Module 0: Getting Started

Part 3: Basics of Data Management in R

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Econ 470 & HLTH 470

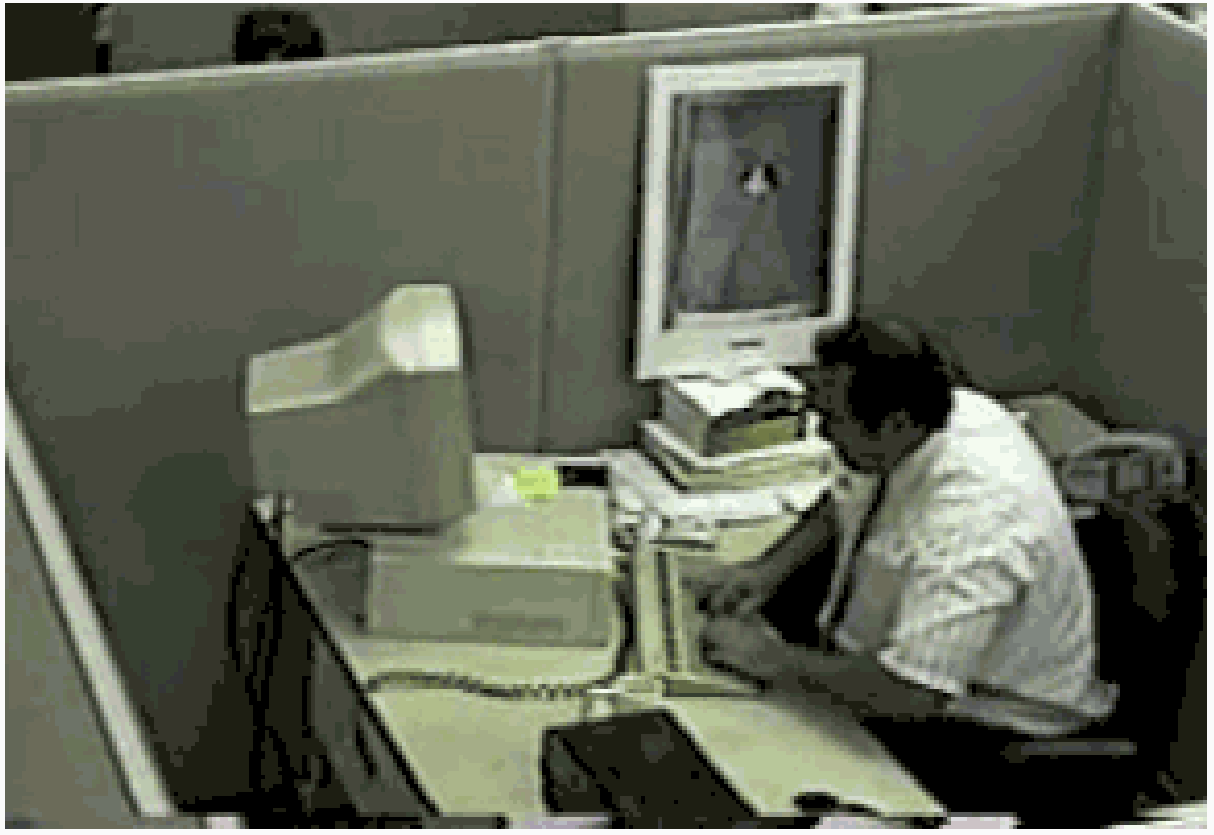
Real World

Practice data versus the real world

Advice 1: Be patient and careful in your coding

Advice 2: Comment, comment, comment

You don't want to end up like this guy...



Medicare Advantage

Medicare Advantage

Let's work with the Medicare Advantage GitHub repository

Access the data

First step is to download the raw data that we'll be using, or work in AWS:

- Monthly Enrollment
- Plan Characteristics
- Service Areas

Lots more out there, but this is enough for now.

1) Contract/enrollment info

```
for (y in 2007:2015) {
  ## Basic contract/plan information
  ma.path=paste0(path.data.ma,"/monthly-ma-and-pdp-enrollment-by-cpsc/CPSC_Contract_Info_"
  contract.info=read_csv(ma.path,
                         skip=1,
                         col_names = c("contractid","planid","org_type","plan_type",
                                       "partd","snp","eghp","org_name","org_marketing_name
                                       "plan_name","parent_org","contract_date"),
                         col_types = cols(
                           contractid = col_character(),
                           planid = col_double(),
                             ...
                           ))
```

1) Contract/enrollment info

```
  ## Clean the contract level data
contract.info = contract.info %>%
  group_by(contractid, planid) %>%
  mutate(id_count=row_number())

contract.info = contract.info %>%
  group_by(contractid, planid) %>%
  mutate(id_count=row_number())
```

1) Contract/enrollment info

```
  ## Enrollments per plan
enroll.info=read_csv(paste0("data/input/monthly-ma-and-pdp-enrollment-by-cpsc/CPSC_Enrol
                    skip=1,
                    col_names = c("contractid","planid","ssa","fips","state","county","
                    col_types = cols(
                    contractid = col_character(),
                    planid = col_double(),
                    ssa = col_double(),
                    fips = col_double(),
                    state = col_character(),
                    county = col_character(),
                    enrollment = col_double()
                    ),na="*")
```

1) Contract/enrollment info

```
  ## Merge contract info with enrollment info
plan.data = contract.info %>%
  left_join(enroll.info, by=c("contractid", "planid")) %>%
  mutate(year=y)
```

1) Contract/enrollment info

```
## Fill in missing fips codes (by state and county)
plan.data = plan.data %>%
  group_by(state, county) %>%
  fill(fips)

## Fill in missing plan characteristics by contract and plan id
plan.data = plan.data %>%
  group_by(contractid, planid) %>%
  fill(plan_type, partd, snp, eghp, plan_name)

## Fill in missing contract characteristics by contractid
plan.data = plan.data %>%
  group_by(contractid) %>%
  fill(org_type,org_name,org_marketing_name,parent_org)
```

1) Contract/enrollment info

```
## Collapse from monthly data to yearly
plan.year = plan.data %>%
  group_by(contractid, planid, fips) %>%
  arrange(contractid, planid, fips) %>%
  rename(avg_enrollment=enrollment)

write_rds(plan.year,paste0("data/output/ma_data_",y,".rds"))
```

1) Contract/enrollment info

```
full.ma.data ← read_rds("data/output/ma_data_2007.rds")
for (y in 2008:2015) {
  full.ma.data ← rbind(full.ma.data,read_rds(paste0("data/output/ma_data_",y,".rds")))
}
```

All together now

Now let's do this together...

1. Initialize repository in GitHub
2. Clone to local computer
3. Copy data from OneDrive
4. Follow some practice code, available here