Davis COUNTY
HEALTH DEPARTMENT

JURISDICTIONAL RISK ASSESSMENT

- 2024 -

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Jurisdictional Risk Assessment team meeting on December 12th, 2023

ACKNOWLEDGEMENTS

DCHD would like to thank the following partner agencies who contributed to this Jurisdictional Risk Assessment (JRA).

- Animal Care of Davis County
- Centerville Police Department
- Davis Behavioral Health
- Davis County Emergency Management
- Davis County Sheriff's Office
- South Davis Metro Fire Department

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INTRODUCTION

DCHD engages in a JRA every five years. The outcomes of this assessment inform department emergency planning and training processes.

In addition to key department preparedness staff, subject matter experts were selected from local community partners such as healthcare, mental/behavioral health, and local emergency management professionals to provide input on the 2024 assessment.

Data from Davis County's assessment also becomes part of a state-wide report, utilized by several agencies to inform response plans, mitigation strategies, and develop training priorities.

In addition to the formal JRA, this year's assessment included a Community Resiliency Survey that was shared with residents throughout Davis County. The information from this survey provides important insights into community concerns that impact overall emergency preparedness and included themes on opportunity, safety, connectedness, and community involvement.

Participants reviewed demographic information (examples in **Appendix A**), including vulnerable populations, and participated in a series of discussions utilizing various hazard scenarios listed in **Appendix B**.

Jurisdictional Risk Assessment team meeting on December 12th, 2023

Davis COUNTY HEALTH DEPARTMENT

What does the JRA measure?

The assessment tool includes 52 hazard scenarios utilized by participants to assess:

- **Probability** of each risk occurring in Davis County
- **Severity** of the hazard on individual and community health
- **Impact** the hazard would have on the overall community, public health system, healthcare system, and mental health system
- Current **local health department preparedness** level for each hazard
- Current **Emergency Support Function 8 - Health and Medical partner agency's** (fire, emergency medical services, law enforcement, emergency management, healthcare, mental health, etc.) **preparedness** level for each hazard

For more information on the JRA measurement process see **Appendix C**.

How to utilize the data in this report

It is important to keep in mind this JRA should not be used as a stand alone document, rather as one of many tools partners can utilize to identify priorities for planning, training, and policy development. Like any assessment, this JRA has some limitations due to the scenarios utilized in the assessment process, backgrounds of different assessment participants, and current events.

"People in Davis County know, trust and support each other and are willing to help others even when they don't know them."
- 2024 Community Resiliency Survey Participant

JRA RESULTS

Hazard Probability

For the five categories below, the following hazards were determined to have the highest probability of occurring in Davis County.

Biological	Chemical Incident	Extreme Events	Infrastructure	Terrorism
• Communicable Disease • Emerging Disease • Food supply contamination • Vector-borne Disease	• Factory Chemical Spill	• Climate Change • Extreme Summer Weather • Moderate Earthquake • Severe Winter Storm	• Transportation Infrastructure Failure • Food Supply Contamination	• Active Shooter • Cyber Attack

Health Severity

For the five categories below, the following hazards were determined to have the highest levels of potential severity on the health of individuals and the community.

Biological	Chemical Incident	Extreme Events	Infrastructure	Terrorism
• Emergent Disease • Pandemic Flu • Pneumonic Plague • Smallpox	• Mass Casualty HAZMAT	• Earthquake (Major) • Earthquake (Moderate) • Extreme Summer Weather • Fire (Large Scale Urban) • Wildfire	*Nothing identified*	• Aerosolized Anthrax • Nerve Agent • Radiological Dispersal Device • Ricin

Hazard Impact

For the five categories below, the following hazards were determined to have the greatest impact or disruption to the overall community, public health system, healthcare system, and mental health system.

Biological	Chemical Incident	Extreme Events	Infrastructure	Terrorism
• Emergent Disease • Pandemic Flu • Pneumonic Plague • Smallpox	*Nothing identified*	• Earthquake (Major) • Earthquake (Moderate) • Fire (Large Scale Urban) • Wildfire	• Civil Disorder • Water Supply Disruption	• Aerosolized Anthrax • Radiological Dispersal Device • Ricin

COMMUNITY RESILIENCY SURVEY RESULTS

To seek a better understanding on how well communities may fare during and after a disaster, this questionnaire was conducted in addition to the JRA as a collaboration between the state and local health departments.

The questionnaire was divided into four categories: **Opportunity, Safety, Connectedness,** and **Community Involvement**. For each category there were 2 - 3 multiple choice questions and one short answer question. Refer to **Appendix D** for additional information and definitions.

The following are definitions for the four questionnaire categories:

Opportunity: All community members have access to equitable opportunities, choices, and resources.

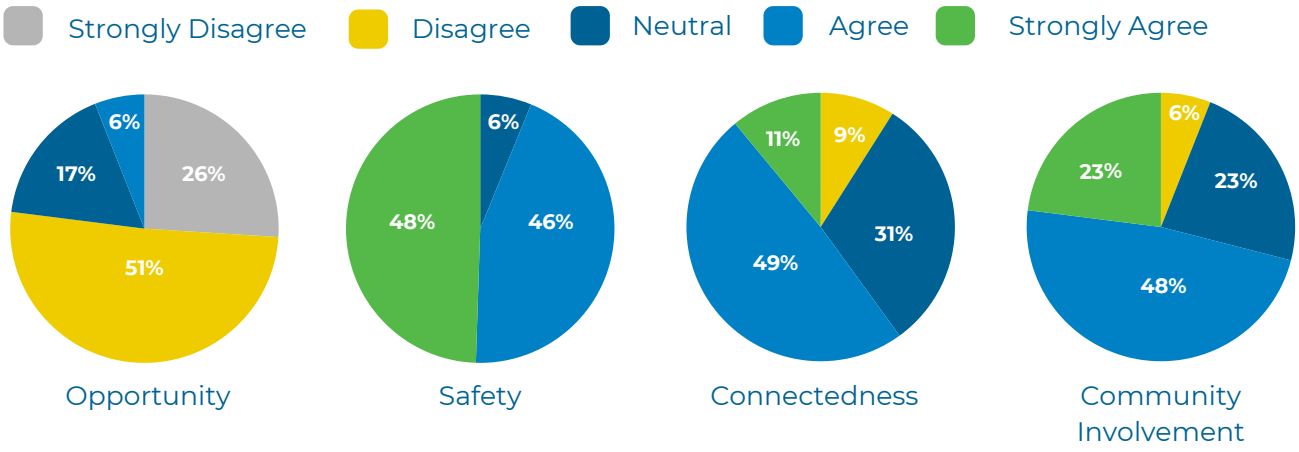
Safety: Community members have a low exposure to risk and have options to respond to emergencies.

Connectedness: Community members have many connections through which they can offer or receive help.

Community Involvement: The community is active and committed to growing and improving together.

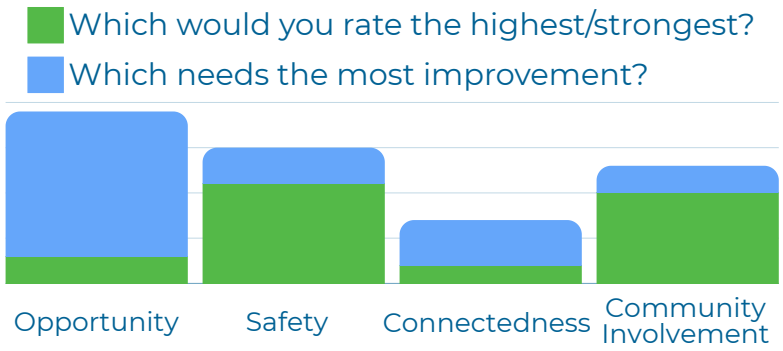
"There is a sense of camaraderie and actual progress [being] made when all partners are putting forth effort on a common goal."
- 2024 Community Resiliency Survey Participant

Average % of agreement that a category meets its definition



Comparison of the components of resiliency

Participants were asked to compare the four aspects of community resiliency in the community. A count of the responses showed the majority of respondents thought that Opportunity needed the most improvement and that Safety was rated the highest.



"Opportunity seems broader to me and would lead to increases in the other three aspects. I feel that we can do a much better job taking into account differences between people and reaching groups that feel they are "different" or non-traditional to make them feel more welcome. I would rate safety in Davis County as the highest but realize that there are still things we can do to make it even better. "

- 2024 Community Resiliency Survey Participant

RECOMMENDATIONS

The following hazards consistently emerged as high level concerns throughout the assessment. It is recommended that DCHD and partner agencies maintain awareness for these different hazards:

- Radiological Dispersal Device
- Fire (Large Scale Urban)
- Earthquake (Major & Moderate)
- Emergent Disease
- Extreme Summer Weather
- Aerosolized Anthrax
- Pandemic Flu
- Supply Shortage

Planning Activities

Collaboration

- Build communication channels and processes between partner agencies.
- Work with statewide partners to develop and obtain educational materials in multiple languages, and identify translation resources.

Response, Mitigation, and Education

- Identify opportunities to improve communication across agencies.
- Assess existing response plans to ensure plans address processes and protocols to follow when there is a lack of electricity during an incident.
- Include mental health needs of responders and the community as well as opportunities to connect people to mental/behavioral health resources early in a response into plans (this could include a tool that will help employees self-assess their mental health and link them to evidence-based resources).
- Utilize GIS data in response plans to include the needs of vulnerable populations.
- Incorporate the utilization of emPOWER data into response plans.
- Mass communication plan for Davis County residents.
- Davis County all-hazard recovery plan.

Planning Activities *Continued*

- Communication messages, information, and materials to share with residents to increase their overall preparedness.
- County-wide mass fatality plan.
- Educational materials on climate change, its effects, and preventative measures.
- Evacuation and shelter plans for the general population, hospitals, long-term care facilities, schools, etc. Make considerations for how this may function in relation to neighboring counties.
- Prepare for and educate on extreme summer weather event and heat island effects (such as cooling centers, urban tree canopy, etc.).
- Assess existing Continuity of Operations Plan(s) to ensure all hazard scenarios and impacts have been considered.
- Assess the impact of a supply shortage on behavioral health treatment.
- Assess surge capacity of local partner agencies.
- Review communication needs and processes with fusion centers and information dissemination with partners regarding potential terrorist activity.
- Assess current capabilities for DCHD and partner agencies to test for air quality.
- Assess Davis County resilience on an individual and community level.
- Review partner response plans to identify gaps related to a nuclear explosion and radiological dispersal devices.
- Assess potential impacts on county electrical systems related to earthquakes and urban fires. This could include impacts to hospitals, long-term care facilities, residents with electricity-dependent medical devices, etc.
- Assess potential impacts on county water systems related to earthquakes and urban fires. This could include treatment facilities, pipe systems, etc.
- Identify potential health issues related to human-exposure to large-scale urban fires (asbestos, heavy metals, etc.). Include considerations for response workers exposed to different substances during recovery efforts.
- Review potential impacts to Davis County's electrical, water, healthcare systems, and essential services during an extreme weather event.
- Assess the impact on local law enforcement capabilities if there is a need to respond to potential security threats and/or riots related to a supply shortage.
- Assess the potential impact of a radiological dispersal device in Davis County.
- Review surge capacity of hospitals and other care facilities in Davis County, identify and address gaps.
- Identify training needs for different response agencies during a radiological dispersal device incident.

Training and Exercise Activities

Preparedness Capability - Community Preparedness
• Exercise evacuation and shelter plans.

Preparedness Capability - Community Recovery
• Identify needed training for responders in the case of a nuclear explosion.

Preparedness Capability - Emergency Operations Coordination
• Assess need and opportunity for joint exercises to improve overall response capability with all partners throughout the county. • Test unified command. • Conduct a logistics exercise based on an aerosolized anthrax scenario that includes law enforcement involvement. • Conduct a logistics exercise based on a supply shortage scenario that includes law enforcement involvement.

Preparedness Capability - Fatality Management
• Train on and exercise the Family Assistance Center (FAC) Plan with staff and partner agencies to prepare for future emergencies that include a mass fatality response.

Training and Exercise Activities

Preparedness Capability - Medical Surge
• Exercise communication with ESF-8 partners during a supply shortage response.

Preparedness Capability - Nonpharmaceutical Interventions
• Exercise the new isolation and quarantine state law. • Through a tabletop exercise DCHD and local hospitals review hospital discharge procedures during a widespread isolation and quarantine scenario to identify opportunities for improvement.

“There are areas for potential improvement, including broadening engagement in emergency planning, fostering inclusivity for all backgrounds, and ensuring that participation opportunities are accessible to everyone. Continued efforts to encourage participation, enhance diversity and inclusivity, and expand involvement in critical community planning initiatives could further strengthen the community's vibrancy and sense of collective responsibility.”

- 2024 Community Resiliency Survey Participant

Appendix A: Demographics

Demographic data was utilized when conducting the JRA and is important when considering planning and preparedness efforts in Davis County.

People by Non-Hispanic Race (in combination) & Ethnicity, 2020

DCHD Community Health Assessment (CHA) 2023

American Indian/Alaska Native

1.3%

Asian/Asian American

3.4%

Black/African American

1.8%

Hispanic/Latino

10.8%

Native Hawaiian/Pacific Islander

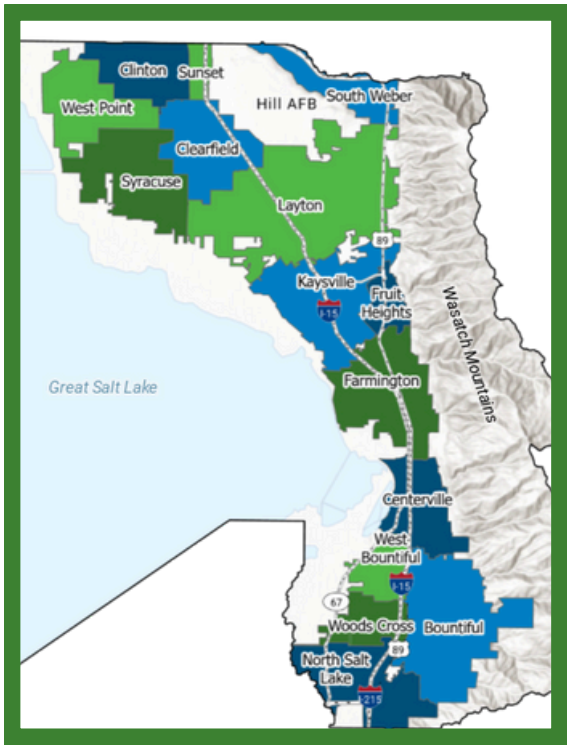
1.5%

White

84.3%

Another Race

1%



362,679

PEOPLE IN DAVIS COUNTY AS OF 2020

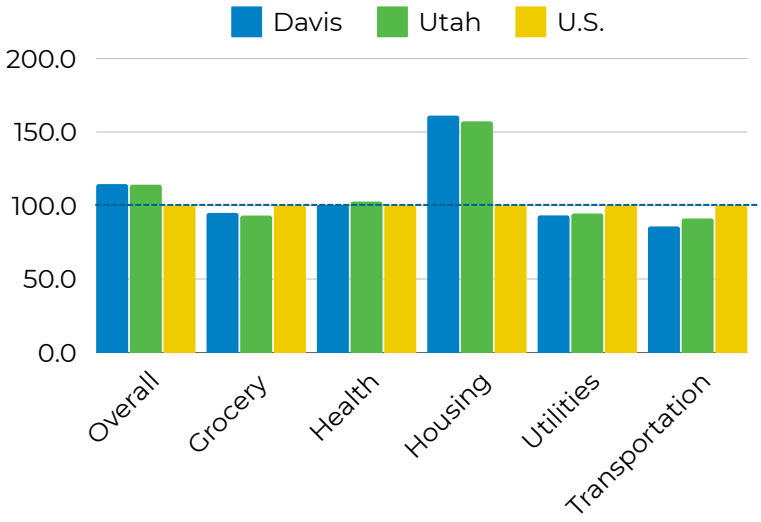
Population growth of

18.3% since 2010

Davis COUNTY HEALTH DEPARTMENT

Cost of Living Comparison, 2019

DCHD Community Health Assessment (CHA) 2023



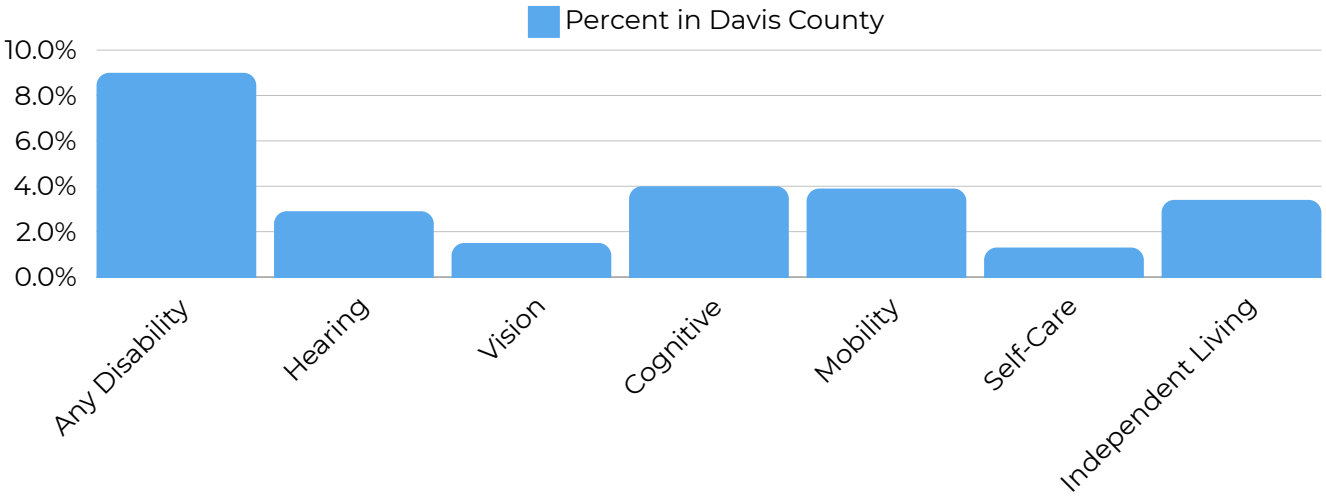
Please Note:
In the "Cost of Living Comparison, 2019" chart to the left, the cost of living indicators can be measured using an index based on a U.S. average of 100, and a cost of living index above 100 means an area is more expensive than the U.S. average. For example, the cost of living in Davis and Utah is higher than the U.S. average in the housing category, and the cost of groceries in Davis and Utah is lower than the U.S. average.

$92,300
Median Household Income

Top 10%
of education attainment out of all counties in the U.S.

31.6 years
Median Age

DCHD Community Health Assessment (CHA) 2023: Population with a Disability by Type



As shown above, Davis County is characterized by a diverse population with various age groups, social/economic factors, and ethnic backgrounds which must be considered when looking at community preparedness against different types of hazards.

Appendix B: Hazard Scenarios

Natural Hazards	
HAZARD	**SCENARIO**
Active Shooter	Description: A gunman rampages through the local community. He first opens fire in his home. He forcibly enters an elementary school and opens fire at others before turning the gun on himself. Casualties include a family member, elementary school students and faculty members. Impact: Within 5 minutes, 28 deaths and 2 injuries. Potential for elevated levels of stress by survivors.
Avalanche	Description: A heavier than usual winter storm creates one of the largest and deepest snowpacks in recent decades. The local snow resort has a surge of business, with many skiers venturing into unstable areas. A group of skiers triggers a dry slab avalanche on the east facing cliff overlooking a small town. The skiers are immediately engulfed. Within minutes snow is upon the town, impacting more than half the town. Impact: Within 2 days, 62 injuries, 38 hospitalizations, 50 deaths.
Civil Disorder	Description: Several communities and areas within the county are upset at the outcome of an emotionally charged court case; they retaliate with several days of rampant civil disorder in several of the metropolitan neighborhoods. Over 600 buildings are completely destroyed by fire; 2,325 injuries are reported, including 53 deaths. Nearly 50 private medical and dental offices, along with 45 pharmacies are destroyed. Environmental impact and cleanup also has numerous long term societal, economic and health effects. Impact: After 2 weeks: 600 injuries, 74 hospitalizations, and 1 death.
Climate Change	Description: Increasing temperatures are sustained in the county for several consecutive years, with numerous, ongoing health related challenges, including increased incidence of heat related illnesses, casualties related to extreme weather events (storms, floods, structural collapses, etc.) and increased incidence of vector based diseases. Impact: Within 3 months, 10 hospitalizations, 5 deaths. Potential for environmental consequences.
Dam Failure	Description: Failure in a 12 year old dam occurs due to internal seepage induced erosion and results in inundation of downstream rural community of 6,500. With little over an hour warning, many of the residents are evacuated to higher ground. Impact: Within 2 days, 500 individuals report injuries, 180 hospitalizations, and 5 reported deaths.
Drought	Description: Caused in part by strong “La Niña” episodic conditions, the region and state are under persistent drought conditions. For several consecutive years, the percentage of average precipitation has remained below 70%, with percentage of average runoff below 45% and state reservoirs at just 40% capacity. As a result of the hot and dry conditions, several large urban and wildland fires occur throughout the region, leading to increased burden of respiratory effects and illness. Impact: Within 3 months, 10 hospitalizations, 5 deaths. Potential for long-term environmental consequences.

Natural Hazards	
HAZARD	**SCENARIO**
Moderate Earthquake	Description: A magnitude 6.4 earthquake erupts along a previously unknown fault line, in the heart of a populated suburban valley north of downtown. Healthcare, transportation, utility and sewage infrastructure systems are significantly impacted. There are more than 5,000 injuries and hundreds of buildings and structures are damaged. Impact: Within 3 days, 1,500 hospitalizations, 57 deaths. Potential for serious infrastructural damage.
Major Earthquake	Description: A magnitude 7.8 earthquake ("ShakeOut" like) occurs on the region's major fault line. Close proximity of fault line to several major urban centers, coupled with area's geographical features produce high energy shaking (MM Scale VIII or greater) for a sustained period of time over a large swath of the area. Healthcare, transportation, utility and sewage infrastructure systems are severely impacted. The earthquake kills and injures many people, by causing buildings to collapse, creating falling debris and flying objects, and increasing traffic accidents when drivers lose control of automobiles. Additional deaths and injuries stem from fires that follow the shaking. Impact: Within 7 days, 20,000 hospitalizations (750 people with severe injuries that require rapid advanced medical care to survive) and 1,800 deaths. In addition, approximately 20,000 people have injuries that need emergency room care. Severe impact on infrastructure.
Extreme Heat Event	Description: Unusual weather patterns of record breaking heat and humidity affect the county for several consecutive days. Extended overuse of utilities overtaxes the utility grid, leading to thousands of homes and businesses without power for as long as five days. Impact: At week's end, 37 hospitalizations and 5 deaths.
Fire: Large-Scale Urban	Description: A series of large scale fires break out in the suburban foothills and valleys. Due to unusually high winds, temperature and dry conditions, the fires prove difficult to control and contain. They burn for 3 days, consuming more than 28,000 acres. Over 2,800 structures, including 2,200 homes and 150 commercial buildings, are destroyed. Because of the size and scope of the fire, fire response resources are severely stretched and limited in their ability to respond to calls for mutual aid. Evacuation of patients is required at two major hospitals, four health care clinics and 3 long-term care (nursing home) facilities that serve the affected areas. Impact: 300,000 evacuated, 400 patient transfers; 300 hospitalizations; 25 deaths.
Flood	Description: A vigorous low pressure system circulates above the region for several days, unleashing unprecedented amounts of rain. The county's flood control river and tributary channels are overwhelmed. Numerous homes, businesses and services—including a hospital and several clinics—within the 50 and 100 year flood plains are affected. Impact: Within 9 days, 60 hospitalizations, 10 deaths. Potential for environmental, infrastructural impact.
Landslide	Description: A series of landslides–from a combination of burned ground cover in the fall and unusually heavy winter rain—occurs throughout the suburban hillside and river communities. The most serious of threats are a 900 and 100 foot section of a neighborhood perched on a cliff, which resulted in numerous homes and several buildings sliding down the ravine. Impact: Within 2 days, 19 hospitalizations, 8 deaths. Potential for ongoing environmental and infrastructural impact.
Population Displacement - Mass Evacuation	Description: A large scale emergency occurs in a nearby county, severely impacting the resident population there. A significant portion of the population is displaced and seeks refuge in the many parks and open spaced areas within the county. Impact: Within 2 weeks, multiple localized outbreaks among refugees, 300 hospitalizations and 25 deaths.
Severe Winter Storm	Description: An unusually cold and wet winter storm hits the region. Excessive snowfall, high winds and cold temperatures lead to icy roads and unsafe driving conditions. Multiple automobile accidents cause closed roadways. Downed power lines cause major power outages. Many businesses are closed for a day or more. Impact: Within 2 days, 120 injuries, 62 hospitalizations, 23 deaths (most due to automobile accidents).

Natural Hazards	
HAZARD	**SCENARIO**
Thunderstorm & Lightning	Description: Fast-moving lightning storm sweeps through the county, inducing several fires and sporadic power outages to wide swaths of communities. Reports of several injuries and some fatalities from lightning strikes in parks and athletic fields. Noticeable, but short-lived surge on some 9-1-1 receiving hospitals in affected areas. Impact: Within 1 day, 18 hospitalizations and 4 deaths.
Tornado	Description: Unusual meteorological events trigger a night-time tornado strike in the heart of the suburban valley. Emergency alert broadcasts provide very little warning. Collectively, the storms destroy more than fifty structures, the majority of which are homes. Impact: Within 2 days, over 200 injured with 102 hospitalizations and 10 deaths.
Volcano	Description: A volcano several hundred miles to the north of the area, which has been spewing CO2 for several years, erupts with relatively little warning. The release produces an enormous pyroclastic cloud of ash into the atmosphere, affecting the region. For several days, the air quality is significantly degraded, which produces an excess burden of inhalational symptoms and challenges throughout the county. Impact: Within 1 week, 104 hospitalizations and 57 deaths due to thermal burns and asphyxiation from inhaling volcanic ash.
Wildfire	Description: A large scale wildfire breaks out in a dry part of the county. The fire proves extremely difficult to control and threatens numerous communities and buildings. The fire burns for nearly a week and consumes more than 8,300 acres before it is contained. Because of the size of the affected area, fire response resources are severely taxed. Numerous homes are destroyed. Impact: Within 1 week, 22 injuries, including 8 hospitalizations, and 19 deaths. Potential for elevated levels of stress among some, including the injured and those who experienced property damage.
Windstorm	Description: Sustained hurricane force winds of 100 mph blast through a valley area, damaging buildings, downing trees and knocking out power for over 350,000 people across the region. A range of health complications occur including falls due to power outages, heart attacks and injuries from fallen trees and fires caused by downed power lines. Impact: Within 5 days, 12 hospitalizations and 1 death. Potential for moderate damage to infrastructure.

Biological Hazards	
HAZARD	**SCENARIO**
Aerosolized Anthrax	Description: Bacillus anthracis is released, undetected, with modest efficiency in a densely populated urban city with a significant commuter workforce. Approximately 330,000 individuals are exposed from release and seasonal winds. Incubation period: 1-7 days (up to 48 days), most cases within 48 hours. Rapid distribution of medical countermeasures is required for treatment and mass prophylaxis. Impact: Within 48 hours, 20,000 cases, 17,000 hospitalizations 5,000 deaths (nearly 100% case-fatality for untreated). Potential for long-term environmental contamination.

Biological Hazards	
HAZARD	**SCENARIO**
Agroterrorism	Description: A terrorist group has successfully infiltrated a high volume meat processing facility with direct distribution to local markets and fast food restaurants. E. coli 0157 is introduced into batches of ground beef. Within days, local hospitals begin seeing young children and older adults with severe illness. Over the next 3 weeks, new cases continue to present throughout the area. Impact: Within 10 days, 600 cases, 100 hospitalizations (25 hemolytic uremic syndrome cases requiring ICU), and 3 deaths.
Botulism	Description: A film festival is being held in the city. There is a large opening night gala that 500 people attend. Within 12 hours of the event, many attendees go to local hospitals with blurred vision, difficulty swallowing, and descending paralysis. An ED doctor suspects Clostridium botulinum intoxication and notifies the health department. Symptomatic individuals continue to seek medical care over the next several days. The nature of the event suggests a possible terrorist attack. The health department and FBI investigate through interviews and testing of event catering facilities. Impact: Within 24 hours, 50 cases, 45 hospitalizations (10 intensive care), and 5 deaths. Until the source is identified, there is potential for additional hospitalizations and deaths.
Communicable Disease Outbreak	Description: A 15 year-old refugee from Burma arrives in the area after a flight from Kuala Lumpur with a fever and rash. On arrival, the child's family and other refugees are bused to a local motel. The next morning, they attend a welcome party at a local temple with 500 guests. Declining vaccination rates have decreased the community immunity threshold for measles below the 94% level necessary to maintain herd immunity. Suspect measles is reported to the health department by two separate pediatricians in twelve month and nineteen month old children who were also on the flight. A case is also reported in a 25-year old immigration agent. Subsequent outbreaks of measles are reported in the jurisdiction. Impact: Within two weeks, 24 cases (61% of which are younger than 20 years old), 8 hospitalizations, and 1 death.
Emergent Disease	Description: Emergence and global spread of novel, SARS-like, febrile disease. Early epidemiology indicates high rates of spread via droplet transmission. No viable vaccine candidate expected for a minimum of 12 months. Local surveillance systems have detected influenza-like illness signals at several hospitals in the community. Impact: After 6 months, 25,000 cases, 3,000 hospitalizations; 2,300 deaths.
Food Supply Contamination	Description: A large food production facility is unknowingly contaminated with E. coli 0157. The facility produces and provides bagged salad products to nearly all the local schools and university facilities in the area, potentially exposing many thousands of children to the bacteria. Within days, syndromic surveillance detects gastrointestinal signals at numerous hospitals throughout the region, primarily amongst children and young adults; the surge of cases continues for several days. 67% of individuals who present at the hospital are admitted, with higher rates among those individuals with suppressed immune systems. Impact: Within 1 month, 2,120 cases, 640 hospitalizations, 16 deaths.
Intentional Food Contamination	Description: An anti-government group, successfully and covertly distributes salmonella enterica (salmonella) throughout the community via contaminated food and condiments at nearly two dozen popular Mexican-food restaurants. Syndromic surveillance detects gastrointestinal signals at numerous hospitals throughout the region. Surge of cases continues for several days, with high rates of hospitalization and mortality among frail, elderly and immuno-suppressed. Impact: 3,000 cases, 840 hospitalizations, 15 deaths.

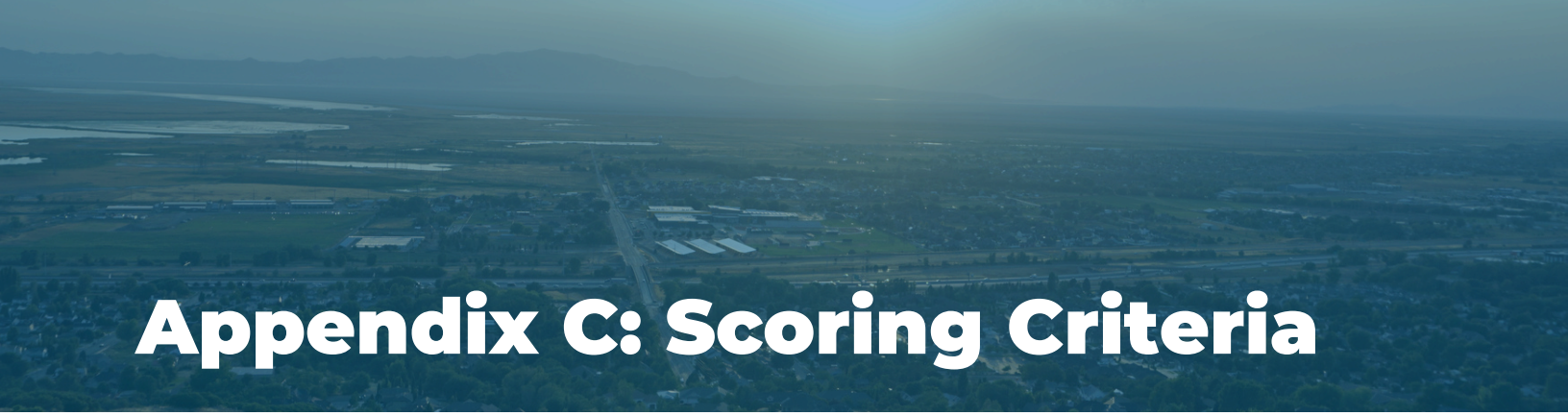
Biological Hazards	
HAZARD	**SCENARIO**
Intentional Water Contamination	Description: An intentional release of Cryptosporidium has been confirmed at a major water utility plant that provides water to a large segment of the county. Potential for numerous affected individuals: illness, hospitalizations, mortality, depending on the extent of the contamination. Impact: Within 5 days, 200,000 cases, 2,000 hospitalizations, 270 deaths (susceptible populations most at risk).
Pandemic Influenza	Description: Emergence and global spread of novel influenza strain with high transmission and virulence. 30% illness attack rate; 2% case fatality rate, higher among children and elderly. Significant and sustained surge on healthcare delivery systems. Multiple waves of disease present over year -long duration of pandemic. Efficacious vaccine unavailable until 6 months after initial outbreak. Impact: Within 6 months, 3,600,000 cases, 396,000 hospitalizations, 76,120 deaths.
Pneumonic Plague	Description: Y. pestis, the causative agent of plague, is disseminated via an agricultural sprayer while driving through a densely populated urban city. Short incubation period (1-4 days), coupled with domestic and foreign travel leads to rapid dissemination of disease. Fatality rate of pneumonic plague is high, with real potential for secondary spread. A variety of public health interventions are implemented, including: quarantine and isolation and rapid distribution of medical countermeasures, both for treatment and prophylaxis. Impact: Within 5 days, 150,000 cases, 100,000 hospitalizations, 16,000 deaths (Case fatality rate for untreated pneumonic plague approaches 100%).
Smallpox	Description: Variola major is released, undetected, at a major political event in the downtown area. 18 days after the release, several individuals present at local hospitals with severe fever, abdominal cramps and backache; samples from two of these individuals are sent to local public health laboratory. At day 20, laboratory tests confirm presence of smallpox virus; onset of hospital surge by individuals with similar complaints begins. Variable periods of contagiousness and waning immunity in older individuals leads to multi-wave smallpox epidemic occurs over the following 12-15 weeks. Immediate mass vaccination campaign is required. Case fatality rate approaches 30%. Impact: After 6 months, 1,300,000 cases, 650,000 hospitalizations and 390,000 deaths.
Tularemia	Description: An undiagnosed large scale tularemia epizootic among local rabbit populations leads to transmission of inhalational tularemia to humans. Syndromic surveillance systems detect increase in numbers of individuals presenting with influenza-like illnesses. More than one thousand individuals exposed, with children under 9 and adults over 75 at greatest risk. Community wide mass prophylaxis response will be needed to reduce illness and mortality. Impact: Within 2 weeks, 300 cases, 156 hospitalizations, 21 deaths.
Vector-borne Disease	Description: Hot weather and stagnant pools of water are the perfect breeding conditions for mosquitoes, which can carry the West Nile Virus (WNV). About 1 in 15 people infected with WNV will develop severe illness including high fever, headache, muscle weakness, vision loss, numbness and paralysis. 20 percent of people infected will develop milder symptoms. Symptoms of WNV appear within 3 to 12 days after infection. Impact: Within 4 months, 78 cases, 15 hospitalizations, 2 deaths.

Chemical and Radiological Hazards	
HAZARD	**SCENARIO**
Blister Agent	Description: Agent Yellow—a liquid mixture of the blister agents sulfur Mustard and Lewisite—is dispersed over a large outdoor athletic event. Individuals who breathe this mixture may experience damage to the respiratory system. Contact with the skin or eye can result in serious burns; high level exposure can be fatal. The stadium is immediately evacuated, resulting in some spread of contaminated material. The agent directly contaminates the stadium and the immediate surrounding area, and generates a downwind vapor hazard. Impact: 60,000 injured, 35,000 hospitalizations to treat chemical and inhalational burns, arsenic poisoning and evacuation related injuries. 75 total deaths. Potential for significant environmental remediation.
Factory Chemical Spill	Description: An accidental release occurs at a modest industrial manufacturing factory located in a local business park. The factory uses several basic though caustic chemicals in their production. The release causes several casualties, some of which require treatment at local hospital. Impact: Within 1 day, 6 hospitalizations and 1 death.
Industrial Plant Explosion	Description: A fertilizer plant explosion rocks a town of 2,800 people. Burning embers, shrapnel and debris rain down on scared residents. Serious injuries include broken bones, cuts, head trauma, burns and some breathing problems. Damage to a local nursing home building prompts an evacuation of 133 patients, including some in wheelchairs. Surrounding residential neighbors were destroyed. Potential for additional evacuations. Impact: Up to 15 deaths; at least 200 injuries and 110 hospitalizations.
Mass Casualty Hazardous Materials Accident	Description: A northbound passenger train (one locomotive, 3 passenger cars), carrying 250 passengers collides with a southbound freight train: 2 locomotives, 30 cars, 2 carrying pressurized chlorine gas. Several cars from both trains are derailed, including one chlorine tanker which is compromised and leaking. Impact: 180 injured in crash, 102 transferred to hospitals; 75 deaths (45 from crash, 30 from chlorine exposure).
Nerve Agent	Description: Sarin, a potent, clear, colorless and tasteless nerve agent, is released into the ventilation systems of a major commercial office building—via several spray dissemination devices—in the downtown area. The agent kills 95% of the approximately 2,000 individuals in the office building, and kills or sickens many of the first responders. In addition, some of the agent exits through rooftop ventilation stacks, creating a downwind hazard. Impact: 250 injuries, 175 hospitalizations, 1,900 deaths. The building and immediate surroundings will require decontamination.
Nuclear Explosion – 10 Kiloton	Description: A nuclear bomb (fission-fusion) is detonated downtown. Severe loss of life and infrastructure within 2 mile blast radius. Moderate damage and loss of life in other affected areas. Explosion will release 10,000 times more radiation than a large dirty bomb. Blast, thermal, and radiation injuries in combination will result in worse prognoses for patients than only sustaining one independent injury. Impact: 250,000 injured, 150,000 require hospital level treatment. 30,840 deaths. Significant long term environmental impact.
Radiological Dispersal Device	Description: A Radiological Dispersal Device (RDD or “dirty bomb”) — composed primarily of Cesium-137—is detonated in the downtown region of a major urban center. Radiation exposure causes skin damage similar to burns deep within the body. The contaminated region covers approximately thirty-six blocks, including the business district, residential row houses, crowded shopping areas, and a high school. Impact: 20,000 injuries; over 1,000 hospitalizations; 270 deaths. Significant disruption to economic and infrastructure resources.

Chemical and Radiological Hazards	
HAZARD	**SCENARIO**
Radiological Incident – Fixed Facility	Description: An explosion occurs at a cancer treatment hospital located in a populated area of the county. Strong gusts of wind deposit the fallout up to 1 mile downwind from the hospital. Hospital is disabled for extended period of time. Impact: Within 2 days, 10 hospitalizations due to radiation poisoning and 3 deaths. Nearly 2000 residents in the area were exposed to radioactive materials.
Ricin	Description: Ricin is disseminated in jurisdiction's light rail transportation system during busy Monday morning commute. Ricin toxin is synthesized from castor plants endemic in the local area. It has a short incubation and within a few hours, numerous individuals begin reporting to local hospitals with respiratory distress, fever, cough, nausea and other symptoms. No FDA approved treatments, supportive therapy only. Symptoms worsen with death occurring 36-48 hours from exposure. Impact: By week's end, 8,500 cases; 6,000 hospitalizations; 2,500 deaths. Environmental remediation will be required.
Train Accident-Chemical Release	Description: A train carrying a number of large, industrial chemical tanks is derailed, resulting in an immediate explosion and release of chemical/HAZMAT release into the air. A light breeze carries the plume toward residential and commercial areas. Several thousand people potentially exposed to HAZMAT plume. Several hospitals in the area have been instructed to shelter-in-place. Impact: 250 total injured; 12 in train accident. Several dozen hospitalizations, 15 deaths.

Technological Hazards	
HAZARD	**SCENARIO**
Communications Failure	Description: An unexplained atmospheric condition disables a broad range of communication functions throughout the area. The loss of infrastructure capacity causes an overload on the existing system, triggering a cascade of communication failures. Emergency response and healthcare services and systems experience periodic failures in communication capabilities, which lead to several delays in provision of emergency and health services. Impact: After 3 days, 32 attributable hospitalizations, 11 related deaths.
Cyber Attack	Description: A rogue cyber-criminal attacks the energy production of a major metropolitan area, disrupting electrical power service for a period of 8 hours. Generator failure at several hospitals negatively affects service delivery at those facilities. Impact: Within 1 day, 840 patients are evacuated and relocated to other hospitals, while 6 patients die due to backup generator failure.
Electrical Failure	Description: An unintentional mishap on a high-voltage power line causes a cascading series of electrical grid failures across the county, leaving more than 50% of the homes, businesses and healthcare facilities without power. Electrical utility companies estimate at least 48 hours will be needed to restore service. Impact: After 2 days, 3 hospitalizations, 1 death.
Information Systems Failure	Description: There are several significant emergencies and disasters that may cause and/or occur from a disablement of existing information systems. The potential impact—direct or indirect—to health and medical services of the county are varied, and potential very serious. Existing resources, i.e. amateur radio operators, vary by community and could serve a mitigating role in this type of scenario. Impact: Within 1 day, 40 hospitalizations and 30 deaths.

Technological Hazards	
HAZARD	**SCENARIO**
Improvised Explosive Device	Description: A large explosive device is detonated at a downtown government office building. The blast destroys or damages several dozen buildings within an 8 block radius of the explosion. Impact: Within 1 day, 700 injuries, 500 hospitalizations and 200 deaths.
Oil Spill	Description: An oil drilling platform is damaged, leaking oil for an extended period of time. Local bodies of water are contaminated. A wide array of health impacts affect the surrounding community, including: skin rashes, persistent headaches, coughing. Like previous oil spills, there is an increase in psychological effects from the spill in both cleanup workers and local residents. Impact: Within 4 months, 11 deaths and 62 hospitalizations. Potential for major threats to the environment.
Sewer Failure	Description: A large storm inundates and incapacitates several large wastewater pumping stations, resulting in sewer backups and failures in a large swath of the community. Approximately 8-12 hours for normal services to resume operations. Impact: After 3 days, 8 attributable hospitalizations and 1 death. Potential for long and short-term impacts on the environment including the presence of gross pollutants and bacteria in river and lake waters.
Supply Shortage	Description: Local, regional and national distribution systems are increasingly reliant upon just-in-time production. A disruption of the production and distribution of medical supplies has occurred because of an emergency in another state. Lack of certain drugs and antibiotics have compromised and delayed care for patients. Impact: Within 3 months, 15 cases affected (among hospitalized patients) and 5 deaths (because proper or preferred drugs were not available).
Transportation Infrastructure Failure	Description: A key bridge which serves as a major transportation artery for both automobiles and light rail is disabled due to recent discovery of a series of cracks in the foundational footings. The freeway and light rail line have been closed for an undetermined period of time, with no expected timeline for reopening. Potential effects of this type of scenario will vary by geography and jurisdiction. Impact: Within 1 week, 2 hospitalizations and 1 death.
Water Supply Contamination	The network and systems that provide water to more than 70% of the homes, industry and healthcare services in the jurisdiction are disabled for unknown reasons. This disruption of drinking water treatment process triggers an outbreak of cryptosporidium in the affected area. Affected patients include immune-compromised patients. Impact: After 7 days, 285 confirmed cases, 130 hospitalizations and 69 deaths.
Water Supply Disruption	The network and systems that provide water to more than 70% of the homes, industry and healthcare services in the jurisdiction are disabled for unknown reasons. Impact: After 7 days, 40% of households, healthcare facilities and businesses are still unable to utilize public water supply.



Appendix C: Scoring Criteria

1. Probability	
Improbable (0)	The probability of the occurrence of the hazard within the next 25 years is zero
Remote (1)	The hazard is not likely to occur within the next 25 years, but it is possible
Occasional (2)	The hazard is likely to occur at least once within the next 25 years
Probable (3)	The hazard is likely to occur several times within the next 25 years
Frequent (4)	The hazard is likely to occur cyclically or annually within the next 25 years

2. Health Severity	
Not Applicable (0.5)	There is no elevated health or medical impact associated with this hazard
Marginal (1)	The hazard presents a minimal threat to safety, health and well-being of the surrounding community
Limited (2)	May result in moderately elevated rates of severe disease, injury, hospitalizations and deaths
Critical (3)	May result in considerably elevated rates of severe disease, injury, hospitalizations and deaths
Catastrophic (4)	May result in significantly elevated rates of severe disease, injury, hospitalizations and deaths

3. Community Impact	
Improbable (0)	The probability of the occurrence of the hazard within the next 25 years is zero
Low (1)	The hazard presents a low threat to the safety, health and well-being of the surrounding community
Moderate (2)	May result in moderate impacts and disruptions of normal activities and functions, including communications functionality & capabilities. May cause delay or suspension of social services and resources.
High (3)	Considerable disruption to normal activities and functions, including communication functionality and capabilities. Delay or suspension of social services, resources and public infrastructure.
Extreme (4)	Significant disruption to normal activities and functions, including communication functionality and capabilities. Destruction or significant delay and/or suspension of social services, resources and public infrastructure.

4. Public Health System Impact	
None (0.5)	No potential to disrupt normal day-to-day public health operations. No projected impact on public health personnel, resources, and/or facilities.
Negligible (1)	Negligible potential to disrupt normal day-to-day public health operations. Negligible projected impact on public health personnel, resources, and/or facilities (few, if any, adjustments need to be made to staff schedules or work locations). There is no need to activate the Continuity of Operations Plan (COOP).
Limited (2)	Limited potential to disrupt normal day-to-day public health operations. There is limited projected impact on public health personnel, resources, and/or facilities (small adjustments may be made to staff schedules and work locations; procurement of some additional services and supplies through normal channels). There is no need to activate the COOP.
Critical (3)	Public health emergency may be declared by local officials. State emergency may be declared by Governor. Disruption of the day-to-day public health operations would require deferring all non-essential services. Public health personnel and/or facilities are impacted: high absenteeism due to injury, illness, death; infrastructure and building damage. All available personnel, resources, and facilities would be dedicated to performing essential public health emergency services: • *Biosurveillance* – laboratory testing, surveillance and epidemiological investigation • *Community Resilience* – preparedness and recovery • *Countermeasure Mitigation* – dispensing, medical materiel management and distribution, non-pharmaceutical interventions, responder safety and health, volunteer management • *Incident Management* – emergency operations coordination, emergency public information and warning, information management • *Surge Management* – medical surge, mass care, fatality management COOP would need to be activated. Additional staff, supplies and services would be needed.
Catastrophic (4)	National emergency may be declared by the President. Immediate deferment of all non-essential services. Public health resources would be rapidly overwhelmed due to the impact on public health personnel and/or facilities: extreme absenteeism, illness, death; infrastructure and building damage. All available personnel, resources, and facilities would be dedicated to performing essential public health emergency services (see #3 above). COOP would be activated, though insufficient to meet need. Additional staff, supplies and services would be immediately needed.

5. Healthcare System Impact	
None (0.5)	No potential to disrupt normal day-to-day operations. No projected impact on public health personnel, resources, and/or facilities.
Negligible (1)	Negligible potential to disrupt normal day-to-day operations. Negligible projected impact on personnel, resources, and/or facilities (few, if any, adjustments to staff schedule or work locations). There is no need to activate the Continuity of Operations Plan (COOP).
Limited (2)	Limited potential to disrupt normal day-to-day operations. There is limited projected impact on personnel, resources and/or facilities (small adjustments to staff schedules and work locations; procurement of additional resources through normal channels). There is no need to activate the COOP.
Critical (3)	Health emergency may be declared by local officials. State emergency may be declared by Governor. Disruption of the day-to-day operations would require deferring all non-essential services. Adjustment – relaxation or suspension – of state regulations and statutes may be necessary to maintain service capabilities. Impact to staff and/or facilities: high absenteeism due to injury, illness, death; infrastructure and building damage. All available personnel, resources, and facilities would be dedicated to performing essential emergency services. COOP would be activated. Additional staff, supplies and services would be needed.
Catastrophic (4)	National emergency may be declared by the President. Immediate deferment of all non-essential services. Suspension of state regulations and statutes may be necessary to maintain service capabilities. Resources would be rapidly overwhelmed due to the impact on staff and/or facilities: extreme absenteeism, illness, death; infrastructure and building damage. All available personnel, resources, and facilities would be dedicated to performing essential emergency services. COOP would be activated. Additional staff, supplies and services would be immediately needed.

6. Mental/Behavioral Health System Impact	
None (0.5)	No potential to disrupt normal day-to-day operations. No projected impact on personnel, resources, and/or facilities.
Negligible (1)	Negligible potential to disrupt normal day-to-day operations. Negligible projected impact on personnel, resources, and/or facilities (few, if any, adjustments to staff schedule or work locations). There is no need to activate the Continuity of Operations Plan (COOP).
Limited (2)	Limited potential to disrupt normal day-to-day operations. There is limited projected impact on personnel, resources and/or facilities (small adjustments to staff schedules and work locations; procurement of additional resources through normal channels). There is no need to activate the COOP.
Critical (3)	Health emergency may be declared by local officials. State emergency may be declared by Governor. Disruption of the day-to-day operations would require deferring all non-essential services. Adjustment – relaxation or suspension – of state regulations and statutes may be necessary to maintain service capabilities. Impact to staff and/or facilities: high absenteeism due to injury, illness, death; infrastructure and building damage. All available personnel, resources, and facilities would be dedicated to performing essential emergency services. COOP would be activated. Additional staff, supplies and services are needed.
Catastrophic (4)	National emergency may be declared by the President. Immediate deferment of all non-essential services. Suspension of state regulations and statutes may be necessary to maintain service capabilities. Resources would be rapidly overwhelmed due to the impact on staff and/or facilities: extreme absenteeism, illness, death; infrastructure and building damage. All available personnel, resources, and facilities would be dedicated to performing essential emergency services. COOP would be activated. Additional staff, supplies and services would be immediately needed.

7. LHD Mitigation Efforts	
None (0.5)	The agency does not have a hazard specific response plan. Hazard specific exercises and drills have not been conducted. The agency does not have any specialized trainings or assets to mitigate the potential impact of the scenario.
Low (1)	The agency does have a hazard specific response plan, but it is outdated. Some hazard specific exercises and drills have been conducted, but not with any consistent regularity. The agency has few specialized resources that could be used to mitigate the potential impact of the scenario.
Moderate (2)	The agency has an approved hazard specific response plan. Drills and exercises have been conducted, but generally not with other response agencies. Some specialized capabilities assets to mitigate the hazard impact limited availability. Some back-up systems have been developed and are available. Few MOUs with external agencies or vendors are in place to provide needed resources. Some engagement with community stakeholder groups to educate the public on this specific hazard and the potential response.
High (3)	The agency has an approved and updated hazard response plan. The agency uses the plan to conduct drills and exercises, often, in cooperation with other partner agencies. It also has an agency specific COOP plan. The agency has developed specialized response capabilities and assets, some of which have been pre-positioned. Back-up systems for primary response functions have been developed. While the agency has some MOUs and MOAs in place with several partner agencies and vendors to provide needed resources and supplies, they have not been tested. The agency does engage with community stakeholder groups and promotes preparedness kits and plans for this hazard.
Extreme (4)	The agency has approved and updated hazard response and COOP plans. The agency regularly tests and exercises these plans, often, in cooperation with other partner agencies. The agency has a significant degree of specialized resources and capabilities to mitigate the hazard impact. The agency has developed and maintains ready, back-up systems for all of its primary response functions. MOU/MOAs with key partner agencies and vendors are in place and have been tested. The agency regularly engages with community stakeholder groups and supports preparedness activities for this specific hazard.

7. LHD Mitigation Efforts	
None (0.5)	The agency does not have a hazard specific response plan. Hazard specific exercises and drills have not been conducted. The agency does not have any specialized trainings or assets to mitigate the potential impact of the scenario.
Low (1)	The agency does have a hazard specific response plan, but it is outdated. Some hazard specific exercises and drills have been conducted, but not with any consistent regularity. The agency has few specialized resources that could be used to mitigate the potential impact of the scenario.
Moderate (2)	The agency has an approved hazard specific response plan. Drills and exercises have been conducted, but generally not with other response agencies. Some specialized capabilities assets to mitigate the hazard impact limited availability. Some back-up systems have been developed and are available. Few MOUs with external agencies or vendors are in place to provide needed resources. Some engagement with community stakeholder groups to educate the public on this specific hazard and the potential response.
High (3)	The agency has an approved and updated hazard response plan. The agency uses the plan to conduct drills and exercises, often, in cooperation with other partner agencies. It also has an agency specific COOP plan. The agency has developed specialized response capabilities and assets, some of which have been pre-positioned. Back-up systems for primary response functions have been developed. While the agency has some MOUs and MOAs in place with several partner agencies and vendors to provide needed resources and supplies, they have not been tested. The agency does engage with community stakeholder groups and promotes preparedness kits and plans for this hazard.
Extreme (4)	The agency has approved and updated hazard response and COOP plans. The agency regularly tests and exercises these plans, often, in cooperation with other partner agencies. The agency has a significant degree of specialized resources and capabilities to mitigate the hazard impact. The agency has developed and maintains ready, back-up systems for all of its primary response functions. MOU/MOAs with key partner agencies and vendors are in place and have been tested. The agency regularly engages with community stakeholder groups and supports preparedness activities for this specific hazard.

8. ESF 8 Partners' Mitigation Efforts	
None (0.5)	The agency does not have a clear understanding of its potential role or opportunity to assist in a potential response. There are no resource assets in place. There are no plans in place to maintain agency services and functions during this emergency. No communications plan.
Low (1)	The agency has a limited understanding of its potential role or opportunity to assist in a potential response. Some resource assets are in place. There are no plans in place to maintain agency services and functions during this emergency. Limited (and perhaps outdated) communications plan is in place.
Moderate (2)	The agency understands its potential role or opportunity to assist in a potential response. Some key resources assets are available and in place. Has a plan to ensure key agency services and functions are available during this emergency. Has a limited communications plan in place.
High (3)	The agency understands its potential role or opportunity to assist in a potential response. Key resources assets are available and in place. Has a plan to ensure key agency services and functions will be available during this emergency. Has a communications plan in place. Plan includes protocols for communicating with leadership, staff and clients.
Extreme (4)	The agency understands its potential role or opportunity to assist in a potential response. Key resource assets are available and in place; including backup systems and resources. Has a plan to ensure key agency services and functions will be available during this emergency. Has a communications plan in place. The plan is regularly updated and includes protocols for communicating with leadership, staff and clients.

Each risk component was given a score between 0-4. With 0 indicating that a hazard was not applicable to the jurisdiction, 1 being the lowest possible score, and 4 being the highest possible score.

	Probability	Health Severity	Impact	Mitigation
1	**Remote** Not likely to occur within the next 25 years, but it is possible	**Marginal** The hazard presents a minimal threat to safety, health and well-being of the surrounding community	**Negligible** The hazard presents a low threat to the safety, health and well-being of the surrounding community	**Low** The agency does have a hazard specific response plan, but it is outdated. Some hazard specific exercises and drills have been conducted, but not with any consistent regularity. The agency has few specialized resources that could be used to mitigate the potential impact of the scenario.
2	**Occasional** Likely to occur at least once within the next 25 years	**Limited** May result in moderately elevated rates of severe disease, injury, hospitalizations and deaths	**Limited** May result in moderate impacts and disruptions of normal activities and functions, including communications functionality & capabilities. May cause delay or suspension of social services and resources.	**Moderate** The agency has an approved hazard specific response plan. Drills and exercises have been conducted, but generally not with other response agencies. Some specialized capabilities assets to mitigate the hazard impact limited availability. Some back-up systems have been developed and are available. Few MOUs with external agencies or vendors are in place to provide needed resources. Some engagement with community stakeholder groups to educate the public on this specific hazard and the potential response.
3	**Probable** The hazard is likely to occur several times within the next 25 years	**Critical** May result in considerably elevated rates of severe disease, injury, hospitalizations and deaths	**Critical** Considerable disruption to normal activities and functions, including communication functionality and capabilities. Delay or suspension of social services, resources and public infrastructure.	**High** The agency has an approved and updated hazard response plan. The agency uses the plan to conduct drills and exercises, often, in cooperation with other partner agencies. It also has an agency specific COOP plan. The agency has developed specialized response capabilities and assets, some of which have been pre-positioned. Back-up systems for primary response functions have been developed. While the agency has some MOUs and MOAs in place with several partner agencies and vendors to provide needed resources and supplies, they have not been tested. The agency does engage with community stakeholder groups and promotes preparedness kits and plans for this hazard.
4	**Frequent** The hazard is likely to occur cyclically or annually within the next 25 years	**Catastrophic** May result in significantly elevated rates of severe disease, injury, hospitalizations and deaths	**Catastrophic** Significant disruption to normal activities and functions, including communication functionality and capabilities. Destruction or significant delay and/or suspension of social services, resources and public infrastructure.	**Extreme** The agency has approved and updated hazard response and COOP plans. The agency regularly tests and exercises these plans, often, in cooperation with other partner agencies. The agency has a significant degree of specialized resources and capabilities to mitigate the hazard impact. The agency has developed and maintains ready, back-up systems for all of its primary response functions. MOU/MOAs with key partner agencies and vendors are in place and have been tested. The agency regularly engages with community stakeholder groups and supports preparedness activities for this specific hazard.

Appendix D: Community Disaster Resiliency Survey Questions

Utah Jurisdictional Risk Assessment 2024
Community Disaster Resiliency Survey

The Utah state and local health departments are seeking to better understand how well communities may fare if a disaster hits. That is to say, when circumstances within the community cause local resources to be overwhelmed due to the threat of widespread or severe damage, injury or loss of life or property. We ask you to complete this brief questionnaire to help in these efforts.
The questionnaire is divided into four categories, namely: opportunity, safety, connectedness, and community involvement. For each category there are two to three multiple choice questions and one short answer question. Please answer the questions for the community that you serve, if you are in a professional, religious or other community-serving role. Otherwise, complete the survey for the community you live in. You may rate multiple communities if you have in-depth knowledge of more than one by simply starting a new survey after submitting the first.
Results from surveys will be anonymous. Aggregated data will be used to inform emergency response and recovery planning efforts by local and state health departments.

Demographics

Please select the local health district (HD) for the community you are rating.

Please select your current professional industry. Choose all that apply.
□ Local Health Government
□ State Government
□ Tribal Government
□ Federal Government
□ Military
□ Community-based or Nonprofit
□ Faith-based/Clergy
□ Politics/Elected Official
□ K-12 Education
□ College/University
□ Healthcare
□ Public Health
□ Business/Private Sector
□ Tribal Organization
□ Community-based or Non-Profit
□ Community Member
□ Other

Select whether you will be rating the community you live in, or a community you serve.
□ I live in the community I will be rating for the survey
□ I do not live in the community I will be rating, but I serve the community

If you are rating a community that you provide services for, select the primary group(s) of people you serve. Choose all that apply.
□ General Public
□ Faith-based or religious communities
□ People who have disabilities
□ People who are justice-involved
□ Immigrants, refugees, or people who are undocumented
□ Rural communities
□ People of diverse racial and ethnic backgrounds
□ People from the LGBTQIA+ community
□ People who are medically underserved
□ People experiencing homelessness
□ People whose income does not meet basic needs
□ People with a mental or behavioral health condition
□ Older adults
□ Youth
□ Veterans
□ Other
□ Not Applicable

OPPORTUNITY
All community members have access to equitable opportunities, choices, and resources.

In the community there is...
1. High-quality, safe, and affordable housing accessible for residents with mixed income levels.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

1. Local ownership of assets; accessible local employment that pays living wages and salaries; and access to investment opportunities.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

1. High-quality, accessible education and literacy development for all ages that effectively serves all learners.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

Short Answer:
How well does your community align with the following prompt? Explain your answer below.

Opportunity includes economic, social, and educational policies that enable all people in the community to have access to equitable opportunities, choices, and resources. There is access to affordable and nutritious food. A majority of residents maintain access to abundant goods, services, resources, and amenities. There is a fair distribution of necessities, goods, and services which all residents have equitable access.

Things to consider when answering:
- The number of people experiencing homelessness in your community and the resources available for them.
- People whose income does not meet their basic needs.
- The availability of food pantries/soup kitchens for those who need them.
- The percentage of residents that own versus rent their home or that of cost-burdened households who spend more than 30% of their income on housing.

SAFETY

Community members have a low exposure to risk and have options to respond to emergencies.

1. In the community there is availability of safe, reliable, accessible, and affordable ways for people to move around, including public transit, walking, biking, and using devices that aid mobility.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

2. In the community there are first responders who are readily available and in close proximity to respond to emergencies within the community.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

3. Residents in the community live within close proximity to affordable and high-quality healthcare.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

Short Answer:

How well does your community align with the following prompt? Explain your answer below.

Safety is when most residents in the community have low exposure to risk, are prepared for and have options to respond to emergencies and are less likely to be in places where they may be harmed during an emergency. Community members are aware of hazards that are most likely, and actively participate in preparedness activities.

Things to consider when answering:

- Can members of the community remove themselves from danger if needed (i.e., via access to transportation or emergency funds?)
- What proportion of your community is young or elderly and may not be able to independently respond to emergency instructions?
- Would people have access to healthcare and timely emergency services if needed?

CONNECTEDNESS

Community members have many connections through which they can offer or receive help.

1. There are trusting relationships among community members built upon a shared history, mutual obligations and opportunities to associate.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

2. The community values and strengthens existing relationships, and fosters the formation of new connections.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

3. Residents in the community feel isolated from other parts of the county.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

Short Answer:
How well does the community align with the following prompt below? Explain your answer below.

Connectedness is when community members have many connections through which they can offer or receive help. Family, friends, coworkers, neighbors, community groups, social service agencies, and more are present in everyone's life as givers and receivers of support. Things to consider when answering:

- Do people in your community know, trust and support each other?
- Are people willing to help others even when they don't know them?
- Do residents feel a sense of connection and an obligation toward the larger community?
- To what extent would community members pull together when confronting a disaster?
- Is there a high rate of residency turnover?

COMMUNITY INVOLVEMENT
The community is active and committed to growing and improving together.

1. Community members have the capacity, desire, and ability to participate, communicate, and work to improve the community. This is evident in volunteerism, involvement in community and social organizations, and participation in the political process.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

2. When a problem occurs, community members are able to come together and create a solution for the problem.

□ Strongly Disagree □ Disagree □ Neutral □ Agree □ Strongly agree

Short Answer:
How well does your community align with the following prompt below? Explain your answer below.

A community with high community involvement has a vibrant life outside of work and home, with active school organizations, block associations, volunteer organizations, places of worship, multicultural events, social gatherings, and more. People are eager to join, active when they do, and committed to growing and improving the group.

Things to consider when answering:

- What kinds of community organizations are active in your community?
- Is there high civic engagement and voter turnout in your community?
- Do opportunities exist for people to contribute to emergency planning in your community?
- Do people of all backgrounds, abilities, and experiences have the ability to participate in community organizations, events, and opportunities?
- Are community members willing to take actions that are good for the community such as social distancing when sick and conserving water during droughts?

IMPROVING COMMUNITY RESILIENCY
Gaining insight into the steps we can take to improve our communities.

1. Compare the four aspects of community resiliency within the community: Opportunity, Safety, Connectedness, and Community Involvement. Which one needs the most improvement? Which one would you rate highest? Explain your answers below.
2. Are there existing efforts that are underway that could move the community towards higher capacity in any of the four aspects of community resiliency? Are there any additional connections, partnerships, or ideas that should be considered? Share your answers below.

Thank you!
Thank you for your time! We appreciate your willingness to help us better understand factors that impact disaster resiliency in Utah communities.
Please click the “Submit” button below to send in your responses. Thank you!!

References. This survey was developed from the COPEWELL and THRIVE community assessment tools.

1. Links, J. M., Schwartz, B. S., Lin, S., Kanarek, N., Mitrani-Reiser, J., Sell, T. K., Watson, C. R., Ward, D., Slemp, C., Burhans, R., Gill, K., Igusa, T., Zhao, X., Aguirre, B., Trainor, J., Nigg, J., Inglesby, T., Carbone, E., & Kendra, J. M. (2018). COPEWELL: A Conceptual Framework and System Dynamics Model for Predicting Community Functioning and Resilience After Disasters. *Disaster medicine and public health preparedness*, *12*(1), 127–137. https://doi.org/10.1017/dmp.2017.39
2. Prevention Institute. September 2004. THRIVE – Toolkit for Health and resilience in Vulnerable Environments: Final Project Report Executive Summary. Available at http://thrive.preventioninstitute.org/pdf/THRIVE_execusumm_web_020105.pdf .

Appendix E: Summary of JRA History

Over the course of the past five years, DCHD and its partners have made deliberate efforts to address and prepare for the community's needs. The preparation and experiences of DCHD's workers and its partners has led to a reevaluation of county threats and vulnerabilities. The handling of pandemics, communicable disease outbreaks, and similar public health emergencies has undergone substantial improvement and refinement in recent years.

This was especially true as an effect of the 2020 COVID-19 pandemic. DCHD planned, trained, and exercised to prepare for pandemics and communicable disease outbreaks prior to 2020 on top of the hands-on experiences which occurred during the pandemic. This meant that DCHD plans were able to be updated during and after the response. Therefore, as a result of the risk assessment process taking into account the level of preparedness and resilience for different scenarios and due to the significant strides made in pandemic preparedness, including planning, exercises, and firsthand experience with outbreaks like COVID-19, the overall risk associated with such events was perceived to be lower during the current JRA. In addition to this, the relative lack of preparedness and focus on hazards, such as nuclear threats or radiological dispersal devices, necessitates greater attention and allocation of resources to mitigate the associated risks. The absence of comprehensive strategies, exercises, and real-world experience in managing incidents like a nuclear explosion or radiological dispersal devices underlines the urgency of addressing this critical gap in Davis County preparedness.

However, it is important to note that the identification of a hazard as a high priority within the context of this assessment does not mean that all partner agencies must prioritize those hazards. Rather, the assessment serves as one component of a broader array of assessment tools that can inform subsequent evaluation processes within each agency and the local community overall. In summary, the reordering of priorities when compared to the 2019 JRA reflects a nuanced evaluation of risks based on the level of preparedness, historical experience, and the potential impact of various threats.

While progress has been made in addressing different hazards, the persistent and evolving nature of the risks evaluated demands renewed focus and concerted efforts to enhance countywide resilience.

Year	Priority Ranking Results
2019	Pandemic Flu Earthquake - Major Nuclear Explosion Communicable Disease Outbreak Water Supply Contamination
2024	Nuclear Explosion - 10 kiloton Radiological Dispersal Device Fire - Large Scale Urban Earthquake - Major Earthquake - Moderate

Appendix F: Aggregate Hazard Scores

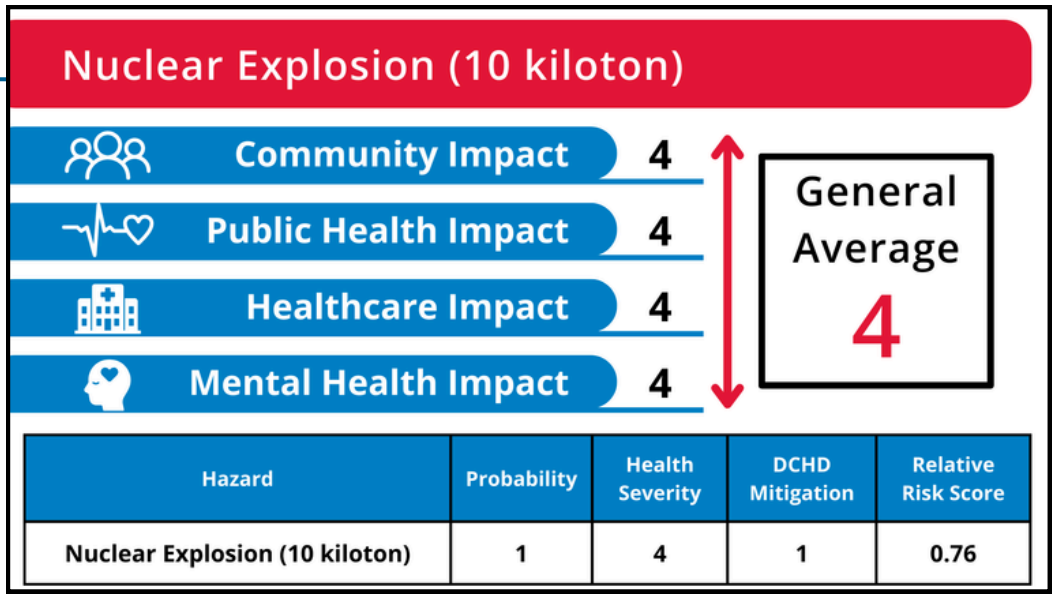
TOP 5 HAZARDS ACCORDING TO THE RELATIVE RISK SCORE

The JRA includes a data analysis tool to calculate each hazard's risk score based on the following formula: **Relative Risk Score = Probability x Health Severity x Impacts x Mitigation**. This formula calculates a minimum score of 0 and a maximum score of 1.

The mitigation part of the above formula includes actions DCHD and partner agencies have taken to plan and/or train to respond to each specific scenario used in this assessment process. Some scenarios, such as disease investigation or mass vaccination, have very robust response plans and trainings in place. Other scenarios, such as nuclear explosions or radiological dispersal devices, do not currently have dedicated response or training plans. When strong mitigation measures are already in place (e.g., response plans and training), the resulting combined Relative Risk Score is lower. When dedicated mitigation measures are not in place the resulting combined Relative Risk Score is higher.

Keep in mind while not having mitigation measures in place does increase overall risk, the probability of a hazard occurring also needs to be taken into consideration with the Relative Risk Score. The following five hazards obtained the highest Relative Risk Scores in this JRA. Partner agencies recognize the primary reason they received high scores is because of their potential to cause severe health outcomes and because there are not strong mitigation measures currently in place. Partners are committed to working together to improve planning and training for these hazards, while maintaining the existing high level of preparedness for other hazards.

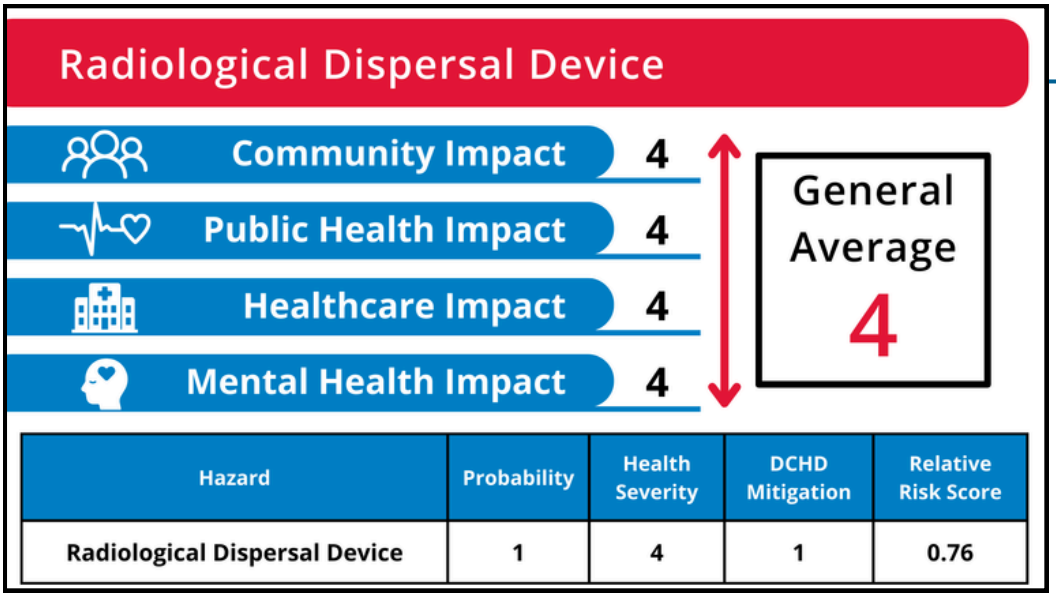
Nuclear Explosion



Hazard	Probability	Health Severity	DCHD Mitigation	Relative Risk Score
Nuclear Explosion (10 kiloton)	1	4	1	0.76

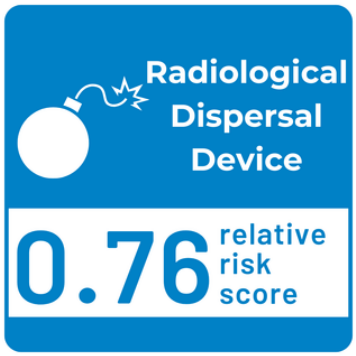
AGGREGATE HAZARD SCORES

TOP 5 HAZARDS ACCORDING TO THE RELATIVE RISK SCORE

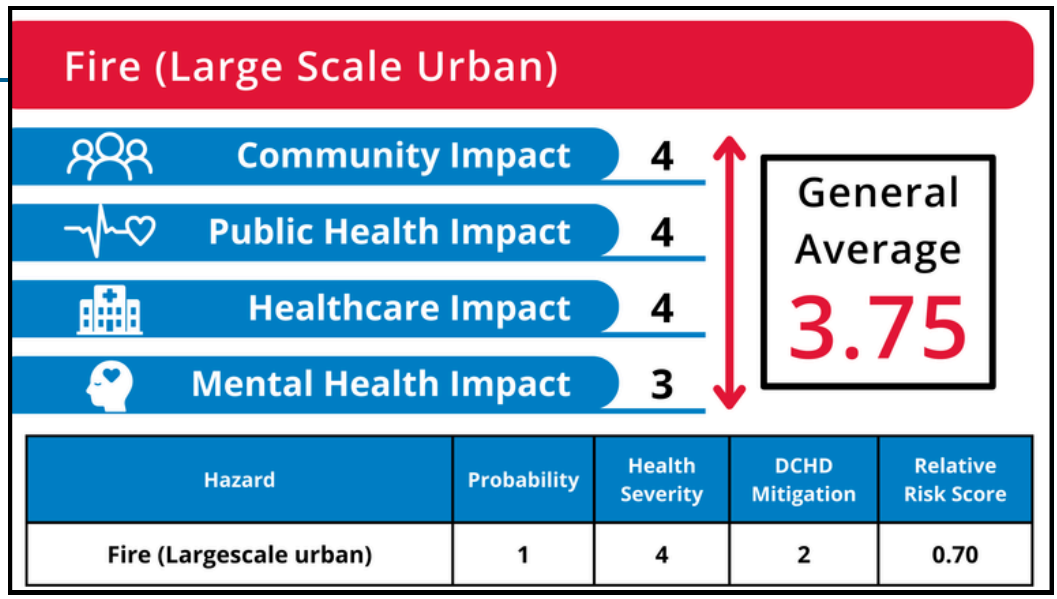


Hazard	Probability	Health Severity	DCHD Mitigation	Relative Risk Score
Radiological Dispersal Device	1	4	1	0.76

Radiological Dispersal Device



Fire (Large Scale Urban)

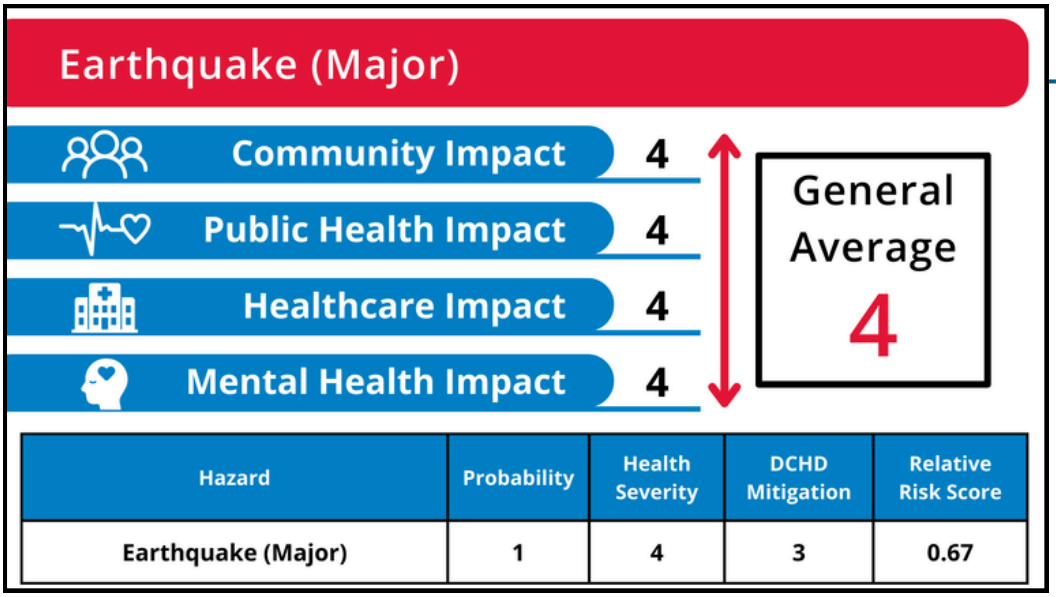


Hazard	Probability	Health Severity	DCHD Mitigation	Relative Risk Score
Fire (Largescale urban)	1	4	2	0.70

Davis COUNTY HEALTH DEPARTMENT

AGGREGATE HAZARD SCORES

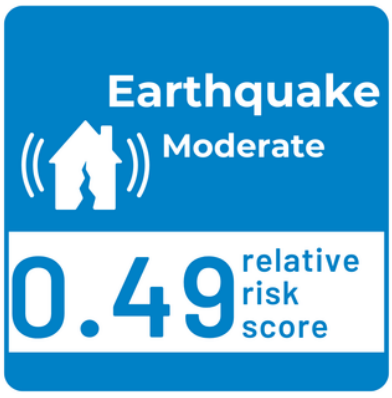
TOP 5 HAZARDS ACCORDING TO THE RELATIVE RISK SCORE

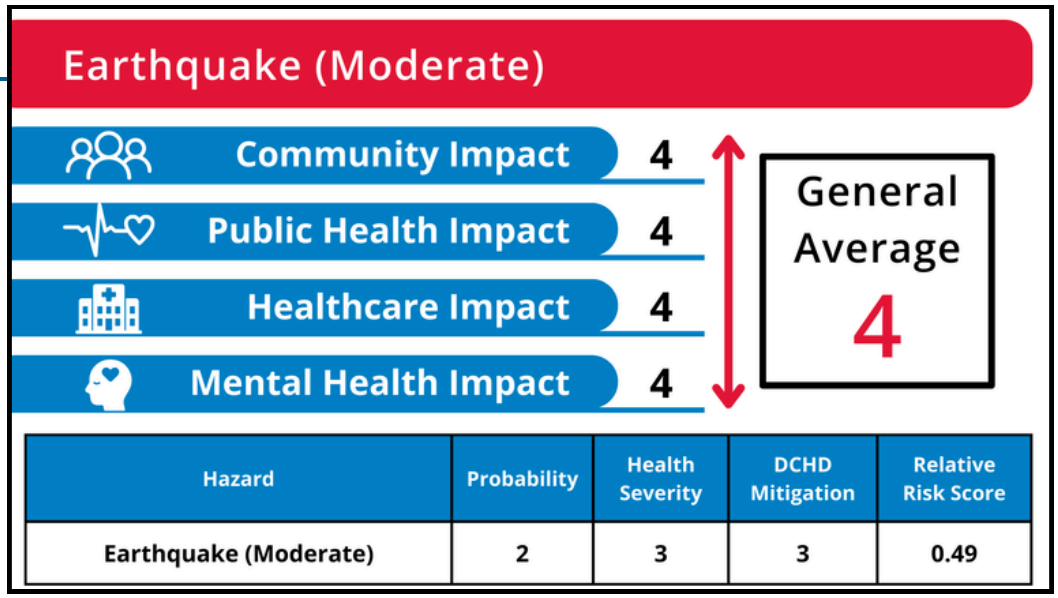


Hazard	Probability	Health Severity	DCHD Mitigation	Relative Risk Score
Earthquake (Major)	1	4	3	0.67

Earthquake (Major)

Earthquake (Moderate)





Hazard	Probability	Health Severity	DCHD Mitigation	Relative Risk Score
Earthquake (Moderate)	2	3	3	0.49