The Strategy Unit.

2.03 The interrupted time series design: Sicily dataset

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NHS
Midlands and Lancashire
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In January 2005, Italy introduced regulations to ban smoking in all indoor public places, with the aim of limiting the adverse health effects of second-hand smoke.

Sicily dataset

Barone-Adesi F, Gasparrini A, Vizzini L, Merletti F, Richiardi L. Effects of Italian Smoking Regulation on Rates of Hospital Admission for Acute Coronary Events: A Country-Wide Study. *PLoS ONE*. 2011;6(3):e17419. doi: 10.1371/journal.pone.0017419 [3]

Sicily dataset

Objective—Effects of Italian Smoking Regulation on Rates of Hospital Admission for Acute Coronary Events

Design—Time series study using data on hospital admissions for ACEs from the Italian population after the implementation of a national smoking regulation in January 2005.

Setting—The 20 Italian regions from January 2002 to November 2006.

What do you think about the choice of study design

? What would an appropriate impact model be

Exercise 1: Sicily dataset

Sicily dataset

1. Load Sicily dataset in R

   sicily <- read_csv("C:/… /sicilyDataset.csv")

2. Load required packages

   library("tidyverse")

   library("season")

   library("zoo")

Sicily dataset

1. Familiarise yourself with the dataset. Outcome variable is count of hospital admissions for acute coronary events (aces) and exposure variable is pre-post smoking ban (smokban)
2. Investigate the series of ACE admissions prior to the smoking ban (produce some time series plots)

Exercise 2: Sicily dataset

Sicily dataset

1. Estimate the effect of the smoking ban on admissions using a level change impact model