Australian Government

Department of Veterans' Affairs

ELECTRONIC RECORDS

NB: These documents have been obtained from an electronic record. An original hard-copy version of this record does not exist.

Australian Government
Department of Veterans' Affairs

BRIEF/MINUTE TO MINISTER

TRIM Ref: 162727

ACTION ☐ **INFORMATION** ☐ **EVENT** ☒

Critical Date: 25 June 2004
Reason for Critical Date: To complete papers before the Minister departs for Adelaide for the SA RSL Congress 2-3 July 2004.

Subject: Provision of the new Prescriber Intervention and Feedback Programme (veterans' MATES)

Recommendation: Minister to launch in Adelaide while attending the SA RSL Congress 2-3 July 2004.

Sensitive Issues:

Announcements:

Media Issues: Media Release to be prepared.

INPUT PROVIDED BY:

Defence: Yes ☐ No ☐ Not Required ☒ **Other Agencies:** Yes ☐ No ☐ Not Required ☒
AWM: Yes ☐ No ☐ Not Required ☒

Departmental Contact	Authorised By	Media & Communication Section
Name: Robert s 47F	**Name:** Roger Winzenberg	
Branch: Health Services	**Title:** Branch Head	
Phone: s 47F	**Date:** 16 June 2004	

Executive Clearance/ Comments: s 47F 16/6

s 47F

17/6

Minister's comments:

APPROVED ☐ **NOT APPROVED** ☐ **NOTED** ☐

MINISTER'S SIGNATURE ..... **DATE** ...../...../.....

Minister's feedback on quality & timeliness:

Australian Government

Department of Veterans' Affairs

MINUTE

National Office

MINISTER

PROVISION OF THE NEW PRESCRIBER INTERVENTION AND FEEDBACK PROGRAMME (PFP)

Purpose:

The purpose of this brief is to inform you that the Department of Veterans' Affairs has entered into a contract with the University of South Australia for provision of the new Prescriber Intervention and Feedback Programme (PFP). The new enhanced programme will be called 'Veterans' MATES' (Veterans' Medicines Advice and Therapeutic Education Services).

Background

The former PFP was designed to encourage best practice in prescribing, dispensing and use of veterans' medicines especially in chronic diseases and complex medication regimes. The Programme (as the PFP) has been in progress since 1998.

The contract with the former provider ceased in August 2003. Since then, the Department has undergone a public expression of interest and tender process to identify a suitable organisation to continue delivery of the programme.

The PFP assists Local Medical Officers (LMOs) to meet best-practice standards in prescribing medicines to veterans and war widows. The PFP uses available prescription data to identify veterans who may be at risk of medication misadventure and invites LMOs to assist in improved medication management in the veteran community.

Survey results indicate that the programme is well accepted by LMOs, and the significant majority of those who responded indicate that they have taken action on the advice provided. To date, 18 clinical modules have been completed with the total number of veterans identified for intervention by the programme being 390,692, and the total number of LMOs who provided medical services to these veterans and who received feedback material, being 111,937.

The PFP has delivered an estimated overall saving of up to $40 million in drug and hospitalisation costs since its inception in 1998.

Replacement Programme

The contract with the University of South Australia for the delivery of the new Veterans' MATES programme, is for 3 years with options to extend by 2 years. It is costed at $7.2m over 3 years.

The University of South Australia has extensive experience in the use of various research methodologies such as the use of comparison groups, or data, and evaluation of results by health economists. This will provide definitive information on costs and cost-savings to the health care system associated with the Programme interventions. Also, it will result in high quality articles being submitted for publication. Publication will enable dissemination of Programme results and methodologies and raise the profile of DVA and its Quality Use of Medicines initiatives.

The University of South Australia will bring immediate improvement to the Programme through their innovative research of the RPBS data. Ongoing improvement will be through linked analyses with Medicare Benefits Schedule (MBS), hospital data, and Treatment Account System (TAS) data to strengthen our understanding of the veteran population, their medicine and health care usage.

The University of South Australia will involve other major organisations in the delivery of the new programme. They will subcontract with the National Prescribing Service, Drug and Therapeutics Information Service, Repatriation General Hospital Daw Park, Australian Medicines Handbook and University of Adelaide's Department of General Practice. These bodies are recognised as being the key participants in quality use of medicines programmes in Australia and through this new programme we anticipate innovative approaches, improved coordination and a significant impact on the problem of medication misadventure in the elderly and the veteran community.

The University of South Australia will require approximately six months to establish the service and the first module of the new contract will be expected early in 2005. It is envisaged that the new Programme will deliver a similar level of savings in drug and hospitalisation costs.

Recommendations

It is recommended that you note the establishment of the new Veterans' MATES programme and that you agree to launch the programme in Adelaide while you are there for the SA RSL Congress.

s 47F

Roger Winzenberg
Branch Head
Health Services

16 June 2004

Australian Government

Department of Veterans' Affairs

BRIEF/MINUTE TO MINISTER

TRIM Ref: 162727

ACTION ☐ **INFORMATION** ☐ **EVENT** ☒

Critical Date: 25 June 2004
Reason for Critical Date: To complete papers before the Minister departs for Adelaide for the SA RSL Congress 2-3 July 2004.

Subject: Provision of the new Prescriber Intervention and Feedback Programme (veterans' MATES)

Recommendation: Minister to launch in Adelaide while attending the SA RSL Congress 2-3 July 2004. ✓

Sensitive Issues:

Announcements:

Media Issues: Media Release to be prepared.

INPUT PROVIDED BY:

Defence: Yes ☐ No ☐ Not Required ☒ **Other Agencies:** Yes ☐ No ☐ Not Required ☒
AWM: Yes ☐ No ☐ Not Required ☒

Departmental Contact	Authorised By	Media & Communication Section
Name: Robert s 47F	**Name:** Roger Winzenberg	
Branch: Health Services	**Title:** Branch Head	
Phone: s 47F	**Date:** 16 June 2004	

Executive Clearance/ Comments: s 47F 16/6 s 47F 17/6

Minister's comments:

APPROVED ☑ **NOT APPROVED** ☐ **NOTED** ☐

MINISTER'S SIGNATURE s 47F **DATE** 22/6/04

Minister's feedback on quality & timeliness:

THE HON DE-ANNE KELLY BE MP
MINISTER FOR VETERANS' AFFAIRS
MINISTER ASSISTING THE MINISTER FOR DEFENCE

ADVICE BRIEF

THE VETERANS' MEDICINES ADVICE AND THERAPEUTICS EDUCATION SERVICES (*VETERANS' MATES*) PROGRAM

Australian Government

Department of Veterans' Affairs

National Office

BRIEF FOR MINISTER

ADVICE/INFORMATION

SUBJECT: THE VETERANS' MEDICINES ADVICE AND THERAPEUTICS EDUCATION SERVICES (*VETERANS' MATES*) PROGRAM

PURPOSE

To brief you on the new quality use of medicines program, Veterans' MATES.

BACKGROUND

The veteran population of Australia constitutes 0.15 per cent of the total Australian population but 15 per cent of those Australians aged 75 years and over. The majority are elderly; many are frail and have multiple chronic medical conditions attributable to their war service and service in the Australian Defence Force. The usage of medicines in the veteran community is high. Research has shown that increasing medicine use and increasing age lead to adverse drug events and hospitalisation through confusion and misadventure with medicines.

The Safety and Quality Council National Report on Patient Safety, July 2002, reports that, 'Medication error is one of the most common causes of unintentional harm in Australia which results in an estimated 140,000 hospital admissions every year'. Further research also indicates that approximately fifty per cent of these admissions are preventable.

Because of their age, frailty and high medicines use, many veterans are at high risk of confusion with management of their medicines and are at high risk of having adverse drug events that can result in their hospitalisation.

The Department has good data on veterans' medicines use, and as veterans' welfare is at the forefront of the Government's support for the veteran community, it is keen to use its resources and promote a program which specifically addresses the potential of medicines misuse in the veteran community.

RELEVANT INFORMATION

The New Veterans' MATES Program

The Department has developed a new quality use of medicines program which aims to improve medicines use in the veteran community. This is the Veterans' Medicines Advice and Therapeutics Education Services Program, known as Veterans' MATES.

Veterans' MATES uses prescription data to identify veterans who may be at risk of medication misadventure and provides information which may assist in improving their medication management. The program puts veterans' general practitioners at the centre of the program but aims to build a team approach to veterans' medicines use by including veterans themselves, their carers, their community pharmacists, other medical specialists and health practitioners. An important facet of the program is to inform and raise awareness of a veteran's chronic medical conditions and to encourage improved communication between veterans and members of their healthcare team.

Material mailed to GPs will include a covering letter explaining the module, feedback on their veteran patients and information detailing current clinical guidelines. The program also provides educational materials to veterans and their carers to assist in improving medication management at home.

Veterans' MATES will deliver ten modules targeting specific clinical and therapeutic topics over three years. The modules will include material for GPs, pharmacists, other health professionals and veterans.

The Department is in contract with the University of South Australia for delivery of the Veterans' MATES program. The University of South Australia, Quality Use of Medicines and Pharmacy Research Centre, has joined forces with a consortium of other key organisations in the delivery of quality use of medicines programs in Australia. These organisations are the University of Adelaide's Departments of General Practice and Public Health, the National Prescribing Service (NPS), the Drug and Therapeutics Information Service (DATIS), the Australian Medicines Handbook (AMH) and the Repatriation General Hospital Daw Park.

Prior to commencement of the program, briefings were given to the major medical and pharmacy professional bodies as well as their representatives in some states. All participant organisations, (veterans and ex-service organisations, medical and pharmacy) are included in the management of the program. Others may be included in future as the program develops.

Veterans' MATES Modules

To date, the *Veterans' MATES* program has conducted three modules. Each module has involved mailouts to veterans and their most-often-seen medical practitioner. In the third module, community pharmacy is included.

The program has established separate telephone helplines for medical practitioners, veterans and pharmacists who may wish to discuss the content of the program material sent to them. As well, survey forms are included with each module and invite written feedback.

The modules conducted have been:

1. **Home Medicines Reviews**. This module included a mailout to 11,384 medical practitioners and 38,570 veterans. 1,085 (10.6 per cent) of GPs returned response forms

and 68 per cent of these indicated they found the educational material good or very good. The response so far has been good when compared to other response rates from GP surveys. However, the Department wishes to improve the response rate significantly for future Veterans' MATES modules and will seek advice from the Local Medical Officer Advisory Committee (LMOAC) on how the rate can be increased. The response from veterans was considered to be positive. 11,150 (29 per cent) of veterans returned response forms and 86 per cent of these indicated they found the Home Medicines Review brochure good or very good.

2. **Caring for your heart.** This module included a mailout to approximately 6,500 medical practitioners and 13,000 veterans. This module looked at the new evidence for use of beta-blockers in the treatment of heart failure, and encouraged veterans to speak to their doctor about the medicines that they are taking for their heart condition.

3. **Diabetes Triple check, or Caring for your heart if you have Diabetes.** This module is currently being mailed to 8,668 medical practitioners and approximately 17,500 veterans. Module material will be made available to 5,469 community and hospital pharmacies. The message is to optimise the medicines prescribed for veterans with diabetes and for the veteran to understand the need and use of the various medicines they may be taking.

Future modules will address the major issues of optimisation of therapy, avoiding adverse events and regular medicines reviews.

ISSUES

The Veterans' MATES program is a positive initiative addressing the significant potential risk of medicine misuse in the elderly veteran community. Research has shown that fifty percent of adverse drug events resulting in hospitalisation, are preventable. The program involves veterans, GPs, pharmacists and others, working as a team, to address this significant risk.

RECOMMENDATION

That the Minister notes the Veterans' MATES initiative.

AUTHORISED BY:
Ken Douglas
Division Head
Health Division
Phone: s 47F
Mobile: s 47F

s 47F

CONTACT:
Bob s 47F
Director
Medication Management
Phone: s 47F
Mobile: s 47F

22 June 2005

ATTACHMENTS

A: Examples of Veterans' MATES material.

Australian Government
Department of Veterans' Affairs

BRIEF/MINUTE TO MINISTER

TRIM Ref: .....

ACTION ☐ **INFORMATION** ☒ **EVENT** ☐

Critical Date:
Reason for Critical Date:

Subject: Veterans' MATES Program (Veterans' Medicines Advice and Therapeutics Education Services)

Recommendation: That the Minister notes the Veterans' MATES initiative.

Sensitive Issues:

Announcements:

Media Issues:

Communication requirements:

INPUT PROVIDED BY:

Defence: Yes ☐ No ☐ Not Required ☒ **Other Agencies:** Yes ☐ No ☐ Not Required ☒
AWM: Yes ☐ No ☐ Not Required ☒

Departmental Contact	Authorised By	Media & Communication Section
Name: Robert s 47F	**Name:** Ken Douglas s 47F	**Name:**
Branch: Health Services	**Title:** Division Head, Health	**Signature:**
Phone: s 47F	**Date:** 22 June 2005	**Date:**

Executive Clearance/ Comments: s 47F 23/6/05

Minister's comments:

APPROVED ☐ **NOT APPROVED** ☐ **NOTED** ☐

MINISTER'S SIGNATURE ..... **DATE** ...../...../.....

Minister's feedback on quality & timeliness:

Australian Government
Department of Veterans' Affairs

BRIEF/MINUTE TO MINISTER

TRIM Ref: 162932

ACTION ☐ **INFORMATION** ☐ **EVENT** ☒

Critical Date: 2 July 2004
Reason for Critical Date: Launch to occur on 2 July 2004

Subject: Launch of Veterans' MATES (Veterans' Medicines Advice and Therapeutics Education Services)

Recommendation: That you note the attached brief for your attendance on 2 July 2004

Sensitive Issues: nil

Announcements: You will be announcing/launching this Programme

Media Issues: A media release will be provided to you by the Media and Communications Section

INPUT PROVIDED BY:

Defence: Yes ☐ No ☐ Not Required ☒ **Other Agencies:** Yes ☐ No ☐ Not Required ☒
AWM: Yes ☐ No ☐ Not Required ☒

Departmental Contact	Authorised By	Media & Communication Section
Name: Robert s 47F	**Name:** Roger Winzenberg	Susannah s 47F
Branch: Health Services	**Title:** A/g Division Head, HEALTH	s 47F
Phone: s 47F	**Date:** 24 June 2004	

Executive Clearance/ Comments:

Minister's comments:

APPROVED ☐ **NOT APPROVED** ☐ **NOTED** ☐

MINISTER'S SIGNATURE ..... **DATE** ...../...../.....

Minister's feedback on quality & timeliness:

162932

THE HON DANNA VALE MP
MINISTER FOR VETERANS' AFFAIRS

LAUNCH OF VETERANS' MATES PROGRAMME
(VETERANS' MEDICINES ADVICE AND THERAPEUTICS EDUCATION SERVICES)

FRIDAY
2 JULY 2004
10.30AM - 11.30AM

HETZEL ROOM
UNIVERSITY OF SOUTH AUSTRALIA CHANCELLERY
LEVEL 2, LAUBMAN AND PANK BUILDING
160 CURRIE STREET
ADELAIDE

Australian Government

Department of Veterans' Affairs

LAUNCH OF VETERANS' MATES PROGRAMME
(VETERANS' MEDICINES ADVICE AND THERAPEUTICS EDUCATION SERVICES)

What type of Event:

- Media launch/ morning tea
- Low-key event, intimate gathering with expected attendees numbering approximately 25 people
- To launch the new Veterans' MATES programme (Veterans' Medicines Advice and Therapeutics Education Services)

Date:
2 July 2004

Time:
10.30AM - 11.30AM

Venue:
Hetzel Room:
University of South Australia Chancellery
Level 2, Laubman and Pank Building
160 Currie Street
ADELAIDE

Map of Location is at Attachment A
(The Laubman and Pank Building entrance is located in Clarendon Street which is the side street off Currie Street)

Contact numbers -

for the venue:

Ms Jenny s 47F
Level 2 160 Currie St
ADELAIDE
Phone: s 47F

for the organising person:

Mr Bob s 47F
Director, Medication Management
Health Services Branch
Phone: s 47F
Mobile: s 47F

Dress code:
Business / day wear

Minister's Role:
You will be invited to speak for a few minutes on the new Prescriber Feedback Programme – Veterans' MATES. The event will be 'low-key' and the University's media unit will be invited to attend. A media release is being drafted and will be provided separately.

Who will accompany the Minister:

Mr Damian s 47F your Assistant Adviser

Departmental staff attending*:*

- Dr Graeme Killer AO, Principal Medical Adviser
- Mr Roger Winzenberg, Branch Head, Health Services
- Ms Pam Blamey, Deputy Commissioner South Australia
- Mr Bob s 47F Director, Medication Management
- Ms Kerrie s 47F Assistant Director Health Services, South Australia.

Who will meet the Minister:

Professor Esther s 47F and Mr Bob s 47F will greet you on the ground floor and escort you to the venue.

Who is organising the Event:

Mr Bob s 47F
Director, Medication Management

Key People attending:

University of South Australia guests and contract consortium members. Profiles of these attendees are at Attachment B.

Other proposed invited guests and their profiles are at Attachment C.

Any Significant Issues:

Background on significant people in attendance; see Attachments B and C.

Background on significant issues; see Attachment D

Talking points/responses for the Minister to use on these matters;

- The previous Programme has proven very successful with prescribers and veterans.
- My Department recognises the expertise that the University of South Australia will bring to the new Programme.
- Professor Gilbert's team working together with my Department will support high quality medication-related education services for veterans and the health professionals who service their health care needs.

AUTHORISED BY:
Roger Winzenberg,
A/G Division Head
HEALTH
s 47F
Mobile: s 47F

CONTACT:
Bob s 47F
Director
Medication Management
s 47F
Mobile: s 47F

ATTACHMENTS

A: Location Map
B: University of South Australia guests and contract consortium members and their profiles
C: Other potential invited guests and their profiles
D: Background of significant issues

Attachment B

Title	Name	Position	Notes
University of South Australia guests			
Professor	s 47F	Vice Chancellor	The Vice Chancellor is unable to attend; the Pro Vice Chancellor will be representing the University.
Associate Professor		Project Director, DVA Veterans' MATES Programme and Dean, College of Pharmacy	Associate Professor s 47F is Director of the UniSA Quality Use of Medicines and Pharmacy Research Centre and is nationally renowned for his work in the Quality Use of Medicines area for the last decade. s 47F undertook important research with both DVA and the Dept of Health and Ageing to develop models for medication management in the community during 1999/2000. The model formed the basis for the Home Medication Review.
Professor		Acting Pro Vice Chancellor Health Sciences	Professor s 47F has been Acting Pro Vice Chancellor since January 2004. Professor s 47F has been an active supporter of the UniSA tender for the Veterans' MATES Programme. Professor s 47F will deputise for the Vice Chancellor who is overseas. Professor s 47F is a member of the Senior Management Group.
Professor		Acting Head of School - Pharmacy and Medical Sciences	Professor s 47F has been Acting Head of School for the past six months and has been assisting Assoc Prof s 47F in the establishment of the programme within the School
Professor		Newly appointed Head of School and Acting Director of the proposed SANSOM Institute	Professor s 47F will be taking over as Head of School in late September 2004. s 47F has also been instrumental in the development of the proposal to establish a new institute within UniSA called the SANSOM Institute s 47F
Associate Professor		Dean of Research Health Sciences Division Office	Professor s 47F is responsible for research leadership within the division of Health Sciences.
Professor		Pro Vice Chancellor Research and Innovation	Professor s 47F provides overall leadership and direction for research and development within UniSA. s 47F is a member of the UniSA Senior Management Group.
s 47F		Project Manager Veterans' MATES	s 47F will be responsible for project co-ordination and management for Veterans' MATES and has played a key role in its establishment to date.
Professor		Emeritus Professor Pharmacy and Medical Sciences Chairman Pharmaceutical Benefits Advisory Committee	Professor s 47F was Head of School (Pharmaceutical, Molecular and Biomedical Sciences) from 1995 to 2000. s 47F still retains links with the School as Professor s 47F s 47F Professor s 47F is Chairman of the Pharmaceutical Benefits Advisory Committee (PBAC)
s 47F		Senior Consultant Health Sciences	s 47F heads up the Business and Consultancy Unit for the Division of Health Sciences. s 47F will provide consultancy advice on consumer issues for Veterans' MATES.

Attachment B (continued)

UniSA PFP Consortium members			
Professor	s 47F	Head of Department of General Practice, Adelaide University	Professor s 47F and his team will play a key role in the data management and analysis components of Veterans' MATES.
s 47F		Director, Drug and Therapeutics Information Service (DATIS), Repatriation General Hospital	s 47F and s 47F team will contribute to the development of medication information and education modules for Veterans' MATES. The expertise of DATIS is in provision of high quality evidence-based prescriber education and information.
s 47F		Managing Editor, Australian Medical Handbook (AMH)	s 47F and s 47F team will contribute to the development of medication information and education modules for Veterans' MATES. The expertise of AMH is in research and development of high quality information about medicines.
Dr		Director, Pharmacy Services, Repatriation General Hospital	Dr s 47F and s 47F team will contribute to the development of medication information and education modules for Veterans' MATES. Dr s 47F has extensive experience working with veterans and opinion leaders in the medical and pharmacy communities.
s 47F		Director, National Prescribing Service	s 47F and s 47F team will contribute to the development of medication information and education modules for Veterans' MATES. The National Prescribing Service will also be providing direct education to local medical officers about quality use of medicines for Veterans.

Attachment C

Other Potential invited guests –			
Dr	s 47F	Chair, Australian Medical Association Council of General Practice	Dr s 47F took over as Chair of the AMA Council of General Practice at the AMA's National Conference in May. He is a SA based GP and has been active in Divisions of General Practice.
Dr		Chairman, SA/NT Faculty of the RACGP	Dr s 47F is a Northern Suburb GP who has been active in Divisions of General Practice and the RACGP.
s 47F		State President, Pharmaceutical Society of Australia SA Branch	s 47F is a long standing State President of the Pharmaceutical Society of Australia SA Branch, and a long time partner of the UniSA on quality use of medicines issues.
Dr		Chair Board of Directors of SA Divisions of General Practice Inc (SADI)	Dr s 47F is a practising GP who has participated in a number of Quality Use of Medicines projects with the UniSA. Dr del Fante participated in the Home Medicines Review project through the western division of General Practice.

Attachment D

Background on significant issues

- A Services Agreement has been signed between the Department and the University of South Australia for delivery of the programme.
- The UniSA consortium members, led by Professor Gilbert, have a long history as Australian and international leaders in promoting and assisting in the delivery of Quality Use of Medicines programmes.
- The Programme assists Local Medical Officers (LMOs) to meet best-practice standards in prescribing medicines to veterans and war widows. The Programme uses available prescription data to identify veterans who may be at risk of medication misadventure and invites their LMOs to assist in improving medication management in these veterans.
- This new Programme will build on the previous Prescriber Intervention and Feedback programme with innovative enhancements and improved coordination resulting in a significant impact on the problem of medication misadventure in the elderly and the veteran community.
- The University of South Australia will bring immediate improvement to the Programme through their innovative research of the Repatriation Pharmaceutical Benefits Scheme (RPBS) data. Ongoing improvement will be through linked analyses with Medicare Benefits Schedule (MBS), hospital, and Treatment Account System (TAS) data to strengthen our understanding of the veteran population, their medicine and health care usage.
- The contract with the University of South Australia for the delivery of the new Veterans' MATES programme, is for three years with options to extend by two one-year periods. It is costed at $7.2m over 3 years.
- The University of South Australia will require approximately six months to establish the service and the first module of the new contract will be expected early in 2005.
- It is envisaged that the new Programme will continue to deliver savings in drug and hospitalisation costs.

Australian Government

Department of Veterans' Affairs

BRIEF/MINUTE TO MINISTER

TRIM Ref: .....

ACTION ☐ **INFORMATION** ☒ **EVENT** ☐

Critical Date:
Reason for Critical Date:

Subject: Veterans' MATES Program (Veterans' Medicines Advice and Therapeutics Education Services)

Recommendation: That the Minister notes the Veterans' MATES initiative.

Sensitive Issues:

Announcements:

Media Issues:

Communication requirements:

INPUT PROVIDED BY:

Defence: Yes ☐ No ☐ Not Required ☒ **Other Agencies:** Yes ☐ No ☐ Not Required ☒
AWM: Yes ☐ No ☐ Not Required ☒

Departmental Contact	Authorised By s 47F	Media & Communication Section
Name: Robert s 47F	Name: Ken Douglas	Name:
Branch: Health Services	Title: Division Head, Health	Signature:
Phone: s 47F	Date: 22 June 2005	Date:

Executive Clearance/ Comments: s 47F 23/6/05

Minister's comments:

APPROVED ☐ **NOT APPROVED** ☐ **NOTED** ☐

MINISTER'S SIGNATURE ..... **DATE** ...../...../.....

Minister's feedback on quality & timeliness:

THE HON DE-ANNE KELLY BE MP
MINISTER FOR VETERANS' AFFAIRS
MINISTER ASSISTING THE MINISTER FOR DEFENCE

ADVICE BRIEF

THE VETERANS' MEDICINES ADVICE AND THERAPEUTICS EDUCATION SERVICES (*VETERANS' MATES*) PROGRAM

Australian Government

Department of Veterans' Affairs

National Office

BRIEF FOR MINISTER

ADVICE/INFORMATION

SUBJECT: THE VETERANS' MEDICINES ADVICE AND THERAPEUTICS EDUCATION SERVICES (*VETERANS' MATES*) PROGRAM

PURPOSE

To brief you on the new quality use of medicines program, Veterans' MATES.

BACKGROUND

The veteran population of Australia constitutes 0.15 per cent of the total Australian population but 15 per cent of those Australians aged 75 years and over. The majority are elderly; many are frail and have multiple chronic medical conditions attributable to their war service and service in the Australian Defence Force. The usage of medicines in the veteran community is high. Research has shown that increasing medicine use and increasing age lead to adverse drug events and hospitalisation through confusion and misadventure with medicines.

The Safety and Quality Council National Report on Patient Safety, July 2002, reports that, 'Medication error is one of the most common causes of unintentional harm in Australia which results in an estimated 140,000 hospital admissions every year'. Further research also indicates that approximately fifty per cent of these admissions are preventable.

Because of their age, frailty and high medicines use, many veterans are at high risk of confusion with management of their medicines and are at high risk of having adverse drug events that can result in their hospitalisation.

The Department has good data on veterans' medicines use, and as veterans' welfare is at the forefront of the Government's support for the veteran community, it is keen to use its resources and promote a program which specifically addresses the potential of medicines misuse in the veteran community.

RELEVANT INFORMATION

The New Veterans' MATES Program

The Department has developed a new quality use of medicines program which aims to improve medicines use in the veteran community. This is the Veterans' Medicines Advice and Therapeutics Education Services Program, known as Veterans' MATES.

Veterans' MATES uses prescription data to identify veterans who may be at risk of medication misadventure and provides information which may assist in improving their medication management. The program puts veterans' general practitioners at the centre of the program but aims to build a team approach to veterans' medicines use by including veterans themselves, their carers, their community pharmacists, other medical specialists and health practitioners. An important facet of the program is to inform and raise awareness of a veteran's chronic medical conditions and to encourage improved communication between veterans and members of their healthcare team.

Material mailed to GPs will include a covering letter explaining the module, feedback on their veteran patients and information detailing current clinical guidelines. The program also provides educational materials to veterans and their carers to assist in improving medication management at home.

Veterans' MATES will deliver ten modules targeting specific clinical and therapeutic topics over three years. The modules will include material for GPs, pharmacists, other health professionals and veterans.

The Department is in contract with the University of South Australia for delivery of the Veterans' MATES program. The University of South Australia, Quality Use of Medicines and Pharmacy Research Centre, has joined forces with a consortium of other key organisations in the delivery of quality use of medicines programs in Australia. These organisations are the University of Adelaide's Departments of General Practice and Public Health, the National Prescribing Service (NPS), the Drug and Therapeutics Information Service (DATIS), the Australian Medicines Handbook (AMH) and the Repatriation General Hospital Daw Park.

Prior to commencement of the program, briefings were given to the major medical and pharmacy professional bodies as well as their representatives in some states. All participant organisations, (veterans and ex-service organisations, medical and pharmacy) are included in the management of the program. Others may be included in future as the program develops.

Veterans' MATES Modules

To date, the *Veterans' MATES* program has conducted three modules. Each module has involved mailouts to veterans and their most-often-seen medical practitioner. In the third module, community pharmacy is included.

The program has established separate telephone helplines for medical practitioners, veterans and pharmacists who may wish to discuss the content of the program material sent to them. As well, survey forms are included with each module and invite written feedback.

The modules conducted have been:

1. **Home Medicines Reviews**. This module included a mailout to 11,384 medical practitioners and 38,570 veterans. 1,085 (10.6 per cent) of GPs returned response forms

and 68 per cent of these indicated they found the educational material good or very good. The response so far has been good when compared to other response rates from GP surveys. However, the Department wishes to improve the response rate significantly for future Veterans' MATES modules and will seek advice from the Local Medical Officer Advisory Committee (LMOAC) on how the rate can be increased. The response from veterans was considered to be positive. 11,150 (29 per cent) of veterans returned response forms and 86 per cent of these indicated they found the Home Medicines Review brochure good or very good.

2. **Caring for your heart**. This module included a mailout to approximately 6,500 medical practitioners and 13,000 veterans. This module looked at the new evidence for use of beta-blockers in the treatment of heart failure, and encouraged veterans to speak to their doctor about the medicines that they are taking for their heart condition.

3. **Diabetes Triple check**, or **Caring for your heart if you have Diabetes**. This module is currently being mailed to 8,668 medical practitioners and approximately 17,500 veterans. Module material will be made available to 5,469 community and hospital pharmacies. The message is to optimise the medicines prescribed for veterans with diabetes and for the veteran to understand the need and use of the various medicines they may be taking.

Future modules will address the major issues of optimisation of therapy, avoiding adverse events and regular medicines reviews.

ISSUES

The Veterans' MATES program is a positive initiative addressing the significant potential risk of medicine misuse in the elderly veteran community. Research has shown that fifty percent of adverse drug events resulting in hospitalisation, are preventable. The program involves veterans, GPs, pharmacists and others, working as a team, to address this significant risk.

RECOMMENDATION

That the Minister notes the Veterans' MATES initiative.

AUTHORISED BY:
Ken Douglas
Division Head
Health Division
Phone: s 47F
Mobile

s 47F

CONTACT:
Bob s 47F
Director
Medication Management
Phone:
Mobile s 47F

22 June 2005

ATTACHMENTS

A: Examples of Veterans' MATES material.

Australian Government

Department of Veterans' Affairs

BRIEF/MINUTE TO MINISTER

TRIM Ref: 170785

ACTION ☐ INFORMATION ☒ EVENT ☐

Critical Date:
Reason for Critical Date:

Subject: Veterans' MATES Program (Veterans' Medicines Advice and Therapeutics Education Services)

Recommendation: That the Minister notes the Veterans' MATES initiative.

Sensitive Issues:

Announcements:

Media Issues:

Communication requirements:

INPUT PROVIDED BY:

Defence: Yes ☐ No ☐ Not Required ☒ **Other Agencies:** Yes ☐ No ☐ Not Required ☒
AWM: Yes ☐ No ☐ Not Required ☒

Departmental Contact	Authorised By	Media & Communication Section
Name: Robert s 47F	**Name:** Ken Douglas	**Name:**
Branch: Health Services	**Title:** Division Head, Health	**Signature:**
Phone: s 47F	**Date:** 23 June 2005	**Date:**

Executive Clearance/ Comments:

s 47F 23/6/05

Minister's comments:

APPROVED ☑ **NOT APPROVED** ☐ **NOTED** ☐

MINISTER'S SIGNATURE ..... s 47F ... **DATE** 26/08/05

Minister's feedback on quality & timeliness:

Australian Government

Department of Veterans' Affairs

BRIEF/MINUTE TO MINISTER

174613

TRIM Ref: 0569536E

ACTION ☒ **INFORMATION** ☐ **EVENT** ☐

Critical Date:
Reason for Critical Date:

Subject: General promotional brochure for the Veterans' MATES program

Recommendation: That you approve publication of the attached brochure to promote the Veterans' Medicines Advice and Therapeutics Education Services (Veterans' MATES) program.

Sensitive Issues:

Announcements:

Media Issues:

Communication requirements:

INPUT PROVIDED BY:

Defence: Yes ☐ No ☐ Not Required ☒ **Other Agencies:** Yes ☐ No ☐ Not Required ☒
AWM: Yes ☐ No ☐ Not Required ☒

Departmental Contact	**Authorised By**	**Media & Communication Section**
Name: Robert s 47F	**Name:** Ken Douglas	**Name:** Cindy s 47F
Branch: Health Services	**Title:** Division Head, Health	**Signature:**
Phone: s 47F	**Date:**	**Date:** 10 October 2005

Executive Clearance/ Comments:

Minister's comments:

APPROVED ☑ **NOT APPROVED** ☐ **NOTED** ☐

MINISTER'S SIGNATURE ..... s 47F ..... **DATE** 11/10/05

Minister's feedback on quality & timeliness:

Australian Government

Department of Veterans' Affairs

MINUTE

National Office

File/Trim Reference: 052055

endorsed

s 47F

Mr Ken Douglas
Division Head
Health Division

28/9

Through: Mr Roger Winzenberg, Branch Head, Health Services
Mr Bob s 47F Director Medication Management

26/9

26 Sep 2005

SUBJECT: GENERAL BROCHURE – VETERANS' MATES

Purpose:

To seek your endorsement for the attached general brochure promoting the Veterans' Medicines Advice Therapeutics Education Services (Veterans' MATES) program prior to seeking Ministerial approval for its publication.

Background:

To date all material produced for the Veterans' MATES program has been related to specific therapeutic modules. The Minister's office flagged the need for a general information brochure that could be distributed to veterans and war widows to promote the program. The program's Veterans' Reference group also fully supported the development of a general brochure that they could distribute through their respective organisations.

The text for attached proof copy was developed in consultation with the University of South Australia and the Department's Media and Publications Unit and was cleared by the acting Division Head, Health and Principal Medical Adviser on 20 September 2005.

Recommendation:

That you endorse the attached proof copy of the Veterans' MATES general brochure for submission to the Minister for approval through the Media and Publications Unit.

s 47F

Ross s 47F
Project Officer
Medication Management
26 September 2005

Australian Government
Department of Veterans' Affairs

Getting started

You or your carer can begin by talking to your doctor and pharmacist about a Home Medicines Review of ALL your medicines, even those bought over the counter or from supermarkets or health food stores.

If you and your doctor agree that a Home Medicines Review may help, your doctor will arrange for a pharmacist to visit you at home at a time that suits you.

The pharmacist will advise your doctor on the results of the home visit. Your doctor will then discuss this with you.

Having a Home Medicines Review will not affect your pension, benefits or any health services you are entitled to from DVA.

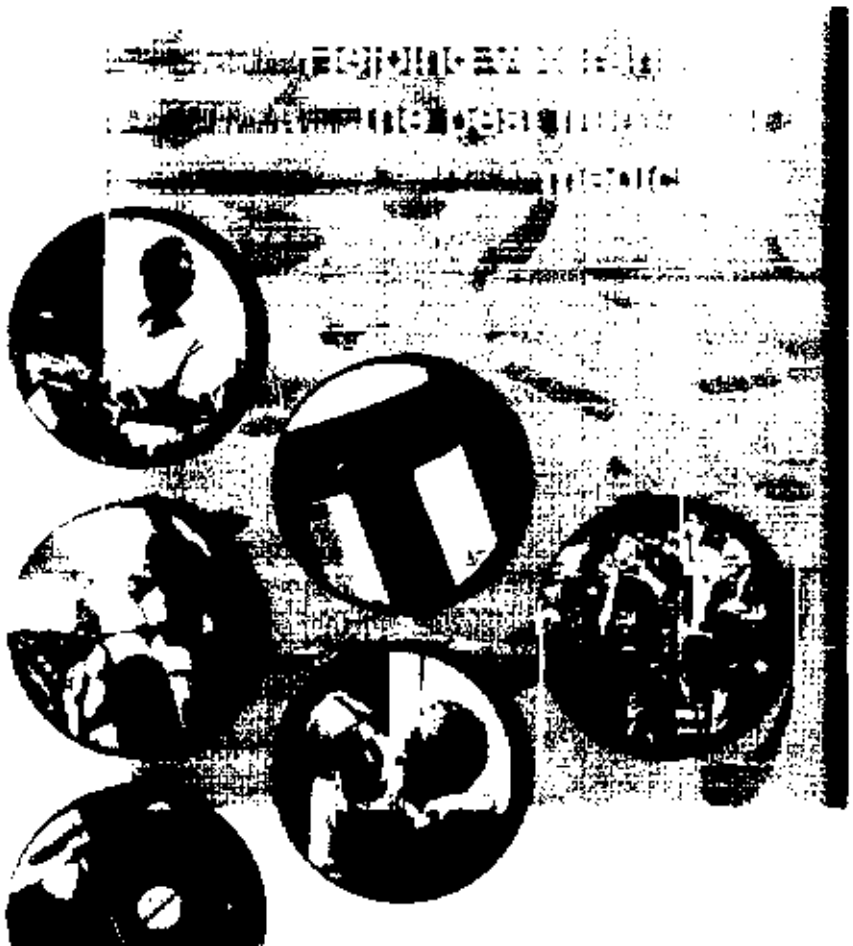
To get help with your medicines:

- Talk to your doctor or pharmacist
- Ask your pharmacist for a MediList to keep track of your medicines
- Ask your doctor about a free Home Medicines Review by a pharmacist in your own home
- Ask your pharmacist for a Consumer Medicines Information sheet
- Call Veterans' MATES on 1300 556 906

Veterans' MATES is a Department of Veterans' Affairs program in partnership with Quality Use of Medicines and Pharmacy Research Centre, University of South Australia, and a consortium of leading Quality Use of Medicines organisations.

Veterans' Medicines Advice and Therapeutics Education Services

Veterans' MATES



What is Veterans' MATES?

Veterans' MATES – veterans, doctors and pharmacists working together on using medicines correctly.

As people get older, they tend to rely on more medicines to help them manage their illness and maintain their health.

Often they are on a range of medicines which, if not taken correctly, can result in additional health problems.

Veterans' MATES can help veterans and their carers avoid these problems and use their medicines safely.

Most medicines are effective when used as directed by your doctor and pharmacist. But medicines taken in the wrong way or at the wrong time can cause harm, even an emergency.

Using medicines from supermarkets and health food shops, or over the counter medicines with those prescribed by your doctor, may be unsafe if they are not taken properly.

Up to one-third of hospital admissions of older people are due to problems with medicines. People mix them up, use them incorrectly or simply forget to take them.

The good news is that these problems are preventable – and Veterans' MATES can help.

You and your medicines

Want to learn more about your medicines?

Unsure how long you should keep taking each medicine?

Uncertain about the best time to take each medicine?

Need help remembering to take your medicines?

Recently started a new medicine or had your medicines changed?

Find it hard to read the labels on your medicines?

Australian Government
Department of Veterans' Affairs

Ministerial Event Brief

Briefing No. 179551

Event Type: National Medicines Symposium 2006: Quality Use of Medicines- balancing beliefs, benefits and harms

Date: Friday 9 June 2006

Time: 8.15 am

Venue: National Convention Centre, Canberra

Key people attending:

- Dr Graeme Killer AO, Principle Medical Adviser (DVA Representative) ;
- Mr Roger Winzenberg, National Manager Primary Care Policy Group (DVA Representative); and
- Mr Robert s 47F Director Medication Management Section (DVA Representative).

Communication Requirements: A 10 minute speech is required to be presented to the conference to introduce a Department of Veterans' Affairs presentation on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES) program. Professor Andrew Gilbert of the University of South Australia will be presenting on the Veterans' MATES program immediately following the Minister's speech.

Background Information

The Veterans' MATES program commenced on 10 June 2004 and the objective of the program is to improve the health of veterans by improving their wellbeing through improved pharmaceutical management. A background information on the Veterans' MATES program is at Attachment A.

The National Medicines Symposium is the annual conference of the National Prescribing Service (NPS) Ltd. Information on the conference is at Attachment B.

s 47F

Roger Winzenberg
National Manager
Primary Care Policy Group

05 June 2006

Contact Officer
Robert s 47F
Medication Management Section
Contact: s 47F

s 47F

Executive Clearance/Comments

Date 21/6/06

22 JUN 2006
Minister for Veterans' Affairs

ATTACHMENTS

A Background information on the Veterans' MATES program
B Information on the National Medicines Symposium 2006

The Hon Bruce Billson MP
Minister for Veterans' Affairs
Minister Assisting the Minister for Defence

FAXED 7/6/06

FACSIMILE

Number of pages this transmission 11 plus cover sheet

Date:	7 June 2006		
To:	Office of Sophie Panopoulos		
Location:	Wangaratta		
Telephone:	(03) 5721 5377	**Facsimile:**	(03) 5721 8196
From:	Louise s 47F		
Location:	Office of the Hon Bruce Billson MP M1-19 Parliament House CANBERRA ACT 2600		
Telephone:	(02) 6277 7820	**Facsimile:**	(02) 6273 4140

MESSAGE:

Dear Sarah,

As discussed, please find attached the brief which I require to be given to Minister Billson tonight at the Indi Electorate Function.

Much appreciated,

Louise

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B09/0979

THE VETERANS' MATES PROGRAM

Critical Date: Nil.

Purpose: To provide information, as requested by your office, on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES).

Key Issues:

- Veterans' MATES is a program that improves the health care of veterans by simultaneously feeding information back to medical practitioners, pharmacists and veterans about the quality use of medicines and quality prescribing. Prescribing data is used to provide direct patient-based feedback to medical practitioners regarding medications dispensed to their veteran patients. Veterans who meet target criteria are also mailed educational brochures.
- The Veterans' MATES Program has been successful in reducing hospitalisation for veterans with chronic diseases such as heart failure and diabetes and has increased Home Medicine Reviews for targeted veterans.
- Veterans' MATES is widely recognised and viewed positively by its target audiences, with veterans, general practitioners and pharmacists all indicating strong satisfaction. The program was awarded the National Quality Use of Medicines award in the 'public and not-for-profit' category at the National Medicines Symposium conference in May 2008. It is also receiving interest from a range of international health organisations, including the World Health Organisation, with regular invitations to present at health conferences.
- The Veterans' MATES Program is valuable given that veterans are very high users of medicines, with 75 per cent using more than six unique medicines per year. In Australia there are 140,000 hospital admissions annually due to medication related problems. The high number of medicines used by veterans, combined with their age and co-morbidities means that veterans are susceptible to medication related adverse events.

- Attachment A provides further details including specific issues raised by your office.

Financial Impact: No.

Sensitivity: None expected.

Consultation: No.

Recommendation:
That you note this brief.
Cleared electronically

Ken Douglas
General Manager
Services Division
Ph:s 47F
11 November 2009

Contact:
Judy Daniel
National Manager, Primary Care Policy Group
Ph:s 47F

Comments:

NOTED / PLEASE DISCUSS

s 47F

Alan Griffin 20/12/09

ATTACHMENT A – Background.

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B09/ 0979

THE VETERANS' MATES PROGRAM

Critical Date: 17 November 2009

Purpose/Reason: To provide information on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES) achievements.

Key Issues:

- Further information is required on the Veterans' MATES Program's achievements. Responses are at Attachment A.
- Information on the Veterans' MATES Program was provided in Brief No. B09/0979. A copy is provided at Attachment B.

Financial Impact: No.

Sensitivity: None expected.

Consultation: No.

Recommendation(s): That you note the information on the Veterans' MATES Program's achievements.

Contact: Judy Daniel
National Manager, Primary Care Policy
Ph: s 47F

Ken s 47F
General Manager
Services Division
Ph: s 47F

November 2009

Comments:

NOTED

Alan Griffin / /

ATTACHMENTS A – Background; B – Brief No. B09/0979

Background

The information below details the specific source/activity which informed the identified outcomes from the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES).

The Program has contributed to improving health outcomes including:

- An increase of Home Medicine Reviews (HMRs) by 4000 in targeted veterans.
- The increase in veteran HMRs has led to a longer time period until the next hospitalisation for veterans with heart failure and veterans taking warfarin.
- Reduced hospitalisation by 5-6% for veterans with heart failure by increasing beta blocker medicines.
- Increased the use of low-dose Proton Pump Inhibitors (PPIs) by 15% which results in a reduction of associated hospitalisations for pneumonia.
- Reduced Non-Steroidal Anti Inflammatory Drugs (NSAIDs) use in veterans with heart failure and diabetes by 44% resulting in reduced hospitalisations associated with gastrointestinal ulcer and heart failure.

1(a). Numbers to support increases in Home Medicines Reviews (HMRs)
A total of 38,500 veterans were targeted in the mail out on HMRs. Veterans who have 5 or more medicines dispensed each month were targeted to find out how they were managing their medicine and if there were any unwanted effects from their various medicines. It also presented an important opportunity for doctors and pharmacists to examine the medicines that veterans were taking and to discuss the reasons for each of the medicines. The time period for this module was between May and August 2004.

HMR rates were approximately 2.5 per 1000. Module 1 was successful in increasing the rate of home medicines review, to a peak of 10 per 1000 four months after the intervention.

1(b). What outcomes did the HMR process achieve?
The increase in HMRs in the veteran community has achieved consistent better health outcomes and a net cost savings to the health system due to avoided adverse outcomes.

2. Measures to support the longer time period until next hospitalisation for veterans with heart failure and take warfarin.
HMRs were effective in reducing hospital admissions for bleeding amongst veterans using warfarin. Amongst veterans taking warfarin who had an HMR, there was a 79% reduction in time to next hospitalisation for bleed in the two to six months after the HMR.

This effect was not apparent in the 0 to 2 months post HMR, nor after six months post HMR. More than 12 months after an HMR was associated with an increased risk of being hospitalised for a bleed. This suggests the HMR is having an impact on bleeding risk. Based on this analysis, a HMRs should be recommended for all veterans dispensed warfarin on a six monthly frequency.

3. Numbers to support the lower hospitalisations for lower dose Proton Pump Inhibitors (PPIs) for heartburn.
PPIs are a group of drugs whose main action is a pronounced and long-lasting reduction of gastric acid production (heartburn).
After the MATES mail out on PPIs in March 2007, the rate of utilisation of the lower strength PPIs as a proportion of overall use of PPIs increased. Compared to the month before the intervention, 15% more veterans were dispensed low dose PPIs.
This equated to a conservative estimate of 598 additional veterans who used PPIs switching to lower strength alternatives after implementation of this module. This potentially equates to 5 fewer hospitalisations for pneumonia and 371 fewer antibiotic prescriptions as a result of implementation. (mail out sent to 62,461 veterans)

4. Numbers for reduced hospitalisation due to Non-Steroidal Anti-Inflammatory Drugs (NSAIDs).

For veterans with diabetes who were exposed to NSAIDs, the rate of hospitalisation for adverse events dropped by 70 per 1000 patients per 1000 days of follow-up. For veterans with heart failure who were exposed to NSAIDs, the rate of hospitalisation for adverse events dropped by 100 per 1000 patients per 1000 days of follow-up. The incidence rates demonstrate that amongst targeted veterans treated for one year with NSAIDs there would be 12 extra hospitalisations in the diabetes population and 18 additional hospitalisations in the heart failure cohort.

Overall trends in NSAID use in veterans with diabetes and heart failure have continued to decline, falling a further 2% in the population with diabetes and 3% in the population with heart failure. 588 targeted veterans ceased NSAID use.

Sources:

University of South Australia, Module 1 “HMRs” Post-intervention report, September 2005
University of South Australia, Module 9 “HMR Benefits for GPs and Veterans” Post-intervention report, September 2007
University of South Australia, Cost-consequences analysis report, August 2009

Australian Government
Department of Veterans' Affairs

Request for Briefing, Speech Notes, Media Release etc

Briefing No.B09/0979

Date Due in MESS: 12 November 2009

Requested by: Ministerial Staffer or DLO	Date: 9 Nov. 09

Subject/Event: Minister's Office requests an information brief on the Veterans' MATES program.

Context: Interest from the Sydney Morning Herald (Mark Wetherell) raised and discussed with Dr Killer and Media & Strategic Communication.

Suggested Content/Instructions: please provide:

- Please provide an overview of the Mates program, when was it introduced, aims, why was it introduced etc?
- How do they identify a new module or set an outcome goal ? Please outline the process. What data is this based on? Is this data unique, if so in what ways?
- What outcomes have been achieved (top 5)?
- What evidence is this based on? Please provide statistical evidence to support the health outcomes.
- Has each module delivered proven health outcomes?
- How have they addressed privacy concerns? Ie do veterans volunteer or automatically included? What information is passed on to the SA Uni?
- The POC is Belinda s 47F

Important: Please provide information in dot points where appropriate

Internal DVA use only: (filled in by Parliamentary and Secretariat)

Responsible Group:

Email Message

From:	s 47F Ellen [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CWALDE]
To:	s 47F Lisa [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=LisaS], s 47F Cameron [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CSTUAC]
Cc:	s 47F Belinda [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCOLEB], s 47F Emma [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCOLLE], s 47F Kym (DVA) [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCONNK], s 47F Mark [EX:/O=DVA/OU=NAT/CN=VIC/cn=Recipients/cn=VDALTMF], s 47F Laura [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CDOLML], s 47F Robert [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CHAMOR], s 47F Chantal [EX:/O=DVA/OU=NAT/CN=VIC/cn=Recipients/cn=VHENNC], s 47F Lachlan [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLESLL], s 47F Darren [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLOASD], s 47F Adam (DVA) [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLUCKA], s 47F Kevin [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=COSULK], s 47F Scott [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CWESTS]
Sent:	9/11/2009 at 6:00 PM
Received:	9/11/2009 at 6:00 PM
Subject:	Brief Request - Veterans MATES program.doc [SEC=UNCLASSIFIED]
Attachments:	Brief Request - Veterans MATES program.doc

Hi

The attached brief has been requested back to the MO by cob Thursday. It relates to a media inquiry that was raised sometime ago and has since been raised again with the Minister.

thanks Ellen

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B09/0979

THE VETERANS' MATES PROGRAM

Critical Date: Nil.

Purpose: To provide information, as requested by your office, on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES).

Key Issues:

- Veterans' MATES is a program that improves the health care of veterans by simultaneously feeding information back to medical practitioners, pharmacists and veterans about the quality use of medicines and quality prescribing. Prescribing data is used to provide direct patient-based feedback to medical practitioners regarding medications dispensed to their veteran patients. Veterans who meet target criteria are also mailed educational brochures.
- The Veterans' MATES Program has been successful in reducing hospitalisation for veterans with chronic diseases such as heart failure and diabetes and has increased Home Medicine Reviews for targeted veterans.
- Veterans' MATES is widely recognised and viewed positively by its target audiences, with veterans, general practitioners and pharmacists all indicating strong satisfaction. The program was awarded the National Quality Use of Medicines award in the 'public and not-for-profit' category at the National Medicines Symposium conference in May 2008. It is also receiving interest from a range of international health organisations, including the World Health Organisation, with regular invitations to present at health conferences.
- The Veterans' MATES Program is valuable given that veterans are very high users of medicines, with 75 per cent using more than six unique medicines per year. In Australia there are 140,000 hospital admissions annually due to medication related problems. The high number of medicines used by veterans, combined with their age and co-morbidities means that veterans are susceptible to medication related adverse events.

- Attachment A provides further details including specific issues raised by your office.

Financial Impact: No.

Sensitivity: None expected.

Consultation: No.

Recommendation:
That you note this brief.
Cleared electronically

Ken Douglas
General Manager
Services Division
Ph: s 47F
11 November 2009

Contact:
Judy Daniel
National Manager, Primary Care Policy Group
Ph: s 47F

Comments:

NOTED / PLEASE DISCUSS

Alan Griffin / /

ATTACHMENT A – Background.

Background

Overview of the Veteran's Medicines Advice and Therapeutic Education Service (MATES) Program

DVA has delivered a Prescriber Feedback and Intervention Program for over ten years. The Veterans' MATES Program has been running under its current name since June 2004 when the University of South Australia was contracted to implement and deliver this program.

The program was started to improve the health care of veterans by simultaneously feeding back to medical practitioners, pharmacists and the veterans themselves information about the quality use of medicines, quality prescribing and management of chronic conditions such as diabetes and cardiovascular disease.

The Program's modules and prescribing data

Advisory Committees including Practitioners and Veterans Reference Groups are consulted to identify a module topic or outcome goal. An expert Editorial Group makes a final decision on the topic release based on pre-intervention reports for each module. These reports detail the specific indicators for each module topic including indicators measuring changes in medication use and health service utilisation. Each module is subsequently monitored for changes in health outcomes.

Veterans' health services and prescription claims data is used to provide direct patient-based feedback to medical practitioners regarding the medications dispensed to their veteran patient.

Twenty educational mail-outs have occurred to date, involving 226,000 veterans and 24,000 doctors.

A complete list of the modules can be found at the Veterans' MATES website address as follows:

https://www.veteransmates.net.au

The Program's achievements

The Program has contributed to improving health outcomes including:

- An increase of Home Medicine Reviews (HMRs) by 4000 in targeted veterans.
- The increase in veteran HMRs has led to a longer time period until the next hospitalisation for veterans with heart failure and veterans taking warfarin.
- Reduced hospitalisation by five to six per cent for veterans with heart failure by increasing beta blocker medicines.
- Increased use of low-dose Proton Pump Inhibitors by 15 per cent which results in a reduction of associated hospitalisations for pneumonia.
- Reduced Non-Steroidal Anti Inflammatory Drugs use in veterans with heart failure and diabetes by 44 per cent resulting in reduced hospitalisations associated with gastrointestinal ulcer and heart failure.

Veterans' involvement

Veterans who meet target criteria for each module are mailed the educational brochures, however, veterans can request to opt out of the program and be placed on an exemption list.

DVA sends veteran health services and prescription claims data to the University of South Australia through a secure transfer for expert research analysis.

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B09/ 0979

THE VETERANS' MATES PROGRAM

Critical Date: 12 November 2009

Purpose/Reason: To provide information on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES).

Key Issues:

- Veterans' MATES is a program that improves the health care of veterans by simultaneously feeding back to medical practitioners, pharmacists and veterans information about the quality use of medicines and quality prescribing. Prescribing data is used to provide direct patient-based feedback to medical practitioners regarding medications dispensed to their veteran patients. Veterans who meet target criteria are also mailed educational brochures.

- The Veterans' MATES Program has been successful in reducing hospitalisation for veterans with chronic diseases such as heart failure and diabetes and has increased Home Medicine Reviews (HMRs) for targeted veterans.

- Veterans' MATES is widely recognised and viewed positively by its target audiences, with veterans, general practitioners and pharmacists all indicating strong satisfaction. The program was awarded the National Quality Use of Medicines award in the 'public and not-for-profit' category at the National Medicines Symposium conference in May 2008. It is also receiving interest from a range of international health organisations, including the World Health Organisation (WHO) with regular invitations to present at health conferences.

- The Veterans' MATES Program is valuable given that veterans are very high users of medicines, with 75% using more than 6 unique medicines per year. In Australia there are 140,000 hospital admissions annually due to medication related problems. The high number of medicines used by veterans, combined with their age and co-morbidities means that veterans are susceptible to medication related adverse events.

- Attachment A provides further details including specific issues raised.

Financial Impact: No.

Sensitivity: None expected.

Consultation: No.

Recommendation(s): That you note the information on the Veterans' MATES Program.

Contact: Judy Daniel
National Manager, Primary Care Policy
Ph: s 47F

Ken Douglas
General Manager
Services Division
Ph: s 47F
November 2009

Comments:

NOTED

Alan Griffin / /

ATTACHMENTS A - Background

Background

Overview of the Veteran's Medicines Advice and Therapeutic Education Service (MATES) Program

DVA has delivered a Prescriber Feedback and Intervention Program for over ten years. The Veterans' MATES Program has been running under its current name since June 2004 when the University of South Australia was contracted to implement and deliver this Program.

The Program was started to improve the health care of veterans by simultaneously feeding back to medical practitioners, pharmacists and the veterans themselves information about the quality use of medicines, quality prescribing and management of chronic conditions such as diabetes and cardiovascular disease.

The Program's modules and prescribing data

Advisory Committees including Practitioners and Veterans Reference Groups are consulted to identify a module topic or outcome goal. An expert Editorial Group make a final decision on the topic release based on pre-intervention reports for each module. These reports detail the specific indicators for each module topic including indicators measuring changes in medication use and health service utilisation. Each module is subsequently monitored for changes health outcomes.

Veteran's health services and prescription claims data is used to provide direct patient-based feedback to medical practitioners regarding the medications dispensed to their veteran patient.

Twenty educational mail-outs have occurred to date, involving 226,000 veterans and 24,000 doctors.

A complete list of the modules can be found at the Veterans' MATES website address as follows:

https://www.veteransmates.net.au

The Program's achievements

The Program has contributed to improving health outcomes including:

- An increase of Home Medicine Reviews (HMRs) by 4000 in targeted veterans.
- The increase in veteran HMRs has led to a longer time period until the next hospitalisation for veterans with heart failure and veterans taking warfarin.
- Reduced hospitalisation by 5-6% for veterans with heart failure by increasing beta blocker medicines.
- Increased the use of low-dose Proton Pump Inhibitors (PPIs) by 15% which results in a reduction of associated hospitalisations for pneumonia.
- Reduced Non-Steroidal Anti Inflammatory Drugs (NSAIDs) use in veterans with heart failure and diabetes by 44% resulting in reduced hospitalisations associated with gastrointestinal ulcer and heart failure.

Veterans' involvement

Veterans who meet target criteria for each module are mailed the educational brochures, however, veterans can request to opt out of the Program and be placed on an exemption list.

DVA send veteran health services and prescription claims data to the University of South Australia through a secure transfer for expert research analysis.

Australian Government
Department of Veterans' Affairs

Request for Briefing, Speech Notes, Media Release etc

Briefing No.B09/0979

Date Due in MESS: 12 November 2009

Requested by: Ministerial Staffer or DLO	Date: 9 Nov. 09

Subject/Event: Minister's Office requests an information brief on the Veterans' MATES program.

Context: Interest from the Sydney Morning Herald (Mark Wetherell) raised and discussed with Dr Killer and Media & Strategic Communication.

Suggested Content/Instructions: please provide:

- Please provide an overview of the Mates program, when was it introduced, aims, why was it introduced etc?
- How do they identify a new module or set an outcome goal ? Please outline the process. What data is this based on? Is this data unique, if so in what ways?
- What outcomes have been achieved (top 5)?
- What evidence is this based on? Please provide statistical evidence to support the health outcomes.
- Has each module delivered proven health outcomes?
- How have they addressed privacy concerns? Ie do veterans volunteer or automatically included? What information is passed on to the SA Uni?
- The POC is Belinda s 47F

Important: Please provide information in dot points where appropriate

Internal DVA use only: (filled in by Parliamentary and Secretariat)

Responsible Group:

Email Message

From:	s 47F Ellen [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CWALDE]
To:	s 47F Lisa [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=LisaS], s 47F Cameron [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CSTUAC]
Cc:	s 47F Belinda [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCOLEB], s 47F Emma [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCOLLE], s 47F Kym (DVA) [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCONNK], s 47F Mark [EX:/O=DVA/OU=NAT/CN=VIC/cn=Recipients/cn=VDALTMF], s 47F Laura [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CDOLML], s 47F Robert [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CHAMOR], s 47F Chantal [EX:/O=DVA/OU=NAT/CN=VIC/cn=Recipients/cn=VHENNC], s 47F Lachlan [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLESLL], s 47F Darren [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLOASD], s 47F Adam (DVA) [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLUCKA], s 47F Kevin [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=COSULK], s 47F Scott [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CWESTS]
Sent:	9/11/2009 at 6:00 PM
Received:	9/11/2009 at 6:00 PM
Subject:	Brief Request - Veterans MATES program.doc [SEC=UNCLASSIFIED]
Attachments:	Brief Request - Veterans MATES program.doc

Hi

The attached brief has been requested back to the MO by cob Thursday. It relates to a media inquiry that was raised sometime ago and has since been raised again with the Minister.

thanks Ellen

Australian Government
Department of Veterans' Affairs

Request for Briefing, Speech Notes, Media Release etc

Briefing No.B09/0979

Date Due in MESS: 12 November 2009

Requested by: Ministerial Staffer or DLO	Date: 9 Nov. 09

Subject/Event: Minister's Office requests an information brief on the Veterans' MATES program.

Context: Interest from the Sydney Morning Herald (Mark Wetherell) raised and discussed with Dr Killer and Media & Strategic Communication.

Suggested Content/Instructions: please provide:

- Please provide an overview of the Mates program, when was it introduced, aims, why was it introduced etc?
- How do they identify a new module or set an outcome goal ? Please outline the process. What data is this based on? Is this data unique, if so in what ways?
- What outcomes have been achieved (top 5)?
- What evidence is this based on? Please provide statistical evidence to support the health outcomes.
- Has each module delivered proven health outcomes?
- How have they addressed privacy concerns? Ie do veterans volunteer or automatically included? What information is passed on to the SA Uni?
- The POC is Belinda s 47F

Important: Please provide information in dot points where appropriate

Internal DVA use only: (filled in by Parliamentary and Secretariat)

Responsible Group:

Email Message

From:	s 47F Ellen [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CWALDE]
To:	s 47F Lisa [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=LisaS], s 47F Cameron [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CSTUAC]
Cc:	s 47F Belinda [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCOLEB], s 47F Emma [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCOLLE], s 47F Kym (DVA) [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CCONNK], s 47F Mark [EX:/O=DVA/OU=NAT/CN=VIC/cn=Recipients/cn=VDALTMF], s 47F Laura [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CDOLML], s 47F Robert [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CHAMOR], s 47F Chantal [EX:/O=DVA/OU=NAT/CN=VIC/cn=Recipients/cn=VHENNC], s 47F Lachlan [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLESLL], s 47F Darren [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLOASD], s 47F Adam (DVA) [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CLUCKA], s 47F Kevin [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=COSULK], s 47F Scott [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CWESTS]
Sent:	9/11/2009 at 6:00 PM
Received:	9/11/2009 at 6:00 PM
Subject:	Brief Request - Veterans MATES program.doc [SEC=UNCLASSIFIED]
Attachments:	Brief Request - Veterans MATES program.doc

Hi

The attached brief has been requested back to the MO by cob Thursday. It relates to a media inquiry that was raised sometime ago and has since been raised again with the Minister.

thanks Ellen

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B09/0997

THE VETERANS' MATES PROGRAM – SUPPLEMENTARY INFORMATION

Critical Date: Nil

Purpose: To respond to a request from your office for additional information on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES) achievements, that is, further to that provided at Brief B09/0979 of 11 November 2009.

Key Issues:

- Responses to the request for further information on the Veterans' MATES Program's achievements are at Attachment A.
- A copy of an article recently published in the American Circulation Heart Failure Journal in August 2009 was also requested. The article is titled "The effectiveness of collaborative medicine reviews in delaying time to next hospitalisation for heart failure patients in the practice setting." A copy is at Attachment B. The article received wide coverage and was received positively in the USA.

Sensitivity: None expected.

Consultation: No.

Recommendation: That you note this brief.

s 47F

Ken Douglas
General Manager
Services Division
Ph: s 47F
2 December 2009

Contact:
Judy Daniel
National Manager
Primary Care Policy
Ph: s 47F

Comments:

NOTED / PLEASE DISCUSS

s 47F

Alan Griffin 20/12/09

ATTACHMENT A - Background; B - Article from American Circulation Heart Failure Journal August 2009.

Australian Government

Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B09/0997

THE VETERANS' MATES PROGRAM – SUPPLEMENTARY INFORMATION

Critical Date: Nil

Purpose: To respond to a request from your office for additional information on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES) achievements, that is, further to that provided at Brief B09/0979 of 11 November 2009.

Key Issues:

- Responses to the request for further information on the Veterans' MATES Program's achievements are at Attachment A.
- A copy of an article recently published in the American Circulation Heart Failure Journal in August 2009 was also requested. The article is titled "The effectiveness of collaborative medicine reviews in delaying time to next hospitalisation for heart failure patients in the practice setting." A copy is at Attachment B. The article received wide coverage and was received positively in the USA.

Sensitivity: None expected.

Consultation: No.

Recommendation: That you note this brief.

s 47F

Ken Douglas
General Manager
Services Division
Ph: s 47F
2 December 2009

Contact:
Judy Daniel
National Manager
Primary Care Policy
Ph: s 47F

Comments:

NOTED / PLEASE DISCUSS

Alan Griffin / /

ATTACHMENT A - Background; B - Article from American Circulation Heart Failure Journal August 2009.

ATTACHMENT A

Background

The information below details the specific source/activity which informed the identified outcomes from the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES).
The program has contributed to improving health outcomes including:

- An increase of Home Medicine Reviews (HMRs) by 4000 in targeted veterans.
- The increase in veteran HMRs has led to a longer time period until the next hospitalisation for veterans with heart failure and veterans taking warfarin.
- Reduced hospitalisation by five to six per cent for veterans with heart failure by increasing beta blocker medicines.
- Increased the use of low-dose Proton Pump Inhibitors (PPIs) by 15 per cent which results in a reduction of associated hospitalisations for pneumonia.
- Reduced Non-Steroidal Anti Inflammatory Drugs (NSAIDs) use in veterans with heart failure and diabetes by 44 per cent resulting in reduced hospitalisations associated with gastrointestinal ulcer and heart failure.

1(a). Numbers to support increases in Home Medicines Reviews (HMRs)
A total of 38,500 veterans were targeted in the mail out on HMRs. Veterans who have five or more medicines dispensed each month were targeted to find out how they were managing their medicine and if there were any unwanted effects from their various medicines. It also presented an important opportunity for doctors and pharmacists to examine the medicines that veterans were taking and to discuss the reasons for each of the medicines. The time period for this module was between May and August 2004.

HMR rates were approximately 2.5 per 1000. Module 1 was successful in increasing the rate of home medicines review, to a peak of 10 per 1000 four months after the intervention.

1(b). What outcomes did the HMR process achieve?
The increase in HMRs in the veteran community has achieved consistent better health outcomes and a net cost savings to the health system due to avoided adverse outcomes.

2. Measures to support the longer time period until next hospitalisation for veterans with heart failure and take warfarin.
HMRs were effective in reducing hospital admissions for bleeding amongst veterans using warfarin. Amongst veterans taking warfarin who had an HMR, there was a 79 per cent reduction in time to next hospitalisation for bleed in the two to six months after the HMR.

This effect was not apparent in the 0 to 2 months post HMR, nor after six months post HMR. More than 12 months after an HMR was associated with an increased risk of being hospitalised for a bleed. This suggests the HMR is having an impact on bleeding risk. Based on this analysis, a HMRs should be recommended for all veterans dispensed warfarin on a six monthly frequency.

3. Numbers to support the lower hospitalisations for lower dose Proton Pump Inhibitors (PPIs) for heartburn.
PPIs are a group of drugs whose main action is a pronounced and long-lasting reduction of gastric acid production (heartburn). After the MATES mail out on PPIs in March 2007, the rate of utilisation of the lower strength PPIs as a proportion of overall use of PPIs increased. Compared to the month before the intervention, 15 per cent more veterans were dispensed low dose PPIs. This equated to a conservative estimate of 598 additional veterans who used PPIs switching to lower strength alternatives after implementation of this module. This potentially equates to five fewer hospitalisations for pneumonia and 371 fewer antibiotic prescriptions as a result of implementation (mail out sent to 62,461 veterans).

4. Numbers for reduced hospitalisation due to Non-Steroidal Anti-Inflammatory Drugs (NSAIDs).

For veterans with diabetes who were exposed to NSAIDs, the rate of hospitalisation for adverse events dropped by 70 per 1000 patients per 1000 days of follow-up. For veterans with heart failure who were exposed to NSAIDs, the rate of hospitalisation for adverse events dropped by 100 per 1000 patients per 1000 days of follow-up. The incidence rates demonstrate that amongst targeted veterans treated for one year with NSAIDs there would be 12 extra hospitalisations in the diabetes population and 18 additional hospitalisations in the heart failure cohort.

Overall trends in NSAID use in veterans with diabetes and heart failure have continued to decline, falling a further 2 per cent in the population with diabetes and 3 per cent in the population with heart failure. 588 targeted veterans ceased NSAID use.

Sources:

University of South Australia, Module 1 "HMRs" Post-intervention report, September 2005
University of South Australia, Module 9 "HMR Benefits for GPs and Veterans" Post-intervention report, September 2007
University of South Australia, Cost-consequences analysis report, August 2009

Circulation
Heart Failure
JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart Association
Learn and Live

The effectiveness of collaborative medicine reviews in delaying time to next hospitalisation for heart failure patients in the practice setting: results of a cohort study.

Elizabeth E. Roughead, John D. Barratt, Emmae Ramsay, Nicole Pratt, Philip Ryan, Robert Peck, Graeme Killer and Andrew L. Gilbert

Circ Heart Fail published online Aug 19, 2009;
DOI: 10.1161/CIRCHEARTFAILURE.109.861013
Circulation: Heart Failure is published by the American Heart Association. 7272 Greenville Avenue, Dallas, TX 72514
 Print ISSN: 1941-3289. Online ISSN: 1941-3297

The effectiveness of collaborative medicine reviews in delaying time to next hospitalization for heart failure patients in the practice setting: results of a cohort study.

Roughead: Collaborative reviews effective for CHF

Authors: Elizabeth E. Roughead[1] (PhD), John D. Barratt[1] (B.Pharm, B App Sc) Emmae Ramsay[2], (BSc G.Dip.App.Stats) Nicole Pratt[2] (BSc (Hons)) Philip Ryan[2] (MBBS), Robert Peck[3] (B.Pharm), Graeme Killer[3] (MBBS) and Andrew L Gilbert[1] (PhD)

Author Affiliation:

1. Quality Use of Medicines and Pharmacy Research Centre; Sansom Institute, University of South Australia, Adelaide, 5000, Australia

2. Data Management and Analysis Centre, Discipline of Public Health, University of Adelaide, Adelaide, 5000, Australia

3. Department of Veterans' Affairs, Canberra, 2606, Australia

Corresponding Author: Associate Professor Elizabeth E. Roughead, Quality Use of Medicines and Pharmacy Research Centre; Sansom Institute, School of Pharmacy and Medical Sciences, University of South Australia, North Terrace, GPO Box 2471, Adelaide, South Australia 5001

Telephone +61 8 8302 1233

Fax +61 8 8302 1087

Email libby.roughead@unisa.edu.au

Word Count : Abstract 250; Text 2605; Manuscript total (including the title page, abstract, text, references, tables and figures legends) 4040

Subject codes: [9]Heart failure; [27] Other Treatment; [100] Health policy and outcome research

Abstract

Background: Randomised controlled trials have demonstrated that collaborative medication reviews can improve outcomes for patients with heart failure. We aimed to determine if these results translated into Australian practice, where collaborative reviews are nationally funded.

Methods and Results: This retrospective cohort study using administrative claims data included veterans 65 years and over receiving bisoprolol, carvedilol or metoprolol succinate for which prescribing physicians indicated treatment was for heart failure. We compared those exposed to a general practitioner – pharmacist collaborative home medication review with those who did not receive the service. The service includes physician referral, a home visit by an accredited pharmacist to identify medication-related problems, a pharmacist report with follow-up undertaken by the physician. Kaplan-Meier analyses and Cox proportional hazards models were used to compare time to next hospitalization for heart failure between the exposed and unexposed groups. There were 273 veterans exposed to a home medicines review and 5444 unexposed patients. Average age in both groups was 81.6 years (no significant difference). Median number of comorbidities was 8 in the exposed group and 7 in the unexposed ($p < 0.0001$). Unadjusted results showed a 37% reduction in rate of hospitalization for heart failure at any time (HR 0.63; 95%CI 0.44-0.89). Adjusted results showed a 45% reduction (HR, 0.55 95% CI, 0.39-0.77) amongst those that had received a home medicines reviewe compared to the unexposed patients.

Conclusion: Medicines review in the practice setting is effective in delaying time to next hospitalization for heart failure in those treated with heart failure medicines.

Keywords: heart failure, morbidity, medication review, hospitalization

Introduction

Advances in the management of patients with heart failure have led to the use of increasingly complex combinations of medicines, including angiotensin-converting enzyme inhibitors, angiotensin II receptor blockers, loop diuretics, beta blockers and spironolactone.[1] Despite these advances, up to 44% of patients with heart failure will be re-hospitalised within six months of discharge[2] due to both the progression of the condition and medication-related problems.[3]

Collaborative medicines reviews have been shown to be effective in preventing, detecting and resolving medication related problems.[4] Based on this evidence, the Australian Government funded collaborative medication review services, known as Home Medicines Review (HMR), which are undertaken by accredited pharmacists and general medical practitioners.[5] In part, this expanded role for pharmacists has been encouraged by the Australian government because of a general shortage of health professionals and a perception that pharmacists' skills are underutilised in the health system. A 2007 systematic review and meta-analysis involving randomised controlled trials failed to find any effect of pharmacist-led reviews in older people on mortality (22 trials) or all cause hospital admissions (17 trials).[6] When limited to the heart failure population however, a 2008 systematic review of 12 randomised controlled studies involving pharmacist care of patients with heart failure found significant reductions in all cause hospitalization (OR 0.71; 95%CI, 0.54-0.94) and heart failure hospitalizations (OR 0.69; 95% CI 0.51-0.94).[7] The type of medicine review provided appeared to have an impact with medicine reviews that involved both pharmacist and physician collaboration having the most impact, achieving a reduction in the rate of hospitalizations for people with heart failure (OR 0.42; 95% CI 0.24-0.74). By comparison,

pharmacist-directed care, which may not have been undertaken with physician involvement, showed no significant effect on the hospitalization rate.[7] A more recent UK randomised controlled trial on the effectiveness of home visits from community pharmacists for patients with heart failure failed to show any significant difference in total hospital readmissions at six months post discharge.[8]

Australia has funded home medicines review services since 2001 and more than 200,000 collaborative medication reviews have been provided across the country, with approximately 40,000 provided each year.[9] The Australian model is a collaborative model, where physicians refer patients to an accredited pharmacist who undertakes a home visit. The pharmacist identifies any medication related problems, including potential underuse, overuse, adverse events, compliance and knowledge problems, or hoarding. The pharmacist provides a report which is discussed with the physician. The physician is responsible for developing the medication management plan, communicating this with the patient and has responsibility for follow-up with the patient. The service can only be provided be a pharmacist who is accredited. The accreditation process assesses competence in clinical pharmacy, therapeutics, pharmaceutical care and medication review. Pharmacists must be reaccredited every three years.[10] Local area facilitators are funded across the country to support the program's implementation.[9]

We aimed to determine if the results from randomised controlled trials for the heart failure population translated into practice as it is currently funded in Australia. This study examined the effect of the provision of a HMR for Australian war veterans and war widows with heart failure on the time to next hospitalization for heart failure. The veteran population were chosen for the study as they are an elderly, vulnerable population, who are an appropriate

target population for HMR services, they are similar to the elderly Australian population, and complete data are available.

Method

Setting: The Australian Government's Department of Veterans' Affairs (DVA) claims databases contains details of all prescription medicines, medical and allied health services and hospitalizations provided to veterans for which DVA pay a subsidy. The data file contains 140 million pharmacy records, 200 million medical and allied health service records and over 6 million hospital records for a treatment population of 310,000 veterans. The DVA maintain a client file, which includes data on gender, date of birth, date of death and family status. Medicines are coded in the dataset according to the World Health Organization (WHO) anatomical and therapeutic chemical (ATC) classification[11] and the Schedule of Pharmaceutical Benefits item codes.[12] Hospitalizations are coded according to the International classification of diseases classification, version 10, Australian modification.[13]

Study design: A cohort study was undertaken over the period 1 Jan 2004 until 1 July 2006. The exposed group were veterans who had received a home medicines review, had all health services fully subsidized by DVA, were dispensed a beta-blocker subsidized for heart failure in the six months prior to the home medicines review, and aged 65 years or over at the time of the review. The unexposed group were veterans who had all health services fully subsidized by DVA, were aged 65 years and over and who had been dispensed a beta-blocker subsidized for heart failure but had not had a home medicines review. The eligibility of the veterans for the unexposed group was determined each month throughout the study period. Eligible veterans were then randomly allocated to an index month in the study period to match the time of a home medicines review in the exposed group. The allocation of unexposed to exposed was approximately 20 to one. Unexposed veterans were only matched

once in the study period. The beta-blockers included bisoprolol, carvedilol and metoprolol succinate, which throughout the study period, were only available under a prior authorisation process where the prescribing physician had to indicate at the time of prescription that the patients had heart failure. It is considered unlikely that these would have been prescribed for other indications as alternative beta-blockers are available for other indications with no requirement for prior authorisation.

Subjects were followed up until time to first hospitalization for heart failure (ICD codes[13] I500, I501, I509) post the index month for the unexposed group or post the home medicines review in the exposed group, or until death or study end, whichever was the earliest. Subjects who were resident in aged-care facilities were excluded, as home medicines reviews are only funded for the community dwelling elderly.

Demographics were compared between the exposed and unexposed groups using the following methods. T-tests were used for normally distributed continuous variables; the non-parametric Kruskal-Wallis test was used to analyse non-normal data. Discrete categorical variables were analysed using the chi-square statistic and for ordinal categorical variables the Cochran-Mantel-Haenszel statistic was used.

Kaplan-Meier analyses were used to compare time to next hospitalization for heart failure between the HMR exposed and unexposed groups. Cox-proportional hazards models were used to determine hazard ratios. The models were adjusted at the time of HMR or index month for age, gender, co-morbidity as measured in the 6 months prior to the HMR by the Australian adaption of Rx-Risk-V,[14] socioeconomic index based on socioeconomic indexes for areas (SEIFA),[15] season, number of prescriptions in the year prior, number of prescribers in the year prior, number of pharmacies in the year prior, number of medicines change over a six month period in the year prior, number of hospitalizations in the year prior, number of

occupational therapy visits in the year prior, number of speech therapy visits in the year prior and region of residence (remote, outer regional, inner regional and major city)[16]. All analyses were undertaken using SAS v9.1.3. (SAS Institute Inc, Cary, NC). Statistical significance was set a priori at $p < 0.05$. Ethics approval for the study was obtained from the Department of Veterans' Affairs Human Research Ethics Committee and the University of South Australia Ethics Committee. The authors had full access to the data and take responsibility for its integrity. All authors have read and agree to the manuscript as written.

Results

There were 273 persons included in the HMR exposed group and 5,444 in the unexposed group. Demographics of the groups are presented in table 1. While of similar ages and gender, the exposed group had more co-morbidities, more prescriptions, more changes in their medications prior to the home medicines review, more prescribers and more hospitalizations. The unexposed group were more likely to have high socioeconomic disadvantage scores.

Figure 1 shows the Kaplan-Meier analysis for time to hospitalization for heart failure is significantly delayed in the group which had received a home medicines review.

The adjusted results show that for those who received a home medicines review there was a 45% reduction in the rate of hospitalization for heart failure at any time (HR, 0.55 95% CI, 0.39-0.77).(Table 2) The model shows that 5.5% of the exposed group compared to 12% of the unexposed group were hospitalised within 365 days.

Discussion

The study demonstrates that research outcomes from randomised controlled trials of the effectiveness of collaborative medication reviews in the heart failure population can translate into practice. Our results showed home medicines review in the heart failure population was effective in delaying time to hospitalization for heart failure with a 45% reduction in the rate of hospitalization for heart failure at any time. While not directly comparable to intervention studies, our results are not dissimilar to the results from the systematic review that reported a 31% reduction in hospitalization for heart failure in those who had participated in collaborative medication reviews[7]; involving both physician and pharmacist input. These findings are also in keeping with expectations that the service would be effective for heart failure, as medication problems have been found to be a common contributor to hospitaliation for heart failure.[17 18] A Spanish study of 293 cases found poor medication compliance was a precipitating factor for heart failure hospitalizations in 12.5% of cases, use of harmful medications in 6.5% of cases and withdrawal of beneficial medications in 1.4%.[18] The results are also consistent with findings demonstrating medication-related problems are contributors to admissions for heart failure.[3 17 19] With hospitalizations in Australia for heart failure estimated to cost $140 million per annum[2] these delays to next hospitalization could contribute to significant cost savings to the health system.

Despite groups being similar, in that both groups were 65 years of age or over and dispensed a beta-blocker listed for heart failure, the demographic analysis shows that those who received a home medicines review had more co-morbidities, more prescriptions dispensed, more changes to their medicines prior to the review and more prior hospitalizations. This suggests the population receiving a home medicines review had a higher burden of illness than those who didn't, potentially indicating the exposed group were more likely to receive

the service because of more severe disease(s); representing confounding by indication or selection bias[20]. This is likely to bias the study towards the null effect, suggesting the study is unlikely to have over-estimated the effect.

Our study was limited to veterans dispensed beta-blockers for heart failure and it is possible that some of the effect observed is related to better patient management due to pharmacist involvement after beta-blocker initiation. However, we did not limit our study to patients newly initiated on beta-blockers. Patients may have been on beta-blockers for variable lengths of time. Given that many medications contribute to problems in the heart failure population, including sub-optimal use of beta-blockers or angiotensin converting enzyme inhibitors, poor compliance and concurrent use of NSAIDs, verapamil or diltiazem, as well as lack of early recognition of signs of deterioration[21], it is likely that the effect observed was related to the home medicines review, not just better patient management while on beta-blockers.

A study limitation is the low numbers of veterans who have received a HMR. Overall, only 5% of veterans with heart failure have received a HMR, despite all veterans in this treatment population being eligible for the service. The focus of this study on war veterans may also be seen as a limitation. In Australia, however, war veterans are treated in the same way as non-veteran patients in both the primary and tertiary care sectors. The health services they receive are the same and they are delivered by the same practitioners as those visited by non-veterans. The veteran population have slightly more general practice visits (rate ratio 1.17; $p < 0.05$) and hospitalizations (rate ratio 1.21; $p < 0.05$) per year than other Australians aged 40 years and over. [22] Veterans with no service related disability have similar levels of use.[22] Similar numbers of prescriptions per general practitioner visit are observed between the

veteran population and the Australian population; however, because of the higher rate of GP visits, veterans receive slightly more prescriptions annually than other Australians (rate ratio 1.13; $p < 0.05$).[22]

This study used prescription data for identifying the heart failure population, however, the beta-blockers used as indicators of heart failure were only subsidised for heart failure under a prior authorisation policy. Similarly to what has been observed in the USA[23], prior authorisation policies restrict physicians using medicines for unspecified purposes, but unlike the US, Australia does not provide exemptions, thus the medicines are not be subsidised for other indications. Given that the beta-blockers in our study all required prior authorisation which required physicians to apply in writing or by telephone and indicate the medicine was for heart failure, it is unlikely that the use of these betablockers was for other indications as alternative beta-blockers are available with no requirement for prior authorisation.

Diagnostic data are not available in Australia's primary health care administrative data sets, thus we were not able to adjust for severity of illness, nor were we able to adjust for other potential confounders such as quality of care administered by attending physicians. This study assumes consistent implementation of the reviews across the country. No data are availabe to confirm this, however, the program is implemented nationally in a structured manner with consistent rates of uptake per capita in all states and territories.[9] Further, all areas have locally employed facilitators to assist program implementation and all pharmacists and pharmacies must be accredited with competencies in clinical pharmacy, therapeutics, pharmaceutical care and medication review before they can provide the service.[10]

Despite these limitations, this study shows that randomised controlled trial results do translate into practice and that positive results are measurable in practice from the nationally funded program. From a health services research perspective this study provides evidence that the service as currently administered provides health gain for Australian consumers with heart failure. The program is consumer-focused structured service requiring collaboration between general medical practitioner, pharmacist and patient. The funding and business rules that have been established for the Australian program differentiates claims for the service from both pharmacists and medical practitioners. The statistics highlight that both parties are active participants in the provision of the service; as of June 2008 180,000 claims had been received from pharmacists with just under 170,000 claims from general practitioners.[9]

This study adds to the available literature on the effectiveness of pharmacists' collaborative contribution to the care of complex older patients. A systematic review conducted to clarify the role of pharmacists in the care of patients with heart failure found a significant decrease in hospitalization for patients who had received pharmacists collaborative care, however, no effect of pharmacist-directed care.[7] The results observed in our study are consistent with those reported in the systematic review finding collaborative medicines review is effective in the heart failure population. Similar programs offering home based-visits to heart failure patients in collaboration with health professionals other than pharmacists, including nurse practitioners, have also been shown to be effective.[24,25] The White Paper on Pharmacy in England[26] identifies pharmacists as an underutilised resource in the health system and the UK government is encouraging such role extension.[8] If the findings of this study are replicated in other patient groups who are at high risk of medication misadventure and consequent

rehospitalization, there will be an even stronger case to require pharmacists to be involved in this extension of their role in collaboration with physicians.

Funding sources

This research was funded by the Australian Government Department of Veterans' Affairs. The Department of Veterans' Affairs reviewed the final manuscript.

Disclosures

Elizabeth Roughead, John Barratt, Emmae Ramsay, Nicole Pratt, Phil Ryan and Andrew Gilbert all declare they have no conflicts of interest.

Robert Peck and Graeme Killer are employees of the Department of Veterans' Affairs, the funder of the research.

References

1. National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand. Guidelines on the contemporary management of the patient with chronic heart failure in Australia. Sydney: Cardiac Society of Australia and New Zealand, 2002.

2. Krumholz HM, Amatruda J, Smith GL, Mattera JA, Roumanis SA, Radford MJ, Crombie P, Vaccarino, V. Randomized trial of an education and support intervention to prevent readmission of patients with heart failure. *J Am Coll Cardiol* 2002;39:83-9.

3. Vinson JM, Rich MW, Sperry JC, Shah AS, McNamara T. Early readmission of elderly patients with congestive heart failure. *J Am Geriatr Soc* 1990;38:1290-5.

4. Gilbert AL, Roughead EE, Beilby J, Mott K, Barratt JD. Collaborative medication management services: improving patient care. *Med J Aust* 2002;177:189-92.

5. Medicare Australia. Home Medicines Review. Canberra: Australian Government, 2009. http://www.medicareaustralia.gov.au/provider/pbs/fourth-agreement/hmr.jsp [Accessed Jun 12 2009]

6. Holland R, Desborough J, Goodyer L, Hall S, Wright D, Loke YK. Does pharmacist-led medication review help to reduce hospital admissions and deaths in older people? A systematic review and meta-analysis. *Br J Clin Pharmacol* 2008;65:303-16.

7. Koshman SL, Charrois TL, Simpson SH, McAlister FA, Tsuyuki RT. Pharmacist care of patients with heart failure: a systematic review of randomized trials. *Arch Intern Med* 2008;168:687-94.

8. Holland R, Brooksby I, Lenaghan E, Ashton K, Hay L, Smith R, Shepstone L, Lipp A, Daly C, Howe A, Hall R, Harvey I. Effectiveness of visits from community pharmacists for patients with heart failure: HeartMed randomised controlled trial. *BMJ* 2007;334:1098.

9. Pharmacy Guild of Australia. Medication management review program. Canberra: Pharmacy Guild of Australia, 2009. http://www.guild.org.au/mmr/ [Accessed Jun 12 2009]

10. Australian Association of Accredited Pharmacists. Accreditation. Canberra: AACP, 2009. www.aacp.com.au [Accessed Jun 12 2009]

11. World Health Organization Collaborating Centre for Drug Statistics Methodology. Anatomical Therapeutic Chemical Code Classification index with Defined Daily Doses. Oslo: World Health Organization Collaborating Centre for Drug Statistics Methodology, 2008.

12. Australian Government Department of Health and Ageing. Schedule of Pharmaceutical Benefits Canberra: National Capital Printing, 2008.

13. National Centre for Classification in Health. *The International statistical classification of diseases and related health problems, 10th revision, Australian modification (ICD-10-AM).* 6th ed. Sydney: National Centre for Classification in Health, 2008.

14. Vitry A, Wong S, Roughead EE, Ramsay E, Barratt J. Validity of medication-based comorbidity indices in the Australian elderly population *Aust N Z J Public Health* 2009 33:126-130.

15. Australian Bureau of Statistics (ABS). Information paper: census of population and housing. Socio-economic indexes for areas, Australia, 2001 *ABS cat. no. 2039.0.* Canberra: ABS, 2003.

16. Australian Institute of Health and Welfare A. Rural, regional and remote health. A guide to remoteness classifications. AIHW catalogue number PHE 53. . Canberra: AIHW, 2004.

17. Lowe JM, Candlish PM, Henry DA, Wlodarcyk JH, Heller RF, Fletcher PJ. Management and outcomes of congestive heart failure: a prospective study of hospitalised patients. *Med J Aust* 1998;168:115-8.

18. Formiga F, Chivite D, Manito N, Casas S, Llopis F, Pujol R. Hospitalization due to acute heart failure. Role of the precipitating factors. *Int J Cardiol* 2007;120:237-41.

19. Roughead EE, Gilbert AL, Primrose JG, Sansom LN. Drug-related hospital admissions: a review of Australian studies published 1988-1996. *Med J Aust* 1998;168:405-8.

20. Salas M, Hofman A, Stricker BH. Confounding by indication: an example of variation in the use of epidemiologic terminology. *Am J Epidemiol* 1999;149:981-3.

21. Therapeutic Guidelines Ltd. e-TG complete. North Melbourne: Therapeutic Guidelines Ltd, 2009.

22. Australian Institute of Health and Welfare A. Health care usage and costs. A comparison of veterans and war widows and widowers with the rest of the community. . *Cat. no. PHE 42.* . Canberra: AIHW, 2002.

23. Soumerai SB. Benefits and risks of increasing restrictions on access to costly drugs in Medicaid. *Health Aff* 2004;23:135-46.

24. Thompson DR, Roebuck A, Stewart S. Effects of a nurse-led, clinic and home-based intervention on recurrent hospital use in chronic heart failure. *Eur J Heart Fail* 2005;7:377-84.

25. Stewart S, Horowitz JD. Home-based intervention in congestive heart failure: long-term implications on readmission and survival. *Circulation* 2002;105:2861-6.

26. Department of Health. Pharmacy in England: Building on strengths-delivering the future. London: Department of Health, 2008.

http://www.dh.gov.uk/en/publicationsandstatistics/publications/publicationspolicyandguidance/dh_083815 [Accessed Jun 12 2009]

Table 1: Demographics of study participants

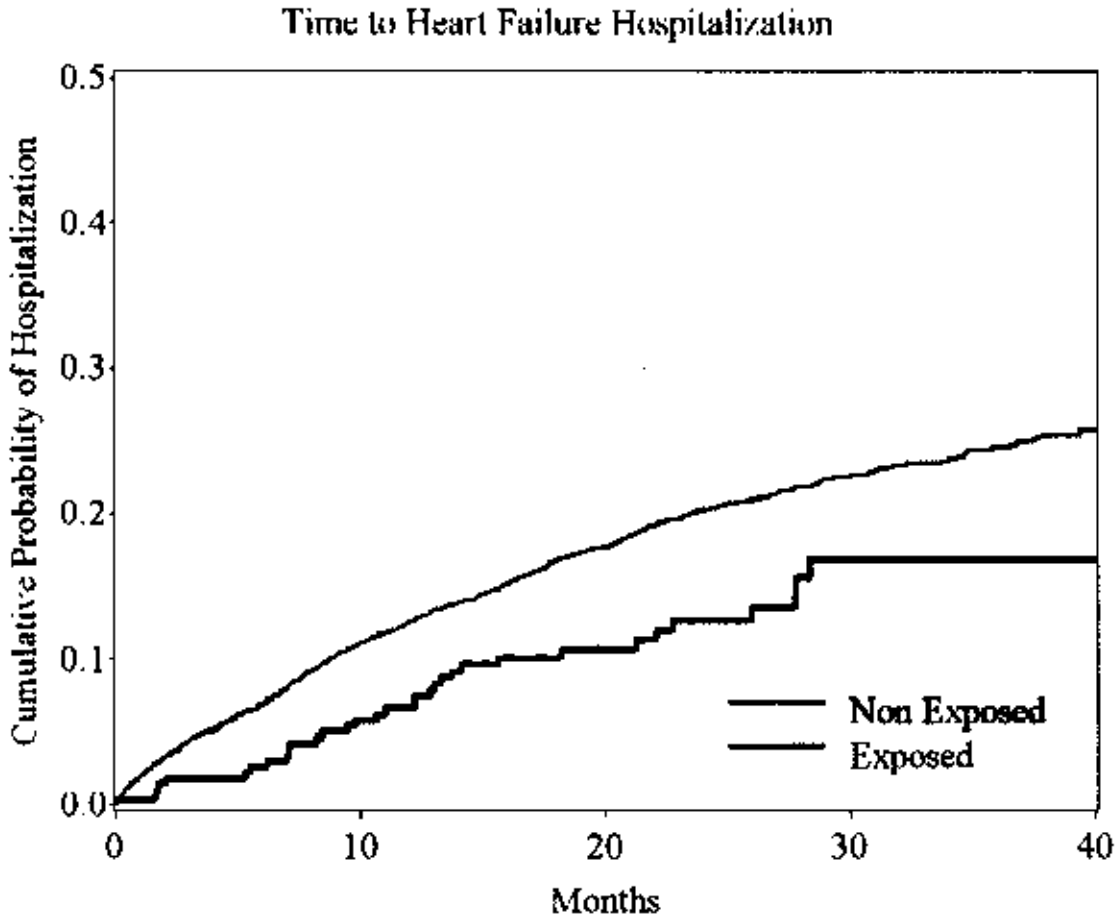
	Exposed N=273	Unexposed N=5444	p-value
Male gender	70% male	74% male	0.11
Age	81.6 years (SD 4.8)	81.6 years (SD 4.8)	0.87
Median number of co-morbidities[14]	8 (SD 2)	7 (SD 2)	<0.0001
Number of prescriptions in year prior	95 (69-123)	76 (54-104)	<0.0001
Number of changes in medicines over 6 month period in year prior	3 (2-6)	3 (1-5)	<0.0001
Number of prescribers in the year prior	5 (3-6)	4 (3-6)	0.002
Number of pharmacies in the year prior	2 (1-3)	2 (1-3)	0.43
Socio-economic index of disadvantage[15]			
Lowest disadvantage	31%	25%	0.01
Med/low disadvantage	25%	25%	
Med/high disadvantage	24%	25%	
Highest disadvantage	20%	25%	
Hospitalizations in the year prior			
0	27%	34%	0.03
1	23%	23%	
2	22%	17%	
≥2	28%	25%	
Region[16]			
Remote	0%	1%	0.86
Outer regional	12%	9%	
Inner regional	29%	31%	
Major city	59%	59%	

Table 2: Cox proportional hazards model results for time to hospitalization for heart failure

Parameter	Para-meter Estimate	Standard Error	Chi-Square	P value	Hazard Ratio*	95% Hazard Ratio Confidence Limits	
Unadjusted: exposed to home medicines review	-0.47	0.18	7.0035	0.008	0.63	0.44	0.89
Adjusted: exposed to home medicines review	-0.61	0.18	11.61	0.0007	0.55	0.39	0.77

*adjusted for age, gender, co-morbidity,[14] socioeconomic index of disadvantage,[15] season, and region of residence.[16] as well as the number of prescriptions, prescribers, pharmacies, changes in medications, hospitalizations, occupational therapy visits and speech therapy visits.

Figure 1. Kaplan-Meier graph showing time to hospitalization for those exposed to an collaborative medication review compared to those who weren't.



Email Message

From:	s 47F Garry [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CBEAUG]
To:	s 47F Lisa [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=LisaS], s 47F Cameron [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CSTUAC]
Cc:	s 47F Ellen [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CWALDE], s 47F Judy [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CDANIJ], s 47F Julie [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CMESKJ], s 47F Sharon [EX:/O=DVA/OU=NAT/CN=RECIPIENTS/CN=CPATRS]
Sent:	3/12/2009 at 8:40 AM
Received:	3/12/2009 at 8:40 AM
Subject:	FW: B09/0979- further information [SEC=UNCLASSIFIED]
Attachments:	997 - MATES Supplementary Info.doc

Good morning

GM Services Div has signed the attached brief (B09/0997) which provides supplementary information in response to MO questions on B09/0979.

Garry s 47F

Services Division Coordination & Finance
Department of Veterans' Affairs
Tel: s 47F (Internal: s 47F

From: s 47F Belinda
Sent: Thursday, November 12, 2009 3:26 PM
To: s 47F Judy
Cc: s 47F Ellen; s 47F Mark; s 47F Adam (DVA)
Subject: B09/0979- further information [SEC=UNCLASSIFIED]

Hi Judy,

We have reviewed the abovementioned brief and have a few questions. Can you please supply some further information for the MATES brief?

Achievements:

1. (a) HMRs have increased by 4,000 in targeted veterans. How many were targeted and why? What time period is this increase? What is the usual HMR volume in this time period? For example, I would like to be able to say:

Home Medicine Reviews increased from 2,000 per month in June 2009 to 6,000 per month in July 2009 as a result of the MATES program mail out. DVA wrote to a total of 10,000 veterans who consume more than six medications per year.

1. (b) Also, the measures need to be more focussed on real outcomes for eg a HMR is a process but what did it achieve - fewer meds, better health outcomes, less adverse events?

2. Can we measure the "longer time period until next hospitalisation"? IE- the average time until next hospitalisation for veterans who have heart failure and take warfarin increased from 90 days to 120 days for those who had a HMR.

3. Do we have numbers to support the lower hospitalisation numbers for people who switched to low-dose Proton Pump Inhibitors? What is this medication for? IE- 15

of the 100 veterans who suffer from (disease) were written to and switched to the Pump resulting in a 20 percent reduction in hospitalisations for pneumonia.

4. Numbers for reduced hospitalisation due to non-steroidal anti inflammatory drugs. IE- hospitalisations for gastrointestinal ulcers and heart failure in veterans with diabetes dropped by 15 per cent due to the switching of medications.

Also, I understand there was a recent journal article or something published. Do you have a copy of this that we can see?

Thanks,

Belinda s 47F

Media Adviser
Office of the Hon Alan Griffin MP
Minister for Veterans' Affairs

Suite M1.17
Parliament House
CANBERRA ACT 2600

T: s 47F
M: s 47F

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B09/0997

THE VETERANS' MATES PROGRAM – SUPPLEMENTARY INFORMATION

Critical Date: Nil

Purpose: To respond to a request from your office for additional information on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES) achievements, that is, further to that provided at Brief B09/0979 of 11 November 2009.

Key Issues:

- Responses to the request for further information on the Veterans' MATES Program's achievements are at Attachment A.

- A copy of an article recently published in the American Circulation Heart Failure Journal in August 2009 was also requested. The article is titled "The effectiveness of collaborative medicine reviews in delaying time to next hospitalisation for heart failure patients in the practice setting." A copy is at Attachment B. The article received wide coverage and was received positively in the USA.

Sensitivity: None expected.

Consultation: No.

Recommendation: That you note this brief.

Contact:
Judy Daniel
National Manager
Primary Care Policy
Ph: s 47F

Ken Douglas
General Manager
Services Division
Ph: s 47F
December 2009

Comments:	**NOTED / PLEASE DISCUSS** **Alan Griffin** / /

ATTACHMENT A - Background; B - Article from American Circulation Heart Failure Journal August 2009.

ATTACHMENT A
Background

The information below details the specific source/activity which informed the identified outcomes from the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES).
The program has contributed to improving health outcomes including:

- An increase of Home Medicine Reviews (HMRs) by 4000 in targeted veterans.
- The increase in veteran HMRs has led to a longer time period until the next hospitalisation for veterans with heart failure and veterans taking warfarin.
- Reduced hospitalisation by five to six per cent for veterans with heart failure by increasing beta blocker medicines.
- Increased the use of low-dose Proton Pump Inhibitors (PPIs) by 15 per cent which results in a reduction of associated hospitalisations for pneumonia.
- Reduced Non-Steroidal Anti Inflammatory Drugs (NSAIDs) use in veterans with heart failure and diabetes by 44 per cent resulting in reduced hospitalisations associated with gastrointestinal ulcer and heart failure.

1(a). Numbers to support increases in Home Medicines Reviews (HMRs)
A total of 38,500 veterans were targeted in the mail out on HMRs. Veterans who have five or more medicines dispensed each month were targeted to find out how they were managing their medicine and if there were any unwanted effects from their various medicines. It also presented an important opportunity for doctors and pharmacists to examine the medicines that veterans were taking and to discuss the reasons for each of the medicines. The time period for this module was between May and August 2004.

HMR rates were approximately 2.5 per 1000. Module 1 was successful in increasing the rate of home medicines review, to a peak of 10 per 1000 four months after the intervention.

1(b). What outcomes did the HMR process achieve?
The increase in HMRs in the veteran community has achieved consistent better health outcomes and a net cost savings to the health system due to avoided adverse outcomes.

2. Measures to support the longer time period until next hospitalisation for veterans with heart failure and take warfarin.
HMRs were effective in reducing hospital admissions for bleeding amongst veterans using warfarin. Amongst veterans taking warfarin who had an HMR, there was a 79 per cent reduction in time to next hospitalisation for bleed in the two to six months after the HMR.

This effect was not apparent in the 0 to 2 months post HMR, nor after six months post HMR. More than 12 months after an HMR was associated with an increased risk of being hospitalised for a bleed. This suggests the HMR is having an impact on bleeding risk. Based on this analysis, a HMRs should be recommended for all veterans dispensed warfarin on a six monthly frequency.

3. Numbers to support the lower hospitalisations for lower dose Proton Pump Inhibitors (PPIs) for heartburn.
PPIs are a group of drugs whose main action is a pronounced and long-lasting reduction of gastric acid production (heartburn). After the MATES mail out on PPIs in March 2007, the rate of utilisation of the lower strength PPIs as a proportion of overall use of PPIs increased. Compared to the month before the intervention, 15 per cent more veterans were dispensed low dose PPIs. This equated to a conservative estimate of 598 additional veterans who used PPIs switching to lower strength alternatives after implementation of this module. This potentially equates to five fewer hospitalisations for pneumonia and 371 fewer antibiotic prescriptions as a result of implementation (mail out sent to 62,461 veterans).

4. Numbers for reduced hospitalisation due to Non-Steroidal Anti-Inflammatory Drugs (NSAIDs).

For veterans with diabetes who were exposed to NSAIDs, the rate of hospitalisation for adverse events dropped by 70 per 1000 patients per 1000 days of follow-up. For veterans with heart failure who were exposed to NSAIDs, the rate of hospitalisation for adverse events dropped by 100 per 1000 patients per 1000 days of follow-up. The incidence rates demonstrate that amongst targeted veterans treated for one year with NSAIDs there would be 12 extra hospitalisations in the diabetes population and 18 additional hospitalisations in the heart failure cohort.

Overall trends in NSAID use in veterans with diabetes and heart failure have continued to decline, falling a further 2 per cent in the population with diabetes and 3 per cent in the population with heart failure. 588 targeted veterans ceased NSAID use.

Sources:

University of South Australia, Module 1 “HMRs” Post-intervention report, September 2005
University of South Australia, Module 9 “HMR Benefits for GPs and Veterans” Post-intervention report, September 2007
University of South Australia, Cost-consequences analysis report, August 2009

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B10/0121

VETERANS' MEDICINES ADVICE AND THERAPEUTICS EDUCATION SERVICE (VETERANS' MATES) COST SAVINGS ANALYSIS.

Critical Date: Nil.

Purpose: To provide information on the Veterans' MATES cost savings analysis.

Key Issues:

- Following on from previous Information Briefs B09/0979 (see Attachment B) and B09/0997 (see Attachment C) on the Veterans' MATES Program and discussions with the General Manager Services Division, National Manager Primary Care Policy and other DVA executives at a meeting on Wednesday 13 January 2010, further information on the program's costs savings analysis is provided at Attachment A.

- Economic evaluation in health care is complex, however, the Veterans' MATES Program has resulted in measured improvements in health outcomes for veterans and cost savings to the health system.

- Improvements in health outcomes associated with the MATES Program include an estimated 46 per cent reduction in hospitalisation for heart failure and a 79 per cent reduction in hospitalisation for bleed amongst warfarin patients targeted through the program following a Home Medicines Review (HMR).

Sensitivity: None expected.

Consultation: No.

Recommendation: That you note the information on the Veterans' MATES Program cost savings analysis.

s 47F

Ken Douglas
General Manager
Services Division
Ph: s 47F
15 February 2010

Contact:
Judy Daniel
National Manager
Primary Care Policy
Ph: s 47F

Comments:

NOTED / PLEASE DISCUSS

s 47F

Alan Griffin 20/2/10

ATTACHMENTS A - Background; B - Brief B09/0979; C - Brief B09/0997.

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

Minister for Veterans' Affairs **Brief No.** B10/0121

VETERANS' MEDICINES ADVICE AND THERAPEUTICS EDUCATION SERVICE (VETERANS' MATES) COST SAVINGS ANALYSIS.

Critical Date: Nil.

Purpose: To provide information on the Veterans' MATES cost savings analysis.

Key Issues:

- Following on from previous Information Briefs B09/0979 (see Attachment B) and B09/0997 (see Attachment C) on the Veterans' MATES Program and discussions with the General Manager Services Division, National Manager Primary Care Policy and other DVA executives at a meeting on Wednesday 13 January 2010, further information on the program's costs savings analysis is provided at Attachment A.

- Economic evaluation in health care is complex, however, the Veterans' MATES Program has resulted in measured improvements in health outcomes for veterans and cost savings to the health system.

- Improvements in health outcomes associated with the MATES Program include an estimated 46 per cent reduction in hospitalisation for heart failure and a 79 per cent reduction in hospitalisation for bleed amongst warfarin patients targeted through the program following a Home Medicines Review (HMR).

Sensitivity: None expected.

Consultation: No.

Recommendation: That you note the information on the Veterans' MATES Program cost savings analysis.

s 47F

Ken Douglas
General Manager
Services Division
Ph: s 47F
15 February 2010

Contact:
Judy Daniel
National Manager
Primary Care Policy
Ph: s 47F

Comments:

NOTED / PLEASE DISCUSS

Alan Griffin / /

ATTACHMENTS A - Background; B - Brief B09/0979; C - Brief B09/0997.

Background

Veterans' MATES modules have aimed to either reduce unnecessary or inappropriate use of medicines, increase medicine use where use was suboptimal, or increase use of under-utilised health services (e.g. medicine review).

[redacted]

Working with general practitioners, pharmacists and veterans through the Veterans' MATES program is improving use of medicines and health outcomes for veterans. The MATES mater influences Local Medical Officer (LMO) practices for all their patients, therefore causing a cost saving not only for the veteran community but to the Australian community as a whole.

The Veterans' MATES program costs savings to the health system over the six year contract is conservatively estimated at $14 million. This estimate does not take into account the underlying long term trends in the increased rate of Home Medicines Reviews (HMRs) uptakes and the greater use of care plans. A cost-consequences report dated August 2009 provides an economic evaluation of the Veterans' MATES program for the first three years of the six year contract, modules 1 to 12 only. This report provides a summary of **ALL** costs involved, including the running of the program and indicates a net cost saving of $1.1 million (for three years only).

Warfarin module
There are greater savings potential for patient groups such as veterans with heart failure and warfarin users. Each admission to hospital for a patient with anti-coagulation costs $7,700. After six months of the release of the module on safe approach to warfarin usage there was a 46 per cent reduction in hospitalisations for patients with heart failure. There are approximately12,000 veterans with heart failure so the potential benefit of reduced hospitalisation extrapolated is approximately **$46.2 million** per year (approximately 6,000 x $7,700).

A summary of all costs (cost savings) associated with the Veterans' MATES program in Table below, for the first 3 years of the 6 year contract, modules 1 to 12 only:

S 47

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

[redacted]

Minister for Veterans' Affairs **Brief No.** B09/0979

THE VETERANS' MATES PROGRAM

Critical Date: Nil.

Purpose: To provide information, as requested by your office, on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES).

Key Issues:

- Veterans' MATES is a program that improves the health care of veterans by simultaneously feeding information back to medical practitioners, pharmacists and veterans about the quality use of medicines and quality prescribing. Prescribing data is used to provide direct patient-based feedback to medical practitioners regarding medications dispensed to their veteran patients. Veterans who meet target criteria are also mailed educational brochures.
- The Veterans' MATES Program has been successful in reducing hospitalisation for veterans with chronic diseases such as heart failure and diabetes and has increased Home Medicine Reviews for targeted veterans.
- Veterans' MATES is widely recognised and viewed positively by its target audiences, with veterans; general practitioners and pharmacists all indicating strong satisfaction. The program was awarded the National Quality Use of Medicines award in the 'public and not-for-profit' category at the National Medicines Symposium conference in May 2008. It is also receiving interest from a range of international health organisations, including the World Health Organisation, with regular invitations to present at health conferences.
- The Veterans' MATES Program is valuable given that veterans are very high users of medicines, with 75 per cent using more than six unique medicines per year. In Australia there are 140,000 hospital admissions annually due to medication related problems. The high number of medicines used by veterans, combined with their age and co-morbidities means that veterans are susceptible to medication related adverse events.

- Attachment A provides further details including specific issues raised by your office.

Financial Impact: No.

Sensitivity: None expected.

Consultation: No.

Recommendation:
That you note this brief.
Cleared electronically

Ken Douglas
General Manager
Services Division
Ph: s 47F
11 November 2009

Contact:
Judy Daniel
National Manager, Primary Care Policy Group
Ph: s 47F

Comments:

NOTED / PLEASE DISCUSS

s 47F

Alan Griffin 20/12/09

ATTACHMENT A – Background.

Background

Overview of the Veteran's Medicines Advice and Therapeutic Education Service (MATES) Program

DVA has delivered a Prescriber Feedback and Intervention Program for over ten years. The Veterans' MATES Program has been running under its current name since June 2004 when the University of South Australia was contracted to implement and deliver this program.

The program was started to improve the health care of veterans by simultaneously feeding back to medical practitioners, pharmacists and the veterans themselves information about the quality use of medicines, quality prescribing and management of chronic conditions such as diabetes and cardiovascular disease.

The Program's modules and prescribing data

Advisory Committees including Practitioners and Veterans Reference Groups are consulted to identify a module topic or outcome goal. An expert Editorial Group makes a final decision on the topic release based on pre-intervention reports for each module. These reports detail the specific indicators for each module topic including indicators measuring changes in medication use and health service utilisation. Each module is subsequently monitored for changes in health outcomes.

Veterans' health services and prescription claims data is used to provide direct patient-based feedback to medical practitioners regarding the medications dispensed to their veteran patient.

Twenty educational mail-outs have occurred to date, involving 226,000 veterans and 24,000 doctors.

A complete list of the modules can be found at the Veterans' MATES website address as follows:

https://www.veteransmates.net.au

The Program's achievements

The Program has contributed to improving health outcomes including:

- An increase of Home Medicine Reviews (HMRs) by 4000 in targeted veterans.
- The increase in veteran HMRs has led to a longer time period until the next hospitalisation for veterans with heart failure and veterans taking warfarin.
- Reduced hospitalisation by five to six per cent for veterans with heart failure by increasing beta blocker medicines.
- Increased use of low-dose Proton Pump Inhibitors by 15 per cent which results in a reduction of associated hospitalisations for pneumonia.
- Reduced Non-Steroidal Anti Inflammatory Drugs use in veterans with heart failure and diabetes by 44 per cent resulting in reduced hospitalisations associated with gastrointestinal ulcer and heart failure.

Veterans' involvement

Veterans who meet target criteria for each module are mailed the educational brochures, however, veterans can request to opt out of the program and be placed on an exemption list.

DVA sends veteran health services and prescription claims data to the University of South Australia through a secure transfer for expert research analysis.

Australian Government
Department of Veterans' Affairs

INFORMATION BRIEF

[redacted]

Minister for Veterans' Affairs **Brief No.** B09/0997

THE VETERANS' MATES PROGRAM – SUPPLEMENTARY INFORMATION

Critical Date: Nil

Purpose: To respond to a request from your office for additional information on the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES) achievements, that is, further to that provided at Brief B09/0979 of 11 November 2009.

Key Issues:

- Responses to the request for further information on the Veterans' MATES Program's achievements are at Attachment A.
- A copy of an article recently published in the American Circulation Heart Failure Journal in August 2009 was also requested. The article is titled "The effectiveness of collaborative medicine reviews in delaying time to next hospitalisation for heart failure patients in the practice setting." A copy is at Attachment B. The article received wide coverage and was received positively in the USA.

Sensitivity: None expected.

Consultation: No.

Recommendation: That you note this brief.

s 47F

Ken Douglas
General Manager
Services Division
Ph: s 47F
2 December 2009

Contact:
Judy Daniel
National Manager
Primary Care Policy
Ph: s 47F

Comments:

NOTED / PLEASE DISCUSS

s 47F

Alan Griffin 20/12/09

ATTACHMENT A - Background; B - Article from American Circulation Heart Failure Journal August 2009.

ATTACHMENT A

Background

The information below details the specific source/activity which informed the identified outcomes from the Veterans' Medicines Advice and Therapeutics Education Service (Veterans' MATES).
The program has contributed to improving health outcomes including:

- An increase of Home Medicine Reviews (HMRs) by 4000 in targeted veterans.
- The increase in veteran HMRs has led to a longer time period until the next hospitalisation for veterans with heart failure and veterans taking warfarin.
- Reduced hospitalisation by five to six per cent for veterans with heart failure by increasing beta blocker medicines.
- Increased the use of low-dose Proton Pump Inhibitors (PPIs) by 15 per cent which results in a reduction of associated hospitalisations for pneumonia.
- Reduced Non-Steroidal Anti Inflammatory Drugs (NSAIDs) use in veterans with heart failure and diabetes by 44 per cent resulting in reduced hospitalisations associated with gastrointestinal ulcer and heart failure.

1(a). Numbers to support increases in Home Medicines Reviews (HMRs)
A total of 38,500 veterans were targeted in the mail out on HMRs. Veterans who have five or more medicines dispensed each month were targeted to find out how they were managing their medicine and if there were any unwanted effects from their various medicines. It also presented an important opportunity for doctors and pharmacists to examine the medicines that veterans were taking and to discuss the reasons for each of the medicines. The time period for this module was between May and August 2004.

HMR rates were approximately 2.5 per 1000. Module 1 was successful in increasing the rate of home medicines review, to a peak of 10 per 1000 four months after the intervention.

1(b). What outcomes did the HMR process achieve?
The increase in HMRs in the veteran community has achieved consistent better health outcomes and a net cost savings to the health system due to avoided adverse outcomes.

2. Measures to support the longer time period until next hospitalisation for veterans with heart failure and take warfarin.
HMRs were effective in reducing hospital admissions for bleeding amongst veterans using warfarin. Amongst veterans taking warfarin who had an HMR, there was a 79 per cent reduction in time to next hospitalisation for bleed in the two to six months after the HMR.

This effect was not apparent in the 0 to 2 months post HMR, nor after six months post HMR. More than 12 months after an HMR was associated with an increased risk of being hospitalised for a bleed. This suggests the HMR is having an impact on bleeding risk. Based on this analysis, a HMRs should be recommended for all veterans dispensed warfarin on a six monthly frequency.

3. Numbers to support the lower hospitalisations for lower dose Proton Pump Inhibitors (PPIs) for heartburn.
PPIs are a group of drugs whose main action is a pronounced and long-lasting reduction of gastric acid production (heartburn). After the MATES mail out on PPIs in March 2007, the rate of utilisation of the lower strength PPIs as a proportion of overall use of PPIs increased. Compared to the month before the intervention, 15 per cent more veterans were dispensed low dose PPIs. This equated to a conservative estimate of 598 additional veterans who used PPIs switching to lower strength alternatives after implementation of this module. This potentially equates to five fewer hospitalisations for pneumonia and 371 fewer antibiotic prescriptions as a result of implementation (mail out sent to 62,461 veterans).

4. Numbers for reduced hospitalisation due to Non-Steroidal Anti-Inflammatory Drugs (NSAIDs).

For veterans with diabetes who were exposed to NSAIDs, the rate of hospitalisation for adverse events dropped by 70 per 1000 patients per 1000 days of follow-up. For veterans with heart failure who were exposed to NSAIDs, the rate of hospitalisation for adverse events dropped by 100 per 1000 patients per 1000 days of follow-up. The incidence rates demonstrate that amongst targeted veterans treated for one year with NSAIDs there would be 12 extra hospitalisations in the diabetes population and 18 additional hospitalisations in the heart failure cohort.

Overall trends in NSAID use in veterans with diabetes and heart failure have continued to decline, falling a further 2 per cent in the population with diabetes and 3 per cent in the population with heart failure. 588 targeted veterans ceased NSAID use.

Sources:

University of South Australia, Module 1 "HMRs" Post-intervention report, September 2005
University of South Australia, Module 9 "HMR Benefits for GPs and Veterans" Post-intervention report, September 2007
University of South Australia, Cost-consequences analysis report, August 2009

Circulation
Heart Failure
JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart Association
Learn and Live

The effectiveness of collaborative medicine reviews in delaying time to next hospitalisation for heart failure patients in the practice setting: results of a cohort study.

Elizabeth E. Roughead, John D. Barratt, Emmae Ramsay, Nicole Pratt, Philip Ryan, Robert Peck, Graeme Killer and Andrew L. Gilbert

Circ Heart Fail published online Aug 19, 2009;
DOI: 10.1161/CIRCHEARTFAILURE.109.861013
Circulation: Heart Failure is published by the American Heart Association. 7272 Greenville Avenue, Dallas, TX 72514
 Print ISSN: 1941-3289. Online ISSN: 1941-3297

The effectiveness of collaborative medicine reviews in delaying time to next hospitalization for heart failure patients in the practice setting: results of a cohort study.

Roughead: Collaborative reviews effective for CHF

Authors: Elizabeth E. Roughead[1] (PhD), John D. Barratt[1] (B.Pharm, B App Sc) Emmae Ramsay[2], (BSc G.Dip.App.Stats) Nicole Pratt[2] (BSc (Hons)) Philip Ryan[2] (MBBS), Robert Peck[3] (B.Pharm), Graeme Killer[3] (MBBS) and Andrew L Gilbert[1] (PhD)

Author Affiliation:

1. Quality Use of Medicines and Pharmacy Research Centre; Sansom Institute, University of South Australia, Adelaide, 5000, Australia

2. Data Management and Analysis Centre, Discipline of Public Health, University of Adelaide, Adelaide, 5000, Australia

3. Department of Veterans' Affairs, Canberra, 2606, Australia

Corresponding Author: Associate Professor Elizabeth E. Roughead, Quality Use of Medicines and Pharmacy Research Centre; Sansom Institute, School of Pharmacy and Medical Sciences, University of South Australia, North Terrace, GPO Box 2471, Adelaide, South Australia 5001

Telephone +61 8 8302 1233

Fax +61 8 8302 1087

Email libby.roughead@unisa.edu.au

Word Count : Abstract 250; Text 2605; Manuscript total (including the title page, abstract, text, references, tables and figures legends) 4040

Subject codes: [9]Heart failure; [27] Other Treatment; [100] Health policy and outcome research

Abstract

Background: Randomised controlled trials have demonstrated that collaborative medication reviews can improve outcomes for patients with heart failure. We aimed to determine if these results translated into Australian practice, where collaborative reviews are nationally funded.

Methods and Results: This retrospective cohort study using administrative claims data included veterans 65 years and over receiving bisoprolol, carvedilol or metoprolol succinate for which prescribing physicians indicated treatment was for heart failure. We compared those exposed to a general practitioner -- pharmacist collaborative home medication review with those who did not receive the service. The service includes physician referral, a home visit by an accredited pharmacist to identify medication-related problems, a pharmacist report with follow-up undertaken by the physician. Kaplan-Meier analyses and Cox proportional hazards models were used to compare time to next hospitalization for heart failure between the exposed and unexposed groups. There were 273 veterans exposed to a home medicines review and 5444 unexposed patients. Average age in both groups was 81.6 years (no significant difference). Median number of comorbidities was 8 in the exposed group and 7 in the unexposed ($p < 0.0001$). Unadjusted results showed a 37% reduction in rate of hospitalization for heart failure at any time (HR 0.63; 95%CI 0.44-0.89). Adjusted results showed a 45% reduction (HR, 0.55 95% CI, 0.39-0.77) amongst those that had received a home medicines reviewe compared to the unexposed patients.

Conclusion: Medicines review in the practice setting is effective in delaying time to next hospitalization for heart failure in those treated with heart failure medicines.

Keywords: heart failure, morbidity, medication review, hospitalization

Introduction

Advances in the management of patients with heart failure have led to the use of increasingly complex combinations of medicines, including angiotensin-converting enzyme inhibitors, angiotensin II receptor blockers, loop diuretics, beta blockers and spironolactone.[1] Despite these advances, up to 44% of patients with heart failure will be re-hospitalised within six months of discharge[2] due to both the progression of the condition and medication-related problems.[3]

Collaborative medicines reviews have been shown to be effective in preventing, detecting and resolving medication related problems.[4] Based on this evidence, the Australian Government funded collaborative medication review services, known as Home Medicines Review (HMR), which are undertaken by accredited pharmacists and general medical practitioners.[5] In part, this expanded role for pharmacists has been encouraged by the Australian government because of a general shortage of health professionals and a perception that pharmacists' skills are underutilised in the health system. A 2007 systematic review and meta-analysis involving randomised controlled trials failed to find any effect of pharmacist-led reviews in older people on mortality (22 trials) or all cause hospital admissions (17 trials).[6] When limited to the heart failure population however, a 2008 systematic review of 12 randomised controlled studies involving pharmacist care of patients with heart failure found significant reductions in all cause hospitalization (OR 0.71; 95%CI, 0.54-0.94) and heart failure hospitalizations (OR 0.69; 95% CI 0.51-0.94).[7] 'The type of medicine review provided appeared to have an impact with medicine reviews that involved both pharmacist and physician collaboration having the most impact, achieving a reduction in the rate of hospitalizations for people with heart failure (OR 0.42; 95% CI 0.24-0.74). By comparison,

pharmacist-directed care, which may not have been undertaken with physician involvement, showed no significant effect on the hospitalization rate.[7] A more recent UK randomised controlled trial on the effectiveness of home visits from community pharmacists for patients with heart failure failed to show any significant difference in total hospital readmissions at six months post discharge.[8]

Australia has funded home medicines review services since 2001 and more than 200,000 collaborative medication reviews have been provided across the country, with approximately 40,000 provided each year.[9] The Australian model is a collaborative model, where physicians refer patients to an accredited pharmacist who undertakes a home visit. The pharmacist identifies any medication related problems, including potential underuse, overuse, adverse events, compliance and knowledge problems, or hoarding. The pharmacist provides a report which is discussed with the physician. The physician is responsible for developing the medication management plan, communicating this with the patient and has responsibility for follow-up with the patient. The service can only be provided be a pharmacist who is accredited. The accreditation process assesses competence in clinical pharmacy, therapeutics, pharmaceutical care and medication review. Pharmacists must be reaccredited every three years.[10] Local area facilitators are funded across the country to support the program's implementation.[9]

We aimed to determine if the results from randomised controlled trials for the heart failure population translated into practice as it is currently funded in Australia. This study examined the effect of the provision of a HMR for Australian war veterans and war widows with heart failure on the time to next hospitalization for heart failure. The veteran population were chosen for the study as they are an elderly, vulnerable population, who are an appropriate

target population for HMR services, they are similar to the elderly Australian population, and complete data are available.

Method

Setting: The Australian Government's Department of Veterans' Affairs (DVA) claims databases contains details of all prescription medicines, medical and allied health services and hospitalizations provided to veterans for which DVA pay a subsidy. The data file contains 140 million pharmacy records, 200 million medical and allied health service records and over 6 million hospital records for a treatment population of 310,000 veterans. The DVA maintain a client file, which includes data on gender, date of birth, date of death and family status. Medicines are coded in the dataset according to the World Health Organization (WHO) anatomical and therapeutic chemical (ATC) classification[11] and the Schedule of Pharmaceutical Benefits item codes.[12] Hospitalizations are coded according to the International classification of diseases classification, version 10, Australian modification.[13]

Study design: A cohort study was undertaken over the period 1 Jan 2004 until 1 July 2006. The exposed group were veterans who had received a home medicines review, had all health services fully subsidized by DVA, were dispensed a beta-blocker subsidized for heart failure in the six months prior to the home medicines review, and aged 65 years or over at the time of the review. The unexposed group were veterans who had all health services fully subsidized by DVA, were aged 65 years and over and who had been dispensed a beta-blocker subsidized for heart failure but had not had a home medicines review. The eligibility of the veterans for the unexposed group was determined each month throughout the study period. Eligible veterans were then randomly allocated to an index month in the study period to match the time of a home medicines review in the exposed group. The allocation of unexposed to exposed was approximately 20 to one. Unexposed veterans were only matched

once in the study period. The beta-blockers included bisoprolol, carvedilol and metoprolol succinate, which throughout the study period, were only available under a prior authorisation process where the prescribing physician had to indicate at the time of prescription that the patients had heart failure. It is considered unlikely that these would have been prescribed for other indications as alternative beta-blockers are available for other indications with no requirement for prior authorisation.

Subjects were followed up until time to first hospitalization for heart failure (ICD codes[13] I500, I501, I509) post the index month for the unexposed group or post the home medicines review in the exposed group, or until death or study end, whichever was the earliest. Subjects who were resident in aged-care facilities were excluded, as home medicines reviews are only funded for the community dwelling elderly.

Demographics were compared between the exposed and unexposed groups using the following methods. T-tests were used for normally distributed continuous variables; the non-parametric Kruskal-Wallis test was used to analyse non-normal data. Discrete categorical variables were analysed using the chi-square statistic and for ordinal categorical variables the Cochran-Mantel-Haenszel statistic was used.

Kaplan-Meier analyses were used to compare time to next hospitalization for heart failure between the HMR exposed and unexposed groups. Cox-proportional hazards models were used to determine hazard ratios. The models were adjusted at the time of HMR or index month for age, gender, co-morbidity as measured in the 6 months prior to the HMR by the Australian adaption of Rx-Risk-V,[14] socioeconomic index based on socioeconomic indexes for areas (SEIFA),[15] season, number of prescriptions in the year prior, number of prescribers in the year prior, number of pharmacies in the year prior, number of medicines change over a six month period in the year prior, number of hospitalizations in the year prior, number of

occupational therapy visits in the year prior, number of speech therapy visits in the year prior and region of residence (remote, outer regional, inner regional and major city)[16]. All analyses were undertaken using SAS v9.1.3. (SAS Institute Inc, Cary, NC). Statistical significance was set a priori at $p < 0.05$. Ethics approval for the study was obtained from the Department of Veterans' Affairs Human Research Ethics Committee and the University of South Australia Ethics Committee. The authors had full access to the data and take responsibility for its integrity. All authors have read and agree to the manuscript as written.

Results

There were 273 persons included in the HMR exposed group and 5,444 in the unexposed group. Demographics of the groups are presented in table 1. While of similar ages and gender, the exposed group had more co-morbidities, more prescriptions, more changes in their medications prior to the home medicines review, more prescribers and more hospitalizations. The unexposed group were more likely to have high socioeconomic disadvantage scores.

Figure 1 shows the Kaplan-Meier analysis for time to hospitalization for heart failure is significantly delayed in the group which had received a home medicines review.

The adjusted results show that for those who received a home medicines review there was a 45% reduction in the rate of hospitalization for heart failure at any time (HR, 0.55 95% CI, 0.39-0.77).(Table 2) The model shows that 5.5% of the exposed group compared to 12% of the unexposed group were hospitalised within 365 days.

Discussion

The study demonstrates that research outcomes from randomised controlled trials of the effectiveness of collaborative medication reviews in the heart failure population can translate into practice. Our results showed home medicines review in the heart failure population was effective in delaying time to hospitalization for heart failure with a 45% reduction in the rate of hospitalization for heart failure at any time. While not directly comparable to intervention studies, our results are not dissimilar to the results from the systematic review that reported a 31% reduction in hospitalization for heart failure in those who had participated in collaborative medication reviews[7]; involving both physician and pharmacist input. These findings are also in keeping with expectations that the service would be effective for heart failure, as medication problems have been found to be a common contributor to hospitaliation for heart failure.[17,18] A Spanish study of 293 cases found poor medication compliance was a precipitating factor for heart failure hospitalizations in 12.5% of cases, use of harmful medications in 6.5% of cases and withdrawal of beneficial medications in 1.4%.[18] The results are also consistent with findings demonstrating medication-related problems are contributors to admissions for heart failure.[3,17,19] With hospitalizations in Australia for heart failure estimated to cost $140 million per annum[2] these delays to next hospitalization could contribute to significant cost savings to the health system.

Despite groups being similar, in that both groups were 65 years of age or over and dispensed a beta-blocker listed for heart failure, the demographic analysis shows that those who received a home medicines review had more co-morbidities, more prescriptions dispensed, more changes to their medicines prior to the review and more prior hospitalizations. This suggests the population receiving a home medicines review had a higher burden of illness than those who didn't, potentially indicating the exposed group were more likely to receive

the service because of more severe disease(s); representing confounding by indication or selection bias[20]. This is likely to bias the study towards the null effect, suggesting the study is unlikely to have over-estimated the effect.

Our study was limited to veterans dispensed beta-blockers for heart failure and it is possible that some of the effect observed is related to better patient management due to pharmacist involvement after beta-blocker initiation. However, we did not limit our study to patients newly initiated on beta-blockers. Patients may have been on beta-blockers for variable lengths of time. Given that many medications contribute to problems in the heart failure population, including sub-optimal use of beta-blockers or angiotensin converting enzyme inhibitors, poor compliance and concurrent use of NSAIDs, verapamil or diltiazem, as well as lack of early recognition of signs of deterioration[21], it is likely that the effect observed was related to the home medicines review, not just better patient management while on beta-blockers.

A study limitation is the low numbers of veterans who have received a HMR. Overall, only 5% of veterans with heart failure have received a HMR, despite all veterans in this treatment population being eligible for the service. The focus of this study on war veterans may also be seen as a limitation. In Australia, however, war veterans are treated in the same way as non-veteran patients in both the primary and tertiary care sectors. The health services they receive are the same and they are delivered by the same practitioners as those visited by non-veterans. The veteran population have slightly more general practice visits (rate ratio 1.17; $p < 0.05$) and hospitalizations (rate ratio 1.21; $p < 0.05$) per year than other Australians aged 40 years and over. [22] Veterans with no service related disability have similar levels of use.[22] Similar numbers of prescriptions per general practitioner visit are observed between the

veteran population and the Australian population; however, because of the higher rate of GP visits, veterans receive slightly more prescriptions annually than other Australians (rate ratio 1.13; $p < 0.05$).[22]

This study used prescription data for identifying the heart failure population, however, the beta-blockers used as indicators of heart failure were only subsidised for heart failure under a prior authorisation policy. Similarly to what has been observed in the USA[23], prior authorisation policies restrict physicians using medicines for unspecified purposes, but unlike the US, Australia does not provide exemptions, thus the medicines are not be subsidised for other indications. Given that the beta-blockers in our study all required prior authorisation which required physicians to apply in writing or by telephone and indicate the medicine was for heart failure, it is unlikely that the use of these betablockers was for other indications as alternative beta-blockers are available with no requirement for prior authorisation.

Diagnostic data are not available in Australia's primary health care administrative data sets, thus we were not able to adjust for severity of illness, nor were we able to adjust for other potential confounders such as quality of care administered by attending physicians. This study assumes consistent implementation of the reviews across the country. No data are availabe to confirm this, however, the program is implemented nationally in a structured manner with consistent rates of uptake per capita in all states and territories.[9] Further, all areas have locally employed facilitators to assist program implementation and all pharmacists and pharmacies must be accredited with competencies in clinical pharmacy, therapeutics, pharmaceutical care and medication review before they can provide the service.[10]

Despite these limitations, this study shows that randomised controlled trial results do translate into practice and that positive results are measurable in practice from the nationally funded program. From a health services research perspective this study provides evidence that the service as currently administered provides health gain for Australian consumers with heart failure. The program is consumer-focused structured service requiring collaboration between general medical practitioner, pharmacist and patient. The funding and business rules that have been established for the Australian program differentiates claims for the service from both pharmacists and medical practitioners. The statistics highlight that both parties are active participants in the provision of the service; as of June 2008 180,000 claims had been received from pharmacists with just under 170,000 claims from general practitioners.[9]

This study adds to the available literature on the effectiveness of pharmacists' collaborative contribution to the care of complex older patients. A systematic review conducted to clarify the role of pharmacists in the care of patients with heart failure found a significant decrease in hospitalization for patients who had received pharmacists collaborative care, however, no effect of pharmacist-directed care.[7] The results observed in our study are consistent with those reported in the systematic review finding collaborative medicines review is effective in the heart failure population. Similar programs offering home based-visits to heart failure patients in collaboration with health professionals other than pharmacists, including nurse practitioners, have also been shown to be effective.[24,25] The White Paper on Pharmacy in England[26] identifies pharmacists as an underutilised resource in the health system and the UK government is encouraging such role extension.[8] If the findings of this study are replicated in other patient groups who are at high risk of medication misadventure and consequent

rehospitalization, there will be an even stronger case to require pharmacists to be involved in this extension of their role in collaboration with physicians.

Funding sources

This research was funded by the Australian Government Department of Veterans' Affairs. The Department of Veterans' Affairs reviewed the final manuscript.

Disclosures

Elizabeth Roughead, John Barratt, Emmae Ramsay, Nicole Pratt, Phil Ryan and Andrew Gilbert all declare they have no conflicts of interest.

Robert Peck and Graeme Killer are employees of the Department of Veterans' Affairs, the funder of the research.

References

1. National Heart Foundation of Australia and the Cardiac Society of Australia and New Zealand. Guidelines on the contemporary management of the patient with chronic heart failure in Australia. Sydney: Cardiac Society of Australia and New Zealand, 2002.

2. Krumholz HM, Amatruda J, Smith GL, Mattera JA, Roumanis SA, Radford MJ, Crombie P, Vaccarino, V. Randomized trial of an education and support intervention to prevent readmission of patients with heart failure. *J Am Coll Cardiol* 2002;39:83-9.

3. Vinson JM, Rich MW, Sperry JC, Shah AS, McNamara T. Early readmission of elderly patients with congestive heart failure. *J Am Geriatr Soc* 1990;38:1290-5.

4. Gilbert AL, Roughead EE, Beilby J, Mott K, Barratt JD. Collaborative medication management services: improving patient care. *Med J Aust* 2002;177:189-92.

5. Medicare Australia. Home Medicines Review. Canberra: Australian Government, 2009. http://www.medicareaustralia.gov.au/provider/pbs/fourth-agreement/hmr.jsp [Accessed Jun 12 2009]

6. Holland R, Desborough J, Goodyer L, Hall S, Wright D, Loke YK. Does pharmacist-led medication review help to reduce hospital admissions and deaths in older people? A systematic review and meta-analysis. *Br J Clin Pharmacol* 2008;65:303-16.

7. Koshman SL, Charrois TL, Simpson SH, McAlister FA, Tsuyuki RT. Pharmacist care of patients with heart failure: a systematic review of randomized trials. *Arch Intern Med* 2008;168:687-94.

8. Holland R, Brooksby I, Lenaghan E, Ashton K, Hay L, Smith R, Shepstone L, Lipp A, Daly C, Howe A, Hall R, Harvey I. Effectiveness of visits from community pharmacists for patients with heart failure: HeartMed randomised controlled trial. *BMJ* 2007;334:1098.

9. Pharmacy Guild of Australia. Medication management review program. Canberra: Pharmacy Guild of Australia, 2009. http://www.guild.org.au/mmr/ [Accessed Jun 12 2009]

10. Australian Association of Accredited Pharmacists. Accreditation. Canberra: AACP, 2009. www.aacp.com.au [Accessed Jun 12 2009]

11. World Health Organization Collaborating Centre for Drug Statistics Methodology. Anatomical Therapeutic Chemical Code Classification index with Defined Daily Doses. Oslo: World Health Organization Collaborating Centre for Drug Statistics Methodology, 2008.

12. Australian Government Department of Health and Ageing. Schedule of Pharmaceutical Benefits Canberra: National Capital Printing, 2008.

13. National Centre for Classification in Health. *The International statistical classification of diseases and related health problems, 10th revision, Australian modification (ICD-10-AM)*. 6th ed. Sydney: National Centre for Classification in Health, 2008.

14. Vitry A, Wong S, Roughead EE, Ramsay E, Barratt J. Validity of medication-based comorbidity indices in the Australian elderly population *Aust N Z J Public Health* 2009 33:126-130.

15. Australian Bureau of Statistics (ABS). Information paper: census of population and housing. Socio-economic indexes for areas, Australia, 2001 *ABS cat. no. 2039.0.* Canberra: ABS, 2003.

16. Australian Institute of Health and Welfare A. Rural, regional and remote health. A guide to remoteness classifications. AIHW catalogue number PHE 53. . Canberra: AIHW, 2004.

17. Lowe JM, Candlish PM, Henry DA, Wlodarcyk JH, Heller RF, Fletcher PJ. Management and outcomes of congestive heart failure: a prospective study of hospitalised patients. *Med J Aust* 1998;168:115-8.

18. Formiga F, Chivite D, Manito N, Casas S, Llopis F, Pujol R. Hospitalization due to acute heart failure. Role of the precipitating factors. *Int J Cardiol* 2007;120:237-41.

19. Roughead EE, Gilbert AL, Primrose JG, Sansom LN. Drug-related hospital admissions: a review of Australian studies published 1988-1996. *Med J Aust* 1998;168:405-8.

20. Salas M, Hofman A, Stricker BH. Confounding by indication: an example of variation in the use of epidemiologic terminology. *Am J Epidemiol* 1999;149:981-3.

21. Therapeutic Guidelines Ltd. e-TG complete. North Melbourne: Therapeutic Guidelines Ltd, 2009.

22. Australian Institute of Health and Welfare A. Health care usage and costs. A comparison of veterans and war widows and widowers with the rest of the community. . *Cat. no. PHE 42.* . Canberra: AIHW, 2002.

23. Soumerai SB. Benefits and risks of increasing restrictions on access to costly drugs in Medicaid. *Health Aff* 2004;23:135-46.

24. Thompson DR, Roebuck A, Stewart S. Effects of a nurse-led, clinic and home-based intervention on recurrent hospital use in chronic heart failure. *Eur J Heart Fail* 2005;7:377-84.

25. Stewart S, Horowitz JD. Home-based intervention in congestive heart failure: long-term implications on readmission and survival. *Circulation* 2002;105:2861-6.

26. Department of Health. Pharmacy in England: Building on strengths-delivering the future. London: Department of Health, 2008.

http://www.dh.gov.uk/en/publicationsandstatistics/publications/publicationspolicyandguidance/dh_083815 [Accessed Jun 12 2009]

Table 1: Demographics of study participants

	Exposed N=273	Unexposed N=5444	p-value
Male gender	70% male	74% male	0.11
Age	81.6 years (SD 4.8)	81.6 years (SD 4.8)	0.87
Median number of co-morbidities[14]	8 (SD 2)	7 (SD 2)	<0.0001
Number of prescriptions in year prior	95 (69-123)	76 (54-104)	<0.0001
Number of changes in medicines over 6 month period in year prior	3 (2-6)	3 (1-5)	<0.0001
Number of prescribers in the year prior	5 (3-6)	4 (3-6)	0.002
Number of pharmacies in the year prior	2 (1-3)	2 (1-3)	0.43
Socio-economic index of disadvantage[15]			
Lowest disadvantage	31%	25%	0.01
Med/low disadvantage	25%	25%	
Med/high disadvantage	24%	25%	
Highest disadvantage	20%	25%	
Hospitalizations in the year prior			
0	27%	34%	0.03
1	23%	23%	
2	22%	17%	
≥2	28%	25%	
Region[16]			
Remote	0%	1%	0.86
Outer regional	12%	9%	
Inner regional	29%	31%	
Major city	59%	59%	

Table 2: Cox proportional hazards model results for time to hospitalization for heart failure

Parameter	Para-meter Estimate	Standard Error	Chi-Square	P value	Hazard Ratio*	95% Hazard Ratio Confidence Limits	
Unadjusted: exposed to home medicines review	-0.47	0.18	7.0035	0.008	0.63	0.44	0.89
Adjusted: exposed to home medicines review	-0.61	0.18	11.61	0.0007	0.55	0.39	0.77

*adjusted for age, gender, co-morbidity,[14] socioeconomic index of disadvantage,[15] season, and region of residence,[16] as well as the number of prescriptions, prescribers, pharmacies, changes in medications, hospitalizations, occupational therapy visits and speech therapy visits.

Figure 1. Kaplan-Meier graph showing time to hospitalization for those exposed to an collaborative mediciation review compared to those who weren't.