

The logo for STEER UC Berkeley is a white diamond shape with the text "STEER" in a large, bold, sans-serif font and "UC Berkeley" in a smaller, sans-serif font below it.

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# Visualizing Bladder Cancer Incidence and Associated Risk Factors

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# Definitions & Background

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- Disinfection byproducts (DBPs) are the reaction products between naturally occurring organic matter and halogens (i.e., chlorine, bromine, iodine, etc.)
- DBPs have been associated with bladder cancer

# Definitions & Background

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- ESRI's StoryMaps are graphic narratives of information that has a spatial component



# Project Goals

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1. Conduct a literature review of bladder cancer (BC) risk factors
2. Acquire BC incidence and associated risk factor data for 7 countries
1. Create StoryMaps to visualize the data and aid in interpretation

# Literature review for bladder cancer risk factors

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- Disinfection Byproducts
- Tobacco smoking
- Aromatic amines
- Arsenic in drinking water
- Hair dyes
- Ionizing radiation
- Dietary nitrites
- Chloride
- Urine stasis
- Red meat
- Tea and coffee
- Physical activity
- Heavy beer drinking in men

# Literature review for bladder cancer risk factors

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- Disinfection Byproducts
- Tobacco smoking
- ~~Aromatic amines~~
- ~~Arsenic in drinking water~~
- ~~Hair Dyes~~
- ~~Ionizing radiation~~
- ~~Dietary nitrites~~
- ~~Chloride~~
- ~~Urine stasis~~
- ~~Red meat~~
- ~~Tea and coffee~~
- ~~Physical activity~~
- ~~Heavy beer drinking in men~~

# Methods

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- Acquired international data
  - Bladder cancer incidence
    - Publically available databases
  - Tobacco smoking prevalence
    - International Smoking Statistics
- StoryMaps were created using ESRI's ArcGIS

# Results

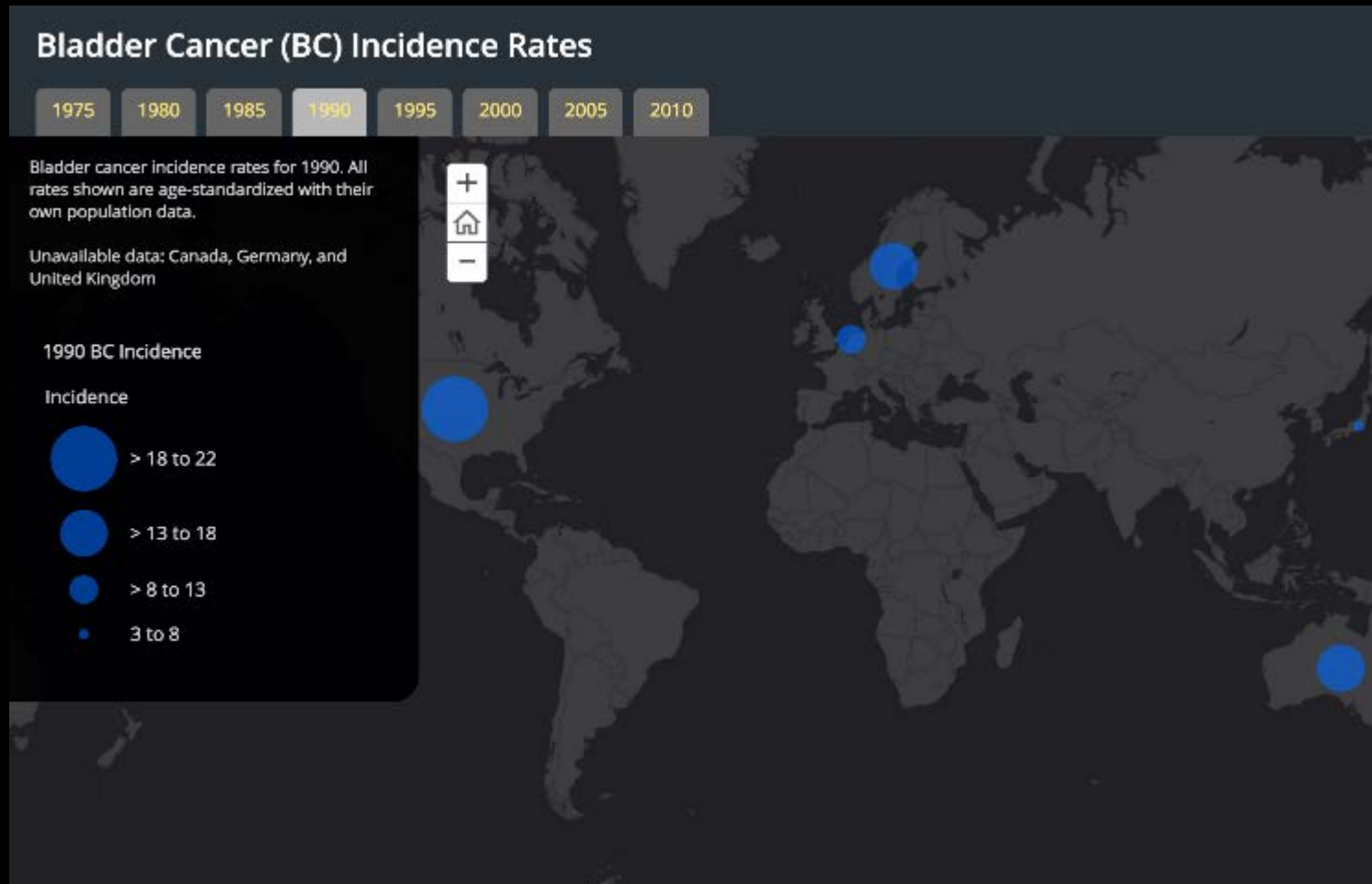
## Bladder Cancer Incidence Rates



Time Aware Map



# Results (cont.)



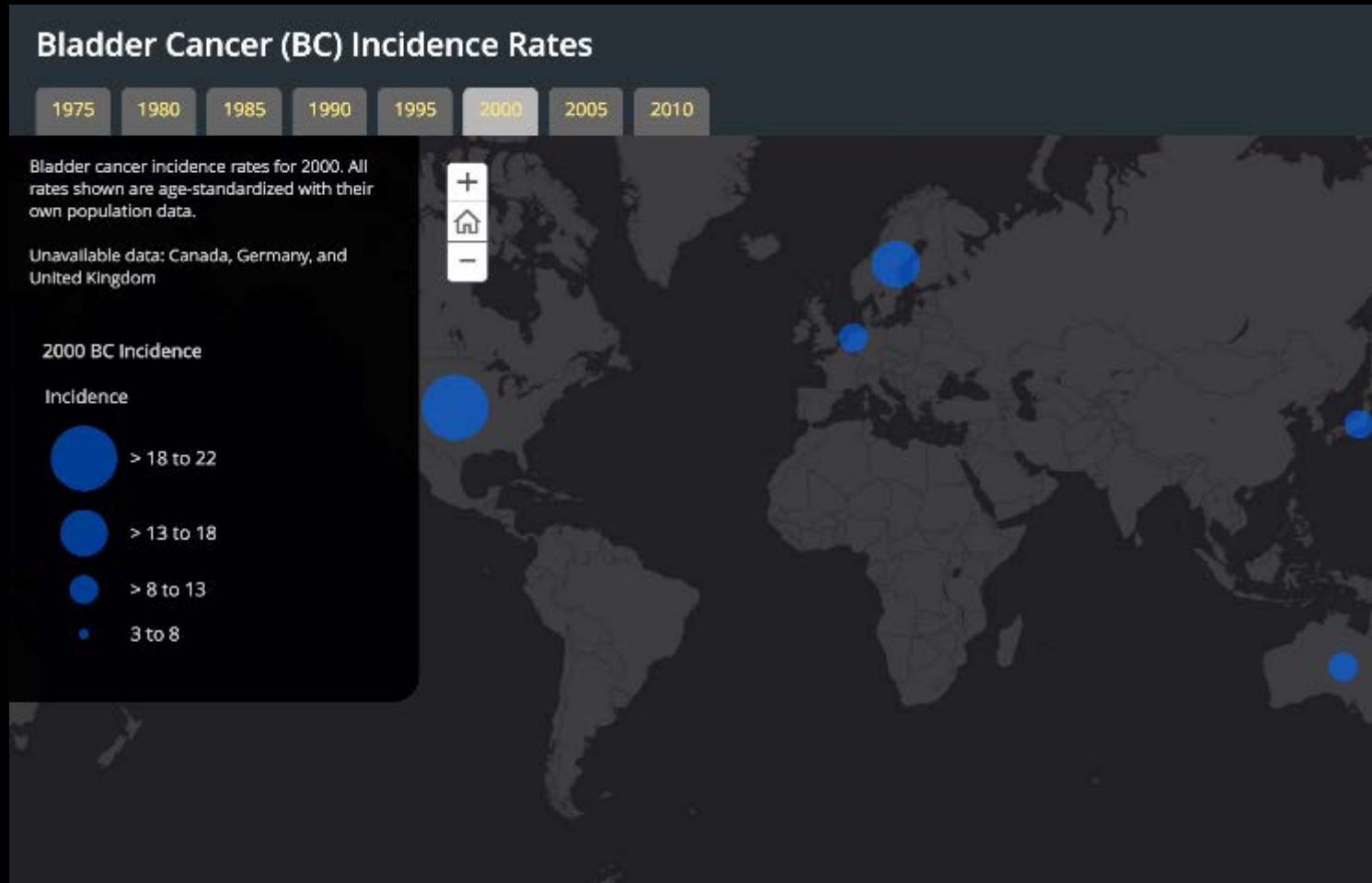
Tabbed Time Series StoryMap

# Results (cont.)



Tabbed Time Series StoryMap

# Results (cont.)



Tabbed Time Series StoryMap

# Results (cont.)



Accordion Time Series StoryMap

# Results (cont.)



Accordion Time Series StoryMap

# Results (cont.)



Accordion Time Series StoryMap

# Next Steps

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- Within the project
  - Continue exploring map formats
  - Obtain DBP data
  - Conduct multivariate statistical analysis
- Outside the project
  - Apply literature review and GIS skills at Northeastern and future experiences

# Acknowledgements

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