alcohol-admins_deprive-practice

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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")
```

```
## Rows: 216 Columns: 6
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr (5): indicator, geography_code, quintile, period, definition
## dbl (1): indicator_measure
##
## 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.
```

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

```
## Rows: 1279 Columns: 9
## -- Column specification --------------------------------------------------------
## Delimiter: ","
```

```
## chr (9): IntZone, IntZoneName, CA, CAName, HSCP, HSCPName, HB, HBName, Country
##
## 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.
```

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

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

filter data and select geography_code

```
depri_health_board <- filter(inter_zone_codes, HB == 'S08000020' |   HB == 'S08000029') %>%
  select(HB, HBName)

table(depri_health_board)
```

```
##            HBName
## HB          NHS Fife NHS Grampian
##   S08000020        0          132
##   S08000029      104            0
```

```
depri_health_board_gb <- filter(depri_raw_data, geography_code == 'S08000020' | geography_code == 'S080
  select(geography_code,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_raw_data %>%
  inner_join(inter_zone_codes, by=c('geography_code'='HB')) %>%
  select(HBName,quintile,indicator_measure) %>%
rename(health_board='HBName',admissions='indicator_measure')
```

```
## Warning in inner_join(., inter_zone_codes, by = c(geography_code = "HB")): Detected an unexpected ma
## i Row 1 of ‘x‘ matches multiple rows in ‘y‘.
## i Row 1 of ‘y‘ matches multiple rows in ‘x‘.
## i If a many-to-many relationship is expected, set ‘relationship =
##   "many-to-many"‘ to silence this warning.
```

```
unique(depri_quintile)
```

```
## # A tibble: 214 x 3
##    health_board quintile           admissions
##    <chr>        <chr>                   <dbl>
##  1 NHS Grampian 1 - most deprived       1289.
##  2 NHS Grampian 2                        673.
##  3 NHS Grampian 3                        380.
##  4 NHS Grampian 4                        286.
```

```
##  5 NHS Grampian 5 - least deprived       225.
##  6 NHS Grampian Total                    556.
##  7 NHS Grampian 1 - most deprived       1473.
##  8 NHS Grampian 2                        701.
##  9 NHS Grampian 3                        487
## 10 NHS Grampian 4                        307.
## # i 204 more rows
```

##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...
```