Veterans’ MATES Report 2016-2017

Improving care of older veterans

Veterans’ Medicines Advice and Therapeutics Education Services program

An initiative of the Australian Government Department of Veterans’ Affairs
The Veterans’ Medicines Advice and Therapeutics Education Services (MATES) program is a multidisciplinary, collaborative venture developed by the University of South Australia’s Quality Use of Medicines and Pharmacy Research Centre for the Australian Government Department of Veterans’ Affairs. We acknowledge our core partners:

- University of Adelaide
- Australian Medicines Handbook
- Drug and Therapeutics Information Service (DATIS)
- NPS MedicineWise
- HealthLink
Contents

THE VETERANS’ MATES APPROACH 5
Using the health claims data 7

IMPROVING THE CARE OF OLDER VETERANS 8

PREVENTING FALLS AND FRACTURES 9
Challenge 1: Reducing use of medicines that can increase the risk of falls
  Step 1: Understanding the problem 9
  Step 2: Driving practice change 10
  Step 3: The achievements 11
Challenge 2: Risk of osteoporosis 12
  Step 1: Understanding the problem 12
  Step 2: Driving practice change 12
  Step 3: The achievements 13

IMPROVING MANAGEMENT OF DEMENTIA AND REDUCING CONFUSION 15
Challenge 1: Reducing use of medicines with anticholinergic and sedative properties in patients with dementia
  Step 1: Understanding the problem 15
  Step 2: Driving practice change 17
  Step 3: The achievements 18
Challenge 2: Reducing use of antipsychotics in people with dementia
  Step 1: Understanding the problem 20
  Step 2: Driving practice change 21
  Step 3: The achievements 22
Since 2004 the Veterans’ MATES program has been helping to improve the health of the veteran community by encouraging better use of medicines and health services. The University of South Australia with support from the Discipline of General Practice and School of Public Health at the University of Adelaide, the Australian Medicines Handbook Ltd, the Drug and Therapeutics Information Service, NPS MedicineWise and HealthLink Ltd delivers the program on behalf of the Australian Government Department of Veterans’ Affairs.

The program has achieved many positive changes for veterans and made a substantial contribution to health services research in Australia and overseas. This report focuses on the program’s achievements in improving care for older veterans.
The Veterans’ MATES approach

Veterans’ MATES is a unique initiative that uses the Australian Government Department of Veterans’ Affairs routinely collected administrative health claims data to identify ‘real life’ problems with medicine use and health care among members of the veteran community. The program provides timely targeted feedback supported by evidence-based information to the veteran, their general practitioner, allied health care providers and directors of care of residential aged care facilities to improve veteran care. The activities of the program are underpinned by the principles of Australia’s National Strategy for Quality Use of Medicines. The theoretical frameworks for behaviour change, social learning theory and the transtheoretical model, as well as the health promotion model, Precede-Proceed, inform program development, implementation and evaluation.

The program delivers four interventions each year. The interventions include information for general practitioners about the veterans they treat who may have potential medication-related problems. The information includes a list of the patient’s relevant medicines, contains notes identifying the potential problems, and enables general practitioners to indicate the actions they will take to improve veteran care. Supportive educational material based on current guidelines and evidence is provided to assist GPs in resolving the potential medication-related problems. Educational material is also provided to veterans and other health professionals involved in the care of veterans. Advisory lines are available for both veterans and health professionals to call if they have questions about the information they receive. Information is also available via the Veterans’ MATES website (www.veteransmates.net.au). The educational material is specially tailored for the veteran community and developed with the support of a multidisciplinary clinical reference group that meets monthly. All the materials that are developed are reviewed by a national editorial committee that includes representatives from veteran and health professional organisations. A veteran reference group and a practitioner reference group meet twice each year to ensure the program remains relevant to veteran and health practitioners’ concerns.

Each educational intervention is based on a specific medicine or health-related topic.

Some topics provide information about services available such as Home Medicine Reviews (HMRs), and services for diabetes care.
Others provide information about conditions such as heart disease, insomnia, chronic pain or wounds.

Some topics provide information about particular medicines such as medicines to prevent blood clots (anticoagulants), medicines to lower cholesterol (statins), or medicines to treat heartburn and reflux. They consider issues such as managing side effects, taking multiple medicines or weighing up the benefits and risks of a new medicine.

All topics aim to do one of three things.
- Decrease the use of inappropriate medicines.
- Increase the use of underutilised medicines.
- Increase the appropriate use of testing and services.

Each intervention is thoroughly evaluated using a range of measures designed to assess participation, changes in awareness, knowledge and behaviours, as well as changes in health service delivery, including changes in medicine use and health outcomes.
- We use stakeholder surveys to assess participant satisfaction and self-reported behaviour change.
- We use cohort studies and time series analysis to assess changes in medicine use.
- We use cohort studies to assess changes in health outcomes. For example, changes in rates of hospital admissions.

VENETRS’ MATES PUBLICATIONS ON THIS TOPIC

Using the health claims data

Since the beginning, Veterans’ MATES has been harnessing the power of big data to deliver its health care improvement program.

The Australian Government Department of Veterans’ Affairs routinely collected health claims data includes over half a billion health records. The data include veteran, pharmacy and doctor specific information on medicines and health services reimbursed by DVA.

Veterans’ MATES utilises the data in every phase of the intervention. In the planning stage, the routinely collected data are used to analyse the extent of a medicine related problem. Based on the problem identified, the topic for the intervention is selected. As part of program implementation, the data are used to generate the direct patient-based feedback provided to medical practitioners. During the evaluation stage, data enables the impact and outcomes of the intervention to be measured.

Over the last twelve years Veterans’ MATES has pioneered the way in which health claims data can be used to improve health outcomes. The next section of this report highlights examples of how the program has delivered improvements in health care for older veterans.
Improving the care of older veterans
Preventing falls and fractures

Each year one third of people living in the community aged over 65 years experience a fall. Having a fall can lead to a loss of independence, lower quality of life and admission to residential care. In Australia, falls account for 73% of all injuries causing hospital admission among older people.

**CHALLENGE 1: REDUCING USE OF MEDICINES THAT CAN INCREASE THE RISK OF FALLS**

**Step 1: Understanding the problem**

Veterans’ MATES research into preventing falls explored the association between falls and the number of medicines with sedative properties that veterans were taking. Medicines with sedative properties may be used for a number of conditions. Examples of medicines with sedative properties include antipsychotics, anxiolytics, hypnotics, antidepressants, and opioids for pain relief.

Veterans’ MATES research showed that veterans were much more likely to end up in hospital for a fall when they were taking one or more medicines with sedative properties. In fact, the research found that taking two medicines with sedative properties increased the risk of being admitted to hospital for a fall by seventy percent, and taking five or more increased the risk by three-fold.
Medicines with sedative properties may also increase the risk of hip fracture. Veterans’ MATES research has shown that the risk of hip fracture doubles in the first week after someone starts an antipsychotic, and while this risk is not quite as high in subsequent weeks, people are still 30 to 40% more likely to have a hip fracture while they are on antipsychotics compared to when they are not. Translating this into actual patient harms means that for every 4 to 12 persons who show improvement in the management of behavioural and psychological symptoms of dementia, one would be hospitalised for hip fracture.

**Step 2: Driving practice change**

Veterans’ MATES has delivered a range of programs aimed at reducing the risk of falls and fractures in our older veteran community. Initiatives have targeted a range of medicines, including hypnotics and antipsychotics, which contribute to falls risk and fractures.
Step 3: The achievements

Results show reductions in the use of medicines that increase the risk of falling and increases in the use of medicines that prevent fractures.

![Graph showing rate of hypnotic use with both interventions, rate of hypnotic use with first intervention only, and rate of hypnotic use with no interventions over time.]

**VETERAN RESPONSE**
More than 8 out of 10 veterans reported that the Veterans’ MATES materials were useful or very useful.

![Icon of people representing veteran response]

**PRACTICE CHANGE**
116,000 fewer patient-months of treatment with hypnotics.

**HEALTH OUTCOMES AVOIDED**
80 hospital admissions due to falls*

47 hospitalisations for acute confusion*

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*Numbers based on Veterans’ MATES analysis showing risk of hospitalisation for falls and acute confusion when prescribed multiple medicines with sedative properties.
**CHALLENGE 2:**
**RISK OF OSTEOPOROSIS**

**Step 1: Understanding the problem**
Prior to our interventions to reduce risk of fracture from osteoporosis, we assessed use of bone mineral density tests among older men and women and found:

- Less than 10% of women and men 80 years or over had a bone mineral density test in the previous 5 years.
- Only 2% of older men and 10% of older women were on medicines for osteoporosis, while prevalence of osteoporosis may be up to 50% in the oldest age groups.

We also assessed patients admitted to hospital for hip fracture and found:

- 1 in 6 women and 1 in 5 men had a prior fracture but were not on medicines for osteoporosis.
- 1 in 15 were on corticosteroids and no medicines for osteoporosis.
- 84% were on at least 1 medicine that increases risk of falling.
- 50% were on 2 or more medicines that increases risk of falling.

**Step 2: Driving practice change**
Veterans’ MATES has delivered initiatives focused on keeping bones strong in older veterans. Interventions have identified those most at risk of osteoporosis and encouraged bone mineral density testing in high risk group and, where appropriate, the use of medicines to prevent osteoporosis.

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**What is osteoporosis?**
When bones lose calcium, they become fragile and brittle. This is called osteoporosis. Brittle and fragile bones can break more easily. Even a minor bump or fall can cause a serious fracture. Both women and men can be affected by osteoporosis.

**Could I have osteoporosis?**
Answer these 9 questions. If you answer “yes” to any of them, talk to your doctor about osteoporosis. A “yes” answer to any question does not mean you have osteoporosis. It does mean that you are more likely to have osteoporosis than those who answer “no” to all questions.

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**Questions adapted from stop the next fracture Consumer Guide – managing osteoporosis. Produced by Osteoporosis Australia.**

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**How is osteoporosis diagnosed?**
Your doctor will review your medical history to help determine your risk of getting osteoporosis. Your doctor may then recommend a bone mineral density (BMD) test which is a quick and painless scan.

**What if I have osteoporosis?**
The good news is osteoporosis can be treated. Healthy diet and lifestyle are the first steps. Effective medications are also available for treating osteoporosis. Your doctor will recommend the best treatment for you.
Step 3: The achievements

The program has achieved increases in the number of veterans at risk of osteoporosis receiving bone mineral density tests and an increase in the use of medicines that help prevent osteoporosis.

**RATE OF BONE MINERAL DENSITY TESTING (MEN)**

**RATE OF OSTEOSPOROSIS MEDICINE USE (MEN)**

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**GENERAL PRACTITIONER RESPONSE**

Almost 8 out of 10 general practitioners reported the Veterans’ MATES prescriber feedback helped them to review their patients.

**PRACTICE CHANGE**

3,871 additional veterans received tests for bone mineral density

3,871

25,832 additional patient months of treatment with medicines for osteoporosis

25,832

**HEALTH OUTCOMES AVOIDED**

80-150 fractures avoided

80-150

*Numbers based on randomised controlled trial evidence.*


Improving management of dementia and reducing confusion

In Australia, dementia is the single greatest cause of disability in older people. One third of people prescribed medicines for dementia are also prescribed medicines with anticholinergic or sedative properties. Medicines with anticholinergic or sedative properties can worsen the symptoms of dementia. Up to 28% of people resident in nursing homes are prescribed antipsychotics. Antipsychotics can increase the risk of pneumonia, hip fracture and death.

**CHALLENGE 1:** REDUCING USE OF MEDICINES WITH ANTICHOLINERGIC AND SEDATIVE PROPERTIES IN PATIENTS WITH DEMENTIA

**Step 1: Understanding the problem**

Knowing that older people can be particular sensitive to the anticholinergic and sedative effects of medicines, Veterans’ MATES explored the association between the use of anticholinergic medicines or sedative medicines and the risk of hospitalisation for confusion or dementia.
Research found that veterans were three times as likely to be hospitalised for confusion or dementia when taking two anticholinergic medicines and were at four times the risk of hospitalisation for confusion when taking three or more anticholinergic medicines. Similarly, analysis showed a two to fifteen fold increased risk of hospital admission for confusion in people taking multiple sedative medicines.
**Step 2: Driving practice change**

Veterans’ MATES developed a series of interventions targeting medicines that can affect dementia. Initiatives identified medicines that can adversely affect dementia and provided GPs with practical alternative medicines or strategies to consider.

In particular, campaigns focused on the cumulative effect of multiple medicines. An anticholinergic burden indicator was developed to help GPs identify the total anticholinergic burden for each of their veteran patients.

### Anticholinergic burden indicator provided to GPs

#### Baseline (1st March 2014 to 31st May 2014)

<table>
<thead>
<tr>
<th>Patient Overall Anticholinergic Burden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Burden</td>
</tr>
<tr>
<td>High Burden</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Brand</th>
<th>Strength</th>
<th>Anticholinergic rating</th>
<th>Last Dispensing</th>
<th>Other Prescriber</th>
<th>GP Action</th>
<th>Change Med</th>
<th>Stop Med</th>
</tr>
</thead>
<tbody>
<tr>
<td>OXYCODONE</td>
<td>Endone</td>
<td>TAB 5mg</td>
<td>low</td>
<td>22/05/2014</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRUSEMIDE</td>
<td>TW Chemists</td>
<td>TAB 40mg</td>
<td>low</td>
<td>21/05/2014</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLUOXETINE</td>
<td>TW Chemists</td>
<td>CAP 20mg</td>
<td>low</td>
<td>09/05/2014</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**What is the type of accommodation?**: Residential Aged Care

**Date of the last Medicines Review (HMR or RMMR) claimed**: 22/09/2013

**Notes**: High anticholinergic burden. Consider reducing dose or number of anticholinergic medicines.

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**Medicines are used to treat**: Sleep disorders, Anxiety, Depression, Allergies, Coughs & colds, Airways disease, Motion sickness, Gastrointestinal cramps, Incontinence, Neuropathic (nerve) pain

**Possible anticholinergic side effects**: Decreased memory & thinking skills, Dizziness, Blurred vision, Dry eyes, Dry mouth, Decreased sweating, Constipation, Bladder control problems, Dry reddened skin

Talk to your doctor if you experience any of these symptoms, which may or may not be related to your medicines. Never stop taking a medicine without consulting your doctor.
Step 3: The achievements

The program has demonstrated reductions in the use of medicines contributing to cognitive impairment.

<table>
<thead>
<tr>
<th>Step 3: The achievements</th>
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<tbody>
<tr>
<td>The program has demonstrated reductions in the use of medicines contributing to cognitive impairment.</td>
</tr>
</tbody>
</table>
HEALTH OUTCOMES AVOIDED
40 hospitalisations for confusion

PRACTICE CHANGE
1,000
600 veterans reduced use of two anticholinergic medicines

VETERAN RESPONSE
7 out of 10 veterans reported learning new information from the Veterans’ MATES materials.

VETERANS’ MATES PUBLICATIONS ON THIS TOPIC

CHALLENGE 2: REDUCING USE OF ANTIPSYCHOTICS IN PEOPLE WITH DEMENTIA

Step 1: Understanding the problem

Veterans’ MATES research aimed to quantify the harms from use of antipsychotic medicines in older persons. The research found that the risk of harm was high with:

- 1 excess death occurring for every 11 to 33 persons helped.
- 1 excess cerebrovascular event for every 2 to 5 persons helped.
- 1 excess hospitalisation for pneumonia for every 2 to 5 patients helped.
- 1 excess hospitalisation for hip fracture for every 4 to 12 patients helped.

RISK OF PNEUMONIA WITH ATYPICAL ANTIPSYCHOTICS IN ELDERLY

<table>
<thead>
<tr>
<th>Weeks</th>
<th>IRR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2-8</td>
<td>2</td>
</tr>
<tr>
<td>9-12</td>
<td>3</td>
</tr>
<tr>
<td>&gt;12</td>
<td>4</td>
</tr>
</tbody>
</table>
Step 2: Driving practice change

Veterans’ MATES initiatives highlighted the limited role of antipsychotics in the management of behavioural and psychological symptoms of dementia, and discussed appropriate alternatives. A number of supporting resources were developed including an antipsychotic ceasing guideline for GPs and an adapted TOP 5 tool for carers to share with health professionals.

Research from the TOP5 program has shown that writing down and sharing up to five important tips such as those listed below, can help others to support and care for a person with dementia:

• Situations that might cause distress and what could help
• Routines and rituals that are reassuring
• Signs that indicate the person needs or wants something
• Names and photos of family, friends or pets that are important to the person
• Personal preferences for enjoyment such as music, radio, reading or gardening.

Think about the most important tips that will help others give reassuring and familiar care. Use the reverse of this page to write these down. Provide the ‘why’, followed by your practical tip and what will happen when this is followed (see examples).

Share your practical tips

Example 1

Background/why:
Ken was a fireman for forty years.

Practical tip:
If Ken hears an alarm or loud ringing he will become distressed. Let him know that the car has been sent.

What will happen when followed:
Ken will calm down. Offer him a cup of tea and he will forget about the alarm.

Example 2

Background/why:
Mary has always prided herself on looking well presented.

Practical tip:
Ensure her hair is brushed and tell her she looks lovely today.

What will happen when followed:
Mary will be less anxious and more likely to engage with staff.


2 This has been adapted from the TOP5 program developed by the Central Coast Local Health District in 2001. Further information for carers about the TOP5 program is available at http://www.cclhd.health.nsw.gov.au/patientsandvisitors/CarerSupportAndProgram/CarerFamily.aspx
Step 3: The achievements

The program has led to reduced use of antipsychotics in patients with dementia.

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**Rate of risperidone use**

- Without intervention
- With interventions

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**Rate of veterans aged 65 years and over per month who have been dispensed risperidone for dementia**

- Risperidone for dementia (post)
- Risperidone for dementia (pre)
- Linear (Risperidone for dementia (pre))

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**TGA limits the indication of risperidone**

Sept 2007 intervention

Sept 2016 intervention
GENERAL PRACTITIONER RESPONSE

More than 7 out of 10 general practitioners reported increased confidence to cease antipsychotics as a result of Veterans’ MATES materials.

PRACTICE CHANGE

7,716 fewer patient months of treatment with risperidone from the initial intervention

HEALTH OUTCOMES AVOIDED*

216 hospital admissions for pneumonia

70 hip fractures

70 cerebrovascular events

41 premature deaths

*Numbers based on Veterans’ MATES analysis and published literature.

VETERANS’ MATES PUBLICATIONS ON THIS TOPIC


Avoided HOSPITAL ADMISSIONS FOR PNEUMONIA

216

Avoided HIP FRACTURES

70

Avoided CEREBROVASCULAR EVENTS

70

Avoided PREMATURE DEATHS

41

(numbers based on Veterans’ MATES analysis and published literature.)