Chapter 4.14 Natural experiments in a hazard context

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Further reading

1. Craig P, Cooper C, Gunnell D, Hawk S, Lawson K, Macintyre S, et al. Using natural experiments to evaluate population health interventions: new Medical Research Council guidance. Journal of Epidemiology and Community Health; 2012: 66: 1182-6.

Summary of this document: This reading provides a concise outline of key issues related to conducting natural experiments and how to address some of the challenges in measuring population characteristics associated with exposures and outcomes. Recommendations for good practice in design and reporting are also provided.

In this short article, the authors provide guidance on evaluating population health interventions with natural experiments. It defines natural experiments as experiments where groups are exposed to interventions or controls in a way that is outside of the researcher's control. It then outlines key challenges to conducting rigorous natural experiments. The authors conclude that natural experiments have already demonstrated their utility in some areas, but researchers should still carefully consider between planned and natural experiments when attempting to evaluate an intervention.

2. Scottish Government Social Research Group (2009). Social Science Methods Series Guide 3: Natural experiments; 2009. https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2009/12/social-research-methods-guides/documents/natural-experiments/natural-experiments/govscot%3Adocument/Natural%2BExperiments.pdf (Accessed 22 February 2022).

Summary of this document: The methods series from the Scottish Government Social Research Group introduces the concept of natural experiment in a very brief document using everyday language and terms. The guideline particularly focuses on applications to the policy setting.

In this short guide, the advantages, and disadvantages of conducting natural experiments are outlined. Natural experiments are observational studies which can be undertaken to assess the outcomes and impacts of policy interventions. The authors argue that while they are cost-effective and pragmatic, drawing causal inferences can be difficult due to confounding factors. The guide concludes with three examples of natural experiments conducted in the United States.