

This section aims to provide a channel of two-way communication between researchers and practitioners in the expanding field of social, psychological and nursing research in dementia care, including all aspects of nursing and care practice, communication and the environment.

The Research Focus section of the *Australian Journal of Dementia Care* aims to keep readers up to date with the fast expanding field of social, psychological and nursing research in dementia care. By this we mean every aspect of person-to-person communication, nursing and care practice and organisation, and the influence of all aspects of the environment. The aim is to provide a channel of two-way communication between researchers and practitioners, to ensure that research findings influence practice and that practitioners' concerns are fed into the research agenda. We would like to hear from you, specifically with:

- notice of the publication (recent or imminent) of peer reviewed papers with practical relevance to dementia care;
- research reports available for interested readers;
- requests or offers for sharing information and experience in particular fields of interest.

## RedUSing psychotropic medication use

For at least two decades concerns have been raised about inappropriate psychotropic prescribing in Australian residential care homes, due to their modest therapeutic benefits and high risks. **Juanita Westbury** explains how the RedUSE initiative, rolled out nationally from 2014-2016 to more than 12,000 aged care residents in 150 care homes, was able to achieve significant reductions in psychotropic medication use

While working as a locum in a small pharmacy in Adelaide in the late '90s I received a phone call from a local aged care home (ACH). The Director of Nursing (DON) wanted to know if she could order one of the pump packs she had seen us measure out methadone syrup with. She thought it would be a good idea to use one to quickly prepare all the risperidone solution doses they were giving to residents.

This request didn't sit well with me. Apart from the fact that methadone pumps are intended to accurately measure doses up to 0.1ml – not to pump out multiple quantities, I couldn't help but wonder why they needed one. Why were so many of their residents taking this antipsychotic anyway? Wasn't this medication for severe mental health conditions like schizophrenia and linked to tremors, rigidity and falls? When I mentioned these concerns to the DON she reassured me that residents were only prescribed tiny doses and that the risperidone was needed to "comfort and calm" those with dementia.



A RedUSE training session for champion nurses

I couldn't help recalling this phone call when working as a GP practice pharmacist some years later in England when all health practitioners were sent an urgent safety warning by the Medicines and Healthcare products Regulatory Agency (MHRA) (MHRA 2004) advising that risperidone caused an increased risk of stroke when given to people with dementia. When I audited this antipsychotic at my GP practices I noted two things; firstly, the GPs and the homes themselves were genuinely surprised by the actual number of older residents taking these medications, and secondly, the marked resistance

from the GPs and staff to alter them. This complex issue has intrigued me ever since.

### Psychotropics: benefits and risks

Antipsychotics, including risperidone, belong to a group of medications called 'psychotropics' "*capable of affecting the mind, emotions and behaviour*" (Farlex Partner Medical Dictionary 2012). Other psychotropic classes include antianxiety, antidepressant and sleep-inducing or hypnotic agents. Although all psychotropic medications should be used cautiously in older people because they are

more likely to experience adverse effects, additional concerns have been raised about the use of antipsychotic, antianxiety hypnotic agents (mostly benzodiazepines).

Antipsychotics were developed to treat schizophrenia. As some symptoms are similar to responsive or distressed behaviours, particularly delusions and agitation, antipsychotics are often prescribed for people with dementia as well, despite modest effectiveness. Trials show these medications reduce agitation and psychosis in about 20% of people with these symptoms; however, they have not been shown to be effective for behaviours such as calling out and wandering (Loi 2015). Antipsychotics are associated with such adverse effects of sedation as worsening confusion, falls, urinary tract infections, fluid retention and movement disorders (RANZCP 2016).

Shortly after the first MHRA warning of increased risk of stroke associated with risperidone use, the US Food

and Drug Administration (FDA) released its own safety alert linking antipsychotic use in people with dementia to an increased risk of death from all causes (FDA 2005). The Royal Australian and New Zealand College of Psychiatry (RANZCP) now advises that people with dementia should only be prescribed antipsychotics (after psychosocial approaches have proved ineffective) for:

- severe agitation and aggression associated with risk of harm
- delusions and hallucinations
- pre-existing mental health conditions (RANZCP 2016).

Benzodiazepines, including oxazepam, diazepam and temazepam, are prescribed in older people to manage agitation, anxiety and insomnia. These medications are effective short-term but their use is associated with over-sedation, confusion and falls. When taken for more than a few weeks people often become tolerant to their effects and may become dependent on them (Madhusoodanan 2004). The Royal Australian College of General Practitioners (RACGP) now recommends that older people with chronic anxiety be treated with antidepressants and psychological therapies rather than with benzodiazepines. In insomnia, the RACGP stresses that “the magnitude of effect on sleep is small and the benefits of these drugs may not justify the increased risk” and recommends that treatment be short-term (not more than four weeks) and at the lowest possible dose (RACGP 2015). Benzodiazepines are not recommended to manage responsive behaviours in people with dementia due to insufficient evidence for effect and risk of adverse effects (Tampi & Tampi 2014).

### Overuse?

For several decades, high rates of psychotropic use have been reported in ACHs around the world. The first major Australian study looking at use

was conducted in 46 Sydney ACHs during 1993 (Snowdon 1995). The rates of regular antipsychotic (27%), hypnotic (27%) and antianxiety (9%) benzodiazepine use were said to be, “among the highest reported in the world” (Snowdon 1995). As a consequence, this study attracted considerable media and public attention, resulting in the establishment of a NSW Ministerial Taskforce (NSW Health 1997) and Federal Senate inquiry.

Snowdon repeated his study four times in the same area of Sydney from 1993-2009. During this period benzodiazepine use declined markedly. In contrast, antipsychotic use declined initially but by 2009 levels had returned to 1993 rates (Snowdon 2011).

There is limited data on ACH psychotropic use in other regions of Australia. However, research has shown that antipsychotic prescribing to older Australians increased during the 2000s, with olanzapine and risperidone dominating (Hollingworth 2010). Hollingworth *et al* (2010b) also reported that benzodiazepines are used by over 15% of people over 65 years in Australia, with the highest usage found in those aged 85-89 years.

### Best practice

In recent years, the overall concept of person-centred care

has been embraced by the nursing profession and aged care as a whole. Person-centred care puts the person, their experiences, wellbeing, needs and feelings at the centre of the caring process, so care is based on principles of human rights such as respect, dignity and having genuine choices (Love 2015).

Many responsive behaviours are the result of untreated delirium, pain, infections, unmet emotional needs, boredom, poor communication and a lack of knowledge about the person. Insomnia can be caused or exacerbated by these factors as well, for example, untreated pain or excessive napping. Likewise, anxiety can be prompted by exposure to certain triggers or worsened by untreated medical conditions. Unless staff attempt to understand why responsive behaviours and psychological symptoms are occurring and are skilled in detecting ‘unmet needs’ there is the risk that staff ‘manage’ these symptoms through psychotropic medication (DCRC & DBMAS 2012).

Non-pharmacological strategies are recommended as initial treatment for the management of responsive behaviours, anxiety and insomnia as they offer two main advantages over psychotropic treatment. Firstly, these approaches address the

psychosocial/ environmental reasons for the symptom/s, and secondly, the limitations of pharmacological treatment are avoided, namely adverse effects and limited efficacy (DCRC & DBMAS 2012).

*In summary, person-centred care can be provided by establishing why responsive behaviours and psychological symptoms occur and also by implementing non-pharmacological strategies to manage them.*

### Background research

When I returned to Australia in 2006 I decided to start a doctorate looking into ACH chlordiazepoxide use. Initially, I examined prescribing patterns by auditing over 3000 resident medication charts from 40 Tasmanian ACHs. I found a high use of benzodiazepines (37% of residents were taking a benzodiazepine every day!), alongside moderate antipsychotic use when compared to Snowdon *et al*'s (2011) Sydney measures (Westbury 2009). When psychotropic use was audited in the same residents a year later, over 65% of agents and doses taken were exactly the same, providing a strong indication that review of these agents occurred infrequently (Westbury 2010a).

Next, I wanted to understand why these agents were being prescribed, who influenced their use and their review. To do this I went out and interviewed GPs, nurses, pharmacists and relatives.

### Reasons for prescribing

So, why are they prescribed so frequently? The findings of this study aligned closely with overseas research in that there was a strong belief among prescribers and ACH staff that these medications were very effective and were needed to “comfort” residents (Cornegé-Blokland 2012). In the words of one enrolled nurse interviewed: “...surely it’s far nicer to have them medicated and calm than distressed. On the whole, they seem to have a positive impact on their life”.

## Fred hates pumpkin soup

The following report comes from one of the Tasmanian care homes involved in the RedUSE trial:

Fred was a very quiet resident. In fact, staff could not recall him speaking at all for over nine months. Fred did become agitated during some evening meals so he was given risperidone. [As part of the RedUSE trial] his GP and the nursing staff agreed to slowly reduce this sedative medication.

About a week after Fred’s antipsychotic was ceased, one of the carers heard him say “I hate soup”. When she asked him to repeat this to another carer, Fred said “pumpkin soup”. Sure enough, when staff checked with relatives whether Fred had an issue with pumpkin soup they were told he had always disliked it.

Pumpkin soup was a particular specialty of the cook at the care home, who always served it up several times a week.

Fred was never served pumpkin soup again.

Although staff displayed a good knowledge of assessment and non-pharmacological strategies they often felt unable to use them due to time and resource constraints. Another important reason why psychotropic agents were used so extensively was due to the limited knowledge of GPs, nurses and pharmacists about evidence for effectiveness, their adverse effects, doses and recommended duration of use. Not a single health practitioner could recall a guideline on psychotropic use in older people.

### Who influences use?

Like similar research overseas, I found nursing staff were very influential when antipsychotics and benzodiazepines were initiated (Cornegé-Blokland 2012). GPs said ACH staff requested sedative medication but that they assumed that assessment of residents and non-pharmacological management had been implemented before they were asked to intervene. Relatives said they were rarely involved in decisions to start or alter psychotropic medication.

### Barriers to reviewing

With regards to review, many health practitioners interviewed felt that behaviours would return if psychotropic medications were reduced. One of the main barriers to review was uncertainty over exactly whose role it was to do this. GPs spent limited time at ACHs, nurses felt this was the GPs' responsibility as they were the legal prescribers, and pharmacists, although funded to perform medication reviews, were reluctant to suggest reductions to psychotropic medication due to prior resistance from GPs and staff.

### The RedUSE project

So what can be done about this long-standing issue? That was my next challenge; to devise an intervention aimed to reduce the use of antipsychotic and benzodiazepine in residential aged care. Ultimately, such a

project needed to challenge positive beliefs about the benefits of psychotropics. I also needed to enhance knowledge about these medications across all professional groups, raise awareness, promote good practice guidelines and encourage regular review by providing a structured process in which professional roles were clearly defined. Thus the **Reducing Use of Sedatives (RedUSE)** project was born.

RedUSE is a multi-component and interdisciplinary structured initiative, which employs several strategies targeted to reduce antipsychotic and benzodiazepine use (collectively referred to as 'sedatives') in ACHs. During the six-month project, each ACH's sedative medication use is audited at baseline, three months and six months.

The audit results are then presented to nursing staff and carers in educational sessions. Following this education, all residents taking these medications are reviewed. This is an interdisciplinary process involving a pharmacist, a champion nurse at each home and the resident's GP or nurse prescriber. The diagram above (see Figure 1) illustrates the main RedUSE strategies.

To test RedUSE, a controlled trial was conducted in 25 ACHs in the two major cities of Tasmania during 2008-9. Thirteen Hobart ACHs were recruited as the intervention group, with 12 Launceston homes acting as control (Westbury 2010b). By the trial's conclusion, benzodiazepine use was significantly reduced in intervention homes (32% to 26%,  $p < 0.005$ ), whereas use increased in control homes. Likewise, antipsychotic use significantly reduced in intervention homes (20.5% to 18%,  $p < 0.05$ ). Pleasingly, the proportion of psychotropic dose reductions occurring in intervention homes was more than double that observed in control homes (Westbury 2010b).

### Expanding RedUSE

In August and October 2012, two ministerial roundtables of

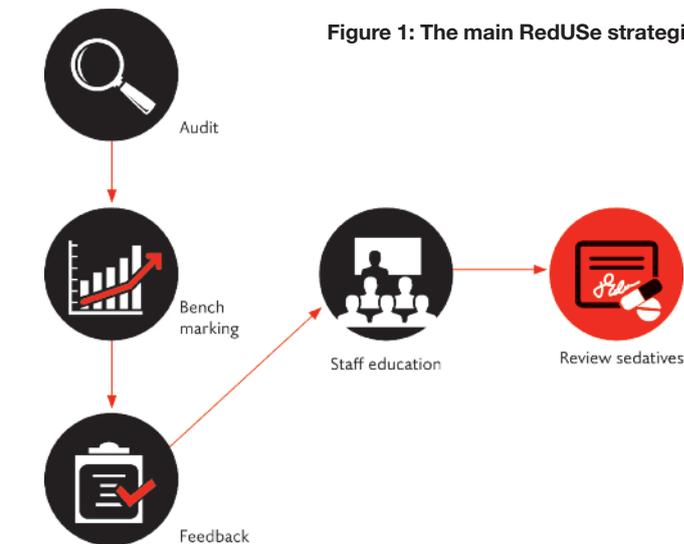


Figure 1: The main RedUSE strategies

experts on the use of antipsychotics were convened by the then Minister of Health and Ageing, Mark Butler. These roundtables led to the prioritisation of funding for research on antipsychotic deprescribing (Peisah 2014). The University of Tasmania submitted a grant proposal for a national expansion of RedUSE, with funding granted in June 2013 through the Australian Government's Aged Care Service Improvement and Healthy Ageing Grants (ACSIHAG) Program (now the Dementia and Aged Care Services (DACs) Fund). ▶

We wanted to enhance RedUSE before national expansion so invited industry, aged care advocacy bodies (ACSA and LASA), consumer groups (COTA and Alzheimer's Australia (now Dementia Australia), NPS MedicineWise and the Pharmaceutical Society of Australia) to be part of our steering group. The group was instrumental in suggesting strategies, reviewing educational materials and guidelines, and providing vital feedback.

We realised that a more interactive training program for ACH staff was needed, along with customised guidelines. Acknowledging that nursing and care staff were stretched and did not have time to attend lengthy training sessions, the RedUSE project provides educational content in just two one-hour

sessions delivered by a trained pharmacist, ideally known to staff at each home. Health professional roles were also clearly defined and included within a structured sedative review process.

On the advice of the funding body, a 'champion nurse' role was created for an expert peer to promote 'good practice' behaviour. Finally, academic detailing was delivered by NPS MedicinesWise and the Drug and Therapeutics Information Service to inform and engage our GPs and nurse practitioners.

The audit and feedback process was almost fully automated due to clever IT programming. The audits were not conducted by time-strapped ACH staff or health practitioners. Instead, prescribing data from the community pharmacies providing medication to the care homes was collected by the e-health program. One of the tasks of the champion nurse was to check that this resident psychotropic data was correct. The champion's other roles included helping to organise staff training sessions and participating actively in the sedative review process.

### Aged care homes' response

ACSA and LASA put out a recruiting call for RedUSE in September 2013. As a result we were inundated with requests for ACHs to be involved. Initially, we had recruited 50 homes from two large national

aged care organisations (one for-profit group and the other a religious non-profit group) but wanted to include homes of various sizes and from different organisations. Although we only needed an additional 100 homes, we received over 320 expressions of interest from ACHs, providing an indication of the willingness to ensure psychotropic medication was used appropriately.

### RedUse expansion statistics

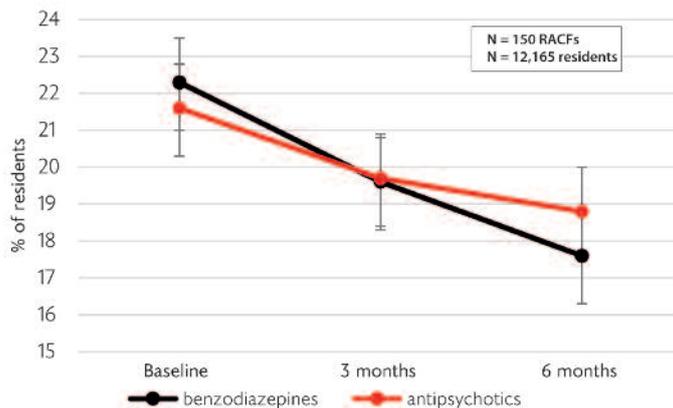
The project was run in four separate 'waves' from 2014 to 2016. A total of 150 homes in all six Australian states and in the ACT completed the six-month intervention. Two thirds of homes were located in urban areas, 23% in regional areas and 7% were rural. About half the homes were categorised as 'for profit' and half were 'not-for profit', most with religious affiliations.

An average of 12,165 residents from the total 150 ACHs were audited for each psychotropic audit. A total of 300 training sessions were delivered to over 2500 ACH staff by 76 pharmacists. Nearly 400 GPs and nurse practitioners attended educational sessions. Finally, over 8400 sedative reviews were completed throughout the project.

### Final results

Our main outcome measures were the average proportion of residents taking antipsychotic and benzodiazepine medication at baseline, 3 months and 6 months. At baseline we found that over a third of residents (37%) were taking a sedative medication every day. Specifically, 22% were taking an antipsychotic and 22% were taking a benzodiazepine. With 'prn' or 'as required' prescriptions included, over half of all residents (54%) were charted for a sedative medication.

Overall, a significant reduction was found in both antipsychotic and benzodiazepine use. A 13% relative reduction was observed in the overall use of antipsychotics from baseline to



**Figure 2: Average proportion of residents per ACH taking sedative medication over the project**

6 months (from 22% to 18%). The reduction in benzodiazepine use from baseline to 6 months was higher; at 21% (from 22% to 17%) (Westbury 2018). The graph above (Figure 2) shows the average proportion of residents per ACH taking sedative medication over the project.

When we tracked residents taking sedative medication at baseline over the RedUse intervention we found that 40% had their medication ceased or reduced. Interestingly, residents were more likely to have agents ceased outright as opposed to having their medication dosage reduced. The reduction was also predominantly sustained during the project: over 80% of antipsychotics, and 90% of benzodiazepines ceased or reduced at 3 months were still ceased or reduced when these residents were re-checked at 6 months.

The response rate to the RedUse project from the ACHs involved was very promising. Two thirds of ACHs (99 homes) reduced both antipsychotic and benzodiazepine use, 29% reduced the use of either agent (44 homes) and only 5% (8 homes) did not record a reduction in sedative use; as the graph below illustrates (Figure 3).

We could not determine which of the RedUse strategies was the most influential because they were not tested separately. However, interim qualitative evaluation indicates that the strategies were perceived as building upon each other, starting with

awareness raising by dissemination of local prescribing data, reinforced by staff education, and followed by interdisciplinary review.

### Interim clinical outcome data and economic impact

We are currently examining clinical data collected from a sample of residents involved in the project. The aim of this research is to compare the residents who reduced their sedative use against residents who did not have their sedative medication altered. Put simply, the main question we would like to answer here is if reducing sedative use affects a resident's quality of life. Would a sedative reduction result in an increase in responsive behaviours or affect a resident's risk of having a fall? Interestingly, and contrary to what you may expect, results to date indicate that agitation levels declined in those residents who had antipsychotic doses reduced or ceased, whereas levels of agitation in residents continuing antipsychotics stayed static or increased slightly.

We are also conducting a health economics analysis. Early results indicate that the cost savings generated from

reducing medication costs alone would cover the expenses associated with running the RedUse project.

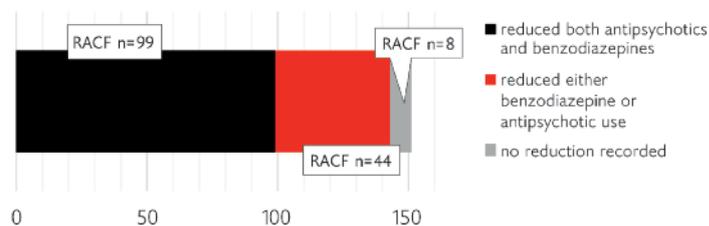
One of our first observations was that many ACHs were not even aware of the proportion of residents actually prescribed sedative medication. Although some ACHs collect this data, they don't know how their use compares to other homes, or what they can do if usage is high or increasing.

The RedUse project increased awareness around sedative use by regularly measuring and monitoring use. The project also provided interactive education designed to challenge beliefs around psychotropic effectiveness and risks, and established a structured review process. RedUse resulted in significant reductions in the use of psychotropic medication in a large sample of Australian ACHs. Not only was the project well accepted by staff and health practitioners; more importantly, interim data suggests that reducing sedative medication use offers positive benefits to residents and is cost effective.

### What's next?

Ideally, the strategies of RedUse should be made available for all Australian ACHs, particularly for homes with high rates of sedative use.

In the new draft Aged Care Quality Standards, awareness of psychotropic rates of use, and strategies to ensure that these agents are used appropriately are endorsed through Standard 3, along with specific advice about ensuring that least restrictive practices are used (ie minimising chemical restraint). RedUse would help ACHs to achieve these objectives of care but funding is needed to update the RedUse eHealth website, train champion nurses and



**Figure 3: Response rate from ACHs**

Quality Use of Medicines (QUM) pharmacists and employ part-time facilitators who work with the homes to ensure key staff are engaged, coordinate training sessions, and ensure the review process goes smoothly. The feedback we received was that this role was vital. I'm not sure if the RedUSE initiative would be as successful if no one was actually coordinating it or updating education and training materials.

We would love the opportunity to roll out RedUSE to more care homes. As a researcher, I would welcome the chance to improve and further enhance our offering: strive to improve GP uptake and involve care staff, relatives and people with dementia to a greater extent than they were initially. However, we have been told, as with all grants, that there is no surety of future funding. Ideally, the program could be offered as part of the existing Federally-funded Quality Use of Medicines (QUM) program for community pharmacists.

In the absence of a dedicated implementation project such as RedUSE, the majority of residential aged care organisations wanting to ensure appropriate psychotropic use should, in the first instance, ask their QUM pharmacist to organise audits and request training sessions on psychotropic medication for all staff (see box above for details). ■

#### Acknowledgments

This initiative was very much a team effort. Dr Westbury wishes to acknowledge the contributions of the RedUSE steering group, research team, our eight fantastic project facilitators, GP educators, staff and residents at all 150 participating aged care homes, their pharmacists, supply community pharmacies and the GPs who provide medical care to their residents.

**The study, RedUSE: reducing antipsychotic and benzodiazepine prescribing in residential aged care facilities, by Juanita Westbury, Peter Gee, Tristan Ling, Donnamay Brown, Katherine Franks, Ivan Bindoff, Aidan Bindoff and Gregory Peterson, was published in the *Medical Journal of Australia* in**

## Pharmacy programs for residential care

Under the Sixth Community Pharmacy Agreement (6CPA) there are two pharmacy programs which relate specifically to services provided in residential aged care facilities, and include education, point of contact for inquiries on medicines information and appropriate management of medicines:

**Residential Medication Management Review (RMMR)** is a service provided to a permanent resident of an Australian Government funded aged care facility. It is conducted by an accredited pharmacist when requested by a resident's GP (related MBS item 903) and undertaken in collaboration with the resident's GP and appropriate members of the resident's healthcare team. A comprehensive assessment is undertaken to identify, resolve and prevent medication-related problems and is provided to the resident's GP.

**Quality Use of Medicines (QUM) program** is a service provided by a registered or accredited pharmacist and focuses on improving practices and procedures as they relate to the quality use of medicines in a residential aged care facility (the agreement between the pharmacist and residential aged care facility relates to medication advisory services, education activities and continuous improvement activities).

The rules of the RMMR and QUM programs make specific reference to such items as Frequency of Service, Residential Care Eligibility and List of Eligible QUM activities. The current program rules can be found on the 6CPA website at: <https://bit.ly/2KK3GGr>

*Information supplied by the Australian Department of Health*

#### May 2018. Available at: <https://bit.ly/2NB3DdS>

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