



# Is there an economic case to be made for dementia rehabilitation?: The Interdisciplinary Home-bAsed Reablement Program (I-HARP)

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## Background

- Psychological, neurological, and social impairments caused by dementia limit the person's everyday living and experiences
- Reablement approaches to care maximise the health and wellbeing of older people through engagement in daily, physical, social & community activities.
- Interdisciplinary Home-bAsed Reablement Program (I-HARP) is a model of care integrating evidence-based dementia rehabilitation strategies into a time-limited, home-based, interdisciplinary rehabilitation package.
- A pragmatic RCT of I-HARP showed improved functional independence in people with mild but not moderate dementia. (Jeon et al. 2025)

## Methods

- Design: A multi-centre pragmatic parallel-arm stratified RCT (2018-2022) (ACTRN1261800060246)
- Setting: six community care and hospital-based outreach geriatric services in Sydney, Australia.
- Participants:

- Inclusion criteria - clients from partner aged care providers or patients from two participating Sydney-based hospitals who have mild to moderate dementia; have conversational English; have a carer providing at least 7 hours of care p/w; consent to participation; and agree to be randomised.
- Exclusion criteria - terminal illness with <1 year expected survival; plan to move in <1 year; not been on a stable dose of cholinesterase inhibitor; or have severe dementia.

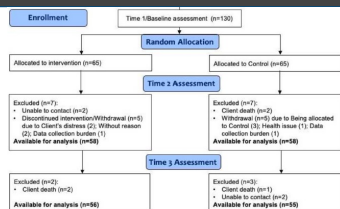
- The economic evaluation:

- the intervention cost (i.e., clinicians' time and expense to deliver I-HARP, travel, care coordination time, costs for minor home modification/assistive devices and training) and
- overall health-related client costs (medications, visits to specialists, GPs, hospitals, residential aged care admission) over the 52-week period.

- A cost-utility analysis combined these cost data with health-related quality of life (EuroQol 5-Dimension 5-Level, EQ-5D-5L), reporting a 'within-trial' result, a cost per quality-adjusted life-year (QALY) of I-HARP relative to control over 52 weeks.

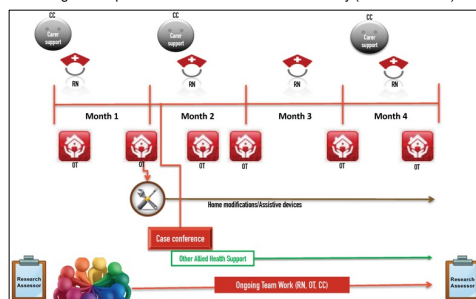
- Non-parametric bootstrapping using RStudio.

## Participants (116 dyads, 89% retention)



## Intervention

Figure 1. A pictorial illustration of the I-HARP delivery (Jeon et al. 2019)



CC: Case Coordinator, OT Occupational Therapist, RN: Registered Nurse.

- Up to 12 home visits of 1.5 hours (5-6 x OT, 3-4 x RN, plus 2-4 optional other allied health support);
- ≤ \$A5000 home maintenance and assistive devices;
- Working in partnership with the carer, with 3 carer support sessions at the beginning, middle and end stage of I-HARP; and
- Interdisciplinary teamwork and coordination of the program facilitated by case conference and fortnightly emails and phone conversations

## Results

- See Table 2
- The total cost of the I-HARP intervention was \$A4311.68 (average/mean cost per person, APP).
- Compared with control, the I-HARP group had
  - \$A2207.28 less overall health-related client costs over 12 months (\$A12,599.94 APP), with further substantially less (\$A7097.98 APP) for people with mild dementia
  - a lower number of days in care home; and a slower rate of decline in quality of life between 4- and 12-months.
- However, due to a high degree of uncertainty around estimates, no clear conclusion could be reached on the I-HARP cost-effectiveness.
- A significant saving, especially for mild dementia (\$A6,827.68 APP) made from delayed/prevented care home entries (See Table 1).

Table 1. Residential Aged Care admission by dementia severity

| Dementia severity                            | Intervention | Control     |
|----------------------------------------------|--------------|-------------|
| <b>Time-1 to Time-2 (4-6 months) (Total)</b> | 5/58 (9%)    | 2/58 (3%)   |
| Mild dementia (GDRS 4)                       | 1/32 (3%)    | 1/34 (3%)   |
| Moderate/severe dementia (GDRS ≥5)           | 4/26 (15%)   | 1/24 (4%)   |
| <b>Time-1 to Time-3 (12 months) (Total)</b>  | 11/58 (19%)  | 11/58 (19%) |
| Mild dementia (GDRS 4)                       | 1/32 (3%)    | 6/34 (18%)  |
| Moderate/severe dementia (GDRS ≥5)           | 10/26 (39%)  | 5/24 (21%)  |

Global Deterioration Rating Scale for Assessment of Primary Degenerative Dementia (GDRS)

## Results

Table 2. Resource use comparison (Jeon et al. 2025)

| Resource type                               | Unit            | Unit cost | I-HARP (intervention) n=58 |             |            | Usual care (control) n=58 |             |            |
|---------------------------------------------|-----------------|-----------|----------------------------|-------------|------------|---------------------------|-------------|------------|
|                                             |                 |           | Usage (n)                  | Cost        | Avg p.p    | Usage (n)                 | Cost        | Avg p.p    |
| Respite                                     | \$ per day      | \$102.54  | 267 (6)                    | \$27378.18  | \$472.04   | 129 (5)                   | \$13277.66  | \$228.06   |
| Specialist                                  | \$ per consult  | \$95.00   | 370 (54)                   | \$35150.00  | \$606.03   | 379 (50)                  | \$36005.00  | \$620.78   |
| General practitioner                        | \$ per consult  | \$80.10   | 734 (57)                   | \$58793.40  | \$1013.68  | 739 (57)                  | \$59193.90  | \$1020.58  |
| Emergency department                        | \$ per transfer | \$561.00  | 26 (15)                    | \$14586.00  | \$251.48   | 32 (18)                   | \$17952.00  | \$309.52   |
| Medication                                  | Total cost      | Var (ind) | Var. (58)                  | \$106466.62 | \$1835.63  | Var. (58)                 | \$85578.36  | \$1492.73  |
| Hospital                                    | \$ per day      | \$930.00  | 176 (16)                   | \$163680.00 | \$2822.07  | 224 (17)                  | \$207855.00 | \$3583.71  |
| Residential aged care home                  | \$ per day      | \$255.10  | 1273 (11)                  | \$324742.30 | \$5599.01  | 1717 (11)                 | \$438006.70 | \$7551.84  |
| Allied Health Service (AHS)                 | Consult         | N/A       | 503 (55)                   | EXC         | EXC        | 555 (48)                  | EXC         | EXC        |
| \$Total costs excluding intervention costs  |                 |           | All                        | \$730796.50 | \$12599.94 | All                       | \$858868.62 | \$14807.22 |
| Intervention costs*                         | \$Total cost    | Var (ind) | All (58)                   | \$250077.29 | \$4311.68  | 0 (0)                     | N/A         | N/A        |
| \$Total costs including intervention costs  |                 |           | All                        | \$980873.79 | \$16911.62 | All                       | \$858868.62 | \$14807.22 |
| Subgroup of clients with mild dementia only |                 |           |                            |             |            |                           |             |            |
|                                             |                 |           | I-HARP (intervention) n=32 |             |            | Usual care (control) n=34 |             |            |
| Respite                                     | \$ per day      | \$102.54  | 42 (1)                     | \$4306.68   | \$134.59   | 85 (4)                    | \$8715.90   | \$256.35   |
| Specialist                                  | \$ per consult  | \$95.00   | 247 (31)                   | \$23465.00  | \$733.28   | 261 (30)                  | \$24795.00  | \$729.27   |
| General practitioner                        | \$ per consult  | \$80.10   | 435 (32)                   | \$34843.50  | \$1088.86  | 491 (34)                  | \$39329.10  | \$1156.74  |
| Emergency department                        | \$ per transfer | \$561.00  | 12 (8)                     | \$6732.00   | \$210.38   | 16 (9)                    | \$8976.00   | \$264      |
| Medication                                  | Total cost      | Var (ind) | Var. (32)                  | \$57560.00  | \$1798.75  | Var. (34)                 | \$55819.66  | \$1641.75  |
| Hospital                                    | \$ per day      | \$930.00  | 90 (7)                     | \$83700     | \$2615.63  | 102.5 (11)                | \$95325.00  | \$2803.68  |
| Residential aged care home                  | \$ per day      | \$255.10  | 32 (1)                     | \$8163.20   | \$255.10   | 944 (6)                   | \$240814.40 | \$7082.78  |
| \$Total costs excluding intervention costs  |                 |           | All (32)                   | \$142937.79 | \$4466.81  | All                       | \$473775.06 | \$13934.57 |
| Intervention costs*                         | \$Total cost    | Var (ind) | All (32)                   | \$142937.79 | \$4466.81  | 0 (0)                     | N/A         | N/A        |
| \$Total costs including intervention costs  |                 |           | All                        | \$361708.17 | \$11303.40 | All                       | \$473775.06 | \$13934.57 |

All costs reported in Australian dollars (\$) indexed to 2022. Costs from a health system perspective are sourced from Medicare MBS (respite, specialist visits, GP visits) as at 2022. Allied health service costs cannot be reliably calculated from collected data and so are EXC from cost analysis. Where multiple service types are listed, the average cost of the list is applied (eg, GP visit short, medium or long, medium visit price is applied). Residential aged care costs from the previous report\* and adjusted to 2018/2019 financial year. Individual client and intervention costs were collected within the trial period. \*Intervention costs include clinician time (RN, OT, CC) (\$2573.57); home modification/assistive device (\$440.85); other AHS Costs (\$54.22); travel (mileage) (\$339.67) and staff training (\$903.36). Avg p.p., average cost of resource per person over the whole trial; CC, case coordinator; EXC, excluded; GP, general practitioner; I-HARP, Interdisciplinary Home-based Reablement Programme; N/A, not available; OT, occupational therapist; RN, registered nurse.

## Conclusions

- I-HARP demonstrated highly promising outcomes, such as reduced overall health-related costs and delayed/prevented care home admission, that could potentially lead to substantial cost savings.
- One of the barriers to universal access to dementia rehabilitation is limited evidence on the cost effectiveness, as commonly required for government subsidised interventions.
- Our detailed economic evaluation provides rich insights into the ways an economic case for dementia rehabilitation can be made beyond cost-effectiveness.

## References

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