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## Vaccine

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## COVID-19 vaccine Mandates: An Australian attitudinal study

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## ABSTRACT

**Background:** The rollout of vaccines against COVID-19 is prompting governments and the private sector to adopt mandates. However, there has been little conceptual analysis of the types of mandates available, nor empirical analysis of how the public thinks about different mandates and why. Our conceptual study examines available instruments, how they have been implemented pre-COVID, and their use for COVID-19 globally. Then, our qualitative study reports the acceptability of such measures in Western Australia, which has experienced very limited community transmission, posing an interesting scenario for vaccine acceptance and acceptability of measures to enforce it.

**Method:** Our conceptual study developed categories of mandates from extant work, news reports, and legislative interventions globally. Then, our empirical study asked 44 West Australians about their attitudes towards potential mandatory policies, with data analysed using NVivo 12.

**Results:** Our novel studies contribute richness and depth to emerging literature on the types and varying acceptability of vaccine requirements. Participants demonstrated tensions and confusion about whether instruments were incentives or punishments, and many supported strong consequences for non-vaccination even if they ostensibly opposed mandates. Those attached to restrictions for disease prevention were most popular. There were similar degrees of support for mandates imposed by employers or businesses, with participants showing little concern for potential issues of accountability linked to public health decisions delegated to the private sector. Participants mostly supported tightly regulated medical exemptions granted by specialists, with little interest in religious or personal belief exemptions.

**Conclusion:** Our participants are used to being governed by vaccine mandates, and now by rigorous lockdown and travel restrictions that have ensured limited local COVID-19 disease and transmission. These factors appear influential in their general openness to COVID-19 vaccine mandates, especially when linked explicitly to the prevention of disease in high-risk settings.

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## 1. Introduction

Many jurisdictions globally mandate vaccines for children, using policy and regulatory instruments including school entry requirements, financial incentives, and financial penalties [1,2]. Adult vaccinations have generally been voluntary except for healthcare workers, aged-care workers or border entrants [3] in some settings or jurisdictions [4]. Seventeen European countries formally mandate at least one vaccination for all adults [5], but

little is known about the enforcement or consequences of these policies.

The rollout of vaccines against Coronavirus Disease 2019 (COVID-19) is prompting governments and the private sector to mandate vaccines through various policy instruments [8]. Several types of COVID-19 vaccine mandates are available, and the policy space is evolving rapidly. Public attitudes towards measures vary, with higher support in Australia than the United States [9–12]. However, there has been little conceptual analysis of the types of mandates available, nor empirical analysis of how the public thinks about different mandates and why. This extended paper addresses these gaps through two distinct pieces of work.

First, our conceptual study examines available instruments, how they have been implemented in non-COVID-19 scenarios, and their use for COVID-19 globally. Second, our qualitative study

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reports the acceptability of such measures in Western Australia (WA) – a state with a low COVID-19 incidence due to non-pharmaceutical public health interventions including border restrictions for the duration of the pandemic.

## 2. Study 1: Conceptual Analysis of Vaccine Mandates for COVID-19

### 2.1. Background

With a lack of clarity around what ‘mandatory’ means across ethical, empirical and policy scholarship [6,7], we define vaccine mandates as interventions imposing consequences for non-vaccination. Mandates for COVID-19 vaccines could theoretically take a range of forms, with governments and the private sector using existing instruments and policies or developing new ones. At the beginning of the vaccine rollout, our interdisciplinary team of policy, legal, social science and clinical researchers sought to envisage the types of mandates that might be utilised, in order to pre-emptively understand public attitudes towards them in our empirical work.

Existing scholarship draws attention to the importance of exemptions to vaccine mandates, regardless of type. Exemption policies and practices can considerably weaken the coercive or normative power of mandates [13], which is why energy has gone into modifying their design and accessibility in many American states [14]. We sought to focus on exemptions across all mandate types as these are important for both conceptualising the ‘salience’ of a mandate (how effective it is in making somebody vaccinate) [13] but also for its public acceptability, in terms of potentially limiting the coercion of reluctant individuals.

### 2.2. Methods

We engaged with existing theoretical conceptualisations of vaccine coercion and mandate instruments in the childhood setting, which are all imposed by governments [2,13,15]. We then built upon categories from Attwell and Navin’s childhood mandate continuum of coercion that could easily apply to adult settings [13], also considering novel ways in which governments might coerce people during COVID-19 by lifting lockdowns or removing restrictions based on vaccine coverage rates. We gathered non-exhaustive examples of each instrument type by investigating global news reports and government legislation that would facilitate governments mandating COVID-19 vaccines for adults. We then engaged in deductive legal and conceptual analysis to envisage ways in which the private sector might utilise some mandates from our government continuum to require COVID-19 vaccination for employees and clients. Again, we referred to news reports and underpinning legislative instruments that would shape or restrict the implementation of private sector COVID-19 vaccine mandates. As more governments and organisations introduced actual mandates for COVID-19 during our empirical study and manuscript drafting, we updated our examples with pertinent cases from around the world. Finally, we considered how specific types of exemptions discussed in extant literature would apply to government and private sector mandates.

## 3. Results

### 3.1. Government mandates

Government mandates are the most widely used form of vaccine mandate for all types of vaccinations, and were the predomi-

nant model prior to COVID-19. Governments in Western liberal democracies can claim democratic legitimacy in orienting populations towards vaccination through their monopoly of coercive power. The instruments available for COVID-19 vary in their intensity.

**Forced vaccination:** Some jurisdictions require vaccination in specific scenarios; public health authorities occasionally invoke this tool performatively without enforcing it. During the 2019 measles outbreak, New York state authorities considered utilising a health commissioner order that individuals “shall be vaccinated” on a “case by case” basis [16]. WA health officials can “direct any person ... to be vaccinated” [17], but can only use these powers during a declared state of emergency and on a case-by-case basis. Although WA is currently in a state of emergency, we do not know of any jurisdiction forcibly vaccinating (or planning to) against COVID-19.

**Criminalised non-vaccination:** Criminal (or similar administrative) penalties place the non-vaccinator in a position of bad standing [13]. Italy fines parents who do not vaccinate their children [18]; Gravagna et al identify twelve countries imposing immediate jail time [1]. Indonesian officials have flagged the introduction of fines for people who refuse a COVID-19 vaccines [19,20], and Austria has announced a mandatory regime with administrative fines that convert to prison sentences for non-compliers [21].

**Withholding financial benefits:** Australia is the only country to remove financial entitlements from unvaccinated families [22]; so far, this policy has not been expanded to cover COVID-19 vaccines for adults or children. However, Indonesia has recently permitted local governments to enact sanctions such as “delays or suspension of social aids, or delays or suspension of access to public services” for those who do not receive a COVID-19 vaccine [20].

**Exclusion from public settings (“vaccine passports” and “gatherings mandates”):** Unvaccinated Californian children cannot enrol in school [24]; children in several Australian states and European countries cannot enrol in early education and care without being fully vaccinated [15,22,25]. Similar COVID-19 ‘public space’ exclusions are now being utilised in private businesses and spaces for adults and children, mandated by governments in countries including Israel [26], France [27], and Italy [28] via vaccine passports. Crucially, these now affect not just public institutions but access to private hospitality venues or events.

**International, interstate, or regional travel:** Existing vaccine mandates require yellow fever vaccines for passengers traveling to and from countries with transmission risk – a scheme recommended by the World Health Organization (WHO) and adopted by member states [29]. Australia’s COVID-19 vaccination policy retains this option for entering or re-entering the country [30], and vaccination may be used to circumvent expensive hotel quarantine policies [31]. The European Union’s Digital Green Certificates travel pass system lifts travels restriction between the 27 EU member states based on an individual’s COVID-19 vaccination record and/or testing or recovery status [32]. COVID-19 vaccination is also required for travel within parts of Australia [33–35].

**Mandates for certain employment types:** Governments can impose vaccination requirements for certain workers, particularly with public facing duties or proximity to vulnerable individuals. Italy was the first EU country to make the COVID-19 vaccine mandatory for all health workers. Consequences for refusal range from transfer to other duties where possible to suspension without pay for up to one year [36]. Australian states and territories legislated to make specific vaccinations mandatory for healthcare and aged care workers prior to COVID-19 [37], and having incorporated COVID-19 vaccines into these requirements [38], some are now extending mandates to a very wide range of employment types,

with significant consequences for non-compliance including termination [39–43]. It is estimated that > 1 million people out of a total population of 2.5 million in WA will be governed by such a mandate [43].

**Government “empowerment” of employers:** Governments can legislate to *allow or encourage* employers to mandate vaccines for their employees. This peculiar strategy was enacted for COVID-19 vaccination in the Australian state of Queensland for a brief period for healthcare workers [44], in line with a similar policy in the early education setting [45]. The measure has since been replaced by a direct government mandate [46].

**Incentives:** Incentives are not strictly mandates, but depending on their scale and setting they may be regarded as a form of coercion since to go without is to forego a benefit. Australia has already been using financial incentives for childhood vaccines; the “Maternity Immunisation Allowance” that existed 1998–2012 was paid to all vaccinated or exempt families at specific milestones. Worldwide, governments and public and private sector organisations now employ purpose-built incentives for COVID-19 vaccinations. The US offers several government sanctioned initiatives [47] although so far they have not been found to be effective [48]. Australian authorities have approved the use of incentives for COVID-19 vaccination under certain conditions [49]; several businesses have offered prizes for vaccinated entrants. [50].

**Collective requirements:** Mandates shape the behaviour of individuals by allocating opportunities or consequences based on individuals’ vaccination status. For the first time with vaccination of any type, governments are imposing *collective requirements* specifically for COVID-19 vaccination, applying carrots and sticks to the population based on coverage rates. Borders reopening or lockdowns ending once vaccine coverage reaches certain levels can orient individuals towards accepting the vaccines. There is no precedent for this type of “collective requirement,” which were speculative at the time of our study. However, they have since been employed by Australian states afflicted with high COVID-19 case loads [51,52] as well as those with no community transmission. In WA once 90% of those aged 12 years and older are double dosed, both interstate and international arrivals, will be able to enter WA if they are double dosed vaccinated and received a negative test 72 h before arrival – at last allowing West Australians to leave their state and easily return [53].

### 3.2. Private sector mandates

**Employment mandates:** In certain circumstances, employers can make vaccination mandatory for their employees, dependent upon the context and legal system. In Australia, where labour laws offer relatively weak protections, a tribunal recently sanctioned the lawfulness of a childcare provider terminating the employment of a worker refusing to receive the flu vaccine [54]. In countries with more protective labour legislation and stronger constitutional rights, there is ongoing debate as to whether governments need to specifically authorise the practice [55]. Employer imposed mandates are now becoming more common in Australia, including food manufacturing company SPC [56] and mining companies [57]. Such mandates are also being implemented overseas [58,59].

**Business-to-client mandates:** Businesses and organisations have scope to make vaccination mandatory for their clients as well as their workers, as initiated by the Australian airline Qantas [61,62]. Airlines are adding COVID-19 vaccination to existing terms and conditions of carriage [63]. Crown Casino has flagged it will make vaccination mandatory not only for its workers but for any patrons seeking to use its venues [60]. At the time of writing, two Australian universities have made vaccines mandatory for students and staff, following over a thousand colleges and universities

doing so in the United States. Like employment mandates, this type of private sector mandate can only be imposed within the confines of the law.

**Government limitations:** Just as they can legislate to empower, governments can legislate to *limit or constrain* the scope of private sector mandates. Much of the conversation around private sector mandates in Italy revolves around authorising them exclusively in the healthcare and aged care sectors [64]. Political representatives in over 40 American states have sought to limit the ability of the private sector to mandate COVID-19 vaccination [65].

### 3.3. Exemptions

Medical exemptions are always necessary for individuals with contraindications. However, the rigidity or discretionary nature of medical exemptions and who can grant them has proved contentious [23,66]. Other exemptions can cater to religion or personal beliefs; these exist in many American states but there is a legislative trend towards restricting or removing them [67–69]. Governments imposing mandates decide who can provide and access exemptions and on what grounds. When the private sector imposes mandates, governments can also regulate exemption processes and categories, or leave these to organisations. Private sectors can decide on its own exemption categories, grounds, and granters within the confines of the law.

## 4. Study 2: Qualitative study of Western Australians’ Attitudes Toward Mandate Types

### 4.1. Background

Western Australia (WA), the country’s largest and most remote state, has experienced very limited community transmission, largely due to a continuing international border closure (imposed by the Australian Government) [70], and intermittent interstate travel limitations (imposed by the State Government) [71]. WA went into a ‘soft lockdown’ for one month in April 2020 [72] and at the time of our data collection had also had two snap ‘hard lockdowns’ in 2021 (five and three days respectively), following instances of as little as one episode of community transmission [73,74]. These measures have been critical to the success of WA’s COVID-19 control strategy, and were vigorously endorsed in state elections that saw the incumbent government win by a landslide [75]. The lack of COVID-19, coupled with the success of border closures and lockdowns, pose an interesting scenario for vaccine acceptance and the acceptability of measures to hasten roll out. For much of the pandemic, community discourse linked the vaccine roll out to reopening borders to interstate and overseas travellers, but this had not yet occurred at the time of publication. The Western Australian Government recently announced the most comprehensive employment vaccine mandate in the country, to cover 75% of the state’s workforce [42].

At the time this study was undertaken, Australia had commenced vaccinating its older population and key workers as part of a phased rollout in a context of risk-based assessments and emergent supply [76,77]. On the 8th April 2021, after seven weeks of vaccinating, the country’s strategy required significant modifications due to identification of the thrombosis with thrombocytopenia syndrome (TTS). TTS is associated with COVID-19 Vaccine AstraZeneca, a key component of Australia’s rollout as the only vaccine that was manufactured locally. Without local disease, technical authorities deemed the small risk of COVID-19 Vaccine AstraZeneca not to be justified for those under 50 years of age. This decision exacerbated ‘brand hesitancy’ [78] and left younger Australians with significant and ongoing delays in accessing the alter-

native Pfizer supply. Paradoxically, these issues pushed back the timeline in which widespread mandates would become a policy option, whilst also creating conditions in which they might appeal to governments.

#### 4.2. Method

As part of the larger ongoing “Coronavax” study [79], our interviewers (LR, SJC and LM) asked Western Australians in-depth questions from late February – mid May 2021 about their attitudes towards different types of potentially mandatory policies and collective requirements, including exemption categories. As our project commenced, we recruited from three broad categories: older people over 65 years of age, younger adults aged 18–29 years, and health and aged-care workers (who were generally in between these ages). All were asked the same broad questions. Interviewees were recruited through public channels. Ethical approvals were granted by the Child and Adolescent Health Services (CAHS) Human Research Ethics Committee (HREC) (RGS0000004457). Participants signed up via an online (REDCap) survey hosted by Telethon Kids Institute [80], through which we collected demographic data to ascertain any additional specific questions to ask in interviews.

Interviews were conducted via videoconferencing, telephone, or in person. Discussions of mandates and coercive policies took approximately 10–15 min of the hour-long interviews. Following full professional transcription and interviewer checking, KA and MR analysed the data with NVivo 12 using the mandate types framework from the conceptual analysis. They coded collaboratively and independently, meeting regularly to finesse the coding tree and presenting their analysis to the interviewers for further modification. KA and MR broadly categorised participants based on *support*; *nuanced perspectives*; or *opposition* to mandates of each type. Data on aged and healthcare workers’ attitudes to mandates excludes views on their own employment circumstances.

### 5. Results

We interviewed 44 West Australians, as reported individually in supplementary Table 1, and includes the pseudonyms they are assigned throughout this article. Table 1 summarises relevant demographic characteristics.

#### 5.1. Overview: Attitudes towards government mandates

Our participants broadly supported Australian governments making COVID-19 vaccinations mandatory, but there was considerable nuance and some opposition. Around a quarter vehemently supported widespread mandates, saying “I think it should be totally compulsory”. But approximately half had nuanced, moderately supportive, or uncertain attitudes.

Some told us they opposed mandates; one said emphatically, “I can’t emphasize strongly enough it should never become compulsory.” (Hayley). Yet such respondents went on to express support for imposing significant consequences for refusal, such as travel requirements, bans from public spaces, or the withholding of taxes or government support.

Other participants supported specific mandates only, or offered programmatic nuance, reflecting on dynamic factors such as the state of coverage:

I don’t think it should be mandatory. Unless . . . if too many people opted out and the process didn’t work than I say yes, OK, then you’re gonna have to make it mandatory for everybody.  
– George

Others added that individuals should be able to choose what brand of vaccine they (mandatorily) received.

The final subset of our ‘nuanced’ group were genuinely unsure: either not having a strong view, feeling uncomfortable about mandates but considering that they should “stay on the cards” (Olivia), or sitting “on the fence” (Kath).

Around a quarter of participants opposed mandates for the general population. However, even amongst this group, some still supported mandates for those working with vulnerable people in aged or healthcare. A minority reflected that mandates were unwelcome or potentially ineffective from a behavioural perspective. Some participants, who held a range of perspectives on whether mandates should be implemented, reflected that vaccines would need to be readily available and taken up by everybody who wanted to be vaccinated. Participants then indicated mandates would be legitimate to reach the “critical mass” to “keep everyone safe” (Steve).

#### 5.2. Attitudes to types of government mandates

It was evident amongst all participants – but particularly those with nuanced attitudes – that the design of the mandate and the specific ways that it targeted non-vaccinators was important.

**Table 1**  
Demographic characteristics of participants.

Characteristic	Number (%)
<i>Age range (years)</i>	
18–29	19 (43)
30–39	3 (7)
40–49	4 (9)
50–59	3 (7)
60+	15 (34)
<i>Gender</i>	
Female	28 (64)
Male	14 (32)
Non-binary	2 (5)
<i>Country of birth</i>	
Australia	26 (59)
Other	18 (41)
<i>Religion</i>	
Anglican	3 (7)
Catholic	5 (11)
No religion	28 (64)
Other Christian	7 (16)
Other: Spiritualism	1 (2)
<i>Industry of employment</i>	
Health Care and Social Assistance	13 (30)
Other industry	22 (50)
Retired	9 (20)
<i>Highest level of education</i>	
Year 12 or equivalent	7 (16)
TAFE/apprenticeship or equivalent	7 (16)
Undergraduate university degree	13 (30)
Postgraduate university degree	17 (39)
<i>SEIFA score*</i>	
1 – 4	1 (2)
5 – 7	3 (7)
8 – 10	39 (89)

\*The SEIFA (Socio-Economic Index For Areas) is a ranking system developed by the Australian Bureau of Statistics. It “ranks areas in Australia according to relative socio-economic advantage and disadvantage” based on information gathered from the Census. This data was developed from the “Ranking within State or Territory” > Decile numbers from the 2016 “Postal Area (POA) Index of Relative Socio-economic Advantage and Disadvantage” [1]. The higher the number, the more well-off the area is, based on postcodes.

1. Australian Bureau of Statistics. 2033.0.55.001 Socio-Economic Indexes for Australia (SEIFA), 2016. 2016. Available from: <https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/2033.0.55.0012016>.



### 5.2.1. Forced vaccination

Even amongst those who emphatically supported what they called ‘compulsory’ vaccination, there was little enthusiasm for what was referred to as ‘forced’ vaccination: governments going door to door, ‘holding people down’, or vaccinating them against their will.

### 5.2.2. Criminalised non-vaccination

Criminality was almost exclusively conceptualised as fines, but one participant mentioned imprisonment. Some participants said fines should be nominal; one framed them as covering the costs of lost human lives, before asking “how do you put a price on someone’s life?” (Margaret). Several supported using fines only after incentives failed, or alongside other mechanisms. Three young participants mentioned that compulsory voting in Australia is underpinned by fines, citing this as an effective policy. A subset were distinctly uncomfortable with fines, declaring them “harsh”, “weird” or stating that “sticks are bad.”

### 5.2.3. Withholding financial benefits

Four participants suggested that the Australian government withhold financial assistance from those who do not vaccinate, some explicitly referencing childhood vaccination policies. Support for blocking tax refunds was variably framed as “penalisation” or “consequences”, but one opponent of “compulsory vaccination” (Harry) called this “encouragement” and supported it.

### 5.2.4. Vaccine passports and “gatherings mandates”

Participants were most comfortable with restrictions on participating in public and private gatherings for those who did not vaccinate, like “those big music festivals where everyone’s on top of each other” (Hayley). Respondents gravitated towards these “gatherings mandates” or “vaccine passports” because they were familiar with existing restrictions to curb disease spread, and because they saw the merit of this strategy in changing behaviour.

I think that’s possibly a good way of dealing with a low uptake. Restrict the number of events you can go to, restrict the number of people you can have ... go back to some of the lockdown criteria that we’ve already dealt with ... if you don’t have a valid ... vaccination passport – Jackie

Participants invoked this model as preventing the spread of disease, especially to vulnerable people. Moira constructed restrictions as a “natural consequence” of non-vaccination, preventing vaccinated people from bearing the costs of others not getting vaccinated.

Participants also invoked the notion of a social contract.

*[Y]ou’re going to a place where there’s like older people for example, there’s people who are probably immunocompromised and things like that ... if you wanted the communal kind of aspect of it then ... you should be doing the community minded thing, which is to get vaccinated and keep other people safe as well ... So, you’re kind of making it so that, you know, eventually the culture is sort of like, you know, if you’re not vaccinated, well, you can’t do too much – Steve*

Other respondents were unsure, disagreed with vaccination requirements for gatherings, worried they might be “a bit harsh”, or preferred such policies by implemented on a voluntary basis.

### 5.2.5. Travel

Participants overwhelmingly agreed that vaccination should be required for travel, the main reason being the elevated risk of contagion:

*I think it would be quite irresponsible to just let people roam when they could be carrying the virus backwards and forwards. ‘Cause then it will never end. Like, it will literally never end, and we will forever be in this pandemic. – Annalise*

Several recalled that mandatory vaccination for international travel is not a new proposition:

*I don’t have a problem with mandatory vaccines. And we’ve actually had them for a long, long, long time. It’s really only in the last few years that Australia has not had mandatory vaccines for travelling to places like Africa and, you know, you used to always have to have smallpox or yellow fever or cholera, it’s not a new concept. So ... we’ll have another vaccine that has to be mandatory if you’re wanting to travel and come back to Australia. – Jacinda.*

Support for travel mandates presented travel as a “privilege” subject to conditions:

*If you want the privilege of travelling then yes you should be vaccinated ... like you can’t make it mandatory but you can remove those privileges. – Steph*

### 5.2.6. Government mandates for certain employment types

Some respondents were concerned about governments imposing vaccine requirements on certain professions, even for staff who worked in health or aged-care. For others, these were the only settings in which they supported a mandate.

*I think it’s perfectly reasonable to expect to protect the patients, clients ... by requiring the people working to care for them, to be confident that those people are not going to introduce it into the environment and pass it on. – Harry*

While participants tended to support mandates for airport, quarantine workers and especially those working with the vulnerable, they considered the issue to be complicated. Some discussed the need for the unvaccinated to stay home during outbreaks or be redeployed, as opposed to losing their positions outright. The idea of governments deliberately ‘empowering’ employers to make their own mandates was not generally discussed, although one participant stated that for high-risk private sector groups, governments should “work with businesses ... to maybe make it a policy requirement for their employees as opposed to a government-down requirement” (Jack).

### 5.2.7. Incentives

Participants generally liked the idea of incentives, preferring them to punishments, despite diversity in classification of specific measures as punitive or as incentives. A couple of participants considered “something small” might motivate people (Nilsa), but others thought this was “weird” (Nancy) or “like bribery” (Carole). The idea of tax credits (as opposed to withholding tax returns) was supported. One respondent noted incentives would not reach “rich people.”

*It would definitely help sort of lower socioeconomic people because they would want to take the incentive. ... [E]ven though I’m going to do it anyway but [laughs], it would be a much more enticing way to do it. – Lawrence*

### 5.2.8. Collective requirements

We were interested in how West Australians would view the potential reopening of state and national borders, but also how they would regard prospective promises of fewer restrictions on regular life if governments explicitly linked freedoms to vaccine uptake. Participants generally saw logic in this kind of “collective requirement.” Recognising that lockdowns, masks, limits on social

gatherings, and border closures prevent the spread of disease, they suggested that these could be legitimately used “to induce people to get vaccinated if they’re lagging behind.” (Jackie).

#### 5.2.9. Hailing existing mandates

In discussions of all potential mandate models, over a third of our participants referenced existing vaccine mandates, whether these were yellow fever travel vaccine requirements, exclusions of unvaccinated children from childcare, the removal of financial benefits from unvaccinated families, or influenza vaccine requirements for workers in childcare, aged care, or health settings.

*Yeah, I definitely understand you could make it mandatory for health workers who already have to get a flu jab, and same for childcare workers and that kind of thing. I think that would be fine, because if part of your job is caring for someone else and part of that caring is to not give them an illness. – Nancy*

#### 5.3. Attitudes towards private sector mandates

Participants expressed broad support for private sector mandates and did not raise concerns about private governance of public health. Only one person voiced serious disagreement regarding outsourcing decision-making to private entities, saying “that imposition should come from the authority figure, so the government and health department” (Floki). Most participants did not distinguish between private sector mandates for employees or clients. Those that did saw business-to-customer mandates as largely unproblematic, with employment mandates as less straightforward:

*That would be something that unions would probably have to look at, with regards to can you force your employees to do certain things. But certainly, your patronage, people who buy things from your company ... you just have to accept that there are rules and conditions. – Nancy*

##### 5.3.1. Employer mandates

Unlike Nancy, participants generally supported the ability of employers to mandate vaccines for staff, noting that employers should be allowed to establish terms of employment, and that COVID-19 vaccination should become an important feature of workplace health and safety:

*[W]ithin a private business ... if that's what they think is going to keep their staff safe, keep their staff's families safe ... you need to take responsibility for your decision. And unfortunately, if that means you can't work at a place anymore ... unless you have a good exemption, I feel like you need to realise that that's a requirement of your industry. – Phoebe*

Two respondents mentioned the utility of such a policy in the mining and resources sector, a significant part of WA's economy.

The sentiment of keeping staff safe was widely shared, however a minority of interviewees voiced concerns about coercion:

*I guess it would be harder if people didn't want the vaccine and then, like, it was their job. Whereas, like, travel ... it's more, like, optional unless people are travelling for work. But it's usually just something that people are able to choose whether they do or not. – Leslie*

##### 5.3.2. Business to client mandates

Participants overwhelmingly supported businesses requiring that customers be vaccinated. One summarized this shared sentiment as being “like no shoes, no shirt, no service at the pub” (or

bar). (Sarah). As with ‘gatherings mandates’ or vaccine passports, participants considered that business mandates for clients imposed a logical consequence.

*If there's a festival on and like, you know, the organizers say to attend this festival ... you must show us like a record of being vaccinated, well, then you just can't go. – Phoebe*

Several participants distinguished between types of businesses. There was near unanimous support for airline vaccination requirements yet less enthusiasm for small businesses and venues implementing such rules:

*It would be harder being just like a small business trying to mandate it. I think more people would accept it thinking like, oh, if it's an international flight then like I guess that makes sense 'cause there is a lot of COVID overseas. But I feel like it would be harder to do if it was, like, within Perth. – Leslie*

However, one participant who intended to be vaccinated suggested that it should be left to the free market to establish what the best practice is:

*[Hypothetically] if I wasn't vaccinated and I wasn't allowed entry somewhere because I was unvaccinated, I would just patronize another business. I feel like that's just the market doing this thing. – Rebecca*

#### 5.4. Attitudes toward exemptions

There was universal acknowledgment that exemptions should be granted on medical grounds – such as known allergies or a medical history that makes vaccination unsafe – and broad consensus that medical exemptions should be tightly regulated and narrowly defined, because loopholes would prompt people to seek exemption for ideological reasons. Overall, participants showed little support for religious or personal belief exemptions, because public health protection should trump individual choice. One participant, Max, said that people's beliefs should not “affect healthcare decisions, well, not the ones that affect other people.” A small minority of people were inclined to take personal beliefs into account, and one raised the possibility of not requiring people to accept COVID-19 Vaccine AstraZeneca if they “get twitchy about it” (Newman).

A few participants mentioned that exemptions for anyone working with vulnerable people (such as aged-care workers, or in ICU departments) should be even more highly regulated, with anyone ineligible to receive the vaccine being redeployed or unable to practice in that profession:

*It's more important to protect the vulnerable people than it is to ... allow the people ... whose safety cannot be guaranteed to access that work. – Harry*

Participants unanimously agreed that medical exemptions should be determined exclusively by medical personnel. Several spontaneously declared that politicians should not decide; only one suggested that exemptions should be granted by a multi-disciplinary team:

*People from different backgrounds and experiences that can have different impacts on that issue. So maybe ... also social workers and other professionals that can give a valuable opinion about that specific case. – Floki*

Participants were roughly divided into three groups regarding which type of doctor they would trust as granters of medical exemptions. One group was satisfied that General Practitioners (GPs) know the ‘history’ of the patient. However, some qualified

that clear guidelines and training should be provided to prevent abuse of any exemption mechanism, so that exemption seekers “can’t just go to their GP and just make up a reason or lie about something to get them exempt.” (Jay).

A second group expressed a strong preference for specialists such as immunologists, seeing GP clinics as overworked and GPs possessing what participants perceived as insufficient specialist knowledge:

*[The GP] just said, “We just do not have time in our day to keep up with it because it is such a small part of our whole workload,” and I get that. So GPs definitely would not be the experts to go to, not unless they were specialising in travel health. – Jacinda*

Finally, a smaller group was in favour of a collaborative team, potentially including both GPs and specialists, to offer better guarantees against potential abuses:

*I feel it has to be ... multiple people. So that way you can’t just say, ... “I’m just gonna go to old mate ... who’s my friend, who’s a doctor, and he is ... sympathetic to my belief that we shouldn’t be vaccinating and essential oils are the way to go” – Steve*

## 5.5. Moral considerations and practical outcomes

In addition to the above themes regarding attitudes towards types of mandates, four cross-cutting themes emerged, as about half of our participants explicitly articulated moral dilemmas focused on choice, consequences, responsibility, and social justice.

### 5.5.1. Choice

A minority strongly emphasised the importance of choice, as both a moral yardstick and a better policy option than mandates:

*I think people respond better when it’s their choice and they know it’s the right thing and they’ll do it. I know in some situations you have to be, like, nah, stay at home, wear a mask. But I think as soon as you start like injecting things into people’s bodies ... even if they know it’s the right thing, if they’re being forced into it, people react differently. – Margaret*

Another participant explicitly made the opposite argument – that choice should be taken away in the context of the pandemic:

*I don’t believe that you should have the freedom to make those sorts of decisions because the impact of those decisions are not just on you – Jackie*

### 5.5.2. Consequences

Choice was intimately linked to its consequences, both direct and mediated. Direct consequences of deciding not to vaccinate included exposure to the virus or exposing your family and friends. Mediated consequences imposed by mandates included losing your job or even being subject to medical triage:

*I would even go as far as to say that if you don’t have the vaccine and you get sick, if there’s two ICU beds available and the other person’s had the vaccine and may need it, then they should get it and you shouldn’t. – Hayley*

There was strong moral disagreement with some of these ideas, with others commenting that “getting basic health care” is “a fundamental right” that doesn’t “depend on your vaccination status.” (Margaret).

### 5.5.3. Responsibility

Participants overall appeared to recognise an inescapable dimension of individual responsibility linked to vaccination. This

was either framed in terms of bearing the consequences of the choice not to vaccinate, or (in a sizeable number of responses) as civic duty emphasising the collective dimension of immunisation. Frank explicitly mentioned Bentham’s utilitarian argument focusing on ‘the greater good’.

### 5.5.4. Social justice

Some participants were concerned that mandates disproportionately affect the poor.

*If one of the reasons for not getting vaccinated is low socioeconomic reasons then sticks ... just perpetuate an inequality that already is there. – Jackie*

Other concerns included that mandates would “add fuel to the fire of the anti-vax movement” (Rebecca) or open “a can of worms for discrimination and autonomy issues” (Sterling).

### 5.5.5. Moral confusion

Finally, we identified ‘moral confusion’ among some participants whereby the notion of mandates was rejected outright in the abstract on moral grounds, but subsequently accepted in the form of specific practices:

*[I]t must not be mandatory because that’s just immoral ... Give people encouragement to do it. Like with kindergartens where if you haven’t been immunised for whatever it is they immunise kids for these you don’t get the subsidy ... That sort of encouragement, I’m quite OK with. – Harry*

## 6. Discussion

Our novel qualitative study, derived from our conceptual analysis of vaccine mandate types, contributes richness and depth to the emerging literature on the types and varying acceptability of vaccine requirements in jurisdictions with different severity of COVID-19 exposure. Australians broadly support existing mandates for childhood vaccines as well as possible mandates for COVID-19 vaccines. However, less certainty around COVID-19 mandates reflects lower support for these vaccines compared to childhood vaccines [9,81].

Several broad themes arose in participants’ discussions of COVID-19 vaccine mandates, including varied and conflicting understandings of what mandates were; inequalities and unfairness in mandates; and balancing responsibility and choice.

Interviewees held varied, conflicting, confused, or contradictory understandings of mandates. These were most common among younger participants, who likely had the least previous experience with them. However, we encountered participants of all ages who went from vigorously opposing the idea to supporting severe consequences for vaccine refusal within the same interview. They often saw mandates as appropriate for certain categories of workers, such as those in aged and health care, yet wholly inappropriate for others. Tensions were also evident in framings used by participants, with some referring to ‘privileges’ or ‘incentives’ acquired through vaccination, and others to ‘restrictions’ or ‘refusal’. In practice, these are identical (e.g. you need to be vaccinated to travel internationally), however, framing is not neutral from a policy or legal perspective. Decisions to adopt mandatory vaccination need to be formulated and articulated carefully regarding premises and objectives.

Our data pointed to a distinct preference for mandates or collective requirements that followed a logic of restrictions for disease prevention. West Australians, used to governments placing limitations on their community and public activities during COVID-19, saw that stable and reliable participation in social life and events

could be a useful vaccination incentive. The same applied to the easing of travel restrictions for vaccinated individuals and eventually opening the state's borders.

Several interviewees declared that broad-based population-level mandates should not be applied until the vaccines were readily available to everyone. Indeed, creating mandates with limited vaccine availability damages public trust, creates and exacerbates pockets of inequality [82], and encourages corruption or other undesirable practices (such as people 'skipping the line'). However, participants recognised that some sub-populations (such as those who work with vulnerable individuals and/or groups) and some activities (such as international travel) could also be targeted with mandates even in the absence of full supply.

Our participants' broad support for certain types of government mandates was mirrored by equal support for mandates imposed by employers or businesses, with little concern for accountability linked to delegating public health governance to the private sector. Interviewees did, however, share concerns about the potential inequalities of mandates, incentives, and punishments. Such inequalities exist in childhood vaccine mandates in Australia, which disproportionately impact those who receive social support or are on lower incomes [23]. For COVID-19 vaccine mandates, it is critical that exemption pathways are accessible and financially neutral. Providers must also be supported to help their patients manage benefits and risks, especially those with complex medical histories. One potential punishment that may impact *more* financially advantaged people is travel. Restrictions on international travel were popular and frequently raised among interviewees, who themselves were drawn from wealthier areas compared to the general population.

Our interviewees balanced considerations of choice, responsibility, and fairness. Some framed vaccination as individual self-responsibility, where making the 'wrong' choice is punishable; this view would find support from some groups within the community including those who recently advocated that infected anti-vaxxers should not be able to receive public care [83]. Others envisioned vaccination as a social obligation, where one cares for relatives, friends, and strangers through vaccinating [84].

Our participants' support for COVID-19 vaccine mandates can be explained by two key factors. First, repeated reference to existing or historical vaccine mandates in Australia for children, workers, and travellers points to a population sensitised to government control when it comes to vaccinating [85,86], reinforced by the ubiquity of messaging and a public discourse that pushes the collective benefits of vaccination and spurns vaccine refusal [87–89]. Participants' regular recourse to existing mandate models demonstrated the power of existing policy types as heuristics for COVID-19 mandates, suggesting that path dependency makes existing mandates attractive for new scenarios. Relatedly, we saw path dependency in our participants' mandate attitudes linking to being heavily governed during lockdown and suppression modes of the pandemic. These restrictive measures have delivered a local variant of normal life in WA, generating unprecedentedly high support for the State government and a collective willingness to 'do what it takes.' This appears to extend to vaccine mandates.

Our data provides depth and richness to how people feel about mandates in a context of broad community support, but has some limitations. Qualitative work is not generalisable to broader populations even within geographic regions, and with vast differences in COVID-19 outbreak and risk scenarios, this case is highly context-specific. There may have been a self-selection bias in our participants with our call for participants attracting supporters of vaccination. Our sample skewed towards extreme older and younger age groups and particular employment profiles; partici-

pants were also more likely to be from wealthy areas, limiting representativeness of the broader Perth population. Future work could sample indiscriminately, specifically within key cohorts, or seek more socioeconomic diversity, and could be conducted in a wide range of jurisdictions with different experiences of COVID-19 and vaccination program rollouts. The question of whether governments can and should mandate booster shots also remains open.

## 7. Conclusion

Since this study, many of the COVID-19 mandates explored have been announced and implemented by Australian governments and businesses. Community support for these measures acknowledges the benefits but also the risks if mandates are not carefully designed, do not consider the views of the populations, and do not take account of inequalities. With mandates likely to remain a key global strategy for ensuring uptake of vaccines and boosters, governments need to engage deeply with their citizens, including vaccine hesitant individuals, and must include the perspectives of medical and legal experts, ethicists, and social scientists [82].

Western Australia now has full vaccine supply, but at the time of writing the challenge remains the absence of disease. This creates a gilded cage in which vaccination may not appear necessary, and, indeed, vaccination rates are lower than in the COVID-19 infected states of New South Wales and Victoria. Governments are now engaging in complex conversations and strategies to open the doors of the cage.

### Data Statement

Due to the nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data is not available. Inquiries for clarification can be directed to the corresponding author.

### Author contributions

KA conceptualised the project, co-developed the broader study methodology with the other authors, led the funding attainment and supervised the conduct of the broader research project. She co-led the coding and write up of the data and provided the analytical framework. MR co-led the coding and write up of the data and provided legal expertise to the analytical framework. LM, SC and LR conducted the interviews and contributed to data collation and interpretation and article drafting. ST provided administrative support, constructed the tables, and contributed to article drafting. CB participated in funding attainment and overall project leadership, and contributed to article drafting.

### Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: [Dr Katie Attwell is funded by the Australian Research Council of the Australian Government under grant number DE19000158. Dr Attwell and the Coronavax project receive research funding from the Department of Health, Government of Western Australia. Dr Attwell has previously received a speaker's fee from Merck. Dr Katie Attwell provides technical advice to the Australian Government regarding COVID-19 vaccine rollout. Associate Professor Chris Blyth is the chair of the Australian Technical Advisory Group on Immunisation (ATAGI) as well as the COVID-19 Vaccine ATAGI, on which Dr Attwell sits. The other authors have no financial or personal relationships to declare.].



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## Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.vaccine.2021.11.056>.

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