

9/8/2014

REGIONAL HAZARD VULNERABILITY ANALYSIS REPORT



CONFIDENTIAL



NCTTRAC REGIONAL HAZARD VULNERABILITY ANALYSIS REPORT

The Regional Hazard Vulnerability Analysis Report is a product of the TSA-E Healthcare Coalition including The North Central Texas Trauma Regional Advisory Council, TSA-E regional hospital partners and the TSA-E Regional Emergency Preparedness Committee (REPC). This analysis includes the December 2013 Dallas / Fort Worth/ Arlington Urban Area Threat and Hazard Identification Risk Assessment (THIRA). This document was developed by a multi-jurisdictional, multi-disciplinary team of individuals from the Dallas/Ft. Worth/Arlington Urban Area. Their input and work contributed to the successful development and implementation of the assessment.

Summary

This Threat and Hazard Identification and Risk Assessment (THIRA) provides a comprehensive overview of assessed risks and associated impacts for the Dallas/Fort Worth/Arlington Urban Area. It expands on existing Hazard Identification and Risk Assessments (HIRAs), Hazard Vulnerability Assessments (HVA), and other risk methodologies by broadening the factors considered in the process, incorporating the whole community, and by accounting for important community-specific factors.

This THIRA was developed using a step-by-step process:

- Step One assessed the various threats and hazards facing the Urban Area.
- Step Two assessed the vulnerability of the Urban Area to those hazards using varying time, season, location, and community factors.
- Steps Three and Four estimated the consequences of those threats and hazards impacting the Urban Area and, through the lens of core capabilities, established capability targets.
- Step Five captures the results of the THIRA process to set an informed foundation for planning and preparedness activities across prevention, protection, mitigation, response, and recovery.

The results of the process are shown within the section titled “December 2013 Dallas/Fort Worth/ Arlington Urban Area THIRA Results”

The North Central Texas Trauma Regional Advisory Council (NCTTRAC), together with regional hospital partners, has also assembled a report based on the information gathered from a two part analysis. The information requested from hospitals was submitted by participants over the course of a two week period. The cumulative results are shown in the charts to follow.



On July 31, 2014 the TSA-E emergency preparedness coordinators (EPCs) were emailed instructions on how to complete the TSA-E 2014 Hazard Vulnerability Analysis. The EPCs were given the Kaiser Permanente formulated spreadsheet tool to input their risk assessment data. The spread sheet was comprised of four hazard tabs (Natural Hazards, Technological Hazards, Human Hazards, and Hazardous Materials). For each tab, the participants were asked to score each event type according to the probability of the event occurring and the severity of the event based on six factors, (Human Impact, Property Impact, Business Impact, Preparedness, Internal Response, and External Response). From the facilities self-reported scores, each event was assigned a corresponding risk percentage.

The second aspect of the assessment used the calculated risk percentages to measure the region’s overall hazard vulnerability. Upon completion, the EPCs were asked to log in to the TSA-E System for Tracking Resources Capabilities and Alerts (E*TRACS) and complete their reporting. For each of the four hazard types (Natural Hazards, Technological Hazards, Human Hazards, and Hazardous Materials) the EPCs reported their top three hazardous events based on the calculated risk percentage.

The resulting participation equated to 875 responses. Those results are shown within the section titled “Hazard Vulnerability Analysis Top Survey Results – August 2014.”

December 2013 Dallas/Fort Worth/ Arlington Urban Area THIRA Results

Table 1 provides a description of the top Threats and Hazards Identified for the Dallas/ Fort Worth/ Arlington Urban Area. The hazards are categorized into three sections, Natural, Technological, and Human-Caused events. The December 2013 THIRA also examines the estimated impacts based on the reported threats and hazards. The hazards are evaluated using eight factors, Common, Prevention, Prevention/Protection, Protection, Mitigation, Response/ Recovery, and Recovery, and are even further defined among various core capabilities.

Natural	Technological	Human-caused
<ul style="list-style-type: none"> • Tornado • Snow and Ice Storms • Flooding 	<ul style="list-style-type: none"> • Dam or Levee Failure • Hazardous Materials Incidents 	<ul style="list-style-type: none"> • Terrorism • Disease Outbreak

(Table 1. THIRA Top Threats and Hazards)

HVA Top Survey Results – August 2014

Our region is exposed to many hazards, all of which have the potential to impact the community, causing casualties and damaging or destroying public / private property. With this in mind, it is critical that the Healthcare Coalition is aware of the potential impact. The graphs displayed below provide the survey results from the TSA-E Hazard Vulnerability Analyses (HVA) of healthcare partners around the region. These results are based on the data received from the healthcare facilities within Trauma Service Area- E.

Throughout each program year, hospital representatives are encouraged to gather their top individual hazards and vulnerability levels. The responsible hospital staff members prioritize and assign their hazards and ultimately calculate risk in collaboration with surrounding healthcare organizations and community partners as needed.

The following page (Figure 1) is an example of the instructions provided the TSA-E hospital representatives in order to report their results. All HVA results are consolidated into separate charts (also provided below) to show areas of concern based on the overall highest rated hazards, hazard vulnerabilities based on location within the region, and also separated by hazard classification.

CONFIDENTIAL

Please see examples below to assist in the completion of the TSA-E Hazard Vulnerability Analysis.

 = Highest Hazard/ Vulnerability as measured by calculated risk percentage.

 = Second Highest Hazard/ Vulnerability as measured by calculated risk percentage.

 = Third Highest Hazard/ Vulnerability as measured by calculated risk percentage.

Naturally Occurring Hazards

Please provide the top 3 Naturally Occurring Hazards with the highest corresponding risk percentages. (Sheet #2, HVA Tool Spreadsheet, Column 1)

#1 Naturally Occurring Hazard/ Vulnerability: Tomado

#1 Naturally Occurring Hazard /Vulnerability Corresponding risk percentage: 67

#2 Naturally Occurring Hazard/ Vulnerability: Severe Thunderstorm

#2 Naturally Occurring Hazard /Vulnerability Corresponding risk percentage: 61

#3 Naturally Occurring Hazard/ Vulnerability: Flood, External

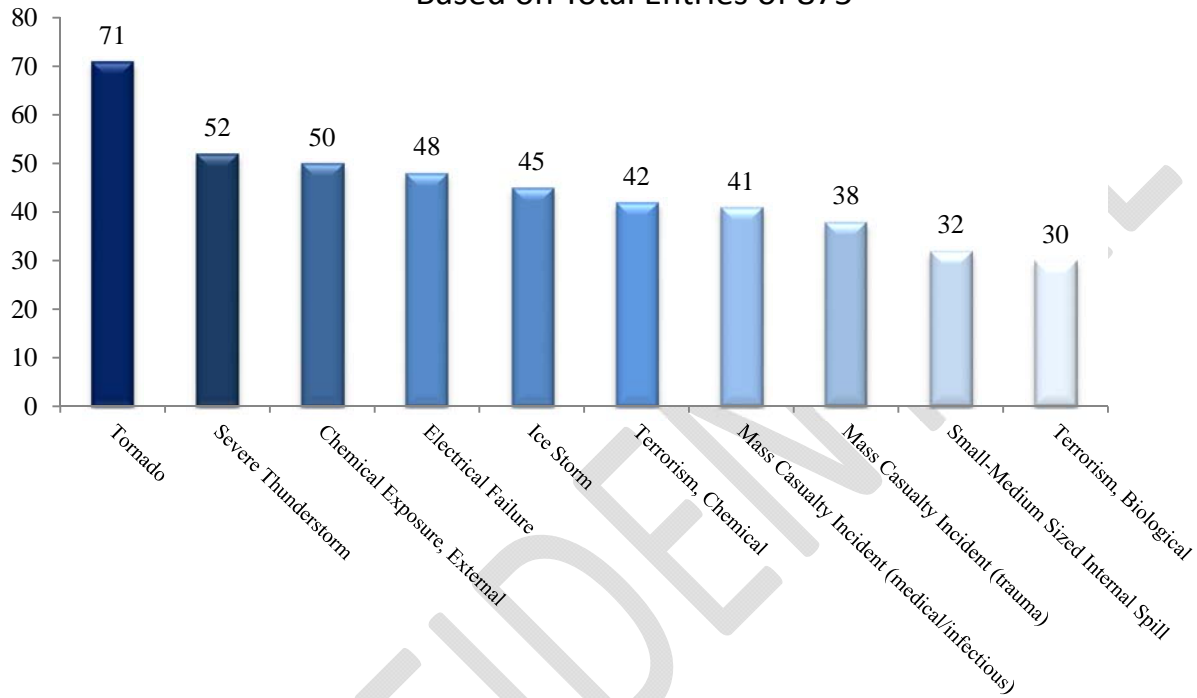
#3 Naturally Occurring Hazard /Vulnerability Corresponding risk percentage: 61

HAZARD AND VULNERABILITY ASSESSMENT TOOL NATURALLY OCCURRING EVENTS								
EVENT	PROBABILITY <i>Likelihood this will occur</i>	SEVERITY = (MAGNITUDE - MITIGATION)						RISK <i>Relative threat*</i>
		HUMAN IMPACT <i>Possibility of death or injury</i>	PROPERTY IMPACT <i>Physical losses and damages</i>	BUSINESS IMPACT <i>Interruption of services</i>	PREPARED-NESS <i>Preplanning</i>	INTERNAL RESPONSE <i>Time, effectiveness, resources</i>	EXTERNAL RESPONSE <i>Community/ Mutual Aid staff and supplies</i>	
		0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = Low 2 = Moderate 3 = High	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 = N/A 1 = High 2 = Moderate 3 = Low or none	0 = N/A 1 = High 2 = Moderate 3 = Low or none	
Hurricane	1	1	3	3	1	1	2	20%
Tornado	3	1	2	3	2	2	2	67%
Severe Thunderstorm	3	2	2	2	1	2	2	61%
Snow Fall	2	1	3	3	2	1	2	44%
Blizzard	2	1	2	3	1	1	2	37%
Ice Storm	2	2	3	3	1	1	2	44%
Earthquake	2	1	2	3	1	1	2	37%
Tidal Wave	0	0	0	0	2	1	2	0%
Temperature Extremes	3	2	1	1	1	1	2	44%
Drought	3	1	1	1	2	1	2	44%
Flood, External	3	2	1	3	2	1	2	61%
Wild Fire	2	1	3	2	2	1	2	41%
Landslide	1	1	3	2	1	1	2	19%
Dam Inundation	2	1	3	2	1	2	2	41%
Volcano	0	0	3	0	2	2	2	0%
Epidemic	3	1	3	1	1	2	2	44%
AVERAGE SCORE	2.00	1.13	2.19	2.00	1.44	1.31	1.88	37%

(Figure 1. Sample page from HVA Form used within TSA-E)

HVA Top Results – Summer 2014

Top Ten Hazard Vulnerability Analysis Results
 Based on Total Entries of 875



(Figure 2. Top Ten Hazard Vulnerability Analysis Results Graph)

Top Ten Hazard Vulnerability Analysis Regional Results

1) Tornado
2) Severe Thunderstorm
3) Chemical Exposure, External
4) Electrical Failure
5) Ice Storm
6) Terrorism, Chemical
7) Mass Casualty Incident, (medical, Infectious)
8) Mass Casualty Incident (trauma)
9) Small- Medium Sized Internal Spill
10) Terrorism Biological

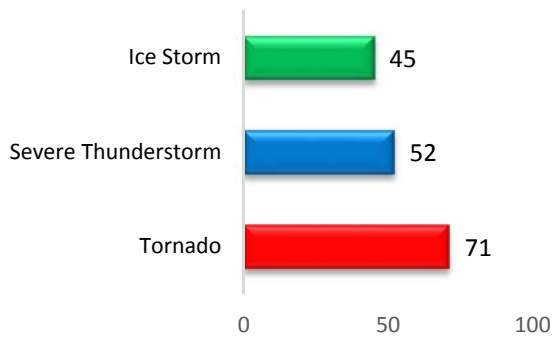
(Figure 3. Top Ten Hazard Vulnerability Analysis Regional Results Chart)

Hazard Vulnerability Analysis Results by Hazard

Based on 875 Total Entries

Natural Hazards

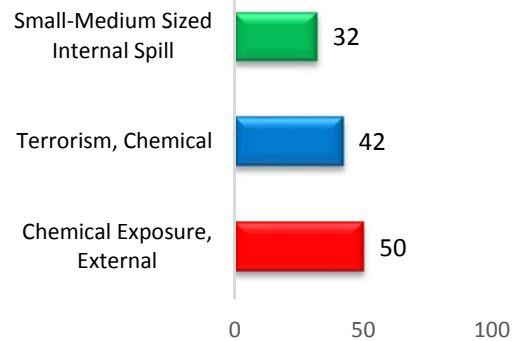
Top Three Results of 213 Entries



(Figure 4. Top Three Natural Hazards)

Hazardous Materials

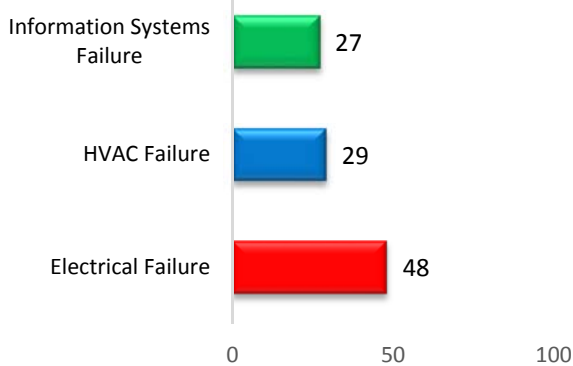
Top Three Results of 216 Entries



(Figure 5. Top Three Hazardous Materials)

Technological Hazards

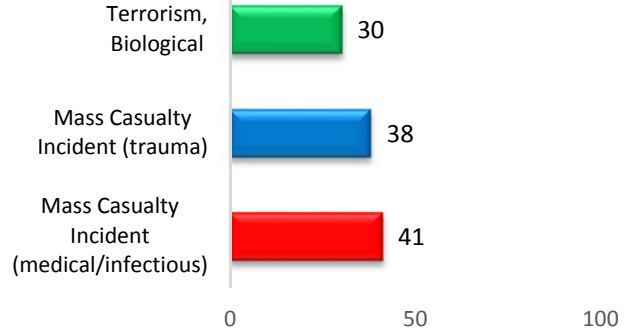
Top Three Results of 235 Entries



(Figure 6. Top Three Technological Hazards)

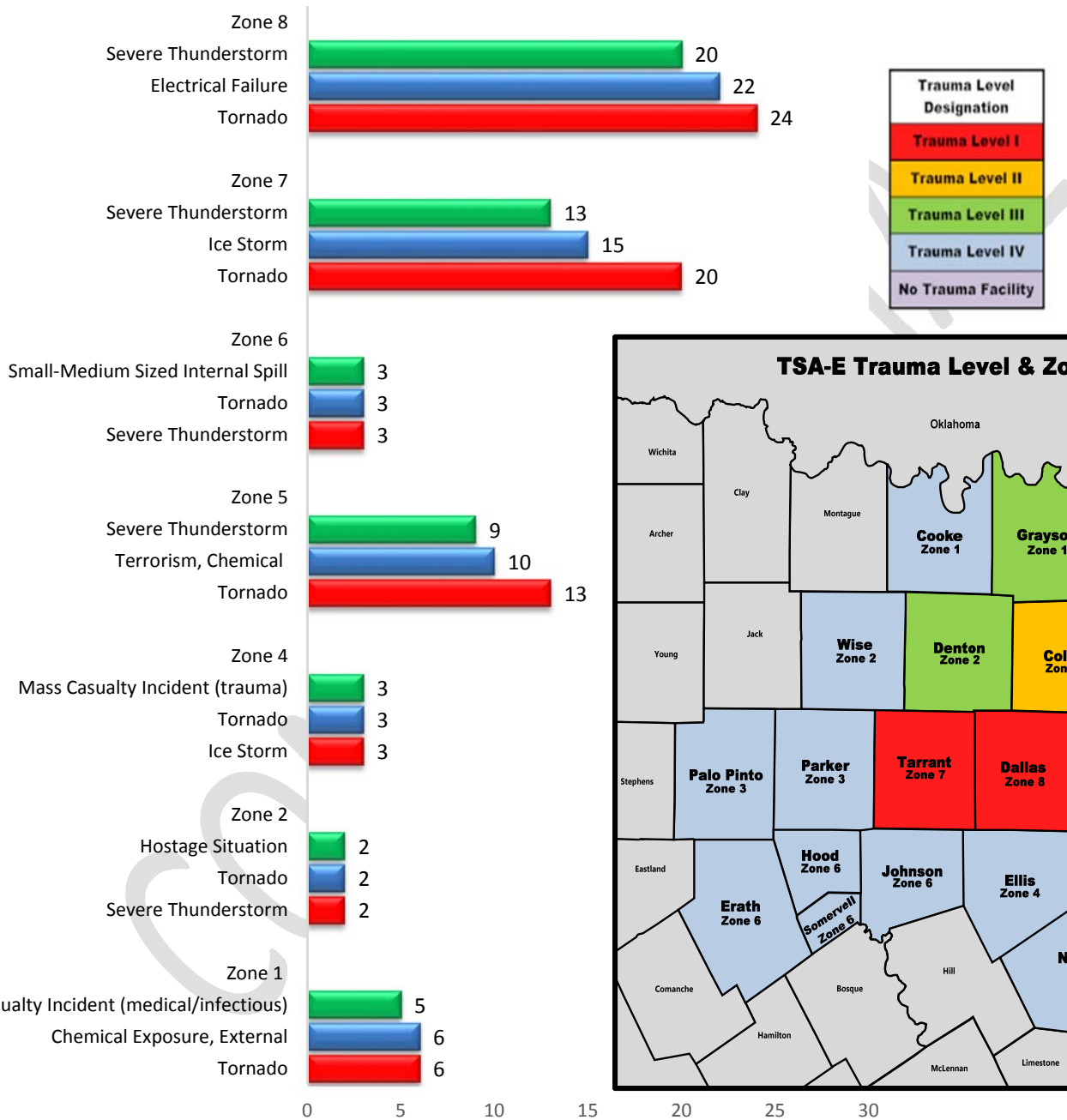
Human Hazards

Top Three Results of 211 Entries



(Figure 7. Top Three Human Hazards)

Top Three Hazard Vulnerability Analysis Results By Zone



(Figure 8. Top Three Hazards by Zone)

(Figure 4. TSA- E Zone Map)

Conclusion

The HVA and THIRA together provide the most comprehensive and inclusive assessment of the hazards that threaten our region. Although the assessment tolls vary significantly, there are common themes in the results. For example, both assessments recognize tornados and ice/snow incidents as major natural hazards for the region. Additionally terrorism is indicated as a major human caused hazard in both assessments.

The Regional Hazard Vulnerability Analysis Report is a product created in Year 13 of the Hospital Preparedness Program and is a vital tool for the advancement of the Healthcare Coalition. This report details the cumulative hazard results surveyed from hospital members as well as the qualitative analysis of the hazards that are a threat to the region. The report provides a brief explanation of the methodology used in gathering the HVA information and illustrations to report the findings. In addition, the THIRA provides a valued insight into the estimated impact of the reported hazards through a variety of factors defined by several core capabilities. The intention of the report is to show the results that best represent a regional threat analysis. These findings will be used to drive future training, exercise, and planning initiatives in TSA-E. Additionally, as stated in the December 2013 Dallas/Fort Worth/ Arlington Urban Area THIRA “It also provides the means to educate and update individuals, families, businesses, organizations, community leaders, and senior officials on the risks facing a community. An informed public is the best advocate for building required capabilities and creating a secure and resilient community.”

CONFIDENTIAL