Memphis: The Number One City of Chemical Related Incidents in Tennessee

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Abstract

BACKGROUND: The city of Memphis, Tennessee, is unique in terms of transportation in the U.S. It is the busiest air cargo facility in the world, and it is second only to Atlanta in terms of cargo traffic. As an industrial center and transportation corridor, Memphis has the highest proportion of environmental pollution in Tennessee. A significant proportion of chemical spills incidents occur in areas where vulnerable populations live. The potential for death, injury, or adverse human health effects are related to each incident. The Tennessee Department of Health (TDH) along with the Agency for Toxic Substances and Disease Registry (ATSDR) has established the National Toxic Substance Incidents Program (NTSIP), a surveillance system of acute chemical release incidents with the goal to improve the health and the quality of life of citizens near areas such as Memphis. METHODS: TDH has collected data and used ArcGIS to map chemical incidents in Memphis that occurred during 2010-2011. There were a total of 630 incidents in Tennessee during 2010 and 2011. Of these incidents, 181 (28.7%) occurred in Memphis. Memphis was the city with the highest number of incidents reported in the state of Tennessee. The Tennessee Department of Health (TDH) has collected data and used ArcGIS to map chemical incidents in Memphis that occurred during 2010-2011. There were a total of 630 incidents in Tennessee during 2010 and 2011. Of these incidents, 181 (28.7%) occurred in Memphis. Memphis was the city with the highest number of incidents reported in the state of Tennessee. Mitigation plans to reduce the vulnerability of the city and improve the health and the quality of life of citizens near areas such as Memphis can be developed effectively. RESULTS: The city of Memphis, Tennessee, is unique in terms of transportation in the US. It is the world's busiest air cargo facility and it is the second largest airport in the US. As an industrial center and transportation corridor, Memphis has the highest proportion of environmental pollution in Tennessee. A significant proportion of chemical spills incidents occur in areas where vulnerable populations live. The potential for death, injury, or adverse human health effects are related to each incident. The Tennessee Department of Health (TDH) along with the Agency for Toxic Substances and Disease Registry (ATSDR) has established the National Toxic Substance Incidents Program (NTSIP), a surveillance system of acute chemical release incidents with the goal to improve the health and the quality of life of citizens near areas such as Memphis. METHODS: TDH has collected data and used ArcGIS to map chemical incidents in Memphis that occurred during 2010-2011. There were a total of 630 incidents in Tennessee during 2010 and 2011. Of these incidents, 181 (28.7%) occurred in Memphis. Memphis was the city with the highest number of incidents reported in the state of Tennessee. Mitigation plans to reduce the vulnerability of the city and improve the health and the quality of life of citizens near areas such as Memphis can be developed effectively.

Results

Memphis was the city with the highest number of incidents reported in the NTSIP database. There were a total of 630 incidents in Tennessee during 2010 and 2011. Of these incidents, 181 (28.7%) occurred in Memphis. Memphis was the city with the highest number of incidents reported in the state of Tennessee. Mitigation plans to reduce the vulnerability of the city and improve the health and the quality of life of citizens near areas such as Memphis can be developed effectively.

Conclusions

The population of Memphis is vulnerable to the chemical related incidents. By mapping out where the chemical facilities and incidents are in relation to specific population vulnerabilities, TDH is better able to target preparedness and prevention activities.