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Reducing the use of sedative medication in aged care facilities: Implementation of the 'RedUSE' Project into everyday practice

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Executive Summary

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Investigators: Dr Juanita Westbury, Professor Gregory Peterson, Peter Gee, Dr Tristan Ling, Dr Ivan Bindoff, Dr Lisa Clinnick, Daniel Hoyle, Friso Schotel, Donnamay Brown and Katherine Franks.

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Reducing Use of Sedatives

Inappropriate use of antipsychotic and benzodiazepines has been recognised as an issue in Residential Aged Care Facilities (RACFs) in Australia for several decades. This has resulted in Federal and State government inquiries, media attention and the release of a succession of professional guidelines. However, the use of antipsychotic and benzodiazepine continues to be high in this aged care setting, with many residents often taking these medications inappropriately for extended periods.

The RedUSE project has proven an effective intervention to significantly reduce RACF antipsychotic and benzodiazepine use, with high degrees of staff, pharmacist and GP satisfaction.

Reducing Use of Sedatives or RedUSE is a University of Tasmania national project that promotes the appropriate use of sedatives, in particular antipsychotics and benzodiazepines in RACFs. RedUSE is a multi-strategic, interdisciplinary, structured initiative, which employs several approaches specifically targeted to improve sedative use. First trialled successfully in 2008 the RedUSE project study involved 25 Tasmanian RACFs. In 2013 the Department of Health, through the 'Dementia and Aged Care Service Fund', funded a national expansion to reach 150 RACFs throughout Australia from 2014-2016.

Although several interventions have been designed and trialled to reduce sedative medication use in RACFs, few have evaluated the clinical impact of such a program on the residents themselves. The national expansion of the RedUSE project offered an ideal opportunity to do this and establish if the project impacted upon staff satisfaction.

There was a strong demand from RACFs to participate in RedUSE after two Australian peak aged care organisations, **Leading Age Services Australia (LASA)** and **Aged and Community Services Australia (ACSA)**, promoted the project in print and online newsletters, resulting in over 300 expression of interest forms. The full target of 150 RACFs was recruited by September 2015.

Antipsychotics and Benzodiazepines

Antipsychotics were developed to treat serious mental health conditions, such as schizophrenia. In older people, however, these agents are now mostly prescribed to manage behavioural and psychological symptoms of dementia (BPSD), including aggression, delusions and calling out. Their effectiveness to treat these symptoms is modest, yet the risks associated with use can be severe, ranging from confusion and falls, to stroke and death. Similarly, benzodiazepines are prescribed in older people to treat sleep disturbance, anxiety

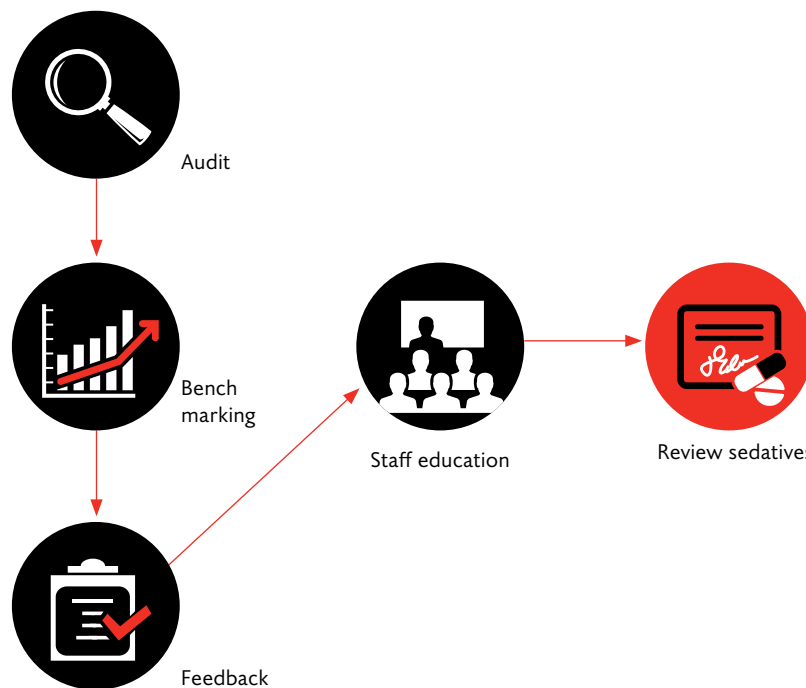
and agitation. Benzodiazepines can be effective in the short-term, but then tolerance develops, and use is associated with over-sedation and confusion, falls, and the risk of dependence.

In view of their modest benefits, accompanied by significant risks, national and international guidelines recommend that both medication classes should be prescribed judiciously when anxiety, sleep disturbance and/or BPSD cause significant distress, or pose a safety risk. When prescribed, they should be monitored regularly for effectiveness and adverse effects, whilst using the lowest effective dose for the shortest period of time.

The Process

During the six-month project, each RACF's sedative medication use is audited at baseline, three months and six months, using a customised e-Health tool. The audit results are then presented to nursing staff and carers during two educational sessions.

Following this education, all residents taking sedative medication are reviewed in an interdisciplinary process involving a pharmacist, a champion nurse at each facility and the resident's GP or nurse prescriber. The diagram below illustrates the main RedUSE strategies.



The Education

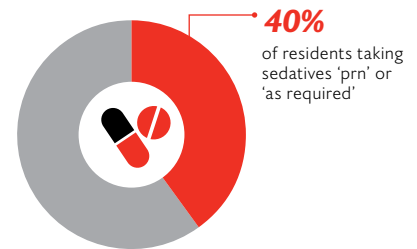
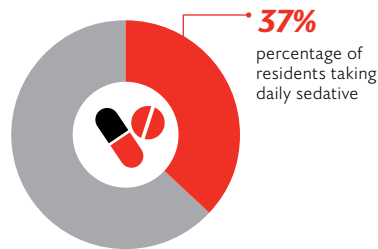
The RedUSE project developed an interactive training program for nursing staff designed to challenge positive beliefs around sedative use. Training was also delivered on the risks and benefits associated with sedative use in older people, and concise guidelines were provided. The sedative review process was automated.

Nurse input was crucial and professional roles clearly defined.

The 'champion nurse' role was created for an expert peer to promote and model 'good practice'. Finally, academic detailing was delivered externally, by trained detailers from NPS MedicineWise and DATIS, to inform and engage GPs.

As a result of this project the education provided to the aged care sector was substantial. Seventy-six pharmacists were trained to deliver RedUSE educational content to over 2500 RACF nursing staff and carers. **Using a validated quiz, significant improvement was found with the psychotropic knowledge of all levels of nursing and care staff. Staff also rated the training highly, with over 85% ranking the training as 'very good' or 'excellent'.** Participants particularly valued the opportunity to discuss the use of sedative medications of their residents and many wanted to learn more about medications and their side effects, along with non-pharmacological approaches.

Baseline Sedative Use



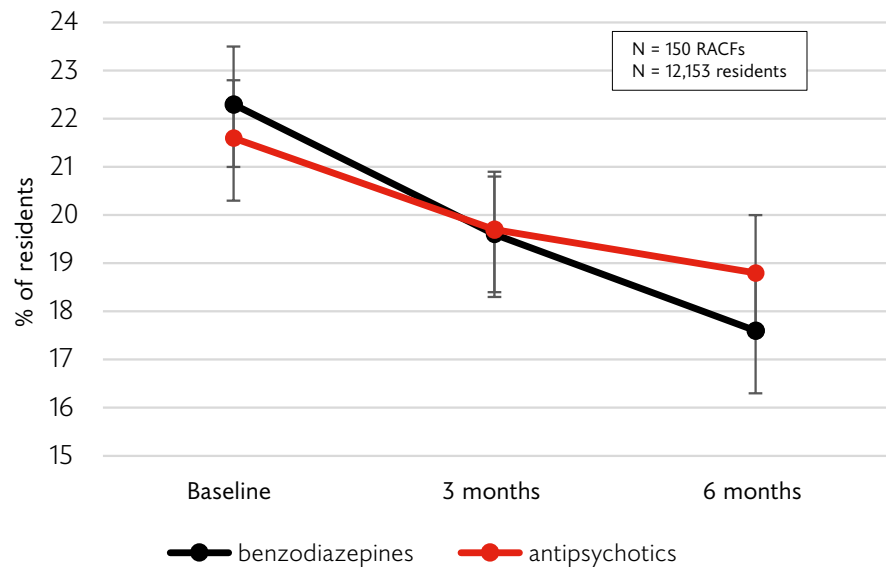
At baseline we found that over a third of residents (37%) were taking a sedative medication daily. Specifically, 22% were taking an antipsychotic and 22% of residents were taking a benzodiazepine. With 'prn' or 'as required' prescriptions included, over half of all RACF residents (54%) were prescribed a sedative agent. Throughout RedUSE, antipsychotic and benzodiazepine use in each of the 150 RACFs was measured at baseline and then re-measured at three and six months, with 12,153 residents, on average, included at each time point.

Overall, a significant reduction was found in antipsychotic and benzodiazepine use. A 13% relative reduction was observed in the prevalence of antipsychotics from baseline to 6-months (from 22% to 19% of residents). The reduction in benzodiazepine prevalence was higher; at 21% (from 22% to 17.5%).

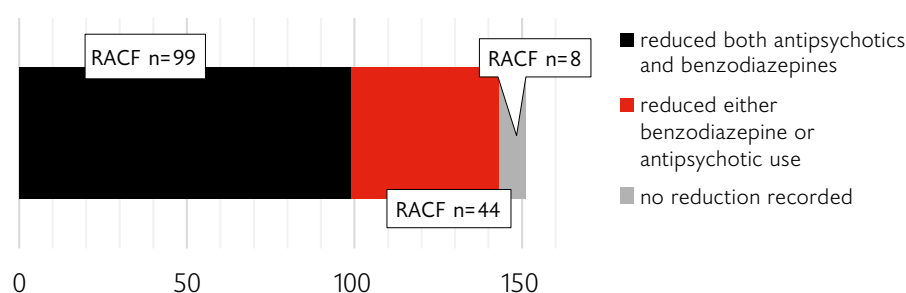
The reduction was also sustained over time: Over 80% of antipsychotic agents, and 90% of benzodiazepines ceased or reduced at three months, remained reduced when residents were re-checked at six months. A quarter of residents who had their sedative dose reduced at three months, were ceased altogether by the six month audit. The graph below shows sedative usage rates averaged across all 150 RACFs from baseline to six months. (See figure 1)

A total of 115 RACFs (77%) reduced their antipsychotic use prevalence, with 127 of the RACFs (85%) reducing benzodiazepine use. Out of 150 RACFs, two-thirds of the facilities (66%), reduced both antipsychotic and benzodiazepine prescribing rates. The response rate across the RedUSE expansion is shown in Figure 2.

The Results Figure 1



RACF Response Rate Figure 2



Substitution to sedative antidepressants, or higher 'prn' use of these agents, did not occur as the overall use of these agents declined from baseline to six months.

A recent study in N.S.W reported that only 4% of residents taking sedative agents have their medication reduced, or ceased, over a six-month period. In the RedUSE project RACFs, 41% of all residents taking sedative medication had doses reduced or ceased altogether. **This means that the proportion of sedative dose reductions in RedUSE RACFs was effectively ten times higher than the rate observed in routine practice.**

When all 2195 residents taking antipsychotics at baseline were tracked over the 6-month project, 483 residents (22%) were ceased off antipsychotics outright, and a further 354 residents (16%) had their dose reduced. The impact on benzodiazepine use was more pronounced. Of 2247 residents taking benzodiazepines at baseline, 576 (26%) were ceased off these agents completely, with 332 of these residents (15%) having their dose reduced.

Using a sample of over 200 sedative users from 27 RACFs, **we found there were no significant increases in behavioural symptoms for sedative reducers, contrary to expectations.** In fact, antipsychotic reducers saw improvements in some behaviours, specifically agitation, whilst the non-reducers had worsening behaviour. Reducing benzodiazepine use was shown to increase the residents' ability to perform activities of daily living. Finally, participating in the RedUSE project, with ensuing sedative reduction, did not adversely affect job satisfaction of nursing staff.

A comprehensive health economic analysis was not possible due to the stipulation that control groups were

not permitted. However, based on data from the clinical impact study, with assumptions of implementation/operation costs and extrapolated nationally, the RedUSE program is expected to *provide overall cost savings in the order of \$3.9m per annum*, primarily driven through reduced hospitalisations in patients who had their sedative medications reduced and savings from reduced usage of antipsychotics.

In conclusion, the national expansion of RedUSE proved an effective intervention to significantly reduce RACF antipsychotic and benzodiazepine use, with high degrees of staff, pharmacist and GP satisfaction.

Key Recommendations

- The RedUSE program to be made available to all Australian RACFs
- The RedUSE program to be offered as a funded quality improvement strategy by pharmacists – with an appropriate remuneration structure developed to support its implementation
- RACF prevalence of antipsychotic and benzodiazepine use to be National Quality Indicators
- Training for health professionals on non-pharmacological management of BPSD to be enhanced
- A comprehensive investigation of the long-term clinical outcomes from reducing RACF sedative use is required, along with a full economic analysis.

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