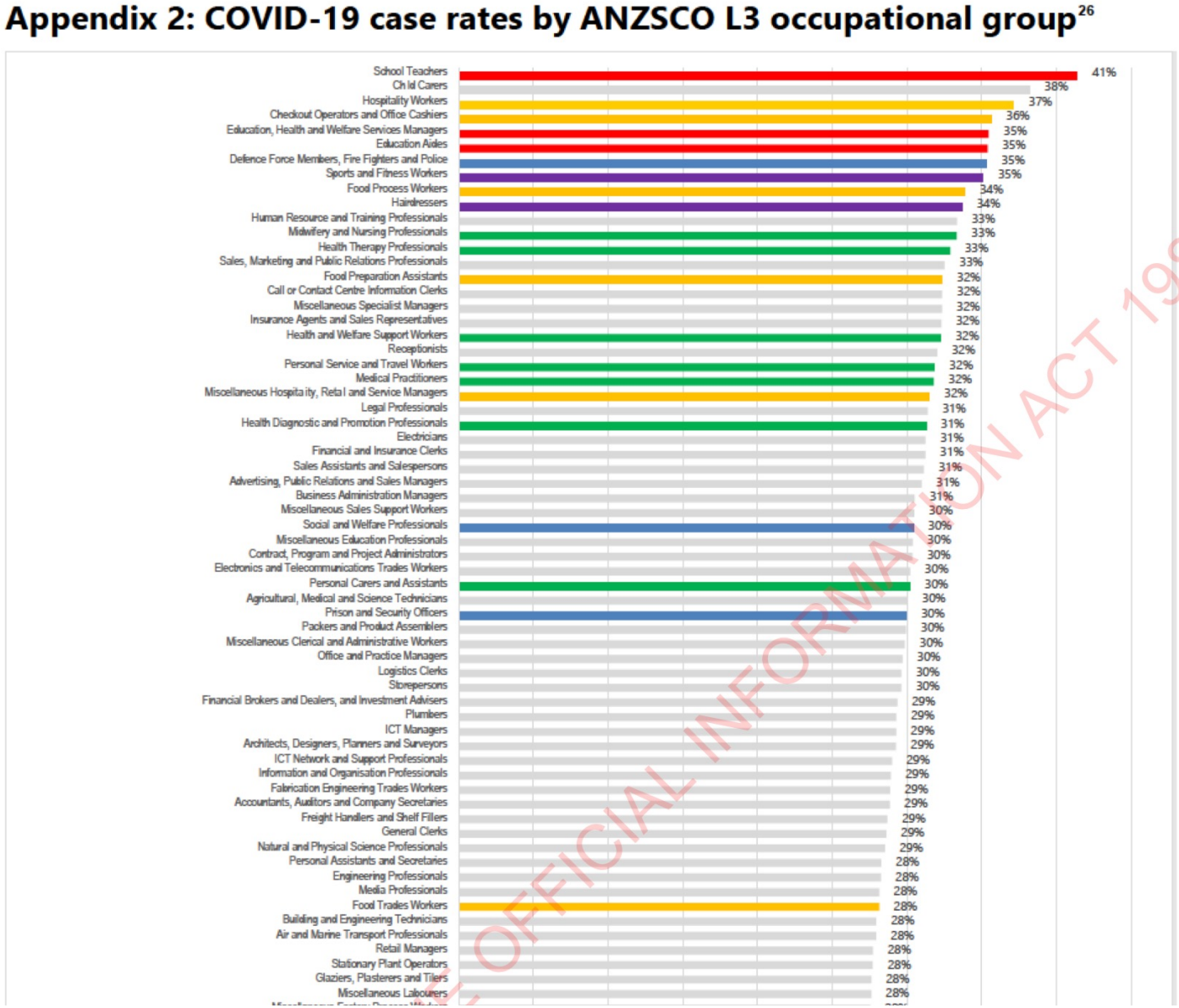
What we know about exposures and spread from public data

David Hood

https://github.com/thoughtfulbloke/work_covid_2023

Occupational Covid infection rates released in November 2022 OIA



https://github.com/thoughtfulbloke/work_covid_2023

In April 2020 Figure.nz combined StatsNZ and O*net data (CC-by 4.0) to identify at risk context occupations

COVID-19 Job Impacts

COVID-19 is having a massive impact on our workforce in New Zealand, but it can be hard to understand which jobs may be impacted the most. Inspired by the work of Peter Ellis at Nous Group, Figure.NZ has combined Stats NZ data from the 2018 Census with data on workplace contexts from O*Net.

Our goal is to help you understand the different types of work done by people in different jobs in New Zealand, like how much face-to-face contact the job normally has, and to put that in context by combining it with the number of people working in those jobs, and the income of those people. This data can be further explored by different geographic areas of New Zealand, and different demographic characteristics, like age, ethnicity, sex, and full-time/part-time status.

We hope this will help people to understand and make more informed decisions about how we work during the COVID-19 crisis, and enable our decision makers to make the best decisions possible about how they can provide support to our most vulnerable people.

What sort of questions might this help me answer?

- Which jobs have the highest number of over 65s whose jobs require close proximity and face-to-face work?
- Which jobs have the most workers doing at-risk work for the lowest pay?
- Which areas of New Zealand have higher proportions of people working in jobs that may be impacted?
- Which jobs already use email and phone a lot and may be better placed for transition to long-term remote work?
- Data from the 2013 Census showed us that women are more likely to look after children, people who are ill, and people with disabilities in their own households and other households. Our analysis suggests that the paid work women undertake is more likely to have high levels of contact with others, face-to-face discussions, and proximity to others, paired with lower pay. How might these factors impact one other.

  2013-census-quickstats-work-unpaid-activities.pdf 1510.1KB

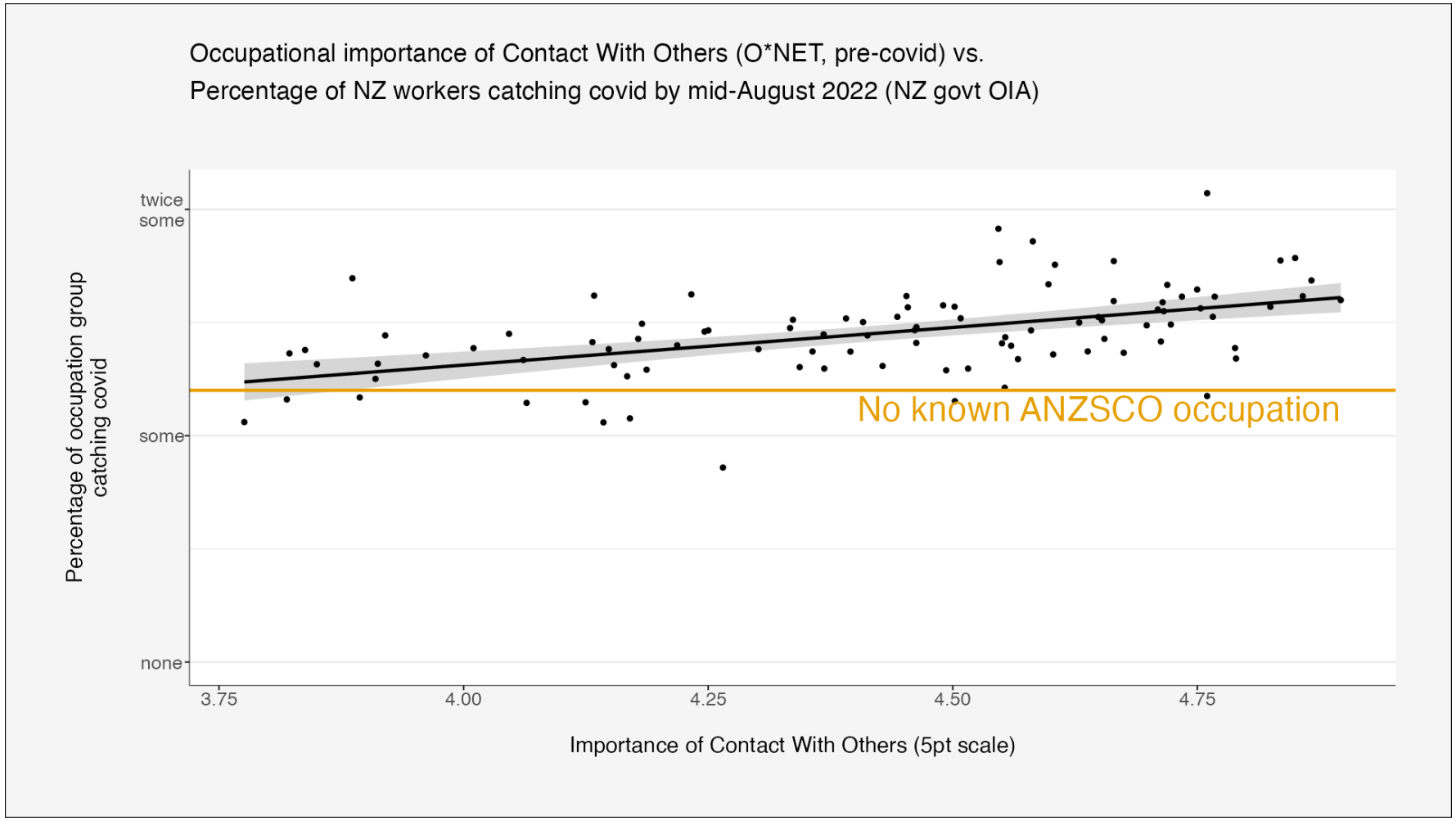
Show me the good stuff

We have made 4 data visualisations. Each visualisation looks at the workplace contexts for different jobs, mapping that against the number of people and median personal income. Each can be filtered by location and job category. In addition, the 4 visualisations look at:

- Ethnicity

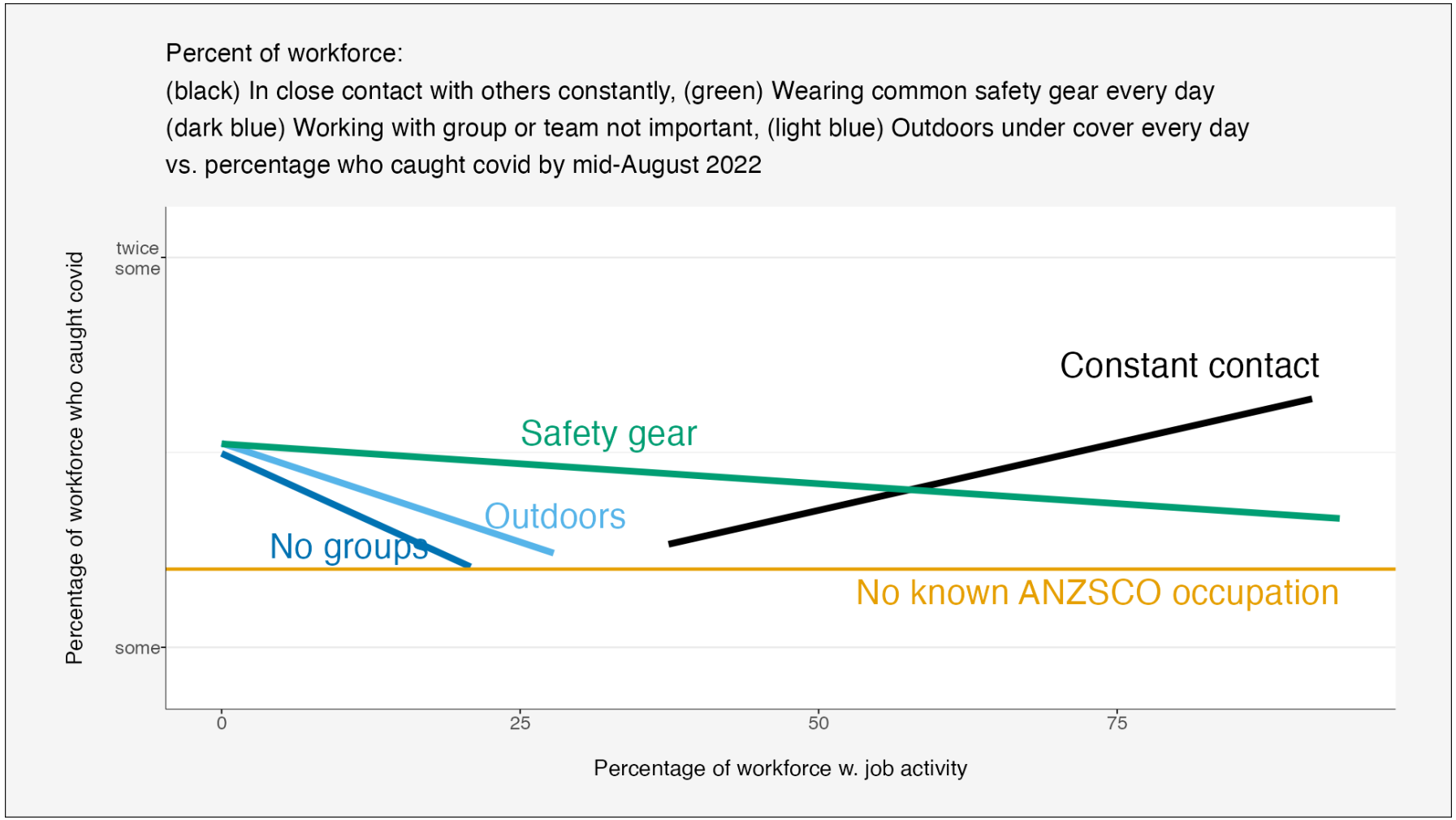
https://github.com/thoughtfulbloke/work_covid_2023

So I combined the two sets of data to get infections and work context



https://github.com/thoughtfulbloke/work_covid_2023

The normal things you would expect to increase or decrease infections do



https://github.com/thoughtfulbloke/work_covid_2023

You can do things like cancel out “Contact with others” and see what of the remainder is important

slope	activity
-0.39	Face-to-Face Discussions_Never
0.35	Importance of Being Exact or Accurate_Not important at all
-0.27	Exposed to Whole Body Vibration_Once a week or more but not every day
-0.22	Contact With Others_No contact with others
0.19	Responsibility for Outcomes and Results_Moderate responsibility
-0.18	Exposed to Minor Burns, Cuts, Bites, or Stings_Once a week or more but not every day
-0.18	In an Open Vehicle or Equipment_Once a week or more but not every day
-0.17	Coordinate or Lead Others_Not important at all
-0.17	Physical Proximity_I don’t work near other people (beyond 100 ft.)
-0.17	Exposed to Whole Body Vibration_Once a month or more but not every week

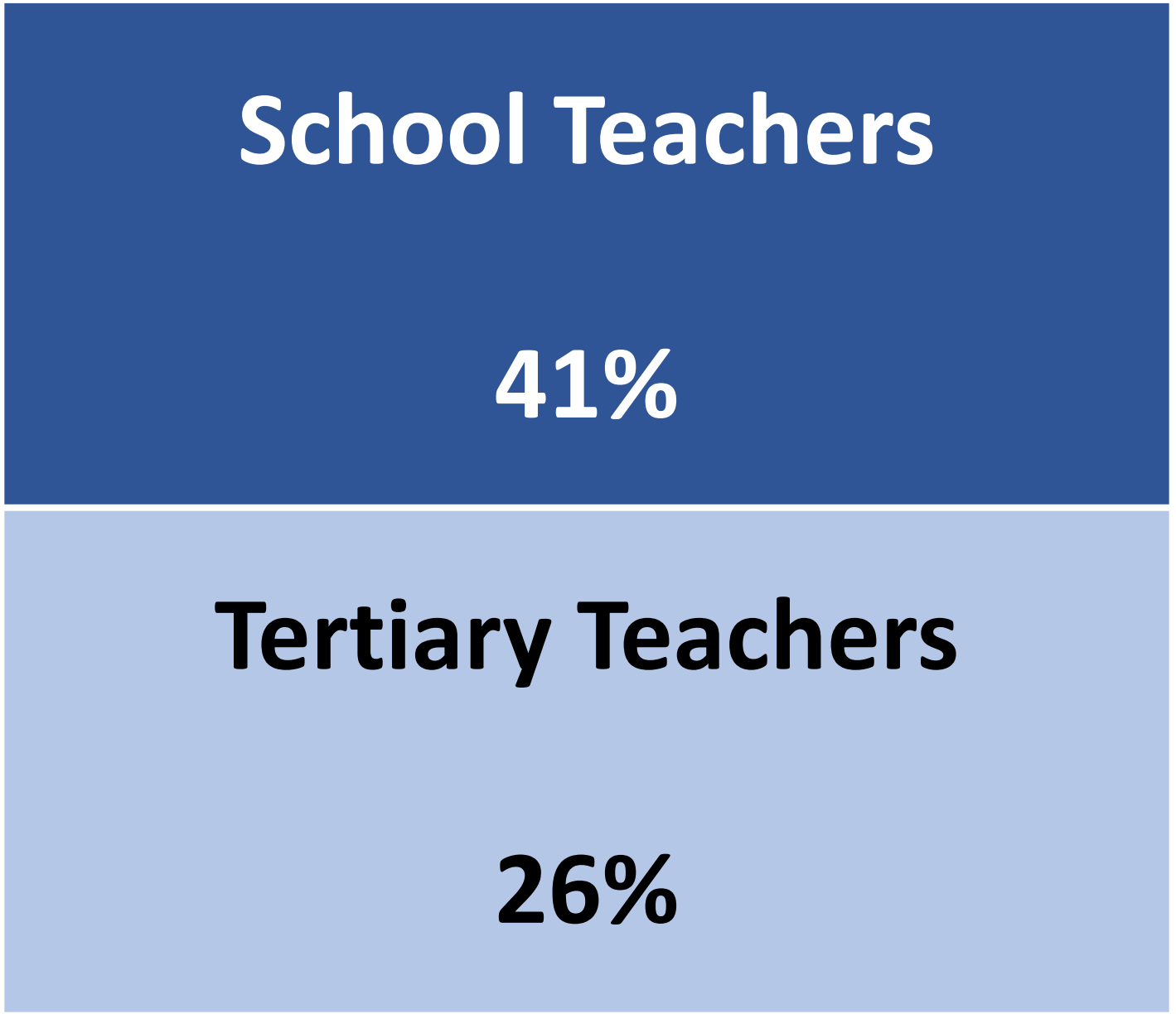
https://github.com/thoughtfulbloke/work_covid_2023

Given “Contact with others”, everyday exposure to disease is the least risky of exposures

slope	activity
0.16	Exposed to Disease or Infections_Once a month or more but not every week
0.16	Exposed to Disease or Infections_Once a week or more but not every day
0.05	Exposed to Disease or Infections_Once a year or more but not every month
0.02	Exposed to Disease or Infections_Every day
-0.03	Exposed to Disease or Infections_Never

https://github.com/thoughtfulbloke/work_covid_2023

It can be worth thinking about what different occupation's contexts are for infection



https://github.com/thoughtfulbloke/work_covid_2023

Insurance Agents and Sales Representatives
32%

Real Estate Sales Agents

24%

https://github.com/thoughtfulbloke/work_covid_2023

Hospitality Workers

38%

Sales Assistants and Salespersons

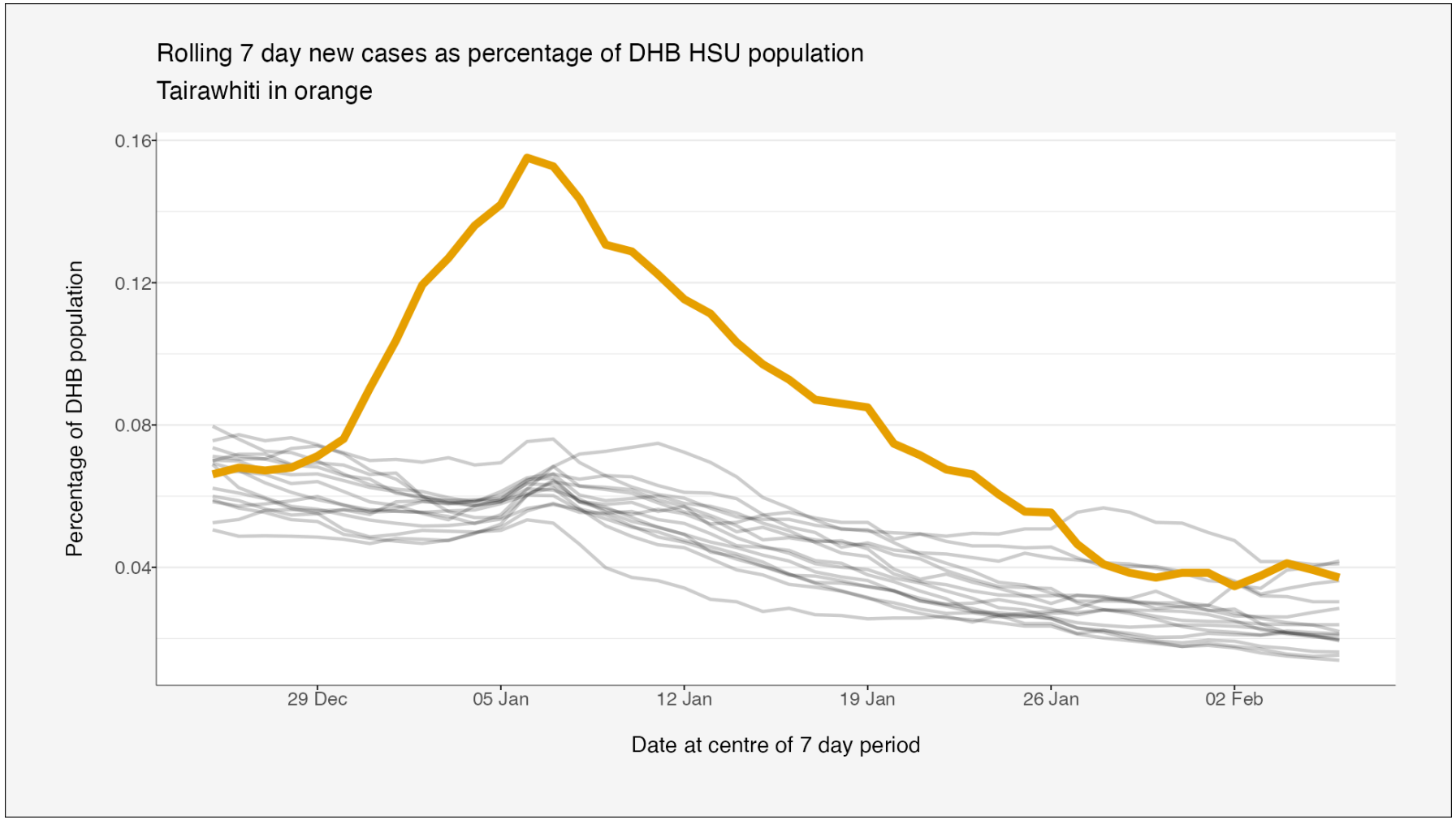
31%

https://github.com/thoughtfulbloke/work_covid_2023

Retail Managers 28%	Accommodation and Hospitality Managers 27%
Sales Assistants and Salespersons 31%	Hospitality Workers 38%

https://github.com/thoughtfulbloke/work_covid_2023

Tairawhiti New Year's rapid event and in-group spread but reductions when caution



https://github.com/thoughtfulbloke/work_covid_2023

https://github.com/thoughtfulbloke/work_covid_2023

David Hood