

medication safety

ACTION GUIDE



AUSTRALIAN SAFETY
AND QUALITY GOALS
FOR HEALTH CARE

AUSTRALIAN SAFETY AND QUALITY GOALS FOR HEALTH CARE

What are the goals?

The Australian Safety and Quality Goals for Health Care set out some important safety and quality challenges for Australia that would benefit from a coordinated national approach to improvement over the next five years. They are relevant across all parts of the health care system and aim to focus attention on a small number of key safety and quality challenges which:

- have a significant impact on the health and wellbeing of individuals, or on the healthcare system as a whole
- can be improved through implementation of evidence-based interventions and strategies
- are amenable to national action and collaboration.

➤ GOAL 1 SAFETY OF CARE:

That people receive their health care without experiencing preventable harm.

➤ PRIORITY AREA 1.1

MEDICATION SAFETY:

Reduce harm to people from medications through safe and effective medication management.

What is the problem that needs to be addressed?

Adverse medicines events can affect a consumer's health in a range of ways, from a mild allergic reaction to death. In 2008-09 drugs and medications were the second most commonly reported cause of adverse events treated in Australian hospitals and it is estimated that around 2-3% of all hospital admissions are medication-related. Adverse medicines events are more likely to be experienced by those who are most vulnerable including young children, those aged 65 years and older, and people with multiple conditions and medications. Around one in ten general practice patients have reported experiencing an adverse event after using a medication in the previous six months. Almost 50% of these events were reported as resulting in a moderate to severe reaction and around 8% of these patients required hospitalisation. These events represent a significant cost to both the health system and the health of Australians.

Why should this issue be a national goal?

More than 180 million Pharmaceutical Benefits Scheme prescriptions are dispensed annually in Australia, and in any two-week period medication is taken by 70% of the overall population and 90% of the elderly. It is estimated that around one third to three quarters of medication-related hospital admissions and adverse medicines events associated with hospitalisation are preventable. In addition, many hospitalisations can be prevented through appropriate use of medicines. For example, each year an estimated 5,000 hospitalised patients die as a result of venous thromboembolism, which can be prevented through mechanical and pharmacological prophylaxis. There is a large body of research demonstrating a range of interventions and strategies which can effectively reduce the risk of adverse medicines events and optimise treatment outcomes. By driving a nationally consistent approach and spreading the use of effective evidence-based strategies, there is an opportunity to contribute to a significant reduction in harm within the next five years.

What is the purpose of this document?

This action guide aims to provide detail on **Priority area 1.1 Medication safety**, including describing key outcomes that contribute towards meeting the Goal and possible actions that individuals and organisations across the health system could undertake to contribute to these changes. The actions described in this document are provided as guidance only; they are not exhaustive and are generally not mandatory. Where indicated, some actions relate to components of the National Safety and Quality Health Service Standards (NSQHSS). However, they should not be considered as an alternative to actions identified within the NSQHSS.

Key outcomes have been chosen based on the criteria above, as well as feedback and input from a range of stakeholders.

“Around one in ten general practice patients have reported experiencing an adverse event after using a medication in the previous six months.”

- Outcome 1.1.1: Older people living in the community experience fewer adverse medicines events**
 Around 30% of unplanned geriatric admissions to hospital are medication-related.
- Outcome 1.1.2: Older people experience fewer adverse medicines events at admission to and discharge from hospital**
 Medication reconciliation can reduce medication errors at time of admission by around 50%.
- Outcome 1.1.3: Adults experience fewer venous thromboembolisms associated with hospitalisation**
 There is strong evidence that appropriate risk assessment and prophylaxis can reduce the risk and incidence of venous thromboembolism.
- Outcome 1.1.4: Children experience fewer dose-related adverse medicines events**
 Adverse medicines events are more likely to be experienced by the most vulnerable, including children. Currently, dose calculation is inconsistent.

- Outcome 1.1.5: People taking warfarin in the community experience fewer adverse medicines events**
 Warfarin is a high risk drug and is one of the most frequent causes of adverse medicines events requiring emergency hospitalisation in older adults.

Who is this guide for?

This action guide can be used as a guide for consumers, healthcare providers, healthcare organisations and other individuals and organisations to make improvements and reduce adverse medicines events. However, many other changes and actions can be implemented to contribute to these outcomes outside the ones suggested in this guide. Individuals and organisations should consider their current programs, policies, priorities, structure and governance arrangements, as well as the characteristics, needs, and preferences of their populations when changing systems, processes, and practice.

Examples of organisations and individuals who can make improvements in safety and quality

CATEGORY	EXAMPLES OF ORGANISATIONS AND INDIVIDUALS THAT MAY BE INCLUDED IN THIS CATEGORY
Consumers	Advocates, carers, consumers, families, friends, patients, and support people
Healthcare providers	Aboriginal health workers, allied health workers, ambulance officers, community health professionals, general practitioners, medical and nurse specialists, nurses, paramedics, pharmacists, and prescribers
Organisations that provide healthcare services or support services at a local level	Allied healthcare services, day surgeries, community healthcare services, community pharmacies, Local Hospital Networks, Medicare Locals, primary healthcare services, public and private hospitals
Government organisations, regulators and bodies that advise on or set health policy	Australian Health Practitioner Regulation Agency, Commonwealth government, Health Workforce Australia, Independent Hospital Pricing Authority, National Health Performance Authority, National Lead Clinicians Group, National Medicare Local Network, National Prescribing Service, State and Territory governments
Education and training organisations	Colleges, private training organisations, training and further education organisations, universities, and other registered training providers
Other organisations	Accreditation agencies, colleges, consumer organisations, non-government organisations, support groups, university and other research groups

Note: These examples are not intended as a comprehensive list of all individuals and organisations within these categories.

GOAL 1: SAFETY OF CARE

PRIORITY AREA 1.1: MEDICATION SAFETY

OUTCOME 1.1.1	Older people living in the community experience fewer adverse medicines events
<p>WHAT WOULD SUCCESS LOOK LIKE AFTER FIVE YEARS?</p>	<p>Everyone aged 65 years and over at risk of medication-related harm receives an annual medication review.</p> <p>In the community, this could include medicines use reviews or home medicines reviews.</p> <p>In a residential aged care facility, this could include an annual residential medication management review.</p>
<p>HOW WILL WE KNOW THAT SUCCESS HAS BEEN ACHIEVED?</p>	<p>By monitoring:</p> <ul style="list-style-type: none"> • relevant MBS item numbers • medication-related hospital admissions.
WHAT ACTIONS ARE NEEDED TO ACHIEVE THIS OUTCOME?	
<p>POSSIBLE ACTIONS BY CONSUMERS</p>	<p>Discuss with a health professional the medicines being taken, and ask about the risks, benefits and possible interactions between medications.</p> <p>Keep a current medicines list.</p> <p>Request a medicines review if there are problems with managing medicines or they think they might be at risk.*</p> <p>Opt in to the Personally Controlled Electronic Health Record (PCEHR).</p>
<p>POSSIBLE ACTIONS BY HEALTHCARE PROVIDERS</p>	<p>Routinely assess people aged 65 years and over for medication management risk and the need for a medication review.</p> <p>Integrate medication review into work practice.</p> <p>Discuss the need for a medication review with people at risk.*</p> <p>Refer people at risk* for a medication review.</p> <p>Implement a recall and/or reminder system to contact people at risk* to ensure annual medication reviews.</p>
<p>POSSIBLE ACTIONS BY ORGANISATIONS THAT PROVIDE HEALTHCARE SERVICES OR SUPPORT SERVICES AT A LOCAL LEVEL</p>	<p>Develop and implement resources, systems, and processes to support review of medications.</p> <p>Support the establishment and maintenance of collaborative multidisciplinary relationships (between hospitals, general practices, Medicare Locals, community pharmacies and pharmacists accredited to conduct home medicines reviews) to enable better medication continuity and management.</p> <p>Establish systems for arranging post-discharge medication use reviews by community pharmacies, including referring people at risk* for home medicines reviews within seven days of discharge.</p> <p>Develop and implement recall and/or reminder systems for annual medication reviews.</p> <p>Monitor and review data on the rate of medication reviews in the local community.</p> <p>Provide information and education about the value of, and need for, regular medication reviews.</p>

<p>POSSIBLE ACTIONS BY GOVERNMENT ORGANISATIONS, REGULATORS AND BODIES THAT ADVISE ON OR SET HEALTH POLICY</p>	<p>Ensure policies and systems support implementation of medication reviews.</p> <p>Develop consistent quality assurance processes for medication reviews.</p> <p>Ensure appropriate skills and capacity within the pharmacy workforce to deliver medication reviews.</p> <p>Amend business rules to enable home medicines reviews to be streamlined and initiated by all disciplines and in all health settings involved in medication management.</p> <p>Explore capacity to include information and reminders about medication reviews in e-health initiatives such as the PCEHR.</p>
<p>POSSIBLE ACTIONS BY EDUCATION AND TRAINING ORGANISATIONS</p>	<p>Include medication review in undergraduate, postgraduate, and ongoing professional development education and training for healthcare providers.</p> <p>Produce graduates with the knowledge, skills, and behaviours to undertake a medication review.</p>
<p>POSSIBLE ACTIONS BY OTHER ORGANISATIONS</p>	<p>Investigate the effectiveness and cost-effectiveness of medication review interventions within different sectors and settings using different models.</p> <p>Undertake research identifying the types of people most likely to benefit from a medication review.</p> <p>Explore the use of technology to support medication reviews (including use of the PCEHR).</p> <p>Explore the experiences of people who receive medication reviews.</p> <p>Investigate the use of medication review data as a means of identifying safety and quality trends and issues.</p> <p>Develop information and educational resources for consumers on medication safety including the importance of accurate medication records, medication lists and medication reviews.</p>
<p>POSSIBLE ACTIONS BY THE AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE</p>	<p>Advocate the use of medication reviews for people at risk* including through requirements of the NSQHSS.</p> <p>Consider incorporating medication review into future NSQHSS.</p> <p>Work with relevant individuals and groups including consumers, prescribers, and pharmacists to support increased uptake of currently available medication review strategies.</p>

*See the Appendix for an explanation of 'at risk' consumers.



GOAL 1: SAFETY OF CARE

PRIORITY AREA 1.1: MEDICATION SAFETY

OUTCOME 1.1.2	Older people experience fewer adverse medicines events at admission to and discharge from hospital
<p>WHAT WOULD SUCCESS LOOK LIKE AFTER FIVE YEARS?</p>	<p>Medication reconciliation is undertaken within 48 hours of being admitted to hospital for everyone aged 65 years or older.</p> <p>Medication reconciliation is undertaken for everyone aged 65 years or older on discharge from hospital.</p>
<p>HOW WILL WE KNOW THAT SUCCESS HAS BEEN ACHIEVED?</p>	<p>By monitoring:</p> <ul style="list-style-type: none"> • the rates of medication reconciliation within 48 hours of admission to an inpatient ward • the rates of medication reconciliation on discharge from hospital • accreditation against the National Safety and Quality Health Service Standards (Standard 4: Medication safety)
WHAT ACTIONS ARE NEEDED TO ACHIEVE THIS OUTCOME?	
<p>POSSIBLE ACTIONS BY CONSUMERS</p>	<p>Keep a current medicines list.</p> <p>Take a medicines list to every visit to a health professional.</p> <p>Ask their general practitioner, practice nurse, or pharmacist to update their records whenever a medicine is changed or a new medicine is started.</p> <p>Take medicines containers into hospital when admitted.</p> <p>Opt in to the Personally Controlled Electronic Health Record (PCEHR).</p>
<p>POSSIBLE ACTIONS BY HEALTHCARE PROVIDERS</p>	<p>Undertake a comprehensive medication history at admission (NSQHSS 4.6, 4.7 and 4.8).</p> <p>Routinely undertake medication reconciliation processes on admission and discharge and ensure identified issues are managed.</p> <p>Maintain an accurate and current list of medicines in the patient's record, including updating the record whenever any changes are made or new medicines prescribed (for prescribers and pharmacists) (NSQHSS 4.12).</p> <p>Ensure referrals to hospital contain an accurate and current list of medicines the patient is taking, including over-the-counter and complementary medicines (NSQHSS 4.8 and 4.12).</p> <p>Ensure discharge summaries contain an accurate and current list of medicines the patient is taking, including over-the-counter and complementary medicines (NSQHSS 4.8 and 4.12).</p> <p>Encourage people to consent to having their medicines recorded in the PCEHR.</p> <p>Encourage people to maintain a current list of medicines and bring their medicines containers to hospital when admitted.</p>

“Older people experience fewer adverse medicines events at admission to and discharge from hospital.”

<p>POSSIBLE ACTIONS BY ORGANISATIONS THAT PROVIDE HEALTHCARE SERVICES OR SUPPORT SERVICES AT A LOCAL LEVEL</p>	<p>Support medication reconciliation by:</p> <ul style="list-style-type: none"> • implementing systems to ensure medication reconciliation occurs routinely (NSQHSS 4.8), and within 48 hours of admission and at discharge • integrating medication reconciliation into hospital procedures as standard practice • ensuring clinical and executive leadership support for medication reconciliation • encouraging a multidisciplinary approach to medication reconciliation • collecting and reporting data on medication reconciliation occurring within 48 hours of admission • collecting and reporting data on medication reconciliation occurring at discharge • training staff to take an accurate medication history and reconcile medicines • encouraging pharmacists and prescribers to provide a current medicines list to consumers.
<p>POSSIBLE ACTIONS BY GOVERNMENT ORGANISATIONS, REGULATORS AND BODIES THAT ADVISE ON OR SET HEALTH POLICY</p>	<p>Develop policy, guidance, and standards to ensure medication reconciliation is undertaken within 48 hours of admission for at risk patients.</p> <p>Support the use of electronic initiatives (such as the PCEHR) in the medication reconciliation process.</p>
<p>POSSIBLE ACTIONS BY EDUCATION AND TRAINING ORGANISATIONS</p>	<p>Include medication history and reconciliation in undergraduate, postgraduate, and ongoing education and training for healthcare professionals.</p> <p>Produce graduates with the knowledge, skills, and behaviours to obtain a current and accurate medication history and reconcile medicines.</p>
<p>POSSIBLE ACTIONS BY OTHER ORGANISATIONS</p>	<p>Review strategies for optimising medication reconciliation processes, including exploring the comparative effectiveness of different medication reconciliation approaches.</p> <p>Evaluate medication reconciliation processes.</p> <p>Research options for optimising use of information technology in the transfer of medicines information within and between health care settings.</p> <p>Develop and provide information and resources for consumers on medication safety and how to create and maintain a medication list.</p>
<p>POSSIBLE ACTIONS BY THE AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE</p>	<p>Provide support to expand the influence of existing national medication reconciliation programs.</p> <p>Continue to develop and provide medication reconciliation implementation and educational resources, including tools to monitor the quality of medication reconciliation processes.</p> <p>Work with stakeholders to increase medication reconciliation throughout the medication management cycle.</p>

GOAL 1: SAFETY OF CARE

PRIORITY AREA 1.1: MEDICATION SAFETY

OUTCOME 1.1.3	Adults experience fewer venous thromboembolisms associated with hospitalisation
<p>WHAT WOULD SUCCESS LOOK LIKE AFTER FIVE YEARS?</p>	<p>All adult inpatients are assessed for their risk of venous thromboembolism (VTE) and receive appropriate prophylaxis.</p> <p>There is a measurable reduction in the rate of VTE associated with hospitalisation.</p>
<p>HOW WILL WE KNOW THAT SUCCESS HAS BEEN ACHIEVED?</p>	<p>By monitoring:</p> <ul style="list-style-type: none"> • rates of adult inpatients with documented VTE risk assessment and prescribed prophylaxis • rates of people developing VTE following hospitalisation • VTE mortality data including hospital and community settings.
WHAT ACTIONS ARE NEEDED TO ACHIEVE THIS OUTCOME?	
<p>POSSIBLE ACTIONS BY CONSUMERS</p>	<p>Discuss VTE prevention with the healthcare provider, including the risks of developing VTE and preventive actions that can be undertaken.</p> <p>Follow advice and instructions on medication and other VTE prevention strategies after discharge from hospital.</p>
<p>POSSIBLE ACTIONS BY HEALTHCARE PROVIDERS</p>	<p>Routinely assess all adults admitted to hospital for VTE risk during admission and throughout the care episode.</p> <p>Where risks are identified, assess bleeding risk and order appropriate pharmacological or mechanical prophylaxis where indicated.</p> <p>Discuss VTE prevention with patients including the risks of developing VTE and preventive actions that can be undertaken.</p> <p>Ensure complete and accurate information on VTE prophylaxis measures and medicines are provided to all relevant healthcare providers when care is transferred.</p>

<p>POSSIBLE ACTIONS BY ORGANISATIONS THAT PROVIDE HEALTHCARE SERVICES OR SUPPORT SERVICES AT A LOCAL LEVEL</p>	<p>Develop and implement whole-of-facility VTE prevention policy including protocols and clinical pathways.</p> <p>Train staff in VTE risk assessment, risk of bleeding, contra-indications to prophylaxis and appropriate prophylaxis prescribing.</p> <p>Embed VTE assessment and prophylaxis prescribing within local e-health systems.</p> <p>Distribute consumer information on VTE risk and prevention to all adult patients admitted to hospital for emergency and elective admissions.</p> <p>Develop and implement local VTE prevention policies at Medicare Local or Local Hospital Network level.</p> <p>Monitor effectiveness of VTE prevention strategies at a local level.</p> <p>Promote awareness and uptake of relevant national and other guidelines.</p>
<p>POSSIBLE ACTIONS BY GOVERNMENT ORGANISATIONS, REGULATORS AND BODIES THAT ADVISE ON OR SET HEALTH POLICY</p>	<p>Monitor effectiveness of VTE prevention strategies at a state or national level.</p> <p>Develop and implement state or national VTE prevention policies.</p>
<p>POSSIBLE ACTIONS BY EDUCATION AND TRAINING ORGANISATIONS</p>	<p>Include assessment of VTE risk and bleeding risks, and prophylaxis prescribing in undergraduate, postgraduate, and ongoing education and training for healthcare professionals.</p> <p>Produce graduates with the knowledge, skills, and behaviours to accurately and effectively assess VTE and bleeding risks and prescribe appropriate VTE prophylaxis.</p>
<p>POSSIBLE ACTIONS BY OTHER ORGANISATIONS</p>	<p>Investigate systems for identifying medical patients who would most benefit from VTE prophylaxis.</p> <p>Explore strategies to reduce incidence of VTE in hospitalised patients.</p> <p>Develop and disseminate information to raise awareness of VTE risk and prevention among consumers.</p>
<p>POSSIBLE ACTIONS BY THE AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE</p>	<p>Develop and support implementation of a National Inpatient Medication Chart with a pre-printed VTE risk assessment and prophylaxis prescribing and administering section.</p> <p>Explore the development of online educational resources on VTE prevention and risk assessment.</p> <p>Further develop electronic and other VTE resources including tools to monitor quality improvement.</p> <p>Support the review of clinical practice guidelines on VTE prevention in hospital patients.</p>

GOAL 1: SAFETY OF CARE

PRIORITY AREA 1.1: MEDICATION SAFETY

OUTCOME 1.1.4	Children experience fewer dose-related adverse medicines events
<p>WHAT WOULD SUCCESS LOOK LIKE AFTER FIVE YEARS?</p>	<p>Paediatric inpatient medication orders have the basis for dose calculation documented (for all medicines that require weight-based or body surface area based dose calculations).</p> <p>Paediatric community prescriptions include the age and weight of the child.</p>
<p>HOW WILL WE KNOW THAT SUCCESS HAS BEEN ACHIEVED?</p>	<p>By monitoring:</p> <ul style="list-style-type: none"> rate of paediatric inpatient medication orders which include the basis for dose calculation. <p>Work will need to be undertaken to develop the systems and processes to collect data on the inclusion of age and weight on community-based paediatric prescriptions.</p>
WHAT ACTIONS ARE NEEDED TO ACHIEVE THIS OUTCOME?	
<p>POSSIBLE ACTIONS BY CONSUMERS</p>	<p>Discuss their child's medicines with healthcare providers.</p> <p>Seek information about the correct dose for medicines administered at home.</p> <p>Use an accurate measuring device for administering children's medicines at home.</p>
<p>POSSIBLE ACTIONS BY HEALTHCARE PROVIDERS</p>	<p>Document accurate weight, and date patient weighed, for all paediatric patients on the National Inpatient Medication Chart (NSQHSS 4.6).</p> <p>Document the basis for the calculation for all weight/body surface area based medicines on the National Inpatient Medication Chart (NSQHSS 4.6).</p> <p>Encourage double checking of all paediatric calculations and, in hospitals, independent checking by another health professional.</p> <p>Advocate and encourage appropriate documentation of the basis of dose calculation for children.</p> <p>Provide information and education to parents about calculating and measuring the correct dose, particularly when they have primary responsibility for administering medication.</p>

“Children experience fewer dose-related adverse medicines events.”

<p>POSSIBLE ACTIONS BY ORGANISATIONS THAT PROVIDE HEALTHCARE SERVICES OR SUPPORT SERVICES AT A LOCAL LEVEL</p>	<p>Support the ongoing education and training of staff in medication safety within paediatrics, including safe prescribing, dispensing, administering, dose calculation and documentation.</p> <p>Ensure staff possess the skills and capability to accurately calculate paediatric doses of medicines.</p> <p>Provide tools to assist staff determine and/or calculate paediatric doses. (NSQHSS 4.9)</p> <p>Require dosage calculation and documentation for paediatric patients as a mandatory requirement within functional specifications for electronic medication management systems.</p> <p>Develop guidance, advice, and educational information on dose calculation requirements for paediatrics for parents and healthcare providers.</p>
<p>POSSIBLE ACTIONS BY GOVERNMENT ORGANISATIONS, REGULATORS AND BODIES THAT ADVISE ON OR SET HEALTH POLICY</p>	<p>Consider the inclusion of weight and age on Pharmaceutical Benefits Scheme stationery for children 12 years of age and under.</p> <p>Include the calculation of paediatric doses as a mandatory requirement for prescribing, dispensing, and administering medicines.</p>
<p>POSSIBLE ACTIONS BY EDUCATION AND TRAINING ORGANISATIONS</p>	<p>Include paediatric dose calculation in undergraduate, postgraduate, and ongoing education and training for healthcare providers.</p> <p>Produce graduates with the knowledge, skills, and behaviours to accurately calculate and document dose of medicines prescribed for paediatric patients.</p>
<p>POSSIBLE ACTIONS BY OTHER ORGANISATIONS</p>	<p>Investigate mechanisms for collecting data to determine safe and effective doses of medicines for paediatric patients.</p> <p>Explore systems and processes for collecting data on dose calculation errors within primary and community health care.</p> <p>Provide information, education, and support for parents to accurately calculate and measure doses of over-the-counter and prescription medications to children in the home.</p>
<p>POSSIBLE ACTIONS BY THE AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE</p>	<p>Support the availability of paediatric dose calculation resources available via internet and other new technologies.</p> <p>Explore systems and processes for collecting data on dose calculation errors within primary and community health care.</p> <p>Support and promote access to online training resources to educate health professionals about safe prescribing, dispensing, administering, and monitoring medicines in paediatric patients including dose calculation.</p>

GOAL 1: SAFETY OF CARE

PRIORITY AREA 1.1: MEDICATION SAFETY

OUTCOME 1.1.5	People taking warfarin in the community experience fewer adverse medicines events
<p>WHAT WOULD SUCCESS LOOK LIKE AFTER FIVE YEARS?</p>	<p>People taking warfarin in the community have a clearly documented:</p> <ul style="list-style-type: none"> • risk/benefit assessment prior to commencement of warfarin • summary of their warfarin therapeutic plan. <p>There is a measurable reduction in hospitalisations associated with suboptimal warfarin therapy.</p>
<p>HOW WILL WE KNOW THAT SUCCESS HAS BEEN ACHIEVED?</p>	<p>By monitoring:</p> <ul style="list-style-type: none"> • hospital admissions for over-anticoagulation. <p>Work will need to be undertaken to develop the systems and processes to collect data about international normalised ratio (INR) ranges for people taking warfarin in the community.</p>
WHAT ACTIONS ARE NEEDED TO ACHIEVE THIS OUTCOME?	
<p>POSSIBLE ACTIONS BY CONSUMERS</p>	<p>Discuss warfarin risks and benefits with their healthcare provider.</p> <p>Discuss their warfarin therapeutic plan and how to safely manage warfarin.</p> <p>Keep a record of their warfarin therapeutic plan including clinical indication for warfarin, target INR range, warfarin brand, intended duration of therapy, recent INR results, and warfarin doses.</p> <p>Inform all healthcare providers they are taking warfarin.</p>
<p>POSSIBLE ACTIONS BY HEALTHCARE PROVIDERS</p>	<p>Complete and document a risk/benefit assessment prior to starting warfarin therapy. This should include consideration of interactions with other medicines.</p> <p>Clearly and comprehensively document warfarin therapeutic plan including clinical indication, target INR range, warfarin brand, intended duration of therapy, recent INR results, warfarin doses, and evidence of receipt of warfarin education (NSQHSS 4.6, 4.11, 4.12 and 4.15).</p> <p>Regularly review and monitor for optimal and safe warfarin treatment and requirement over the long term.</p> <p>Ensure discharge information and referrals contain the warfarin therapeutic plan, including the healthcare provider principally responsible for managing warfarin. This should be provided to the person's primary care provider in a timely manner (NSQHSS 4.8 and 4.12).</p> <p>Ensure consumers or carers understand the risks and possible consequences of taking warfarin and have the knowledge and skills to safely manage their warfarin therapy (NSQHSS 4.13 and 4.15).</p>

<p>POSSIBLE ACTIONS BY ORGANISATIONS THAT PROVIDE HEALTHCARE SERVICES OR SUPPORT SERVICES AT A LOCAL LEVEL</p>	<p>Provide access to guidelines/protocols and tools at point of care to assist prescribing, dispensing, administering, and monitoring warfarin safely including clinical decision support systems in electronic medication management systems.</p> <p>Implement systems that support transfer of warfarin therapeutic plans to other healthcare providers whenever care is transferred.</p> <p>Explore options for alternative approaches to warfarin management including self-management of INR testing and warfarin dosing.</p> <p>Ensure staff responsible for administering medicines have the knowledge, skills, and behaviours to safely administer and document warfarin therapy.</p> <p>Explore the use of support programs such as telephone and online services for people to self-manage their warfarin therapy (e.g. obtain INR results and instructions on how to adjust their warfarin doses).</p>
<p>POSSIBLE ACTIONS BY GOVERNMENT ORGANISATIONS, REGULATORS AND BODIES THAT ADVISE ON OR SET HEALTH POLICY</p>	<p>Explore capacity for e-health records and electronic medication management systems to include the warfarin therapeutic plan and support safe management of warfarin.</p>
<p>POSSIBLE ACTIONS BY EDUCATION AND TRAINING ORGANISATIONS</p>	<p>Include warfarin management in undergraduate, postgraduate, and ongoing education and training for healthcare providers.</p> <p>Produce graduates with the knowledge, skills, and behaviours to safely and effectively prescribe, dispense, administer, and monitor warfarin. This should include the skills needed to communicate effectively with and educate patients about the risks of warfarin and how to safely manage their warfarin therapy.</p>
<p>POSSIBLE ACTIONS BY OTHER ORGANISATIONS</p>	<p>Investigate major contributing causes for warfarin-related adverse events (over- and under-anticoagulation).</p> <p>Identify strategies for optimising warfarin treatment and maintenance.</p> <p>Explore strategies to assist consumers to better manage their warfarin therapy.</p> <p>Explore the use of new technologies to assist health professionals and consumers to safely manage warfarin.</p> <p>Support the provision of health professional and consumer education and information on the risks and benefits of warfarin therapy and how to manage warfarin safely.</p>
<p>POSSIBLE ACTIONS BY THE AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE</p>	<p>Advocate support for implementation of systems and processes, including development of guidance and resources to assist consumers and health professionals to safely and effectively manage warfarin therapy.</p>

APPENDIX: DEFINITIONS

PRIORITY AREA 1.1: MEDICATION SAFETY

At risk of medication related harm:

Examples of risk factors known to predispose people to medication related adverse events are:

- currently taking five or more regular medications;
- taking more than 12 doses of medication per day;
- significant changes made to medication treatment regimen in the last three months;
- medication with a narrow therapeutic index or medications requiring therapeutic monitoring;
- symptoms suggestive of an adverse drug reaction;
- suboptimal response to treatment with medicines;
- suspected non-compliance or inability to manage medication related therapeutic devices;
- patients having difficulty managing their own medicines because of literacy or language difficulties, dexterity problems or impaired sight, confusion/ dementia or other cognitive difficulties;
- patients attending a number of different doctors, both general practitioners and specialists; and
- recent discharge from a facility / hospital (in the last four weeks).

Consumers:

When referring to consumers the Commission is referring to patients, consumers, families, carers, and other support people.

Electronic medication management:

The entire electronic medication process from the prescriber's medication order, to the pharmacist's review of the medication order and supply of medicine, to the nurse's documentation of administration of the medicine, and all the processes in between.

Medication history:


An accurate recording of a person's medicines. It comprises a list of all current prescription and non-prescription medicines, complementary healthcare products and medicines used intermittently, recent changes to medicines, past history of adverse drug reactions including allergies, and recreational drug use.

Medication reconciliation:

The process of obtaining, verifying, and documenting an accurate list of a patient's current medications on admission and comparing this list to the admission, transfer, and/or discharge medication orders to identify and resolve discrepancies. At the end of the episode of care the verified information is transferred to the next care provider.

Medicine:

A chemical substance given with the intention of preventing, diagnosing, curing, controlling, or alleviating disease, or otherwise improving the physical or mental welfare of people. Prescription, non-prescription, and complementary medicines, irrespective of their administration route, are included.



**“Adverse medicines events
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from a mild allergic
reaction to death.”**

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AND QUALITY IN HEALTH CARE**

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