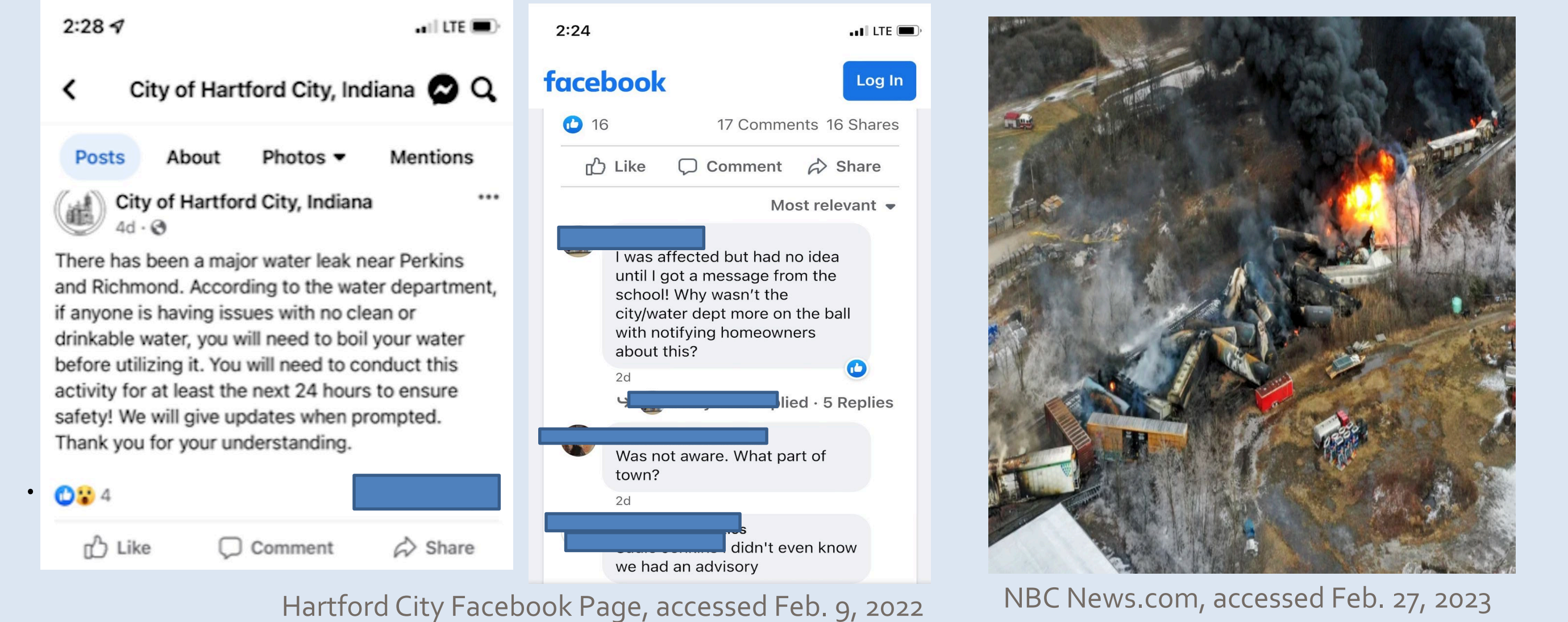


Identifying Best Practices to Improve the Community Reach of Public Health Notifications

Megan Peek Sociology Program Purdue University Fort Wayne | Hailey Moreno Sociology Program Purdue University Fort Wayne | Elizabeth Mann Sociology Program Purdue University Fort Wayne
 Dr. Steiner Associate Professor of Sociology Purdue University Fort Wayne, Faculty Advisor

Outreach and Importance of This Project

During field-research conducted during summer 2022 by Dr. Steiner and participating students, few residents were learning about public health notifications in time to protect themselves from exposure (e.g., a boil water alert, spraying for West Nile virus). This stimulated an investigation to identify best practices for similar municipalities in Indiana that could be recommended for use by the community. We learned that government devolution beginning in the 1990's has shifted responsibility for citizen notification increasingly to states and local communities (Montez 2017; Watson and Gold 1996). Although Federal Law details how citizens are to be notified, Indiana State Law is ambiguous, leaving that decision up to local communities. Many municipalities notify residents only using social media. Cultural factors may increase minority vulnerabilities in rural disaster events when there is heavy reliance on social media notification due to the echo chamber effect (Galindo, et al. 2018). When communities adopt preventative measures, the damage from disasters can be reduced (Johnson 1999). The research question was to investigate whether and how local communities were responding to the requirement to notify residents as governance responsibilities have shifted away from specified federal requirements to state enforcement where the law is ambiguous. The recent toxic spill in East Palestine demonstrates the importance of this project.



METHODOLOGY

- We identified select municipalities (N=8) within a 15% range of the 2020 population of Hartford City, Indiana; half (N=4) were ranked high (above 46) in the 2022 County Health Rankings for both Health Outcomes and Health Factors; half (N=4) were ranked low (below 46) in the 2022 County Health Rankings for both Health Outcomes and Health Factors.
- We contacted city representatives, mayors and sheriffs for each community to learn about their emergency notification process
- We contacted the free major metropolitan television stations that service Indiana municipalities to identify their policies and costs for broadcasting alerts and notifications
- We identified pertinent federal and state laws and regulations.
- Categorized emergency response policies for their ability to reach vulnerable populations (eg. door knocking and paper notifications to reach elderly, and/or impoverished populations)

REFERENCES

Akrami, F., A. Zali, M. Abbasi, R. Majidzadeh, A. Karimi, M. Fadavi, and A. Mehrabi Bahar. "An Ethical Framework for Evaluation of Public Health Plans: A Systematic Process for Legitimate and Fair Decision-Making." *Public Health*, vol. 164, 2018, pp. 30–38, <https://doi.org/10.1016/j.puhe.2018.07.018>.

De Onis, Catalina M., Emilia Cubelos, Maria del Rocio Ortiz Chavarria. "No Habia Humanidad: Critiquing English Monolingualism and Other Entwined Systems of White Supremacy in Local Emergency Management Responses." *Social Justice*, vol. 47, no. 1/2, pps. 135-170. Department of Homeland Security. "Emergency Management Performance Grant Job." DHS, 9 Jan. 2023, <https://www.in.gov/dhs/emergency-management-and-preparedness/emergency-management-performance-grant/>.

Johnson, Dan. "Disaster-Resistant Communities. An Ounce of Prevention Can Reduce Damage from Disasters." *World Trends & Forecasts*. August-September 1999.

Galindo, Kim B., Zohreh Eslami and Hassan Bashir. "Culture's Influence on Social Network Vulnerabilities for Ethnic Minorities in Rural Disaster Events." *Journal of International Humanitarian Action*, vol. 3, no. 1, 2018, <https://doi.org/10.1186/s41018-018-0047-2>.

Grant County. "Local Emergency Planning Committee." Grant County EMA, <https://www.grantcounty.net/grant-county-offices/ema/local-emergency-planning-committee>, accessed Feb. 2, 2023.

Montez, Jennifer. "Deregulation, Devolution, and Preemption Laws' Impact on Mortality Trends." *American Journal of Public Health*, vol 107, no 11, 2017. <https://doi.org/10.2105/AJPH.2017.304080>.

McHugh, Megan, Diane Farley, Claude Maechling, Dorothy Dunlop, Dustin French, and Jane Holl. "Corporate Philanthropy Toward Community Health Improvement in Manufacturing Communities." *Journal of Community Health*, vol. 43, pps. 560-565, 2018.

Watson, Keith, and Steven Gold. "The Other Side of Devolution: Shifting Relationships Between State and Local Governments." *The Urban Institute*, August, 1997.

Findings

Low Public Health Rankings N=2	High Public Health Rankings N=3
<ul style="list-style-type: none"> Employees did not know the emergency process for notifications Employees said they were not trained When asked if they would go door to door, an employee stated that they might, but it would be "inefficient" Could not find identify any budgetary supports. One indicated that they post a notice outdoors at one public location 	<ul style="list-style-type: none"> Employees were informed about practices Budgetary support came from a variety of sources (grants, police budgets, and taxation) Notification methods included website, text messaging, radio, social media, newspaper, utility bills and door knocking Door knocking which would reach vulnerable populations were delimited to tornadoes and internet outages

Recommended Model



Specific Recommendations For Blackford County

- Akrami, et. al (2018) argue that just and ethical public health plans consider financial pressures in the local community.
- Our team considered it an ethical obligation to identify possible funding sources and make recommendations that made maximum use of existing community resources.
- We recommend that the designated Local Emergency Planning Committee (LEPC) representative for Blackford County apply for Indiana Department of Homeland Security funding to the Indiana Emergency Response Commission
- We recommend that grant monies be used to bring together municipal stakeholders to develop a coordinated county emergency notification plan that is posted on the BlackfordCounty.com website
- Additional funding may be sought from corporate philanthropy (e.g., 3M, Petosky Plastics) and the local community foundation (McHugh, et al. 2018)
- Local emergency management response notification messaging should utilize symbols whenever possible
- Local emergency management response notifications should be translated into languages used by minority populations (e.g., Spanish) in the community and posted in minority gathering places (Onis, et al., 2020)
- Local Emergency Management response plans should diversify notification methods to include vulnerable populations for Tier 1 alerts (e.g., door knocking, free television service from WIIH/WISH Indianapolis News Station)



Collaboration and Dissemination Plan

- Invite the LEPC representative for Blackford County to a stakeholder meeting in March to solicit feedback on our model and recommendations
- The collaborative model will be included in a public health plan associated with the larger research project
- The public health plan will be reviewed by Purdue faculty
- The public health plan will be presented to the community at a larger meeting in May
- The public health plan will be independently reviewed by Hoosier Environmental Council
- The finalized public health plan containing the recommendations from this project will then be given to stakeholders in the county and both municipalities

Conclusions and Future Research

- Our limited research found that the only municipalities able to communicate the practice of various public health emergency notifications were those that ranked high on both public health measures.
- High ranking public health municipalities utilized procedures that would reach vulnerable populations, but did not do this for water boil alerts.
- Low ranking public health municipalities may have cultural barriers that impede prioritizing vulnerable population notification.
- Although federal government devolution trends give local governments increased flexibility in complying with legal requirements, devolution also shifts responsibility for notifying the community to local governments.
- Research on government devolution has found that local governments increasingly shape a population's mortality rates and health outcomes in accordance with the shifting of governance responsibilities (Montez 2017 pg.1750).
- Future research should explore whether emergency notification systems are a contributing factor in this trend.

REFLECTION & CONCLUSION

Contacting representatives from communities and tv/radio stations was time consuming, due to having to leave voice messages, waiting on the line and waiting for calls back. In addition to this, there were a few people who were hesitant to provide information. These challenges were overcome by practicing patience, learning how to sufficiently work within the time frames we had to contact these people in, and being conscious of the language we could use while speaking with representatives for the best experience possible. Based off of my experience, I would recommend other students to use a sincere and enthusiastic voice while talking to city representatives so they could leave a strong and positive impression as well as engage the listener to feel welcome to respond more in-depth to questions.

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