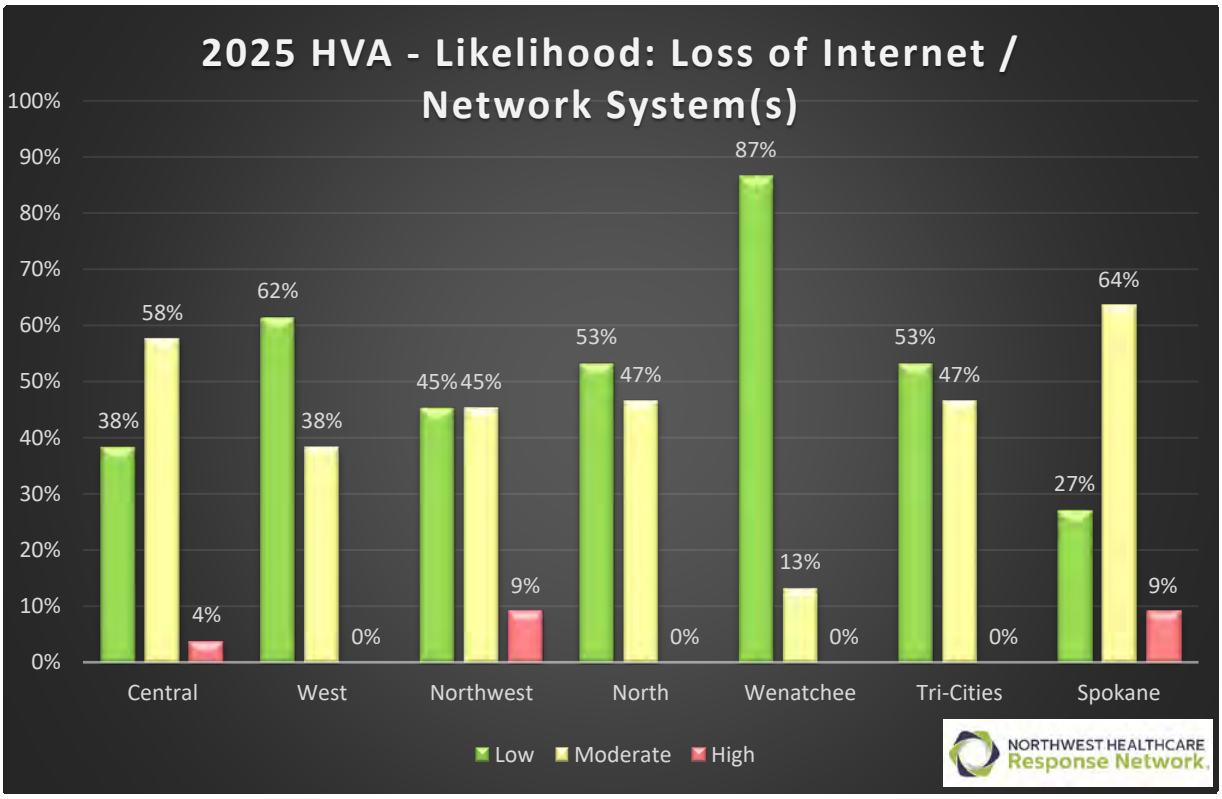

2025 HVA - Impact: Loss of Medical Gas / Vacuum Systems
60%
50%
40%
30%
20%
10%
0%
32%
24%
44%
23%
38%
38%
50%
10%
40%
14%
36%
50%
56%
19%
25%
14%
36%
50%
17%
33%
50%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

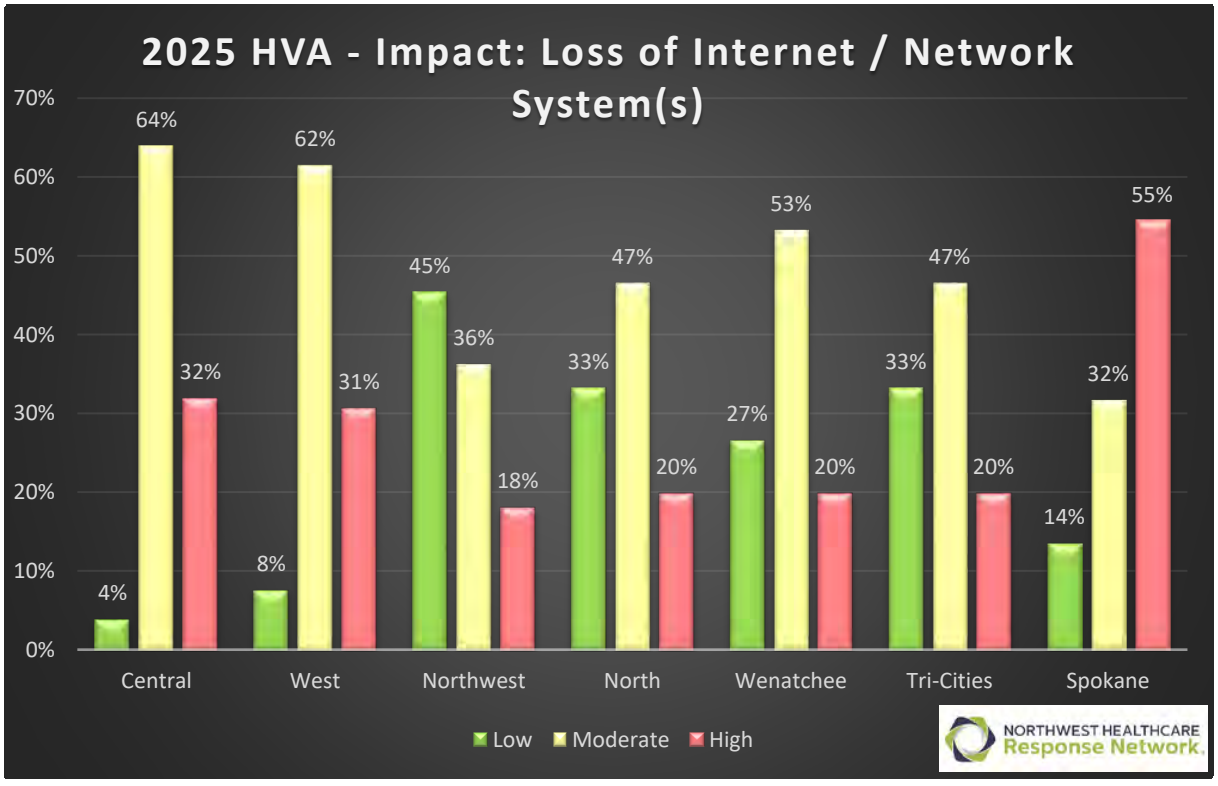

2025 HVA - Likelihood: Loss of Sewer / Waste System(s)
120%
100%
80%
60%
40%
20%
0%
80%
16%
4%
85%
15%
0%
100%
0%
0%
93%
7%
0%
100%
0%
0%
93%
7%
0%
90%
10%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

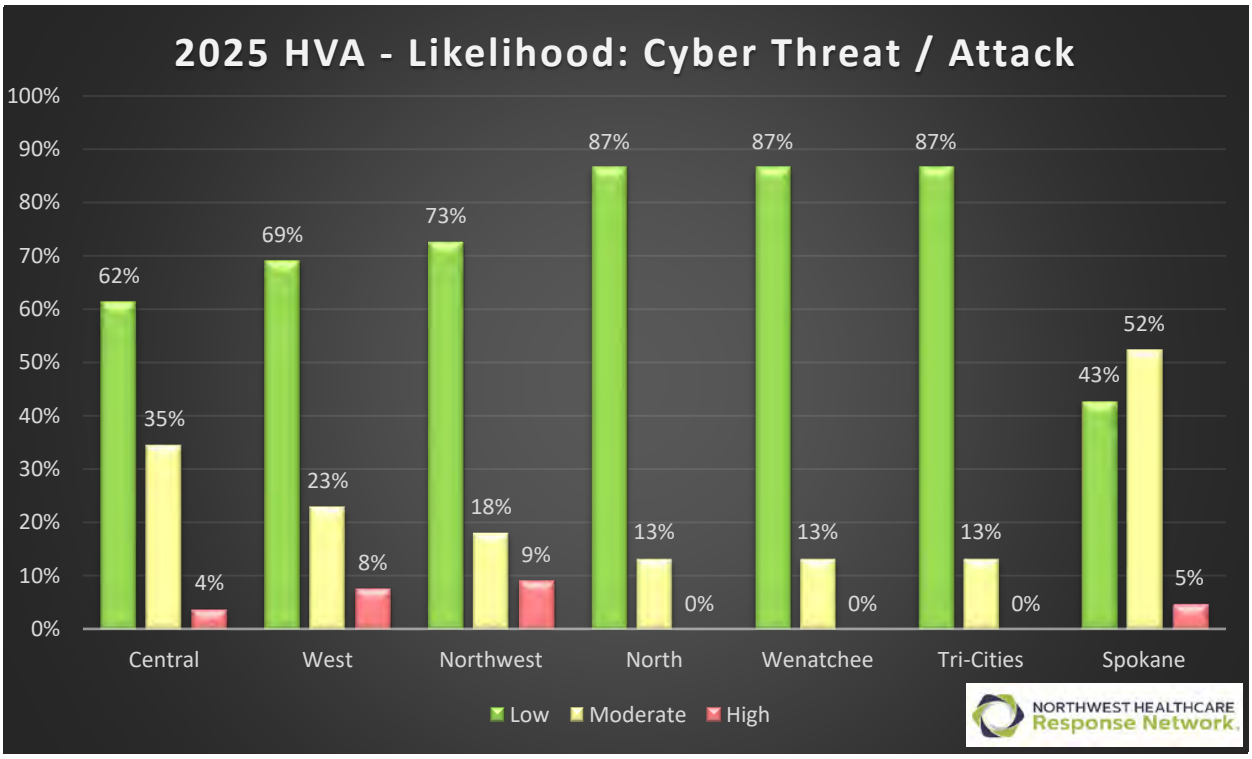

2025 HVA - Impact: Loss of Sewer / Waste System(s)
70%
60%
50%
40%
30%
20%
10%
0%
0%
60%
40%
15%
38%
46%
9%
64%
27%
27%
40%
33%
47%
47%
7%
27%
40%
33%
14%
29%
57%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

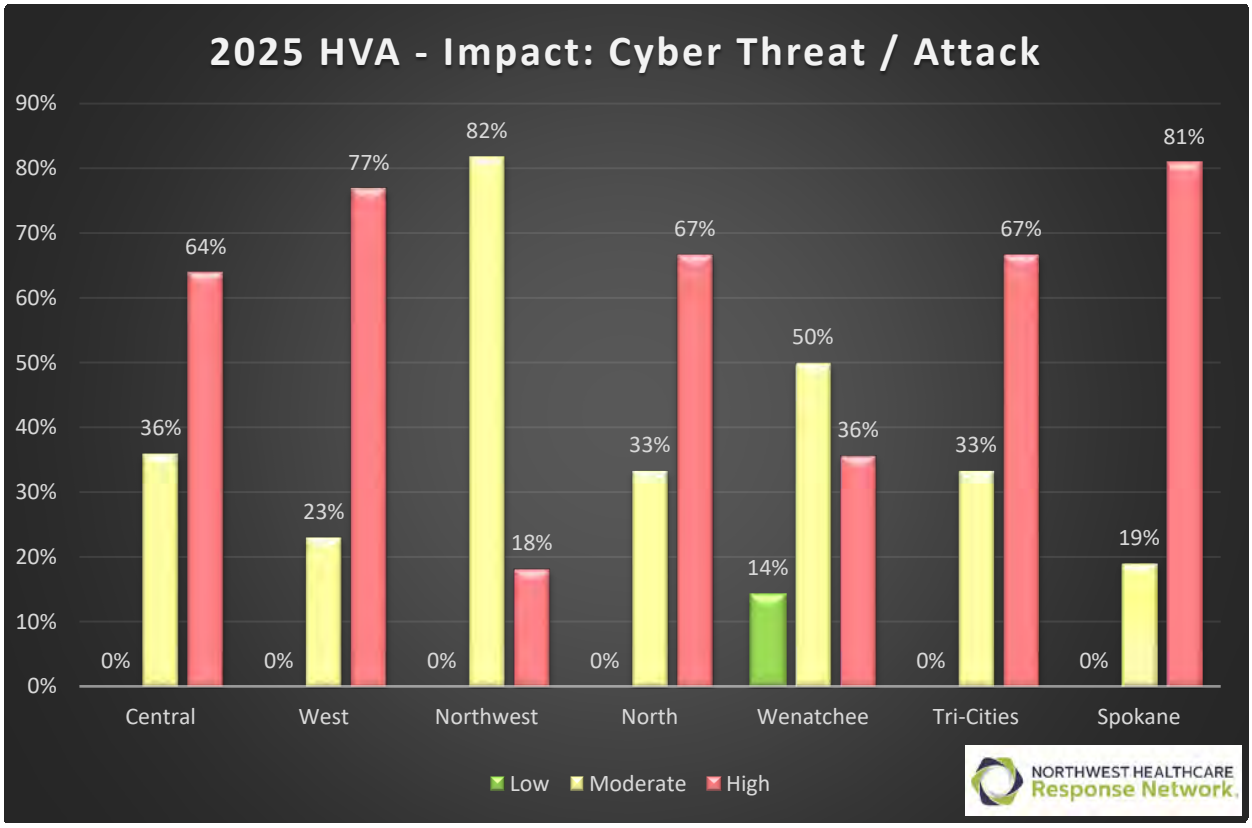

2025 HVA - Likelihood: Loss of Telephone System(s)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
77%
15%
8%
85%
15%
0%
80%
20%
0%
80%
13%
7%
93%
0%
7%
80%
13%
7%
59%
32%
9%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

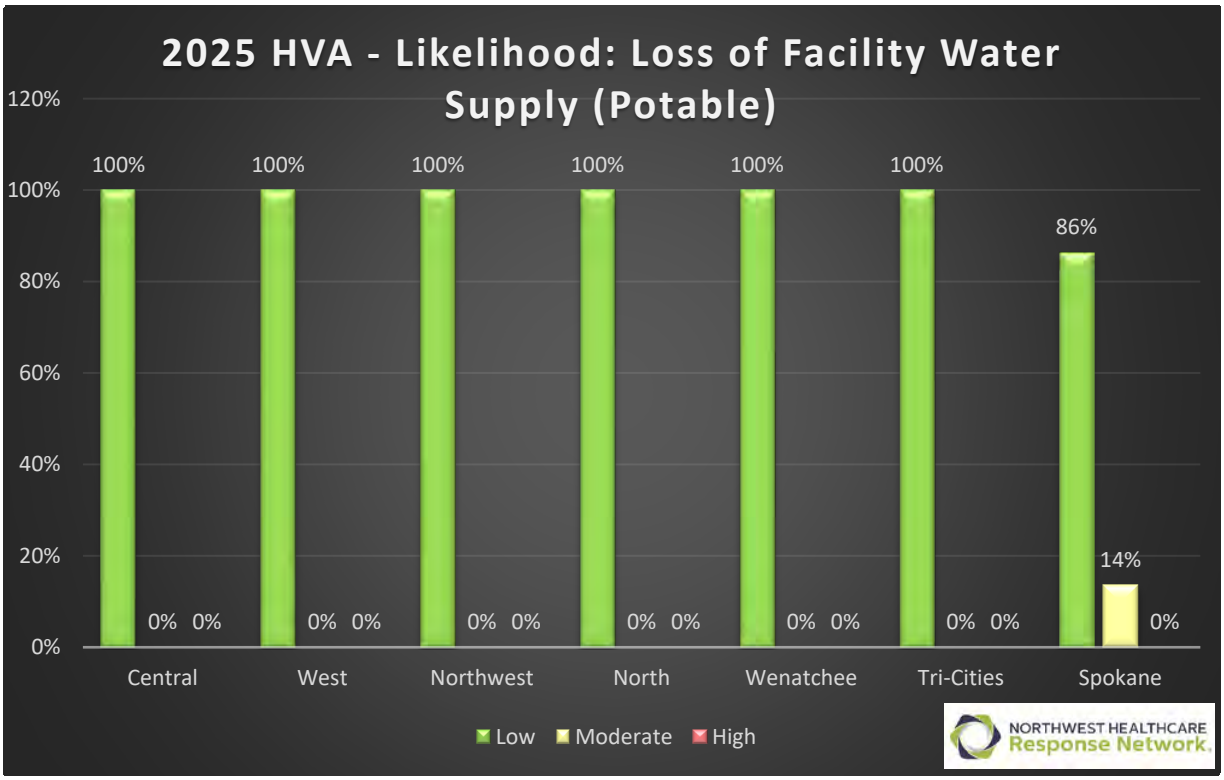

2025 HVA - Impact: Loss of Telephone System(s)
70%
60%
50%
40%
30%
20%
10%
0%
40%
52%
8%
15%
62%
23%
50%
50%
0%
53%
40%
7%
47%
53%
0%
53%
40%
7%
32%
36%
32%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE
Response Network.

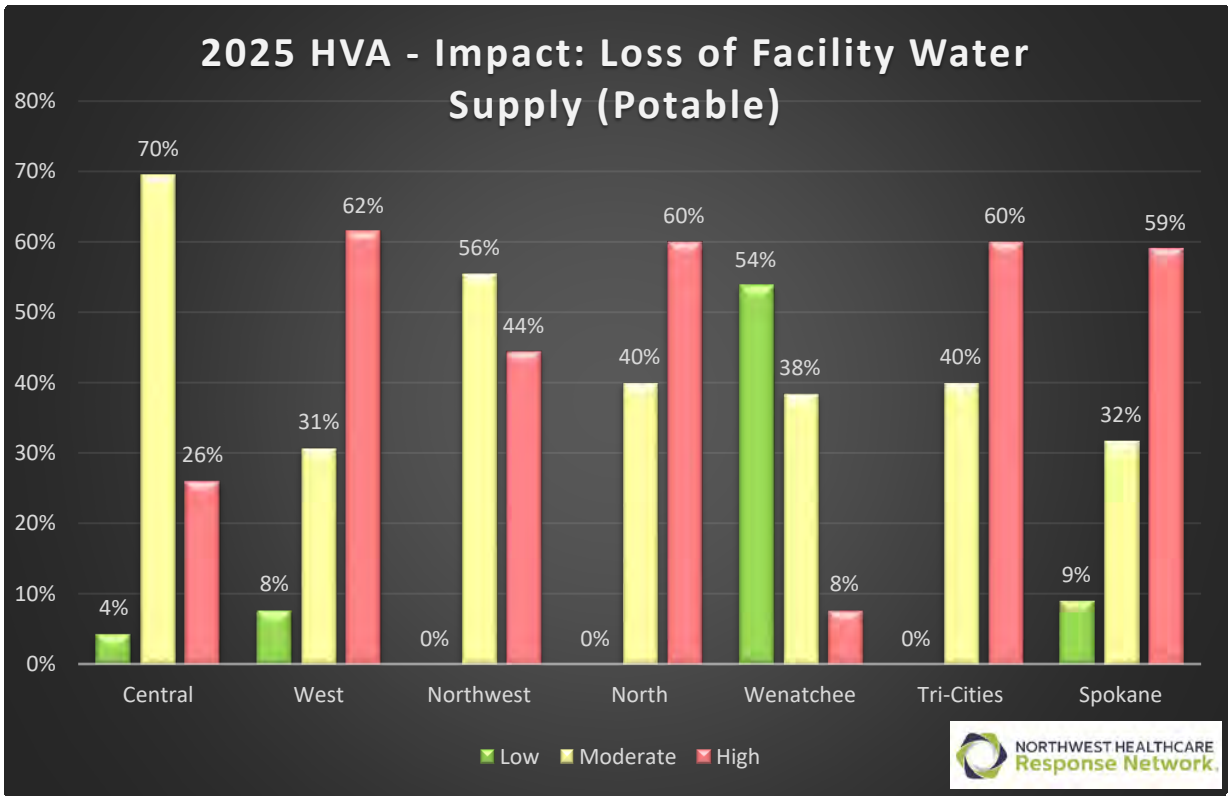

2025 HVA - Likelihood: Loss of Internet / Network System(s)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
38%
58%
4%
62%
38%
0%
45%
45%
9%
53%
47%
0%
87%
13%
0%
53%
47%
0%
27%
64%
9%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

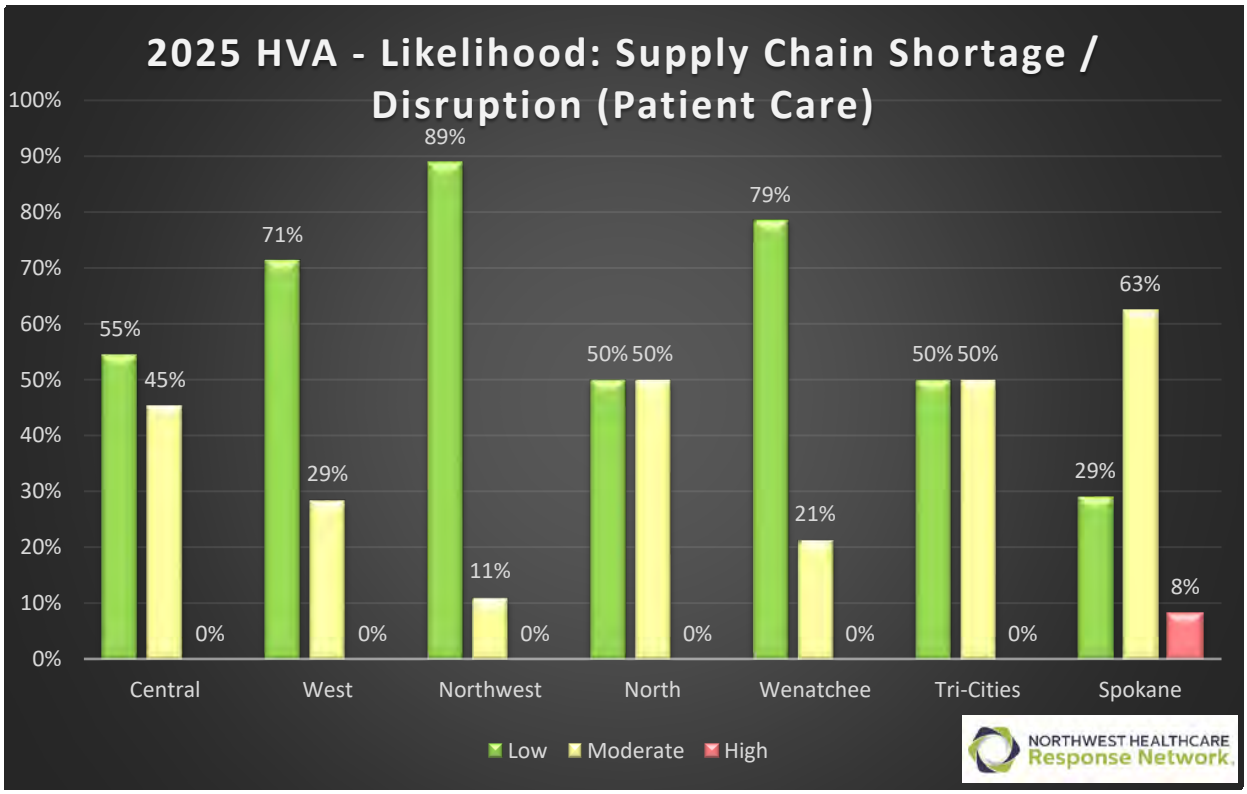

2025 HVA - Impact: Loss of Internet / Network System(s)
70%
60%
50%
40%
30%
20%
10%
0%
4%
64%
32%
8%
62%
31%
45%
36%
18%
33%
47%
20%
27%
53%
20%
33%
47%
20%
14%
32%
55%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

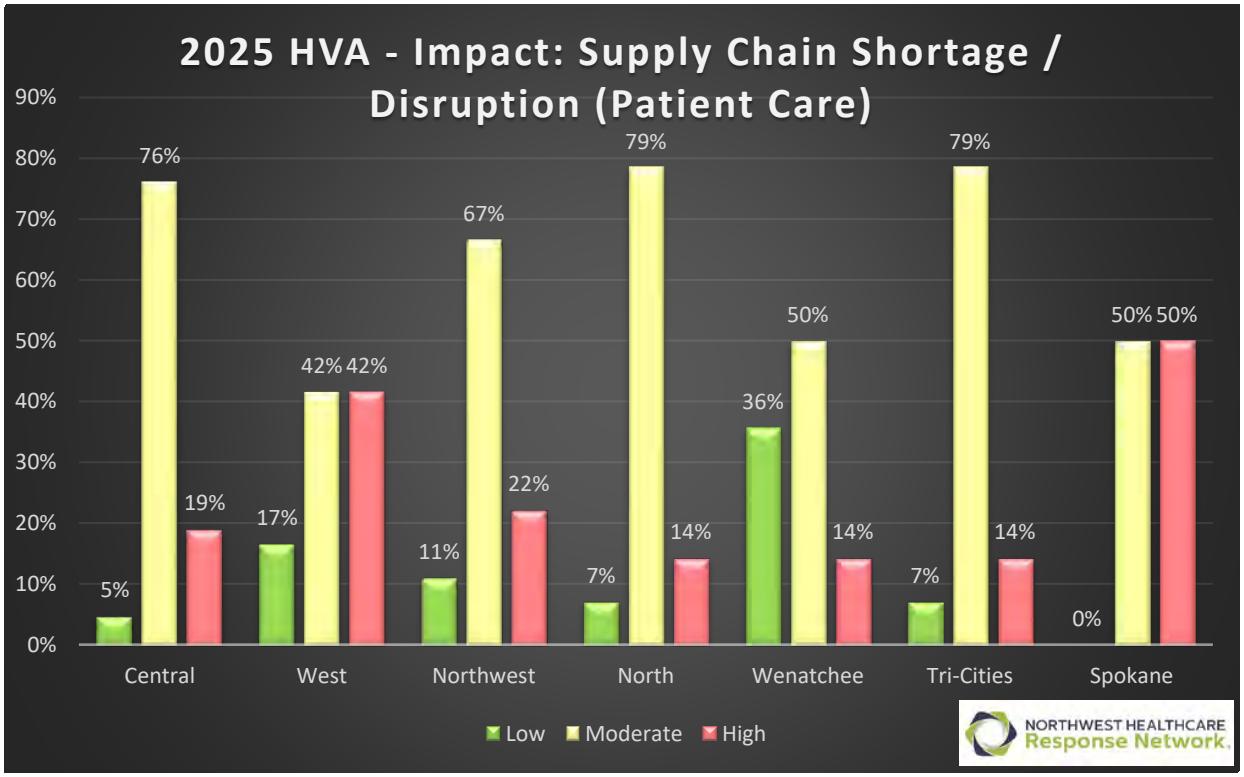

2025 HVA - Likelihood: Cyber Threat / Attack
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
62%
35%
4%
69%
23%
8%
73%
18%
9%
87%
13%
0%
87%
13%
0%
87%
13%
0%
43%
52%
5%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

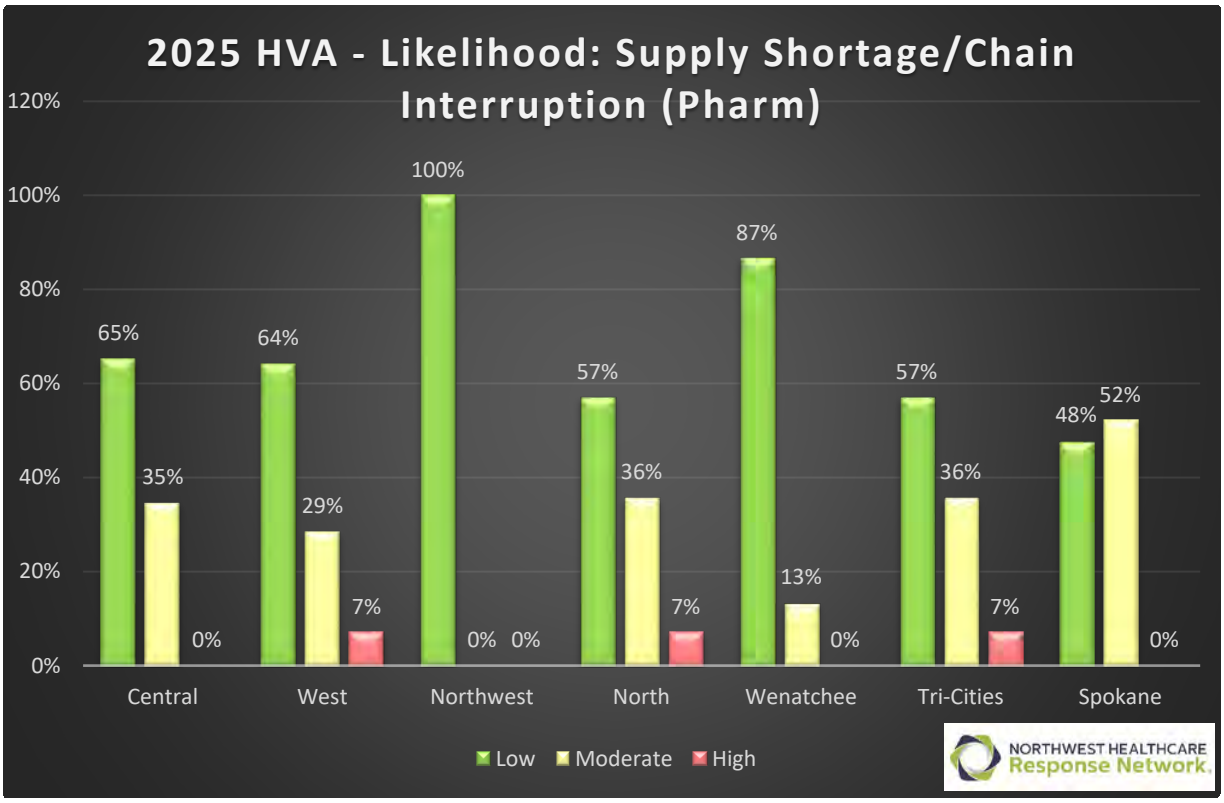

2025 HVA - Impact: Cyber Threat / Attack
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0%
36%
64%
0%
23%
77%
0%
82%
18%
0%
33%
67%
14%
50%
36%
0%
33%
67%
0%
19%
81%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

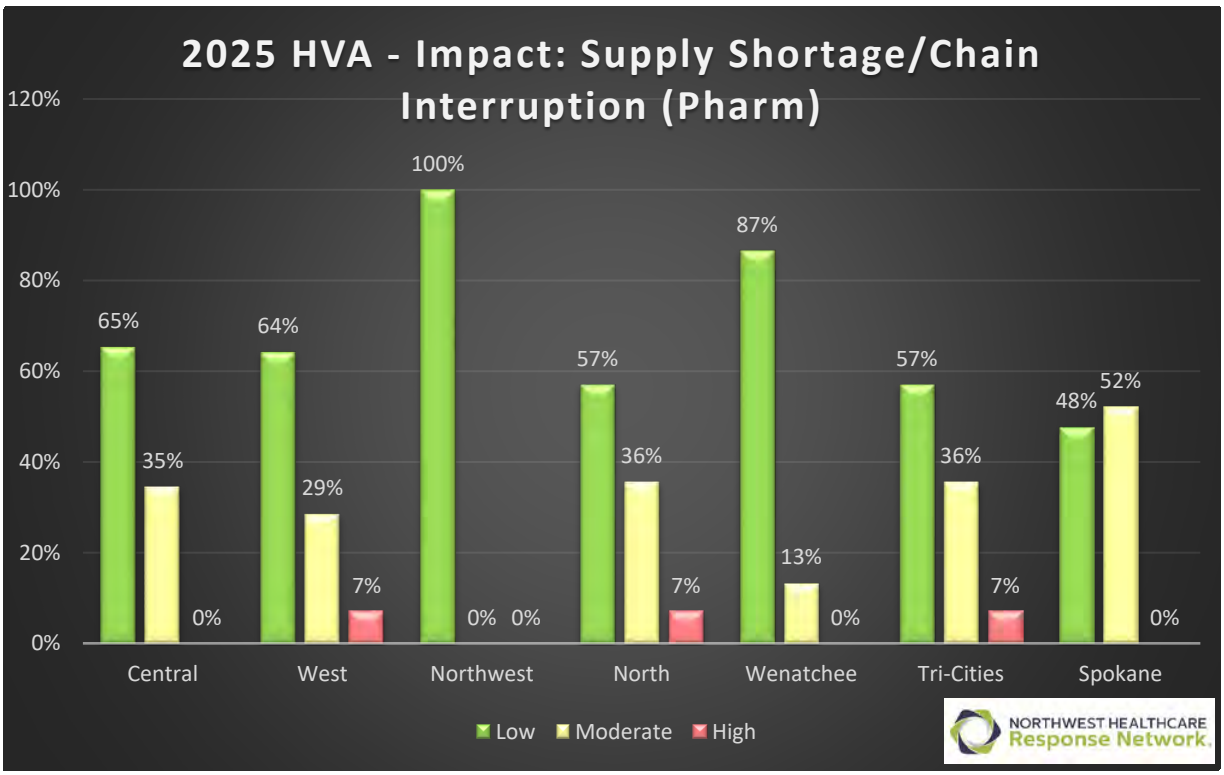

2025 HVA - Likelihood: Loss of Facility Water Supply (Potable)
120%
100%
80%
60%
40%
20%
0%
100% 100% 100% 100% 100% 100% 86%
0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 14% 0%
Central West Northwest North Wenatchee Tri-Cities Spokane
Low Moderate High
NORTHWEST HEALTHCARE Response Network.

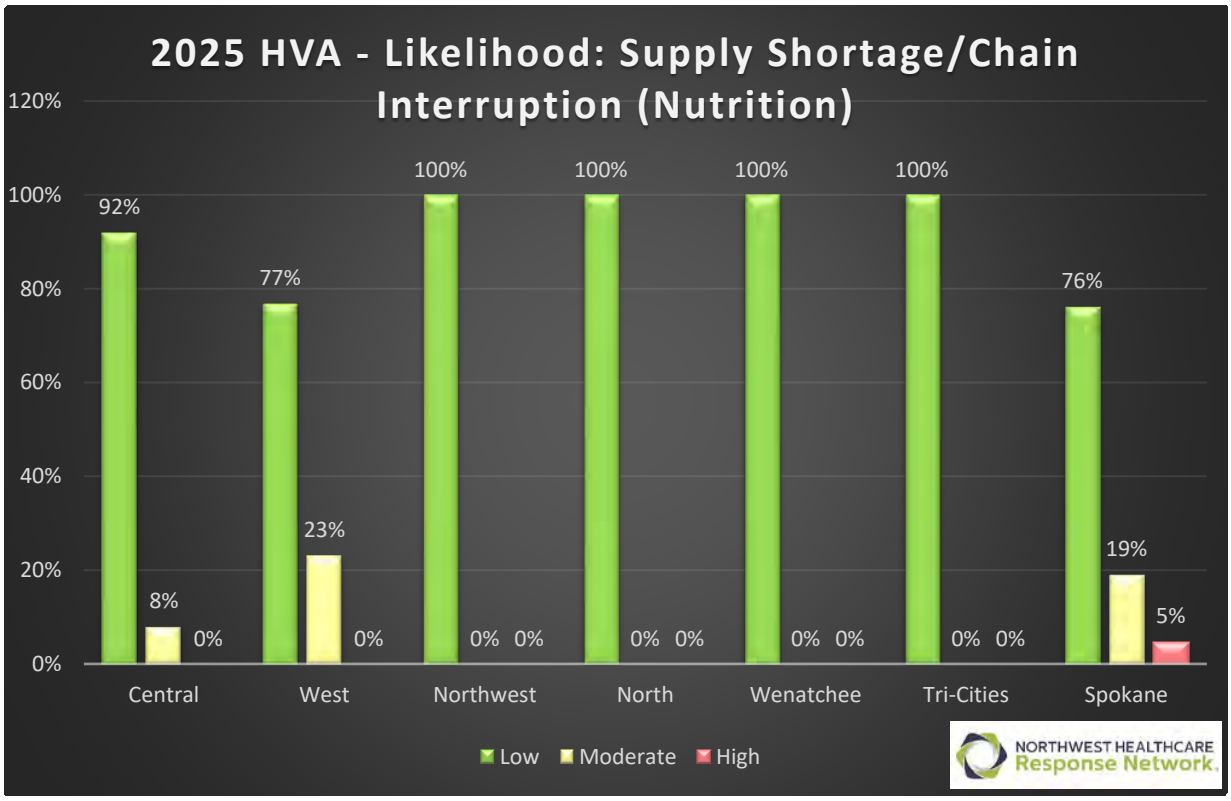

2025 HVA - Impact: Loss of Facility Water Supply (Potable)
80%
70%
60%
50%
40%
30%
20%
10%
0%
4% 70% 26% 8% 31% 62% 0% 56% 44% 0% 40% 60% 54% 38% 8% 0% 40% 60% 9% 32% 59%
Central West Northwest North Wenatchee Tri-Cities Spokane
Low Moderate High
NORTHWEST HEALTHCARE Response Network.

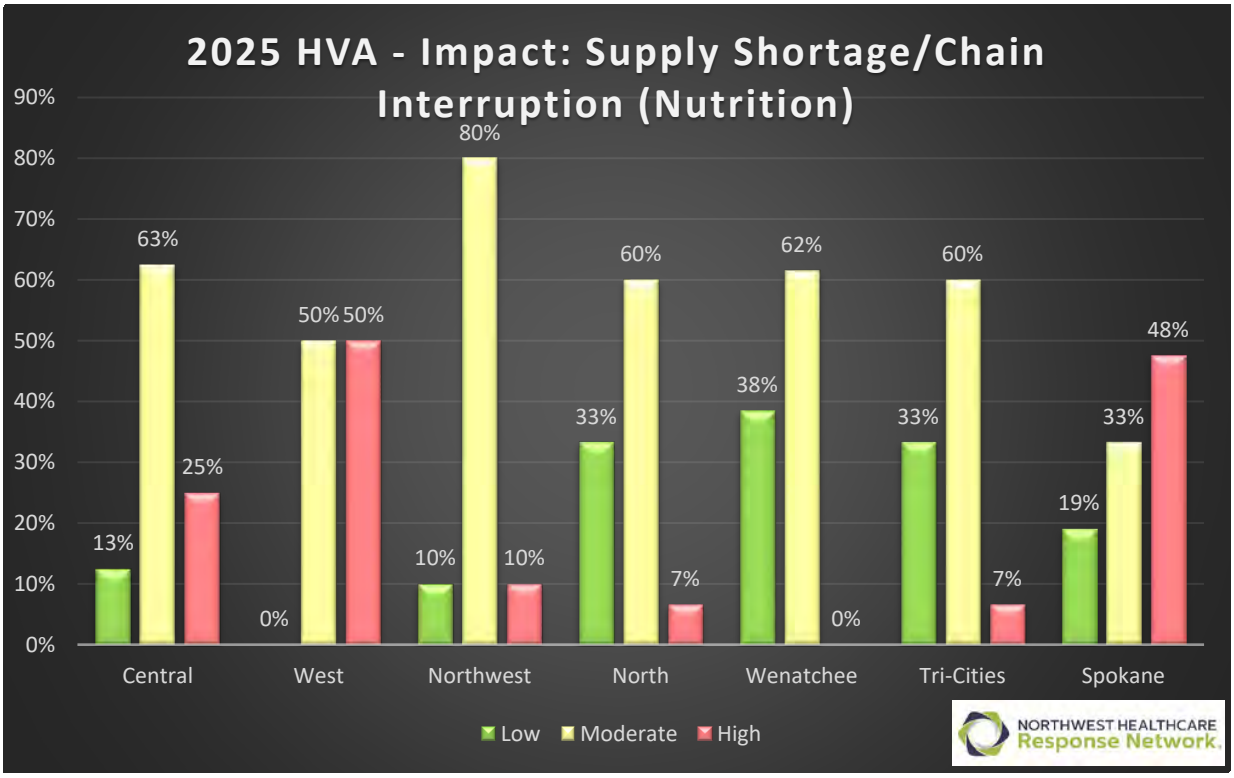

2025 HVA - Likelihood: Supply Chain Shortage / Disruption (Patient Care)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
55%
45%
0%
71%
29%
0%
89%
11%
0%
50%
50%
0%
79%
21%
0%
50%
50%
0%
29%
63%
8%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

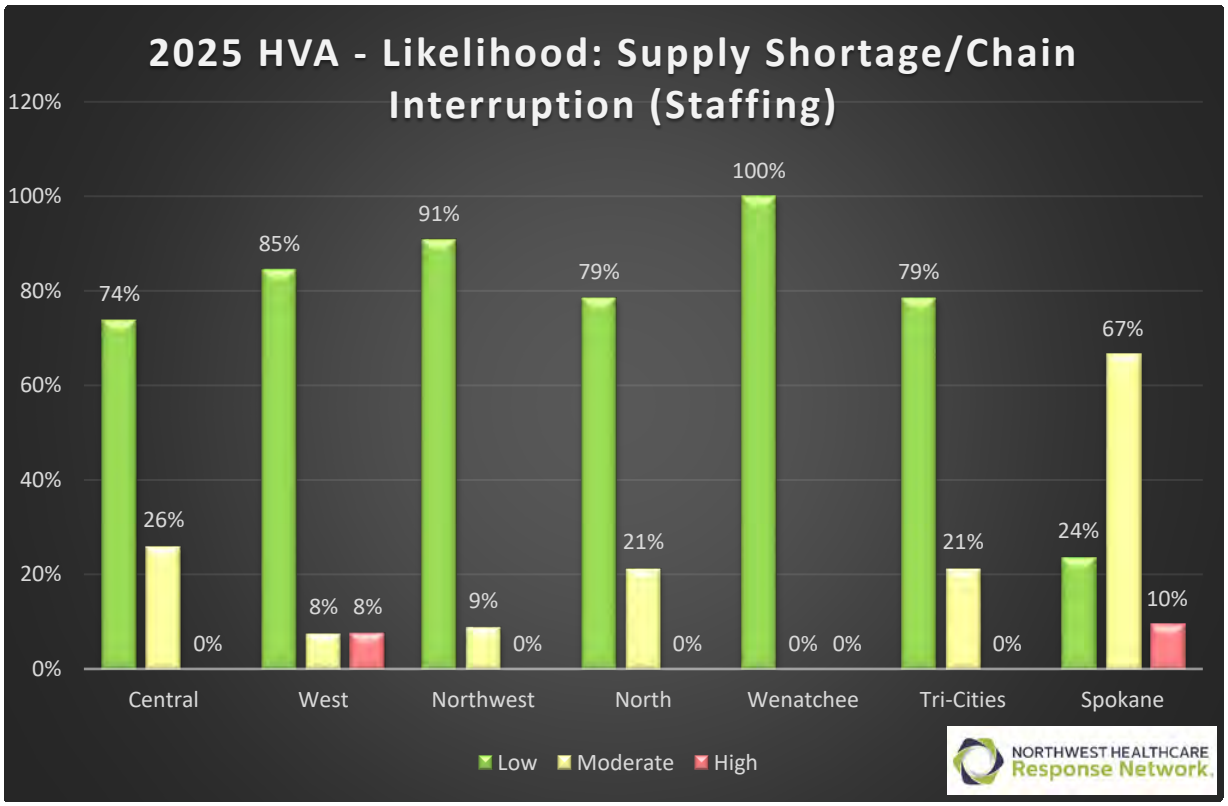

2025 HVA - Impact: Supply Chain Shortage / Disruption (Patient Care)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
5%
76%
19%
17%
42%
42%
11%
67%
22%
7%
79%
14%
36%
50%
14%
7%
79%
14%
0%
50%
50%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

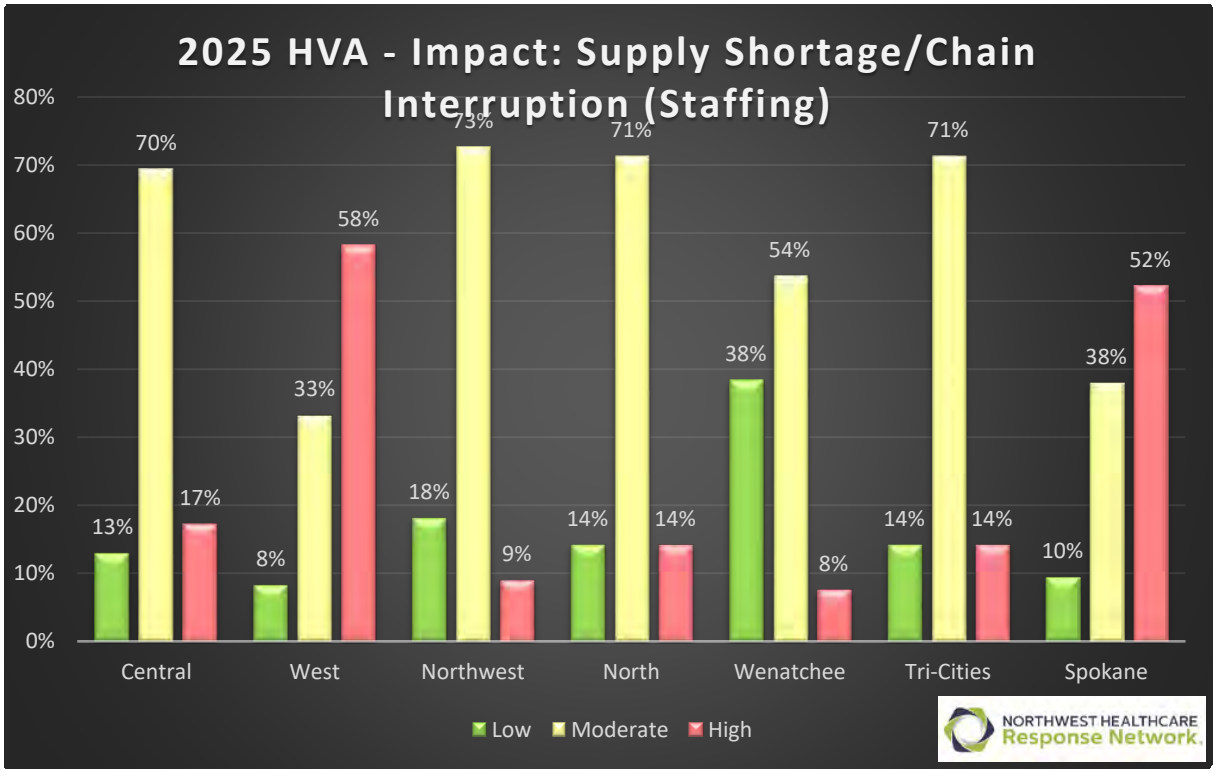

2025 HVA - Likelihood: Supply Shortage/Chain Interruption (Pharm)
120%
100%
80%
60%
40%
20%
0%
65%
35%
0%
64%
29%
7%
100%
0%
0%
57%
36%
7%
87%
13%
0%
57%
36%
7%
48%
52%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

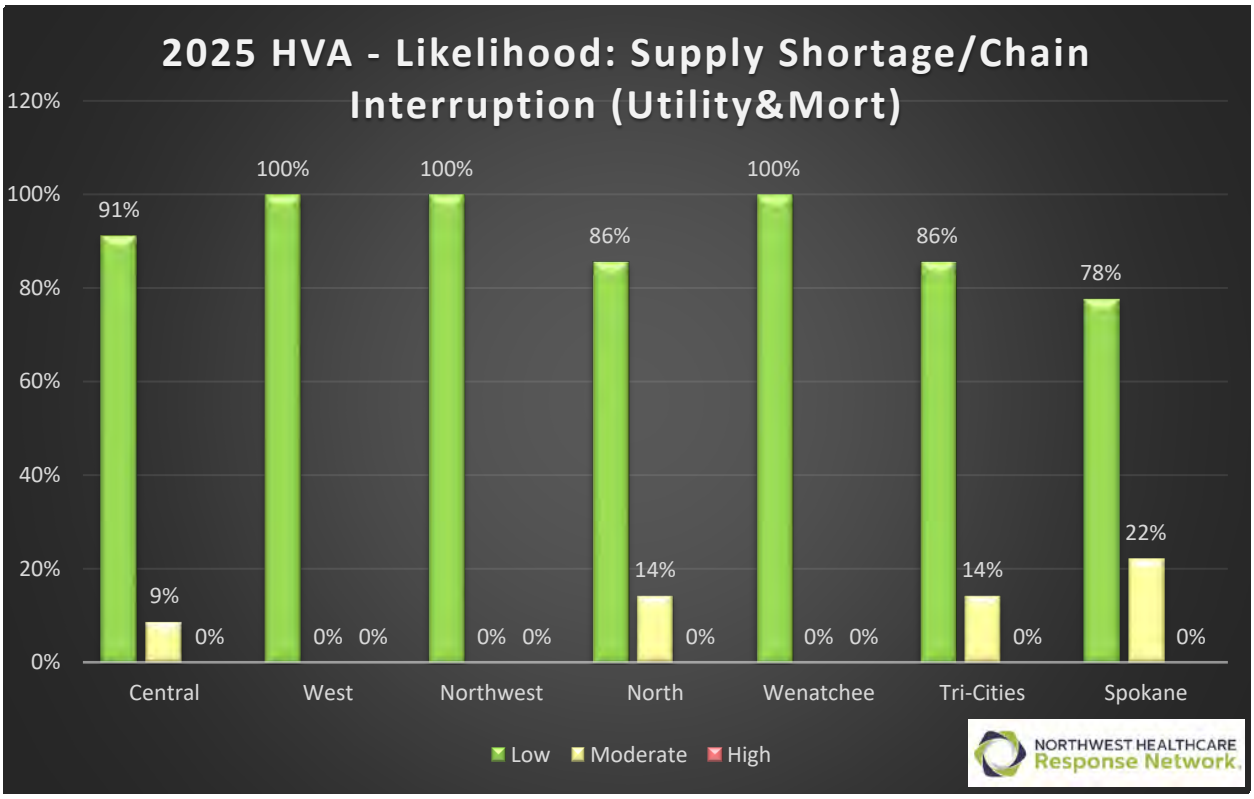

2025 HVA - Impact: Supply Shortage/Chain Interruption (Pharm)
120%
100%
80%
60%
40%
20%
0%
65%
35%
0%
64%
29%
7%
100%
0%
0%
57%
36%
7%
87%
13%
0%
57%
36%
7%
48%
52%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

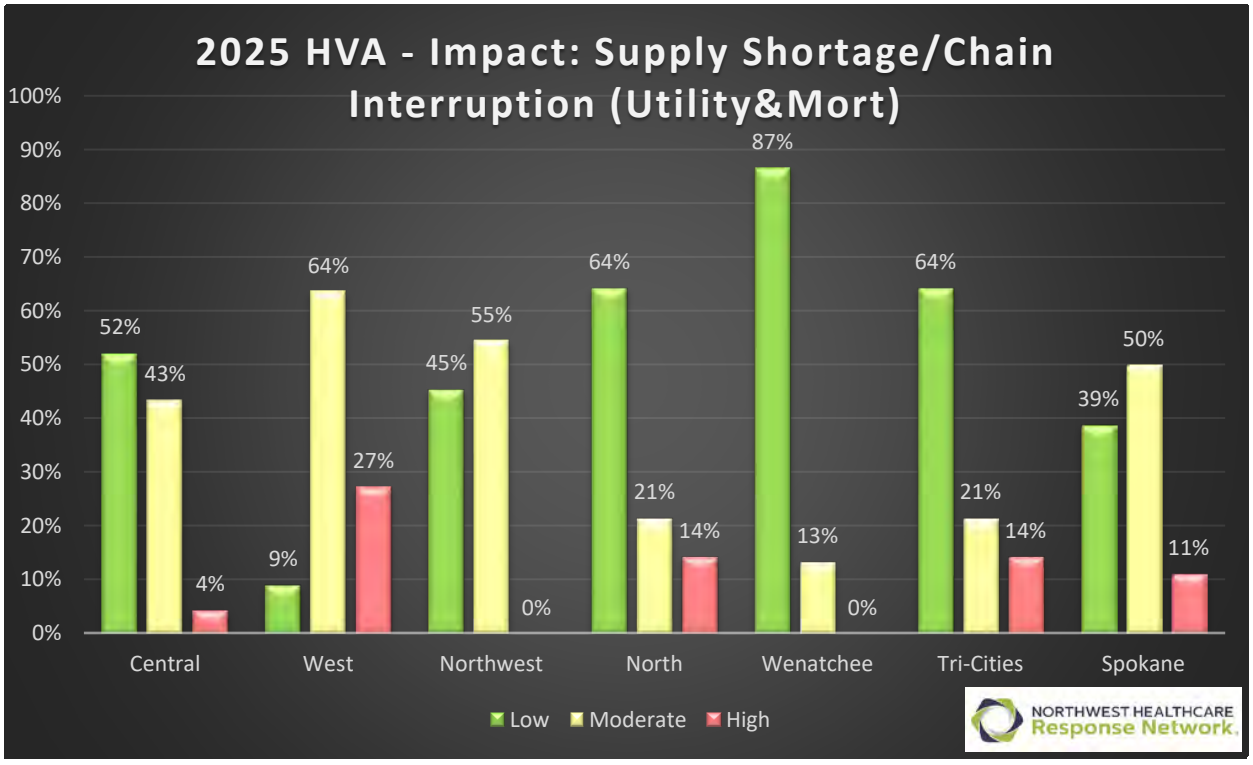

2025 HVA - Likelihood: Supply Shortage/Chain Interruption (Nutrition)
120%
100%
80%
60%
40%
20%
0%
92%
8%
0%
77%
23%
0%
100%
0%
0%
100%
0%
0%
100%
0%
0%
100%
0%
0%
76%
19%
5%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

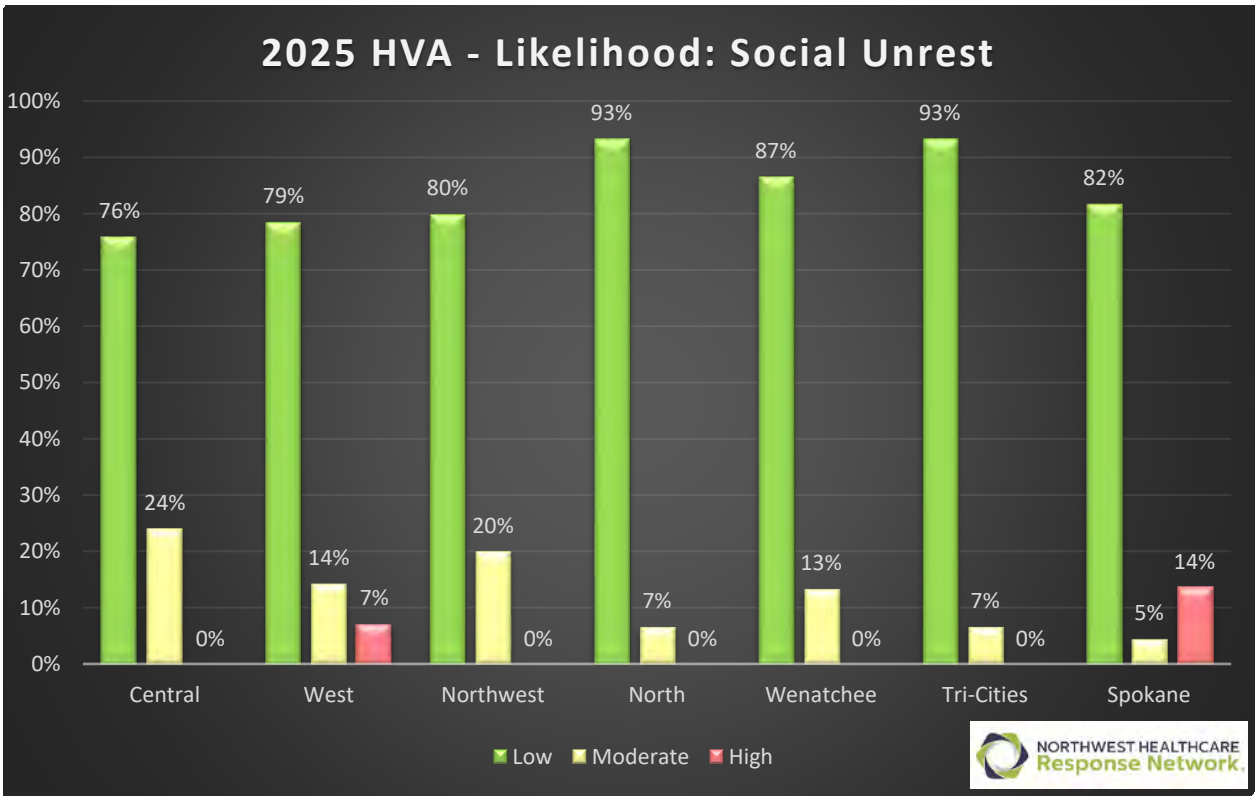

2025 HVA - Impact: Supply Shortage/Chain Interruption (Nutrition)
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
13%
63%
25%
0%
50%
50%
10%
80%
10%
33%
60%
7%
38%
62%
0%
33%
60%
7%
19%
33%
48%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.

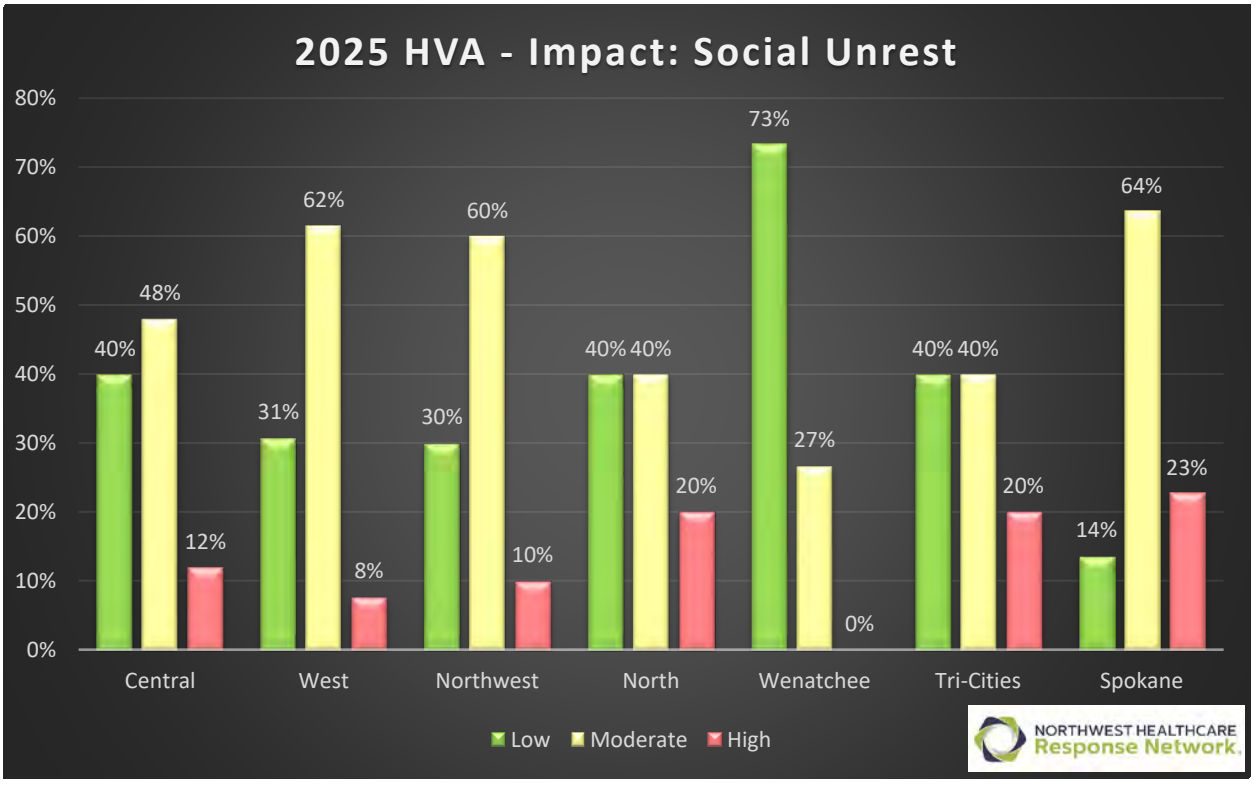

2025 HVA - Likelihood: Supply Shortage/Chain Interruption (Staffing)
120%
100%
80%
60%
40%
20%
0%
74%
26%
0%
85%
8%
8%
91%
9%
0%
79%
21%
0%
100%
0%
0%
79%
21%
0%
24%
67%
10%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.


2025 HVA - Impact: Supply Shortage/Chain Interruption (Staffing)
80%
70%
60%
50%
40%
30%
20%
10%
0%
13%
70%
17%
8%
33%
58%
18%
73%
9%
14%
71%
14%
38%
54%
8%
14%
71%
14%
10%
38%
52%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.


2025 HVA - Likelihood: Supply Shortage/Chain Interruption (Utility&Mort)
120%
100%
80%
60%
40%
20%
0%
91%
9%
0%
100%
0%
0%
100%
0%
0%
86%
14%
0%
100%
0%
0%
86%
14%
0%
78%
22%
0%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.


2025 HVA - Impact: Supply Shortage/Chain Interruption (Utility&Mort)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
52%
43%
4%
9%
64%
27%
45%
55%
0%
64%
21%
14%
87%
13%
0%
64%
21%
14%
39%
50%
11%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.


2025 HVA - Likelihood: Social Unrest
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
76%
24%
0%
79%
14%
7%
80%
20%
0%
93%
7%
0%
87%
13%
0%
93%
7%
0%
82%
5%
14%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.


2025 HVA - Impact: Social Unrest
80%
70%
60%
50%
40%
30%
20%
10%
0%
40%
48%
12%
31%
62%
8%
30%
60%
10%
40%
40%
20%
73%
27%
0%
40%
40%
20%
14%
64%
23%
Central
West
Northwest
North
Wenatchee
Tri-Cities
Spokane
Low
Moderate
High
NORTHWEST HEALTHCARE Response Network.