

Allied health service delivery in residential aged care and the impact of the coronavirus (COVID-19) pandemic: a survey of the allied health workforce

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ABSTRACT

Objectives. Industry reports suggest that routine and essential care in Australian residential aged care (RAC), including allied health (AH) services, were disrupted during the coronavirus disease 2019 (COVID-19) pandemic. This study aimed to explore whether AH services in RAC were paused during the pandemic, factors associated with a pause in care delivery, and qualitative details on how COVID-19 impacted AH service delivery. **Methods.** A 26-question survey was distributed via social media, health service providers, and AH networks between February and April 2022. Participation was restricted to AH professionals and assistants with experience in RAC during the pandemic. A mix of closed and open-ended response questions was used to collect demographic data and experiences of delivering care during the pandemic. Quantitative responses were analysed with descriptive statistics and a probit model. Content analysis was performed on open-ended questions. **Results.** One hundred and four AH professionals and assistants responded to the survey. Fifty-five percent of participants ($n = 51$) were contractually or casually employed. AH services were negatively impacted by the pandemic with 52% of respondents experiencing a pause in service delivery and 78% reporting poorer AH care quality. In a probit model, contracted/casually employed respondents were more likely to experience a pause in care delivery (1.03, $P < 0.05$) compared to permanently employed AH professionals. **Conclusion.** Insecure work arrangements may have exacerbated inconsistent care during the pandemic (impacting residents) and may have negative implications on the RAC AH workforce. In the future, an AH inclusive workforce policy including data collection and research is required to monitor and plan the RAC workforce.

Keywords: allied health, COVID-19, employment, health workforce, nutritionists, physical therapists, residential facilities, resource-limited settings, speech-language pathology.

Introduction

The coronavirus disease 2019 (COVID-19) pandemic placed significant pressures on health systems globally due to the increased need for medical care and often reduced capacity to care due to sick and isolating staff. Australian residential aged care (RAC) (also called nursing homes) was particularly poorly placed to cope with additional pressures of the pandemic due to chronic under resourcing, poor governance, and strain of caring for a population which is most susceptible to the negative impacts of the virus.¹

Allied health (AH) workers, including speech pathologists, dietitians, podiatrists, and physiotherapists, and assistants are essential multidisciplinary team members in RAC. Previous international research in RAC has demonstrated that higher levels of AH staffing may be associated with fewer falls with injury and improved quality ratings.² AH workers can also support the broader multidisciplinary team in RAC. Some trials in RAC have demonstrated improved caregiver knowledge and improved resident outcomes with AH professional-led education.^{3,4}

In the Australian RAC sector, AH professionals and assistants make up 5% of the RAC workforce.⁵ It is estimated that the AH workforce provides 15 min of care per resident per day (0.25 h per resident per day (HPRD)), the majority of which is provided by lifestyle and leisure staff (0.12 HPRD) and physiotherapists (0.09 HPRD), and less than a minute of care per resident per day (0.01 HPRD) is provided by occupational therapists, podiatrists, and AH assistants.⁶ Australian AH professionals and assistants in RAC frequently have insecure work arrangements; 50% are employed casually or are engaged through short-term contracts.⁵

Submissions to the Australian Royal Commission into Aged Care Quality and Safety indicate that during the pandemic AH services may have paused during RAC facility lockdowns, were slow to resume, and resident outcomes may have been negatively affected.¹ Confirming the impact of COVID-19 on all services in RAC is important for resident care and workforce planning. However, glean any information on AH services in RAC is difficult as AH service data is not routinely collected by providers or governments and the AH workforce is rarely the focus of research in this sector.⁷ In lieu of robust workforce data, this study aimed to survey and explore whether AH services in RAC were paused, factors associated with a pause in care delivery, and qualitative details on how COVID-19 impacted AH service delivery.

Methods

Study design

A mixed methods survey, with closed and open-ended responses, was created on and distributed through REDCap (Research Electronic Data Capture).⁸ The survey included 26 questions about participant demographics, workplace details, COVID-19 impact on care quality, and perceived resident outcomes. Demographic questions asked age (year of birth), gender (female, male, non-binary, prefer not to say), professional group, education, regionality (postcode), and years of experience (numerical).^{9,10} Aged care workplace details collected included facility size (1–30, 31–60, 61–100, 101–180, >180 beds), tasks performed (open ended), employment type (full-time, part-time, contractor, casual), and facility ownership (for-profit, non-profit, government-owned, not sure). COVID-19 related-questions were a mix of open-ended (impact of COVID-19 on AH care quality) and categorical (paused work during COVID-19 period (yes, no), reason for pause (I have changed roles/jobs, organisational restructure, the COVID-19 pandemic, other)) responses.

The items in this survey were designed by drawing upon existing questions, definitions, and categorisations used in surveys distributed by the Australian Bureau of Statistics⁹ (age, gender, location, education), Australian Health Practitioner Regulation Agency (years of experience,

intention to leave the workforce, hours per week worked, setting of hours worked, clinical and non-clinical hours),¹⁰ Australian Department of Health (employment type, AH professional group),^{5,10,11} and the Royal Commission into Aged Care Quality and Safety documents (facility size, facility profit status).¹² As some questions about work patterns and COVID-19 impacts may be considered sensitive by participants, all survey questions were left as optional. The survey was tested on a convenience sample of AH professionals prior to distribution.

Participants

Survey inclusion was limited to AH professionals and assistants, defined as any discipline outside of nursing and medicine who worked in the Australian RAC sector during the pandemic (March 2020–2022). Doctors, nurses, and carers were not eligible to participate in this survey. Internationally, there is no standard definition of allied health¹³ and this method of categorising AH services and workforce is consistent with national data collection methods.⁵

Participants were recruited through aged care organisations, AH contract agencies, AH organisations, and social media advertising through Twitter, LinkedIn, and Facebook. The survey was open between February and April 2022. No incentives were provided for participation.

Procedures and analysis

Variables coded for analysis included location (postcode), education, and employment type. Postcode was coded into two new variables, Australian state (NSW, Vic., ACT, Qld, NT, WA, SA, Tas.) and rurality (major city, inner regional, outer regional, remote), using the Australian Statistical Geography Standard.¹⁴ The new Australian state and rurality variables were further reduced to binary categories: NSW or Vic./rest of Australia, to reflect the impact of COVID-19 in Australian states in 2020–2021,¹⁵ and metropolitan/regional or remote location, due to low occurrence of rural locations among survey participants. Employment type and education were also reduced into two (secure (permanent)/insecure employment (casual, contract, term-based employment)) and three categories (high school/TAFE qualification, graduate, and post graduate education), respectively.

The binary categorisation of employment (secure/insecure) follows categories used to explain the ‘workforce on demand’ phenomenon in many industries including RAC. Insecure work arrangements typically include casual or short-term contracts with professionals or contracts with agencies who provide professionals. These arrangements can be terminated or scaled at short notice. This flexibility keeps operating costs low.¹⁶ Approximately 50% of the AH workforce is insecurely employed.⁵

Quantitative responses were analysed using SPSS version 26.¹⁷ All variables were analysed using descriptive statistics.

As questions were optional all percentages presented use the number of valid responses as the denominator. In addition, generalised linear models were used to evaluate the association between pausing AH care delivery and employment and location factors. The dependent variable was a pause in AH service delivery (yes/no). Independent variables included work at more than one facility (yes/no), employment type (secure/insecure employment), regionality (metropolitan/regional), and Australian state (NSW or Vic./rest of Australia). There was no collinearity between variables. Analyses were not adjusted for participant characteristics (e.g. age and gender) as there were no statistical differences between these groups. In model selection, a probit link function yielded improved model fit over binary logistic regression, and the addition of other facility characteristics, such as facility size or AH profession group, did not improve model performance. All *P*-values were two-tailed, and a value less than 0.05 was considered statistically significant. Missing cases were excluded from the analysis.

Open-ended responses were analysed to provide further details regarding service delivery patterns during COVID-19 and their impact on residents. Responses were coded using manifest content analysis¹⁸ to create latent themes in Nvivo 20.¹⁹ First, inductive coding was conducted to identify key phrases and words in each response, the codes were then re-contextualised in relation to the survey question, next responses were re-coded into themes to describe key categories to answer the survey question, lastly, these themes were compiled and written up.¹⁸ A process map was developed to visualise the themes. Coding was undertaken by one author. Coding and themes and their visualisations were reviewed by the research team and revised to achieve agreement within the research team.

Qualitative and quantitative results were reviewed using a concurrent triangulation design. Qualitative and quantitative data were collected at the same time, analysed, and presented separately, and results were then used to draw greater understanding at the interpretation phase.²⁰

Ethics

Ethics approval was granted by Macquarie University Medicine and Health Sciences Human Research Ethics Subcommittee (ID: 10995).

Results

Participants

One hundred and thirty-two people started the online survey. Twenty-eight responses were excluded from the final sample as they were completed by people who did not meet the inclusion criteria (*n* = 4) or respondents who did not complete questions beyond the inclusion criteria (*n* = 24). Responses from 104 AH workers were included in the analysis.

Table 1. Participant demographics.

Variables (denominator ^A)	<i>n</i> (percentage)
Gender (<i>N</i> = 104)	
Female	96 (92.3%)
Male	8 (7.8%)
Age (years) (<i>N</i> = 98)	43.9 (32.0–54.8) ^B
Professional group (<i>N</i> = 103)	
Dietitian	24 (23.3%)
Speech pathologist	22 (21.4%)
Physiotherapist	15 (14.6%)
Diversional therapist	12 (11.7%)
Occupational therapist	9 (8.7%)
Other	6 (5.8%)
Allied health assistant	5 (4.9%)
Music therapist	3 (2.9%)
Podiatrist	3 (2.9%)
Social worker	3 (2.9%)
Psychologist	1 (1.0%)
Years' experience (<i>N</i> = 99)	10 (4.8–20.5) ^B
Years' experience in aged care (<i>N</i> = 99)	7 (3.0–14.5) ^B
Education (<i>N</i> = 104)	
High school/TAFE qualification	17 (16.3%)
Graduate degree	39 (37.5%)
Post-graduate degree	48 (46.2%)
Currently working in RAC (<i>N</i> = 104)	90 (86.5%)
Worked in more than one facility (<i>N</i> = 89)	52 (58.4%)
Part-time employment (<i>N</i> = 83)	52 (63.0%)
Hours per day spent performing activities in RAC ^B (<i>N</i> = 83)	
One-to-one therapy	3 (2.0–5.0)
Non face-to-face activity (e.g. documentation)	2 (1.5–3.5)
Employment arrangement at facility (<i>N</i> = 93)	
Ongoing permanent employee	51 (54.8%)
Contractor	38 (40.9%)
Non-ongoing – employed for specific task or term	1 (1.1%)
Casual	3 (3.2%)
Years worked at current facility ^B (<i>N</i> = 88)	3.3 (1.4–7.0)

^ANumber of valid responses for each variable.

^BMedian (IQR).

Respondents had a median age of 44 years, 7 years of experience working in RAC, and were mostly female (Table 1). Forty-six percent (*n* = 48) of respondents had completed post-graduate education. Respondents represented a

diverse set of AH disciplines; over 50% identified as a dietitian (23%), speech pathologist (21%), or a physiotherapist (14%). Respondents who identified as 'other' classified themselves as lifestyle assistants, managers, specialist social professionals, and a dental practitioner.

Fifty-two respondents (59%) worked in more than one facility. Respondents frequently worked part-time ($n = 52$, 63%) and approximately half were insecurely employed (employed casually or on a contract) ($n = 51$, 55%).

Impact of COVID-19 on quantities of AH delivered in RAC

Half of the respondents reported that they stopped delivering AH at some point during the pandemic ($n = 45$, 52%) (Table 2). An enforced pause on AH services ($n = 40$, 89%) was the most common cause of care delivery pauses during the pandemic.

A probit regression model was performed to further explore variables associated with a pause in AH service delivery. The probit model was significant with $X^2(3) 23.27$, $P < 0.01$, and explained 42% of the variance (Nagelkerke R^2) ($n = 63$). Insecure employment was the only significant variable; participants who were employed casually or through contracts were 1.8 times more likely to experience a pause compared to their permanently employed counterparts (Table 3). Variables of interest included insecure work arrangements, working across multiple facilities, working in NSW or Vic., and regionality, as participants with these features may have experienced more COVID-19 restrictions and difficulty delivering care.¹ The effects of regionality or residing in NSW or Vic. (in this case a proxy for the localities with

high COVID-19 infections and the most restrictions), compared to other geographical areas, were not significant (Table 3).

Impact of COVID-19

Most participants ($n = 70$, 78%) believed that the pandemic impacted AH care quality. Sixty-four respondents provided open-ended responses to 'How did COVID-19 impact the quality of care you provided to residents?'. COVID-19 restrictions, such as social distancing, single site working arrangements, and personal protective equipment, had wide ranging impacts on AH service delivery including reduced group activities, restricted community access and volunteer support, hindered communication with hearing and cognitively impaired residents, and limited time and capacity to provide AH care across residents individually and multiple facilities. COVID-19 also had secondary impacts on AH practice. Nursing staff shortages caused relocation of the AH workforce away from AH care, there was an increase in non-clinical duties, and workarounds such as telehealth were believed to be inappropriate for AH care and the aged population. The sum of the impact on practice was that some AH was missed or delayed and important aspects of care delivery, such as rapport with residents and information exchanges with staff, residents, and carers, were poorer.

Eleven (12%) respondents provided in free-text response reasons as to why they believed that their care quality was not impacted by the COVID-19 pandemic, which included that they felt that they could still do their work effectively, while others believed that they or their facility were prepared and had good coping strategies.

Table 2. COVID-19 impact.

	Count (percentage)	N ^A
Stopped delivering care at some point during the pandemic	45 (52.3%)	86
Reasons for allied health service pause ^B		45
I was worried about transmitting COVID-19	1 (2.2%)	
Allied health services were paused at my RAC facility	40 (88.9%)	
I was not able to work at more than one facility	10 (22.2%)	
Other reason	12 (26.7%)	

^AN = number of valid responses for each variable.

^BRespondents were able to select more than one response.

Table 3. Marginal effects for probability of participants experiencing a pause in allied health service delivery during COVID-19.

Working situation of respondent	Estimate (s.e.)	P-value	95% CI
Working in multiple health facilities (ref: One facility)	0.83 (0.50)	0.10	-0.15, 1.81
Insecure employment (ref: Permanently employed)	1.03 (0.45)	0.02	0.14, 1.92
Rural/remote (ref: Metropolitan)	-0.15 (0.39)	0.70	-0.92, 0.62
Work in NSW/Vic. (ref: All other Australian states)	0.31 (0.76)	0.68	-1.17, 1.80

s.e., standard error.

Discussion

This survey found that the COVID-19 pandemic greatly impacted AH service delivery, in particular service quantity, as 52% of the AH workforce paused care delivery during the pandemic, and care quality, as 78% believed care quality was poorer during the pandemic. AH workers with insecure work arrangements were more likely to experience a pause in service delivery during COVID-19 lockdowns than those who were permanently employed.

Maintaining care quality is essential irrespective of a pandemic. However, the reduction in care quality reported by our participants during the pandemic is consistent with evidence from the community and acute care sectors internationally.²¹ Our participants believed that causes of perceived poor-quality AH care in RAC were multifactorial and driven by disrupted care delivery across all professions in RAC (e.g. nursing, AH, and medical workers). Australia's policy response to COVID-19 in RAC was piecemeal and reactive and, as seen in this survey, other interviews, and industry reports,^{1,22} the confusion may have caused AH services to temporarily pause. The AH workforce is an essential service group that supports high quality care in RAC. To improve RAC system resilience in future crises it is important that the sector policies prioritise care quality and recognise the role that continuity of care by all workers plays in supporting care quality.

Our results also contribute to research that suggests that the employment arrangements of the AH workforce have implications for the health worker, resident, and health system. AH workers are the most contracted workforce in the RAC sector.⁵ Pre-pandemic, these work arrangements in the AH workforce were anecdotally believed to be a driver of poor-quality care limiting ongoing professional–client relationships, multidisciplinary teamwork, and familiarity with each facility and its processes.¹² Yet despite these reports little research has been conducted to explore the impact of insecure AH work arrangements on health service delivery, resident outcomes and experiences, and health worker experiences. Additionally, the proportion of AH workers being contracted in RAC has continued to grow.⁵ Our quantitative results contribute new information in this evidence gap. In lieu of more robust data, the results suggest that insecure work arrangements could have facilitated the rapid dismissal or reallocation of AH positions during the pandemic. The results of this study are consistent with findings from AH services in community settings which often saw a significant decrease²³ in health service utilisation and a reported associated increase in job loss and personal financial stress^{24–26} particularly in AH workers who were self-employed or contracted.²⁴

Improved data collection on AH workers in RAC is an important future step for decision makers. Routine data collection on factors such as quantity and type of AH service – which are in place for nursing hours but not AH²⁷ – and

AH employment arrangements could be used to monitor the sector to support planning in crises and monitor employment arrangements to support high quality service delivery, workforce sustainability, resident outcomes, and AH worker experience.

The results of this survey are important. To our knowledge they are the first to explore testimony heard in Australia's recent Royal Commission into Aged Care Quality and Safety and industry reports that AH was paused during RAC.¹ However, the research has some significant limitations that may have introduced bias. First, this survey sample is small (104 recruited from a workforce of 13 596)⁵ and is not representative of the AH workforce in RAC. AH assistants and physiotherapists were notably underrepresented despite extensive recruitment efforts, while other disciplines such as dietitians are overrepresented. While this may have confounded some results, the regression model performance did not improve when considering workforce groupings. The sample size was further affected by a number of missing responses to survey questions. Second, the survey instrument is unvalidated. However no relevant validated tools exist for this population.

Conclusion

Our study highlights that the AH workforce did experience pauses in care delivery during the pandemic, and that this may have been exacerbated by Australia's 'on demand' AH employment arrangements in RAC. These pauses in care delivery, along with a perceived decrease in care quality by AH workers, may have impacted resident outcomes and the AH workforce. Policy action, to improve RAC workforce data collection and reporting, is required to support workforce planning and consistent service delivery in the future.

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Data availability. The data that support this study, including survey questions, appendices, and data, will be shared upon reasonable request to the corresponding author.

Conflicts of interest. The authors declare that they have no conflicts of interest.

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