COUNCIL OF PRESIDENTS OF MEDICAL COLLEGES

EFFECTING REFORMS TO AUSTRALIA'S SPECIALIST MEDICAL TRAINING AND ACCREDITATION SYSTEM POST COVID-19

REPORT 1: TRAINING IMPACTS, RESPONSES AND OPPORTUNITIES

MAR 2021

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1. EXECUTIVE SUMMARY

Organisations across the Australian medical training system have rapidly adapted to continue core operations during the COVID-19 pandemic. This experience of disruption and their collective responses present an opportunity for learning and reform.

This report is the second output of the *Effecting Reforms to Australia's Specialist Medical Training and Accreditation System Post COVID-19* project (the project). It is the result of extensive consultation with key stakeholders on issues they have faced during the pandemic, how they have responded, and what could be taken forward to provide a more flexible and responsive system.

These stakeholders represent the whole training pathway, including medical schools, membership organisations, regulators, specialist medical colleges and health departments. Completed written or phone surveys were received from 32 of the 43 stakeholders, a response rate of 74.4%.

Interview responses were coded thematically using the four key themes - training requirements, education delivery, wellbeing and clinical practice - and 37 subthemes. These were initially identified in the project's first output, a literature review on the impact of COVID-19 on medical education worldwide.

While the Australasian experience was found to overlap with that of the mainly international

literature from the review, there were some important differences. In our survey responses, the impacts on clinical practice were not widely mentioned. Conversely, some novel and notable subthemes emerged:

- Business operations
- Communication
- Crisis planning
- Equity (rural and remote)
- Exams and wellbeing
- Sociality and collegiality
- Travel restrictions
- Workforce planning

Several of these issues have existed in the specialist medical training system for some time, with the COVID-19 pandemic bringing them into prominence or highlighting flow-on effects.

Respondents also reported implementing positive solutions and adaptations such as:

- De-centralised, modular exams
- More flexibility for exam deferrals, attempts, and fees
- Temporary waivers on training requirements and special consideration for provisional progression
- Reducing or waiving training fees
- Increased teaching, training time, and monitoring
- Use of telehealth
- Use of tele/videoconferencing for education and meetings
- Centralised and frequent communication initiatives

However, some outstanding issues remain:

- Exam timing, format and delivery, including the role of high-stakes barrier exams
- Trainees not fulfilling requirements/progressing and the resulting backlog of trainees, workforce shortages or inadequately prepared workforce
- The lack of evaluation of virtual systems for clinical care (telehealth), exam delivery and education delivery, including the potential loss of bedside knowledge, peer support and collegiality
- Workforce maldistribution and the reliance on IMGs/fly-in-fly-out staff in rural and remote areas
- Trainee wellbeing and the underlying issues of high workloads, high stakes assessments and negative workplace cultures
- The lack of risk planning to account for the possibility of future pandemics, natural disasters or other national/global disruptions.

Implementing solutions to these complex issues will require coordination across the organisations involved in specialist medical training pathways. The next output of the Project will put forward policy and practice recommendations.

2. INTRODUCTION

The COVID-19 pandemic continues to have unprecedented impact on population health and to challenge health system management globally. The medical training system in Australia is no exception, with organisations across the training pathway rapidly adapting to keep operations running while ensuring the safety of staff and patients. For example:

- Medical schools moved classes online, allowing students stuck overseas to access learning
- Workplaces redeployed trainees to respiratory clinics and other areas of projected need, and provided PPE training
- Specialist medical colleges (colleges) paused some training requirements and moved exams online to allow trainees to progress
- Regulators adjusted accreditation processes for colleges and workplaces

The *Effecting Reforms to Australia's Specialist Medical Training and Accreditation System Post COVID-19* project (the project) is harnessing the opportunity for learning and reform. It is investigating the impact of the pandemic on medical training and accreditation, as well as the adaptations that have been made in response.

It will provide recommendations for improvements based on these findings, including by informing the National Medical Workforce Strategy. These improvements will be aimed at addressing issues caused or exacerbated by the pandemic, as well as ensuring that positive adaptations and innovations are maintained.

Report 1: Training impacts, responses and opportunities is the project's second output. It is the result of extensive consultation with key stakeholders on issues they have faced during the pandemic, how they have responded, and what can be taken forward to provide a more flexible and responsive system. As discussed above, this report will be used to inform future recommendations.

This report was guided by the key themes and subthemes identified through the project's first output, a literature review on the global adaptations in medical education due to COVID-19.

3. METHOD AND RESULTS

3.1 STAKEHOLDER IDENTIFICATION

Key stakeholders to be surveyed were initially proposed by the CPMC project team. This list was reviewed and added to by the AMC project team and the CPMC Education and Medical Workforce Subcommittee (EMWS).

The sampling frame comprised organisations from the breadth of the medical training pathway:

- Medical schools
- Membership organisations (including trainee membership organisations)
- Regulators (Australia and New Zealand)
- Specialist medical colleges (Australia and New Zealand)
- State and national health departments

New Zealand-based organisations were included as the two health systems are connected in many ways, including through the 13 bi-national specialist medical colleges. Rural clinical schools were included through the Medical Deans of Australia and New Zealand (MDANZ), who consulted with rural clinical schools and included those perspectives in their survey responses. The full list of stakeholders invited to respond (N=43) can be viewed in *Appendix A: Key stakeholders.*

3.2. SURVEY DEVELOPMENT AND DATA COLLECTION

Survey questions were developed by the project team and reviewed by the AMC project team and CPMC EMWS. The final open-ended qualitative questionnaire was used for both online and phone responses. This full questionnaire template can be seen in *Appendix B: Stakeholder survey.*

The focus of the survey was on specialist training, but views were sought from across the medical training pathway. This includes responses submitted from MDANZ and the Australian Medical Association Council of Doctors in Training.

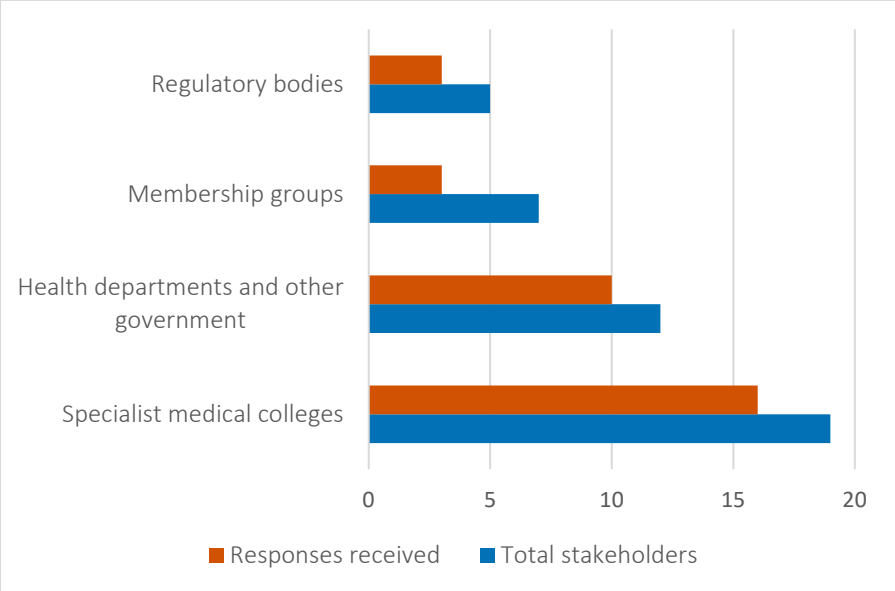

Figure 1: *Stakeholder survey completion, excluding multiple responses and including combined responses.*

The questionnaire was sent to stakeholders via email, with instructions that responses would be de-identified and aggregated to provide confidentiality. Those who did not respond were sent a follow-up email five weeks later, which included an offer to conduct the survey over the phone.

Completed surveys were received from 32 of the 43 stakeholders, a response rate of 74.4%. Responses are summarised in *Figure 1* and further information on respondents can be found in *Appendix A: Key stakeholders*.

Four stakeholders returned multiple responses from different staff members. A consolidated response was received from the three stakeholders. In total, 34 responses were received from 32 stakeholders. Of the stakeholder categories, membership groups had the lowest response rate with 43% of invited stakeholders completing surveys (despite multiple attempts to schedule phone interviews). Specialist medical colleges had the highest response rate, with 84% of invited stakeholders submitting responses.

3.3 THEMATIC ANALYSIS

Interview responses were coded thematically, focusing on how the medical training system has dealt with the barriers and obstacles to progression through training pathways, and how can these be eliminated or modulated to provide a more flexible and responsive system.

Survey responses were coded iteratively using NVivo, a qualitative research software package, by a project team member with extensive experience and training in qualitative analysis. The codebook was initially drawn from the draft (December 2020) National Medical Workforce Strategy's five priority areas and three themes, shown in *Table 1*. However, the themes developed from these areas were found to be too broad to assist with analysis, as the majority of responses fell under "Reforming the training pathways," without further granularity.

Priority areas	Themes
Collaborate on planning and design	Growing the Aboriginal and Torres Strait Islander workforce and improving cultural safety
Rebalance supply and distribution	Adapting to changing models of care
Reforming the training pathways	Improving doctor well-being
Building generalist capability	
A medical workforce that is supported to thrive and train and work flexibly	

Table 1: National Medical Workforce Strategy priority areas and themes, December 2020

A second stage of coding used a codebook produced from the four themes and 37 sub-themes identified in a literature review completed as the first stage of the project, *Impacts of COVID-19 on Postgraduate Medical Education*. These are shown in *Figure 2* below. While a majority of the literature review's subthemes were found to some degree in the survey data, only the most prominent themes in the data are discussed in this report.

Additionally, themes or sub-themes that emerged from the data and did not fit within the areas in *Figure 2* were noted as possible new themes and discussed by two members of the project team. If an agreement was reached that a new code should be created to reflect this theme, it was applied to all survey responses where appropriate. Agreement was reached in all cases, and new subthemes can be seen in *Figure 3*.

***Figure 2**: Themes and sub-themes as identified by the Impacts of COVID-19 on Postgraduate Medical Education literature review.*

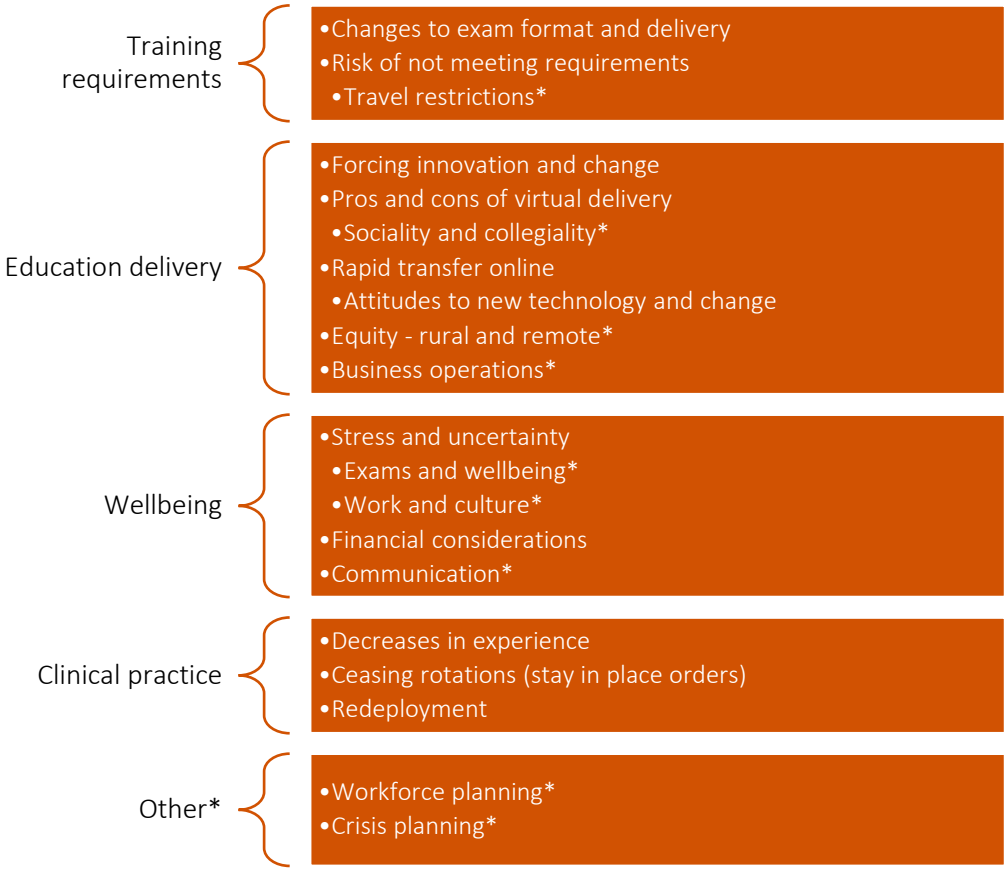

***Figure 3**: Themes and sub-themes as identified by survey analysis - new areas indicated with *.*

4. DISCUSSION

Overall, the themes in the survey responses paralleled those identified in the literature review. At the time of this project, the majority of publications on COVID's impacts on medical training reflected the North American system. As Australia had lower case numbers and a different national and jurisdictional response, concerns that Australian respondents brought to these themes diverged from the literature in several ways. These are most notable in the new subthemes.

These differences and the most prominent themes and sub-themes in the data are discussed below. New themes and sub-themes not previously identified in the literature are also highlighted (see *Figure 3*, which represents the revised framework for our analysis). Brief commentary is given on the issues in the literature that are less represented in our sample.

Salient verbatim responses have been provided from the survey data to reinforce the analysis of each sub-theme below. These have been de-identified and labelled according to the category of respondent:

- HD: health department or other government
- MG: membership group (including trainee organisations)
- RG: regulatory body
- SMC: specialist medical college

4.1 TRAINING REQUIREMENTS

4.1.1 CHANGES TO EXAM FORMAT AND DELIVERY

While a reduction in trainees' procedural work was noted as a major concern in the existing (chiefly North American) literature [1-5], the impact on exams was less represented. Our respondents highlighted that changes to the timing, format, and delivery of exams constituted one of the largest challenges created by the pandemic in the Australian training system. The medical examination system relied heavily on centralised face-to-face exams, many of which took place only once or twice per year. Exam development, in some cases, also involved in-person meetings. Travel restrictions, lockdowns, and physical distancing requirements upended this system starting in March 2020.

Most organisations surveyed reported responding to this challenge by offering de-centralised modular exams supplemented with tele- and/or videoconferencing. In some cases, a localised paper exam was offered within a "COVID-safe" environment. However, aspects of clinical assessment for some respondents could not be satisfactorily adapted to a virtual format or held in a COVID-safe manner. Instead, they have been delayed until face-to-face assessment is possible. Respondents commented that this has a particular impact on overseas-trained doctors seeking registration in Australia, as well as trainees granted conditional advancement on the proviso of meeting these requirements at a yet-to-be-determined time.

> *"Management of examiner and trainee expectations has been difficult. There have been variations is what each group feel is possible... Examiners are more focused on staying the course and delivering the exam as close to normal, and trainees are happy to accept variations as long as the exams occur." (SMC7)*

The organisational strain of rapidly shifting assessment to a secure virtual format, including in vivo aspects, also appears to have stretched the limit of many organisations' staffing, IT, and financial resources. The delays, uncertainties, and exam failures were noted as a major cause of stress and anxiety for trainees. This was around both exams and training progression (see Section 3, "Wellbeing," for more). The flow-on effects for progression continue to present planning difficulties for training providers and employers, who report a potential backlog of trainees and delay in progression to fellowship.

> *"It would be helpful to have some standardised reporting from medical colleges around the outcomes of training such as how many trainees have entered and exited training and at what stage. Having this information would enable health departments to understand the impact of COVID on training and plan for future disruptions." (HD2)*

Several institutions noted that exam pass rates improved slightly in 2020, possibly due to increased preparation time and/or the online setting. However, many respondents indicated that providers and trainees prefer to return to the face-to-face model of examination as soon as possible. Acknowledging the uncertainty of this possibility, however, respondents are planning for the continuation of online exams into 2021, as well as considering high-stakes assessment as a priority for reform. The risks and harms of pressurised exam systems are well-documented [6-10], and several respondents highlighted how the pandemic invites more consideration of alternative models of examination, such as work-based assessment.

> *"Questioning barrier exams and thinking more about work-based and other assessment methods will likely lead to big improvements to training." (MG3)*

4.1.2 RISK OF NOT MEETING REQUIREMENTS

Delays and changes to exams overlap with the more general issue of trainees' fulfilling training requirements, the second major sub-theme in this area. Respondents reported that the disruption and/or cancellation of mandatory training elements including clinical placements, rotations, workshops, and simulation courses forced many organisations to put in place temporary waivers, provisional progression, and special consideration policies. Other providers responded by extending training time as opposed to changing requirements. Several respondents noted the support of the regulators in enacting these changes.

Regardless of the approach, respondents stressed that any modifications introduced were intended as temporary, with several noting ongoing monitoring to ensure that changes did not result in a relaxation of standards. Many respondents acknowledged the ongoing uncertainty regarding provisional advancement—often conditioned on future successful completion of yet-to-be scheduled clinical exams (see sub-theme above). How this issue will progress in the face of potential future lockdowns and/or distancing requirements is yet to be resolved.

> *"The jurisdictional experience is one of a loss of trainees to a national training program who are based interstate and only rotate into the state for a limited period as directed by a College, then return to their home state. [This has] a negative impact on local workforce sustainability and supervisor/trainers become demoralised and burn out, as they sense they are not contributing to local workforce development." (HD4)*

While the pandemic has created delays to training progression worldwide [11-13], a new sub-theme emerged from our respondents that appears to be unique to Australia: the impact of domestic travel restrictions. The immediate impact of state border closures was most pronounced for rural and remote areas, which rely more heavily on a non-local and non-resident workforce. Cross-border requirements for many training programs were also affected. Trainees were unable to travel to other states for rotations, interviews, and exams (as were examiners). Some respondents noted that their organisations successfully lobbied for travel exemptions and/or recognition of trainees as "essential workers" (a classification that allowed for more travel freedoms during state lockdowns). Yet, there was no universal approach to this issue, as there has been no universal approach to state and territory lockdowns in Australia.

> *"The border closures and travel requirements exacerbated the existing challenges of having a non-local and non-resident workforce. Trainees and registrars coming from interstate to change or continue jobs either couldn't, or had their move interrupted by quarantine or restrictions on clinical work at their rural site." (HD5)*

International travel restrictions, for both Australians and international medical graduates (IMGs), have also complicated training progression. A number of respondents noted that Australian trainees who were completing placements overseas have still been unable to return to Australia, while the delays for IMGs to enter into the training pathway have resulted in workforce gaps. Several respondents linked the domestic and international travel restrictions with this larger, pre-existing issue of workforce planning and sustainability, which relies heavily on cross-state and international travel (see "Workforce planning," below).

> *"International students and trainees who were overseas at the onset of the pandemic have been unable to return to Australia. The long-term impact on graduate and Fellow numbers is unknown." (HD1)*

4.1.3 OTHER SUB-THEMES

The majority of survey responses regarding training requirements focused on the areas above, but several respondents also reported that the required pivot to video interviews for junior medical officer (JMO) recruitment and selection into training streamlined the application process, was received well by applicants, and resulted in time and cost efficiencies. Similarly, organisations involved in accreditation have moved towards virtual site visits and assessments, freeing up capacity to deal with the more urgent COVID-related priorities. Some respondents indicated they were considering continuing virtual accreditation post-pandemic, or a hybrid model, due to the time and cost savings.

4.2 EDUCATION DELIVERY

4.2.1 FORCING INNOVATION AND CHANGE

Many respondents commented that although capacity for online education modalities has existed for some time, it was not until the pandemic that organisations were forced to engage with these options. This information reflects a new finding from our survey data: that the proliferation of virtual delivery has impacted attitudes toward new technologies as well as their uptake.

> *"We all were a bit complacent… before the pandemic. Although we had a focus on improving quality, there was also a business-as-usual model…. Organisations talked about efficiency and there were attempts on the periphery about what this means, but no one*

delved into this in a major way to create change, such as moving to videoconferencing, which could have been done many years ago." (RG1)

This is not to suggest that online education has been wholly embraced—in fact, many respondents highlighted tensions from virtual methods not proven or perceived as equally valid as face-to-face teaching (see "Pros and cons of virtual delivery," below). Others, however, reported that the positive outcomes of online education (increased pass rates, more engagement, savings in costs and efficiencies, etc.), as well as increased exposure to these technologies, has shifted opinions which may have otherwise remained fixed.

"The pandemic has demonstrated that high quality training outcomes can be met in different ways. Many aspects of medical education that were considered unquestionable, have been questioned by necessity and alternative approaches found. Many requisites of training were based on tradition rather than evidence." (HD1)

The pace and scale of virtual delivery in the pandemic appears to have strained the staffing and IT resources of education providers. Adjusting to remote settings, working with limited bandwidth and technological knowledge, and rapidly overhauling decades of in-person training into an online format (telehealth, supervision, assessments, interviews, etc.) was frequently noted as an ongoing challenge for organisations (see "Business operations," below).

"The quick nature of change has meant long hours for staff to meet tight deadlines. Not having a precedence or experience to draw on meant a lot of processes had to be developed from scratch." (SMC1)

4.2.2 PROS AND CONS OF VIRTUAL DELIVERY

Respondents uniformly acknowledged the benefits offered by online education's flexibility and accessibility. Many organisations noted increases in both attendance and engagement in virtual events compared to face-to-face training, and some reported increases in exam pass rates in 2020. The variety of educators available for training was also highlighted as a strength, as online formats rendered previous geographic constraints obsolete. The use of telehealth was praised as a model that should continue. Respondents also recognised that more training is needed in telehealth, particularly as it relates to supervision. Several respondents reported that virtual delivery may also ameliorate what is perceived as a "training gap" for trainees in rural and remote areas.

"The feedback [on virtual delivery] has been overwhelmingly positive. We will look to enhance our delivery of the training program in 2021 based on the success of 2020. It would be difficult to revert back to the 'pre-pandemic' delivery model as several aspects of online education, webinars and virtual supervisor workshops were very well attended." (SMC1)

There is a divergence between trainee feedback on virtual delivery and the perceptions of educators and examiners. While many respondents reported positive feedback from trainees, the effectiveness and validity of online education continues to be a point of debate among providers. These concerns focus chiefly on the virtual learning environment may creating over-individualisation. Respondents noted that bedside knowledge, group-based learning, peer support and collegiality cannot be fully replicated online, and that the loss of these activities may create a skills deficit. In particular, the increased social isolation of the training experience within an online format was of significant concern—a new theme not previously found in the literature.

"While we believe that the online forums and events that we created have been important and highly valued in terms of personal and collegial support, we don't consider there is ultimately any substitute for face-to-face contact and will use every opportunity to revert to these formats wherever practicable." (SMC11)

4.2.3 RURAL AND REMOTE EQUITY

The pandemic's impact on rural and remote training, both positive and negative, was another sub-theme not previously identified in the published literature. Several respondents noted that the shift to virtual delivery resulted in increased learning opportunities for rural and remote trainees who, pre-pandemic, did not have access to the breadth of educators as their urban-based peers. Preparing for exams in rural and remote areas was also increased out of necessity, and rural and remote candidates' subsequent exam success may challenge the perception that training outside capital cities is inferior. Similarly, some respondents indicated that the democratisation of virtual meetings may benefit rural and remote practitioners by removing the privilege previously granted to those with the resources to attend events in person.

"The number of exam candidates in regional areas was increased, and this may help overcome prejudice that exam preparation in these regions is undesirable. The regions were empowered to deliver exam preparation." (SMC12)

Pandemic-related travel restrictions disproportionately affected rural and remote areas, which require freedom of movement for locum placements, recruitment, and part-time/fly-in-fly-out staff. Respondents reported that personal engagement and relationship-building, central to the recruitment process for rural and remote positions, was difficult to replicate virtually and may result in training shortages. More broadly, the pre-existing challenge of encouraging sociality and collegiality among geographically isolated trainees was compounded during lockdowns. Rural and remote areas' reliance on international and non-local workforce was also underscored, as many respondents noted the difficulties in meeting staffing needs when borders closed. The problem was exacerbated in localities where essential worker status was not extended to registrars, further reducing the workforce available for travel.

"The poor access to rural training for most of the specialities has a much greater impact than COVID-19 ever will." (HD5)

4.2.4 BUSINESS OPERATIONS

One prominent sub-theme not commented on in the reviewed literature relates to COVID-19's impact on governance, infrastructure, risk planning, and people management. That is, the core operational aspects of training providers and related institutions. This sub-theme emerged strongly within our survey data. Some respondents touched on the complex governance arrangements within their own organisations, which could impede decision-making and increase uncertainty. A small minority noted that a lack of such bureaucracy contributed to their ability to respond quickly. Others reported making extra-ordinary changes to their governance framework or terms of reference to allow for a more rapid response.

"Online interactions have added to existing heavy workloads and sometimes created a culture of urgent responses to challenges." (SMC3)

Risk planning, or a lack thereof, was also highlighted as an issue of concern, particularly around exam delivery. Some respondents had already carried out thorough testing of new technologies prior to their use and established contingency plans in the event of exam failure or postponement. Others, however, noted that little-to-no contingency planning was in place and suggested this was an area in which staff had to upskill quickly. Given the rapidity of the changes, respondents also touched on the lag in documentation and formalisation of new ways of working for their staff. Many of these had to be instituted piecemeal and ad hoc—such as working from home, use and distribution of new technology (particularly web cameras), and arrangements for IT support. The pressure and scale of change also resulted in a significant increase in workload and stress for staff and was frequently cited as a concern by respondents. A few, however, also noted the improvements that a wider acceptance of remote working brought to their work culture.

> *"The pandemic has created a whole new way of working for office-based staff. The combination of working from home and from the office will be with us for a long time. This has been a very positive change." (RG1)*

4.2.5 OTHER SUB-THEMES

While the above sub-themes represent the most prominent issues for survey respondents regarding education delivery, there was a minor thread focusing on more incorporation of trainee feedback in the decision-making process (see also "Communication" sub-theme, below).

Several respondents also noted that while simulation exercises and simulation-based education may be preferable under pandemic conditions, the complexities of creating new simulation courses made this impossible to achieve in a reasonable timeframe. Many simulation courses still require attendance at simulation centres, limiting their utility under travel restrictions.

4.3 WELLBEING

4.3.1 STRESS AND UNCERTAINTY

Published literature discussed the impact of the pandemic on trainees' mental health and wellbeing [5, 12-16], including anxieties around potential exposure, personal protective equipment (PPE) and the trauma from witnessing high numbers of deaths in hospital. Mental health was a major theme within our data as well, but with a focus on medical workplace culture and exams (Australia having had far fewer deaths and PPE shortages than other countries).

> *"Staff shortages have been ubiquitous, resulting in high levels of stress and burnout." (HD4)*

Some respondents highlighted that the pandemic's impact on trainee wellbeing was multiplied by pre-existing problems of workload and burnout. The mental health effects of a training pathway with limited flexibility and reliance on high-stakes assessment has also been emphasised during the pandemic. The uncertainty surrounding exam delivery and training progression (which remains unresolved) emerged as a further sub-theme. Not knowing when, where, or what the format of assessment will be was reported as a large source of anxiety for trainees.

> *"The uncertainty around postponement of assessments and examination dates has been a great source of anxiety for trainees, and understandably so. Registrars have experienced extraordinarily difficult times and we should not underestimate the impact of this experience on them." (SMC9)*

Awareness of trainee stress appears to be high, and many respondents commented on exam-specific strategies or solutions to ameliorate the current environment of uncertainty. Some respondents reported introducing more flexibility around exam deferrals, attempts, and fees. Others have committed to maintaining COVID-era exam conditions throughout 2021 in order to maintain certainty for candidates in the event a lockdown is introduced in their state or territory. Still others report that delivery models are currently under review, with both hybrid and face-to-face options being considered. Only a few respondents touched on alternatives to high-stakes exams, however, reporting that work-based assessment was under consideration.

> *"This connects to the ongoing and serious issue of trainee suicide. Colleges could do more, for example though workplace accreditation processes, although this is a shared responsibility." (MG3)*

4.3.2 COMMUNICATION

Many respondents commented on the importance of different communication strategies as a factor in reducing stress and anxiety for trainees during the pandemic—an issue which was mentioned by only a few publications in our literature review [17, 18]. Our survey indicated that a variety of new approaches were used in communicating with trainees under pandemic conditions. These focused on centralisation of information and regularity of updates. New communication initiatives included COVID-specific:

- Taskforces/committees with regular meetings and communiques
- Webpages including ones with FAQs
- Program managers or change management staff hired to help centralise responses
- Online forums for members/trainees, weekly
- Discussion boards for members/trainees
- Weekly newsletters and webinars, weekly
- Live Q&A sessions
- Direct communications with training directors

The survey data indicates that these options were welcomed by trainees and the increased level of feedback and engagement with trainees resulted in a greater trend towards consultative decision-making. Some respondents noted that addressing a need for certainty, from both trainees and staff, was an ongoing challenge. The inherent uncertainty surrounding the pandemic and response meant that often there were no clear answers or information for organisations to provide, despite having established regular pathways for communication.

> *"At times it was challenging to keep up with change or to be able to provide clarity on information where none was available." (SMC8)*

While the majority of respondents rated their organisation's communication changes as positive, several pointed out that the quality of communication, and trainee responses, varied by institution and that a broader, sector-wide communication approach was still needed. This would include COVID information-sharing for other organisations (such as online exam strategies) as well as for trainees.

> *"There is still a lot of knowledge in individual organisations that isn't shared very well. Therefore, a priority is more communication and collaboration ... A good example is online clinical exams, doing a combined approach rather than have everyone develop their own models. There is a lot of data available in terms of regulation, accreditation, and assessment*

in Australia. This hasn't been very well mined or acted upon, but this would be very valuable." (RG1)

4.3.3 FINANCIAL CONSIDERATIONS

The financial impact of the pandemic has also been highlighted as impacting trainee wellbeing. Some trainees have experienced financial challenges associated with childcare in the wake of school closures, while for others stress results from future financial uncertainty (including job security) [19-21]. In our survey data, most commentary on financial stress focused on the short-term (one-year) employment contracts offered to most junior doctors. This precarity was noted as contributing to training progression challenges and workforce instability.

"Many [primary care] practices that were having issues during COVID either did not take trainees or put their trainees on unpaid leave." (MG3)

Recognising the financial pressures that some trainees may be experiencing, some organisations reduced or halted training fees for a period of time, while others eliminated the financial penalties previously associated with withdrawing from exams. Organisations themselves also reported some degree of financial stress—some rely on annual scientific meetings and exam fees as a source of income. The delay of these events and their associated revenue may be a future budget challenge. Some respondents also discussed an increase in operational spending due to the rapid infrastructure investments and administrative upskilling needed to shift education online, which may eventually result in increased training fees.

"The management of [online exams] required huge administrative resources re: contracts, payment systems, training etc. The financial impact of delaying exams is also significant." (SMC9)

While government funding (i.e., JobKeeper) was mentioned as a source of support by some respondents, it was also noted that universities were excluded from such programs. Some organisations reported cost savings from reduced spending on meeting travel, but it is unclear what the net financial impact of the pandemic will be for the sector.

4.3.4 OTHER SUB-THEMES

A few other wellbeing sub-themes identified in the literature review were touched on briefly within our survey data. Several respondents commented on the positive impact that virtual education and meetings has had for trainees and others with caring and/or family responsibilities. A few others reported an increased level of solidarity and collaboration felt within the medical community, but this sentiment was not widely commented on. Of note, while a prominent issue in the North American literature [12, 13, 22, 23], the availability of PPE was not frequently expressed as a concern within this Australasian sample.

4.4 CLINICAL PRACTICE

4.4.1 DECREASES IN TRAINING VOLUME AND BREADTH

With elective procedures cancelled, delayed, or not advised, and patients hesitant to attend healthcare settings due to fear of exposure to COVID-19, published literature from North America expressed concern about the pandemic's impact on the number and variety of patients trainees encounter and the impact this will have on their knowledge base. While similar issues were raised in

our survey data, they were not commented on at length. Some organisations noted the reduction in volume and/or breadth of experience trainees have been able to access during this time, but also highlighted the solutions that have been put in place in response. These include increased teaching, increased training time, and/or ongoing monitoring. A few respondents reported that their future training model will prioritise the quality and length of a trainee's placement and on-going upskilling, but also acknowledged the uncertainty surrounding the long-term effects of changes to the training experience.

> *"Students had reduced exposure and a poor experience if only seeing telehealth consultations during the lockdown periods. We implemented new rules for our placements and extra teaching to accommodate the issue." (HD7)*

4.4.2 REDEPLOYMENT AND ROTATIONS

Trainees have also faced changes in exposure to patients via disruptions in deployment and rotations. Respondents reported that rotations have been delayed, postponed, or ceased. Some trainees, particularly in emergency medicine, have been asked to end a placement early to return to their home hospital. Conversely, some general practice registrars have extended their stay in a training practice throughout the entire year, whether due to border closures or distancing requirements, or practices not taking on registrars during the height of the pandemic.

> *"Some trainees already competed for access to caseload prior to the pandemic. As junior doctors were redeployed to prioritised services, this also reduced access to some rotations required for optimal prevocational training." (HD8)*

As with the decreases in training volume and breadth, respondents commented that it was unknown how these changes might impact trainees in the long term. In order to mitigate the risk of trainees not meeting training requirements through mandatory rotation time, several organisations mentioned new policies put in place if redeployment is necessary.

> *"Trainees who were asked to return early to their home base were not penalised if it meant that rotation did not meet the minimum time requirements." (SMC4)*

4.4.3 OTHER SUB-THEMES

A handful of the other clinical practice sub-themes identified in our literature review were echoed briefly in this sample, including the risks of relying on voluntary service roles during a crisis, a reduction in capacity for supervision, and unplanned and increased opportunity for leadership experience. As compared to the other three themes, the pandemic's impact on clinical practice was the least commented on by our survey respondents.

4.5 OTHER

Two areas were noted as distinct enough from those identified in our literature review to warrant new sub-themes.

4.5.1 WORKFORCE PLANNING

Workforce planning constituted a considerable focus for respondents. The task of accurately and equitably planning for future medical workforce needs has been a long-standing challenge in Australia

[24-27]. The COVID-19 pandemic has raised additional questions for discussion, as well as challenging previous ideas about "redundancy" in the system.

> *"The transition from Basic to Advanced Training is inherently unpredictable, and COVID exacerbated challenges of balancing basic and advanced training places/numbers." (SMC12)*

For our respondents, workforce distribution was perceived as a pressing issue. For some, there was concern that existing workforce shortages in rural and remote areas would be worsened due to the curtailing of travel-dependent rotations and placements to these areas. Others highlighted that the desirability of some specialities may continue to create a mismatch in placement demand and supply, as trainees may not receive adequate exposure to historically undersupplied specialties.

> *"There may be a pipeline effect—i.e., lack of a good placement experience may impact vocational choice in the future." (HD7)*

Some organisations have instituted provisional training places in response to delayed exams (see Section 1, "Training Requirements") which introduces further uncertainty into training pathways. Respondents were concerned about the potential for backlogs and gaps once exams are carried out and provisional places change. Many acknowledged that these responses were necessary in the face of the pandemic and are directly related to pre-existing challenges in creating and balancing medical training places more broadly (recruitment, entry into training, hospital selection, etc.). There was a clear call by respondents for more collaboration in this area. Of particular interest were centralised, standardised and shared data and reporting measures to aid in workforce planning processes.

> *"Medical recruitment, particularly registrar recruitment, is complex and involves a large number of stakeholders. There is no one-size fits all approach given the recruitment processes vary depending on the speciality i.e. some vocational trainees are selected by the colleges, others are selected via state-based networks, and others are selected direct by the employing hospitals. Trying to find suitable work-arounds to such large-scale recruitment efforts can be challenging." (HD8)*

4.5.2 CRISIS PLANNING

The call for increasing data on training places and outcomes was connected by several respondents to the concept of risk management, another new sub-theme in this area. The parallels that respondents drew between the medical sector's response to COVID and responses to past events such as bushfires and flooding demonstrate a minority appreciation within our sample that more general crisis planning, prevention, and "future-proofing" is needed.

> *"The benefit of building the workforce to help manage the health and resilience of the Australian community in a post-COVID world is very clear... COVID has cost Australia greatly and prevention is the only way to reduce the financial and health burden of COVID and any other 'COVID' of the future." (SMC14)*

5. CONCLUSION

Several of the issues identified in our stakeholder consultation have existed in the Australian specialist medical training system for some time, with the COVID-19 pandemic bringing them more prominence or highlighting flow-on effects. To guide the project's next phase (policy recommendations), *Figure 4* categorises the themes and subthemes from our stakeholder consultation by these characteristics: pre-existing COVID-19 or resulting from it. It is recognised that there is much overlap and causal linkage between the themes. However, these distinctions may be helpful to understand the chronology of COVID-19's structural impact and guide future actions.

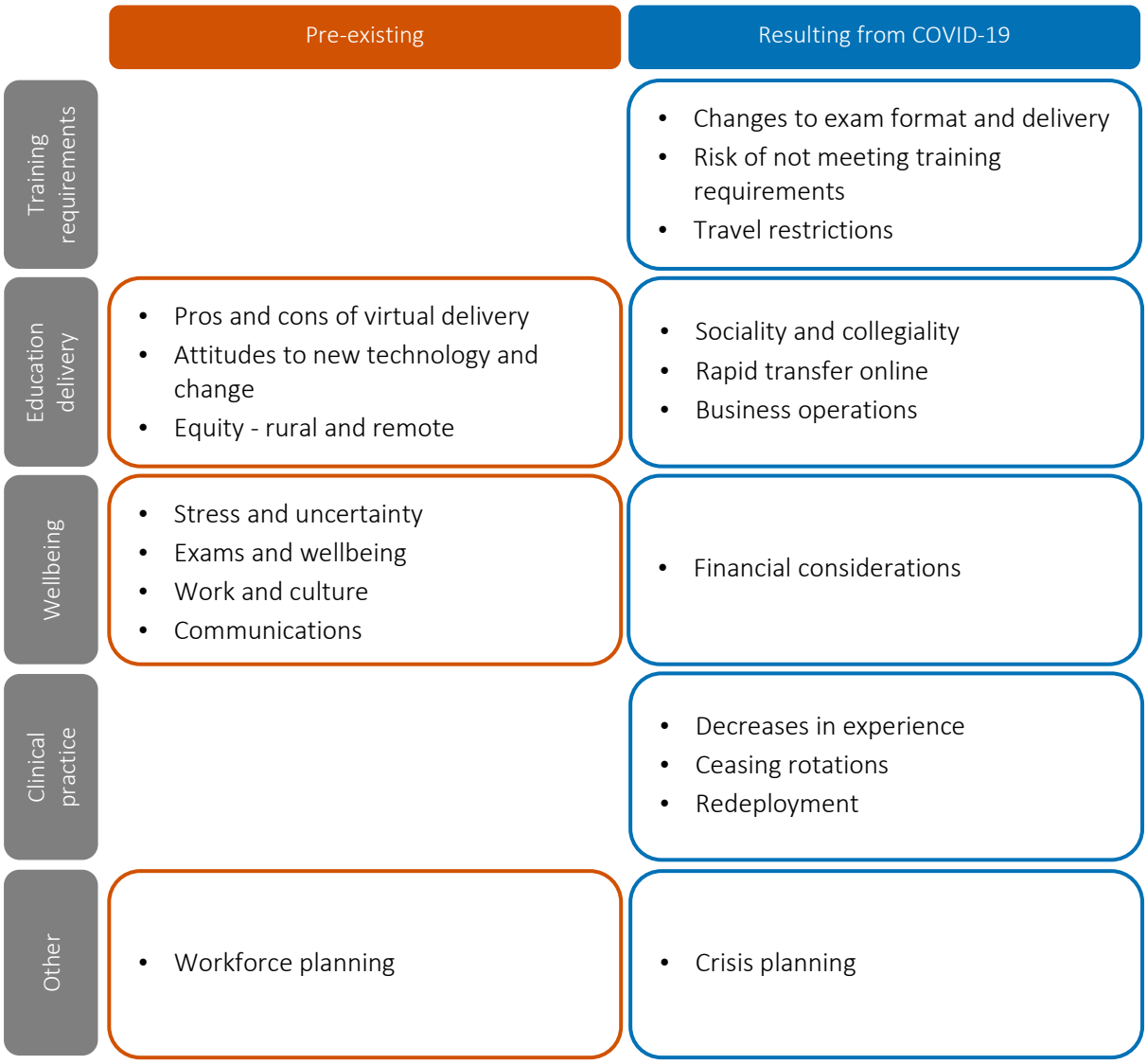

***Figure 4**: Themes and sub-themes classified as pre-existing or resulting from the COVID-19 pandemic.*

Figure 5 summarises solutions and adaptations reported by stakeholders in response to challenges they faced during the COVID-19 pandemic. They are grouped under the relevant theme.

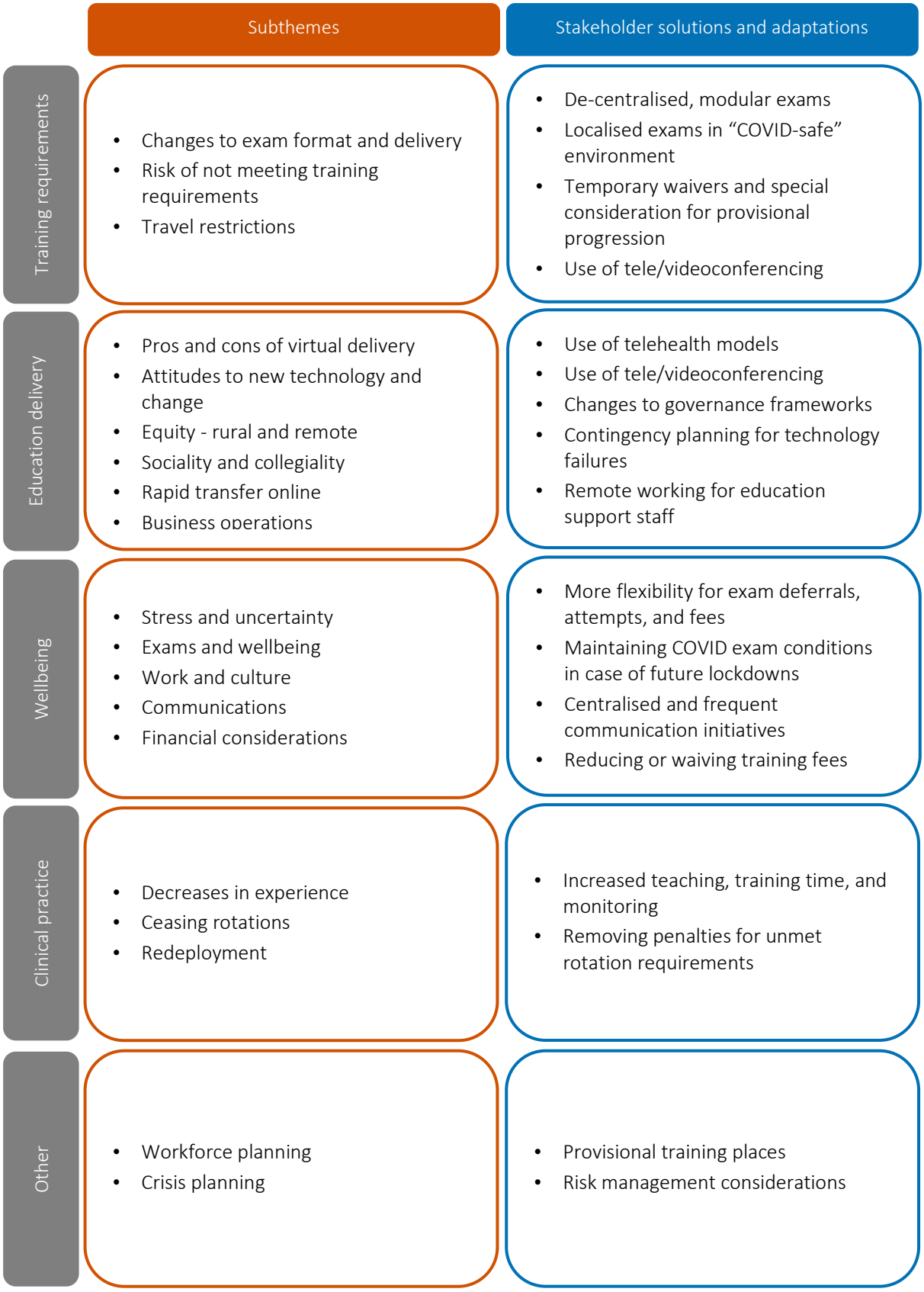

***Figure 5**: Summary of stakeholders' solutions and adaptations to COVID-19-related disruptions.*

While respondents have undertaken a many actions in response to the pandemic, often under great time and resource pressure, a number of outstanding issues remain.

Changes to the timing, format and delivery of exams was one of the largest challenges identified by our respondents. Solutions included holding de-centralised modular exams supplemented with tele- and/or videoconferencing. These worked well for many organisations and in some cases increased equity. However, exam "failures" did occur, and aspects of clinical assessment were not able to be replicated in a remote or socially distanced format. Additionally, many of these solutions were put in place temporarily. None have addressed the impact of high-stakes barrier assessments on wellbeing or their vulnerability to disruption (although this is widely discussed).

Another unresolved issue is the risk of trainees not fulfilling requirements or progressing, due to disruption or cancellation of mandatory training elements, including exams. Solutions to this included temporarily waiving requirements, provisional progression or extending training time. These appear to have been effective in the short term. However, the potential for a backlog of trainees, workforce shortages or inadequately prepared trainees (particularly around clinical and bedside skills) has not been addressed.

The move to virtual systems for clinical care (telehealth), exam delivery and education delivery has been beneficial to many by increasing access and participation rates. Yet the rapidity of change has precluded comprehensive evaluation of these delivery modalities. It is not known if they are as effective as their face-to-face counterparts. Additional concerns are the potential loss of bedside knowledge, peer support, and collegiality, as these can be hard to replicate remotely.

Workforce maldistribution has long been a concern in the Australian health system. International, state and territory border closures exacerbated the existing inequities. Solutions put in place include organisations seeking travel exemptions and essential worker classifications for trainees. Yet underlying issues of workforce shortage and reliance on IMGs/fly-in-fly-out staff remain in rural and remote areas, leaving them vulnerable to future disruptions.

Trainee wellbeing was a major theme in our data. It was recognised that the combined impact of high workloads, high stakes assessments and negative workplace cultures left trainees vulnerable to additional stressors, such as the disruptions and uncertainties caused by the pandemic. Solutions focused on increasing communications, increasing flexibility, and reducing uncertainty. However, many of these measures were temporary and the underlying causes of poor trainee wellbeing have not been addressed.

COVID-19 has highlighted the vulnerability of many elements of the training system, as well as the lack of risk planning. While it was mentioned by a minority of respondents, it is recognised that the system needs to be future proofed to account for the possibility of future pandemics, natural disasters, or other national/global disruptions.

Implementing solutions to these complex issues will require coordination across the organisations involved in specialist medical training. It is a positive sign that there appears to be broad agreement on their importance. The information gathered by this report will help guide CPMC in this project's next phase: the investigation, discussion, and issuing of policy recommendations.

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APPENDIX A: KEY STAKEHOLDERS

Organisation	Role(s)	Response
Specialist Medical Colleges		
Australian and New Zealand College of Anaesthetists	President, CEO	Yes
Australasian College of Dermatologists	President, CEO	Yes
Australasian College for Emergency Medicine	President, CEO	Yes[1]
Australasian College of Sport and Exercise Physicians	President, CEO	Yes
Australian College of Rural and Remote Medicine	President, CEO	Yes
College of Intensive Care Medicine of Australia and New Zealand	President, CEO	Yes
Royal Australasian College of Dental Surgeons	President, CEO	No
Royal Australasian College of Medical Administrators	President, CEO	Yes
Royal Australian and New Zealand College of Obstetricians and Gynaecologists	President, CEO	Yes
Royal Australasian College of Physicians	President, CEO	Yes[1]
Royal Australian and New Zealand College of Radiologists	President, CEO	Yes
Royal Australasian College of Surgeons	President, CEO	No
Royal Australian and New Zealand College of Ophthalmologists	President, CEO	Yes
Royal Australian and New Zealand College of Psychiatrists	President, CEO	Yes
Royal Australian College of General Practitioners	President, CEO	Yes
Royal College of Pathologists of Australia	President, CEO	Yes
New Zealand College of Public Health Medicine	President	Yes
Royal New Zealand College of General Practitioners	President	No
Royal New Zealand College of Urgent Care	President, CEO	Yes
Membership groups		
Council of Medical Colleges New Zealand	CEO	No[2]
Australian Indigenous Doctors' Association	President	No
Australian Medical Association	President, Sec. General	No
Australian Medical Association Council of Doctors in Training	Chair	Yes (phone)
Australian Medical Student's Association	President	No
Confederation of Post-graduate Medical Education Councils	Chair	Yes
Medical Deans of Australia and New Zealand	President, CEO	Yes[3]
Regulatory bodies and other government		
Australian Commission on Safety and Quality in Health Care	Chief Medical Officer	No
Australian Health Practitioner Regulation Agency	CEO	Yes
Australian Medical Council	CEO, President	Yes (phone)
Medical Board of Australia	Chair	Yes
Medical Council of New Zealand	CEO, Chair	No[2]

Health departments and other government		
ACT Health	Covid-19 Interjurisdictional Medical Workforce Group members	Yes[1]
NSW Health	As above	Yes
NT Health	As above	No[4]
QLD Health	As above	Yes[1]
SA Health	As above	Yes
TAS Health	As above	No
VIC Department of Health and Human Services	As above	Yes
WA Department of Health Jurisdictional Working Group	As above	Yes
Australian Department of Health	Acting Chief Medical Officer	Yes[5]
Australian Department of Health	Principal Medical Advisor	Yes[5]
Australian Department of Health	Senior Medical Advisor	Yes[5]
National Rural Health Commissioner		Yes (phone)

[1] Sent multiple responses.

[2] Agreed was not necessary as the New Zealand based colleges responded individually.

[3] Included input from rural clinical schools.

[4] Unable to deliver survey due to spam filter.

[5] Sent a combined response.

APPENDIX B: STAKEHOLDER SURVEY

COUNCIL OF PRESIDENTS OF MEDICAL COLLEGES

Australian Medical Council Limited

STAKEHOLDER CONSULTATION SURVEY

EFFECTING REFORMS TO AUSTRALIA'S SPECIALIST MEDICAL TRAINING AND ACCREDITATION SYSTEM POST COVID-19

The Council of Presidents of Medical Colleges, in collaboration with the Australian Medical Council, is conducting a review into the impact of the COVID-19 pandemic on Australia's medical training system.

Findings from this survey will inform our recommendations report. The report will aggregate themes from this data, so as not to identity individual responses or stakeholders.

If you have any questions about the survey, or how data will be used, please contact us on (02) 9256 5496 or TrainingReview@cpmc.edu.au.

Q1: What pre-existing issues has the pandemic **highlighted / exacerbated** in medical training pathways?

Q2: What issues has the pandemic **created** in medical training pathways?

Q3: What **solutions** to these issues has your organisation implemented?

1

Q4: In what ways were the solutions effective and/or ineffective?

Q5: Are there issues which have **not yet been addressed**? If so, what are they?

Q6: Has the pandemic **reduced** any issues in medical training pathways?

Q7: What challenges has your organisation faced in **managing change**?

Q8: What are your organisation's **priority areas** for reform?

When complete, please email this to: TrainingReview@cpmc.edu.au.