

Community Experiences Related to Water, Home, and Environmental Impacts After the East Palestine Chemical Spill and Fires

National Academies Public Health Research and Surveillance Priorities
from the East Palestine, Ohio Train Derailment Workshop

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Purpose of this project

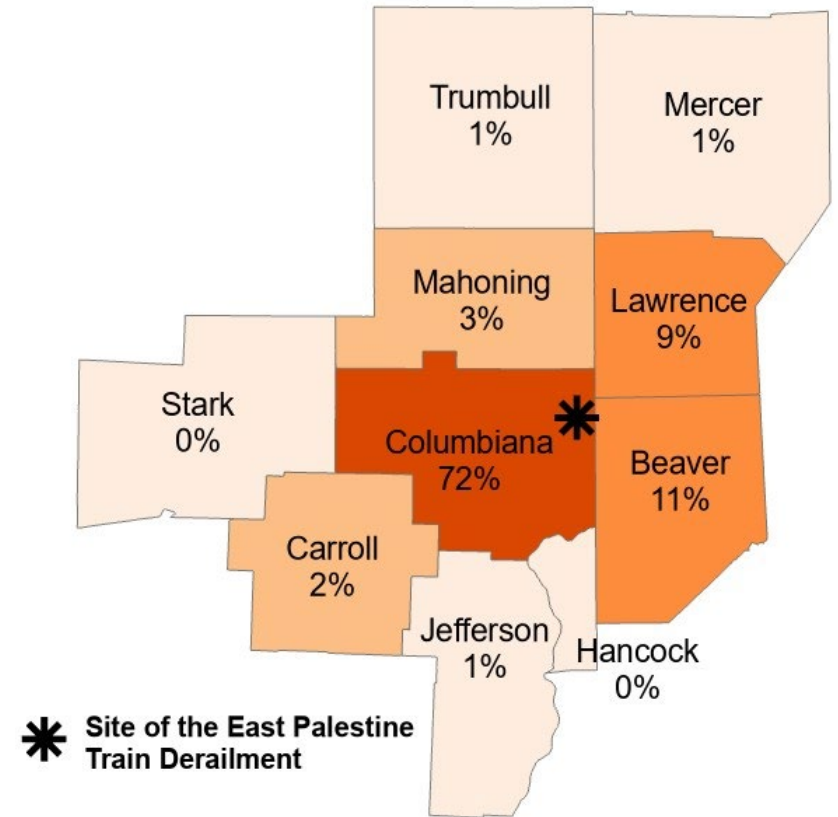
Community survey and interviews to:

- Document people's experiences related to home and water impacts
- Understand how people responded post-crisis



Community survey background

- Community survey was open for two months (July 20 to September 20, 2023)
- Surveys completed online, in-person, or via mail
- **256 valid survey responses**
 - Columbiana County represented 72%
 - Beaver and Lawrence Counties represented 20%
- Additional information about the survey and methods used is in the full report
- Interviews with over 50 survey respondents



**The research plan has been reviewed by the Human Subjects in Research Ethics Boards at our universities (STUDY2023-0325).*

Evacuation and relocation decisions

Evacuation: About half of the respondents (53%) reported evacuating. Of those participants who lived in the zip code that includes East Palestine (44413), 71% evacuated.

Relocation: Most respondents (89%) identified that their current location is unchanged since the chemical spill and fires.

**47% of respondents had considered relocating,
were trying to relocate, or had relocated**

Household impacts and response

Household Impacts: Most respondents (82%) did not report soot or ash inside their home. Many respondents (61%) reported a new indoor odor after the crisis.

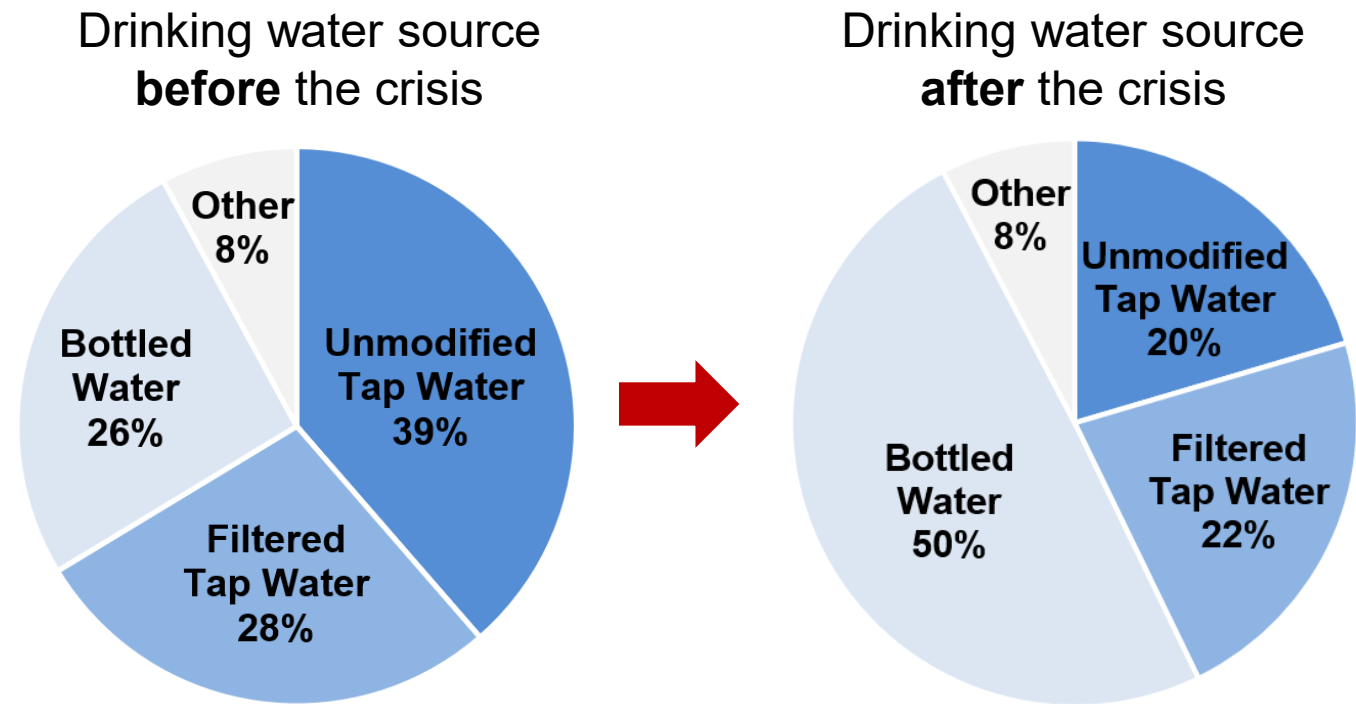
Cleaning and Remediation: Some households cleaned with a vacuum (19%) and cleaning products (16%) or used air purifiers (15%).

Most cleaning was performed by the respondent rather than by responding agencies or Norfolk Southern

Household Protective Actions	Percent
Cleaning with a vacuum	19%
Used solvents or cleaning products	16%
Used air purifiers	15%
Cleaned the exterior	7%
HEPA vacuum	7%
Used water treatment, purifiers or filters	4%
Hired cleaners	4%
Performed environmental remediation	1%
Norfolk Southern assisted cleaning	1%
Government assisted cleaning	<1%

Water use changes

Water Quality: About 10% of the respondents reported that they were told by authorities that their water was unsafe to drink at some point after the chemical spill and fires.

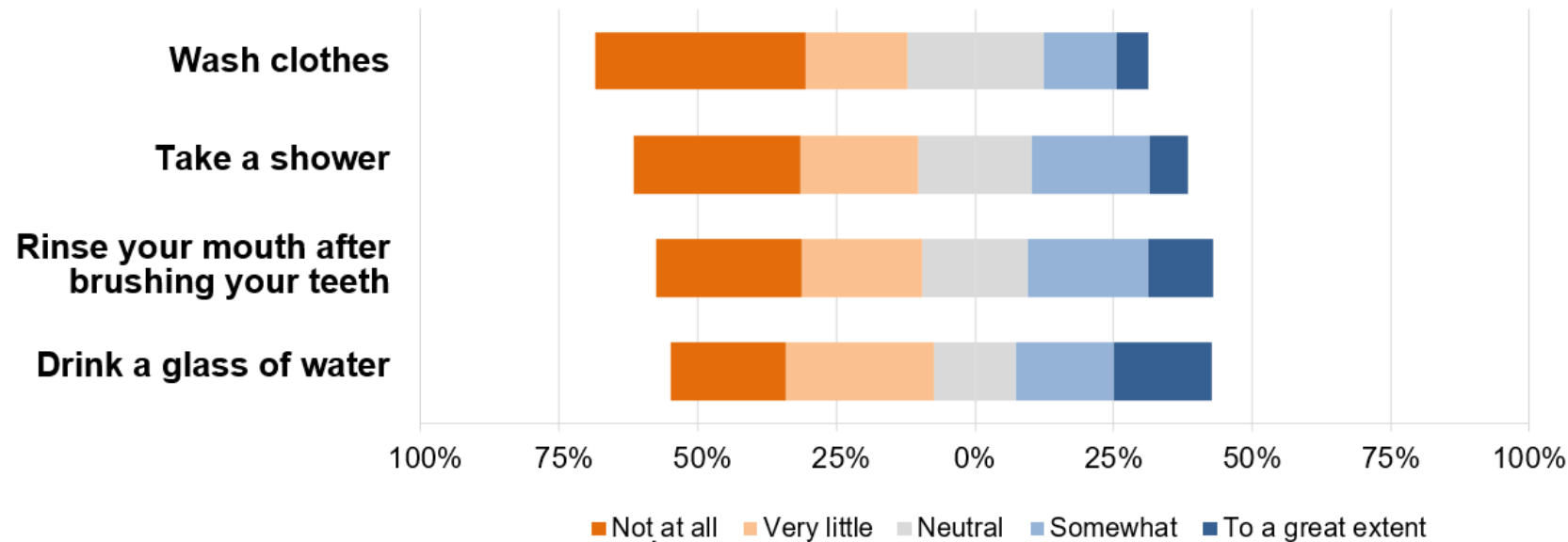


People increased their use of bottled water for drinking by 92%

Water safety concerns

- Water safety perceptions were neutral on average
- Household well water was noted as a concern, including the need for long-term testing of groundwater near impacted water sources

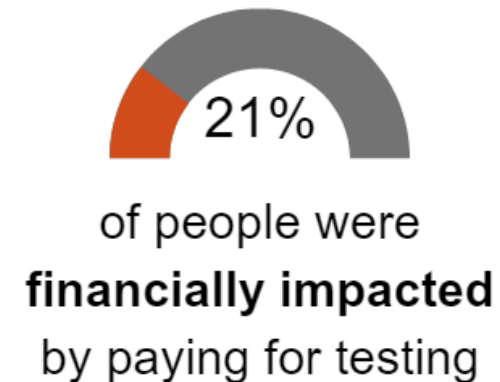
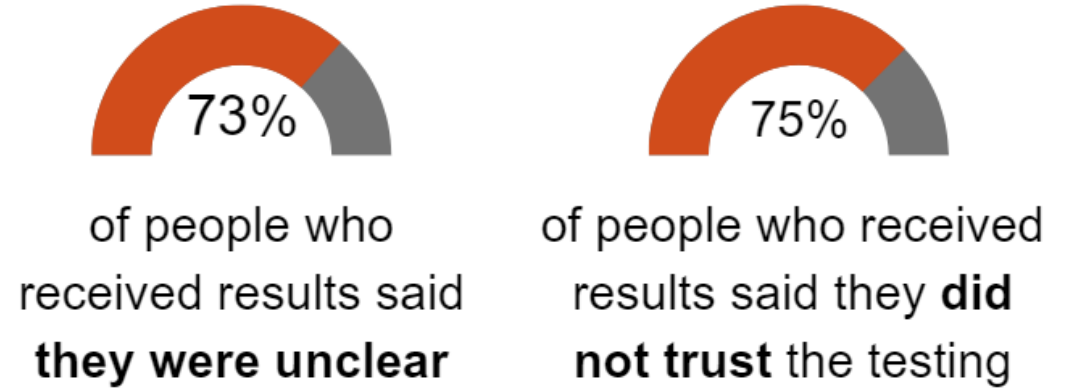
People's perceived likelihood of getting sick after they:



Water, air, and soil sampling and testing

- 50% of the participants requested air, water, or soil sampling
- Of those who requested sampling, 62% received sampling and the results

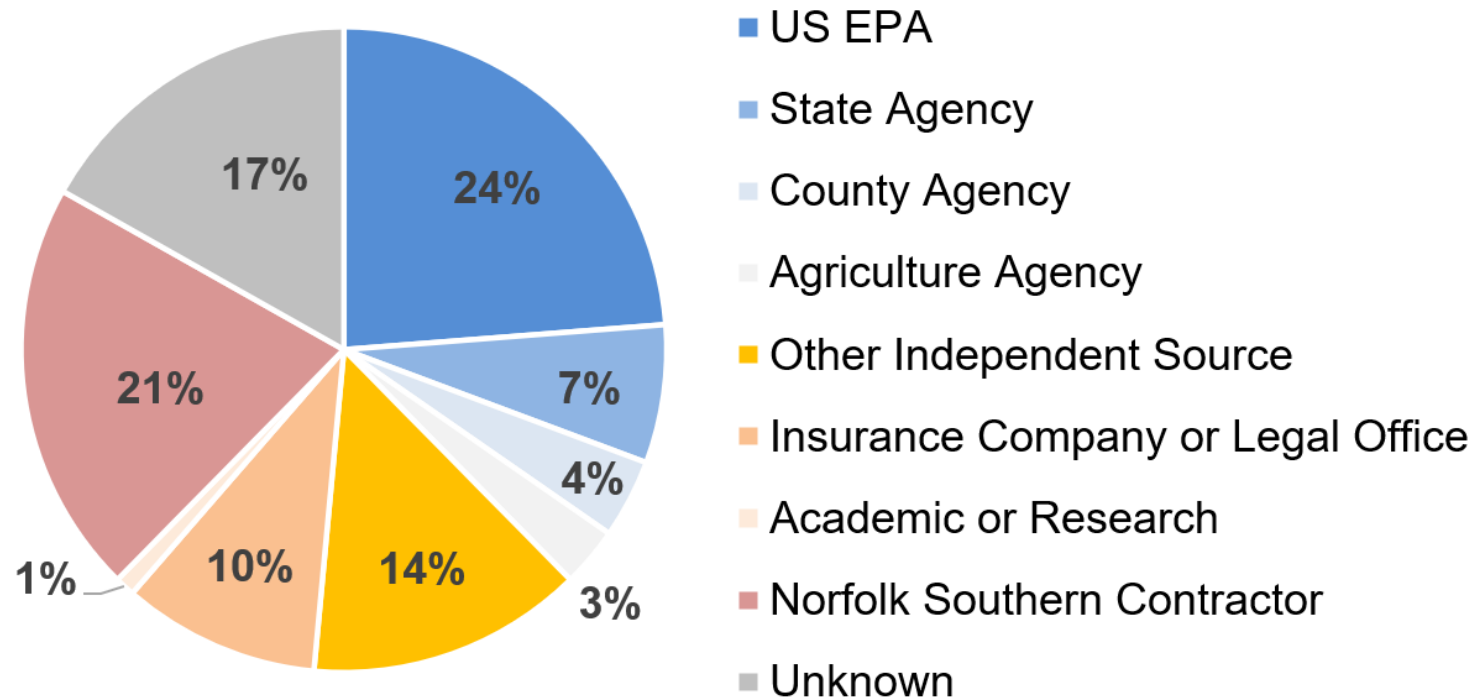
Results indicate the importance of clear communication of sampling plans, methods used, and limitations



Who performed the testing received by respondents?

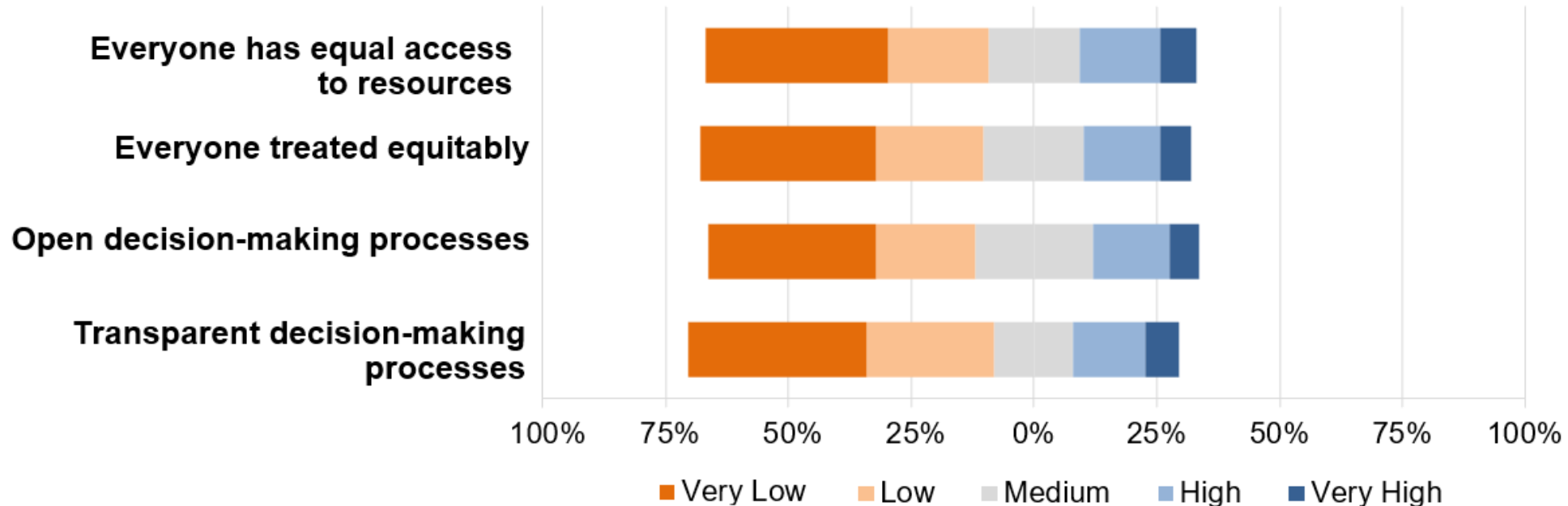
Air, water, and soil sampling was mostly performed by:

- US Environmental Protection Agency (US EPA; 24%)
- Norfolk Southern's contractors (21%)



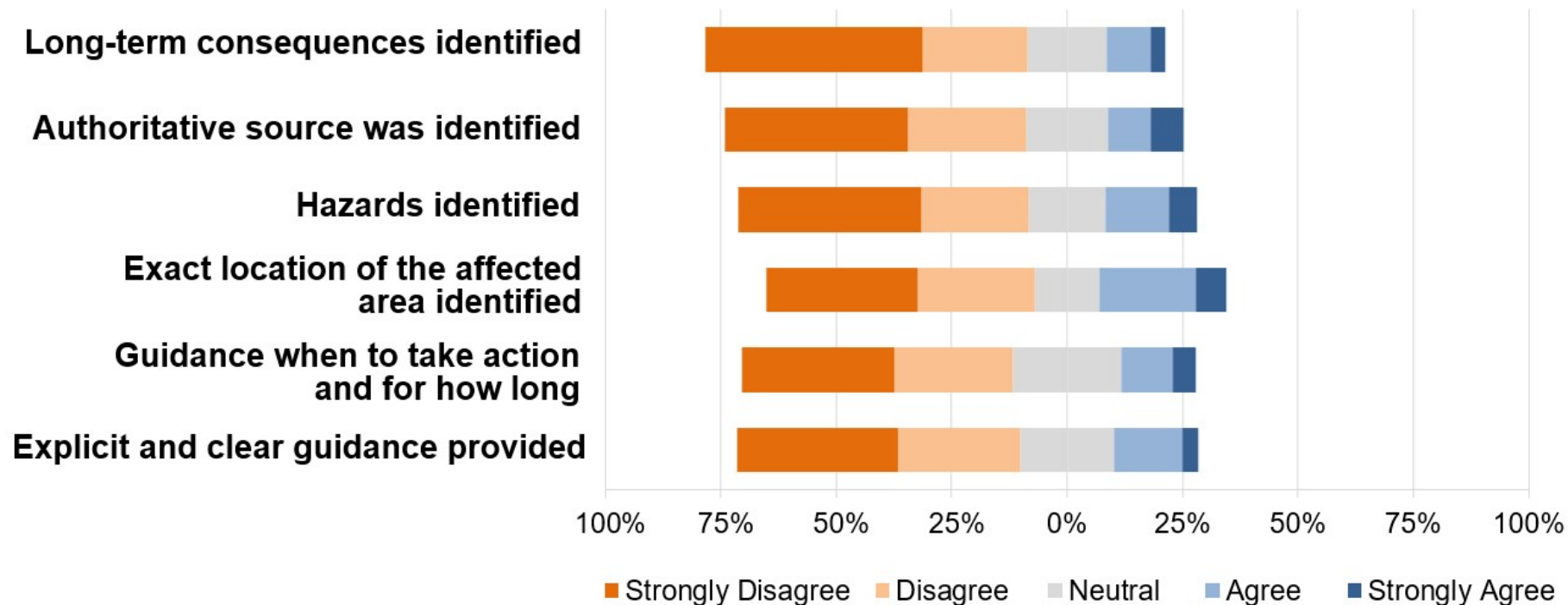
Perceptions about equity and fairness

- Equity and fairness were rated low, on average, in the community
- Results show the importance of clearly defining and communicating emergency resource allocation processes



Perceived communication of risks

- Measured based on aspects of effective messaging shown to motivate community members to take protective action (body of work by Mileti et al.)
- Many participants did not feel they received explicit and clear guidance or that long-term consequences were identified



Additional information and acknowledgements

- Thank you to everyone who participated— we appreciate you taking the time to take the survey or complete an interview
- Full report available on the project website

Website: <https://sites.google.com/uic.edu/east-palestine-crisis/>

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