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# A natural experiment in social security as public health measure: Experiences of international students as temporary migrant workers during two Covid-19 lockdowns

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## ABSTRACT

What is the impact of social security on public health? And what mechanisms does it operate through? To answer these questions, we take advantage of the unique circumstances of temporary migrant workers two Covid-19 lockdowns in Australia – one in which they were provided with social security, and one in which they were not. We undertook 47 qualitative interviews with South Asian international students who had lost their jobs in two lockdowns in 2020–2021. In Australia, international students represent the largest group of a growing temporary migration program, with many working in low-skilled occupations, in conditions below legal minimum standards. We compare our findings to two models of social security: the self-insurance model and state-insurance model. In first lockdown, without social security, participants struggled to comply with public health orders because of the need to work for income, lack of housing suitable for isolation, and lack of medical leave. Participants tended to avoid testing, and to work while potentially contagious. Participants reported high levels of anxiety, depression and emotional distress caused by job loss and exclusion from an implicit social contract with the rest of Australian society. In contrast, during the second lockdown, where temporary migrants were provided social security payments, participants reported avoiding risky work, undertook Covid-19 testing many times, and self-isolated successfully. There was little evidence of emotional distress. Participants felt like a valued part of Australian society. These results suggest a self-insurance model of social security does not protect the physical and psychological health of vulnerable populations and can exacerbate the spread of communicable diseases. In contrast, state-insurance and social welfare payments to marginalised communities, particularly unemployment benefits and medical leave, are crucial public health policy levers for both protecting vulnerable populations and tackling outbreaks of communicable diseases such as Covid-19.

## 1. Introduction

Temporary migrants form a substantial part of the workforce in the developed economies yet most of the countries have excluded them from the welfare and social security leaving them more vulnerable during crisis situations (Clibborn and Wright, 2020; Devakumar et al., 2020; Kluge et al., 2020; Dean, 2011; Wickramasekara, 2008). Recent studies have found that during waves of Covid-19 infections and associated economic downturns, temporary migrants including international students have been one of most deeply, and most negatively affected groups (Hayward et al., 2021; Berg and Farbenblum, 2020; Coleman, 2020; Morris et al., 2020; Nguyen and Balakrishnan, 2020; Talwar and Singh, 2020). Many temporary migrants have lost their jobs and suffered from

loneliness and alienation which resulted in financial and mental health problems while lack of access to welfare and social security seems to have made this situation significantly worse for temporary migrants (Chander et al., 2021; Rahman et al., 2021; Giorgi et al., 2020).

The existing academic literature shows an important and positive effect of welfare on public health (Eikemo and Bambra, 2008; Townsend et al., 1992). Evidence suggests that the extension of welfare services can improve the overall public health. For example, countries with generous welfare provisions have better public health outcomes (McCartney et al., 2019; Kotakorpi and Laamanen, 2010; Lundberg, 2008).

The existing literature shows that the recent decades have seen the growth of temporary migrant workers, who are largely excluded from social welfare (Dean, 2011; Wickramasekara, 2008; Bloch, 2008). While

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studies have found that temporary migrants are more vulnerable to communicable diseases, welfare can reduce the need for involvement in a high-risk activity and work (Bolin and Kurtz, 2018; Thomas et al., 2013). Studies of Covid-19 and temporary migrant workers have found that the Covid-19 has disproportionately impacted migrant workers, with migrant workers reporting significantly more positive cases (Koh, 2020). These studies have found that a substantial proportion of temporary migrant workers are working in low skilled jobs - such as cleaning, hospitality, and retail - which have greater risk of contracting the Covid-19 virus (Boeri et al., 2020; Fassani and Mazza, 2020).

In Australia, studies have reported that the periods of lockdown were difficult for international students and temporary migrants as many reported that they were not able to meet the basic needs and pay for general expenses. One study found that two in four international students were not able to pay their rent (Berg and Farbenblum, 2020). Another found that during the Covid-19 lockdowns one in five international students skipped meals, while two in five students were unable to pay their rent (Morris et al., 2020).

This paper closely examines the experiences of international students - as a type of temporary migrant workers - during two Covid-19 lockdowns in Australia's two largest cities (Sydney and Melbourne) where international students were forced into unemployment due to circumstances beyond their control. These two lockdowns were, however, experienced very differently by international students. During the first lockdown in 2020, international students had to rely on their savings and personal social networks of support to survive the period of unemployment. We call this model of unemployment mitigation the self-insurance model. In contrast, in the second lockdown in 2021, international students had access to Covid-19 disaster payments, a relatively generous form of state unemployment benefit. We call this model of unemployment mitigation the state-insurance model. These two lockdowns, with virtually the same population of international students, facing almost identical unemployment circumstances, but two different welfare regimes, is an example of a natural experiment. Through natural variation in our independent variable - state provided unemployment insurance - this natural experiment allows us to assess (1) whether the assumptions of the self-insurance and state insurance models hold up - can people live with dignity with self-insurance alone - and (2) if the self-insurance model does not allow living with dignity, what are the public health costs - both for the individual worker and the larger society. In addition to studying the outcomes of state-insurance, our study provides an opportunity to identify the exact mechanisms by which welfare may, or may not, lead to better (or worse) public health outcomes.

For the purposes of this paper, we adopt the World Health Organisation definition of public health as "an organised activity of society to promote, protect, improve, and - when necessary - restore the health of individuals, specified groups, or the entire population." (World Health Organization, 2021). In the case of this paper, the organised activity of society is unemployment benefits (state-insurance) which, we argue, promotes health through: (1) allowing compliance with public health orders, including testing and isolation; (2) enabling the consumption of sufficient and nutritious food; (3) reducing overcrowding of accommodation, which limits disease spread through allowing isolation of infected or potentially infected persons; (4) maintaining mental health through removing the strain of extreme financial stress; and (5) promoting mental health through being a concrete manifestation of genuine community and social solidarity with those afflicted with severe adversity.

### 1.1. Background

**Temporary Migrants in Australia.** Until relatively recently, Australia's migration program was geared towards permanent settlement. Since 1996, however, there has been the rapid growth of temporary migrant labour programs. Unlike many other developed countries, the growth of low skilled temporary migrant labour programs did not

happen through a dedicated program like the H-2A and H-2B programs in the USA (Sahoo et al., 2010). Instead, Australia's growth in low skill temporary migrant labour programs happened through indirect programs (Clibborn and Wright, 2018), particularly international student visa programs - mostly comprised of international students from the developing world - and working holiday maker programs - mostly comprised of youth from developed countries (Oke, 2012). The de facto nature of these programs as low skilled temporary migrant labour programs can be seen in the extensive reliance on migrants from these programs by industries such as agriculture, retail, hospitality, cleaning, food and parcel delivery, and ride sharing. The industries temporary migrants work in are precisely the industries dependent on large amounts of low skilled labour (Berg and Farbenblum, 2020; Wright et al., 2022).

International students are the largest single source of these de facto temporary migrant workers. The main countries of origin of international students are China, India, and Nepal. Seventy percent of international students study in the two most populous states of Australia: New South Wales (capital: Sydney) and Victoria (capital: Melbourne) (Clibborn, 2018; Marginson et al., 2010).

One aspect of the international student experience that parallels that of temporary migrants in other developed economies is their experience of widespread violations of basic labour laws. One study of Chinese international students working in restaurants and cafes found that not one of them was paid at or above the legally required minimum wage (Clibborn, 2018). Other studies of international students (and working holiday makers) have found similar violations of basic labour protections (Berg and Farbenblum, 2017; Li, 2017).

Of relevance to this paper, international students are excluded from social security programs, such as unemployment benefits, and the public healthcare program (Medicare). The one exception to this exclusion was the payments made during Lockdown 2, which is the focus of this study.

**Covid-19 in Australia.** During the period covered by this paper, Australia's experience of the Covid-19 pandemic was exceptional for its low rates of infection and death, which was achieved despite low vaccination rates (due to shortages in the later period of the study) and little access to rapid antigen tests (due to shortages). Instead, Australia had relatively stringent lockdowns, with strict laws around social distancing and mask wearing (Haseltine, 2021; Wyeth, 2021). With respect to our paper, one of the effects of these low infection rates and strict lockdowns, was that very few of our participants experienced Covid-19 infection in the period relevant to our study, and instead the public health outcomes of relevance were risky behaviour (e.g. going to work with Covid-19 symptoms, refusing to get tested), lack of facilities to manage a potential infection (e.g. housing with inability to isolate when displaying symptoms), and the psychological and physiological consequences of poverty imposed by unemployment during lockdown.

During the period covered by this paper, Australia went through two major waves of Covid-19, with consequent lockdowns. The first was from March 21, 2020, to June 30, 2020, in New South Wales and from March 30, 2020, to October 27, 2020 in Victoria. The second was from June 26, 2021 to November 08, 2021 in NSW and from May 27 to June 10, July 15 to 27 and August 5, 2021 to October 26, 2021 in Victoria (ABC, 2020; ABC, 2021). These lockdowns varied slightly by state, but tended to involve compulsory work from home, closure of non-essential business, and restrictions on travel and movement. Both international travel and travel between states was effectively banned for considerable periods. Restrictions on movements included limits on reasons to leave the house, bans on gatherings, and limits on distance one could travel from one's home (often 5 or 10 kms) (ABC, 2020, 2021).

The lockdowns resulted in widespread unemployment, particularly for lower skilled workers in industries like retail and hospitality, which were industries heavily staffed by international students (See Berg and Farbenblum, 2020; Morris et al., 2020).

**Social Security for Temporary Migrants in Australia during Two Covid-19 Lockdowns.** For citizens, Australia has social security benefits

– such as unemployment benefits, disability benefits, and aged pensions – that are universal, means-tested, and residual (meaning relatively low in comparison to the income from waged work). Whereas the full-time minimum wage is around AUD\$770 per week, unemployment benefits are around AUD\$275 per week. (Just, 2022).

During the first lockdown, the Federal Government of Australia instituted a new form of social security called “Job keeper”, which paid a more generous form of social security (AUD\$750 per week) to unemployed workers through their employers. It also doubled the amount paid to recipients of most of the existing social security benefits for the period of lockdown. These programs were only open to citizens and permanent residents, and thus international students and other temporary migrant workers were excluded (Farbenblum and Berg, 2021).

During the second lockdown, the Federal Government of Australia instituted a different form of social security known as the ‘Covid-19 Disaster Payment’. This disaster payment was framed as an instance of a larger program to respond to catastrophic events, like natural disasters (floods, forest fires, drought). The disaster payment was extended to temporary migrant workers, including international students. It paid up to AUD\$750 per week (Services Australia, 2022).

## 2. Materials and methods

### 2.1. Participants and sampling

This study is based on a qualitative data set collected during two Covid-19 lockdowns in New South Wales (March 21, 2020 to June 30, 2020 and June 26, 2021 to November 08, 2021) and Victoria (March 30, 2020 to October 27, 2020 and May 27 to June 10, July 15 to 27 and August 5, 2021 to October 26, 2021) wherein first lockdown temporary migrant did not have access to social welfare while in other they have access to social welfare payments in the form of Covid-19 disaster payments (ABC, 2020; ABC, 2021; Lupton, 2021; The Guardian, 2021).

The inclusion criteria for participation in this study were (1) to be an international student studying a degree, diploma, or trade course in Australia; (2) for them to be citizens of a South Asian country; and (3) to have lost partial or complete work hours during at least one of the two lockdown periods being studied. Because the number of cases outside of New South Wales and Victoria were much lower during this period, the lockdowns outside these states were much less severe, and unemployment was much lower. Consequently, very few international students outside New South Wales and Victoria qualified to participate in our study.

Interviews were conducted between September 2020 and October 2021. Due to restrictions on face-to-face research, participants were recruited via email and social media. Participants were recruited from Melbourne, Victoria and Sydney, New South Wales. The majority of participants were recruited through Facebook advertisements customized to reach international students studying any degree, diploma, or trade course. Of the 400,000 reached by the advertisements 9126 participants interacted with the ad, while 39 signed up for a Zoom interview.

A total of 47 respondents were interviewed out of which 34 were recruited through Facebook while 13 respondents were recruited through international students’ groups and societies across Sydney. All participants lost their jobs or some work hours during at least one lockdown. Forty participants lost complete work hours during lockdown one, while 22 (out of 26 interviewed about lockdown two) lost complete work hours during lockdown two. The remaining four interviewed about lockdown two lost partial work hours, or they had lost their job during lockdown one, and so qualified for an interview. In Table 1, it can be seen that 59% (28/47) of participants were male, the average age of participants was 24.1 years, the two main countries of origin were India and Pakistan.

Table 2 shows a comparison of our sample to studies by Wilson et al. (2022) and Berg and Farbenblum (2020) which are both convenience

samples of international students prior to the Covid-19 pandemic. We focus on the South Asian samples within their datasets. We can see that in comparison to their samples, ours contains more males, less Indians and more Pakistanis, more students from Victoria, and has a similar age profile.

### 2.2. Data collection

The interviews were conducted via Zoom and the participants were asked to keep their videos turned off for privacy purposes. Most of the interviews were conducted in English except a few which were conducted in Urdu/Hindi language and later translated to English. The interviews were recorded with the permission of participants and later transcribed in English. Participants information and consent form (PICF) was shared with each participant before the conduct of the interview. Participants received a AUD\$20 voucher for their time.

Interview lasted between 30 and 75 min, with an average of around 50 min. The interview questions focused on the following topics: demographic characteristics (age, gender, country of origin, qualification being studied for; industry or occupation); experience of job loss during lockdown; general experience and survival of the lockdown; support received from friends, family, and organizations before and during lockdown; financial support and obligations to family members in country of origin; experience of education/studies before and during lockdown; payment of student fees and also outstanding loans in home country; housing (including rent, flatmates, crowding/personal space, and any problems with housing or landlord) before and during lockdown; working conditions including pay, work hours, underpayment, treatment by employers, and leave provisions (including sick leave) before and during lockdown; health (including mental health) before and during lockdown; receipt of government benefits (during second lockdown); experience of testing, isolation, and exposure to Covid-19; experiences with medical insurance and medical treatment; and feelings about Australian government policies towards international students during lockdown.

### 2.3. Research ethics

A formal approval bearing reference no 52020621216049 was obtained from the Human research ethics committee (HREC) at Macquarie University for this research project. Participation in the interview was completely voluntary and participants were informed that they could withdraw at any stage during the interview, and they could also skip any topic or question that they do not want to talk about. The researcher explained the data collection and use of data in de-identified form as

**Table 1**  
Participant characteristics.

Total participants	47
Gender	
Male	28
Female	19
Average age	24.1
State	
NSW	31
VIC	16
Country of origin	
India	17
Pakistan	12
Nepal	4
Bangladesh	6
Sri Lanka	5
Interviewed about	
Lockdown 1	47
Lockdown 2	26
Unemployed during	
Lockdown 1	40
Lockdown 2	22

**Table 2**  
Comparison of our sample to recent surveys of international students in Australia.

	Our study	Wilson et al. (2022)	Farbenblum & Berg, (2020)
Sample Size	47	1380 <sup>a</sup>	692 <sup>a</sup>
Gender			
Male	60%	46% <sup>b</sup>	43% <sup>b</sup>
Age	24.1 <sup>^</sup>	22–25 yrs <sup>+b</sup>	23 <sup>+b</sup>
State			
NSW	66%	82% <sup>b</sup>	70% <sup>b</sup>
VIC	34%	18% <sup>b</sup>	14% <sup>b</sup>
Country of origin (% of South Asian sample)			
India	36%	49%	50%
Pakistan	26%	10%	11%
Nepal	9%	23%	25%
Bangladesh	13%	11%	7%
Sri Lanka	11%	9%	7%

+ median.

<sup>^</sup> average.

<sup>a</sup> South Asians in sample.

<sup>b</sup> Whole sample (all nationalities).

approved by the ethics committee. To protect the participants privacy, the collected data were anonymised by the researcher, and no one has access to the data except the research team. The recorded audio files were stored in a password protected computer and have been deleted after the transcription. Each interview was coded in an unidentifiable manner to maintain privacy of the respondents. Due to Covid-19 restrictions, the data were only collected via online Zoom meetings as advised by the ethics committee.

#### 2.4. Data analysis

Coding progressed through three stages: open coding, axial coding, and selective coding. Open coding involved the review of all transcripts by both authors, the identification of key themes and patterns, and the writing of analytical memos. Authors met and discussed the contents of the interviews and the emerging themes throughout the process of data collection.

The initial focus of the research had been a study of the working and living conditions of international students, with a focus on the impact of Covid-19 produced unemployment (since data collection had started after the beginning of the Covid-19 pandemic and first lockdown). At the beginning of the second lockdown, it became clear to the authors that the experience of participants was very different to their experiences of the first lockdown, because the participants had access to the Covid-19 Disaster Payments. The two authors became aware that this presented a unique opportunity to look at the impact of welfare payments on the health and broader welfare of international students as a type of temporary migrant workers. Consequently, the focus of data collection became gather data comparing the experiences of lockdown one and lockdown two as a natural experiment. As we had already collected data on international students made unemployed during lockdown one, and focused on their working, living, and health conditions during the first lockdown, the data already collected was deemed relevant to our study.

Once themes were identified – we identified close to 20 themes – the entire body of interviews was coded a second time, and all relevant excerpts extracted and organised by theme (Axial coding). The final phase of selective coding involved the two authors reviewing all excerpts, deciding on the main themes (five) to include in this study, and then the identification of representative quotes and excerpts for citation in this article. Use of ellipses and brackets within quotes from participants follow the style recommended in sections 4.10, 6.06–6.08 of the Publication Manual of the American Psychological Association (American Psychological Association, 2010). The excerpts are presented in the

text that follows with pseudonyms for each participant, and accurate, but generalized, descriptions of the characteristics of the participant quoted (i.e. age, country of origin, and occupation or industry). Where a participant was quoted twice in this paper, the same pseudonym was used to give the reader a sense of the broad range of participants quoted in this paper. The 47 interviews were judged to have reached theoretical saturation because the later interviews (the last ten) revealed no new themes (though the data from these were still included in the study).

### 3. Results

Results of this project are based on the experiences of international students as temporary migrants in Australia during two different phases of the Covid-19 pandemic: lockdown one, where international students and other temporary migrants were excluded from the governments' unemployment benefits scheme (Jobkeeper), and lockdown two, where international students and other temporary migrant workers were included in the unemployment benefits scheme (Covid-19 Disaster Payment).

Our discussion of the impact of exclusion and inclusion in these social welfare schemes is organised under five themes, all related to public health: (1) compliance with public health order; (2) need to work for food or rent; (3) overcrowded accommodation; (4) mental health and wellbeing; and (5) social integration. For each theme, we provide excerpts from interviews with participants under lockdown one, and then lockdown two. The impact of social welfare on our participants can be seen in the contrasting experiences of lockdown one and lockdown two.

#### 3.1. Compliance with public health orders

During the first lockdown in 2020, business owners struggled to retain workers with temporary visas because they were not eligible for the government's job keeper payment scheme. As a result, many temporary migrants lost their jobs. These job losses compelled temporary migrants to search for jobs where they sometimes had to breach the public health orders, thereby increasing the risk of spreading the Covid-19 disease. When asked if they struggled to comply with public health orders during the first lockdown in 2020, the participants described that it was difficult to comply with the public health orders as they needed to work to pay for living expenses, and the jobs they did have lacked basic leave entitlements, like sick leave. Some participants reported violating public health orders by working even when they were sick or not feeling well. Bal was 26 and from India. He was working in an Indian restaurant before the first lockdown. This was his description of what happened to him in the first lockdown,

"I lost my job ..., I then started working as a food delivery driver. I ... [must go to work at that time] even if I'm not well because we were not eligible for government payment, and I needed money to pay for fees, food and rent. Sometimes, I would go for deliveries with coughing and headache ...".

We can see from this quote that Bal lost his first job when the lockdown started. The lack of unemployment benefits (job keeper) forced Bal to work in a highly insecure job where he was paid in piece-rates (per delivery) and was in no position to take leave when he had Covid-19 like symptoms.

Participants - often having lost one job, and now taking on a new, more precarious job (such as food delivery driver or as staff in a restaurant with delivery services) - felt highly insecure and did not want to risk upsetting their new employer, and as a result they went to work even with Covid-19 like symptoms like fever, headache, and coughing. Azz was 21 and from Pakistan. She was working in a restaurant before the first lockdown. She described what happened to her in the first lockdown,

"I was working as a waiter in a restaurant but ... [I lost the job due to closing in 2020]. I then started working in a burger shop. I was required to come to work in any case because of Covid-19 crisis. Sometimes ... [I felt sick] but I would go and work ...".

Fer was 25 and from Pakistan. He was working in a retail store before the first lockdown. He described what to him during the first lockdown,

"In 2020, I lost my job [and then I got a casual job] as a delivery driver. Working during the peak Covid days was tough ... one day I was not feeling well with a sore throat and fever, but I had to go to work because I did not want ... [to lose the only source of income]".

We can see from the quotes that Azz and Fer both were working in less secure and less safe work during the first lockdown because there were not eligible for unemployment benefits. They were forced to go to work even if sick or unwell because of the insecurity of the work they were forced to take.

Some participants explained that they were conscious of the Covid-19 rules and public health orders, but it was impossible for them to follow due to their circumstances and job requirements. For example, one participant described that she did not go through any Covid-19 testing during the first lockdown because she did not have the time for testing and self-isolation. The same participants when asked if she had gone through testing during the 2021 lockdown, she stated that

"I have gone through Covid testing three times this year [2021] because I am receiving Covid-19 disaster payment and I don't need to work in lockdown".

During the 2021 lockdown, many of the respondents lost their jobs however, they were receiving the government's Covid-19 disaster payment which helped them avoid other risky jobs during the pandemic. As a result, respondents complied with public health orders including stay at home. Fer further described what happened to him during the second lockdown when he was receiving the Covid-19 disaster payment,

"This 2021 lockdown for me was way better than the previous year lockdown because ... [of the government extension of Covid-19 support payment]. I don't need to do risky work like previously I did ...".

Bas was 27 and from Bangladesh. She described her experience of the second lockdown as,

"In 2021 lockdown I'm staying at home and [not working and going] outside for work and other unessential purposes. Unlike last year's [2020] lockdown where I had to go and work ... [with circumstances like] coughing and headache".

We can see from the quotes that Fer and Bas were able to meet the basic needs and that they did not need to work when sick during the second lockdown. If the welfare support payment had not been available they may have found themselves working with Covid-19 symptoms during the second lockdown.

### 3.2. Need to work for food and rent during the lockdown

During the first lockdown in 2020, the lack of government support meant that temporary migrants who lost their jobs needed to find any work they could to meet basic needs like food and shelter. This was especially true for participants who did not have financial support from family.

This need to pay for food and rent meant that participants were pushed into work that was exploitative (e.g. paid below the minimum wage) or risky (e.g. without proper Covid-19 safety measures). Jai was 22 and from India. He was working in a store before the start of first lockdown. He described what happened to him in the first lockdown,

"[During the 2020 lockdown] I lost my job which ... [was a regular source of income for me]. I then turned to do a job in a grocery store [which was paid below the minimum wage]".

We can see from this quote that Jai lost the job which was his only source of income. He then started working in a grocery store on less than minimum wage in order to pay for basic necessities.

Some participants started working in sectors which were more at Covid-19 risk like delivery services, grocery stores and essential retail while other participants had lowered their standards of living to survive the tough period of lockdown. Avi was 29 and from Nepal. She struggled to survive the first lockdown due to financial constraints. She described what happened to her in the first lockdown,

"During the first lockdown [in 2020], I preferred to buy packed food like pulses, Channa and would cook that at home ... It was less costly. I never ate outside food during the first lockdown due to saving money for ... survival".

We can see from this quote that Avi due to financial problems preferred to eat cheaper food to save money for surviving the lockdown in the absence of welfare support from the government.

Some participants relied on charity organizations who were helping temporary migrants during the lockdown. Ash was 26 and from Nepal. She lost her job during the first lockdown. She described what happened to her in the first lockdown,

"I relied on food from food banks, and it felt like I was in prison as I could not change that food but ate what was given in the food hampers".

We can see from the quote that Ash could not afford to pay for basic necessities but she had to receive food from the organizations that were providing free food to international students.

Gul was 25 and from Pakistan. He was working in a restaurant before the first lockdown. He described that he would limit himself to AUD\$15 worth of groceries for a week in the lockdown. He described what happened to him in the first lockdown,

"In order to save money for other expenses, I had lowered the quality of food that I would have had".

We can see from this quote that Gul has relied on low quality food which he would not have eaten during the normal days, just to survive the tough days of lockdown without any income.

These experiences during the first lockdown were in sharp contrast to the experiences of participants in the second lockdown, where temporary migrants were eligible for unemployment payment (the Covid-19 disaster payment). These unemployment benefits meant that participants could afford food and rent without needing to resort to exploitative or dangerous work. In the second lockdown Ash was receiving the Covid-19 disaster payment announced by the government. She described what happened to her during the second lockdown,

"[During this 2021 lockdown I'm going well], being the recipient of \$750 per week I am able to support my food and rent. ... I can choose my own food ...".

Anna was 21 from India. She was working in hospitality sector before the second lockdown. She described what happened to her in the second lockdown,

"[In this second lockdown 2021] I'm happy with the ... support because now I can eat well, sleep well, and pay for the rent [because I'm receiving \$450 per week as Covid-19 disaster payment]".

We can see from the quote that Anna was not under financial stress due to the welfare support. She was receiving \$450 because she lost less than 20 hours of work per week.

### 3.3. Overcrowded accommodation

Accommodation was generally the largest single expense for our interviewees. When participants lost their jobs in the 2020 lockdown, approximately one third had to leave their accommodation and move to cheaper accommodation. Many of those who moved, moved to more outlying areas of their city. In a considerable number of instances participants moved from less crowded (e.g. one person per room) to crowded accommodations (e.g. two persons per room). In overcrowded accommodations it became almost impossible for the participants to self-isolate when required. This meant that isolation was not possible when displaying flu-like symptoms, after having a Covid-19 test, or after being found to be a close contact of a confirmed Covid-19 positive case.

Sush was 24 and from Bangladesh. He lost his income source in the start of the lockdown. During the lockdown he said he applied for almost 500 jobs but was unable to get one. He described what happened to him in the first lockdown,

“I have changed the accommodation twice in search of finding an affordable place during joblessness. The third house was on a sharing basis ... it was a bit overcrowded but ... [affordable]”.

Kam was 26 and from Pakistan. He moved from less crowded to crowded accommodation during the first lockdown. He described what happened to him in the first lockdown,

“... [when Covid-19 came] I moved on to a shared accommodation. I did not go through ... self-isolation, even if I wanted to self-isolate it was not possible ... [due to shared accommodation]”.

We can see from the quotes that both Sush and Kam moved to more crowded accommodation able to save money during the first lockdown. In this crowded accommodation, self-isolation was difficult or impossible.

Sam was 24 from India. She described what happened to her in the first lockdown,

“We did not have a proper place [for isolation] one of our house mates once got tested and she needed to self-isolate until the outcome of the Covid test, but ... [it was impossible for her due to shared kitchen and bathroom]”.

We can see from the quote that Sam and her friends did not have enough space to self-isolate when one of them got tested for Covid-19. In order to self-isolate Sam and her house mates would need at least a second separate bathroom.

On the other hand, during the 2021 lockdown, participants were able to stay in the accommodation they had been renting prior to the lockdown. None of the participants we interviewed needed to move to new accommodation during the 2021 lockdown. The Covid-19 support payments were cited as the reason participants could afford their rent, and, because this accommodation was less crowded, participants were able to comply with requirements to self-isolate when displaying symptoms or after a test.

Indi was 27 and from India. She was receiving \$750 per week because she has lost 20 hours of work in the second lockdown. She described what happened to her during the second lockdown,

“[Because] I am receiving the [government support] payment so we can [continue to] afford our own [separate] accommodation.

Azz described that self-isolation was not possible during the first lockdown, however, she argued that,

“It was not possible in the first lockdown because we were in a shared accommodation, but it is possible now to self-isolate ... [because of less crowded accommodation]”.

Sab was 25 and from India. He was receiving the Covid-19 disaster payment in the second lockdown. He described that,

“... [Unlike the previous 2020 lockdown, this time] I did not have to look for cheap accommodation, ...I am now able [to pay for rent, food and other things]”.

We can see from the quotes that Indi, Azz, and Sab were able to pay for better and less crowded accommodations where they were able to self-isolate when required. They described that this was not possible in the first lockdown when welfare support was not available.

### 3.4. Mental health and well-being

Besides the risks to public health and the Covid-19 spread, lack of support during the first lockdown had also resulted in mental and emotional distress for participants especially those who lost their jobs. Participants reported loneliness, anxiety, and depression due to the financial and emotional burden of job loss and lockdowns. Some participants expressed feelings of helplessness, and many thought they would need to leave Australia forever. Sher was 23, from Bangladesh and was working in a non-essential retail job before the first lockdown. She described what happened to her and her friends in the first lockdown,

“The lockdown of February 2020 was the scariest ... I was mentally broken when I lost that job and had no other resources ... Most of my friends from Bangladesh have left Australia because [of] the financial and mental pressure [of] the Covid-19 crisis”.

For Sher, most of her friends left for Bangladesh because they were unable to cope with the stress and financial pressure caused by the Covid-19 crisis. Participants reported that their friends who did leave Australia had used up all of their savings and had no option but to leave for their home countries.

Nis was 26 and from Pakistan. She describes the psychological and financial stress during the first lockdown as,

“Covid-19 impacted me ... I had trouble with my financial balance; I had also struggled to catch up with the rest of the world because I was isolated and ... was suffering from stress ...”.

Sawo was 29 and from Pakistan. He avoided seeking any medical or psychological assistance because he did not think it was covered by the private insurance plan that international students are required to purchase. This points towards the impact of temporary migrants' exclusion from another plank of the welfare state: the universal healthcare system, Medicare.

“[During the days of the first lockdown when I would be thinking of paying rent and for food] I was deeply shocked and suffered from anxiety and depression during these days ... my GP once referred me to [a psychologist] but [due to the fear of being not covered by the insurance] I never visited a psychologist”.

We can see from the quotes that Sher and Sawo had mental health problems arising from his financial stress and the inability to pay for basic necessities. HAM was 23 and from SriLanka. She described what happened to her in the second lockdown as,

“If Covid disaster payment support was not available, this year [second lockdown] would have been very devastating for me ... [in terms of] mental and psychological stress”.

We can see from the quote that Ham after losing the job in the second lockdown was receiving financial support from the government. If this support was not available for the second lockdown Ham judges that the experience would have been seriously damaging to her mental health.

### 3.5. Social integration

As a result of exclusion from government support schemes in the 2020 lockdown, temporary migrants described feeling alienated from

the broader Australian society. One expressed the feeling as being like “aliens among human beings” where they think of themselves as aliens while the Australian citizens and permanent residents as humans. Avi described how she felt when international students were ignored from the job keeper payments in the first lockdown,

“I felt like I didn’t belong [here] when we were ignored in Covid-19 support package ... I was totally disconnected from the rest of Australia like someone in a dug well who can only see themselves in problems. I used to cry about my circumstances ...”.

We can see from the quote that Avi was socially disconnected from the mainstream society due to the exclusion of temporary migrant workers from unemployment benefits. International students like Avi had a sense of outsiders when they were neglected in the first lockdown.

Ker was 24 and from India. She was working in a café and lost her job in the first lockdown. She described what happened to her in the first lockdown,

“Initially, I thought of leaving Australia because no one was here for me to look for support. I was very lonely and helpless, ...I did not have anyone [other than] my housemate who could have supported me”.

We can see from the quote that Ker was completely helpless because there was no one for her support not even the Australian government during the Covid-19 pandemic.

During the 2021 lockdown, temporary migrants were included in Covid-19 support scheme in the same way as other Australians which not only helped them support their livelihoods but also helped in changing their perception about disintegration and alienation. Hab was 22 and from Pakistan. He described how he felt in the second lockdown,

“This year I’m feeling like an Australian [citizen] because everyone who’s lost their job is receiving the support”.

When asked about her thoughts on the support scheme and integration, Ker explained that in the second lockdown,

“[This government support during Covid-19] has given me more [support and freedom] for staying in Australia ... [otherwise] I would have flown out of Australia like my friends did previous year”.

We can see from the quotes that Hab and Ker both have positive experiences in the second lockdown due to the extension of welfare support to the international students. The welfare support has been helpful in integrating temporary migrants with mainstream society and allowing them to remain in Australia.

#### 4. Discussion

Public health is “an organised activity of society to promote, protect, improve, and ... Restore” health. (World Health Organization, 2021). This paper is an analysis of a natural experiment on the impact of one organised activity of society - unemployment benefits (state-insurance) - and its impact on a wide range of public health outcomes – from compliance with public health orders and consumption of nutritious food, to overcrowding and mental health. Through analysis of 47 qualitative interviews conducted during the first and second lockdowns in Australia in 2020 and 2021 we argue that there is clear evidence that – for the participants in this study – state financed unemployment payments have a significant impact on public health. To our knowledge, this is the first study to illustrate the impact of social security on public health of temporary migrants using a natural experiment. We argue that a state insurance model for temporary migrants, especially unemployment benefits, allows migrants to live with dignity during periods of unemployment. In contrast, a self-insurance model, as experienced during the first lockdown in 2020, puts at risk the health and welfare of both temporary migrants and the larger Australian public.

The academic literature suggests that welfare is important for public

health (Bartley et al., 1997; Townsend et al., 1992) and our results support this perspective. Our results suggest that during the first lockdown in 2020, wherein the Australian government excluded the temporary migrants from welfare schemes (Job Keeper), the participants in our study - the international students who lost their jobs - showed a tendency to (1) have difficulty complying with public health orders, including testing and isolation; (2) lack income to consume sufficient and/or nutritious food; (3) move to crowded accommodation, limiting isolation options; (4) manifest a deterioration in mental health due to financial stress; and (5) manifest a deterioration in mental health due to exclusion from a community and meaningful social solidarity. These results corroborate the findings of studies conducted during and after the first lockdown in 2020 (Berg and Farbenblum, 2020; Farbenblum and Berg, 2021; Hastings et al., 2021; Morris et al., 2020).

The results from the second lockdown in 2021 - wherein the Australian government extended unemployment benefits know as Covid-19 disaster payments, to all residents who has lost their jobs irrespective of visa and citizenship status – showed that the majority of the international students we interviewed received the disaster payments and were able to take sick leave from the work if necessary. Consequently, they reported better compliance with testing and isolation; consumption of sufficient and nutritious food; living in accommodation that allowed social isolation; and better mental health due to lower levels of financial stress and a sense of being incorporated into a larger social community that protects its members from severe adversity.

While these were the trends in our interviews, the experiences of international students were not homogenous and there were exceptions to the trends we saw. Some international students did live in flats with more than one bathroom, and with one person per bedroom, even during the first lockdown. Some lived in outlying areas with poor public transport, which meant their accommodation costs were already relatively low, meaning they didn’t need to move. Others had family in their home country who were able to help them during periods of unemployment. Others had relatives who were also studying or living in Australia and were able to reach out to them for support or accommodation, or both, during the pandemic. Some were mentally resilient, despite the adversity, and had the psychological constitution to maintain buoyancy in circumstances that caused mental ill health in many other participants. Finally, some found community in their flatmates or colleagues and were able to set to one side their neglect by the Australian Government in the first lockdown. These exceptions, however, were exactly that: exceptions to the larger trend which we have identified in the rest of this paper. The exceptions point to the potential for many different paths through a disaster like the Covid-19 crisis for international students, but they don’t contradict the broader findings of this paper that lack of social welfare during a period of unemployment has serious implications for public health.

This natural experiment has provided a rare opportunity to examine two periods of high unemployment that impacted upon relatively similar groups of de facto temporary migrant workers (international students) who worked in low-skilled precarious work. As a within-subjects experimental design (studying two different conditions experienced by the same subjects), it has the advantage of keeping participants almost identical, while having the disadvantage of potential contamination of the second condition by the first. While there are limits on how much these results can be generalized to other groups of temporary migrant workers, this study provides evidence that Covid-19 provides a rare opportunity for researchers to conduct similar studies on populations of temporary migrant workers in other jurisdictions – either where the same group experienced two regimes of social welfare in two distinct time periods (within-subjects design), or where similar groups were separated by a political boundary where different welfare policies were applied to otherwise similar groups (across-subjects design). While our study is an account of the experiences of 47 international students as temporary migrant workers, the results suggest a



fruitful course for future research in other jurisdictions.

Our findings are broadly consistent with the literature on welfare, migrant's health and communicable diseases (Koh, 2020; Bolin and Kurtz, 2018; Thomas et al., 2013). Our study suggests that temporary migrants' exclusion from social welfare can risk their health as well as the broader public health, while the extension of social welfare to the migrants can result in better public health especially during infectious disease outbreaks like Covid-19 pandemic. Our research suggests that a state insurance model, as compared to a self-insurance model, may significantly improve public health and help avoid the risks to public health caused by unemployment in a vulnerable population.

While it may not be surprising that unemployment benefits during a period of unemployment improve the welfare and public health of both migrants and the general community, it is a social fact enshrined in law by public policy makers that – both during the first lockdown and likely for the foreseeable future – temporary migrant workers (including international students) have been and will continue to be denied unemployment benefits. For decision makers, the non-inclusion of temporary migrant workers in the system of social insurance is settled policy. The fact that such policy is a risk to public health is the surprising finding of this paper. We hope our findings will contribute to a more inclusive and healthy approach that expands the social safety net to all workers within developed countries.

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## Declaration of competing interest

The authors declare no competing interests.

## Credit statement

**Faiz Ullah:** Data collection, analysis, and write up. **Dr. Nicholas M. Harrigan:** Supervision, analysis, and editing.

## Data availability

The data that has been used is confidential.

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