

# alcohol-admins\_deprive-practice

JW

2024-11-07

Exercise 2: For which health boards do we have data on alcohol-related hospital admissions for each deprivation quintile?

## Load packages

```
library(tidyverse)
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
## v dplyr      1.1.4      v readr      2.1.5
## v forcats    1.0.0      v stringr   1.5.1
## v ggplot2    3.5.1      v tibble    3.2.1
## v lubridate  1.9.3      v tidyr     1.3.1
## v purrr      1.0.2
## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()     masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

## read in data

```
depri_raw_data <- read_csv("alcohol-admissions_deprivation-data.csv")
```

```
## New names:
## Rows: 216 Columns: 19
## -- Column specification
## ----- Delimiter: "," chr
## (6): indicator, geography_code, quintile, period, definition, ...19 dbl (1):
## indicator_measure lgl (12): ...7, ...8, ...9, ...10, ...11, ...12, ...13,
## ...14, ...15, ...16,...
## i Use 'spec()' to retrieve the full column specification for this data. i
## Specify the column types or set 'show_col_types = FALSE' to quiet this message.
## * ' -> '...7'
## * ' -> '...8'
## * ' -> '...9'
## * ' -> '...10'
## * ' -> '...11'
## * ' -> '...12'
```

```
## * ' -> '...13'
## * ' -> '...14'
## * ' -> '...15'
## * ' -> '...16'
## * ' -> '...17'
## * ' -> '...18'
## * ' -> '...19'
```

```
inter_zone_codes <- read_csv("iz2011_codes_and_labels_21042020.csv")
```

```
## New names:
## Rows: 1279 Columns: 18
## -- Column specification
## ----- Delimiter: "," chr
## (10): IntZone, IntZoneName, CA, CAName, HSCP, HSCPName, HB, HBName, Coun... lgl
## (8): ...10, ...11, ...12, ...13, ...14, ...15, ...16, ...17
## i Use 'spec()' to retrieve the full column specification for this data. i
## Specify the column types or set 'show_col_types = FALSE' to quiet this message.
## * ' -> '...10'
## * ' -> '...11'
## * ' -> '...12'
## * ' -> '...13'
## * ' -> '...14'
## * ' -> '...15'
## * ' -> '...16'
## * ' -> '...17'
## * ' -> '...18'
```

```
unique(depri_raw_data$geography_code)
```

```
## [1] "S08000020" "S08000029"
```

## filter data and show health boards in deprive table

```
inter1 <- inter_zone_codes %>%
  select(HB, HBName) %>%
  group_by(HB, HBName) %>%
  summarize
```

```
## 'summarise()' has grouped output by 'HB'. You can override using the '.groups'
## argument.
```

```
depri_health_board <- depri_raw_data %>%
  left_join(inter1,
    select(geography_code, HBName, quintile, indicator_measure)
  )
unique(depri_health_board$HBName)
```

```
## [1] "NHS Grampian" "NHS Fife"
```

We have two health boards—`unique(depri_health_board$HBName)`— data on alcohol-related hospital admissions for each deprivation quintile.

Exercise 3: Create boxplots showing alcohol admissions for each deprivation quintile. Create a different plot for each health board in the data set.

##prepare data

```
depri_quintile <- depri_health_board %>%  
  rename(health_board='HBName',admissions='indicator_measure')  
  
write_csv(depri_quintile,'depri_health_board.csv')  
  
glimpse(depri_quintile)
```

```
## Rows: 216  
## Columns: 4  
## $ geography_code <chr> "S080000020", "S080000020", "S080000020", "S080000020", "S0~  
## $ health_board <chr> "NHS Grampian", "NHS Grampian", "NHS Grampian", "NHS Gr~  
## $ quintile <chr> "1 - most deprived", "2", "3", "4", "5 - least deprived~  
## $ admissions <dbl> 1289.2, 672.6, 379.6, 286.4, 225.2, 555.8, 1472.7, 701.~
```

##box-plot alcohol admissions for each deprivation quintile

```
depri_quintile %>%  
  ggplot(aes(x = quintile,  
            y = admissions)) +  
  geom_boxplot() +  
  ggtitle("Alcohol Admissions for Each Deprivation Quintile") +  
  facet_wrap(~health_board)+  
  theme(legend.position = "top") #how to show legend 1=most deprived...
```

Alcohol Admissions for Each Deprivation Quintile

