

About face: regional allied health professional early adaptation during the COVID-19 pandemic

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Abstract. The coronavirus pandemic has led to significant change in allied health practice in Australia. Measures to slow virus spread have included replacing face-to-face services with telehealth services, and hands-on practice with socially distanced intervention. In the present mixed-methods, cross-sectional study, 51 allied health professionals across two public health services in regional Victoria, Australia, completed an online questionnaire with open and closed questions. The aim was to explore their experience in adapting to directed practice change during the first wave of the pandemic. The clinicians reported low levels of clinical satisfaction due to a perceived reduction in service quality and accessibility. Directed use of telehealth significantly contributed to dissatisfaction, with challenges including infrastructure, clinician and patient digital literacy and platform suitability for some patient groups and interventions. In contrast, peer support, timely and accurate communication, decision transparency, recognition and strong leadership from management supported adaptation, as did individuals' flexibility and learning. Our findings highlight the leadership qualities and support strategies conducive to workplace adaptation during a crisis period. They also support calls for further resource development to support skill translation for telehealth platform use and initiatives to increase digital literacy and infrastructure availability in regional Australia.

Keywords: adaptation, allied health occupations, clinical satisfaction, COVID-19, delivery of health care, innovation, organisation, rural health, telehealth.

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Introduction

The coronavirus (COVID-19) pandemic has had an unprecedented effect on healthcare systems across the world. In addition to demand outstripping health service capacity in many countries, measures taken to slow disease spread, including social distancing, isolation and non-essential service shut down, have changed the nature of healthcare service delivery (Bury *et al.* 2020).

Allied health professionals (AHPs) predominantly work face to face with patients, either in close proximity or by providing hands-on input. Social distancing and isolation measures implemented as a result of the COVID-19 pandemic have therefore required AHPs to rapidly adapt to alternative methods of service delivery, such as telehealth, defined here as video conferencing (Coto *et al.* 2020; Taylor *et al.* 2021). Despite often minimal training or experience in telehealth service delivery, AHPs service expectations, including maintaining high safety, ethical and clinical standards, have not changed (Australian Health Practitioner Regulation Agency (AHPRA) and National Boards 2020; Malliaras *et al.* 2021).

In a survey of Australian AHPs using telehealth as a result of the pandemic, Malliaras *et al.* (2021) found that AHPs perceived

telehealth to be less effective than face-to-face care and less valued by patients. Transitioning to new models of clinical care, including telehealth, was also associated with increased stress levels in a survey of American AHPs by Coto *et al.* (2020). To our knowledge, the present is the first study to investigate the broader experience of AHPs in adapting to practice change as a result of COVID-19, including factors supporting change, and is the first specific to regional AHPs.

Research question

The aim of this study was to determine the experiences of AHPs in regional health services in adapting to changes in usual practice imposed in response to the COVID-19 pandemic.

Methods

This was a mixed-methods, cross-sectional, double-centre, exploratory study conducted in regional Victoria, Australia.

This exploratory study presents two healthcare services in regional Victoria, Australia, in which AHPs have demonstrated significant adaptation to practice. The first site (S1) is a major regional public healthcare service in north-east Victoria,

providing both inpatient and outpatient allied health services to a catchment of approximately 90 000 people. The second site (S2) is a registered community health service, servicing a similar catchment but working specifically in the community with those at highest risk of poor health outcomes. Across the two sites, the data were further analysed according to treatment settings defined as inpatient and outpatient.

In both organisations, as a result of the COVID-19 pandemic outpatient face-to-face patient contacts were disallowed, except to prevent hospital admission or to allow hospital discharge. As a result, both organisations recorded a reduction in outpatient face-to-face contacts and an increase in telephone and telehealth contacts (Table 1). At S1, access to therapy space, specialised equipment and inpatient rehabilitation was also reduced and all inpatient groups were stopped.

A questionnaire was developed, informed by the clinical experience of the interdisciplinary research team and using open- and closed-response questions and the visual analogue scale (VAS). The VAS was chosen for its simplicity and familiarity to AHPs in the absence of any validated alternative (VAS scoring: 0 = no satisfaction/impact to 100 = most satisfaction/impact). It was also considered appropriate from its validation in pain, mental health and patient satisfaction contexts, where it demonstrates the ability to capture the essence of multifaceted responses (Brokelman *et al.* 2012; Abend *et al.* 2014; Biraben and Allaf 2015).

Statistical analysis

Data were collected via the secure software program REDCap. Three authors (MC, RO, HH) analysed open responses for themes using the method described by Braun and Clarke (2006). Participant data were deidentified and quotes attributed using a label (e.g. P10, indicating participant number).

For categorical variables, the Chi-squared test for independence (with Yates' continuity correction for a 2×2 table) was used to assess associations between variables. Where the count in a 2×2 table cell was <5 , Fisher's exact probability test is reported. Two-sided $P < 0.05$ was considered statistically significant. Specifically for the inpatient versus outpatient comparison, those working in both settings were excluded. The VAS scores are presented as the mean \pm s.d. All analyses were performed using IBM SPSS 26.

Recruitment

The voluntary self-administered questionnaire with inbuilt consent form, and two reminders, were electronically distributed in May 2020. The survey link was valid for 1 month. All AHPs

employed at S1 or S2 who had a minimum of 3 months experience and were completing a minimum of one 4-h shift per week during the COVID-19 restriction period were invited to participate. Members of the research team and those in full-time redeployment were asked to exclude themselves.

Ethics approval

This research project was approved by the Northeast Health Wangaratta Human Research Ethics Committee (ID LNR 66220).

Results

Demographics

There were 64 responses (from 125 eligible staff; 51%), of which 51 questionnaires (80%) were fully completed and included in the analyses. The participants were well distributed in terms of discipline and years of experience. Thirty participants worked exclusively in outpatient settings, 12 worked exclusively in inpatient settings, and nine worked across both settings (Table 2). Fifty of the 51 participants (98%) reported more than a 25% change in their role/practice due to COVID-19 and 15 participants (29%) estimated a change greater than 75%. The two most common changes were transition from face-to-face contact to telephone/telehealth contact ($n = 42$; 82%) and redeployment ($n = 23$; 45%).

Clinical satisfaction

For the total cohort of 51, mean satisfaction with the service AHPs were able to provide during the research period was 59 ± 21 on the VAS. Forty-nine participants (96%) identified that COVID-19 restrictions directly challenged service delivery and 35 participants (69%), consistent across sites and settings, felt unable to provide their patients with the therapy required to best meet their needs and goals. As stated by one participant:

...not being able to provide face-to-face services changed everything about how we do our job. We had to retrain ourselves and our clients into a new way of working together [P13].

Restrictors identified by those 35 respondents, consistent with the open responses, included alternative service delivery models (ASDM) not being suitable for the treatment needed ($n = 29$; 83%), lack of access to a therapeutic environment ($n = 17$; 49%) and lack of access to therapy space ($n = 16$; 46%). The setting made a significant difference: six of seven (86%) inpatient setting respondents compared with four of 20 (20%) outpatient setting respondents felt restricted by lack of access to

Table 1. Change in outpatient practice during the pandemic at the two sites
Pre-pandemic = 2019; during pandemic = 2020

	S1		S2	
	Pre-pandemic	During pandemic	Pre-pandemic	During pandemic
Mean monthly no. of:				
Face-to-face contacts	4241	301	3345	795
Telehealth contacts	13	103	0	394
Telephone contacts	356	747	32	96

Table 2. Respondent demographics and practice characteristicsData are presented as *n* (%)

	Combined	S1	S2
Total no. respondents	51	34	17
Setting of respondents' practice			
Inpatients	12 (24)	12 (24)	
Outpatients	30 (59)	13 (38)	17 (100)
Inpatient and outpatient	9 (18)	9 (26)	
Discipline			
Physiotherapy	15 (29)	12 (35)	3 (18)
Occupational therapy	11 (22)	6 (18)	5 (29)
Social work	6 (12)	6 (18)	–
Dietetics	6 (12)	3 (9)	3 (18)
Allied health assistant	6 (12)	4 (12)	2 (12)
Speech therapy	5 (10)	2 (6)	3 (18)
Other	2 (4)	–	1 (6)
Experience (years)			
<5	18 (35)	13 (38)	5 (29)
5–10	10 (20)	6 (18)	4 (24)
>10	23 (45)	15 (44)	8 (47)
Compared with standard practice, what percentage of your role/practice was affected by COVID-19 restrictions?			
0–25%	1 (2)	–	1 (6)
26–50%	11 (22)	9 (26)	2 (12)
51–75%	24 (47)	16 (47)	8 (47)
76–100%	15 (29)	9 (26)	6 (35)

therapy space, and six of seven (86%) inpatient setting respondents compared with five of 20 (25%) outpatient setting respondents felt restricted by a lack of access to a therapeutic environment (Table 3).

Telehealth was available to 40 (78%) respondents; of these 40 participants, 37 (93%) actually used this therapy model and 28 (70%) worked exclusively in the outpatient setting. Mean satisfaction with telehealth as a service delivery model was 63 ± 22 on the VAS. Participants reported that 'therapy [via telehealth] didn't feel as organic' (P28), telehealth assessments 'didn't feel as holistic or thorough' (P37), 'telehealth was less personal' (P53) and that telehealth sessions 'lacked the substance they [therapists] would achieve during a face-to-face appointment' (P58).

Other factors that reduced satisfaction with clinical services included fewer collaborative opportunities between AHPs, patients' families and community services when discharging patients, reduced access to patients' normal environments and difficulty maintaining confidentiality. One participant reported:

...confidentiality was majorly impacted with no private space to talk to patients/family as well as an open office space being used as a meeting space with confidential information being discussed [P53].

Factors challenging adaptation

Participants identified numerous factors that directly challenged their adaptation to required practice changes. For example, of the 51 participants, 24 (47%) were unsure of how to deliver their services while complying with COVID-19-related restrictions. In the open responses, non-work but COVID-19-related

stressors, such as forced home schooling and cancellation of recreation activities, were also reported to impact on mental capacity to think creatively and flexibly. However, the most frequently reported challenges to adaptation were related to telehealth. Forty-seven participants answered this question and concerns reported were telehealth not being suitable for the service being delivered ($n = 31$; 66%) and lack of access to a therapeutic environment ($n = 13$; 28%). Here, again the setting made a significant difference: seven of 12 (58%) inpatient setting respondents compared with five of 30 (17%) outpatient setting respondents felt restricted by lack of access to a therapeutic environment, such as a quiet space. In addition, the need to rely on the postal service to provide physical material as an adjunct to telehealth consultations was frequently mentioned as a frustration. Interestingly, despite these concerns, 22 (55%) of the 40 participants for whom telehealth was available planned to continue using it, where they felt it was appropriate.

Thirty-seven (73%) participants reported that patient factors affected their ability to adapt their service, with 28 (76%) of these participants working exclusively in outpatient settings. These patient factors included patient ability to use ASDM ($n = 35$; 95%), with open responses indicating this was due to low digital literacy or cognitive or hearing impairment. Willingness to use ASDM ($n = 29$; 78%) and limited access to ASDM ($n = 28$; 76%) were also factors raised. This was a frustration for participants, with one stating:

... every patient should be prioritised, not just individuals who can cater [for] and understand the use of technology [P2].

Factors facilitating adaptation

Participants reported a mean of 69 ± 17 on the VAS for overall level of support received during the adaptation process. Peer collaboration was the most supportive colleague interaction, with a mean of 80 ± 18 on the VAS (Table 4). When asked about support for adaptation from leadership, all six interaction types assessed were rated highly by the majority of participants. Other factors identified as supporting change included recognition for the challenges being faced ($n = 35$; 69%), opportunities for new skill development ($n = 13$; 25%) and flexibility ($n = 7$; 14%). The open responses further demonstrated that participants were motivated to adapt and derived satisfaction when able to implement new communication and collaboration skills to achieve this. For example, participant comments included 'it's been great to feel more confident with telehealth' (P26) and 'the flexibility of all AHPs has been extraordinary during this pandemic and [they] are to be commended' (P16).

Discussion

This study explored the experience of AHPs working during the first wave of the COVID-19 pandemic in Australia as they transitioned to delivering socially distanced allied health services. Most participants experienced a rapid, significant change to their practice, accompanied by unprecedented challenges to meeting patient needs, which they sought to overcome through personal learning and skill development. Despite this, clinical satisfaction was low in both health services and was closely

Table 3. Experience of adaptation to COVID-19-restricted practice
P-values are from χ^2 test comparisons between outpatient and inpatient responses

	Combined (<i>n</i> = 51)	Outpatient (<i>n</i> = 30)	Inpatient (<i>n</i> = 12)	<i>P</i> -value
Satisfaction with service provision				
Restrictions on your satisfaction as a therapist				
Time – clinical role	16 (31)	12 (40)	3 (25)	0.485
Time – non-clinical role	14 (27)	8 (27)	4 (33)	0.715
Access to therapy space	26 (51)	9 (30)	10 (83)	0.005
Access to therapeutic environment	17 (33)	5 (17)	6 (50)	0.067
Access to resources	14 (27)	5 (17)	6 (50)	0.067
Lack of alternative service delivery model (ASDM)	35 (69)	24 (80)	4 (33)	0.009
Did patient factors limit therapy satisfaction?				
Yes	35 (69)	27 (90)	2 (17)	<0.001
No	16 (31)	3 (10)	10 (83)	
What were the contributing factors from a patient perspective?				
Access to ASDM	<i>n</i> = 35 26 (74)	<i>n</i> = 27 20 (74)	<i>n</i> = 2 2 (100)	0.006
Willingness to use ASDM	26 (74)	21 (78)	0 (0)	<0.001
Ability to use ASDM	31 (89)	24 (89)	1 (50)	<0.001
Were you able to provide best practice therapy to meet patient goals?				
Yes	16 (31)	10 (33)	5 (42)	0.879
No	35 (69)	20 (67)	7 (58)	
What factors restricted best practice therapy?				
Time – clinical	<i>n</i> = 35 8 (23)	<i>n</i> = 20 4 (20)	<i>n</i> = 7 2 (29)	1.000
Time – non-clinical	2 (6)	1 (5)	1 (14)	0.495
Access to therapy space	16 (46)	4 (20)	6 (86)	0.020
Access to therapeutic environment	17 (49)	5 (25)	6 (86)	0.049
Access to resources	19 (54)	11 (55)	5 (71)	1.000
Alternative models not suitable	29 (83)	18 (90)	4 (57)	0.175
Factors challenging adaptation				
Which factors impacted you as a therapist?				
Therapist emotional response	<i>n</i> = 49 13 (26)	<i>n</i> = 30 4 (13)	<i>n</i> = 12 6 (50)	0.020
Patient emotional response	22 (45)	13 (43)	3 (25)	0.316
Confidence with PPE	14 (29)	6 (20)	6 (50)	0.069
Access to PPE	12 (27)	7 (23)	3 (25)	1.000
Access to different service modalities	17 (35)	9 (30)	4 (33)	1.000
Ability to use different service modalities	18 (37)	13 (43)	2 (17)	0.158
Willingness to use different service modalities	4 (8)	2 (7)	1 (8)	1.000
Understanding of restrictions on service	24 (49)	9 (30)	8 (67)	0.040
ASDM not suitable	31 (63)	21 (70)	3 (25)	0.014
Other	9 (18)	3 (10)	5 (42)	0.031
Were there patient factors impacting service delivery?				
Yes	37 (73)	28 (93)	4 (33)	<0.001
No	14 (27)	2 (7)	8 (67)	
What were the contributing factors from a patient perspective?				
Patient access – ASDM	<i>n</i> = 37 28 (76)	<i>n</i> = 28 24 (86)	<i>n</i> = 4 1 (25)	<0.001
Patient ability – ASDM	35 (95)	27 (96)	4 (100)	<0.001
Patient willingness – ASDM	29 (78)	23 (82)	2 (50)	0.001
Other	7 (19)	4 (14)	2 (50)	1.000
Were you able to use telehealth?				
Yes	37 (73)	28 (93)	3 (25)	<0.001
No	3 (6)	2 (7)	0 (0)	
Not implemented	11 (22)	0 (0)	9 (75)	
What were the limiting factors to optimal use of telehealth?				
Time to set up equipment	<i>n</i> = 47 5 (11)	<i>n</i> = 30 0 (0)	<i>n</i> = 12 4 (33)	0.004
Therapist confidence	9 (19)	6 (20)	2 (17)	1.000
Access to therapeutic environment	13 (28)	5 (17)	7 (58)	0.019
Access to equipment	12 (26)	7 (23)	3 (25)	1.000
Telehealth not suitable	31 (66)	18 (60)	7 (58)	1.000
Patient factors	34 (72)	24 (80)	5 (42)	0.040
Factors supporting adaptation				
What supported you in implementing the change to practice?				
Education	<i>n</i> = 51 32 (63)	<i>n</i> = 30 20 (67)	<i>n</i> = 12 7 (58)	0.879
Equipment	26 (51)	19 (63)	5 (42)	0.349

(Continued)

Table 3. (Continued)

	Combined (<i>n</i> = 51)	Outpatient (<i>n</i> = 30)	Inpatient (<i>n</i> = 12)	<i>P</i> -value
Timely communication	39 (76)	23 (77)	8 (67)	0.699
Organisational transparency	27 (53)	16 (53)	6 (50)	1.000
Recognition for facing challenges	35 (69)	22 (73)	7 (58)	0.460
Interdisciplinary innovation/collaboration	33 (65)	20 (67)	10 (83)	0.483

Table 4. Factors providing support

During the COVID-19 restrictions:	Mean (\pm s.d.) VAS (<i>n</i> = 51)
To what extent did colleagues assist you to feel supported?	
Formal supervision	62 \pm 34
Peer collaboration (e.g. peer scrums)	80 \pm 18
Staff wellbeing groups (e.g. WhatsApp)	51 \pm 25
Formal debriefing/support	62 \pm 31
Peer activities (e.g. team lunches)	53 \pm 28
To what extent did the Leadership Team assist you to feel supported?	
Accurate and timely communication	74 \pm 24
Transparent decision making	69 \pm 26
Leading by example (e.g. modelling good self-care)	73 \pm 21
Empathy	73 \pm 24
Accessibility	70 \pm 25
Approachability	76 \pm 25
Overall, how supported did you feel to provide allied health services?	69 \pm 18

linked to both the perceived quality of the service AHPs could offer and the perceived accessibility of their service.

The perceived quality of service was affected by reduced therapy space and equipment availability and diversity. Challenges with discharge planning also limited satisfaction with service quality in the inpatient setting. These participants reported home and community assessments being disallowed, family input limited to telephone contact and reduced availability of community therapy and service providers due to COVID-19-related closures. Participants also felt that patient mood and motivation often dropped when unable to attend group or face-to-face appointments, and, as a result, the effectiveness and efficiency of therapy declined. Finally, difficulty maintaining confidentiality due to a lack of private spaces also limited satisfaction.

Participants working in outpatient services also felt that the quality of their service was limited by the enforced transition to telehealth appointments. Telehealth assessments were generally considered to be less organic and holistic than face-to-face appointments, and participants commented on the loss of incidental information gained during face-to-face interactions. There were also particular therapies, for example balance programs, that participants felt they could not offer safely via telehealth and other therapies that required equipment not available to patients in their home (e.g. robotics and aquatic

physiotherapy). This affected participants' ability to provide what they perceived to be best practice care and was frequently raised as a frustration, limiting satisfaction with the quality of the service being offered.

Participants' clinical satisfaction was also limited by a perception of low service accessibility as a result of challenges adapting to a telehealth service delivery model. Challenges identified included translating hands-on skills to a hands-free environment and low confidence in telehealth technology. Participants also reported that telehealth adaptation was affected by patients' access to and ability to use the technology. A lack of appropriate equipment, poor Internet connectivity and low digital literacy were frequently raised concerns, and are findings corroborated by *Cottrell et al. (2021)*, The Australian Digital Literacy Index (*Thomas et al. 2020a*) and a recent Royal Australasian College of Physicians Australia members survey (*Royal Australasian College of Physicians 2020*). Several participants also reported that some patients were unwilling to trial telehealth or did not like it, and so disengaged. All these findings are consistent with those in a systematic review of telemedicine implementation by *Scott Kruse et al. (2018)*.

Despite these challenges, adaptation to socially distanced allied health provision did occur, and there were several supports identified as integral to what was achieved. These include the provision of timely and accurate communication, decision transparency and peer support, including encouraging and supporting opportunities for collaboration within health services. These findings mirror research outcomes from *Hodge (2014)*, compiled after the 2009 H1N1 pandemic. Recognition, both within the workplace and from the general public, has also been considered critical to maintaining professional pride and motivation for healthcare workers (*Snelvedt and Bondas 2016*) and was another finding replicated in the present study.

This study also demonstrated that opportunities for formal supervision and debriefing, and consistency between managers, as well as strong management accessibility, approachability and ability to lead by example, could positively contribute to health worker adaptation in a crisis period. These findings are similar to those of a recent broader online survey investigating the role of the workplace in enabling employee flexibility and adaptability to workplace disruption (*T. Podubinski, K. Glenister, E. Kyndt, J. Coutinho and C. Gallagher, unpubl. data.*). The results of the online survey highlighted the benefits of flexible and equitable organisational policies, practices and infrastructure, as well as leadership based on consultation and clear communication (*T. Podubinski, pers. comm., 31 March 2021*).

Although COVID-19 precautions and restrictions are now a routine part of health care, this study captured AHPs' responses

early in the pandemic, at a time of great uncertainty and urgent and unpredictable change. Our findings consequently reflect these early conditions and thus hold particular relevance for future disaster planning.

Future recommendations

Because almost half the participants indicated they would continue to use telehealth, a review of embedment 12 months after easing of restrictions could allow reflection on the place of telehealth in allied health care beyond crisis management. Our findings also add to a body of literature suggesting that further training to translate traditional practice into a hands-free environment would be positively received (Smith *et al.* 2020; Thomas *et al.* 2020b; Cottrell *et al.* 2021). Including discipline-specific challenges within this training is also recommended (Krahe *et al.* 2021).

This research only considered the perceptions of AHPs and so we suggest expanding our findings to consider the perspectives of regional Australian patients. This would assist in determining the specific requirements for maximising their telehealth use, and could positively influence connectivity and efficiency in health care beyond crisis management.

Finally, a key finding of this research was the positive impact strong management could have on worker adaptation in a crisis period. Further investigation of the temperament and skill sets these managers drew upon may assist future training and expectation development for management staff both in preparation for another crisis period and as AHPs transition further into the world of digital health.

Data availability

The data that support this study will be shared upon reasonable request to the corresponding author.

Conflicts of interest

The authors declare no conflicts of interest.

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