

# Putting the R in PhaRmacy

Chris Beeley

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# Introduction

- ▶ Plumbing
- ▶ No one person understands the whole project
- ▶ Team work as open source code

# Tasks

- ▶ Database access
- ▶ Forecast
- ▶ Stock control
- ▶ Shiny

## Database access

- ▶ Some of the tables are very large indeed
- ▶ Each run filters by date, site, and drug supplier
- ▶ We use `dbplyr` to do all the filtering on the SQL database rather than pulling it into R
- ▶ We avoid storing and preprocessing as much as possible but the transaction table requires storing so we just download new entries

# Forecast

- ▶ Forecasting did not work very well
- ▶ I wrote some very neat and tidy code though 😊
- ▶ `make_tsibble()`, `forecast_series()`, `plot_forecast()`,  
`show_accuracy()`

## forecast\_series

```
forecast_series <- function(data, horizon, frequency = "Daily") {  
  
  if(frequency == "Daily"){  
  
    values <- c("week", "A")  
  } else {  
  
    values <- c("year", "N")  
  }  
  
  data %>%  
    fabletools::model("MEAN" = fable::MEAN(quantity),  
                      "SNAIVE" = fable::SNAIVE(quantity ~ 1),  
                      "ARIMA" = fable::ARIMA(quantity, approx),  
                      "ETS" = fable::ETS(quantity ~ season),  
    fabletools::forecast(h = horizon)  
}
```

## Stock control

- ▶ I didn't write any of this code
- ▶ But I did package it up neatly 😊
- ▶ Having the code in a package ensures that we are all running the same functions

# Shiny

- ▶ I haven't written much Shiny as yet
- ▶ We are using `golem` (package, document, test)



## Take home

- ▶ Don't email a load of code files around!
- ▶ Package and document your code
- ▶ Goldilocks functions- not too big, not too small