

SHORT REPORT

Evaluation of an assessment model to reduce waitlist times for occupational therapy in a rural community health setting

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Abstract

Objective: Community occupational therapy services have seen an increase in demand over the last three years, resulting in longer waitlist times for service provision, particularly in rural areas where it is difficult to recruit experienced occupational therapists. Utilising a demand management model, the Basic Assessment Model Pre-Screening Tool was developed by a team of Occupational Therapists and allied health assistants to decrease client waitlist times at one rural community health service.

Design: An evaluation of the implementation of an assessment model with comparison of quantitative data pre and post intervention.

Setting: Rural Community Health Service in Victoria, Australia

Participants: 456 clients that were registered as community-based clients requiring occupational therapy services.

Main Outcome measure: Following the implementation of the newly developed Basic Assessment Model the number of occupational therapy assessments increased and there was a decrease in the median wait time that clients were on the waitlist in comparison to pre implementation.

Results: There was a statistically significant decrease ($p < 0.001$) in the median number of days spent on the waitlist for the post intervention group (80 days) compared to the pre intervention group (105 days).

Conclusion: The results of this study suggest that waiting lists for community occupational therapy services can be reduced by implementing this basic assessment model ultimately improving the health outcomes of clients.

KEYWORDS

allied health personnel, health workforce, occupational therapy, quantitative research, rural health services, wait-list times

1 | INTRODUCTION

Occupational therapists (OTs) play a vital role in maximising independent living and the quality of life of individuals with chronic health conditions by prescribing optimal sets of assisted living technology and modifying the environment.¹ Allied health assistants (AHAs) are employed to support and assist OTs in the delivery of non-complex client care and administrative tasks in most health care services in Australia.² A combination of an ageing population and increased prevalence of chronic disease, particularly in rural areas of Australia, has increased the demand for community-based OT services.^{3,4} This increased service demand has resulted in longer waitlist times for service provision for individuals in the community.

There is growing pressure being placed on health care services to review their processes in improving their overall efficiency and to reduce waitlist times for clients.⁴ There have been various waiting time management strategies developed over the years to tackle the issue of delayed access to health care services. One common strategy recognised in the literature involves the prioritisation of referrals.⁵ The downside of using this strategy is that low-priority clients can end up waiting longer, putting them at a high risk for adverse outcomes.^{6,7} To address this, Raymond

What is already known on this subject?

- The increasing aging population and prevalence of chronic illnesses in Australia has seen an increased demand for occupational therapy services in the last five years
- Longer wait times for occupational therapy services can lead to poorer health outcomes
- It is often difficult to recruit experienced Occupational Therapists to work in rural/regional areas of Australia

What does this study add?

- Using an assessment model that effectively utilises the skills of an Allied Health Assistant to pre-screen clients can decrease the time Occupational Therapists need to spend with each client in their home environment
- The Basic Assessment Model can be used by occupational therapy services to decrease client waitlist times and increase the number of clients assessed each day

TABLE 1 Basic assessment model—inclusion/exclusion criteria

Basic assessment model—inclusion/exclusion criteria

Inclusion

- Minor modifications (rails, platform steps, one step ramps) or work that can be completed by local council
- Basic equipment (bed pole, over toilet frame, shower stool, ADL equipment)
- Home safety assessment or for future planning
- Linked in with other community organisations and not requiring occupational therapist to complete further community-based referrals (eg MOW, personal alarm, Home Help)

Exclusion

- Multiple co-morbidities (eg dementia, progressive neurological conditions, ABI)
- Referred to more than 2 services (requires MDT assessment)
- Referral states that assistance is required in more than 3 areas of the home
- Major modifications and complex equipment (scooters, wheelchairs, electric lift and recline chairs)
- Complex social situation (eg high levels of carer stress)
- Clients who have ESL and might have difficulty communicating with allied health assistant over the phone for screening assessment

Abbreviations: ABI, acute brain injury; ADL, activities of daily living; ESL, English as a second language; MDT, multi-disciplinary team; MOW, meals on wheels.

et al⁷ recommended that facilities should implement new ways of organising services to ensure that low-priority clients are not continually pushed down the waiting list. In one rural community health care service, OTs developed the basic assessment model (BAM) pre-screening tool to try and decrease waitlist times of their clients. The BAM was designed to increase the use of AHAs and reduce the workload on OTs.

1.1 | Setting/Context

There is a team of 4 OTs and one AHA that work at this community health care service in rural Victoria. The local government area (LGA) of this community health care service covers an area of 1426 km, with OTs having to travel up 45 minutes, each way, to visit a client in some instances.

1.2 | The Model

The team of OTs and AHA reviewed previous visits to clients to work out which visits would take substantially less time to complete and required minimal follow-up. The evidence collected from this audit helped the team

TABLE 2 Summary of the overall statistics of waitlist times in days, pre- and post-basic assessment model (BAM)

	N	Mean	SD	Min	Median	Max	95% confidence interval
Pre-BAM	285	103.53	58.63	2	105	244	94.68, 112.38
Post-BAM	171	81.26	53.66	0	80	246	75.01, 87.52

develop an inclusion/exclusion criterion for their model by identifying commonalities in visits and interventions and understanding where basic OT interventions were anticipated. In the BAM, an OT contacts all new referrals at an intake level, and determines their suitability for OT services, as per the BAM inclusion/exclusion criteria (Table 1). The AHA then contacts the clients by phone using the BAM screening tool (Appendix S1) to prioritise eligible clients.

The questions on this screening tool were developed by the OTs at this health care centre to identify what potential equipment might be required to address any anticipated occupational performance issues, and whether liaison is likely to be required with external agencies regarding homeownership and approval for home modifications. The questions in this tool have been refined over time by the OT team to increase reliability of this tool. The AHA uses the BAM screening tool to collect initial background information and to identify any basic equipment that the client might require, and this equipment is then taken with the OT to potentially eliminate the need for more visits.

During OT home visits, the assessments are targeted towards addressing the occupational performance issue as the background information has already been gathered through the comprehensive assessment summary provided in the referral, and through the BAM screening tool. If the home modifications are rudimentary, basic diagrams are drawn up and sighted and signed by the client (for written approval purposes), during the visit. This avoids having the OT return to the office to draw the diagrams, and then return them to the client to approve and sign, ensuring timely interventions/modifications are made. This model enables OTs to schedule more client appointments each day, as less time is spent with each client, with the aim of reducing the length of time clients are on the waiting list.

This evaluation aimed to explore whether the introduction and use of BAM decreased waitlist times at one rural community health care service in Victoria. Specifically, it aimed to answer the following 2 questions:

- Does BAM reduce time clients spend on the waitlist?
- Does BAM increase the number of client assessments each month?

2 | METHODS

A quantitative comparative study of all non-paediatric clients requiring OT services, pre- and post-implementation of BAM within a rural community health care service in Victoria, was undertaken. The BAM screening tool was designed specifically for adult clients, so paediatric clients were excluded from this study. The BAM was introduced in March 2018, with pre- and post-data collected for the same 8-month period (1 July to 28 February), either side of a 4-month period of implementation, to minimise the effects of seasonal variation. Given this implementation period, the pre- and post-intervention data represent independent groups of clients, rather than a pairwise comparison.

2.1 | Data collection

Researchers accessed the client reporting database system called The Care Manager (TCM) and obtained data of all clients accessing the generalist adult OT service during the research time frame. As these data could only be accessed at the community health care service, data were extracted, de-identified and entered directly into an Excel spreadsheet by five members of the research team. Data retrieved from this system included date of admission and length of wait time (from date of admission to date of OT home assessment), as well as demographic data, which included sex, age, housing type and location of residence. Data were cleaned, with duplicates removed and any missed data rechecked against TCM database prior to being entered into IBM SPSS version 25 (IBM Corp) for statistical analysis.

2.2 | Data analysis

Numerical count data were analysed using non-parametric tests including independent-samples Mann-Whitney *U* tests for comparing pre- and post-intervention assessments and pre- and post-waitlist times, and Kruskal-Wallis tests for comparing client's demographics.

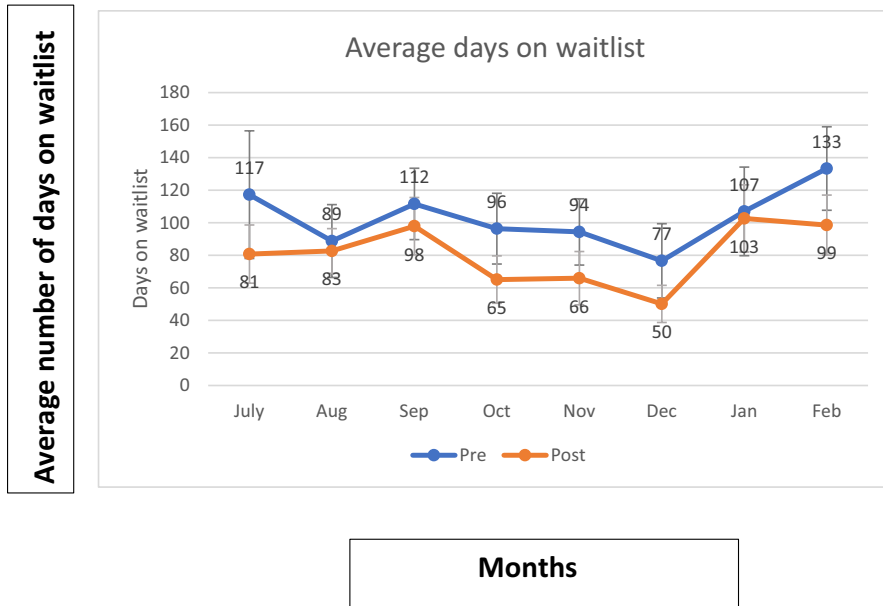


FIGURE 1 Comparison of the average waitlist times before and after implementation of the basic assessment model (BAM)

Pre-BAM	Mean	SD	Post-BAM	Mean	SD
July 17	117.29	73.39	July 18	69.55	12.73
August 17	88.78	58.15	August 18	83.09	39.88
September 17	111.58	53.73	September 18	98.8	58.41
October 17	96.39	46.11	October 18	75.35	52.90
November 17	94.38	49.89	November 18	62.41	49.69
December 17	76.61	48.37	December 18	58.28	57.27
January 18	107	60.88	January 19	91.94	59.80

TABLE 3 Summary of the average monthly statistics of waitlist times in days, pre- and post-basic assessment model (BAM)

2.3 | Ethics approval

Ethical approval for the study was granted by a University Human Research Ethical Committee. Data collection commenced in November 2018 and was de-identified before analysis (project number 17885).

3 | RESULTS

3.1 | Sample and demographics

A total of 456 clients were registered during the pre- and post-implementation period, 171 clients pre- and 285 clients post-implementation. The majority of clients were female (61%), and 74% of the sample lived in their own home. Table 2 provides summary of the statistics for the waitlist times in the pre- and post-intervention periods.

When comparing the median number of days on the waitlist for clients pre (total waitlist days = 854, median = 105 days)- and post (total waitlist days = 647, median = 80 days)-intervention, there was a significant decrease ($P < .001$) in the number of days clients were

waiting for OT services. Figure 1 illustrates the average waitlist times by month pre- and post-intervention, and Table 3 provides the summary of statistics for the waitlist times for each month pre- and post-intervention.

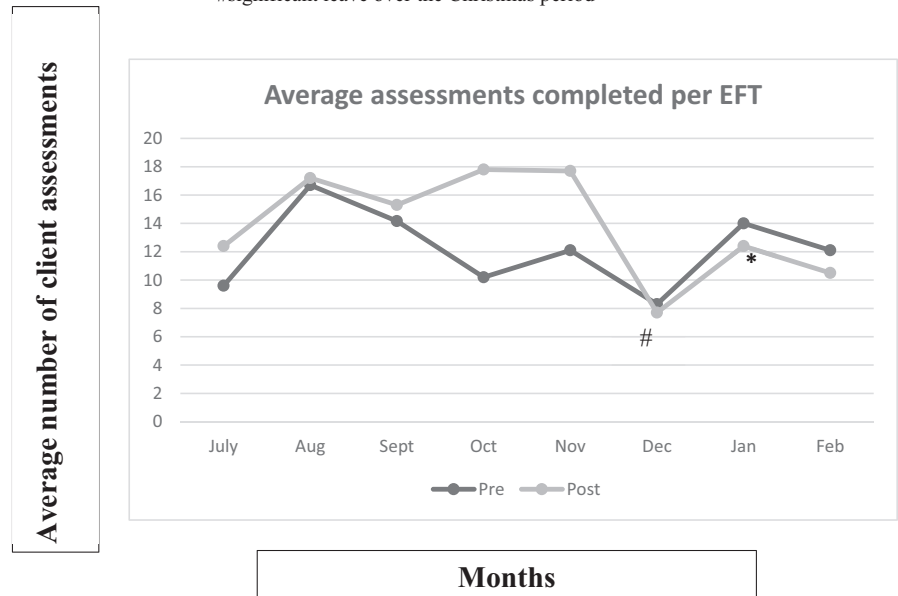
There were no statistically significant differences noted in waitlist times when other variables were compared pre- and post-intervention (housing, $P = .681$; township, $P = .456$).

When comparing the average number of OT assessments undertaken per staff equivalent full time (EFT) during pre (12.1 per EFT)- and post (13.9 per EFT)-8-month study periods, there was an overall increase in the number of assessments undertaken in the post-intervention period (total assessment = 97 pre- and 111 post-assessments) although this was not a statistically significant difference ($P = .234$). Figure 2 illustrates the breakdown of OT assessments per EFT pre- and post-intervention.

4 | DISCUSSION

The results of this study show that using a BAM can decrease the number of days clients are waiting for OT

FIGURE 2 Comparison of occupational therapist assessments completed per staff equivalent full time (EFT) during pre- and post-implementation time periods. *Training of 2 new Graduate Occupational Therapists. #Significant leave over the Christmas period



services. This research demonstrated that, on average, more clients were seen daily due to the screening process initiated during the client admission booking. Looking at the data more closely in the post-intervention period (Figure 2), the numbers of assessments undertaken per EFT were higher for the first 5 months than for the pre-intervention period and there were less assessments undertaken in December for both intervention periods. This decrease in assessments during this time was related to leave taken by OTs and AHA. The other point of interest in the post-intervention data set is that assessment numbers in January and February 2019 are lower than the prefigures 12 months prior. At this time, staffing changes resulted in a loss of 2 experienced OT EFT and gain of 2 new graduate OT EFT, with a period of time needed for recruitment and orientation at this organisation. Some or all of these factors might explain the lower figures at this time despite using BAM. It is anticipated that assessment numbers will increase again when the 2 graduate OTs are working at full capacity in the team.

A viable solution to effectively reduce waitlist times would be to balance supply and demand by increasing the number of OTs in an organisation. Though this might seem an ideal solution and might be achievable in some circumstances, it is not always practical in a resource-limited environment.⁸ One major barrier recognised at this rural community health care service was the difficulty in employing OTs, which led to recruitment delays. This was reflective in the Victorian Allied Health Workforce Research Program, occupational therapy Workforce Report, which highlighted that recruiting experienced OTs was difficult and there were a lower

number of graduate applications in regional areas than in metropolitan areas.⁹ This report also noted there was a low proportion of OTs located in this Victorian rural area with only 2.9 therapists per 1000 people.⁹ This is a well-recognised fact in Australia with a persistent maldistribution of allied health workforce in rural and remote communities, highlighting a disparity for people accessing these services.¹⁰ Until there is a resolution to this issue, OTs need to address the long waitlist times in rural community areas with innovative strategies. The BAM is one strategy specifically designed for OTs to see more clients on a day-to-day basis and efficiently use the skills of AHAs to reduce delays and improve health outcomes.

4.1 | Limitations

This study was undertaken at one rural community health care service, while results have inferences that are likely to be useful to other community health care services, local contexts might differ.

5 | CONCLUSIONS

In summary, the results of this study suggest that waiting lists for community OT services can be reduced and the number of assessments undertaken daily by OTs can be increased by implementing a demand management model. A BAM was developed and employed at one rural community health care service and has been sustainable for over 20 months and was achieved at no additional costs.

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CONFLICT OF INTEREST

This research has not been submitted for publication nor has it been published in whole or in part elsewhere. We attest to the fact that all authors listed on the title page have contributed significantly to the work, have read the manuscript, have attested to the validity and legitimacy of the data and its interpretation, and have agreed to its submission to the Australian Journal of Rural Health. The authors declare there is no conflict of interest.

AUTHOR CONTRIBUTIONS

KM: conceptualization; formal analysis; methodology; project administration; writing-original draft. AM: data curation; formal analysis. AD: data curation; formal analysis. EDC: conceptualization; resources; writing-original draft. GM: resources; writing-review & editing. LT: investigation; resources; writing-review & editing.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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