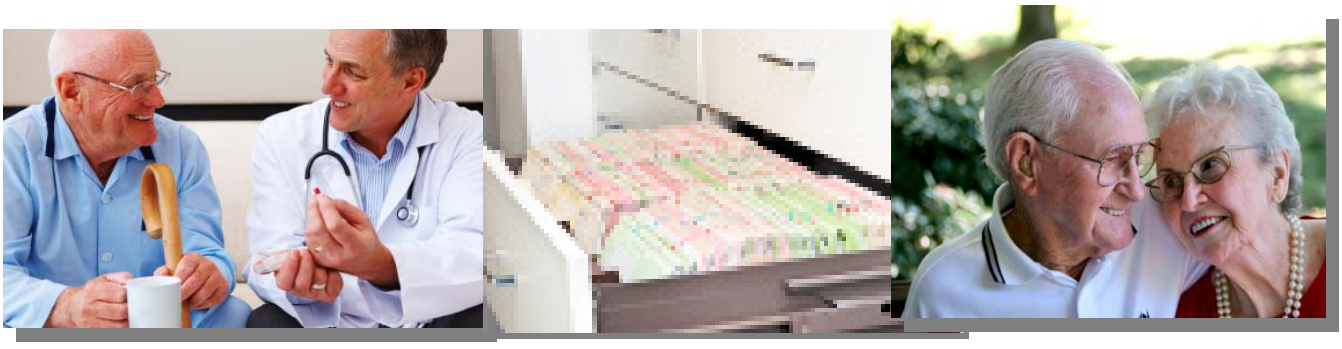
AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

Analysis of Residential Aged Care Facility Medication Charts 2012



National Residential Medication Chart Project

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This paper is available on the Commission website: www.safetyandquality.gov.au

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Guide to terms

The following list includes some of the terms used throughout this paper and explains the ways in which they are used. Terms used in the paper which are not defined have their standard English meaning.

Approved provider
An approved provider is a person or body who is approved by the Department of Health and Ageing (DoHA) to provide Government-subsidised residential aged care. Although this may be residential, community or flexible care, an approved provider in this paper is a provider that has been approved to provide residential aged care.
Electronic medication management system
Systems that electronically record prescribing, supplying, administering or reconciling medicines, or a combination, and that is supported by paper scripts as required by legislation (and are also referred to as e-systems or EMMS).
Hybrid medication management system
A combination of electronic and paper-based medication management systems.
Paper-based medication management system
Medication management systems by which prescribing, supplying and administering of medicines is completed without electronic assistance.
Pharmaceutical Benefits Scheme
The Pharmaceutical Benefits Scheme, or PBS, is an Australian Government initiative that provides affordable access for all Australian residents to effective and cost-effective medicines. The Repatriation Pharmaceutical Benefits Scheme, or RPBS, provides access to an additional range of items at a concession rate for the treatment of eligible veterans, war widows/widowers, and their dependants. PBS will refer to PBS and RPBS in this document unless otherwise stated.
Resident
A resident is a person living in a residential aged care facility.
Residential aged care facility
Residential aged care facility, or RACF, is a term used to describe a residential aged care facility operated by an approved provider. RACFs are defined as *"Australian Government subsidised residential care is governed by the Aged Care Act 1997 and the Aged Care Principles and is administered by the Department of Health and Ageing"* (Report of the Operation of the Aged Care Act 1997, Commonwealth Government 2011, p.35). Aged care services delivered through transitional care, multi purpose services (MPS), flexible care (ATSI) and other flexible care (CAPS/EACH and EACHD) are not within the scope of this project as they are managed by the states and territories and operate across diverse settings such as community care and direct hospital care.
Stand-alone provider
A RACF that operates as a sole trader and does not belong to an approved provider where there are multiple RACFs.

Executive summary

The *Analysis of Residential Aged Care Facility Medication Charts 2012* presents research and analysis on medication charts currently in use in Australian residential aged care facilities (RACFs).

The aim of the research and analysis was to collect and classify data related to the content and types of medication charts and systems currently in use across a diverse sample of RACFs proportionately representative of the sector.

The report identifies the key elements of a large range of medication charts including information fields, formats and duration. The findings of the report form the basis of recommendations that will guide development of a national medication chart for use in RACFs and currently titled the *National Residential Medication Chart*.

Background

The *National Residential Medication Chart Project* (the project) is developing a standard medication chart for use in Commonwealth-funded residential aged care facilities. The chart will be the main communication tool for medications information between prescribers, dispensers, administrators and reconcilers. The project will:

1. Develop standardised information fields and layout for a standard medication chart; and
2. Incorporate into the chart required fields to enable pharmaceutical supply and Pharmaceutical Benefits Scheme (PBS) and Repatriation Pharmaceutical Benefits Scheme (RPBS) claiming directly from the chart.

Standardising medication charting in RACFs, and eliminating the need for PBS and RPBS scripts, has the potential to improve the safety and quality of medicines for residents in RACFs and to improve workflows for health professionals working in the sector.

The project will result in:

1. A standard paper-based medication chart designed for use in Australian RACFs; and
2. Essential elements for safe electronic medication management systems in RACFs.

The project forms part of a larger initiative, the *Supply and Claiming of PBS Medicines from a Medication Chart in Residential Aged Care Facilities* (or Medication Charts Initiative), an initiative under the *Fifth Community Pharmacy Agreement*. The initiative is managed jointly by the Department of Health and Ageing as the Commonwealth's representative and the Pharmacy Guild of Australia with oversight by the Agreement Consultative Committee.

The *National Residential Medication Chart Project* is managed by the Australian Commission on Safety and Quality in Health Care (the Commission), funded by the Department of Health and Ageing (the Department) under the *Fifth Community Pharmacy Agreement* and governed by funding arrangements between the Department and the Commission.

Recommendations

Recommendation 1: **Incorporate the following resident identification fields to reduce resident identification error: formal name, preferred name, date of birth, gender, identifier (such as MRN, URN), room number, known allergies and previous adverse drug events, a recent photograph and an alert if resident with similar name.** **In addition, incorporate a field for known resident communication barriers such as cognitive impairment and primary language other than English.**
The use of formal name, date of birth and room number could be strengthened by the addition of additional resident identifiers such as preferred name, recent photograph and gender. These identifiers are consistent with those used in Home and Community Care (HACC) services and the National Inpatient Medication Chart (except for a photograph). In addition, a field for noting communication barriers, such as cognitive impairment and primary language, will enable staff administering medicines to identify more readily the correct resident for medicines administration by identifying issues with confirmation of resident identification. Consistency of such information may also support the movement of accurate resident information from one health setting to another.
Recommendation 2: **Incorporate separate, specific fields for warfarin, insulin and for other variable dose medicines.**
Separate, specific fields for warfarin, insulin and for other variable does medicines, such as in the *National Inpatient Medication Chart*, are recommended to minimise error with these high risk medicine classes. The fields will enable documentation of prescribing information in close proximity to pathology results such as INR (for warfarin) and BGL (for insulin) and therapeutic ranges as documented by the general medical practitioner for resident safety.
Recommendation 3: **Incorporate extra time specific fields for high frequency dose medicines.**
Issues related to medicines requiring frequent administration have space implications that will require a number of time specific fields. However these will also need to be considered and discussed further as the project progresses.
Recommendation 4: **Incorporate separate, specific fields for special considerations.**
Separate, specific fields need to be developed to record special considerations for safe medication such as primary diagnosis, cognitive impairment, swallowing difficulties, PEG tube in-situ and resistive to medicines.

Recommendation 5: **Develop a 3 month chart with space for a minimum of 9 regular prescribed medicines.**
Medication charts for a period of 3 months and with a minimum of 9 spaces for regular ongoing prescription medicines would allow an average of 6-12 charts per average length of stay. Three months duration (rather than six months or longer) would enhance continuity of care, minimise repetition of prescribing regular ongoing medicines and support version control through fewer numbers of charts. The re-charting of resident medicines on the NRMC through a 3 month cycle will also contribute to resident safety through effective communication of medicine requirements in a timely manner between prescribers, pharmacy and RACFs.
Recommendation 6: **Incorporate separate, specific fields for non-prescription medicines and nutritional supplements**
To preserve space for prescribed medicines and minimise confusion, the NRMC should include separate, specific fields for non-prescription medicines and nutritional supplements. Nutritional supplement information should also be in close proximity to fields specific to supplement intake and ongoing weight monitoring.
Recommendation 7: **Explore appropriate recording of resident-self administration.**
Undertake further exploration to develop solutions for issues associated with the recording of self-administered medicines and signatures confirming administration.

1. National Residential Medication Chart Project

The Australian Commission on Safety and Quality in Health Care (the Commission) has identified medication safety as one of its priorities. The Commission's *Medication Safety Program* aims to improve the safety of medication usage in Australia. Effective and safe use of medicines is an area of great potential improvement in the safety and quality of health care[1]. Reducing error and harm from medicines through safe and quality use of medicines is an important element of the Commission's work and is helping it to achieve its objective of leading and coordinating national safety and quality improvements in health care.

The environment in which medicines are regulated, prescribed, supplied, administered and monitored in Australia is complex. It involves many stakeholders, government and non-government, at national, State and Territory levels, and includes health professionals, researchers, large and small enterprises, consumers and carers.

Medicines most commonly involved in medication incidents include chemotherapeutic agents, those used for treatment of pain and inflammation and for heart conditions and high blood pressure. Polypharmacy, or the use of a number of different medicines by a patient who may have one or several health problems, increases the risk medication incidents. People aged over 65 years have higher rates of medication incidents, partly because they are more likely to be taking one or more medicines, may also be taking high risk medicines and may have chronic conditions. Research shows that improvements to medication chart design, including standardisation, can improve the safety of medication processes in care. [2] [3]

In 2004, a standard medication chart, the *National Inpatient Medication Chart* (NIMC), was required by Health Ministers for use in all public hospitals. It was one of several national healthcare initiatives which were agreed would improve patient safety through standardisation. A rationale for the NIMC is provided at *Attachment 3*. It is a useful guide to the principles for standardised medication charts and which has applicability in non-acute settings.

Anecdotally, the NIMC has been used widely in residential aged care facilities. While the NIMC has been demonstrated to improve aspects of medication safety in acute care for which it was designed and in which it was tested, its use in residential aged care facilities has been problematic. This is largely due to the differences in medication management between the two settings. Differing aspects of medication management in RACFs, compared to acute care settings, include:

- Long-stay residents with chronic conditions and co morbidities rather than short-stay, unstable and high acuity patients;
- General practitioner, rather than frequent specialist, prescribing;

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[1] National Prescribing Services Ltd. 2009 *Medication Safety in the Community: A review of the Literature.* Australian Government Canberra.

[2] Burgess C.L., Holman C.D'A.J., Satti A.G. Adverse drug reactions in older Australians, 1981-2002. *Medical Journal of Australia.* 182(6) (pp 267-270), 2005. Date of Publication: 21 Mar 2005

[3] Leach H. National inpatient medication chart implementation. [Journal: Editorial] Journal of Pharmacy Practice and Research. 36(1) (pp 6-7), 2006. Date of Publication: Mar 2006

- Medicine administration not always by registered nurses;
- PBS medicines require duplicate documentation in RACFs unlike in public hospitals; and
- Many ongoing and regular prescription medicines in RACFs are delivered in pre-packaged dose administration aids (which are prepared off-site) rather than dispensed by a co-located pharmacy.

Medication is a major health safety and quality issue in RACFs. Developing a standardised residential medication chart as a communication tool between prescribers, dispensers and administrators is a potential strategy for improving resident safety. The proposed *National Residential Medication Chart Project* is an opportunity to improve resident medication safety and quality and to improve work flows for health professionals working in the sector and for facilities by:

1. Developing a national standard RACF medication chart;
2. Permitting supply and PBS/RPBS claiming from RACF medication charts; and
3. Describing essential elements for safe electronic medication charting.

The NRMC will be based on similar safety and behavioural psychology principles as the NIMC, and incorporate similar safety devices, but will reflect RACF medication management processes. In addition, development of the NRMC is an opportunity to improve continuity of care by considering the transfer of information between acute and residential care, a transition that presents particular risk to residents related to information about reviews and changes of medicines.

It is acknowledged that many forms of medication charts and electronic medication systems currently exist in the aged care sector. It is important for this project's success that elements related to safe use of medicines that are embedded within existing RACF medication charts are identified and considered in the development of the NRMC.

Residential aged care context

Historically, the residential aged care industry has had multi-layered management systems, regulation, legislation and funding arrangements. The *Aged Care Act 1997* was intended to drive reform in the sector through initiatives such as ageing in place, a single funding tool and a user-pay system applicable to both high and low care residential aged care services[4]. Since the introduction of aged care reform, the aged care industry has responded with new approved providers, changes in the scale of some approved providers through major acquisitions and, in many cases, transferring of operational bed licenses from one approved provider to another.

Expansion of major groups, driven in part by viability concerns, resulted in differing management systems within groups. Differences between individual facilities and groups can also be significant. Resources, different levels of care, diverse staffing arrangements and geographical factors also contribute to non-standardised systems across the sector[5].

[4] Department of Health and Ageing 2011. *Technical paper on the changing dynamics of residential aged care prepared to assist the Productivity Commission Inquiry Caring for older Australians*, April, Canberra.

[5] Commonwealth of Australia 2011 *Productivity Commission Inquiry Caring for older Australians*, April, Canberra.

The diverse systems that currently exist in RACFs across Australia include varied medication management processes. Many of the various systems have been responses by the sector to ensure PBS requirements are met while ensuring medication safety. These lead to an array of paper and electronic information flows between the RACF, prescriber and pharmacy. As noted by the Aged Care Association of Australia:[6]

> …the inefficient systems used to administer medicines result in aged care staff, GPs and pharmacists spending considerable time and effort on prescription writing, (including chasing new prescriptions when the current ones expire), owing prescriptions and double handling of excessive paperwork. Clearly this is an area for potential and significant productivity improvement for all three stakeholder groups.

Effective communication between the prescriber, the pharmacist, the resident and the person delivering the medication is integral to the safe and correct prescribing, dispensing and administering of medicines. A body of evidence exists to suggest that this communication can be made safer, and reduce the most common errors of slips and lapses, if it conforms to various safety principles and if processes are standardised[7].

Available data suggests that between 2% to 3% of all hospital admissions from the community relate to medication misadventure. Australian Institute of Health and Welfare[i8] data demonstrates that 30% of the 39,466 resident admissions to acute care in 2008-2009 resulted from adverse medication events. Of these, 73% are estimated to have been preventable. This is a significant national safety and quality healthcare issue.

The Council of Australian Government's 2010 decision[9] to shift all funding and administering of community aged care services to the Commonwealth makes possible better integration and streamlining of services for older people and improvements to the interface between residential aged care and health services such as Home and Community Care (HACC). Interoperability and reduction of information asymmetries between services may improve continuity of care and increase levels of safety[10].

Standardised medication charts in acute and residential aged care settings can improve the quality of medicines information within facilities. Providing common information fields in acute and aged care medication charts can improve the transfer of information from one setting to another through making information flows more consistent and efficient.

The National Residential Medication Chart Project, which commenced on 31 March 2011, will improve the safety of medication management in residential aged care facilities (RACFs) by developing a nationally consistent medication chart for use in RACFs which will be known as the *National Resident Medication Chart* (NRMC). The NRMC is intended to:

1. Define standard requirements for medication charts to be used in RACFs; and

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[6] Aged Care Association Australia (ACAA) 2011, Submission 291 Productivity Commission *Inquiry Caring for Older Australians.* Canberra.

[7] Zhang M. Holman CD. Preen DB. Brameld K. Repeat adverse drug reactions causing hospitalization in older Australians: a population-based longitudinal study 1980-2003. *British Journal of Clinical Pharmacology.* 63(2):163-70, 2007 Feb

[8] Australian Institute of Health and Welfare 2010.*The Burden of Disease and Injury in Australia*

[9] Council of Australian Governments 2010. *National Health Reform Agreement*

[10] Commonwealth of Australia 2010. *A National Health and Hospitals Network for Australia's Future Delivering the Reforms*

2. Facilitate supply and PBS claiming from a medication chart in RACFs.

The NRMC may be in the form of:

a. A nationally standardised paper-based chart;

b. Identification of specifications and standard fields for inclusion on a medication chart; or

c. A combination of both (a) and (b).

The project will be managed by the Commission, funded by the Department of Health and Ageing (the Department) as part of the *Fifth Community Pharmacy Agreement* and governed by funding arrangements between the Department and the Commission.

As an integral component of the broader health and aged care system, the NRMC, while enhancing resident safety through standardisation, will reflect the broader health system through information fields used in other standard medication charts. The chart will be based on current practice mediated by safety principles, and permit administration by different levels and types of staff. Specific fields required for supply and PBS claiming will be incorporated into the design. Proposed changes to Commonwealth and State legislation are required for the medication chart order to be used as a prescription and as a means of PBS claiming[11].

2. Residential aged care facilities medication chart analysis

The *National Residential Medication Chart Project* analysed the types of medication charts currently in use in RACFs nationally and considered the types of medication management systems which currently support them. The following section describes the aim of the analysis followed by the rationale, objectives, sample details, method and findings. The paper concludes with a discussion on translating the findings into the NRMC and recommendations.

Aim

The aim of the medication chart analysis was to collect and classify data on the current types of medication charts and systems in use across a diverse sample of RACFs that was proportionately representative of provider status, geographical distribution, numbers of bed licenses and care level.

Rationale

An analysis of a sample of current RACF medication charts was undertaken to identify the format, fields and design of medication charts that are currently in use and the systems in which they are used. It is critical that development of a standard medication chart for the industry begins from what is commonly in use across the sector, from small, remote and stand-alone RACFs through to RACFs which form part of larger approved provider groups in metropolitan and regional areas. It is important that current and commonly understood

[11] Australian Government 2010. *The Fifth Community Pharmacy Agreement between the Commonwealth of Australia and the Pharmacy Guild of Australia.*

medication chart safety features are translated into the NRMC design and mediated by safety considerations and principles.

Objectives

Objectives of the analysis were to:

- Identify types of medication charts in use in Australian residential aged care facilities and the medication management systems which support them;
- Compare and contrast the format, fields and design of medication charts currently in use in RACFs; and
- Identify the commonly used and understood formats, information fields, duration and designs of medication charts for incorporation into the NRMC.

Sample

The sample was selected from the Department of Health and Ageing's *Aged Care Service List* (as at 30 June 2011) to reflect the current range and distribution of Commonwealth-funded residential aged care approved providers and associated RACFs and to minimise bias in the analysis findings. A diverse sample, in terms of jurisdictional and geographic locations, together with RACF size, ensured the full range of RACFs was reflected.

The sample selection criteria resulted in 82 operational approved providers of residential aged care across each jurisdiction in Australia. The approved providers sampled ranged from stand-alone providers to approved providers with large numbers of RACFs. In total, 1,049 RACFs, or 37.8%, of all operational RACFs were selected. The majority of RACFs delivered both high and low care services, 14.6% delivered exclusively high care services and there was one RACF in the sample that delivered exclusively low care services.

Distribution of approved provider type within the sample aligned with national distribution[12] and reflects overall national distribution. Details of sampled facilities and national percentages are provided in Tables and 1 and 2 below.

Approved provider type	% of total	% included in sample
Religious	27.93%	28.5%
State	6.44%	8.5%
Private	34.97%	31%
Charitable	16.93%	19%
Community	13.74%	13%

Table 1: *Percentage of operational approved provider types nationally compared to percentage included in sample.*

[12] Commonwealth of Australia. 2011. *Report on the operation of the Aged Care Act 1997.* Australian Government Canberra.

Approved provider location	% of total	% included in sample
South Australia	9.3%	6%
Queensland	17.3%	18%
New South Wales	32%	33%
Tasmania	2.8%	3%
Australian Capital Territory	0.9%	1%
Western Australia	8.9%	8%
Victoria	28%	30%
Northern Territory	0.5%	1%

Table 2: *Percentage of operational approved providers' jurisdictional and geographic distribution nationally compared to percentage included in sample.*

Method

Each approved provider was contacted either by email, 'phone, in person through conferences and onsite visits or through other face-to-face meetings. Questions asked by the team related to:

- Type of medication chart used and its attributes; and
- Whether the management of medication was primarily electronic-based, paper-based or a hybrid system.

Classifying the type of medication management system had challenges. For example, RACFs often fax or scan medication charts to medical practitioners for updating and the pharmacists for dispensing changes because the facilities retain the paper copy to record administration of resident medicines. This method is regarded as a paper-based system for the purposes of the analysis. Electronic systems are defined as prescribing and administering process that are completed electronically but supported by paper scripts as required by legislation. Analysis of the uptake or effectiveness of electronic medication management systems is outside the scope of this analysis. Note that specific brand names of charts are not identified but characteristics of charts relevant to the analysis are described.

Data were collated into a spreadsheet and analysed to identify types of current medication charts used in RACFs. A comparison and contrast analysis identified the predominant formats, fields and designs that could inform design of the NRMC. (See *Attachment 1*)

3. Findings

Data analysis concluded that two medication chart types predominated in the 1,049 RACFs sampled for this analysis. Both types had quite different characteristics:

- One type consisted of a hand-written card or paper chart with a prescribing period of six months;
- The other consisted of a combination of computer-generated information with separate signing sheets; and

Data analysis identified 12 charts in total with varying characteristics. These were compared for particular elements related to resident information, dosing information, chart information and chart design.

The management systems supporting the medication charts varied across the sample between electronic and paper-based systems as well as hybrid systems. Anecdotal feedback to the team suggests that a shift to fully integrated e-systems is occurring with the larger providers. However most stated that they were in a transition stage or had just begun the process. Further analysis of e-systems, as stated previously, is outside the scope of this analysis.

Charts varied widely in relation to the central functions of prescribing, dispensing and administering between providers and between RACFs with the same approved providers. Often charts were used for prescribing and dispensing exclusively with separate sheets for administering. In others, a single chart was used for the purpose of prescribing, dispensing and administration. In this instance, faxes and scanned copies of changes to medication from the prescriber were often stapled to the current version of the medication chart until the prescriber had visited the RACF and hand-written the order on the chart.

A further variation found was administration acknowledgements by different levels of staff. Registered nurses (Divisions 1 and 2) signed for individual medicines as given, whereas assistants in nursing (AINs), personal care assistants (PCAs) or care service employees (CSEs) signed for all medicines given at a specific point in time with a single entry.

Access to aged care medication training packages is available for non-registered nurses, such as AINs, PCAs and CSEs[13]. However it is outside the scope of this analysis to consider staff preparedness or the appropriateness of qualifications for staff authorised to administer medicine in RACFs.

Format

The charts included in the sample were consistently A4 size with a white background populated by black text. Minor variations, such as red lines instead of black, were also seen. Charts varied from a single card folded sheet, or card and paper combination stapled centrally, through to single paper signing and prescribing sheets. While the prescribing duration of charts generally ranged from one to three months, two charts, which made up the largest percentage of charts in the sample, had prescribing periods of six months.

The use of colour was common in many medication charts. Various colours were used to denote specific times of medication rounds (e.g. breakfast, lunch and dinner). Some charts deviated from the white background for non-regular dose medicines. For example, and in some charts, green denoted PRN medicines and ‘phone-ordered medicines, a blue background denoted antibiotics and short term/non-packed medicines and a gold background denoted warfarin.

Of the paper charts examined, 36% had completely hand-written resident information, prescribed medicines and administration signatures. The remaining can be classified as being hybrid as they had pre-populated, computer-generated information that included resident information and medicines prescribed. Staff administration signatures remained

[13] Community Services & Health Industry Skills Council *Provide Assistance with Medications in Aged Care.* Community Services and Health Training Package Certificate IV

handwritten. Only one chart in the sample can be considered electronic with fully integrated computer-generated fields and electronic administration signatures.

The number of regular prescription medicines fields provided on each chart ranged from 5 through to 18 with a mean average of 10.7. The majority of charts had sections for packed and non-packed medicines clearly delineated. However, non-prescription medicines were often listed in the prescribed section of the charts with the result that a large number of spaces, and active charts, were required for each resident.

Resident information

Of the charts examined, 100% had resident identification fields that included formal resident name, date of birth and known allergies. Other identification fields varied in frequency and location and included resident age at the time of charting, resident photograph, URN/MRN/Medicare number/entitlement numbers and resident vaccination status. Often this information was located on a pre-printed sticker attached to the chart. In 70% of charts, there were no fields for noting special considerations such as cognitive impairment, swallowing difficulties or language barrier, despite the significant risk these factors posed to resident medication safety.

Only 16% of charts had a field for preferred name of resident although identity and name are closely aligned concepts[14]. The resident's sense of self may hinge on a preferred name that they have used in their interaction with others for many years, or a resident from a non-English speaking background may adopt an Anglicised name as their preferred name[15].

Only 25% of the charts sampled had a field for sex or gender. This is inconsistent with the four widely accepted international identifiers of gender, name, date of birth and address[16]. Gender may also assist identification of residents whose names are non-gender specific or who have names from culturally and linguistically diverse backgrounds[17].

RACF details

The RACF name was consistently identified on charts while the RACF address and contact details were less frequently identified as was the room number where a resident resided. As stated previously, address of an individual is considered one of four internationally accepted identifiers used to confirm individual identity and may be particularly important for residents in RACFs which use pharmacy services serving many RACFs.

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[14] Commonwealth of Australia 2011. *Improving the Integrity of Identity Data: Recording a name to establish identity, Better Practice Guidelines for Commonwealth Agencies*

[15] National Archive of Australia http://www.naa.gov.au/collection/explore/migration/index.aspx

[16] Commonwealth of Australia 2006. Australian Standard *Australian Healthcare Client Identification (5017-2006).*

[17] Australian Health Minister's Advisory Council, July 2009. *Health care Identifiers and Privacy: Discussion paper on proposals for legislative support.*

Dosing information

The majority of charts documented commencing and ceasing dates for prescription medicines, the name of the drug, dose, time and route for administration. Commencement date of the chart was used in all but one chart and a picture of the medication was commonly seen on computer-generated charts. While the prescriber's signature remained a feature on hand-written charts, the name of the prescriber was only visible in 36% of charts.

All charts had designated spaces for PRN medicines. Surprisingly, not all charts had space allocated for 'phone orders, nurse-initiated medicines or short-term orders. Variable dose orders were often charted in the short-term section of medication charts or written on separate sheets. This was particularly the case for insulin where the blood glucose level was charted on a separate sheet with amount given, time and signature. Anti-Parkinsonian medication also presented some challenges given its frequent dosing regimes outside the regular dosing times of other medicines. One chart had a specific page for the administration of anti-Parkinsonian medication.

Prescriber and dispenser details

The prescriber's name field was mostly located alongside the resident identification fields. However the prescriber's contact details were rarely provided. Signature fields were provided and were completed for each medication prescribed on the hand-written charts. Pharmacy name and contact details fields were provided in 50% of the charts sampled. Pharmacy signature fields occurred in 30% of charts sampled. No approved prescriber numbers were listed although they are not required currently and available on the paper prescription.

4. Discussion

Data analysis shows that the aged care sector currently relies heavily on a variety of paper medication charts for the delivery of medication to residents. Variation occurs in the type of charts used across individual RACFs and within those belonging to a single provider. Although many of the charts sampled were typed or computer-generated by the dispensing pharmacist from prescriber scripts, the majority of medication administration was noted with a signature on a paper-based chart, regardless of the type of packaging or system used. One RACF was using a fully integrated electronic system for prescribing, dispensing and administering medicines to residents including electronic administration signatures.

The majority of charts analysed share common fields for prescribing, dispensing and administering medicines that support safe use of medicines. Inconsistencies in information and differences in the location of information can be reduced by retaining common, existing fields and providing additional fields to meet information gaps identified. In particular, including fields for attributes related to resident identification and the individual resident's special considerations related to consumption of medicine will potentially reduce the risk of error and resident harm.

The following discussion details the specific fields that exist on current charts and which should be retained for safe prescribing, dispensing and administering of medicines in RACFs. In addition, current gaps identified in this analysis related to resident medication

safety suggest there are standard fields that need to be included in the NRMC. A brief discussion of PBS claiming and medication chart (or paperless) prescribing then follows.

Common information fields identified in RACF medication charts

Currently there are common information fields in the majority of charts used in RACFs that provide a baseline for safe use of medicines although with some variation between approved providers, individual RACFs and chart design companies. The most commonly used fields are listed below and it is expected that these will be incorporated into the NRMC. A discussion following this section is based on issues identified in the analysis and notes suggestions for the development of further fields to improve safe use of medicines in RACFs via the NRMC.

Following is a table listing the common currently used information fields and the percentage of charts containing the field.

	Information field	**Percentage of charts**
1.	RACF name	75%
2.	Resident name	100%
3.	Resident date of birth	100%
4.	Resident identifier (MRN,URN)	66%
5.	Resident photo	75%
6.	Previous allergies and adverse drug reactions (including drug name and type of reaction)	100%
7.	Name of resident's doctor	100%
8.	Date chart commenced	58%
9.	Regular medicines (prescription)	100%
10.	PRN medicines	100%
11.	Variable dose medicines	41%
12.	Once-only (stat) medicines	58%
13.	'Phone ordered medicines	83%
14.	Nurse-initiated medicines	66%
15.	Short term medicines	66%
16.	Medicine commencement date	91%
17.	Medicine cease date	75%
18.	Medicine name and dose	100%
19.	Medicine administration route	83%
20.	Medicine administration time (frequency)	100%
21.	Prescriber name	33%
22.	Prescriber signature	75%
23	Pharmacy name	50%
24.	Pharmacy contact details	50%
25.	A4 size	100%

5. Medication chart issues

1. Resident identification

Identification of residents in RACFs presents particular challenges. Unlike other health settings[18], wrist bands are not worn for identification purposes and medicines are predominately given at meal times when residents are not in their rooms. Staff and residents from culturally and linguistically diverse (CALD) backgrounds may have difficulty confirming resident identity. The AIHW (2010) reports that around 10% of all residents in RACFs speak languages other than English[19]. This is particularly problematic if the resident also has a dementia-related disease as residents frequently revert to their first language as the disease progresses. This is significant in the context of RACFs and not only for CALD residents, because 59% of all residents in RACFs have a diagnosis of dementia[19] and residents with cognitive impairment are often unable to identify themselves effectively. Residents experiencing speech difficulties due to stroke also require multiple identifiers.

Preferred name

Identity and name are closely aligned concepts and the resident's sense of self may hinge on a preferred name that they have used socially for many years. Australian citizens are legally entitled to use a preferred name without formal process and many people establish social footprints based on preferred name through interactions with others. RACFs have a primary responsibility to establish and maintain a robust identity management system that serves the RACFs needs and also the needs of residents. The use of a preferred name enables residents to verify who they claim to be and minimises risk of error identity in the use of medicines. A preferred name may be based on any number of preferences including a derivative of a name such as Jack, rather than John, a person from a non-English speaking background may adopt an Anglicised name as part of their social identity and many individuals use their middle name as their preferred name. For example a person named Edward Paul may have been called Paul since childhood rather than Edward. As required in Commonwealth guidelines (REF required), "perhaps the most important factor in individual's choice of name is the need to establish trust and confidence in their interactions with others… [and] where known, any preferred name/s should be recorded preferably in a separate field."

Photographs

Photographs are commonly used to identify residents because names are rarely unique and may have many variations. Two or more people can have exactly the same name. Identifying a person solely on name risks the integrity of records and services provided to individuals. The use of a photograph in addition to preferred name and gender provide more robust resident identification. Anthropometrics such as height and weight can be difficult to ascertain in RACFs given the physical disability of many. Weight is also variable

[18] Australian Commission on Safety and Quality in Health Care 2010 *Draft National Safety and Quality Health Service Standards*

[19] Australian Institute of Health and Welfare 2010a. *Residential aged care in Australia 2008–09: a statistical overview.* Aged care statistics series no. 31. Cat. no. AGE 62. Canberra: AIHW.

given resident co-morbidities in RACFs[20] and not a consistent anthropometric measure for resident populations.

Recommendation 1: **Incorporate the following resident identification fields to reduce resident identification error: formal name, preferred name, date of birth, gender, identifier (such as MRN, URN), room number, known allergies and previous adverse drug events, and a recent photograph.** **In addition, incorporate a field for known resident communication barriers such as cognitive impairment and primary language other than English.**
The use of formal name, date of birth and room number could be strengthened by the addition of additional resident identifiers such as preferred name, recent photograph and gender. These identifiers are consistent with those used in Home and Community Care (HACC) services and the National Inpatient Medication Chart (except for a photograph). In addition, a field for noting communication barriers, such as cognitive impairment and primary language, will enable staff administering medicines to identify more readily the correct resident for medicines administration by identifying issues with confirmation of resident identification. Consistency of such information may also support the movement of accurate resident information from one health setting to another.

2. Variable dose medicines

Error rates related to variable dose medicines, such as warfarin and insulin, are significant in RACFs because of the high incidence of cardiovascular conditions requiring anticoagulation therapy and insulin-dependent diabetes mellitus[21] [22]. A standard medication chart should include separate, specific sections for prescribing variable dose medicines, as well as separate sections for high-risk variable dose drugs such as warfarin and insulin, because of the need to link prescribing to laboratory results or as a reducing protocol. If these agents are recorded in a regular medication section, there is no designated area to record drug levels and if they are ordered in a once-only ordering section, the risk of omission error is increased.

A warfarin section should enable documentation of both the *International Normalised Ratio* (INR) target range and INR results to facilitate dosing decisions[23]. Insulin therapy, particularly for residents on a sliding scale, also requires documentation of blood glucose level (BGL) results and range to inform dosing decisions[24]. Other variable dose drugs, such as digoxin, gentamicin and steroids, will also need to be accommodated.

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[20] Egle Perissinotto, Claudia Pisent, Giuseppe Sergi, Francesco Grigoletto and Giuliano Enzi for the ILSA Working Group. Anthropometric measurements in the elderly: age and gender differences. *British Journal of Nutrition* (2002), 87, 177–186

[21] Australian Institute of Health and Welfare 2010.*The Burden of Disease and Injury in Australia*

[22] Peterson, GM and Bereznicki, L, Therapeutic catch 22 - Warfarin use in the elderly, Australian Pharmacist, 29, (3) pp. 246-250. ISSN 0728-4632 (2010) [Professional, Non Refereed Article]

[23] Australian Commission on Safety and Quality in Health Care 2011 National Inpatient Medication Chart Local Management Guidleines.

[24] Rozich et al 2004. Standardisation as a Mechanism to Improve Safety in Health Care. *Joint Commission Journal on Quality and Safety,* January 2004, Vol 30. No1.

Recommendation 2: **Incorporate separate, specific fields for warfarin, insulin and for other variable dose medicines.**
Separate, specific fields for warfarin, insulin and for other variable does medicines, such as in the *National Inpatient Medication Chart*, are recommended to minimise error with these high risk medicine classes. The fields will enable documentation of prescribing information in close proximity to pathology results such as INR (for warfarin) and BGL (for insulin) and therapeutic ranges as documented by the general medical practitioner for resident safety.

3. High frequency dose medicines

Medicines that require multiple doses to maintain therapeutic levels present particular issues in terms of space required for administration on medication charts. For example, anti-Parkinsonian medicines manage the early motor symptoms of the disease and are administered as closely as two hour intervals. The frequency of administration leads to difficulties in using the regular dose medication section of the charts analysed in the sample. It is estimated that there are over 5,500 RACF residents with Parkinson's disease. Compared to other neurological conditions, Parkinson's disease has the second highest prevalence and number of deaths (exceeded only by dementia)[25].

Recommendation 3: **Incorporate extra time specific fields for high frequency dose medicines.**
Issues related to medicines requiring frequent administration have space implications that will require a number of time specific fields. However these will also need to be considered and discussed further as the project progresses.

4. Special considerations

Primary diagnoses such as stroke, dementia-related Parkinson's disease, developmental disabilities, psychosis and aphasia all affect the safe use of medicines through reduced comprehension, special needs and resident identification. Making available information on whether the resident needs medicines crushed, assistance with communicating and correct positioning or supervision can improve medication safety. Resident communication skills can be compromised by non-English first language and cognitive or physical impairment and can affect medicine safety so should be documented clearly. The AIHW[26] suggests that around 10% of all residents in RACFs speak languages other than English.

[25] Access Economics 2007, *Living with Parkinson's Disease: Challenges and Positive Steps for the Future*

[26] Australian Institute of Health and Welfare 2010a. *Residential aged care in Australia 2008–09: a statistical overview.* Aged care statistics series no. 31. Cat. no. AGE 62. Canberra: AIHW.

This is particularly problematic for effective communication with residents with dementia-related diseases as the residents frequently revert to their first language as the disease progresses. This is significant in the context of RACFs as 59% of residents have a diagnosis of dementia and may not be able to identify themselves effectively and may also resist taking medicines. At least 10 people in every 100 who survive strokes require nursing home care[27] and, of these, most experience swallowing difficulties which require special considerations for safe medicines use. Supervision may also be required for residents with mental health issues and related behavioural episodes such as hoarding medicines, psychosis and delusion.

Recommendation 4: **Incorporate separate, specific fields for special considerations.**
Separate, specific fields need to be developed to record special considerations for safe medication such as primary diagnosis, cognitive impairment, swallowing difficulties, PEG tube in-situ and resistive to medicines.

5. Chart duration and regular prescription medicine spaces

The duration of charts in the sample for this analysis varied, in general from one to three months. Only two charts had a prescribing period of six months although the two were used in the majority of RACFs at 32% and 20% respectively. In total, these two charts equated to 52% of the charts sampled. The average length of stay in RACFs is 147 weeks (approximately 3 years) for permanent residents and 3.4 weeks for respite residents. A longer duration medication chart would facilitate continuity of care, minimise the number of times the general practitioner is required to re-chart ongoing regular prescription medicines and improve version control through a decreased number of charts than is currently seen in RACFs.

Similarly, the charts in this analysis provided fields for charting regular prescription medicines that ranged from 5 in number through to 18 with a mean average of 10.7 medicines. Residents in RACFs typically have large amounts of regular, ongoing medication due to co-morbidities.[28] The provision of a chart with adequate space to record large numbers of ongoing regular prescription medicines would also minimise the number of charts required and again assist in version control.

Recommendation 5: Develop a 3 month chart with space for a minimum of 9 regular prescribed medicines.
Medication charts for a period of 3 months and with a minimum of 9 spaces for regular ongoing prescription medicines would allow an average of 6-12 charts per average length of stay. Three months duration (rather than six months or longer) would enhance

[27] Australian Institute of Health and Welfare 2010a. *Residential aged care in Australia 2008–09: a statistical overview.* Aged care statistics series no. 31. Cat. no. AGE 62. Canberra: AIHW.

[28] Commonwealth of Australia 2011 Productivity Commission Inquiry *Caring for older Australians*, April, Canberra.

continuity of care, minimise repetition of prescribing regular ongoing medicines and support version control through fewer numbers of charts. The re-charting of resident medicines on the NRMC through a 3 month cycle will also contribute to resident safety through effective communication of medicine requirements in a timely manner between prescribers, pharmacy and RACFs.

6. Over-the-counter and other non-prescription medicines

Over-the-counter and other non-prescription items are noted on many medication charts currently in use. The use of one chart to record the administration of both prescription and non-prescription products often results in more than one active chart because of the large number of products used by residents. The Aged Care Standards and Accreditation Agency's newsletter, *The Standard*,[29] recently suggested that RACFs should write all medicines used by residents (including complimentary therapies and nutritional supplements) on the medication chart for monitoring purposes by the medical practitioner and staff who are administering them.

Nutritional supplements are frequently seen in the prescription medicines section of medication charts in RACFs. Under-nutrition in older people is common and is associated with costly adverse health outcomes. Approximately 50% of all residents in RACFs are on nutritional supplements[30]. Monitoring of intake and associated weight variations should be regularly documented in close proximity to nutritional supplement intake to ensure the needs of the resident are being met.

Recommendation 6: Incorporate separate, specific fields for non-prescription medicines.

To preserve space for prescribed medicines and minimise confusion, the NRMC should include separate, specific fields for non-prescription medicines and nutritional supplements. Nutritional supplement information should also be in close proximity to fields specific to supplement intake and ongoing weight monitoring.

7. Self-administering residents

Consideration needs to be given to residents who are self-administering their medicines and how this practice can be captured on the NRMC to ensure health professionals providing care to residents are fully aware of medicines intake.

[29] Aged Care Standards and Accreditation Agency September 2011 Case in point: over the counter medicines. *The Standard.*

[30] Isenring, Elisabeth A. and Bauer, Judith D. and Banks, Merrilyn D. and Gaskill,Deanne (2009) *The malnutrition screening tool is a useful tool for identifyingmalnutrition risk in residential aged care.* Journal of Human Nutrition and Dietetics, 22 (6). pp. 545-550

Recommendation 7: Explore appropriate recording of resident-self administration.
Undertake further exploration to develop solutions for issues associated with the recording of self-administered medicines and signatures confirming administration.

6. Supply and PBS claiming from the medication chart

NRMC and PBS claiming will require fields on the NRMC and that have not yet been developed. It is expected that this will occur in parallel with proposed legislative changes as they are enacted and expected to be finalised by 1 July 2012.

Attachment 2 summarises positions on PBS requirements for the NRMC and includes a list of information fields required for the supply of a PBS or RPBS benefit.

7. Summary

The analysis presented in this paper has identified the types of medication charts currently used in Australian RACFs and their content. The analysis was undertaken to inform development of a national, standard medication chart for use in residential aged care facilities. A comparison and contrast of the medication charts used by a representative sample of RACFs was the basis of the analysis.

Although there is variation in the medication charts used by different RACFs and chart design companies, the existing information fields identified provide a baseline for a national medication chart. However, standard content, design and medication information has the potential to improve the safety and quality of medication management in the sector. This information on existing chart formats and on other national standardisations such as the NIMC, and the importance of including appropriate resident information and attributes, prescriber and dispensing details, medicines information such as dosing requirements and therapeutic ranges, and the required fields for PBS claiming, will contribute to the content and layout of the NRMC.

The NRMC, while enhancing resident safety through standardisation, should fit within the broader health system in terms of the types of fields utilised as standard features for safe use of medicines. Current local prescriber, pharmacists and RACF practices and safety solutions as identified in this analysis need to be considered in the NRMC. The fields required for PBS prescribing await changes to legislation.

Incorporating existing information fields, in addition to the development of new information fields to enhance safe use of medicines and PBS claiming, will result in a NRMC based on current practice and safety design principles that support safe and accurate medication management by prescribers, dispensers and administrators.

Attachment 1

NRMC Medication Chart Analysis

Chart	A	B	C	D	E	F	G	H	1	J	K	L
Resident information												
Age	✓										✓	
Address of RACF				✓					✓			
Allergies	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BMI												
BSA												
Considerations (i.e. crush)			✓	✓	✓	✓						
D.O.B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Diagnosis	✓		✓								✓	
Doctor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Doctor contact		✓		✓	✓	✓					✓	✓
Entitlement numbers	✓		✓			✓					✓	
Facility name	✓	✓	✓	✓	✓		✓	✓			✓	✓
Facility room no.	✓	✓		✓		✓					✓	
Gender/sex	✓								✓	✓	✓	
Height and/or weight	✓					✓						
Identifier (i.e. MRN, CTG, IHIS)	✓		✓	✓	✓	✓	✓		✓	✓		
Medicare number	✓	✓	✓	✓		✓					✓	
Pharmacy name		✓		✓	✓	✓					✓	✓
Pharmacy contact	✓			✓	✓	✓					✓	✓
Preferred name		✓				✓						
Previous medication history		✓								✓		
Resident name	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Resident photo	✓	✓	✓	✓	✓	✓		✓			✓	✓
Vaccination status		✓	✓	✓		✓					✓	
Dosing information												
Cease/change				✓	✓		✓				✓	
End date	✓	✓	✓	✓	✓	✓	✓				✓	✓
Commencement Date	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Date?	✓	✓	✓	✓	✓	✓					✓	✓
Dose/Qty	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Medication name	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Month?	✓				✓		✓					✓
Pharmacist signature		✓	✓						✓	✓		
Picture of medicaiton	✓	✓		✓				✓				
Prescribers name		✓	✓				✓			✓		
Prescribers signature	✓	✓	✓		✓	✓	✓			✓	✓	✓
Route	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Short course	✓	✓	✓	✓	✓	✓		✓				✓
Time (frequency)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Once Only (stat)	✓		✓	✓		✓	✓			✓	✓	
Urgent?		✓	✓									
Chart information												
Date chart commenced	✓			✓	✓	✓		✓	✓		✓	
Date chart printed	✓	✓	✓					✓	✓		✓	
Date reviewed		✓	✓	✓								
Medication review date		✓	✓	✓						✓		

Year	✓	✓			✓							✓
When required (PRN)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Short term	✓	✓	✓	✓	✓	✓		✓				✓
Phone orders	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Nurse initiated	✓	✓	✓	✓		✓	✓			✓	✓	
Antibiotics	✓	✓										
Non packed	✓	✓	✓		✓			✓			✓	✓
Non prescribed/over the counter	✓	✓									✓	
Variable dose (Warfarin/insulin)	✓		✓			✓				✓	✓	
Anti Parkinsonian								✓				
Resident initiated (including complementary)						✓					✓	
Chart design												
A4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Colour	✓	✓	✓	✓	✓	✓		✓		✓		✓
Duration	1mth	1mth	1mth	1mth	6-12mths	6mths	3 mths	1mth	1 wk	1mth	3 mths	6-12 mths
Stapled					✓	✓						
Card and paper stapled	✓				✓	✓	✓					✓
Single paper sheets	✓	✓	✓	✓				✓	✓	✓	✓	
Typed	✓	✓	✓	✓				✓	✓			
Handwritten					✓	✓	✓			✓		
Staff signature	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Separate signing sheet	✓	✓	✓	✓								
Maximum of regular medications	15	15	15	11	8	18	7	12	5	5	8	10

Australian Government
Department of Health and Ageing

PBS requirements for the National Residential Medication Chart

This paper summarises the positions agreed to by a working group consisting of representatives from the Department of Health and Ageing, the Department of Human Services (formerly known as Medicare Australia), and the Pharmacy Guild of Australia.

Background to the Supply and PBS Claiming from a Medication Chart in a Residential Aged Care Facility

The Pharmaceutical Benefits Scheme (PBS) aims to provide all Australians with access to cost-effective and high-quality medicines in a timely, reliable and affordable way.

Over time the PBS has evolved to enable a person admitted to a residential aged care facility (RACF) to access PBS medicines. The regulatory and operational arrangements for the PBS do not, however, entirely take account of the different procedures for medication management in these settings.

A review of the existing supply arrangements of PBS medicines in RACFs was conducted under the Fourth Community Pharmacy Agreement.

The review focussed on achieving extensive input from stakeholders to ensure that solutions identified would be reflective of the operational improvements required.
A primary issue identified by stakeholders relevant to current PBS supply arrangements in RACFs was that:
Under the National Health (Pharmaceutical Benefits) Regulations 1960 a written PBS prescription is required for a PBS benefit dispensed to enable the pharmacist to submit a claim to Medicare Australia and the same information must be written on a medication chart to enable administration of the medicine to the resident/patient when PBS benefits are supplied in RACFs. This is perceived as a duplication of tasks.

There was overwhelming support from stakeholders to eliminate the requirement for a separate written PBS prescription and to use the resident's medication chart (paper based or electronic) as both an order to the pharmacy for the supply of PBS benefit and the record of delivery and administration of the medicine to the resident. This was referred to as the "prescription-less" model.

In addition stakeholders from the RACF sector suggested that the Government should develop a nationally consistent RACF medication chart and this should be used by all RACFs as a condition for using the prescription-less model. All parties (medical practitioners, RACFs and pharmacists) would then need to adopt the new stationery to be part of the process.

During the negotiation of the Fifth Community Pharmacy Agreement it was proposed that the Commonwealth would provide funds for "Additional Programs to Support Patient Services" and the initiative "Supply and PBS Claiming from a Medication Chart in Residential Aged Care Facilities" was included in the list of these programs.

[Reference: "Review of the Existing Supply Arrangements of PBS Medicines in Residential Aged Care Facilities and Private Hospitals" Final Report http://www.health.gov.au/internet/main/publishing.nsf/content/pharmacy-4cpa-reviews]

Required Fields for the NRMC

For the purposes of the *Supply and PBS Claiming from a Medication Chart in Residential Aged Care Facilities* initiative, the National Residential Medication Chart (NRMC) must contain all the elements required for the supply of a PBS or Repatriation Pharmaceutical Benefits Scheme (RPBS) benefit. Note that the table below includes items that are not current mandatory fields, but are included for context.

	Field	Comment
1	**PBS/RPBS**	Required by the *National Health (Pharmaceutical Benefits) Regulations 1960*. Current prescription forms provide fields for the prescriber to indicate if prescription is to be supplied under the PBS or RPBS. For private or non-PBS items, the PBS/RPBS box should be struck out or the prescription should be endorsed as 'non-PBS' or 'private'.
2	**Prescriber's Name**	Required by the *National Health (Pharmaceutical Benefits) Regulations 1960* and all state and territories' legislation. The prescriber name will need to be included for all items prescribed or for each item where the prescriber is not the main prescriber. Main prescriber details must appear and be identified as such on the chart.
3	**Prescriber Number**	A space will need to be provided to record the prescriber number on the chart to facilitate dispensing and claiming by the pharmacist. The prescriber number should be included for all items prescribed; or for each item where the prescriber is not the main prescriber. Main prescriber number must appear and be identified as such on the chart.

4	**Date**	The date of prescribing will be the date the prescriber notated on the medication chart for a particular item. The date of supply will be the date of dispensing by the pharmacist [see page 6 'repeats']. Ongoing therapy and start/stop date fields will be incorporated into the chart for each item prescribed as a mechanism for prescribers to indicate their intention for acute or chronic therapy. The overall NRMC expiry date will be no greater than six months.
5	**Resident's Name**	The name of the resident must match with the name registered on the Medicare/Department of Veterans' Affairs (DVA) card for supply/claiming purposes. Use of 'familiar' names should be considered, but should not replace the name appearing on the resident's Medicare/DVA card.
6	**Date of Birth**	While not mandated in legislation for supply or PBS/RPBS claiming, the inclusion of date of birth on the chart is considered to be a useful feature of existing medication charts.
7	**Medicare and Other Entitlement Numbers**	As is currently the case with PBS/RPBS claims, the resident's correct Medicare card number and any entitlement numbers need to be included in the PBS claim.
8	**Closing the Gap (CTG) [for eligible Aboriginal and Torres Strait Islander residents]**	As is currently the case with PBS/RPBS claiming, the CTG status of a resident needs to be transmitted with a PBS claim. Either a tick box or the prescriber writing "CTG" would be acceptable for each eligible item dispensed and supplied.
9	**Name of Drug**	Inclusion of drug name is a legislative and claiming requirement. The issue of generic and trade names has been accommodated in various ways by proprietary medication charts. Consideration will be given to whether one or both should appear on the NRMC. Use of Australian Medicines Terminology should be considered.

10	**'No Substitution Allowed'**	Brand substitution by pharmacists without reference to the prescriber is permitted for PBS prescriptions where: • the resident agrees to the substitution; • the brands are identified in the Schedule of Pharmaceutical Benefits as being interchangeable; • the prescriber has not indicated on the prescription form that substitution is not to occur; and • substitution is permitted under the relevant State or Territory legislation. Provision for "NO SUBSTITUTION ALLOWED" needs to be incorporated on the NRMC for every item prescribed on the chart.
11	**Directions, Dose and Strength**	The prescriber will indicate their intended medication order as a combination of drug, form, strength, dose and duration. Sufficient information must be included in the prescription for the pharmacist to determine the exact medication (item, form and strength) and dose.
12	**Prescriber Signature**	Required by the *National Health (Pharmaceutical Benefits) Regulations 1960* and all state and territories' legislation. Required for each item ordered on the NRMC. Prescriber name and prescriber number will additionally identify the prescriber.
13	**Endorsement of Prescription**	Pharmacists are required by legislation to endorse a prescription when it is dispensed. Most pharmacists use a prescription duplicate sticker and a coding sticker to fulfil the requirements of this regulation. Pharmacists will be required to endorse each dispensing event that occurs from the NRMC. Consideration will be given to allowing space on the NRMC for endorsement.
14	**Authority Required Prescriptions**	Authority required (STREAMLINED) benefits are permitted for this initiative. The chart will require a field for the prescriber to indicate that the medicine is being prescribed for a PBS-subsidised indication, by writing the appropriate four-digit STREAMLINED authority code. Authority Required (non-streamlined) benefits that require prior approval from the Department of Human Services (DHS) or the DVA will still require a separate authority prescription in addition to recording the medication on the chart.

15	**Receipt of Pharmaceutical Benefit**	There is not a finalised position on whether the receipt of a pharmaceutical benefit will be acknowledged on the NRMC or by some other mechanism.
16	**Unique RACF Identifier**	The Residential Aged Care Service Identification number (RACS ID) needs to be recorded on the NRMC and will be required for PBS/RPBS claiming from the NRMC.
17	**Privacy Notice**	Current PBS/RPBS forms contain a 'privacy note' in line with the Information Privacy Principles set out in the *Privacy Act 1988* (Cwth). To facilitate the collection of required information a privacy notice must be included on the NRMC in accordance with existing privacy practices.

Other issues

Repeats

A model for the continued supply of chronic medicines has been agreed, with the basic premise as follows:

- Repeat Authorisation Forms will not be used;
- Items are dispensed as a series of "original" supplies to facilitate supply according to the prescriber's intention, either until an indicated stop date for the item or until the overall NRMC end date;
- Multiple supplies of an item using the same date of prescribing will be allowed for the duration of the chart [note that the overall chart validity period will be no greater than six months]; and
- Prescribers will indicate their medication order as a combination of drug, strength, dose and duration; rather than as a quantity and repeats.

Quantity

While the quantity supplied (eg number of tablets) is needed for a valid PBS Online/CTS claim to be made to DHS, prescribers will not be required to write the quantity on the medication chart. This is subject to legislative change at the Commonwealth level and in all states and territories.

The prescriber will indicate their medication order as a combination of drug, form, strength, dose and duration. If the prescriber fails to specify the duration of supply for an item, a pharmacist will only be permitted to supply one PBS maximum quantity.

The pharmacist will supply and claim for the quantities required to support the prescriber's intentions. This may be less that the PBS maximum quantity in some cases.

If the prescriber indicates their intention for chronic therapy but writes an order that implies a contradictory quantity on the chart, the pharmacist will follow customary practice by clarifying the order with the prescriber.

Duplicate

The policy position is that no duplicate will be required. This is subject to Commonwealth legislative amendments. Pharmacies and RACFs will hold copies of the NRMC, but not in the same sense as a duplicate prescription form.

Multiple prescribers

In considering the potential for multiple prescribers on the chart, the main prescriber's details may be on the chart with space to accommodate other prescribers for each item on the chart.

- **Prescriber's Qualifications**
  The policy position is that qualifications are not required on the chart. This is subject to changes to legislation in some states and territories where prescriber qualifications are required on a prescription. Pharmacists will need to identify the type of prescriber

(medical practitioner, nurse practitioner, etc) in order to choose the correct PBS/RPBS item code.

- **Prescriber's Address**
  The policy position is that the prescriber's address is not required on the NRMC, as DHS can determine this information from the prescriber number. This is subject to legislative change at the Commonwealth level and in all states and territories.

- **Prescriber's Phone Number**
  The policy position is that the prescriber's phone number is not required on the NRMC. This is subject to legislative change in some states and territories where the prescriber's phone number is required on a prescription.

Resident's Address
The policy position is that the resident's address is not required on the chart, as the Residential Aged Care Services (RACS) ID defines the place of residence. At a minimum, in addition to the RACS ID, a logo and/or name of the facility should be present. The NRMC should have the ability for customisation. The full RACF address is not required on the chart but may be useful for pharmacies servicing a number of RACFs using the standard NRMC. This is subject to legislative change at the Commonwealth level and in all states and territories.

Resident Demographic Information
Suggestions for mandatory demographic information could be made for inclusion on the NRMC (e.g. allergies, adverse reactions). Other useful demographic information could be included on other forms such as the Resident Information Sheet/Admission forms etc.

Computer Generated Medication Charts
Minimum standard field requirements and associated processes for computer generated medication charts will be considered during the development of the NRMC. Any computer generated chart must have the same required fields as the NRMC for the purposes of PBS/RPBS supply and claiming.

Electronic Prescriptions
A fully paperless ePrescribing solution will not be possible until legislation enables the use of electronic signatures for PBS/RPBS prescriptions and other policy considerations and requirements.

Individual Health Identifiers
The NRMC may need to incorporate these e-health elements once they become broadly implemented.

Schedule 8 (Controlled) Medicines
No amendments are envisaged to state/territory requirements for the prescribing of controlled substances. In view of this, prescribers will be required to include these items on the medication chart and also complete a separate prescription for these items, whether they are intended to be subsidised under the PBS/RPBS or not. Paperless claims will not be

allowed for Schedule 8 medicines and will be rejected by DHS if not claimed using a valid prescription form.

Retention of Medication Charts

The eligible approved supplier that has claimed a PBS/RPBS item from a NRMC must maintain a paper copy of the NRMC for a minimum period of two years from the date of supply to allow DHS to undertake compliance activity. Note that the two year retention requirement will need amendment to the *National Health (Pharmaceutical Benefits) Regulations 1960.*

Consideration should be given as to how this will relate to requirements for retention of records in RACF.

Version Control

Given that multiple versions of the chart are likely to exist to accommodate information flow between the prescriber, the RACF and the pharmacy, mechanisms for version control should be monitored as part of the chart development and user testing process.

National Inpatient Medication Chart Summary Rationale



Ensuring hospital patients receive the best therapy in a safe and effective manner is a complex process involving many health professionals often working in teams. One critical component of this process is the communication of prescriptions to allow safe and accurate dispensing, administration and reconciliation of medicines. Evidence suggests that communication can be made safer through education of safe prescribing and administration principles and with standardisation of best practice to reduce the potential for errors.

Additional potential benefits in patient safety are derived from:

- Standardisation of best practice throughout the medication management cycle, within and between healthcare organisations; and
- Standardisation of under-graduate, post-graduate and continuing professional education in the medication management cycle.

2a. Key principles

1. When a medication chart is first written up, the patient's name should always be handwritten at the top of the chart by the prescriber. This acts as a double check for pre-labelled charts and reduces the risk of ordering medication for the wrong patient.
2. When subsequent new prescriptions are written, the chart should be checked to ensure it is for the correct patient.
3. A medication chart should include a section for recording adverse drug reaction information. This section should enable documentation of whether a reaction has previously occurred, the nature of the reaction (if one has occurred previously), the date the reaction occurred and the signature of the healthcare professional recording the information. If no previous reactions have occurred, this should be explicitly documented (e.g. 'nil known'). If no information is available about previous reactions (e.g. if the patient is unable to communicate), this should also be documented (e.g. 'unknown'). This section should be clearly visible where most regular prescriptions are written to reduce the risk of inadvertent exposure to a drug to which the patient is allergic.
4. A single chart should include a section for 'once only' and premedication orders so that they are neither on a separate chart nor included with regular orders. This minimises the risk of doses being missed or orders being continued inadvertently, as well as providing a more complete medication history on a single chart.
5. Telephone orders should be discouraged, unless essential due to work practice restrictions (for example, hospitals with no resident medical staff). Where telephone orders are unavoidable, the medication chart should contain a section that facilitates the safe practice of two staff independently receiving and reading back the order to

the prescriber. These orders should allow no more than four doses to be administered before being signed by the prescriber.

6. There should be a section on the medication chart for recording medicines taken by the patient prior to admission, except when a facility uses a dedicated medication reconciliation chart that accompanies the current medication chart. The inclusion of this information on or with the medication chart, or on a dedicated chart, facilitates reconciliation of pre-admission medication with medications prescribed whilst the patient is in hospital and at transfer. It also aids communication of changes to medication regimens made during admission to patients and primary care clinicians.

7. A medication chart must include a specific section for prescribing variable doses of drugs. This section should facilitate ordering and documentation of drug levels, as appropriate, to assist selection of suitable subsequent doses. It is recommended that this variable dose section be on the inside of the chart with other regular orders to reduce the risk of dose omissions.

8. A medication chart should include a specific section for prescribing warfarin. Warfarin is associated with adverse events both through under-dosing and over-dosing. The warfarin section should enable documentation of both the International Normalised Ration (INR) target range and INR results to facilitate dosing decisions. Ideally, warfarin should be prescribed at 4pm to ensure morning results are reviewed and the next dose is ordered by medical staff familiar with the patient's medication management, rather than by 'after-hours' medical staff.

9. A medication chart should have a separate section for 'when required' (PRN) medications in order to distinguish them from medicines that need to be given regularly. The PRN orders should be unambiguous, with clearly defined doses or dose ranges, minimum hourly frequency of administration and a recommended maximum dose in 24 hours, together with the indication for use.

10. A medication chart should include a specific section for nurse-initiated medication, in accordance with state regulations and hospital practices.

11. The chart should encourage prescribing using generic drug names. This is to reduce the risk of duplicate orders of the same drug being made because of unfamiliarity with different trade names. In addition, medication is usually stocked on the ward alphabetically by generic name, therefore generic prescribing facilitates location of the drug.

12. The chart should discourage the use of abbreviations, particularly those known to be error-prone. This reduces the risk of misinterpretation.

13. The chart should facilitate recording of the administration times by the prescriber, based on a hospital agreed standard. This reduces the potential for nurses to misinterpret prescribed administration frequency instructions.

14. The chart should include a section for clinical pharmacist annotation regarding optimal supply and administration. In addition, a section enabling pharmacists to sign the chart following pharmaceutical review facilitates peer review and improves communication with pharmacists covering the same ward.

15. The chart should facilitate dispensing of discharge medication directly from the medication chart, to avoid transcription errors. This may not be applicable for those sites using the PBS for discharge medications or where separate discharge prescriptions are used. In such cases, local procedures should be developed to ensure that transcription errors are minimised and full medication reconciliation at discharge is facilitated.

16. The chart should include a section for prescriber contact details (for example, pager number), so that they can be easily contacted.

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