Making a Difference in Dementia

A Pilot Study

Prepared for the Medicine Management Integrated Care Collaborative

By Karen Jacobs-Grant PHARMAC and Jeremy Ly, CCDHB

December 2015

Table of Contents

Executive Summary

The 'Making a Difference in Dementia' pilot was a joint initiative by PHARMAC and Capital & Coast DHB's Medication Management Integrated Care Collaborative (MM-ICC). The pilot commenced in November 2015 and was designed to reinforce best practice use of antipsychotics with elderly people diagnosed with dementia in the Aged Residential Care (ARC) setting.

The main objectives of the project were to:

- Understand current practice and attitudes of staff that introduce and prescribe antipsychotics for patients with symptoms of dementia in ARC facilities.
- Evaluate the impact and response to the use of various interventions (e.g. education and medicines guidelines.

Two Aged Residential Care (ARC) facilities, Sprott House and Malvina Major Retirement Village, agreed to take part in this project. A clinical nurse manager and GP from each facility, a representative from their contracted pharmacies, and CCDHB psychogeriatric service staff were invited to participate in working group discussions.

Pilot activities involved a mix of patient audits conducted by GPs, ARC staff education on managing patients with dementia and the role of antipsychotics, and the implementation of an antipsychotic planning form to prompt the regular review of treatment. PHARMAC commissioned BPAC to evaluate the findings of the patient audits, and commissioned Quigley and Watts Ltd to conduct ARC staff interviews to determine whether the pilot had influenced their knowledge and behaviours towards managing patients with dementia.

The results of this pilot study indicated that some of the current prescribing practices for using antipsychotics in elderly people are in accordance with recommendations. However, there was still room for improvement with regard to how antipsychotic therapy is regularly reviewed and considered for withdrawal.

The pilot interventions were positively received, with a reported increase in staff employing non-pharmacological strategies for patients with symptoms of dementia, and 'thinking twice' before using antipsychotics. However, participants suggested there was a need for further training to keep updated on changes in antipsychotic medicines and the use of non-pharmacological strategies.

While these findings were supported by a reduction in antipsychotic prescribing across both facilities this study contained a number of limitations. This included its small sample size, and the inability to control for external factors such as internal ARC staff training. Furthermore, while the antipsychotic planning form had received positive feedback; it had not been in place long enough to draw conclusions on its benefits.

In order to validate the pilot's interventions and outcomes it is recommended this project be expanded to a larger range of ARC facilities.

1. Introduction

Over the last few years there has been increasing concern about the growing use of antipsychotics to manage the behaviour of elderly people who suffer from dementia. Older people represent a vulnerable population who are particularly susceptible to the serious adverse effects associated with antipsychotic medicines. Best practice prescribing of antipsychotics needs to be carefully monitored to ensure the use of these medicines does not compromise the care or wellbeing of residents in Aged Residential Care (ARC) facilities.

Best practice guidelines are clear in that non-pharmacological strategies should be a first line treatment of challenging behaviours and symptoms in dementia. Medicines such as antipsychotics if and when used as part of any intervention should be prescribed at the lowest effective dose, for the shortest possible time, and only for the specific indications in which they have proven benefit. Review of the continuing benefit, and monitoring for serious or intolerable adverse effects should take place regularly.

In 2012 The Minister of Health agreed to PHARMAC conducting a programme of work around the use of antipsychotics in people who had been diagnosed with dementia. In late 2014 PHARMAC engaged the Medicines Management Integrated Care Collaborative (MM-ICC) Group (Appendix One) of Capital & Coast District Health Board (CCDHB) to develop and implement the 'Making a Difference in Dementia' pilot.

The Making a Difference in Dementia pilot was designed to reinforce best practice in the use of antipsychotics with elderly people in the Aged Residential Care setting and to promote the appropriate use of antipsychotics in elderly patients diagnosed with dementia.

The objectives of the pilot were to:

- Understand current practice and attitudes of staff that introduce and prescribe antipsychotics for patients with symptoms of dementia in ARC facilities.
- Evaluate the impact and response to the use of various interventions (e.g. education and medicines guidelines.[1, 2]

The pilot did not seek to compare the two aged residential care facilities.

2. Method

Two ARC facilities in the Wellington region (Sprott House and Malvina Major Retirement Village) were contacted and agreed to take part in this pilot project. Sprott House, located in Karori, has a total of 95 beds (61 hospital, 34 rest home) and has a specialised dementia unit, rest home care and geriatric hospital services. Malvina Major, based in Khandallah, provides rest home care as well as medical and geriatric hospital services, and has a total of 130 beds (80 hospital, 50 rest home).

A GP and Clinical Nurse Manager (CNM) from each facility were invited to participate in pilot project meetings. The pilot project ran from the 1st November 2014 to 31 July 2015.

During the course of the pilot project the following activities were agreed upon and carried out:

- The development of promotional material to raise awareness and promote the purpose of the pilot to residents and their families, and ARC staff.
- Invitation of pilot site staff to a PHARMAC Seminar about managing people with dementia, and the role of antipsychotics and other pharmacological and non-pharmacological interventions. http://www.pharmac.health.nz/seminars/seminar-resources/dementia/.
- Education sessions to ARC staff led by PHO Pharmacy Facilitators about the role of pharmacological and non-pharmacological interventions in patients with dementia.
- A pre and post-pilot audit of antipsychotic prescribing with ARC patients completed by their respective GPs (Appendix Two). The objective of these audits was to obtain an understanding of how antipsychotics were being prescribed and reviewed.
- The development of an antipsychotic planning and monitoring form for ARC staff to use to prompt the regular review of the antipsychotic use with patients and the effect (Appendix Three).
- PRN (non-regular) medication forms at both rest home sites were updated to enable, and prompt, registered nurses to document the reason why a PRN medication was administered.

For the purposes of this report the pre-pilot period refers to the time before any interventions (education, antipsychotic forms) were implemented and post-pilot being the time after.

Analysis

The effect of the pilot interventions were evaluated via the following means:

1) Patient Audits Conducted by GPs: To investigate whether data from the pre and post-pilot GP audits, regarding antipsychotic use and selection, were compiled into a summary report by BPAC.

2) Qualitative Research – Staff Interviews: PHARMAC commissioned Quigley and Watts Ltd, a Wellington-based public health research company, to provide qualitative research support to the pilot. The aim was to identify any changes in the attitudes and behaviours of participating health practitioners (clinical managers, nurses, residential caregivers and GPs) related to antipsychotic use after taking part in the pilot's training and support interventions. The breakdown of participant roles across the two ARC facilities is outlined in the following table:

Health Practitioner Group	Sprott House	Malvina Major	Total
Residential caregivers	2	2	4
Registered nurses	2	2	4
Clinical manager/s	2	2	4
GPs	1	1	2
Total	7	7	14

3) Rest Home Prescribing Data – PHARMAC's Analyst team used dispensing data from Pharmhouse to measure changes in antipsychotic prescribing at both pilot sites. Dispensing data for risperidone and quetiapine from three different time periods were collected:

- Period 1: 2013-05-01 to 2013-07-31 (control period)
- Period 2: 2014-05-01 to 2014-07-31 (pre-pilot)
- Period 3: 2015-05-01 to 2015-07-31 (post-pilot)

These periods were analysed to help determine whether changes in antipsychotic prescribing were more likely to be due to the project's activities as opposed to chance. These time periods enabled the construction of three cohorts for analysis:

1) 3-Period Cohort: a cohort of rest home residents (RHRs) exists:

- in either rest home within all the three periods; and
- on any of the key medicines within any of the three periods.

2) 2013-2014 Control Cohort: a cohort of RHRs exists:

- in either rest home within both Period 1 and Period 2; and
- on any of the key medicines within any of Period 1 and Period 2.

3) 2014-2015 Experiment Cohort: a cohort of RHRs exists

- in either rest home within both Period 2 and Period 3; and
- on any of the key medicines within any of Period 2 and Period 3.

Data collected included the number of residents on any of the key medicines, the milligrams (mgs) dispensed per resident, and the total amount of mgs dispensed overall.

3. Results

Patient Audits Conducted by GPs:

Key findings from the BPAC PHARMAC Pilot Report: 'Prescribing Antipsychotics to Older People included:

- Use of Antipsychotics
    - Clinical reviews were completed for a total of 37 patients; 25 patients from Sprott House and 12 from Malvina Major Retirement Village.
    - The majority of antipsychotics prescribed for the patients in the study were initiated by a general practitioner (31 out of 37 patients).
    - 27 out of 37 patients were prescribed an antipsychotic to manage the behavioural and psychological symptoms of dementia (BPSD).
    - Target symptoms were identified in 25 patients prior to prescribing an antipsychotic

- 11 patients were prescribed an antipsychotic for mild to moderate symptoms and of this group six responded to the antipsychotic (55%) and three did not (27%).
- Of the 23 patients prescribed an antipsychotic for moderate to severe symptoms, 19 responded (83%) and two did not (9%).
- Non-pharmacological treatments were only trialled in 15 patients before prescribing antipsychotics, and a differential diagnosis was not considered in seven patients.
- Antipsychotic use may not have been discussed with up to 11 of the 37 patients or their families.
- Of the 37 patients, 29 had been prescribed an antipsychotic for more than six months. The on-going need for an antipsychotic was assessed in 26 patients, and withdrawal was only attempted in the last three to six months in 16 patients.
- Ten patients had no evidence of monitoring or review for adverse effects of antipsychotics.

- Selection of Antipsychotic
  - The majority of patients were prescribed quetiapine (22), followed by risperidone (15), with a small number of patients prescribed haloperidol or ziprasidone.
  - Approximately equivalent numbers of patients were prescribed quetiapine or risperidone for BPSD.
  - As risperidone is the only antipsychotic indicated for the management of some patients with BPSD, it is the recommended first-line choice. In theory, patients with BPSD should only be prescribed quetiapine if they have been unable to tolerate risperidone or it has been ineffective.
  - Only three of the 15 patients prescribed risperidone were prescribed more than the recommended 2mg daily, including one patient prescribed more than the maximum recommended 4mg.
  - Three patients were prescribed more than one antipsychotic medicine. This increases the risk of seizure and QT prolongation.
  - Of the 37 patients prescribed an antipsychotic, 18 were also taking another sedating medicine, increasing the risk of adverse events. Of these 18 patients, ten were taking one additional sedating medicine, six were taking two additional medicines, and two were taking three sedating medicines in addition to an antipsychotic.

Please refer to the 'Prescribing Antipsychotics to Older People' Report by BPAC at http://www.pharmac.health.nz/medicines/medicines-information/best-use-of-medicines/dementia/ for further detail.

Qualitative Research - Staff Interviews:

Key findings from the Qualitative Research on Antipsychotic Use in Dementia' Report included:

- Pre-pilot findings
  - There was a strong and consistent view that antipsychotic medicines had a role in managing behavioural and psychological symptoms of dementia in some

circumstances. Regular monitoring and review were seen as vital, with a view to reducing or eliminating antipsychotic use as appropriate.

  - Antipsychotics were generally used as a "last resort" after various non-pharmacological (e.g. behavioural, diversional or environmental) strategies had been trialled. There was a good level of knowledge and awareness about the use of non-pharmacological alternatives – participants considered them routine and used a wide range of strategies.
  - Almost all participants reported the current level of antipsychotic use at their facility was appropriate; they did not think these medications were being overused. A team approach, including involvement of family members, was used to make decisions about antipsychotic use. There were mixed views on the feasibility of reducing antipsychotic use overall.
  - Key factors that helped to reduce the use of antipsychotics included: staff capacity and competence (e.g. in using non-pharmacological strategies to manage challenging behaviour); and good support from management, GP and family members.
  - The main barriers to reducing antipsychotic use were the desire to keep the resident in their current residential facility/home, and a lack of specialised dementia beds in the community.
  - Positive views were expressed about psychogeriatric support and care coordination, particularly where this had been more proactive or regular than in the past, for example a weekly clinic with a psychogeriatric nurse practitioner. However, delays in accessing psychogeriatric services were also identified as a barrier at times.

- Post-pilot findings
  - Several changes to knowledge and behaviour were reported after the pilot, including more use of best-practice guidance on antipsychotics, greater awareness of antipsychotic effects, 'thinking twice' about prescribing antipsychotics, and increased application of non-pharmacological strategies. Managers reported improvements in how staff members managed challenging behaviours of residents.
  - The extent to which these changes are attributable to the pilot could not be determined. This is because of the qualitative (non-experimental) method, uneven participation in the pilot, and the presence of additional training during the pilot period.
  - Participants suggested there was a need for further training to keep updated on changes in antipsychotic medicines and the use of alternative strategies, particularly regular, interactive training.

Please refer to the Qualitative research on 'Antipsychotic Use in Dementia' Report by Quigley & Watts Ltd at http://www.pharmac.health.nz/medicines/medicines-information/best-use-of-medicines/dementia/ for further detail.

3. Rest Home Prescribing Data:

Results of the prescribing data analysis is summarised in the table below:

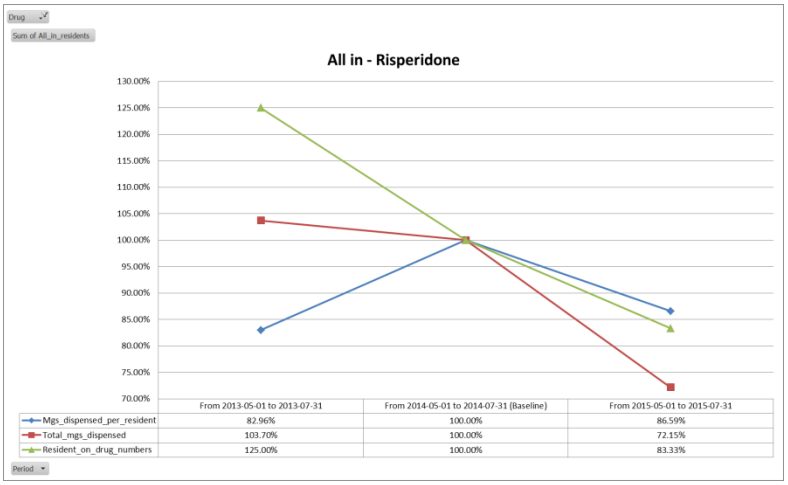
	Risperidone			Quetiapine		
Period	No.	Total mg dispensed	est. mg per patient per day	No.	Total mg dispensed	est. mg per patient per day
(control) 2013-05-01 to 2013-07-31	15	938.50	0.68mg	15	102,350	74.17mg
(pre-pilot 'baseline') 2014-05-01 to 2014-07-31	12	905	0.82mg	17	124,925	79.88mg
(post-pilot) 2015-05-01 to 2015-07-31	10	653	0.71mg	15	102,850	74.53mg

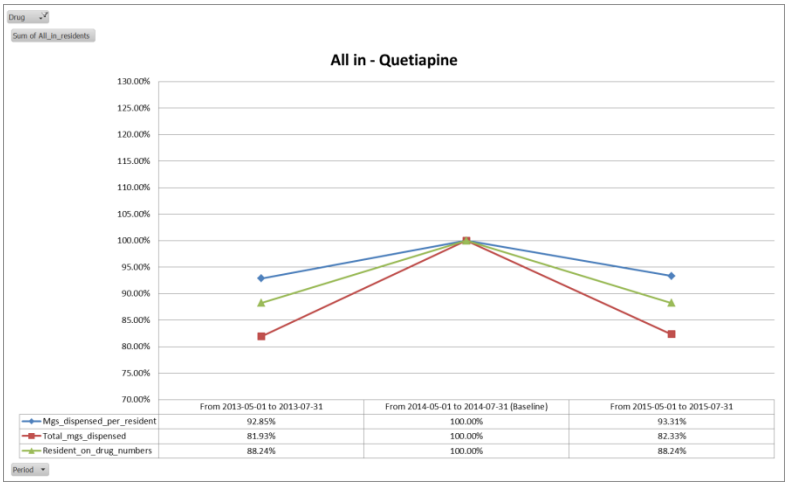
Compared to the pre-pilot period:

- The number of patients prescribed risperidone decreased from 12 to 10.
- For risperidone, the estimated average daily dose per patient reduced from 0.82mg to 0.71mg.
- The number of patients prescribed quetiapine reduced from 17 to 15.
- For quetiapine, the estimated average daily dose per patient reduced from 79.88mg to 74.53mg.

While the 3-period cohort showed a further reduction in the number of patients prescribed risperidone (15 to 10), there was no change over this period for quetiapine. There appeared to be no significant change in the average daily dose of either antipsychotic dispensed.

The graphs below also summarise this information. However, the analysis has been performed by using the pre-pilot period as a benchmark against the 'control' and 'post-pilot' periods.





Compared to the 2014 baseline, total dispensed dose of quetiapine was 17.67% lower in the 2015 three-month period. In the 2013 three-month period, total dispensed dose of quetiapine was 18.07% lower than baseline. It shows that the dispensed dose of quetiapine has increased from the 2013 period to 2014 period, and then decreased from the 2014 period to the 2015 period.

Compared to the 2014 baseline, the total dispensed dose of risperidone was 27.85% lower in the 2015 three-month period. In the 2013 three-month period, total dispensed dose of risperidone was 3.70% higher than baseline. It suggests that the dispensed dose of risperidone has been continuously decreased from the 2013 period to the 2015 period. In particular, the decrease is more significant from the 2014 period to the 2015 period than from the 2013 period to the 2014 period.

4. Discussion

Current Use of Antipsychotics in Aged Residential Care Facilities:

The results of the GP completed BPAC audits indicated that antipsychotics appear to be more successful in managing symptoms of dementia in people with moderate to severe target behaviours, than mild behaviours. Furthermore non-pharmacological strategies were trialled in less than half of

the patients audited, and a differential diagnosis was not considered in seven patients. If these considerations had been made, it may have resulted in fewer patients being prescribed antipsychotics.

The audit also noted most patients were being prescribed risperidone and quetiapine for more than six months, with a few cases at higher than recommended dosages. This suggests an on-going need to support ARC facilities in prescribing first-line antipsychotics at the lowest effective dose for the shortest possible time.

Staff Attitudes towards the use of Antipsychotics:

Despite participants' earlier views regarding the role and usage of antipsychotics at their respective facilities, changes to knowledge and behaviour manifesting as increased use of best practice guidance and non-pharmacological strategies were reported following the pilot interventions.

Several enablers and barriers to reducing antipsychotic use were highlighted. While the activities of this pilot aligned to taking a case-by-case approach to reviewing prescribing, educating staff in appropriate antipsychotic use, and getting ARC management support; improving access to specialist services was outside the scope of this project, however the attending Psychogeriatrician and Psychogeriatric nurse did change their behaviour in that they proactively contacted and visited the ARC facilities during the pilot, instead of usual practice where they would be contacted by ARC staff to visit the facility.

Impact of Pilot on Antipsychotic Prescribing:

The analysis conducted by PHARMAC showed a small reduction in the number of patients on antipsychotics at both ARC facilities since the start of this project. While promising, the patient numbers involved in the pilot were small and due to the presence of external factors such as ARC staff training and management team involvement at MM-ICC project meetings it is difficult to say to what extent reductions were attributable to pilot interventions.

The reduction in antipsychotic use shown by the quantitative analysis was not reflected in the results of the patient audits conducted by the two GPs involved with the pilot. This is because the patient records that were audited may not have necessarily been the same patients seen in the quantitative results.

One of the unexpected benefits of the pilot project has been the development of a method to allow PHARMAC or DHB analysts to measure prescribing activity for ARC facility patients. This may be useful in expanding the pilot to other ARC facilities or to other medicines of interest.

5. Limitations

1. The non-experimental design of this study has meant that other causes for the pre-post changes cannot be ruled out. Both aged care facilities provided internal training on antipsychotic use and non-pharmacological strategies during the pilot period.

2. Participation in the pilot's training sessions was lower than anticipated.

3. Findings from ARC staff interviews relied on self-reported information from a small number of participants and there may be differences between reported information and actual practice.

4. We are confident in the accuracy of the data about the medicines prescribed during the pilot, as this information was taken from the Pharmhouse database. However, there might still be a difference in what is dispensed to the ARC by the community pharmacy compared to what is then administered to residents e.g. PRN medicines.

5. Due to the small numbers of residents included in the quantitative analysis we cannot state that the changes were statistically significant.

6. Only one of two GPs completed both pre and post pilot audits. The collective audit did not show any degree of change in patient management or prescribing of antipsychotics. One GP completed both the pre and post pilot audits although the number of patients audited was small, 12 and 10 respectively. Because few patients were audited it is difficult to draw any conclusion about the result. Also, role of patient audits in future pilots would need to be determined by the DHB conducting the programme as audits can be expensive to run.

7. While initial feedback has been positive, the antipsychotic planning form used to prompt the review of patients on antipsychotics had only been in place for a short period of time (from 1 May 2015) before the pilot's findings had been confirmed.

6. Conclusions and Recommendations

The results of this pilot study indicate that some of the prescribing practices for using antipsychotics in elderly people are in accordance with recommendations. There is, however, room for improvement in certain areas.

This pilot provides a promising starting point for a programme of work promoting the appropriate use of antipsychotics in aged residential care settings. However, in order to validate the pilot's interventions and outcomes this project needs to be expanded to a larger range of ARC facilities.

Based on the findings of this pilot project it is recommended that,

1. The 'Making a Difference in Dementia' pilot is expanded to additional ARC facilities to validate the proposed interventions and expected benefits.

2. Responsibility for conducting the quantitative analysis is delegated to DHB analyst teams with support from PHARMAC Analyst teams.

3. Note that the buy-in of ARC facilities staff especially management is essential to any scaled up programme of work in this area. The benefits of ARC facilities being involved with any programme of work which looks to improve the medicines management and care of

residents need to be sold to ARC staff. The accreditation process for ARC facilities to operate may be a lever which can be used to encourage participation in this programme of work.

4. Note that the education and training of ARC staff about the use of antipsychotics and non-pharmacological interventions has been successful in increasing awareness and knowledge of ARC staff. Any staff education or training would need to be a regular feature in the ARC facilities timetable due to high staff turnover and to keep staff up to date with any changes in funded medicines and their side effects.

5. Note that a project starter pack consisting of all the relevant documentation is being developed for the purposes of introducing new participants to the initiative. It is anticipated in the future that the project pack will be hosted on PHARMAC's programme website to improve accessibility to this resource.

6. Note the role of the patient audits conducted by the ARC pilot GPs in future implementations of this work needs to be evaluated. This is due to the relatively high cost involved in funding GPs to undertake this activity and low response rate for the follow-up audit. It may also be better to conduct a post pilot audit after a reasonable amount of time i.e. at least a year after pilot interventions have been initiated.

7. Note that it is essential to include everyone who can drive the programme and who has the mandate to do this. It may mean the Ministry of Health is involved and a quality use of medicines Key Performance Indicators (KPI) approach is taken with the ARC facilities involved.

Acknowledgements

This work was supported by CCDHB's MM-ICC Group, and PHARMAC. We acknowledge the willing participation of the management and staff at Malvina Major Retirement Village, Sprott House Karori, Life Pharmacy Johnsonville, and Unichem High Street Pharmacy Lower Hutt.

References

1. The Royal Australian and New Zealand College of Psychiatrists, 'The Use of Antipsychotics in Residential Aged Care', 2008
2. Best Practice Advocacy Centre (BPAC), 'Managing patients with dementia: What is the role of antipsychotics?' BPJ, Issue 57, 2013

Appendix One – Project Group

Malvina Major Retirement Village:
Lynne Peirse – Clinical Services Manager, Malvina Major
Dr. Shane Dunphy – GP, Onslow Medical Centre
Dori Chin –Pharmacist, Life Pharmacy Johnsonville

Sprott House:
Lisa Cooke, Dementia Unit Manager, Sprott House
Angeline Bryan – Clinical Services Manager, Sprott House
Dr. Richard Hornabrook – GP, Karori Medical Centre
Duncan Sutherland – Unichem High Street Pharmacy, Lower Hutt

Medicines Management Integrated Care Collaborative (ICC) Group
Dr. Peter Moodie – Chair, GP Karori Medical Centre
Dr. Janet Turnbull – Geriatrician, CCDHB
Marilyn Tucker – Compass Health PHO Pharmacist Facilitator
Pam Bremford – Pharmacist, Kilbirnie Pharmacy
Dr. Crawford Duncan – Psychogeriatrician, CCDHB
Lesley Maskery – Community Psychiatric Nurse, CCDHB
Linda Bryant – Clinical Advisory Pharmacist, Well Health PHO
Jeremy Ly – Service Development Manager, SIDU
Michelle Saunders – Pharmacist, Wellington Hospital
Rebecca Rippon – Senior Analyst, SIDU
Mary-Anne O'Rourke – PHO & Hospital Pharmacist
Bruce Wilson – Project Manager Palliative Care Managed Clinical Network, SIDU

PHARMAC:
Karen Grant-Jacobs – PHARMAC
Thomas Xiao – Analyst, PHARMAC
Hew Norris – Analyst, PHARMAC
Kerri Osborne – Implementation Manager, PHARMAC
Bryan Betty – PHARMAC, GP Cannons Creek Medical Centre

Appendix Two – BPAC Audit

Review data collection form **Prescribing antipsychotics to older people: a special edition clinical audit**

For instructions or help filling in this form please refer to the **Audit Guide** document or the bpac website: **www.bpac.org.nz/a4e**

Data collection date: / /

Patient name or NHI Number:
For your records only, not required for online data entry

Patient ID:
Provided when data is entered online

Demographic information

1. Gender: ○ Male ○ Female

Age: ○ <65 ○ 65 – 80 ○ >80

Ethnicity: ○ NZ European ○ Māori ○ Pacific ○ Other

Place of residence: ○ Own home ○ Rest home ○ Dementia-level care ○ Hospital-level care

Antipsychotic medicines prescribed

2. What is the antipsychotic medicine prescribed for?

- ☐ Major psychiatric illness, e.g. schizophrenia, major psychoses, bipolar disorder
- ☐ Behavioural and psychological symptoms of dementia (BPSD)
- ☐ Agitation, aggression, psychosis or other symptoms not associated with a clear diagnosis
- ☐ Insomnia
- ☐ Anxiety
- ☐ Other indication(s): (please specify)
- ☐ Unknown

3. How long has the patient been prescribed an antipsychotic for?

○ < 3 months ○ 3 – 6 months ○ > 6 months

4. Who initiated the antipsychotic medicine(s)?

☐ Myself ☐ Another GP ☐ Geriatrician ☐ Psychiatrist

☐ Another medical specialist ☐ Other ☐ Unknown

5. What antipsychotic are prescribed and at what daily dose?

Medicine	Regular daily use Total dose (mg)	"As needed" use Total dose (mg)	Medicine	Regular daily use Total dose (mg)	"As needed" use Total dose (mg)
Amisulpride			Olanzapine		
Aripiprazole			Quetiapine		
Chlorpromazine			Risperidone		
Clozapine			Trifluoperazine		
Haloperidol			Ziprasidone		
Levomepromazine (methotrimeprazine)			Other (please specify below):		

	Review of clinical notes
6.	Is there evidence recorded in the notes that the dose has been reviewed since starting the medicine? ○ Yes ○ No ○ Unknown
7.	Are the symptoms for which the antipsychotic medicine was prescribed documented as: ○ Mild-moderate ○ Severe (symptoms cause severe distress or immediate risk of harm to patient or others) ○ Not documented
8.	Is there evidence recorded in the notes that specific target behaviours of BPSD were identified before an antipsychotic was prescribed? ○ Yes ○ No ○ Unknown ○ Not applicable (not prescribed for BPSD)
9.	Is there evidence recorded in the notes that target behaviours are responding to antipsychotics? ○ Yes ○ No ○ Unknown ○ Not applicable (not prescribed for BPSD)
10.	Is there evidence recorded in the notes that differential diagnoses such as delirium and depression were considered before starting an antipsychotic for target behaviors of BPSD? ○ Yes ○ No ○ Unknown ○ Not applicable (not prescribed for BPSD)
11.	Is there evidence recorded in the notes that non-pharmacological treatments have been or are being tried? ○ Yes ○ No ○ Unknown
12.	Is there evidence recorded in the notes of monitoring and/or regular review for adverse medicine effects, e.g. increase in falls or increasing obvious confusion? ○ Yes ○ No ○ Unknown
12 b.	Is the patient taking any other sedating medicines, e.g. tricylic antidepressants, SSRIs, benzodiazepines, zopiclone? ○ Yes (please list below) ○ No
13.	Is there evidence recorded in the notes that withdrawal of the antipsychotic been attempted within the last three to six months? ○ Yes ○ No ○ Unknown
14.	Is there evidence recorded in the notes of regular review (e.g. every three months) of on-going need for the antipsychotic? ○ Yes ○ No ○ Unknown

Appendix Three – Antipsychotic Planning Form

Antipsychotic Use Planning Form B			
Date of Initial Consultation:			
Patient's Name:			
Reason for Antipsychotic Use		Usually Inappropriate Uses of Antipsychotics	
❑ Aggression ❑ Agitation likely to harm self or others ❑ Psychosis causing distress ❑ Sundowning ❑ Hallucinations/ delusions causing distress ❑ Intense anxiety ❑ Other: *(please specify):* _____		Calling out Day/Night reversal Sleep disturbances Social withdrawal Agitation (unhappy restlessness)	Depression Resistive to carer Cognitive defects Wandering/pacing Apathy/motivational failure	Restlessness Anxiety unless extreme Inappropriate toileting Shadowing (unlikely to harm)
Antipsychotic Prescribed	Dose	Other information		
Review #1				
Date:				
Improvement – Yes / Stable		No - Give reasons (e.g. adverse reaction)		
Plan:		***Plan:***		
Review #2				
Date:				
Improvement – Yes / Stable		No - Give reasons (e.g. adverse reaction)		
Plan:		***Plan:***		
Review #3				
Date:				
Improvement – Yes / Stable		No - Give reasons (e.g. adverse reaction)		
Plan:		***Plan:***		

Recommended Starting and Maintenance Doses for Antipsychotics in Older People

From: "Managing patients with dementia: what is the role of antipsychotics?", BPJ 57 (Dec, 2013). Available from: www.bpac.org.nz

Medicines	Dose	Comments	Subsidy Information
Risperidone	0.25 - 0.5 mg daily initially, titrated to a maximum of 2 mg daily in patients with dementia, in one or two divided doses (6 mg, daily, may be tolerated in patients with other conditions).	Current evidence suggests limited effectiveness for BPSD, although possibly safer in terms of mortality risk	Fully subsidised. Only the disintegrating tablets require SA.
Quetiapine	12.5 mg daily initially, titrated to a maximum of 100 mg daily in patients with dementia, in two or more divided doses (300 mg, daily, may be tolerated in patients with other conditions).	Current evidence suggests limited effectiveness for BPSD, although possibly safer in terms of mortality risk	Fully subsidised.
Olanzapine	2.5 mg daily initially, titrated to a maximum of 10 mg daily (less in patients with dementia) in one or two divided doses.	May be modestly effective for treating agitation, but generally not recommended in people with dementia. Associated with greater comparative risk of adverse metabolic effects.	Fully subsidised.
Aripiprazole	5 mg – 10 mg once daily.	Aripiprazole is recommended third-line for psychotic symptoms and should be only be used in consultation with a psychiatrist or geriatrician. Aripiprazole is not subsidised for use in BPSD	Full subsidised but requires SA.
Haloperidol	0.25 mg twice daily, titrated up to 3 mg, daily, in one or two divided doses.	Effective for the short-term management of the acute symptoms of delirium (except in people with Parkinsonism of any cause). Not recommended for long-term use. High risk of extrapyramidal adverse effects and increased mortality compared to atypical antipsychotics.	Fully subsidised.

References:

1. *Croucher M, Duncan C, Fisher M, et al. The use of antipsychotics in residential aged care. Clinical recommendations developed by the RANZCP Faculty of Psychiatry of Old Age (New Zealand). 2008. Available from: www.bpac.org.nz/a4d///ranzcpGuide.asp (Accessed Feb, 2015).*

2. *New Zealand Formulary (NZF). NZF v32. NZF; 2015. Available from: www.nzf.org.nz (Accessed Feb, 2015).*

Last Updated: March 2015

Appendix Four – Timeline of Activities

Table 1. Pilot interventions			
Objectives	**Date**	**Completed Activities**	**Additional Comments**
Project Initiation Initial pilot activities	July 2014	An outline of the proposed pilot was presented to the Medicines Management Integrated Care Collaborative (MM-ICC) by PHARMAC Project Implementation Lead.	Group agreed that it would be a useful pilot to be involved with.
	Aug/Oct 14	Analysts at PHARMAC and the project team considered the best way of capturing data which could monitor any impact on the use of APs during the pilot. The approach of the pilot was agreed by the group.	The Analyst initially supporting the pilot data capture and interpretation left PHARMAC and was replaced by another PHARMAC analyst during this time.
	Nov 14	An invitation letter was sent to Sprott House and Malvina Major to participate in this study.	Both ARC management staff agreed to participate.
	Nov 14	Invitation to pilot site GPs and ARC staff to attend PHARMAC Seminar – 'Managing your patient who has dementia'.	The presentations from the seminar were filmed and GPs were able to claim CME and MOPs points after watching any one of the presentations and completing a learning reflection. Registered Nurses (RNs) are able to add the certificate they receive on completion of their learning reflection to their portfolio of professional development. The two clinical managers (Sprott and Malvina Major) and two other staff members attended this seminar. http://www.pharmac.health.nz/seminars/seminar-resources/dementia/
	Dec 14	The PHARMAC Project Manager and PHO Pharmacy Facilitator met with ARC Managers to discuss in detail the pilot project and obtain preliminary feedback.	GP and the Clinical Services Manager from each site were invited to participate in MM-ICC meetings.
	Dec 14	Posters and leaflets were developed and distributed to pilot sites to raise awareness amongst patients, their families, and staff.	This work was done by a Brand agency hired by PHARMAC to develop this resource for the pilot.

Established the views and attitudes of staff that prescribe and manage patients on antipsychotics.	Dec 14	Pre pilot interventions interviews to analyse baseline attitudes of ARC staff towards the use of antipsychotics, completed by Quigley and Watts (Research company).	Findings were presented at a regular monthly meeting of the project team - May 15
	Dec 14 – Jan 15	Completion of BPAC Audit Tool about medicines use in dementia by GP at each pilot site. Sprott House = 16 patients. Malvina Major = 15 patients.	There was some delay in completion of the pre-pilot interventions audit due to the online nature of the audit process. The two GPs who completed the audits were able to claim MOPs points for their time and were paid for each patient audit completed.
	Jan/Feb 15	Education sessions were delivered to RNs and caregivers at each pilot site. This presentation focused on how to manage the behavioural and psychological symptoms of dementia with the emphasis being on non-pharmacological interventions as a first line intervention and then medicines management of dementia, the side effects, and the need to monitor.	Nurses and caregivers received certificates of attendance to the education sessions. The RNs were able to add their certificate they received to their portfolio of professional development.
Develop guidelines or tools to assist staff managing patients requiring antipsychotics	Jan /Feb 2015	Tools and resources were repurposed (from other resources already developed and used for past programmes) These included: The Royal Australian and New Zealand College of Psychiatrists (RANZCP) – 'best practice prescribing algorithm for Elders in Residential Care'. A BPAC information booklet which contained all necessary information about medicines management in dementia with an updated medicine table, was provided to Clinical Managers from each pilot site. Documentation specifically for reviewing patients on antipsychotics was raised as an area of need-something which was highlighted during completion of patient audits by GPs and community pharmacists.	Resources chosen had mostly already been developed and were repurposed for this pilot, eg the RANZCGP algorithm was originally produced for a booklet, '*The Use of Antipsychotics in Residential Aged Care*' published by the RANZCGP in conjunction with PHARMAC in 2008 and after review by the psychogeriatrician on the project team still considered to be relevant.
	Mar 15	BPAC Medicines Table – 'Starting and Maintenance Doses of Antipsychotics in Older People' updated.	The medicines table had originally been published in the BPJ no. 57 edition (2013) and required updating as the funding for some of the medicines had been changed.
	Mar – May 15	Revised PRN medicines signing sheet developed by pharmacy to prompt staff to document reason for using administering PRN dose.	Duncan Sutherland from Unichem Pharmacy, Lower Hutt, who dispenses medicines to Sprott House contributed a standard PRN use form for the pilot, something which had already been in use at Sprott House.

	May – Jun 15	Antipsychotic Use Planning and monitoring form developed for use by staff (from a previous form which had not been used for a past AP programme) at three monthly reviews to help prompt regular review of antipsychotic effectiveness.	The form which was repurposed had originally been proposed by David Kerr and Marilyn Tucker for an audit conducted in 2008. The form was to be started at the time anyone was newly prescribed an antipsychotic. This form was then to be put in patients notes which would then encourage and flag review and monitoring of antipsychotics being used.
Evaluated any changes to prescribing or attitudes towards antipsychotics as a result of interventions	Jun – Jul 15	Analysis conducted by PHARMAC analysts to identify any changes in prescribing for a cohort of rest home patients between 1 Sep to 30 Nov 2014 and 1 Feb to 30 Apr 2015. This was compared with the same period one year before the pilot time period, ie 1 Sep- 30 Nov 2013 and 1 Feb to 30 April 2014.	To view pre and post what sort of impact the pilot activities were having on ARC practice.
	Jul 15	Telephone interviews with ARC staff were conducted to complete the post-pilot qualitative research by Quigley and Watts.	
	Jul 15	Post-pilot completion of BPAC Audit Tool by one of the two GPs. Sprott House = 12 patients.	BPAC were able to report back on these findings once audits were completed. The post-pilot BPAC audit was not completed by the second GP.
Preliminary findings	Aug 15	Delivery of qualitative research outcomes to MMICC	By a Quigley and Watts Director as the researcher who had conducted the interviews had left for an overseas work placement.
	Aug 15	Presentation to the ICC Leadership team at CCDHB about the preliminary findings of the pilot	Dr Peter Moodie and the PHARMAC Project Lead presented the preliminary findings.
	Aug 15	A communication plan was written about how the results would be disseminated to a wider audience and what the pilot findings and model could mean if scaled up.	See recommendations.

Appendix Five – Project Benefits

Table 2. Outcome/Benefit	Achieved	Justification
Using the results from the quantitative analysis, qualitative research and patient audit data		
Prescribing of APs use was reviewed, managed and monitored according to the best practice guidelines.	Yes	Increase in uptake of best practice guidance confirmed by qualitative analysis with ARC staff. BPAC guidance and updated medicines table attached to antipsychotic use planning and monitoring form. Algorithm for best practice use of antipsychotic (RANZCP) was included in patients notes.
Regular Review and titration of the antipsychotic medication of patients who are taking them are conducted and are documented.	Yes	Antipsychotic use planning form has been integrated into each ARC facilities three monthly review of patients. Anecdotal feedback from ARC staff is that the use of the forms is increasing and has benefitted residents in that the administration of PRN use of antipsychotics with residents(see quantitative data)
Reduction in the frequency of the number antipsychotics of courses of being used to manage symptoms of dementia.	Yes	PHARMAC analysts confirmed reductions in PRN and/or regular antipsychotic use although are not significant due to the small number of residents. Risperidone went from 25 to 18 residents, Quetiapine from 25 to 22 residents. Rest home staff noted (from qualitative research) a number of practical barriers to reducing antipsychotic use. • Lack of specialised dementia care beds in the community • Delays in assessment by psychogeriatric services • Family influence-desire to keep resident in current facility
Knowledge of antipsychotic medications and their use for patients with dementia would be better understood by staff that takes care of them at the end of the pilot.	Yes	Staff reported an increased awareness of best practice when using antipsychotic including side effects after the pilot and an increase in the use of non-pharmacological interventions for managing dementia. They also said that they were using the best practice guidance on APs more and had a greater awareness of AP effects, which in turn made them think twice about prescribing APs.
Positive changes in attitudes of staff toward the appropriate use of antipsychotic medication to improve patient behaviour.	Yes	Project prompted staff to think twice before using antipsychotics. Managers noticed improvements in staff managing their patients with symptoms of dementia.
Tools and resources introduced during the pilot to assist staff to monitor AP use are adopted as standard.	Partial	While tools and resources have been adopted by ARC facilities 'three months' is too early to tell whether they have been adopted as standard practice.

Average length of time a patient takes the antipsychotic medication is within the clinical recommendations limits.	Partial	Difficult to tell whether this is currently the case. (reduction in PRN although not statistically significant because of small numbers) The antipsychotic planning form is expected to help support decision making.
Average dose of AP medicine if within normal limits.	No	From patient audit results: From the collective patient audit results it shows that the majority of patients taking an AP were being prescribed quetiapine, although risperidone is the recommended first line AP to use in patients who have dementia and require more than non-pharmacological intervention to manage moderate to severe behavioural symptoms. The average daily dose of quetiapine being prescribed was 53mg with the range from 12.5mg-225mg. The three patients taking more than 100mg/day had been Rx APs by a Psychogeriatrician for a mental health disorder-eg schizophrenia or bipolar disorder. There were three patients were being prescribed more than one AP. Of the 37 residents who had the RX care audited, 18 of them were also taking a sedating medicine as well as an AP, eg. Fluoxetine. Most patients had been taking an AP for more than six months. From comparative data audit results, ie comparison between pre and post pilot audits, of the audits completed, it does not indicate there is any significant difference to practice. The numbers being compared are very small.
Public awareness (patients and families of patients with dementia) of pilot project benefits.	Partial	Posters and leaflets were distributed at pilot sites; however ARC staff had not received any feedback from members of the public.