Dose Administration Aids: Preventing Medication Error

Missing doses or doubling up on doses are common medication errors that can result in adverse drug events (ADEs) and hospitalisation.\(^1,2\) Approximately one-third of unplanned hospital admissions involving the elderly are medication related and 50% of these are potentially preventable.\(^3\) Memory problems and a complex medication regimen increase the likelihood of these problems. Older veterans are more vulnerable as they are likely to be taking multiple medicines.\(^1,3\)

A dose administration aid (DAA) is a pharmacist-packed box containing medications for a fixed period. DAAs have been shown to improve health outcomes, including memory-related problems, and reduce the likelihood of adverse drug events.\(^4-8\)

In March 2008 DVA introduced a free DAA Service for eligible veterans and war widows. In June 2008 DVA reviewed the DAA Service and simplified the process.

This therapeutic brief discusses the benefits associated with using a DAA and a Home Medicines Review (HMR). It also covers selection of veterans who are more likely to benefit from a DAA and the simplified process by which a veteran can obtain a free DAA Service through DVA.
What is the DVA DAA Service?

The DAA Service supplies suitable DVA clients with regularly filled Dose Administration Aids, such as blister packs, under the coordinated care of their doctor and pharmacist. A veteran’s suitability for the DAA Service is assessed by their doctor before being placed on a six-month program during which they are monitored by their doctor and pharmacist. It is strongly recommended that the doctor orders an HMR to help assess the likelihood that a veteran will benefit from a DAA. After a successful six-month period, veterans may continue receiving the Service with ongoing six monthly reviews under the same supervision.

Patients may be receiving their DAA under other arrangements however the DVA Service is free for eligible veterans.

Benefits

Australian research, including a study of DAA use in 1010 veterans and war widows, identified a number of potential benefits, and is supported by other research including an American study of 200 veterans. These studies suggest the need to combine the use of DAAs with patient education, information and periodic follow up, including a medication review to prevent any decline in adherence over time.

Benefits to Veterans

Better adherence and medication management contributes to:

- reduced memory related medication errors
- improved physical and general health
- less pain, anxiety and depression
- better prescription management
- maintaining continuity of medication supply
- reduced hoarding
- lower risk of ADE

Benefits to Doctors

- Records correlate better with medication found in the home.
- Provides a prompt to review a veteran’s medication and address medication management issues.
- Helps quantify perceptions of compliance and re-evaluate aspects of prescribing.

Benefits to Pharmacists

- Strengthens the partnership between pharmacist and veteran in medication management.
- Builds collaboration between the pharmacist and doctor.

Why an HMR is important in the DAA Service

An HMR is a patient-focused review conducted in the veteran’s home. It enables the pharmacist to see first hand how the veteran is managing their medicines at home.

The pharmacist is then well positioned to determine the veteran’s suitability by assessing their individual needs, circumstance and capability for managing a DAA Service and assessing potential disadvantages.

The HMR also provides the veteran with education and information regarding their medicines including any over-the-counter medication they may be taking. It is also an opportunity to provide information about using DAAs.

An annual HMR is recommended for anyone using a DAA.
Veterans most likely to benefit from the DAA Service

- Those with more severe illness
- Use multiple medications or have complex regimens e.g. taking four or more oral medicines
- Have reported non-adherence
- Require help with activities of daily living
- Experience confusion or difficulty in handling their medicines
- Have been hospitalised in the preceding year.

Veterans who may not benefit from the DAA Service

- Have fewer than 4 oral medications, can manage and adequately understand their own medicines.
- Are on a number of medicines that are not appropriate to be packed into a DAA, e.g. PRN medication, liquids, inhalers etc.
- Are visually impaired or have dexterity problems.

Some DAs have instructions in Braille but veterans would need to be assessed as to their ability to manage such instructions.

For qualifying veterans eligibility is only indicative and not a fixed criterion. Every veteran needs to be assessed on their individual circumstances, capability and needs irrespective of initial presentation. For example some veterans with fewer than 4 solid oral medications may benefit from a DAA Service.

Steps that need to be taken

1. Doctor assesses the veteran’s eligibility and suitability for the DVA DAA Service. It is strongly recommended that the doctor orders an HMR if the veteran has not had one within the last 12 months.

2. Doctor obtains two authority prescriptions from VAPAC* (1800 552 580), one for the DAA Service for six months and one for the veteran’s six monthly review (VSMR). VAPAC will confirm veteran is living in the community and whether an HMR has been conducted.

3. Community pharmacist supplies DAA and provides veteran with information, support and education while making observations on the use. Pharmacist eligible to claim 99647N × 26 weeks.

4. After 20 weeks the community pharmacist conducts Veterans Six Month Review (VSMR) using DVA form to ensure veteran is managing with the DAA. A copy of the report is faxed to VAPAC (07) 3223 8651 and doctor. VSMR form and background information can be obtained from the DVA website: www.dva.gov.au/health/DAA/pharmacy.htm. Pharmacist eligible to claim 99648P for VSMR.

5. Doctor decides whether to seek further approval and obtain authority prescriptions from VAPAC to extend the DAA Service for another six months. In addition to MBS consultation item the doctor is eligible to claim an item CP42 for assessment of the VSMR.

*Veterans’ Affairs Pharmaceutical Benefits Advisory Centre (VAPAC)

This information is accurate at the time of printing. For the latest information on the DVA DAA Service process refer to materials posted on the DVA website www.dva.gov.au/health/DAA
What can be packed in a DAA

A DAA is used to hold only suitable solid oral medications that are taken on a regular basis. Not all medicines are suitable for a DAA for safety and stability reasons. The decision as to a medicine’s suitability for a DAA is left to the pharmacist’s professional judgment. Pharmacists work with a range of practice guidelines and standards to ensure the DAA is safe and appropriate to use.8

Table 1: Examples of types of medicines that should not be packed in a DAA11,12

<table>
<thead>
<tr>
<th>Medicine types affected by moisture</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effervescent tablets</td>
<td>Effervescent forms of ranitidine, aspirin and potassium chloride</td>
</tr>
<tr>
<td>Dispersible tablets</td>
<td>Madopar Rapid®</td>
</tr>
<tr>
<td>Sublingual or buccal tablets</td>
<td>nystatin, glyceryl trinitrate, buprenorphine</td>
</tr>
<tr>
<td>Chewable tablets</td>
<td>vitamin C</td>
</tr>
<tr>
<td>Wafers</td>
<td>olanzapine</td>
</tr>
<tr>
<td>Tablets containing aluminium hydroxide, magnesium trisilicate</td>
<td>Gaviscon®</td>
</tr>
<tr>
<td>Moisture sensitive medicines</td>
<td>sodium valproate, amisulpride, rabeprazole</td>
</tr>
<tr>
<td>Medicines that may be appropriate for a limited time in a DAA</td>
<td>Examples</td>
</tr>
<tr>
<td>Storage temperature may affect stability</td>
<td>thyroxine</td>
</tr>
<tr>
<td>Medicines known to be susceptible to light degradation</td>
<td>nifedipine, tamoxifen</td>
</tr>
<tr>
<td>Data available indicating stable if packed for 2 weeks or less</td>
<td>omeprazole</td>
</tr>
<tr>
<td>Other</td>
<td>Examples</td>
</tr>
<tr>
<td>PRN medication</td>
<td>analgesics, laxatives</td>
</tr>
</tbody>
</table>

Note: Stability data may or may not be available from the manufacturer.

What to tell your patients

- DAAs are usually blister packs prepared by a pharmacist to ensure you take the right medicine at the right time.
- DAAs are not about taking control of your medicines away from you.
- Your community pharmacy needs to know about all of the medicines (including non-prescription medicines) you are taking so that they can be considered for the DAA Service.
- You will need to have your DAA filled regularly at your community pharmacy. Discuss a suitable routine with your pharmacist.

Useful websites

- For more information on DAAs go to: DVA: www.dva.gov.au/health/DAA
- For more information on HMRs go to: Australian General Practice Network: www.agpn.com.au/site/index.cfm?display=453

References