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The Pharmacy
Guild of Australia



Community Pharmacy promoting appropriate sedative use in Aged Care: the 'RedUSE' project

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EXECUTIVE SUMMARY

Acknowledgement

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The Pharmacy Guild of Australia manages the Fourth Community Pharmacy Agreement Research & Development which supports research and development in the area of pharmacy practice. The funded projects are undertaken by independent researchers and therefore, the views, hypotheses and subsequent findings of the research are not necessarily those of the Pharmacy Guild.

Executive Summary (max. 3 pages):

Non-drug treatments are recommended first-line to manage sleeping disturbance, anxiety and the psychological and behavioural symptoms of dementia (BPSD), all of which are commonly seen in Aged Care Homes (ACHs). However, it is known that in practice, antipsychotics and benzodiazepines are often used to treat these disorders, despite limited effectiveness and significant side effects, including falls, cognitive impairment and increased risk of stroke and death. Australian researchers and government bodies have expressed concern over the high rates of use of these agents in ACHs. Over the past ten years, studies have reported regular benzodiazepine usage rates ranging from 15%-37% of aged care residents, and that antipsychotics were taken by a quarter of residents. The **aim** of the RedUSE project was to promote the appropriate use and review of these sedative medications in ACHs through a range of 'Quality Use of Medicines' (QUM) strategies, co-ordinated and delivered by community pharmacy.

In Australia, a federally funded service to provide pharmacist-conducted RMMRs to all ACH residents has been available since 1997 as an initiative of the Second Community Pharmacy Agreement. In March 2007, as part of the Fourth Community Pharmacy agreement, an emphasis and increased accountability was applied to Quality Use of medicines (QUM) services provided to ACHs by pharmacists. In summary, pharmacists providing services should focus on two broad issues:

- Resident-focused activities, such as pharmacist and collaborative RMMRs; and
- Facility-focused activities, including implementing policies and procedures for medication use, education for nursing staff and performing Drug Use Evaluations (DUEs).

While these practice developments represent a step forward, measurable effects are not yet possible owing to a complete lack of national data on medication use in ACHs. There are only a few surveys of psychotropic use in different states of Australia, moreover, the results of follow-up studies of psychotropic use vary. For example, a recent survey of Sydney ACHs demonstrated a marked reduction in benzodiazepine use since previous comparable surveys in 1995 and 1998; however, high levels (25%) of antipsychotic use were still observed. Our 2006 Tasmanian survey of 40 ACHs conducted in 2006 found continued high benzodiazepine (42%) and slightly lower rates of antipsychotic use (21%) compared to previous studies. It appears that additional interventions or refinements to the present RMMR and QUM system are required to improve psychotropic prescribing in ACHs. The RedUSE project **study design** was a controlled trial conducted in twenty-five aged care homes. Close to 1600 resident medication records were audited, on average, for each data collection. The intervention group included 13 Hobart homes, with 12 control homes located in Launceston to minimise the risk of contamination (the two cities are geographically 180 km apart). The average number of residents over the three data collection periods totalled 898 and 693, in each group, respectively.

Each home in both control and intervention groups had a **sedative use measurement** at baseline, 3 and 6 months using a dedicated computerised 'DUE' program installed at each community pharmacy supplying the ACHs. The customised 'RedUSE' program assimilated community pharmacy dispensing information from medication packaging programs used to prepare resident medications into individualised blistered packs, the contents of which are then administered to residents by nursing staff. The first DUE was conducted in August 2008 and the final 6-month DUE measure was collected in February 2009.

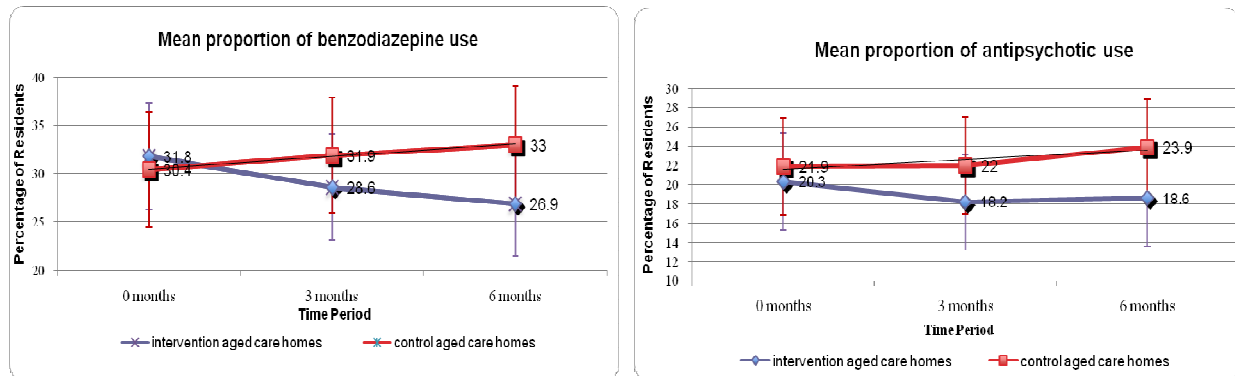
In addition to the DUE measures, **intervention** homes received two staff education sessions presented by community pharmacists. These sessions, apart from promoting 'good practice' use of sedative medications, incorporated individualised DUE feedback. Pharmacist-led interdisciplinary 'sedative review plans' were also prepared for each resident receiving antipsychotic or benzodiazepine therapy for extended periods. Other supporting strategies of the RedUSE project involved an interdisciplinary launch event, academic detailing of GPs and the provision of promotional material, pamphlets for relatives and residents and several newsletters.

The **outcomes** of the RedUSE project included the following:

1. When the characteristics of the participating aged care homes and mean baseline psychotropic use for both ACH groups were compared, there were no statistically significant differences found between control and intervention homes. With regards to the provision of RMMR and QUM services, all of the participant homes received RMMR services during 2008, and further, when the ratios of RMMRs performed per home per resident were contrasted, the control and intervention groups were found to be almost identical. Eighteen out of the 25 participant ACHs reported QUM activity provided by community pharmacy, mostly educational sessions for nursing staff. However, the majority of these 'educational sessions' were unstructured talks presented by one of their pharmacists. Only two of the 15 participant community pharmacies conducted a medication audit as recommended.

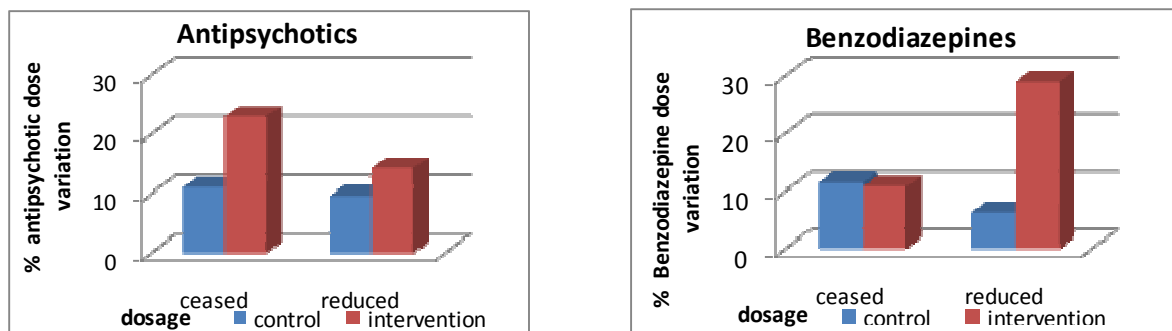
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2. Nine out of the 13 intervention ACHs (70%) reported a decrease in antipsychotic use over the 6 month trial, and over three quarters of intervention homes (77%) reported a reduction in benzodiazepine use. In contrast, only 2 of the control ACHs (16%) recorded a reduction in antipsychotic use, and only a quarter (25%) of control homes recorded a decrease in benzodiazepine prevalence. The RedUSE project led to a statistically significant reduction in the percentage of residents receiving benzodiazepines regularly (31.8% to 26.9%, $p < 0.001$) and antipsychotics (20.3% to 18.6%, $p < 0.05$). In contrast, the rates of sedative use in control homes increased slightly throughout the trial; albeit not significantly, i.e. benzodiazepines (30.4% to 33.0%, $p = 0.2$) and antipsychotics (21.9% to 23.9%, $p = 0.16$).



3. The RedUSE project also had a positive impact on reducing the use of sedatives overall and the use of multiple sedative use in intervention homes, whereas both rates increased in control ACHs. This is a significant finding as multiple sedative agent usage is considered the highest ranked medication-related risk factor for falls in ACHs. Therefore, it is possible that the falls rate in homes with reduced sedative use will have declined, with associated benefits of fewer GP attendances at the home, hospital admissions and improved quality of life.

4.. The majority of Guidelines on sedative use in older people stress the importance of reviewing these medications every three months, with trials of dosage reduction with the view to eventual cessation. The RedUSE project successfully promoted the review of sedative medication. Doses of both antipsychotics and benzodiazepines were significantly more likely to be reduced in intervention ACHs than in control homes over the 6-month duration of RedUSE. Up to 40% of antipsychotic and benzodiazepine doses were reduced or ceased in residents taking these agents in intervention ACHs compared to 19% of sedative doses in control homes.



5. The RedUSE project also affected prescribing behaviour. Significantly fewer residents were initiated on benzodiazepine medication (2% vs. 7%) and a lower proportion of residents were started on antipsychotic medication (2% vs. 4%) in the intervention arm of the trial than in the control arm over the duration of the project. The use of sedating antidepressants, or antidepressants as a whole did not alter significantly in either intervention or control group throughout the duration of the project, suggesting that these agents were not prescribed as an alternative to sedative medication.

6. In two focus groups conducted to evaluate the acceptability of the RedUSE project for pharmacists and aged care home nursing staff, participants suggested that the project had some very positive effects on the aged care homes, for example:

- It increased the focus on sedative use in aged care, made staff re-evaluate the need for sedatives, refocused the need for regular reviews of sedative use, and encouraged interdisciplinary communication;
- It improved the education of nurses and pharmacists on sedative use and its possible consequences; and
- It showed that community pharmacists who provided medications to aged care homes could provide worthwhile education to aged care home staff when supplied with suitable training materials, support and background information.

7. The results from the RedUSE trial showed that the average resident weekly cost of benzodiazepines was 78 cents/week. If this cost was reduced by 15%, as in this study, the potential saving amounts to \$5.72 per resident per year. With almost 6000 residents in Tasmanian ACHs, the total potential savings could approach \$35 000 per annum for the state alone.

8. In 1995, the Senate committee, 'Psychotherapeutic Medication in Australia', recommended that pharmacists become more involved in the monitoring and review of psychotropic medication. The RedUSE project provides compelling evidence that community pharmacists, with an appropriate interdisciplinary program, training and support, have the potential to effectively reduce the use of sedative medications in ACHs.

The RedUSE project had several **limitations**. Firstly, it is difficult to distinguish which of the strategies of the RedUSE project had greater impact on reducing antipsychotic and benzodiazepine use in the intervention ACHs. To do this, researchers would have to test individual strategies in separate intervention studies. Previous research; however, strongly indicated that a multi-faceted approach involving nurses, GPs and pharmacists appeared to offer the highest chance of success; thus, this program adopted a similar approach. We strongly feel that the combination of QUM strategies worked synergistically to produce the positive outcomes of the project. It should be also be acknowledged that the success of the RedUSE project in reducing ACH sedative use may have been impacted by the publicity attracted from media reports and the visit of Professor John Snowdon at the launch event for the project. Finally, as with all other research, it should be acknowledged that the positive impact of this trial on sedative rates in our sample of Tasmanian ACHs may not be reproducible in other areas in Australia.

Conclusion and future directions:

The RedUSE project led to a statistically significant reduction in the proportion of residents in aged care homes receiving benzodiazepines and antipsychotics. The number of antipsychotic and benzodiazepine dosages ceased or reduced in intervention homes was double that reported in the control aged care homes. The project was well received by the pharmacists delivering the QUM strategies and by the nursing staff participants. The findings suggest that QUM strategies coordinated through community pharmacies, and incorporating the dissemination of local data on medication use, offer an effective approach to reduce sedative use in aged care homes.

Both the Commonwealth and NSW governments have voiced concern about the over-use and under review of sedative agents in aged care homes. Accordingly, both levels of government identified a role for pharmacists to promote the appropriate use and review of antipsychotic and benzodiazepine agents. Academic research has also shown that interventions led by pharmacists, or involving pharmacists as part of an interdisciplinary team, have led to the reduction of sedative use in the aged care setting. The RedUSE trial provides further evidence that community pharmacists can effectively promote the quality use of sedative medication in this setting. The success of the RedUSE program illustrates that QUM services provided by community pharmacists, when supported by education on content and instruction on how to effectively deliver these services, can be highly effective at reducing the rate of sedative prescribing and promoting review of these medications in ACHs

The future directions of the RedUSE project include:

1. **The refinement and expansion of the 'RedUSE' project to several states across Australia.** The positive findings of the RedUSE project may have been impacted by the high baseline rate of benzodiazepine prescribing in Tasmania or influenced by other factors such as unsolicited media attention. Further research is necessary to assess the impact of the project's strategies on sedative use in ACHs in other areas of the country.
2. **The investigation of the long-term clinical outcomes from reducing inappropriate sedative use in aged care.** Additional research funding should be allocated to provide direct evidence of the clinical benefits to residents of reducing the use of sedative medications in ACHs; for example, the inclusion of falls and quality of life measures. These outcome measures were not factored into the original RedUSE proposal and would strengthen the project considerably, as well as provide innovative evidence of the impact of sedative reduction on residents.
3. **A dedicated health economic analysis.** The original RedUSE project did not incorporate a detailed cost effectiveness analysis in its design. Such professional health economist input would enable assessment of the financial impact of the reducing sedatives in ACHs to the Australian Health System.
4. **Detailed investigation regarding the facilitators and barriers to incorporating nursing involvement into the medication review process.** Nursing staff in aged care homes appear to be a key influence when sedative medications are initiated, used and reviewed. Involving nursing staff to a greater degree in discussions about resident use of medicines has the potential to improve the outcomes of the RMMR process. Therefore, further research should be undertaken with the overall aim of promoting the involvement of aged care nursing staff in medication review processes.

