ARC CENTRE OF EXCELLENCE IN POPULATION AGEING RESEARCH

COVID-19 AND THE DEMOGRAPHIC DISTRIBUTION OF HEALTH AND ECONOMIC RISKS

1. INTRODUCTION

The health impacts of COVID-19 have been modest in Australia compared to elsewhere. But as restrictions ease and the economy reopens, the risks of infection, morbidity, and job loss will require caution. Live data suggests that unemployment impacts may be considerable (Figure 1).

Such risks are shared unequally across locations, occupations, and industries. A key driver of differences is age and socioeconomic status. For example, areas with less healthy populations—where a resurgence in COVID-19 could wreack the most havoc—tend to be either older, poorer, or both.

Occupations with greatest exposure to infection tend to be low wage, and often held by older women. And, while older workers have so far seen lower rates of job loss than younger workers, historic data suggests that they are twice as likely to become inactive after a spell of unemployment. Such multi-dimensional risks need balanced and informed responses.

To this end, this fact sheet documents the demographic distribution of different health and economic risks across the Australian population, paying particular attention to older groups (aged 55+).

Fig 1a Timing of unfolding pandemic, policy responses, and unemployment concerns (Australia)

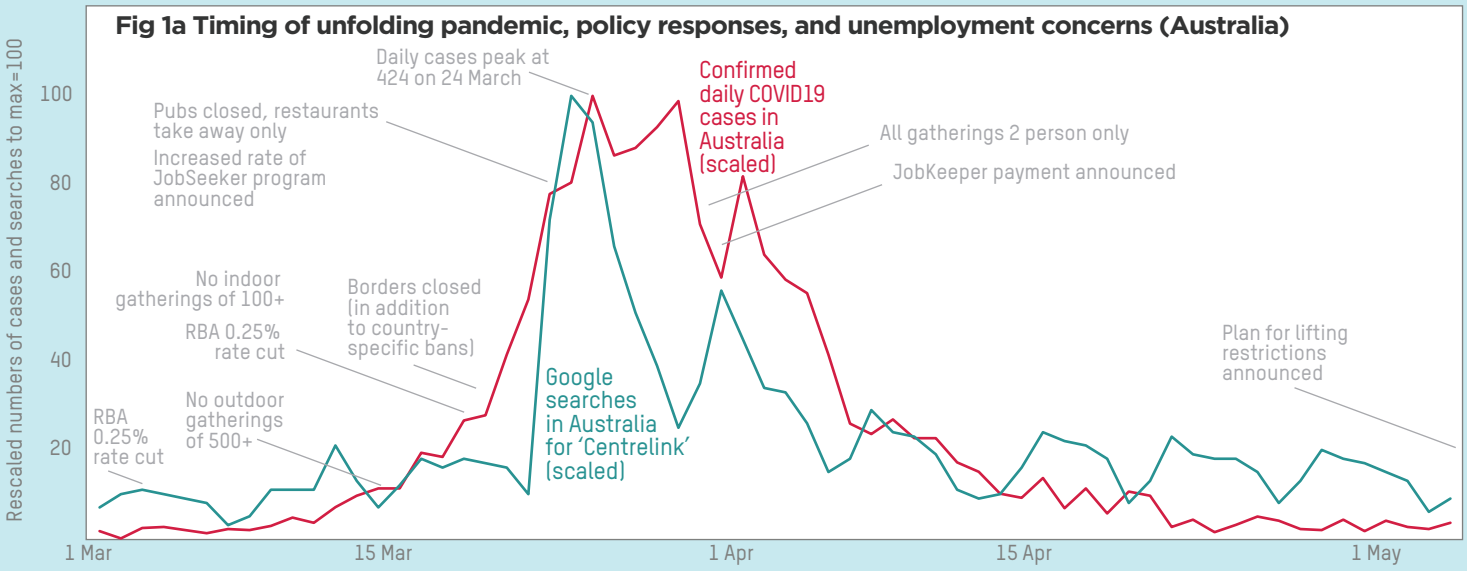
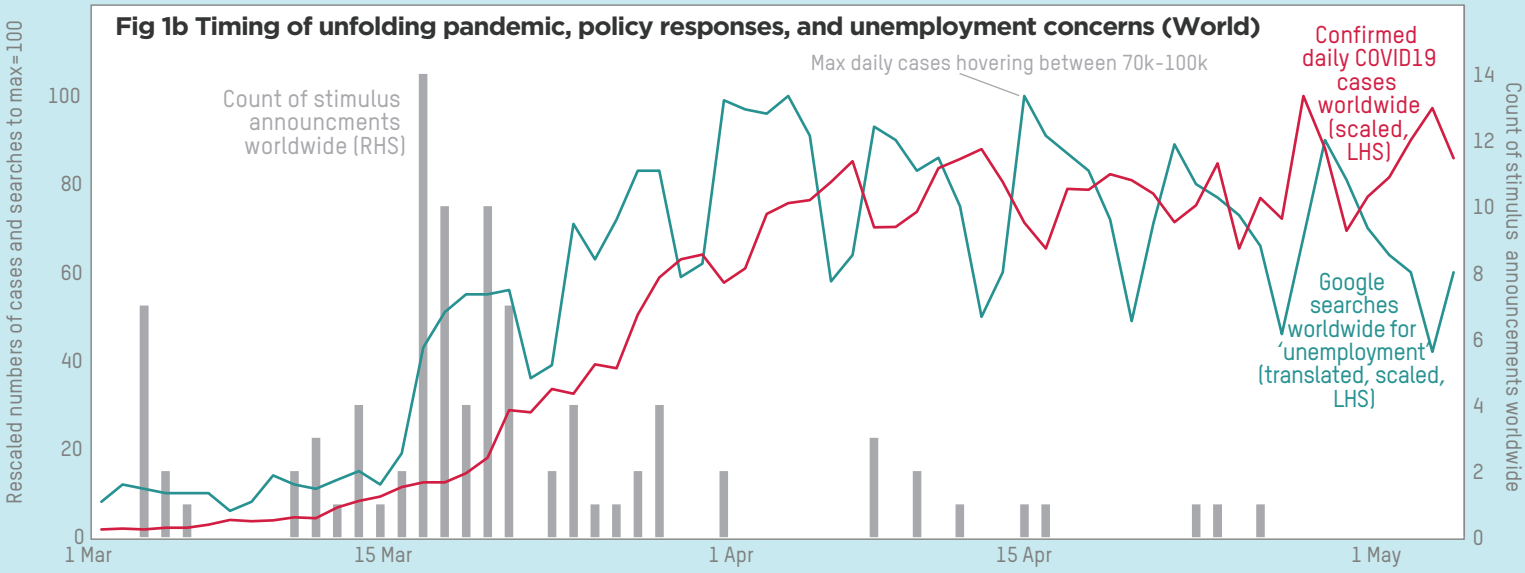


Fig 1b Timing of unfolding pandemic, policy responses, and unemployment concerns (World)



Note: Most variables scaled to max (over observation period) of 100. Centrelink is the customer-facing Australian Government body responsible for administering unemployment payments (JobSeeker). JobKeeper is a new program that subsidises wages for businesses affected by the pandemic and related responses. Source: Author's analysis of Guardian (2020), Google (2020), Our World in Data (2020), Keane and Neal (2020)

2. OLDER PEOPLE'S HEALTH RISK BY LOCATION

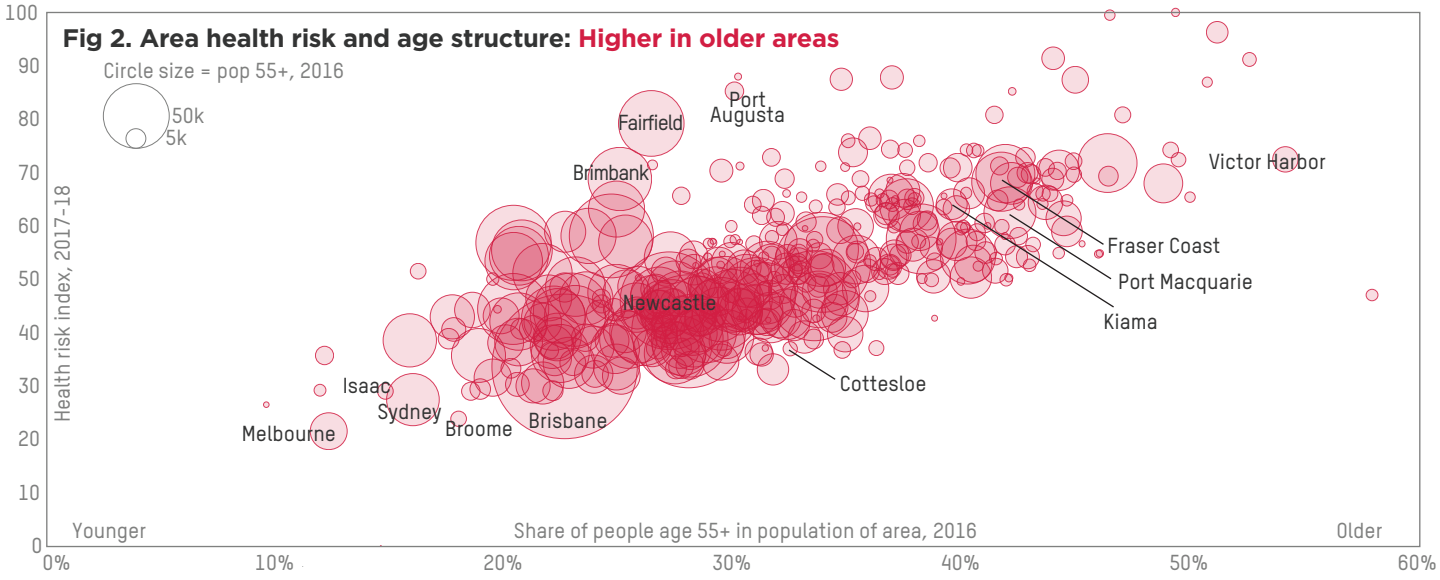
Early results suggest that certain chronic diseases raise the risk of hospitalisation and death from COVID-19 (Onder et al. 2020). In New York, 90% of the over 22,000 deaths by mid-May 2020 involved comorbidities such as diabetes, respiratory, and heart diseases (NYS DOH 2020). Some 30% of Australian community-dwelling men in their 70s have none of these, but the other 70% do (CHAMP data).

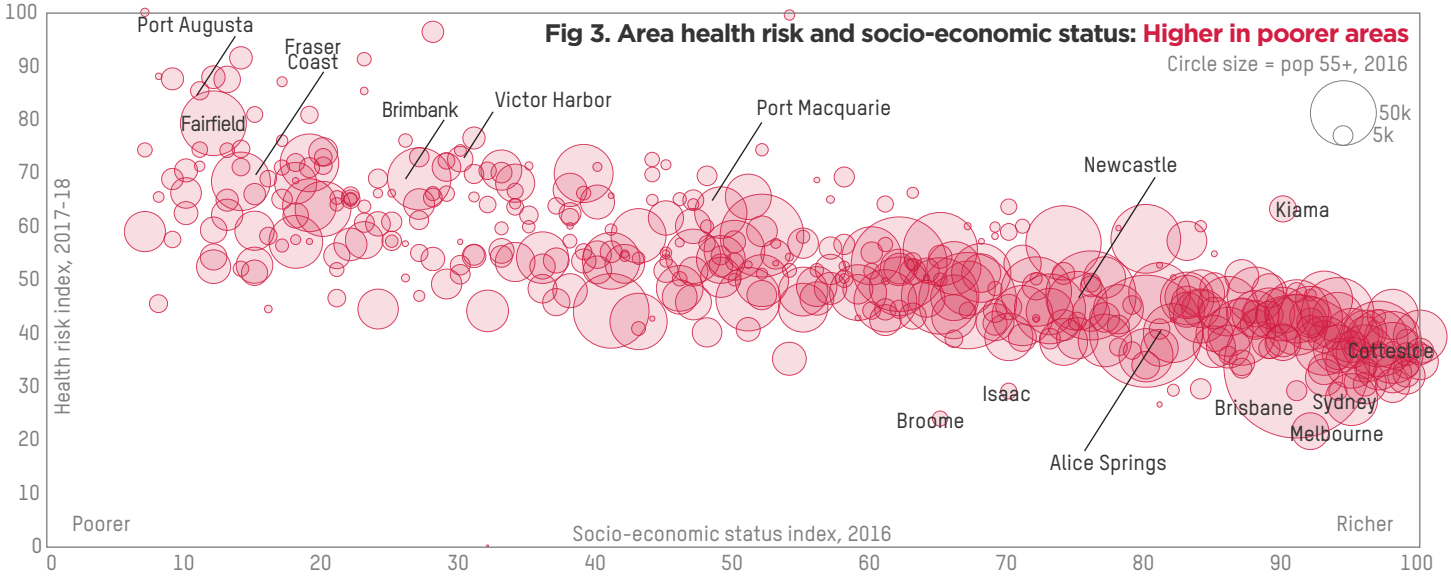
The prevalence of pre-existing conditions can be used to construct a relative health risk index (e.g., Mannheim 2020; Liu & Xian 2020). Here, the risk is based on a local government area's (LGA) maximum of three crude (not age adjusted) prevalence rates for diabetes (Mellitus; which nationally is 4.9%), respiratory (COPD; 2.5%), and cardiovascular disease (4.8%) in 2017-18. The maximum of these in each area is used in absence of data for having at least one (we know 80-90% of those with one condition have others; AIHW 2016). The index ranges from 100 for the area with highest rates (i.e., Peterborough, SA, driven by a prevalence of diabetes of nearly 12%) down to 22 for the area with the lowest rates (i.e., Melbourne, with 22% of the rate in Peterborough).

Figures 2 and 3 show the relationship between the health risk index and both population age structure and socioeconomic status; circle size indicates the population aged 55+ to give a sense of scale.

Some areas have higher health risk because their population is (1) older (e.g., coastal locations such as Victor Harbor and Port Macquarie); (2) poorer (e.g., Port Augusta in SA, Fairfield in Sydney's west, and Brimbank in north-west Melbourne); or (3) both older and poorer (e.g., Fraser Coast). These stand in contrast to demographically young, affluent locations in inner cities and remote locations that benefit from mining (e.g., Isaac and Broome). The higher health risks in regional areas (also given lower health system capacity) implies caution and appropriate remedial resources when relaxing travel restrictions .

Disease prevalence at the national level suggests lower health risks in Australia than the OECD average (except when it comes to diabetes; GBD 2017). This is largely because Australians tend to be younger and healthier.





Note: Relative health risk index is based on local government area's maximum of crude (not age adjusted) prevalence rates for diabetes (Mellitus), respiratory (COPD) and cardiovascular disease in 2017-18, scaled to 100. Socio-economic status index is based on ABS ISRAD 2016.
Source: Author's analysis of PHIDU (2020), ABS (2018, 2020a).

3. OLDER PEOPLE'S INFECTION RISK BY OCCUPATION

As the economy reopens the infection risk of workplaces will need careful monitoring. But the infection of which workers? For example, to what extent do older people work in occupations that put them at greater risk?

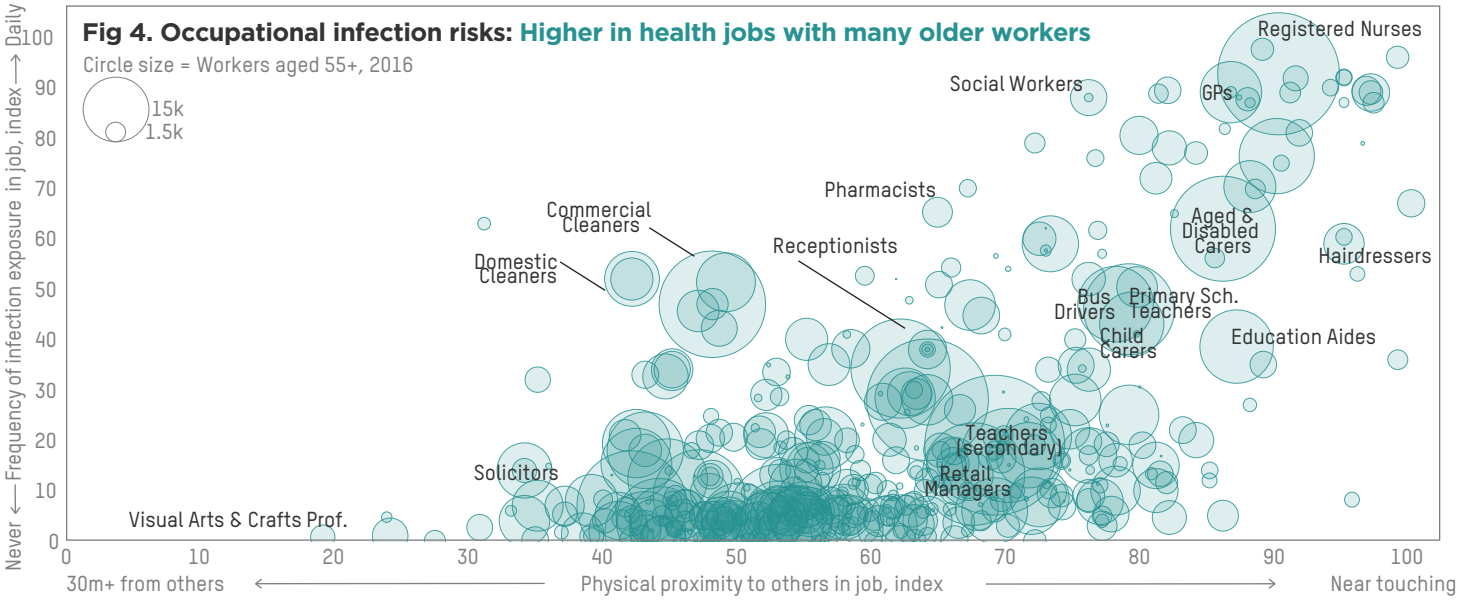
It's possible to use detailed task characteristics of different jobs to answer this question. This type of analysis was conducted in the US (Gamio 2020) and Australia at the aggregate level (DESE 2020), but lacked an age dimension.

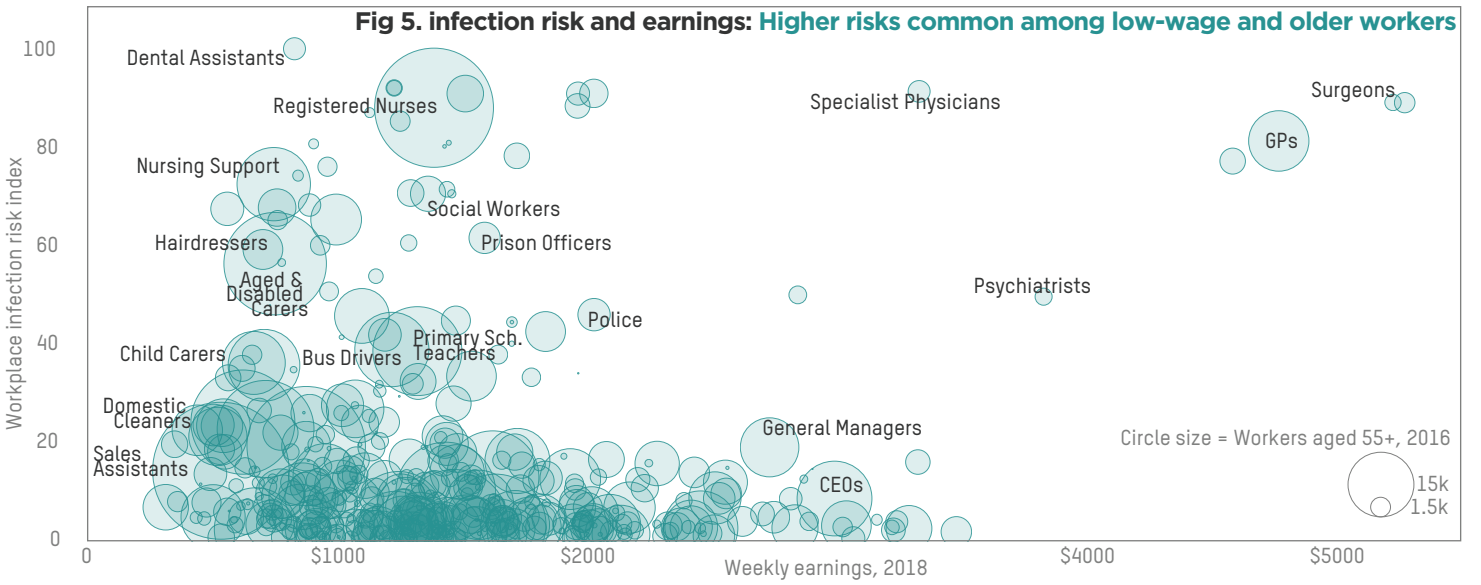
Figure 4 presents the numbers of workers aged 55+ (size of circles) by the typical frequency of exposure to infections (vertical axis) and the extent to which the work requires physical proximity to others (horizontal axis). Note that these do not take account of social distancing practices implemented since the onset of the pandemic.

Occupations that involve close and frequent physical contact tend to be those at the forefront of the pandemic response, in the health and caring professions (e.g., nurses and aged and disabled carers). These are also professions with high concentration of older workers, mostly women. For example, about 50,000 registered nurses and 40,000 aged and disability carers are aged 55+.

Indeed, whereas only 2.6% of men below age 55 are in jobs that require at least weekly contact with others at arm's length or closer (scores >75), the proportion for women aged 55 and over is 10.5%.

Another feature is that occupations with greater risk of infection are often low-wage—such workers tend to have fewer alternatives and are more likely to be on casual contracts with no paid leave entitlement (e.g., to self-isolate). A wage profile is illustrated in Figure 5, which combines the physical proximity and frequency of exposure scores into a workplace infection risk index (vertical axis) with data on salaries. For example, dental assistants tend to have higher infection risk scores but relatively lower pay, of about $830pw (in 16th percentile of jobs). Nurses fair better, with an average of about $1,400pw (better than half the occupations).





Note: Frequency of exposure to infection and physical proximity to others are based on typical jobs from US O*NET database, corresponded to Australian data on employment by occupation at 4-digit level. These do not necessarily reflect COVID-19 infection rates. The workplace infection risk index is the product of frequency and proximity scores, scaled to 100. Source: Author's analysis of O*NET (2020), DESE (2020), ABS (2019, 2020a).

4. OLDER PEOPLE'S RISK OF RETRENCHMENT AND RETIREMENT

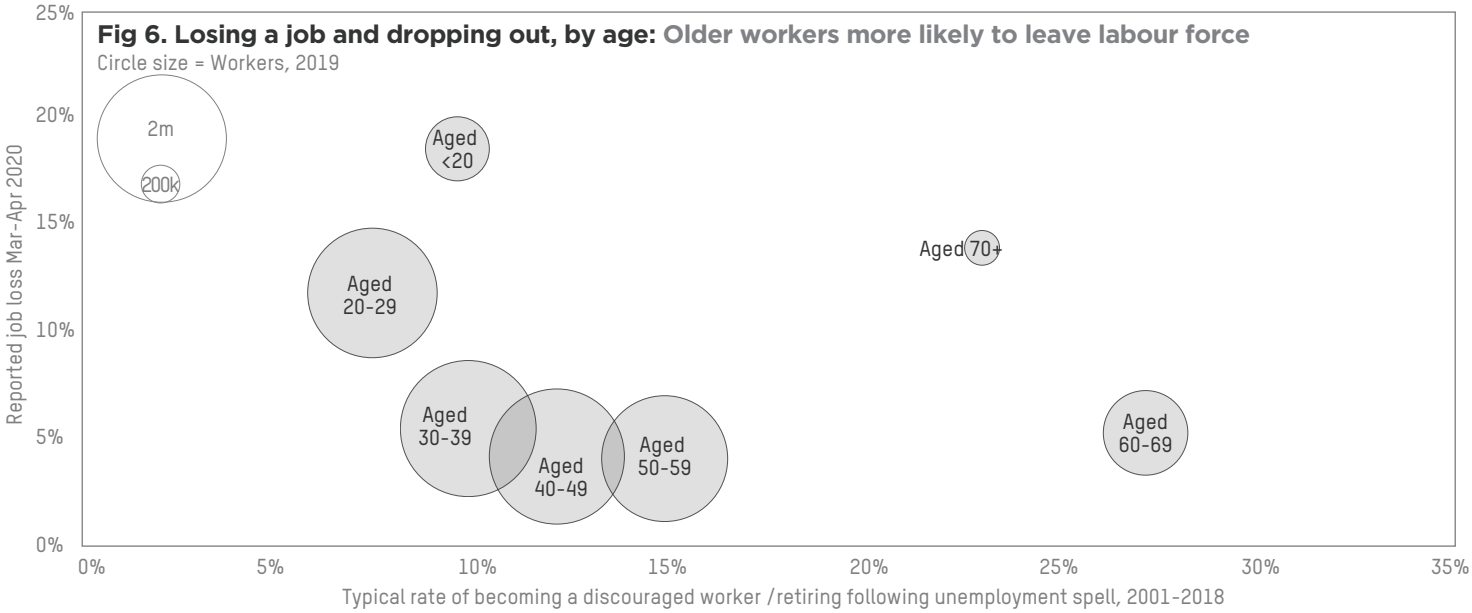
The COVID-19-induced shutdown presents knock-on economic risks: job loss, unemployment, and inactivity.

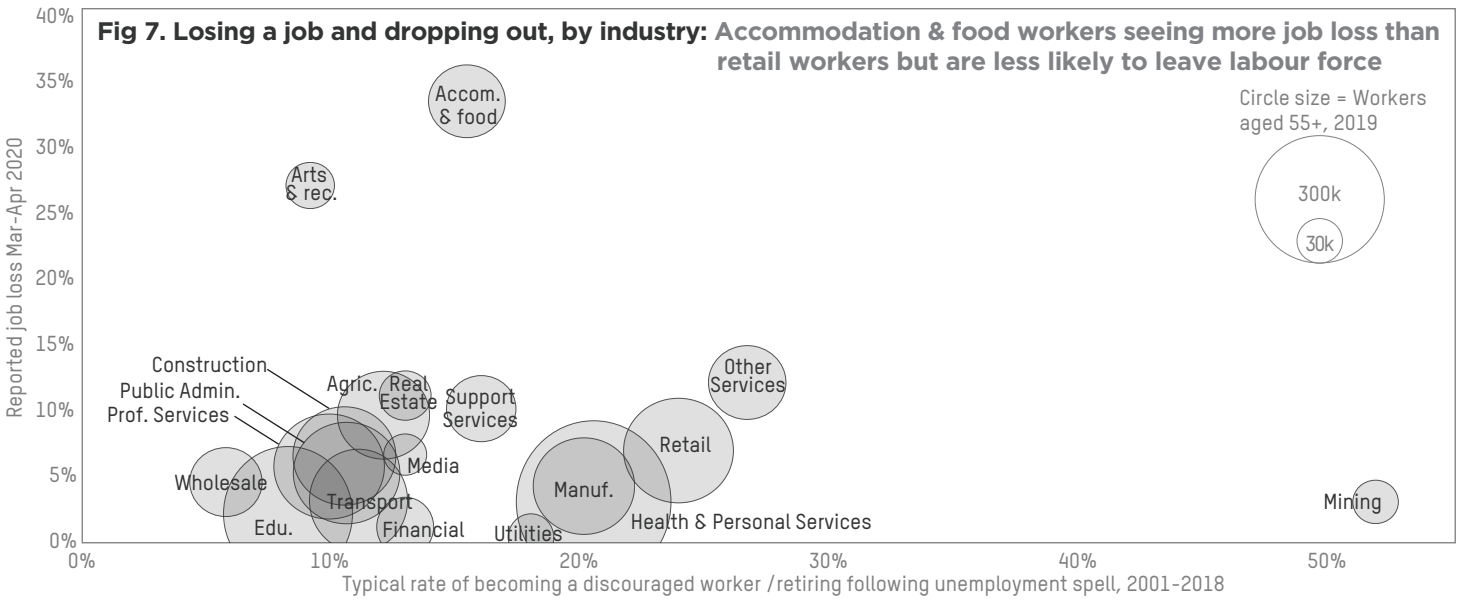
Employment is down by 600,000 over the month to April (ABS 2020e). So far, the young have been worst hit: about 12% of workers in their 20s lost jobs between March and April 2020—more than twice the rate for those in their 60s (ABS 2020b). Policy plays a role here. For example, the JobKeeper program doesn't protect casual, short-term workers: 19% of 20-24-year-olds are in this category, about four times the rate of 60-64-year-olds (ABS 2020c).

Safeguarding jobs of older people makes sense. History tells us that regaining employment is harder in late age. For example, two years after the 1991 recession, the share of long-term unemployment (over 12 months) among 25-to-34-year-olds increased to 33%; the rate for 55-to-64-year-olds peaked at 56% (ABS 2020d). Ineed, older people are more likely to become discouraged and retire. Based on HILDA 2001-18, about 22% of those aged 55+ were neither looking nor available for work one year after an unemployment spell. For those in their 20s the rate was 7%.

Such short- versus medium-term economic risks are illustrated in Figure 6. The circle size represents numbers of workers in each age group against current rates of job loss (vertical axis) and typical rates of dropping out of the labour force following unemployment (horizontal axis). It suggests that policies will be needed to ensure older people can return to work over the medium term.

Figure 7 extends this analysis, by industry. The circle size represents workers aged 55+, with current levels of all-age job loss by industry (vertical axis) and typical 55+ retirement rates following unemployment (horizontal axis). Job losses are highest in Accommodation & Food (33%) and Arts & Recreation (27%), where casualisation is highest (61% and 45%, vs 23% overall; ABS 2020c). Up to 70-75% could lose jobs in these industries (Coates et al. 2020). Historic data suggests that the rate of retirement of older workers that lose their job in these industries is low-to-average. Monitoring the impact on other industries will be needed—for example, retirement rates from Retail and Other Services tend to be higher.





Note: Discouraged / retired worker = share of unemployed workers that a year later say they don't want to work or want to work but aren't actively looking and not available to start within four weeks (by industry of previous employment). Job loss based on business surveys with low response rate (see ref).
Source: Author's analysis of ABS (2020a, 2020b), HILDA (waves 1-18)

5. COMBINED HEALTH AND WORKPLACE INFECTION RISKS BY AREA

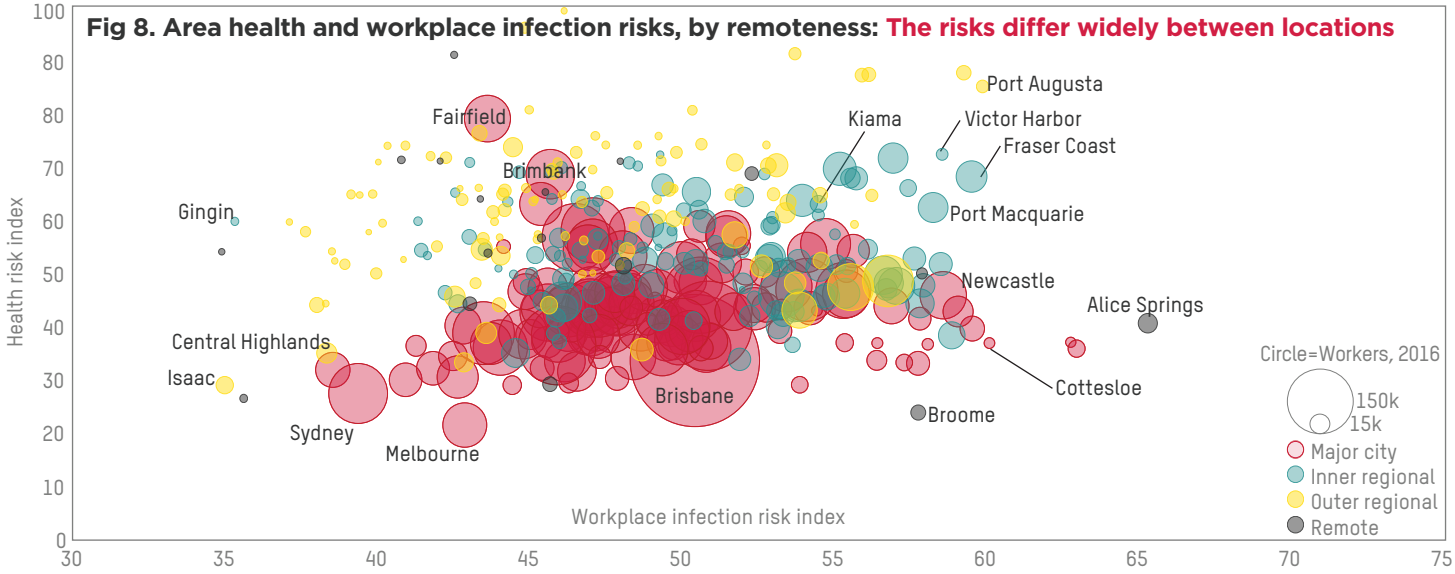
Previous sections looked at health and workplace infection risks separately, but any relaxation of shutdowns will require the two being considered together. Section 2 and 3 are therefore combined here to look at risks by area.

Figure 8 looks at local government area's total employment (circle size), relative health risk index described in section 2 (vertical axis), and relative workplace infection risk index described in section 3 (horizontal axis). The health risk depends on areas' health and age structure. The workplace infection risk depends on an area's composition of occupations (at 2-digit level) and each occupation's typical infection exposure (prior to social distancing changes).

The analysis reveals considerable heterogeneity. Putting aside population density, centres of cities have both lower health and infection risk scores because of a combination of younger, healthier populations that are employed in jobs with less frequent and/or close physical contact. This is also the case in regional places with large mining operations (e.g., Central Highlands and Isaac). Outer parts of major cities, such as Fairfield in western Sydney and Brimbark in north-west Melbourne, where large numbers of workers live, have lower workplace infection risk scores but their greater level of ill-health results in higher health risk scores. By contrast, some inner and outer regional areas, particularly in coastal NSW and Queensland, have both high infection risk scores (due to a concentration of employment in health) and high health risk scores (largely due to a concentration of older people).

Such insights are helpful but not clear-cut. Health risk ignores the capacity of the health system. Location data is based on place of usual residence, not place of employment (employment and occupational data exists by place of employment, but there's no corresponding health data). The infection risk does not take account of the population density and hub nature of cities, which may raise infection rates beyond what we know about job tasks. And new socially-distant practices are not accounted for.

Fig 8. Area health and workplace infection risks, by remoteness: The risks differ widely between locations



The workplace infection risk index is the product of frequency and proximity scores, scaled to 100.
Source: Author's analysis of PHIDU 2020, O*NET (2020), DESE (2020), ABS (2020xx, 2020xx, 2019).

6. CONCLUSION

Australia has managed to inhibit the spread of COVID-19. This is now leading to the easing of restrictions and the re-opening of the economy. The withdrawal of the JobKeeper program is also on the horizon. Such moves come with potential risks of new infection, morbidity and mortality, and further job losses, which could see some people leave the labour force permanently. The risks are multi-dimensional and differ by location, occupation, industry, and age. This fact sheet illustrates some of these, particularly for older Australians.

There are also various policy implications. For example, higher health and workplace infection risks in locations outside the centres of cities suggest that the relaxation of travel should be cautious, particularly to older and/or poorer areas. Like other illnesses, COVID-19 impacts are expected to have a social gradient (Khalatbari-Soltani 2020). Where relaxation of travel between regions is implemented the higher risk areas may require ready deployment of remedial resources.

Occupations with higher infection risks present a vulnerability since many are held by older people (who are more likely to have co-morbidities) and/or those on lower incomes and casual contracts (who may be unable and unwilling to take time off in case of infection). About 70% of hospitality workers, 50% of sales assistants, and 30% of carers are casuals. Perhaps *paid* pandemic leave will be needed.

And, while older workers have seen lower rates of job loss than the young, we know that they are twice as likely to become inactive after a spell of unemployment. Governments must think beyond JobKeeper, at ways to retain, retrain, and redeploy such mature workers.

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CEPAR and COVID-19 research

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CEPAR researchers are undertaking research aimed at improving our understanding of the impact of COVID-19. For example, Prof Robert Cumming has looked at potential social gradeint of COVID-19 impacts; Prof John Piggott is investigating the use of Income Contingent Loans in a world beyond JobKeeper; Prof Warwick McKibbin is modelling macroeconomic impacts; Prof Michael Keane is investigating consumer panic trends; and Prof Sharon Parker is seeking to understand how employers are adapting to COVID-19.

See more at: www.cepar.edu.au