



A complex intervention to support 'rest home' care: a pilot study

Shankar Sankaran, Tim Kenealy, Allan Adair, Vivienne Adair, Heather Coster, Noeline Whitehead, Nicolette Sheridan, Matthew Parsons, Elaine Marshall, Leslie Bailey, Catherine Price, Dwayne Crombie, Harry Rea

Abstract

Aims To describe an intervention supporting Aged Related Residential Care (ARRC) and to report an initial evaluation.

Methods The intervention consisted of: medication review by a multidisciplinary team; education programmes for nurses; telephone advice 'hotlines' for nursing and medical staff; Advance Care Planning; and implementing existing community programmes for chronic care management and preventing acute hospital admissions.

Semi-structured interviews were conducted with members of the multidisciplinary team, rest home nurses and caregivers. Quantitative data were collected on medication changes, hotline use, use of education opportunities and admissions to hospital.

Results Medications were reduced by 21%. Staff noted improvements in the physical and mental state of residents. There was no significant reduction in hospital admissions. Nurses were unable to attend the education offered to them, but it was taken up and valued by caregivers. There was minimal uptake of formal acute and chronic care programmes and Advance Care Planning during the intervention. Hotlines were welcomed and used regularly by the nurses, but not the GP.

Conclusions The provision of high status specialist support on site was enthusiastically welcomed by ARRC staff. The interventions continue to evolve due to limited uptake or success of some components in the pilot.

The number of people aged 65 or over, living in Counties Manukau District Health Board (DHB), is expected to increase by 132% from 2006 to 2026.¹ Over the same time, across New Zealand, the number aged 85 or over is expected to treble,² placing significant pressure on future health services.^{3,4} Only 15% of people over 85 in NZ remain independent of support services.^{5,6} Without any other changes, the number of older people in residential care would double by 2021.⁵ The trend is for older service users with higher needs having shorter stays.⁷

Counties Manukau DHB has made a commitment to ensure that older people in ARRC facilities have the same access to geriatric services as those living in their own home. The DHB elderly service had noted considerable variability between rest homes in their catchment area in the number and reasons for hospital admissions. Anecdotally, they were aware that the ARRC system was under duress and it appeared that many nurses and doctors were working in the system with little support. The Health and Disability Commissioner has stated that rest home care has been a disproportionate source of complaints.⁸

The Community Geriatric Service (CGS) is a new initiative to provide a consultative service for general practitioners (GPs) and nurses working in ARRC facilities. The service includes a community geriatrician, two Clinical Nurse Specialists (CNS) and a social worker. A multi-component support strategy was devised following discussions with stakeholders and a survey of relevant literature.⁹⁻¹¹ The strategy included elements that have individually been shown to be successful, but we are not aware of such a combination being used previously either in New Zealand or internationally. One of the large rest homes agreed to support this development and trial the new system.

Methods

The setting—The facility comprised a hospital with 50 residents and a rest home with 46 residents. It is owned by a local subsidiary of a large international organisation which has a focus on aged residential care. The hospital was staffed by a unit coordinator who was a registered nurse, four registered nurses, two enrolled nurses and 28-30 caregivers. The rest home was staffed by a unit coordinator who was an enrolled nurse, another enrolled nurse and 12 caregivers. A nurse manager was responsible for the overall operation of the facility. One GP ('the GP') provided primary care for 90% of the residents. Primary care for the remainder was shared across five GPs.

The intervention—The intervention consisted of five main components delivered in an intensive phase from December 2007 to May 2008, followed by an ongoing maintenance phase. The specialist staff consisted of one geriatrician and one clinical nurse specialist (CNS) who did not consult directly with patients—they worked with the front-line caregivers to discuss, train, mentor and support.

- Medication reviews were conducted for all residents age 85 or more, and for younger residents on 9 or more medications. The review team included the geriatrician, a CNS, the GP, a community pharmacist (who participated by teleconference), the facility clinical manager and the two unit coordinators. During the intensive phase the review was held weekly at the rest home and was led by the geriatrician. Since then meetings have continued monthly and are led by the GP.

The geriatrician and CNS read the residents' medical record prior to the review. At times this review naturally extended beyond medications to include a fuller clinical discussion. Medication changes were based on the Beers criteria.¹⁰ The geriatrician wrote detailed notes following the review, which were faxed to the facility within a week. Changes to medications and progress chart were made by the GP. Facility nurses and caregivers were informed of changes at each shift change. Changes were discussed with the family wherever possible.

- Two telephone 'hotlines' were established. The first provided registered nurses with advice from a CNS, and the second gave GPs direct access to the geriatrician. The hours of service were 0830 to 1530. A template was provided to guide clinical information collection prior to using the hotline. The nursing hotline was not intended to address acute problems—the advice given in such cases was to contact the GP or, if needed, arrange acute admission to hospital.
- Advanced Nursing Support was provided on-site by a CNS. This included review of residents who were complex and the direct care staff required advice. From these reviews, on-site education was provided by the CNS. The nurses were also offered a web and CD course Assessment Treatment and Rehabilitation Advanced Core Training (ATRACT), which was available to all nurses working in the DHB catchment area.¹²
- Both nurses and GPs were encouraged to use a Counties Manukau DHB scheme called Primary Options for Acute Care (POAC) that gives access to additional resources short term if they could keep a patient out of Middlemore Hospital. This scheme funded a CNS to train all the registered nurses in intravenous fluid administration. Nurses and GPs were also encouraged and supported to enrol patients in the DHB Chronic Care Management (CCM) programme. This programme is intended to provide systematic case management free to patients with congestive heart failure, diabetes, chronic obstructive pulmonary disease, cardiovascular disease and depression. It has been largely unavailable to residents in ARRC

facilities as it depends on specific information technologies and is relatively complex and time consuming.

- Nurses and GPs were offered training to initiate and support a formal process of Advance Care Planning (ACP) that was undertaken by a project manager who had a background as a social worker. ACP supports patients and their family/whanau to think ahead to the care and medical treatment one would desire to receive in the future. While not binding on health care providers, a Plan should be taken into account if later treatment decisions are made when the person is not competent to discuss and consent. The process used was adapted from an Australian and United States model.¹³

Data collection-direct observation—Two authors (AA, HC) directly observed the medication reviews and made field notes.

Data collection-interviews—Interview schedules were constructed following a review of the stated programme objectives and discussion with the programme developers, senior managers at the facility and members of the evaluation team.

Two interviews—one before and one after the intensive phase of the intervention—were held with each of the senior management team at the rest home and hospital, the geriatrician, the GP and the pharmacist. Interviews were also held with two CNSs and two DHB elderly services managers; the registered nurses who had been involved in medication reviews and with a convenience sample of enrolled nurses and caregivers at the facility. Interviews before the intensive phase were conducted in November 2007, and subsequent interviews were in June to August 2008. Interviews were conducted at a time and location of the interviewee's choice.

Interviews were recorded and transcribed. Transcripts were sent to interviewees for verification. All transcripts were independently coded for themes by three authors (AA, VA, HC) using a general inductive approach.¹⁴

The original proposal was to interview residents or their families. However, these interviews were not held as senior management of the facility decided that few residents aged over 85 years would be able to remember whether changes in their medication, made several months prior to an interview, had affected their health. It was also considered that the families of the residents would not have sufficient knowledge of the details of the programme to enable valid information to be collected.

Data collection-admissions to hospital and hotlines—Quantitative data were collected on medication changes, hotline use and admissions to hospital. The Community Geriatric Service hold a weekly case conference during which they assess and record the appropriateness of each hospital admission of rest home residents. This is a clinical judgement which may differ from the formal discharge ICD-10 codes used to assess Ambulatory Sensitive Hospitalisation. The hospital database was queried for the time of admission (i.e. week day, night or weekend); if accompanied by a referral note; and length of stay. The geriatrician kept a record of hotline calls and recorded a judgement about whether an admission was avoided by a hotline call.

Ethics—Patients and their families were all given leaflets explaining the project prior to it starting and verbal consent was obtained in all instances from either the patient or their legal representative. Staff and DHB interviewees provided written consent. The research was approved by the Northern Regional Ethics Committee NTY/08/05/043.

Results

Four medication reviews were directly observed. Sessions lasted about one hour and each reviewed about five patients. Twenty two informants contributed 43 interviews.

Medication reviews—Sixty-four residents had their medications reviewed (56 aged over 85 and 8 aged 50–85). Across these residents 84 different medications were being prescribed at the start of the study, a total of 466 medications to the 64 residents, reduced to 366 after the reviews (a reduction of 21%). For 50 residents at least one medication was stopped, and for a further 8 at least one medication was reduced; overall 54 different medications were stopped. Table 1 shows the top ten prescriptions at the start of the intervention and after the medication reviews.

Seventeen residents had at least one medication started, the most common being paracetamol (7), calcium carbonate (3) and cholecalciferol (3).

Table 1. Medications prior to intervention, and those stopped or reduced after review

Top 10 medications prescribed at start of intervention. (Number of residents)	Top 10 individual drugs stopped or reduced. (Number of residents)	Stopped medications that can lower blood pressure and that can impair cognition
Cholecalciferol (44) Calcium carbonate (36) Furosemide (30) Omeprazole (27) Aspirin (29) Metoprolol (17) Ducosate (16) Simvastatin (14) Paracetamol (11) Alendronate (11)	Calcium carbonate (15) Simvastatin (11) Omeprazole (10) Multi-vitamins (7) Metoprolol (6) Furosemide (6) Aspirin (6) Enalapril (5) Paracetamol-codeine (5) Paracetamol-dextropropoxyphene (5)	Lower blood pressure (beta-blockers, calcium blockers, alpha-blockers, ACE inhibitors, diuretics) 32 medications 25 people Impair consciousness (tricyclics, neuroleptics, hypnotics, sodium valproate, codeine, dextropropoxyphene) 17 medications 16 people

Medication delivery time was reduced.

My drug round takes less time. I am not giving out as many meds. It used to take one and a half hours now takes one hour (CG #4)

Reduced delivery time saved resources for the facility; however the pharmacy supplying the facility was concerned that reducing medication would also reduced their revenue.

Medications stopped or reduced could be grouped into those that might lower blood pressure and those that might impair cognition—also shown in Table 1. All staff at the facility reported physical and mental improvements in residents, which they attributed to reduced medication.

Reducing over-medication has reduced the risk of falls. (CG #3)

They used to be sleepy and confused and that doesn't happen so much now. (CG #5)

The nurses and caregivers valued the timely and detailed notes both for individual patient care and more generic education.

Having full notes in the patients files with explanations for medication and care changes mean we can understand the reasons for the change. (CG #5)

One unanticipated change was observed by a senior caregiver.

While we are getting the medications better reviewed, there is also more of a personal interest in the resident. The doctors have moved to talking with the residents rather than talking around them. (CG #3)

However, time and availability of the GP remained an issue.

...there are usually patients that I have admitted to the rest home in the last month and I have not had time to review the case notes before they are presented to me at the case review (GP)

Admission Rates from the facility to Middlemore Hospital—Key informants suggested that, prior to the intervention, some inappropriate or ad hoc admissions to Middlemore Hospital were contributed to by limitations of knowledge, experience and continuity of nursing staff.

Problems arise when the condition of the patient is outside the ability or experience of the nurse. This commonly occurs at nights or weekends where the nursing staff may have less experience or training than the nurses who are on duty during week days. There are a number of nurses who are foreign trained who have less experience. (KI #10)

Managers, nurses and caregivers believed that, as a result of the intervention, residents were less likely to be referred to secondary care.

panic send-offs have stopped (KI #10)

we have probably had less necessity to make emergency calls after hours because the whole programme has made our residents more stable (KI #6)

Actual admission numbers are shown in Table 2. Changes are not statistically significant.

Table 2. Acute admissions to Middlemore hospital during 6 months periods before and during the intervention then during the maintenance phase

Variables	Jun-Nov 07	Dec 07–May 08	Jun 08–Nov 08
Admissions (patients)	34 (26)	25 (21)	33 (29)
Formal referral	1	8	23
Unnecessary admission* (week, afterhours)	1, 3	0, 2	Not assessed
Patient days in hospital; total, median, (inter-quartile range)**	227, 4 (1–9)	181, 3 (1–8)	301, 5 (2–9)

Note: No attempt is made to adjust for seasonal variation.

*Admission judged to be unnecessary by consensus during weekly community geriatric service case conference. Examples include uncomplicated falls.

** t-test before versus during $p = 0.81$; during versus after $p = 0.61$.

Education and training—Weekly in-house education sessions were offered, principally intended for the RNs. However, the sessions were offered at times when the RNs were unable to attend due to other work commitments including the medication reviews. The limited number of RNs meant that it was not generally possible to roster some for clinical duties while releasing others for education sessions.

One of the things that has highlighted for us is that we shouldn't be trying to do the whole thing at the same time at the same place. (KI #9)

Nevertheless, these sessions were highly valued by those who did attend, which was mainly the caregivers. As a result, these care givers felt more valued by the

organisation and said that their behaviour had changed as they had more information and were now aware of the reasons for particular tasks.

Care givers are more aware of necessity to weigh, take blood pressure regularly etc. (KI #3)

The intended individually tailored formal education programmes (ATRACT) for the registered nurses did not materialise. The nurses had neither protected time nor access to a computer during working hours, and did not access it out of working hours.

I have visited the [web] site and it seems very helpful. But it needs time to read it all. (RN #2)

Primary Options for Acute care (POAC)—All registered nurses at the facility were trained by a CNS to administer intravenous therapy, although the training was completed late in the intervention. By September 2008 only one patient had been so treated. In part this may be because cases were relatively infrequent, but also because the necessary decisions were outside the scope of nursing practice and at times they had difficulty getting a doctor to visit after hours.

Chronic Care Management programme (CCM)—The GP provided a dedicated laptop computer and one of his practice nurses commenced enrolling residents into CCM. Early indications are that both rest home staff and patients have found the process educational and likely to improve care.

An action plan is left in the resident's room for family and rest home staff with correct response for chest pains for a patient with heart disease. (KI #11)

Hotlines—The unit coordinators and clinical manager used the hotlines two to three times a week during the intervention and in the following 6 months. They were enthusiastic about the process and wanted the hours extended.

it is good to have that line of advice... Sometimes you are sort of just guessing yourself or trying to do the best you can...whereas you have back-up there now. (KI #7)

None of the RNs used the nurse hotline—they were encouraged to take advice from someone more senior within their facility.

No. I have not got to the point of using it. I always go to a senior. (RN #3)

No. Not me personally. If I have a problem I take it to the senior manager and then it goes to the unit co-ordinator then the clinical manager. (RN #1)

The GP did not use the hotline.

Advance Care Planning (ACP)—All nurses at the facility, but no GPs, received training. During the 6 month intensive intervention, no ACPs were completed. The introduction of ACPs was delayed by the need for a legal review of the documents, which were developed and introduced relatively late in the intervention. By this time implementation was further challenged by outbreaks of illness in the residents and a building project at the hospital.

Staff were concerned that encouraging residents to sign a document regarding future care might undermine their sense of security with the quality of care the staff were providing. The time taken to work with a resident to complete a plan also concerned staff. In addition, senior management suggested that the cognitive level of the residents was too low, a perception that differed from that of the social worker and the specialist geriatrician.

Staff reported that patients were ambivalent, saying that they wished to talk with their family first or wait for a medical review; that they preferred to leave it to their

Enduring Power Attorney (Care and Welfare) (EPA); that they did not want to pursue it currently; and that they felt it was already taken care of through a Resuscitation order.

The attitude of the residents is that they are under the care of the doctors and nurses and they are happy for them to make any relevant decisions for their care. (RN #3)

Overall staff would have preferred the focus of ACP to be with older people in the community who are living independently. They also suggested that the optimal time for discussion of an ACP was near the time of admission, or perhaps as part of a case review.

Personal skills and a spirit of cooperation—The geriatrician and the CNS had earned a great deal of respect through their many years of involvement in the sector.

What was really important to us was having three specialists who care about the elderly and show interest in improving their health. (KI #6)

A number of the facility nursing staff reported that it was more than being offered information and resources but a genuine attempt to empower them through a shared professional relationship through knowledge and understanding.

Workforce pressures—A shortage of registered nurses has been noted. Pay rates are a barrier to both recruitment and retention of experienced nurses.

There need to be changes to pay scales especially for seniority and long service. For example, some people have been here for more than 10 years and not had a pay rise. People will stay longer as it is a good place to work really. (CG #6)

Continuity of care for the residents is important. (RN #2)

Dependence on bureau staff continues to be problematic.

...bureau staff... do not know our patients and sometimes ... they are not always quite as competent. (KI #2)

Similarly, limited GP availability, especially afterhours, remains a problem.

There needs to be a GP available at the weekend. (RN #4)

Not only was it difficult to free nurses to attend education, but it was also difficult to provide CNSs at alternative or flexible times.

Lack of data to monitor progress—It is difficult, in routine practice, to monitor quality of care and therefore difficult also to track the patient-related outcomes from education and system changes.

I can't say that pressure ulcers are reduced, that constipation is reduced, that dehydration is reduced or delirium has been picked up. (RN #3)

Since the initial intervention—The GP has continued to conduct monthly medication reviews at the facility. The medication reviews have continued, without the CNS and the clinical case review, which has been taken up in a separate nursing review lead by the CNS. The ACP programme has continued, but has been taken over by a dedicated programme manager. The formal educational sessions during working hours been stopped in the meantime. Facility managers note that POAC has been used on several occasions to prevent admissions. They also note that at the end of the intervention they employed two new nurses each with their own educational requirements. The geriatrician and CNS have moved on to two other large residential care facilities, with the intention of similarly supporting staff for 6 months using the processes as modified in the first facility.

Discussion

This study is clearly limited by being confined to one, albeit large, residential facility with primary medical care mostly from one GP. All components except perhaps ACP seemed welcomed, however uptake varied, being high for medication review, modest for hotlines, mixed for education and minimal for acute care and chronic care management programmes. The intervention continues to evolve and there appear to be useful lessons for other geriatric services and ARRC facilities in New Zealand. Repeated comments suggested that any successes of the programme were built upon newly developed personal relationships with trusted and respected specialist professional colleagues.

Interventions: medication reviews—The multidisciplinary medication review (including clinical case reviews if considered indicated) resulted in about one-fifth reduction in medication use by those reviewed. The bulk of individual medication changes fitted into a small number of patterns—stopping statin medications in those age 85+; substituting paracetamol for paracetamol-codeine and paracetamol-dextropropoxephene combinations; and increasing osteoporosis prevention. It seems likely that these patterns could be quickly taught and quickly adopted in any ARRC facility. In terms of short-term resident well-being, the most important changes were likely to be those that reduced medications that could lower blood pressure or impair cognition. Adjustment to these medications typically requires careful judgement and clinical follow up.

Chronic care management and primary options for acute care—Despite training and encouraging nurses and the GP to deliver POAC and CCM, these options were little used. POAC can be used to pay for a wide variety of services, but in the opinion of the geriatrician it is unlikely that any of the admissions during the time of the intervention would have been prevented by using POAC.

An ‘elderly review’ module is being developed for the CCM programme, targeted at elderly people living at home or in ARRC facilities. But, if systematic care is needed for elderly in their homes, and ARRC is the home for a particularly disabled group of people, then we suggest that the same process, or equivalent, should be made available to support their care. However, this project warns that it may be difficult to achieve wide uptake of such a module within ARRC; it would require more prolonged training than was given in this instance, and probably needs protected time for nurses.

Advance care planning—Advance directives are most commonly used to give instructions about if or when life-support treatments should be withheld or withdrawn. However, they can be used to express other wishes as well, such as a request for pain management, a preference to die at home if possible, or preferences regarding organ donation. Although most older adults want to die at home,¹⁵ only 25% of all deaths take place there, with nearly 50% occurring in hospitals and another 20% to 25% in nursing homes.¹⁵

While the uptake of ACPs during the time of the intervention was disappointing, and it became clear that there was considerable ambivalence from both staff and patients, nevertheless, by the end of the project the ACP documentation and processes were established. It is clear that more information and discussion is required for staff, patients and their families than was initially anticipated. Ongoing review will

establish uptake and any further revisions to process. The specialist clinicians, the facility managers and the authors remain convinced of the value of achieving ACPs.

One additional difficulty is that currently in New Zealand such a plan can only be made by the elderly person themselves, and about one third of the residents in this facility were not mentally competent to fill out the forms.

This situation contrasts with Australia, where ACPs can be completed on behalf of a resident by the person or agent who holds their Enduring Power Attorney. Even so, one Australian study noted relatively low uptake of ACPs, but claimed that the associated consultation and education produced a culture change in the ARRC facilities and in residents' family members, resulting in fewer hospital admissions among the intervention than the control group.⁹

The residential care contract between DHBs and ARRC providers specifies a three monthly medical review. It may be possible to specify that the ACP be included in this review every three months, or at least yearly—and that families be routinely invited to participate.

Hotline access to specialist advice—The hotline support for nurses was used and highly valued by the senior facility staff, and extended hours are requested. It was seen as a symbol of personal and professional openness bridging professional and organisational boundaries between secondary and primary care. It would seem an easy and low cost option to extend the hours; this seems to offer further opportunities for education, avoiding the occasional admission—and to be seen to support primary care. It is possible that the clinical template to be completed prior to hotline use made it easier and preferable for nurses to ask a more senior colleague rather than use the hotline. The GP did not use the hotline; perhaps it was rendered unnecessary by frequent contact with the geriatrician during medication reviews.

Education—The CNS provided informal education that was welcomed by all. Education sessions found a willing audience with the caregivers, with the unexpected benefit of increasing their understanding of and enthusiasm for their potential contribution to clinical resident care. The inability of the nurses to attend education sessions and undertake the ATRACT programme raises concerns about the daily work pressure on them, and their limited access to computers for education. Initiatives to increase the percentage of nurses and carers with specific training qualifications in aged care need to focus on national portability, on-the-job training, incentives to complete, and availability of time to complete.

Hospital admissions—Hospital admission numbers and total days stay decreased during the intervention but the changes were not statistically significant, nor was the study specifically powered to detect such a change. Any further comment is merely speculative. Changes to medications that could lower blood pressure or impair cognition could potentially reduce—or increase - hospital admission, but we have not direct evidence for this. POAC, CCM, ACP and perhaps hotlines were not used frequently enough to make a clear difference to admissions.

If admission numbers did decrease we could also attribute this—by default - to improvement in caregiver and nursing confidence, education and skills; however, we did not capture sufficient data on this to comment in detail. Furthermore, any rise in

numbers after the intervention may indicate that support and education needs to be more prolonged.

Engaging general practitioners—Engaging GPs remains an ongoing issue with ARRC care, especially after hours. Lack of suitable GP availability is considered to drive at least some admissions to hospital from ARRC facilities. Strategic options might include strengthening secondary care support for ARRC, as in this initiative, and strengthening education and career pathways for ARRC workers including the GPs who work there. Long-term solutions might include paying GPs at market rate afterhours; a salaried, shift-working GP workforce; greater use of nurse practitioners (who will need similar payment arrangements); and telemedicine support from secondary care.

Engaging pharmacists—Pharmacy revenue associated with medication services to ARRC facilities is normally directly related to the number of prescriptions dispensed for that facility. Although pharmacies are entitled to charge packaging and additional fees, in a competitive market these fees are often minimal. This funding arrangement means that, although professionally satisfying, pharmacists do not have any financial incentive to facilitate medication discontinuations. Funding needs to reflect intellectual and professional services, and should not provide a real or apparent disincentive to quality of care.

Funding and workforce—In general, aged care funding has kept pace with inflation over the last 10 years, while costs have increased faster. The four main drivers of costs are labour, increasing audit standards, increasing building and property prices and increasing acuity of the residents. Given that there is a single price paid by DHBs for ARRC it is inevitable that these four factors have resulted in considerable pressure on health care spending with ARRC facilities.

It is interesting that Scotland has chosen to separate funding for ‘hotel or living’ costs (for which state subsidies are means-tested) from ‘personal’ and ‘nursing’ care—which is provided free for people whether in their own home or in ARRC.¹⁶ While this may protect the ‘health’ care funding and encourage more flexibility of contracting to source care from wherever it is needed, there remains an overall issue of the level of funding. Over the last decade or so major additional funding has been applied to mental health, primary care or elective surgery; it must be time for the same attention to be paid to aged care.

As part of planning further investment in aged care, it would be helpful for the Ministry of Health, within its national “ageing in place” strategy, to clarify the respective contribution of initiatives such as this and the place of residential aged care in general so that those working in the field have a clear sense of how services need to develop to meet the coming demographic challenge. Development of the strategy needs to be practical and pragmatic. It should recognise the reality that, as in all OECD countries, the majority of care is now provided by immigrants from “the third world” almost always with low wages compared to the rest of the health sector and with all of the language and cultural barriers to that inevitably come with migrant populations.

Further research—This evolving complex intervention programme needs to be followed for longer, collecting data on costs and resource use. In addition, there is a

need to more directly assess the impact on residents and families both qualitatively by interview and quantitatively with quality of life measures. Establishing more definitively whether hospital admissions are reduced by this initiative is important, including an attempt to establish a causal link between admission numbers and components of this intervention. This should become possible as the intervention is extended to include further ARRC facilities in Counties Manukau DHB.

It also remains unclear whether this intervention should evolve into a more formal comprehensive geriatric assessment (CGA), which is a multidimensional interdisciplinary diagnostic process focused on determining a frail older person's medical, psychological and functional capabilities, in order to develop a coordinated and integrated plan for treatment and long-term follow-up.¹⁷⁻²⁰ When CGA is linked with an overall plan for treatment and follow-up, there is a reduction in risk of both admission and re-admission to hospitals or residential facilities.^{21 22} Further, there is growing evidence that CGA not only improves physical and cognitive functioning, but moreover improves survival rates.¹⁷ The importance of a comprehensive approach to individual needs assessment, in order to fully establish an older person's needs are widely acknowledged.²³

Conclusion

The main thrust of both the programme and the evaluation is best summed up by one of the interviewees.

The hope is that in the long term going to the site to educate and up skill staff will empower them to intervene when the problems are not acute rather than the approach that one person described as "they are just unwell we can't manage them, we will send them into hospital". (KI #6)

Traditionally geriatricians have looked after older people in hospital and in outpatient clinics. The fragile group of older people in ARRC have had little access to specialist geriatric medical and nursing care unless referred to hospital. Geriatrician and CNS led community initiatives which promote inter-disciplinary care and improved knowledge and skills in ARRC facilities are both desirable and appear to produce better outcomes for residents and aged care staff. Our particular model of delivery is not fully effective. However, we think there are enough positive outcomes to continue to further develop our model and we believe that these processes should be piloted in other areas of New Zealand.

Competing interests: None known.

Author information: Shankar Sankaran, Community Geriatrician, Counties Manukau District Health Board, South Auckland; Tim Kenealy, Associate Professor of Integrated Care, Integrated Care Research Group, South Auckland Clinical School, University of Auckland; Allan Adair, Honorary Senior Lecturer, Centre for Medical and Health Sciences Education, Faculty of Medical and Health Sciences, University of Auckland; Vivienne Adair, Honorary Senior Lecturer, Centre for Medical and Health Sciences Education, Faculty of Medical and Health Sciences, University of Auckland; Heather Coster, AC Research Associates, Auckland; Nicolette Sheridan, Senior Lecturer, Integrated Care Research Group, South Auckland Clinical School, University of Auckland; Matthew Parsons, Associate Professor, Integrated Care Research Group, South Auckland Clinical School, University of Auckland; Dwayne Crombie, CEO, Guardian Health Care (Bupa), Auckland; Noeline Whitehead,

Clinical Nurse Director, Age Related Residential Care, Counties Manukau District Health Board, South Auckland; Elaine Marshall, Facility Manager, Erin Park, Guardian Health Care (Bupa), Auckland; Leslie Bailey, Clinical Manager, Erin Park, Guardian Health Care (Bupa), Auckland; Harry Rea, Professor of Integrated Care and Medicine, Integrated Care Research Group, South Auckland Clinical School, University of Auckland

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Correspondence: Associate Professor Tim Kenealy, Integrated Care Research Group, South Auckland Clinical School, Middlemore Hospital, Private Bag 93311, Otahuhu, Auckland 6, New Zealand. Fax +64 9 2760066; email t.kenealy@auckland.ac.nz

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