

From Source to Tap: DeCIPHERing Risks of Drinking Water in North Carolina



BASS CONNECTIONS

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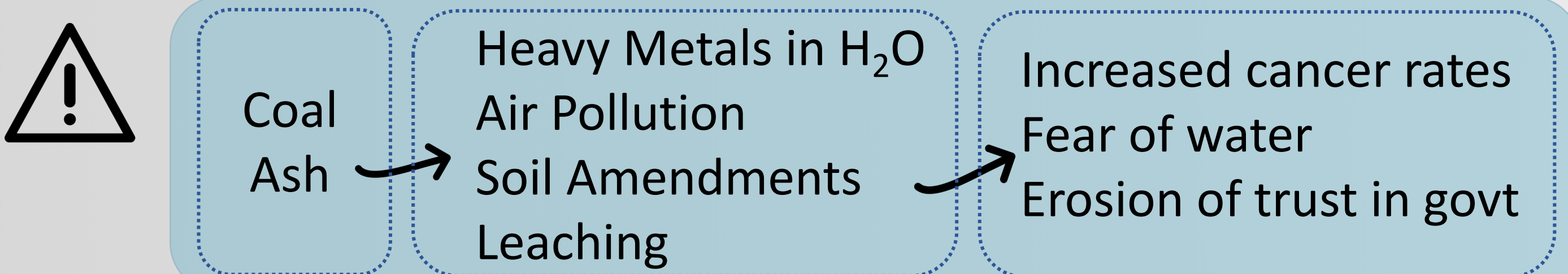
**Bass Connections
in Energy & Environment**

This year's DeCIPHER team explored three case studies involving specific drinking water risks in North Carolina: lead contamination in Durham; coal ash impoundments in Belmont; and fluoride and aging infrastructure in Orange County. Over the course of the year, these three groups each generated a creative project (website, film, and photography exhibit) examining how influential, and influenced, stakeholders approached and perceived water-based risks.

Coal Ash in Belmont

Coal ash from Duke Energy's Allen Steam Station leached into groundwater leading to severe health issues for local residents who depended on well water.

Through interviews, hearings, and news coverage, we created a website that features impacts on residents, government and Duke Energy*.

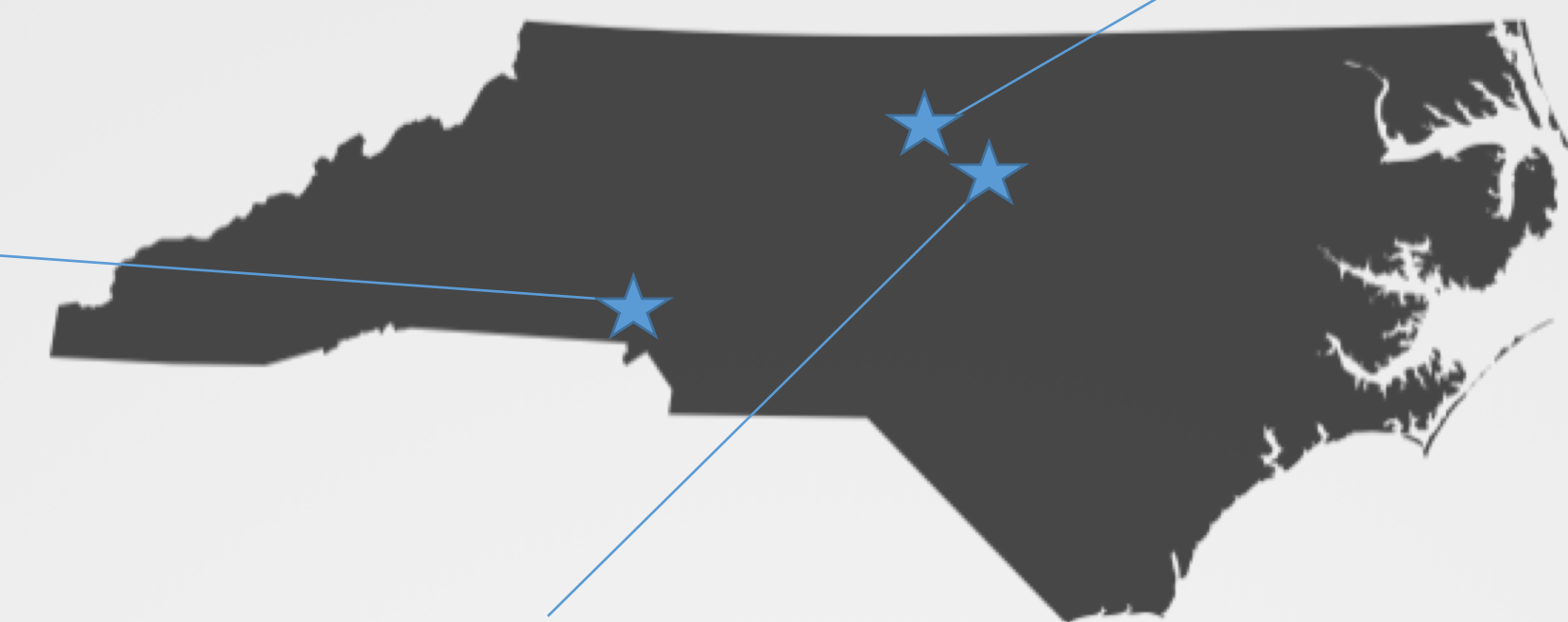


- Residents
- Duke Energy
- NC DEQ
- Local government
- State government
- Local advocacy groups
- Federal & regional government & EPA

"We live with the uncertainty every single day of what we've been exposed to, and more importantly, what our children have been exposed to."
- Amy Brown (Belmont resident & activist)

The coal ash incident demonstrates how complicated water issues can be. Even when there is recognition of a problem it can take years to solve, and solutions might just be stop gaps that fail to address larger problems.

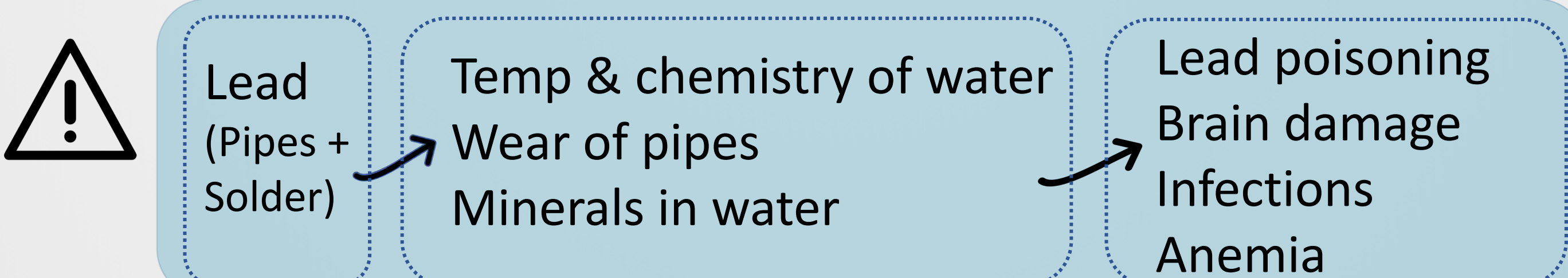
The state has required Duke Energy to excavate and clean up all coal ash sites in NC. Now, we recommend the state and local governments provide relief for residents who still rely on well water and won't see improved water quality for decades.



Lead in the Research Triangle

Lead contamination continues to be a major health & environmental concern in that it causes pediatric health issues and disproportionately affects poorer populations.

We interviewed various local experts on this topic and created a podcast to help the public understand the current state of lead contamination and how to mitigate its impacts*.



- Residents
- Public health officials
- Researchers & academic experts
- Public infrastructure
- Schools/child-care centers

"A lot of the families with lead poisoned children are living in distressed housing without access to other housing."
- Ed Norman, Childhood Lead Poisoning Prevention Program Manager, NC Division of Public Health

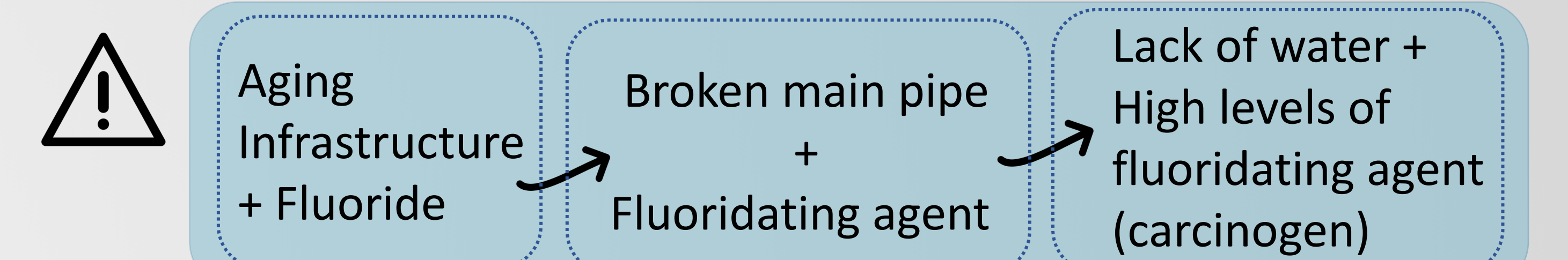
Lead contamination disproportionately effects residents in lower socioeconomic classes, particularly those living in older homes.

Expensive to have a blanket approach. Instead of people going for check ups, the health officials could set up screening clinics in high risk areas.

Fluoridation & Aging Infrastructure in Orange County

Orange County has one of the country's most reliable water service systems, yet issues with over-fluoridation and aging infrastructure led to water service interruptions.

To document the experiences of residents and other stakeholder groups, our team created a photo essay*.



- Residents
- OWASA (Orange Business owners)
- Experts in dentistry, water resources, and engineering
- Government (Federal and State)

"People need to recognize that there's a lot that happens to your water before it gets to the tap."
- Jennifer Redmon, Resident & Research Triangle Institute Environmental Risk Assessor

We started considering an over-fluoridation incident and as we continued our research, learned that aging infrastructure plays a huge role in water system failures; in both cases invisible hazards led to visible, real risks.

Water service providers and their funders should make infrastructure maintenance and replacement a high priority.

Shared Insights

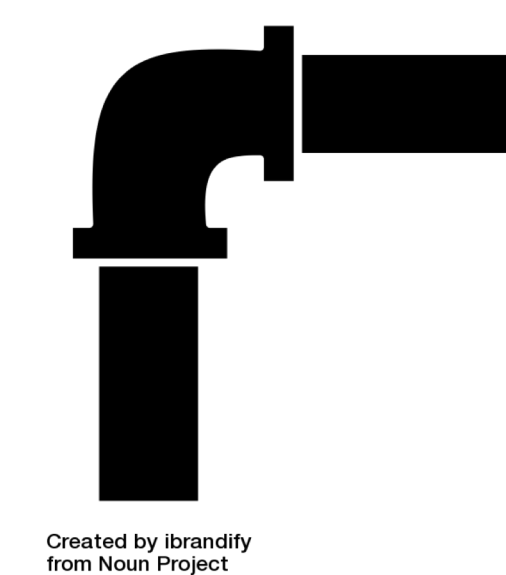
- Water quality is structural, but the burden of risks is on consumers and the community who have little recourse and power in decision-making processes. These risks are also stratified along socioeconomic and racial divides.
- Water quality is an invisible issue: omnipresent yet unseen, it is difficult to identify and communicate about.
- Water quality is a social rather than technical issue. What is considered safe or an acceptable amount of risk is decided by society.
- Narratives of water quality stakeholder perspectives and are largely controlled by those with technical expertise and finances; consumers of this public resource often find themselves lacking understanding and agency over it.

LEGEND

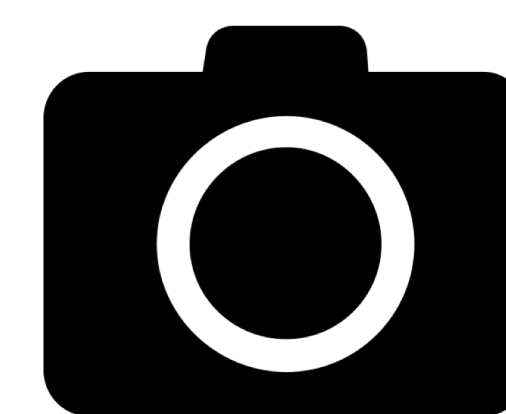
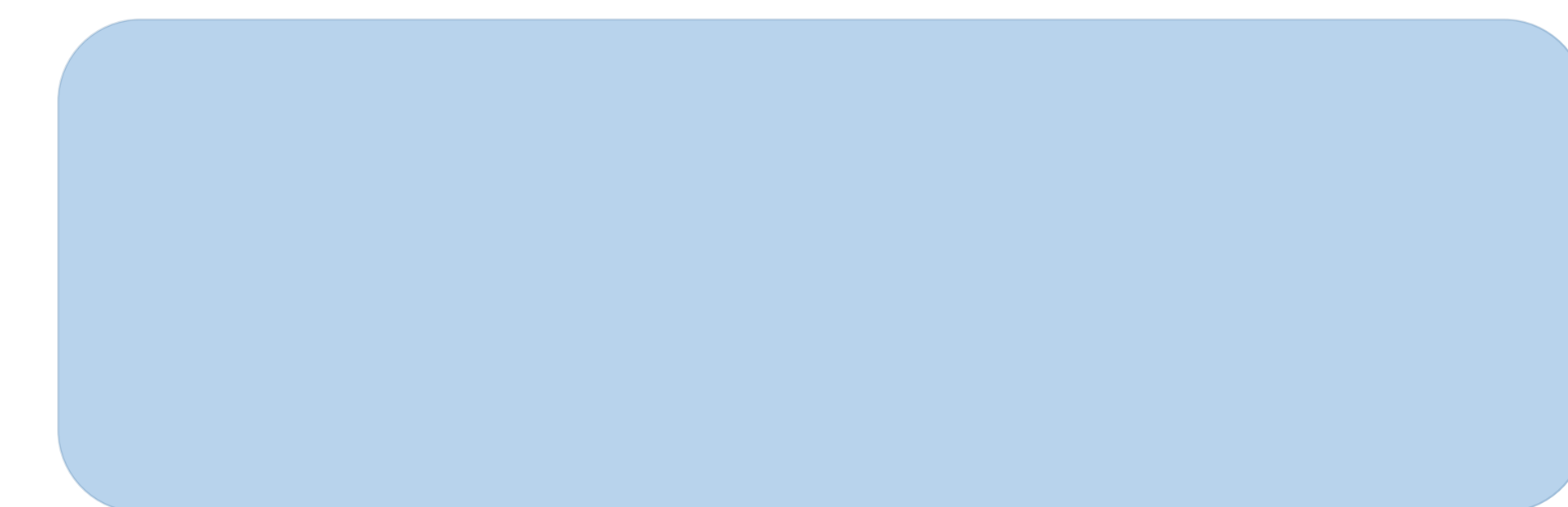
- Drinking Water Case Studies
- Narrative Media
- Risks
- Included Voices
- Key Quote
- Insights
- Recommendations

* If you'd like more information and invitations to our final narrative presentations (website launch, podcast release, and photo essay), please email project-decipher@duke.edu with subject line "Water Narrative" and we will be sure to share information!

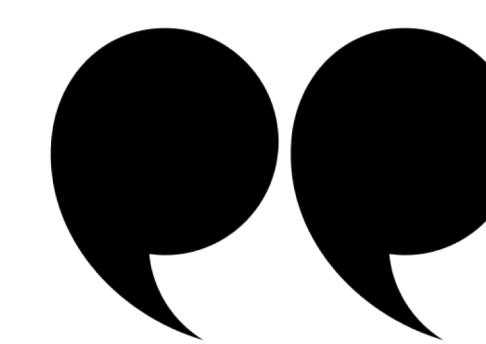
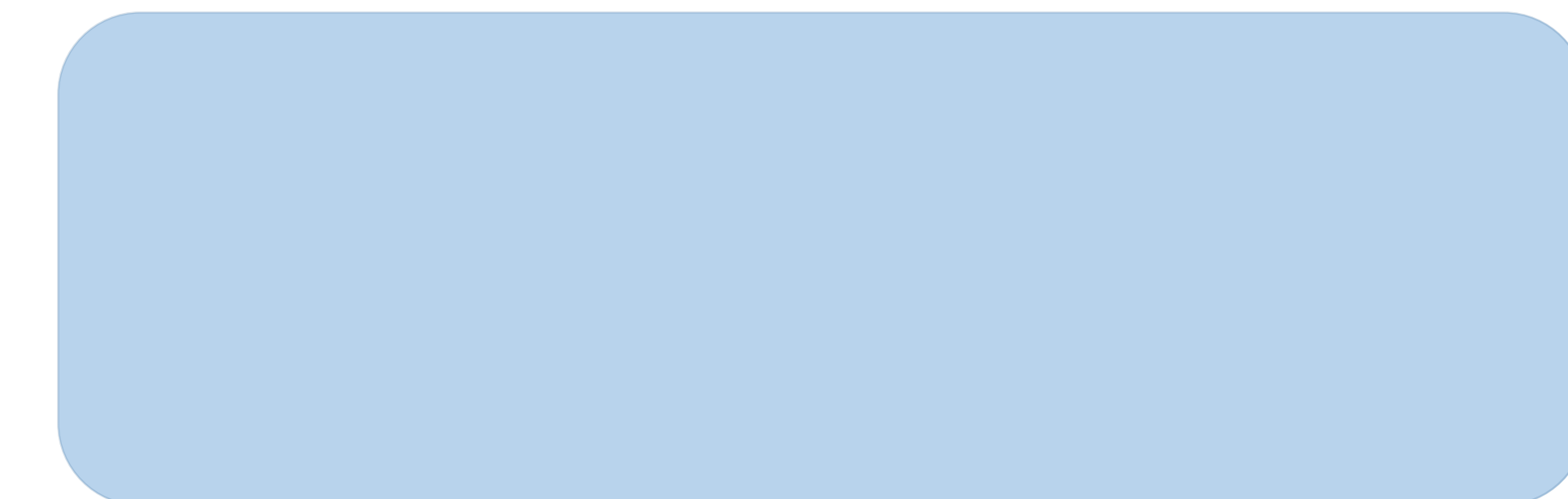
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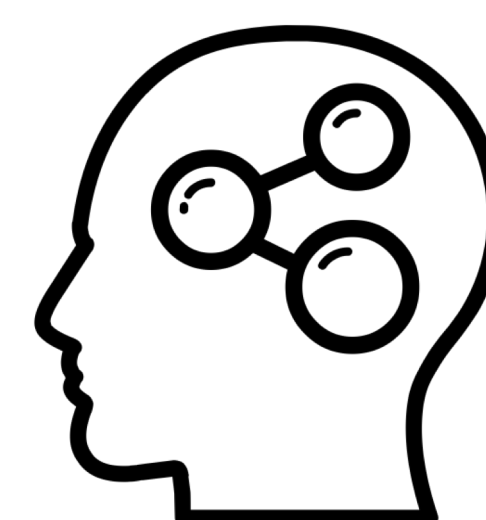
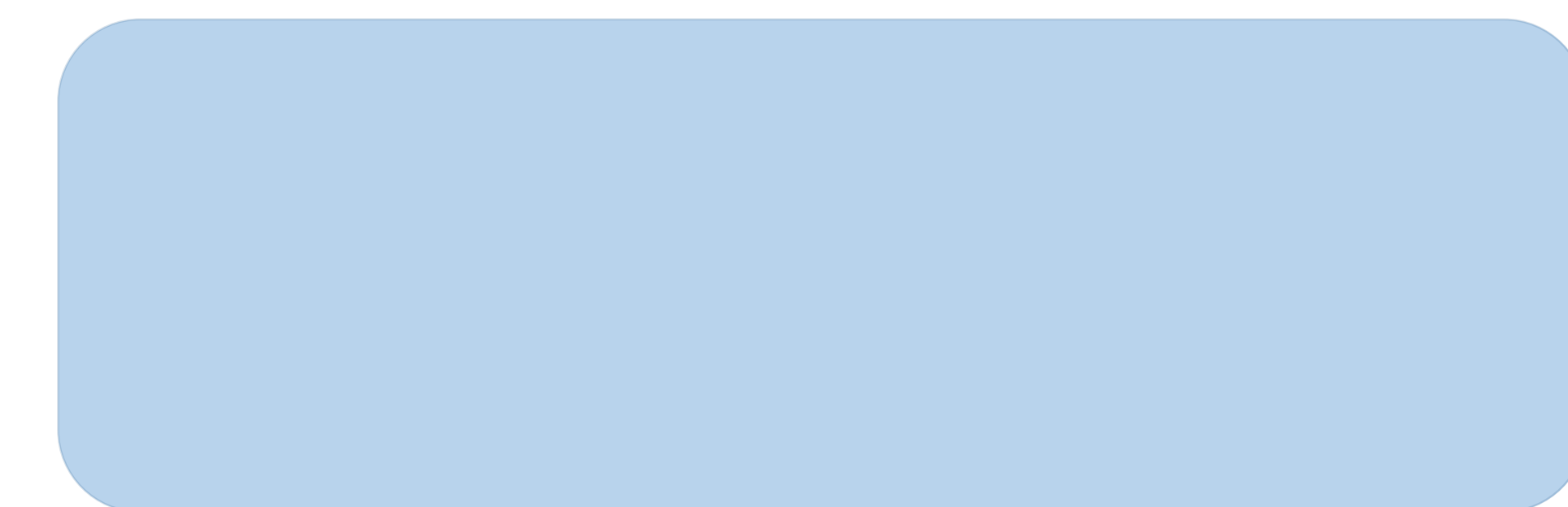
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