

## Benefits of a virtual interstitial lung disease multidisciplinary meeting in the face of COVID-19

### *To the Editors:*

The novel coronavirus pandemic continues to have a dramatic impact upon all aspects of health care. Interstitial lung disease (ILD) clinicians and patients alike are faced with new challenges as a result of the threat imposed by coronavirus disease 2019 (COVID-19) and the precautions implemented to reduce its impact.<sup>1</sup> While much of Australia has been fortunate to have not encountered the same incidence of COVID-19 as other countries, our ILD services have nonetheless encountered the challenges which social distancing brings for the diagnosis and management of our patients.

The ILD multidisciplinary meeting (MDM) is fundamental to the care of people with ILD and is directly threatened by COVID-19. The face-to-face ILD-MDM historically utilized by 97.1% of centres<sup>2</sup> is not compatible with social distancing measures. However, continuation of the ILD-MDM, in our opinion, is more important now than ever. Patients with ILD and clinicians managing ILD require ready access to an MDM to provide diagnostic confidence and avoid treatment delay. Obtaining an accurate diagnosis is the foremost priority of people suffering from ILD,<sup>3</sup> and is dependent on access to an ILD-MDM. In some countries, including Australia, access to disease-modifying anti-fibrotic therapies is dependent on an MDM-endorsed idiopathic pulmonary fibrosis (IPF) diagnosis.<sup>4</sup> In addition, the ILD-MDM is a fundamental component of the education of trainees and non-ILD physicians.

Prior to the pandemic, ILD services across Australia had a hybrid in-person/virtual MDM approach. Our ILD services adopted entirely virtual MDMs when confronted with the threat of COVID-19, with virtual MDM being the only safe option for many centres. This virtual approach has been previously recognized.<sup>5</sup> The Thoracic Society of Australia and New Zealand and the Lung Foundation Australia position statement on ILD-MDMs hinted at the potential benefits of tele/video conferencing to overcome geographical separation of ILD experts.<sup>6</sup> However, the potential benefits of this approach, particularly in these unprecedented times, have not been previously detailed.

We collated data from the ILD services located at The Prince Charles Hospital in Brisbane, Royal Prince Alfred in Sydney, John Hunter Hospital in Newcastle and The Alfred in Melbourne which all provide hub and spoke models of care for patients and clinicians across Australia, servicing a

population of almost 25 million people spread across a large geographical area (Figure 1). We recognize that there are many other smaller ILD-MDMs which provide a valuable service to their local communities. From their early origins, our ILD-MDMs have utilized video conferencing platforms to allow and encourage remote clinicians to participate in the MDM process. We were, therefore, in a position to rapidly transition to entirely virtual platforms when confronted by COVID-19.

Since the institution of entirely virtual MDMs in early 2020 at our four centres, we have provided diagnostic and management advice for 456 patients from 72 virtual MDMs (Table 1). Of all presented cases, 46.3% have originated from community respiratory physicians working outside our tertiary institutions. The virtual MDMs have been attended by a median of 20 (interquartile range 15–22) participants per meeting, many of whom had not attended our MDMs prior to the entirely virtual format. In addition to foundation ILD physicians, radiologists and pathologists, numerous general respiratory physicians and at some meetings rheumatologists have populated the virtual forum. Eleven ILD specialist nurses have joined our virtual MDMs. One hundred and fifty-three IPF diagnoses have been made allowing access to anti-fibrotic therapy through government-subsidized prescription. Specific advice on the commencement, titration and cessation of immunomodulatory therapy was provided in the 57 cases of connective tissue disease-associated ILD that were presented. Recommendations to consider bronchoalveolar lavage and surgical/cryo-biopsy were made with sites noting delays due to operating theatre closures at the height of COVID-19 restrictions. Suggestions to visit the [hplung.com](http://hplung.com) and [pneumotox.com](http://pneumotox.com) websites to explore potential unidentified exposures and culprit medications, respectively, were provided in several cases. Finally, treating clinicians were informed of the availability and status of clinical trials, with recommendations to consider referral once enrolment reopens.

The ILD-MDM provides a forum for both the expert and novice to benefit and learn from shared knowledge and experiences of the whole. The often uninhibited and without prejudice debate at the ILD-MDM is critical learning for trainee physicians and radiologists. The potential impact of a prolonged closure of the ILD-MDM on the training of junior physicians who may otherwise receive limited exposure to this expertise is therefore not to be underestimated. Since moving

to a virtual MDM, 36 trainee clinicians (including respiratory, radiology and rheumatology) have joined our MDMs, many from outside our institutions. Whilst this seems like a small number, it represents a significant proportion of our country's respiratory trainees. The virtual platform allows easy access to ILD education for trainees in rural and remote locations.

It must be acknowledged that like the face-to-face MDM, the virtual platform is not perfect. It relies on access to a computer or smartphone, and communication technology. It is therefore potentially not suited to resource-poor settings. Similar to other software infrastructure, it is continuously threatened by 'technical issues'. Case presentations in virtual settings should always seek to preserve patient confidentiality. All MDMs are subject to the risk that only the 'loudest voice' is heard. Future studies should look to evaluate the differences in contribution to the ILD-MDM between face-to-face and virtual meetings.<sup>7</sup> We hypothesize that the virtual forum provides for a less intimidating environment allowing for both verbal and written (virtual chat) communication pathways. However, we also recognize that the virtual forum may lead to periods of 'radio silence'. Future research should seek to determine strategies to optimize virtual discussions to improve the outcomes for participants and patients.

The virtual ILD-MDM provides for the prospect of novel clinical and research possibilities. We have been able to readily obtain advice on difficult cases, or where there is no consensus at the local meeting, through the online formation of larger conglomerate virtual MDMs. In addition, the virtual format may allow, for the first time, standardization of the ILD-MDM.

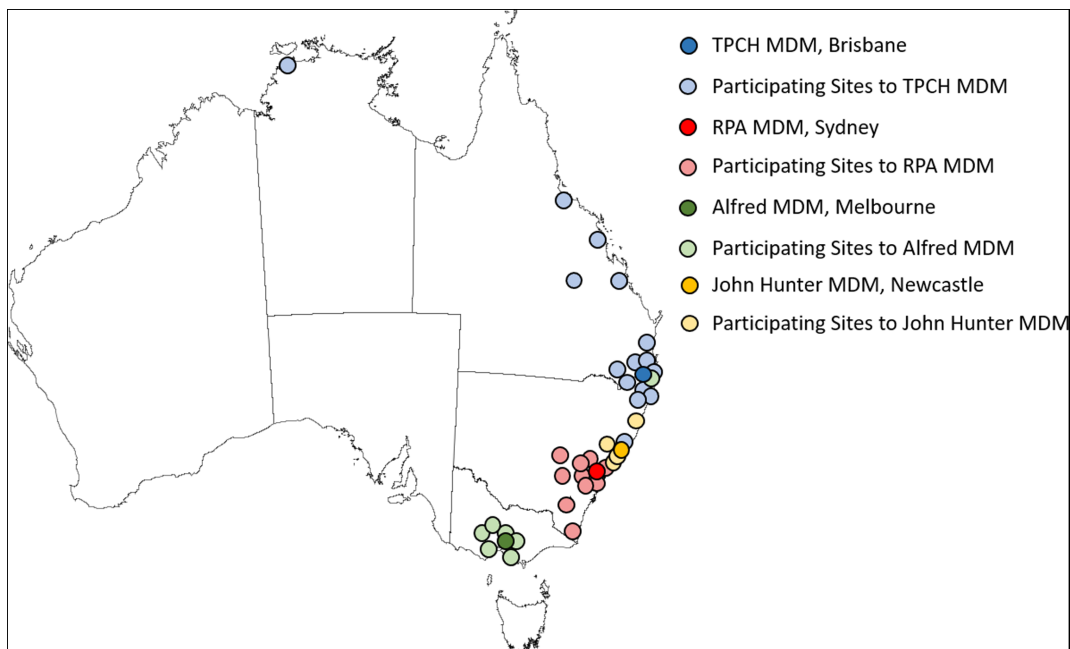
Despite the threat of COVID-19 to ILD medicine, we feel strongly that the ILD-MDM should continue, utilizing a virtual format for the benefit of patient and clinician alike in

these unprecedented times. The lasting impact of COVID-19 will necessitate updates to guidelines and position statements<sup>6</sup> relating to the forum in which ILD-MDMs are held. As is often the case with adversity, it is even possible that we

**TABLE 1** Summary data for the virtual ILD-MDMs combined across the four centres

Summary data		Four ILD centres combined
Total cases discussed	<i>n</i>	456
Number of virtual MDMs	<i>n</i>	72
Median number of cases per MDM	<i>n</i> (IQR)	6 (5–7)
Number of internal cases	<i>n</i> (%)	245 (53.7)
Number of external cases	<i>n</i> (%)	211 (46.3)
Median number of attendees per MDM	<i>n</i> (IQR)	20 (15–22)
Total number of ILD specialist nurses in attendance	<i>n</i>	11
Total number of training doctors in attendance	<i>n</i>	36
Diagnoses		
IPF	<i>n</i> (%)	153 (34.5)
CTD-ILD	<i>n</i> (%)	57 (12.8)
HP	<i>n</i> (%)	39 (8.5)
Idiopathic NSIP	<i>n</i> (%)	13 (2.8)
Unclassifiable	<i>n</i> (%)	74 (16.2)
No ILD	<i>n</i> (%)	16 (3.5)
Other	<i>n</i> (%)	104 (22.8)

Abbreviations: CTD, connective tissue disease; HP, hypersensitivity pneumonitis; ILD, interstitial lung disease; IPF, idiopathic pulmonary fibrosis; IQR, interquartile range; MDM, multidisciplinary meeting; NSIP, non-specific interstitial pneumonia.



**FIGURE 1** Locations of our centralized ILD-MDMs and participating clinicians. ILD, interstitial lung disease; MDM, multidisciplinary meeting

emerge from the pandemic with an improved service providing even more value to patients, clinicians and trainees.

## AUTHOR CONTRIBUTIONS

**Laura Glenn:** Conceptualization; data curation; writing-original draft; writing-review & editing. **Hayley Barnes:** Conceptualization; data curation; writing-original draft; writing-review & editing. **Emily Dunn:** Conceptualization; data curation; writing-original draft; writing-review & editing. **Sandra Bancroft:** Data curation; writing-review & editing. **Taryn Reddy:** Conceptualization; data curation; writing-review & editing. **Alan Teoh:** Data curation; writing-review & editing. **Lauren Troy:** Data curation; writing-review & editing. **Helen Jo:** Data curation; writing-review & editing. **Monika Geis:** Data curation; writing-review & editing. **Ian Glaspole:** Data curation; writing-review & editing. **Christopher Grainge:** Data curation; writing-review & editing. **Tamera Corte:** Conceptualization; data curation; writing-review & editing. **Daniel Chambers:** Conceptualization; data curation; writing-review & editing. **Peter Hopkins:** Conceptualization; data curation; writing-review & editing. **John Mackintosh:** Conceptualization; data curation; formal analysis; writing-original draft; writing-review & editing.

## KEYWORDS




interstitial lung disease, multidisciplinary meeting, pulmonary fibrosis




## CONFLICT OF INTEREST

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## HUMAN ETHICS APPROVAL DECLARATION

This study was granted an exemption from full ethical review by The Prince Charles Hospital Human Research Ethics Committee (Project ID 72843).

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