Government of **Western Australia**
Department of **Health**

Guiding principles to consider when developing a specialised medication chart

Contents

Introduction

Background

The Australian Commission of Safety and Quality in Health Care (ACSQHC) introduced a standardised national inpatient medication chart aimed at reducing patient harm resulting from errors in medication documentation processes in 2008.[1] The standardised medication charts led to reductions in prescribing errors, and resulted in improved documentation.[1] It is considered best practice throughout the medication management cycle, within and between healthcare organisations to use the WA Hospital Medication Chart (WA HMC) which has been endorsed for use in WA by the Commonwealth Department of Health and the ACSQHC. [2]

WA Health mandate a suite of medication charts to be used across hospitals and health services including the Paediatric- National Inpatient Medication Chart (NIMC), the Adult WA Anticoagulation Chart, the WA Clozapine Initiation and Titration Chart, the WA Intramuscular Long-Acting Injection Chart (Depot Antipsychotic) and the WA Agitation and Arousal PRN Chart.

It is acknowledged that in the past that specialised medication charts have been created locally by Health Service Providers (HSPs) to fill a perceived clinical need. Developing additional medication charts can be a medication safety risk, which the introduction of the standardised medication chart sought to diminish. Prescribing all of the patient's medications on a single chart reduces the potential for dispensing and administration omission errors, and aids medication reconciliation.

Potential implementation of a new specialised medication chart should be carefully considered. The specific need must be balanced against the broader clinical safety impacts of introducing non-standard practices and the capability to commit ongoing resources to monitor and maintain the new chart.

It is recommended HSPs consider how to manage requests for developing new medication charts, such as lines of authority, roles and responsibilities within the context of their governance structures, which are clearly defined, documented and understood.

Document purpose

To provide key principles to consider when determining whether development of a new medication chart is necessary and to determine a governance process in relation to non-ACSQHC approved medication charts.

General principle

Balance the perceived reduction in clinical risk of prescription, or administration of a specific medicine with the risks associated with the proliferation of non-standard charts.

Define and quantify the problem

It is important to clearly identify the clinical risk (or problem) to be addressed including succinct identification, analysis and determination of impact and causational relationships with introducing a new medication chart.

Questions to consider when determining supportive evidence for the development of a specialised medication chart include:

- What is the evidence supporting the need for a new chart?
- Is the evidence reliable and based on reported, evaluated clinical risk?
- Who has been consulted in exploring the scope of the risk/problem?
- What is the type and level of risk?
- What is the risk of doing nothing?
- Is there a more appropriate method to manage the risk (i.e. clinical incidences are often multifactorial)?
- Is the same issue occurring at other health services (i.e. consider working on solutions together)?

Will the chart:

- Improve safe prescribing and administration of medications throughout the medication management pathway (Figure 1)?
- Reduce or introduce complexity, duplication and unintended safety issues?
- Impact on interrelated documents, such as decision support documents?
- Support safe and responsible prescribing practices?
- Remain relevant, accessible or become quickly obsolete (e.g. with emerging technologies and programmes, such as electronic medicine management systems)?
- Support current and future auditing, reviewing and monitoring systems and reporting requirements under the WA Health Department's Policy Frameworks http://www.health.wa.gov.au/circularsnew/policy_frameworks.cfm? [3]
- Be able to gain consensus amongst stakeholders and obtain the required support and resources to develop, evaluate, monitor, review and revise (including version control) the resource throughout the medication management system and the document's lifespan?

Figure 1: Medication Management System [4]

The internal, local and/or national support for the existence and size of the problem should be identified.

The problem definition should include the targeted level of mitigation, to clearly determine the success of the new chart's implementation. Include any evidence supporting this anticipated level of improvement, including internal and/or national support.

Compare the risks and issues associated with doing nothing, introducing a new chart or applying an alternate solution. Always, consider alternatives to introducing a new chart (such as environmental issues, system issues, or human factors).

The Patient Safety and Clinical Quality Division of the Western Australian Department of Health provide tools and educational material to assist in this assessment process (i.e. Risk-management-tools-and-resources).[5]

Other documents which may assist in determining the nature or scope of the risk include:

- Integrated corporate and clinical risk analysis tables and evaluation criteria.[6]
- The Clinical Incident Management Policy can assist in identifying, reporting and evaluating the level of risk.[7]
- Clinical Risk Management tools for identifying, analysing, evaluating and appropriately dealing with the risk.[8]

Consider if an appropriate chart is already in existence

Check the ACSQHC website to identify if there is a current standardised chart to meet your need or if one is being developed http://www.safetyandquality.gov.au/. [2]

Check the Quality Improvement Change Management Unit website to determine if there are WA charts that are not mandated or email QICM@health.wa.gov.au

If local modification to the WA NIMC is required there is a process to be followed:
Raise any changes required for the WA NIMC through the 'NIMC change register form' (http://ww2.health.wa.gov.au/Articles/J_M/Medication-charts) or email QICM@health.wa.gov.au

If your HSP requires a specialist medication chart, it is likely other health services have a similar need.[1] Contact other HSPs for the opportunity to collaborate, and create consistency between health services. Check with other HSPs to determine whether they have a specialized chart, which could be standardised for the whole of the WA public health system.

Propose a new medication chart, only if necessary

Ask the question again: is introducing and maintaining a new chart justified in terms of the possible value versus the risks and likely resources required?

If the decision is to progress towards development of a new specialised chart, provide a submission to your HSP via your internal governing body, which has the responsibility for medication safety (i.e. Drug and Therapeutics Committee [DTC] or Medication Safety Committee). The appropriate body will be based on your local governance processes, policies or protocols.

WAMSG provide independent advice on any proposed new medication chart in WA. To submit the proposal to WAMSG, answer the questions in Appendix 1 & 3. Provide supporting documents or attachments and email the submission to wamsg@health.wa.gov.au

[1] It is important to ensure the originating hospital is contacted prior to adopting a chart as there may be an evaluation underway or caveats which restrict the use of a chart to an organisation – for example, an Anticoagulation Medication Chart needs to have aPTT range specified from the associated pathology laboratories depending upon the reagents and equipment used. The aPTT ranges are not always transferable between hospitals.

Planning the project

If the proposal to develop a new chart is approved, create a comprehensive project plan. A plan will provide a structured process for the development and implementation of a specialised chart. It will save time and effort if carefully considered and progressed.

WAMSG is able to provide independent advice on the project plan. To submit the proposal to WAMSG, answer the questions in Appendix 2 & 3. Provide supporting documents or attachments and email the submission to wamsg@health.wa.gov.au

The following outlines some key considerations to include in a project plan:

Involve stakeholders

Consult doctors, nurses and pharmacists involved in managing the specialised medication and explore how the medication process functions, to identify likely impact of the proposed chart (intentional/unintentional). Seek consultation with specialists from each profession.

Consult stakeholders with organisational responsibility for the chart (e.g. key advisory groups/committees/managers/directors). The Department of Health Engagement Suite [9] provides a framework and tools which may assist with this process.

Plan ahead to incorporate emerging practices or technologies (e.g. electronic systems, changes to practitioners' scope-of-practice; refer to the Australian Health Practitioners' Regulation Agency).[10.]

Legislation, regulations, policies

Consider compliance with regulatory, legislative (e.g. *Medicines and Poisons Regulations 2016* [11]) and whole of health policy requirements (e.g. Policy frameworks [3]) externally and internally. For example: quality and safety standards, service agreement reporting requirements, statutory and contractual requirements, organisational strategic and operational directions.

Design: physical attributes

Physical attributes, necessary for a prescription can be found in the *Medicines and Poisons Regulations 2016*. [11] The key attributes required in a chart can be identified from the 'national standard medication charts' available a from the ACSQHC website.[12]

Requirements include: patient identification; medical record number; adverse drug reaction section- which includes the medication involve, type of reaction, date and signature for the reporting practitioner; section for the medication name, strength, frequency, dose, route, date and time to be administered and prescriber's name and signature; section for verbal orders for two staff to independently sign (allowing no more than four doses before the prescriber is to sign the chart) and section for the pharmacist's review, annotation and signature.

Give consideration to how the following may be addressed:

- prescribing generic (i.e. active ingredient) medicine name
- use of approved abbreviations for prescribing medicine (https://www.safetyandquality.gov.au/our-work/medication-safety/).[13]
- cross-referencing with the WA NIMC, to reduce potential errors
- congruency with other charts, assuring readability and useability (i.e. ease of use)
- consistency of form: for example, if using check boxes, maintain these, rather than requiring the end-users to subsequently circle, number or underline information
- logical progression: for example, group data applicable for the end-user (e.g. patient's identifying information, assessment, diagnosis and medication treatment)
- prompts for patient allergies and associated reactions (e.g. adjacent to one another), metric measures for patient weight in kg (or grams for neonates), indication for treatment, and significant comorbid conditions (e.g. diabetes).

Some ideas for designing paper-based or electronic charts are available from Institute for *Safe Medication Practices (ISMP's) Guidelines for Standard Order Sets 2010*[14]

Pilot testing and evaluation

For safety, ethical and accountability reasons it is recommended that approval is obtained from your site-based DTC, or equivalent governing body, with authority to approve piloting, implementation and evaluation of the chart.

Specialised medication charts require thorough assessment to ensure that they are fit for the purpose intended, and do not cause unintended consequences which may prove hazardous.

Consider the component parts of the process, for example:

Who will implement it?

Who will coordinate the project and be available to answer questions or troubleshoot? Who will be assigned which tasks? Who will provide appropriate instruction or education to health providers implementing the chart?

What methodology will be used?

What is the sample size required from the entire health service patient population group to be subject to the new specialised chart (e.g. at least 30% Sample size calculator[15])?

The methodology used will depend upon what you are trying to measure. The principles from larger studies can be modified and used to provide direction for developing the methodology for the pilot implementation; for example:

- Phased implementation of the National Residential Medication Chart in NSW residential aged care facilities: Evaluation Report[16]
- Development and initial Evaluation of a New Subcutaneous Insulin Form[17]
- Impact of a standard medication chart on prescribing errors: a before and after audit[18]

Where and for how long will it be implemented?

What is the time-frame?

Is the pilot group representative of the staff or patients who will be using the chart (e.g. over the entire 24hr day, area of work, medical vs intensive care, acute mental health facility vs acute health facility with mental health patients)?

How will it be evaluated and by whom?

What evaluation methods will be used?

Who will collect, collate and present the data?

What and how will it be collected? What tool will be used?

Will the tool collect valid results and prove reliable?

The method and tools used will be dependent on what you wish to measure. An audit tool is a common means used by health services to collect information. When developing an audit tool, consider design, safety and clinical outcome measures to evaluate the benefits and risks of chart implementation.

Check to see if there is already a tool which may be used for the evaluation. Some examples of audit tool format can be found on the ACSQHC website. [2]

Consider using qualitative evaluation methods or tools to capture subjective information, such as an end-user survey.

Who will be responsible for ongoing support and maintenance?

Who will be the custodian of the chart?

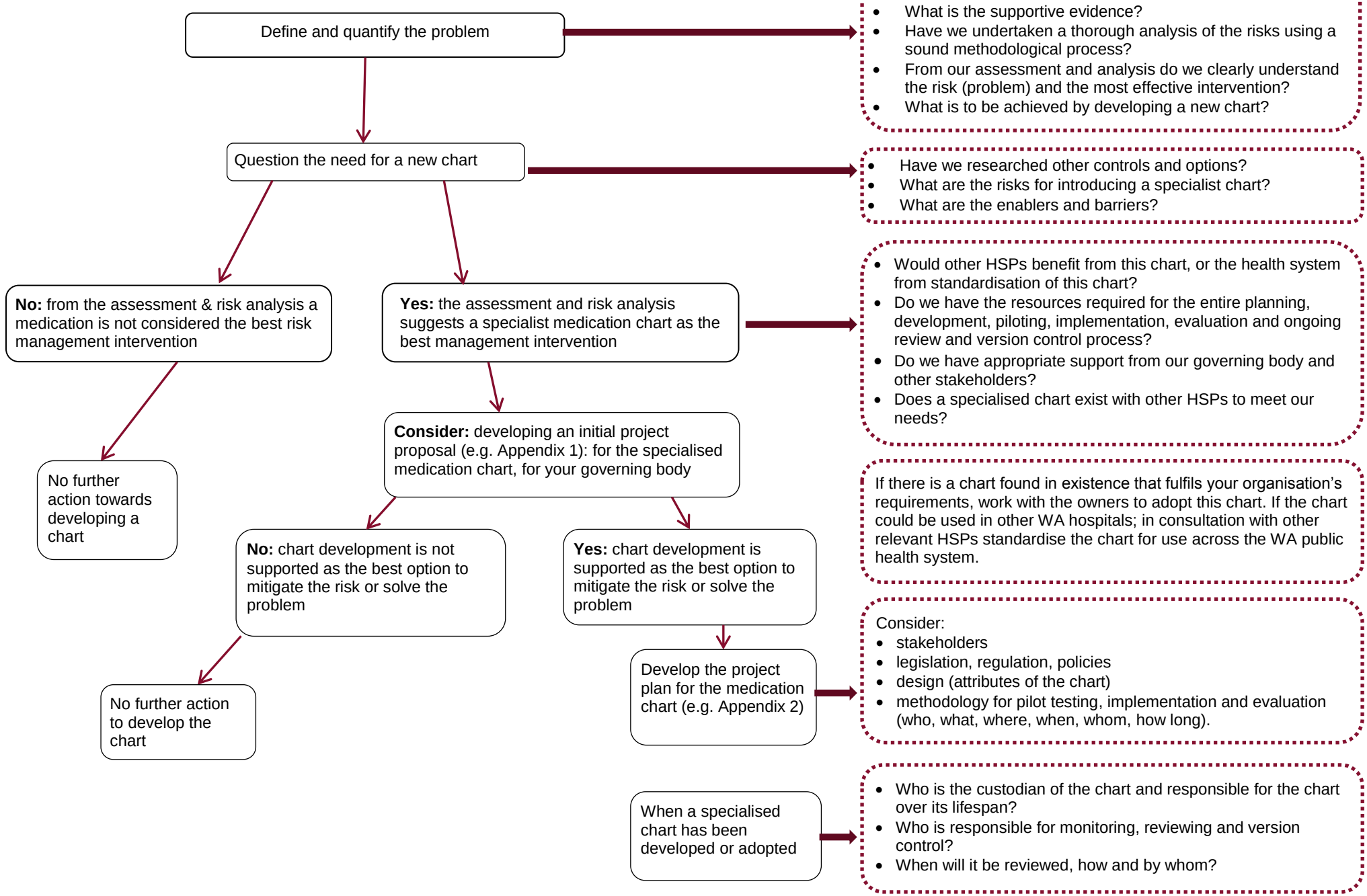
What is the criteria for review (e.g. when, by whom)?

How will version control be monitored?

Ongoing review of any developed resource will be required throughout its lifecycle to ensure the maintenance of patient safety and applicability in the ever-changing health environment.

Be prepared to invest the resources required to develop a safe and high quality tool and to revise it at a specified future date.

Decision flow chart summary for developing a specialised medication chart



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Useful resources

Australian Commission on Safety and Quality in HealthCare. Electronic Medication Management Systems: A guide to safe implementation, 2nd edition, 2012. Available from: https://www.safetyandquality.gov.au/wp-content/uploads/2011/01/EMMS-A-Guide-to-Safe-Implementation-2nd-Edition-web-version.pdf

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Appendix 1: WAMSG submission: Initial project proposal

Initial proposal: Chart development	
Chart title:	
Key contact:	
Team leader and team members	
Start date:	**Date due for completion:**
Define the risk (problem):	
Analysis: *e.g. Outline the methodology for identifying the risk (problem) and analysis which lead to the conclusion that developing a specialised medication chart is the best solution. Include attachments, as necessary; explain why the 'national standard medication charts' do not meet current needs? Is there a current specialized chart in use in another health service which could be modified? Consultation: who, what and outcome (provide as much detail as possible).*	
Objective: *e.g. What is to be achieved by developing a new chart? How will it mitigate the risk to patients or providers? Supportive evidence from other jurisdictions and/or research? Have the risks for introducing the chart been carefully considered? What is the supportive evidence for introducing a new chart, its enablers and barriers? (Use SMART-criteria for objectives i.e. Specific, measurable, achievable/assignable, realistic, time-related).*	
Question/s or advice sought from WAMSG*	

*Provide a template of the proposed chart and as much detail surrounding your proposed new medication chart to ensure WAMSG is able to answer your questions.

Appendix 2: WAMSG submission: Project plan

Project plan : Development, implementation and evaluation of the chart	
Chart title:	
Key contact:	
Team leader and team members:	
Start date:	**Date due for completion:**
Define the risk (problem):	
Analysis:** ***e.g. *Outline the methodology for identifying the risk (problem) and analysis which lead to the conclusion that developing a specialised medication chart was the best solution. Include attachments, as necessary; explain why the 'national standard medication charts' do not meet current needs? Is there a current specialised chart in use in another health service which could be modified? Consultation: who, what and outcome (provide as much detail as possible).*	
***Objective:** *e.g. What is to be achieved by developing a new chart? How will it mitigate the risk to patients or providers? Supportive evidence from other jurisdictions and/or research? Have the risks for introducing the chart been carefully considered? What is the supportive evidence for introducing a new chart, enablers and barriers? (Use SMART-criteria for objectives i.e. Specific, measurable, achievable/assignable, realistic, time-related).*	
Stakeholders involved in chart development: *e.g. internal, external, consider all professionals using the chart (including other HSP's health providers potentially impacted by its use).*	
Legislation, regulation, policies, and design considerations: *What have you considered?*	
Outline the proposed methodology for pilot testing and evaluation of the chart *e.g. target group, sample size, when, how and who to implement and evaluate the process and outcomes.*	
Questions or advice sought from WAMSG	

*or include 'Initial project proposal' for new specialised medication chart, Appendix 1

Appendix 3: Prompted checklist for WAMSG submission

Have you considered the:	**Y, N or N/A****
Availability of an existing chart, for example on the ACSQHC, WA Patient Safety and Clinical Quality [2] website from other WA HSPs or interstate hospitals?	
Internal evidence of the existing risk or problem (e.g. database trends, audits, risk registry and investigative outcomes)?	
National evidence (e.g. database collection, audits, peer-reviewed literature)?	
Alternative controls to address the risk or problem (e.g. environment, engineering and human factors)?	
Impact upon and requirements of end users, throughout the medication management pathway?	
Impact upon patients/ consumers?	
Legislation, regulations, policies (internal and DoH Policy framework), or compatibility with clinical guidelines?	
Other potential risks and opportunities, barriers or enablers?	
Safety requirements for design of the proposed chart?	
A project plan for a pilot implementation phase including target group, and sample size?	
Piloting and implementation process (i.e. who, when, where, how)?	
Evaluation (i.e. who, when, where, how and what type or format)?	
Review of, and responsibility for the resource (i.e. chart) over its lifespan?	
Have you gained appropriate authority from your HSP? If not, what was the reason behind the decision?	

** Y- Yes, N-No or N/A-not applicable.

This document can be made available in alternative formats on request for a person with a disability.