

Design and uptake of the palliMEDS app

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caring@home is funded by the Australian Government and led by Brisbane South Palliative Care Collaborative.

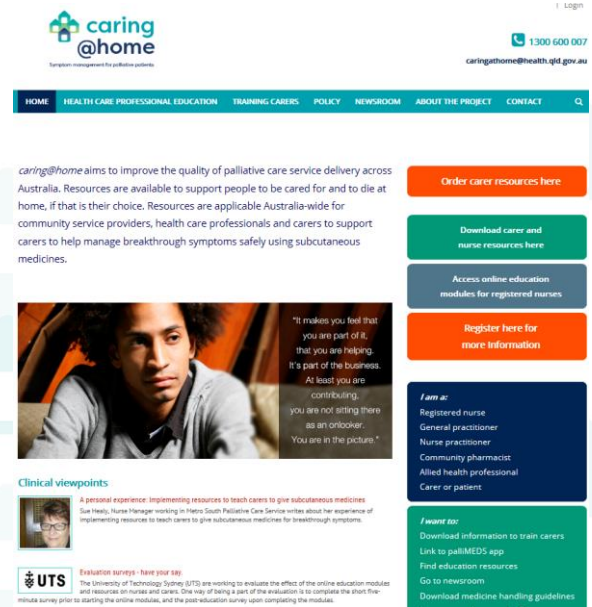
Overview

- Context
- What is palliMEDS and why was it developed?
- Development process
- How to navigate palliMEDS
- Uptake so far



Context

- palliMEDS is integral to *caring@home*
- *caring@home* aims to improve palliative care service capacity through production of resources for health professionals and carers
- *caring@home* is being conducted by a consortium led by BSPCC within Metro South Palliative Care Service
- NPS MedicineWise is part of that consortium

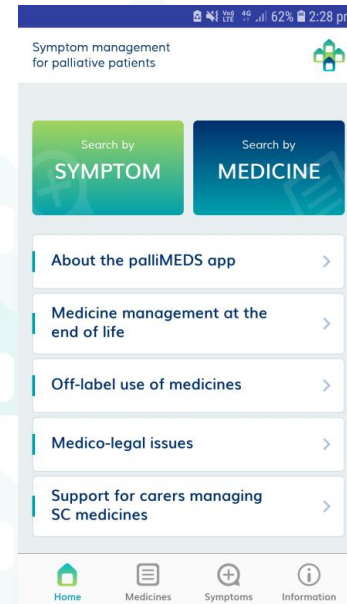


www.caringathomeproject.com.au

BSPCC, Brisbane South Palliative Care Collaborative.

What is palliMEDS?

- Evidence-based palliative care app
- Designed to familiarise primary care prescribers and community pharmacists with medicines commonly used for management of terminal care symptoms
- Based on 9 ANZSPM-endorsed medicines for use in community-based palliative patients
- Incorporates latest Australian guidelines
- Produced by NPS MedicineWise and *caring@home* (launched October 2018)



Why was it developed?



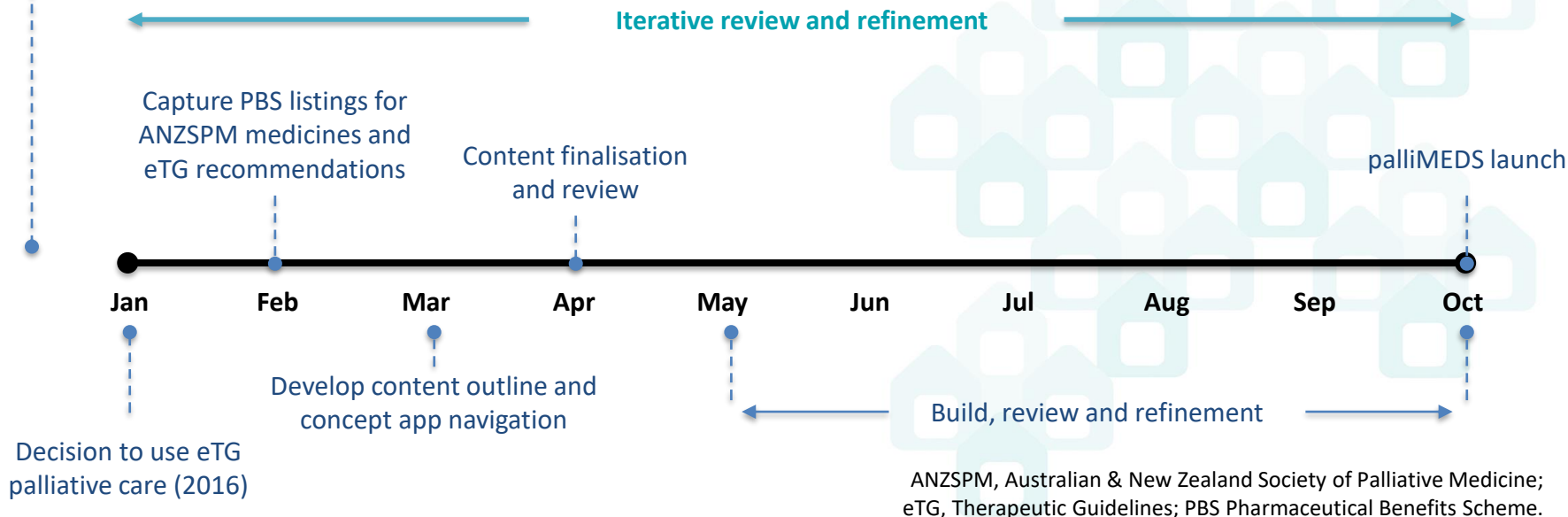
- Primary healthcare prescribers care episodically for people who wish to die at home
- These patients are inherently unstable and symptoms can develop at any time and escalate quickly
- GPs and NPs need to be able to respond quickly, safely and effectively to avoid unwanted suffering and admissions
- palliMEDS provides easy and rapid access to core medicine information

Development:

Process overview



caring@home contracted NPS MedicineWise to help develop guidelines for medicine handling in community settings and an app based on ANZSPM-endorsed medicines



ANZSPM medicine list



- Developed in 2015 by expert consensus under direction of ANZSPM
 - Cost
 - Ease of use and storage
 - Safety and efficacy
- Appropriate for dying patients unable to swallow
 - Pain
 - Dyspnoea
 - Nausea and vomiting
 - Agitation and delirium
 - Respiratory secretions

Palliative Care Symptom Management Medications for Australians Living in the Community

A consensus-based list of medications suitable for use in the community for the management of terminal symptoms

| MEDICATION | CONCENTRATION | PACKAGED as |
|---|-----------------------|--------------------------|
| Clonazepam liquid* (oral drops) | 2.5 mg/mL | 10 mL bottle (2.5 mg/mL) |
| Clonazepam injection* | 1 mg/mL | box of 5 ampoules |
| Fentanyl citrate injection** | 100 µg/2 mL | box of 5 ampoules |
| Haloperidol injection | 5 mg/mL | box of 10 ampoules |
| Hydromorphone injection | 2 mg/mL | box of 5 ampoules |
| Hyoscine butylbromide (Buscopan) injection*** | 20 mg/mL | box of 5 ampoules |
| Metoclopramide injection | 10 mg/2mL | box of 10 ampoules |
| Midazolam injection** | 5 mg/mL | box of 10 ampoules |
| Morphine sulphate injection | 10 mg/mL AND 30 mg/mL | box of 5 ampoules |

Notes:

* Non-PBS unless for seizure control

** Not on the PBS

*** PBS streamlines authority 6207 for use in patients receiving palliative care.

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This table must not be altered without the prior written consent of ANZSPM. Updated 11 April 2018.

caring@home is funded by the Australian Government and directed by Brisbane South Palliative Care Collaborative.

ANZSPM



ANZSPM, Australian & New Zealand Society of Palliative Medicine.

PBS listings

| Medicine | Brands with TGA PI available | Also with ANZSMP route | Also with ANZSPM concentration + pack size | Also with a PBS listing |
|-----------------------|------------------------------|------------------------|--|-------------------------|
| Clonazepam | 2 | 1 | 1 | 1 |
| Fentanyl | 16 | 6 | 3 | 0 |
| Haloperidol | 3 | 1 | 1 | 1 |
| Hydromorphone | 3 | 1 | 1 | 1 |
| Hyoscine butylbromide | 4 | 2 | 2 | 2 |
| Metoclopramide | 11 | 3 | 3 | 1 |
| Midazolam | 10 | 10 | 9 | 1 |
| Morphine sulphate | 15 | 2 | 2 | 1 |

ANZSPM, Australian & New Zealand Society of Palliative Medicine; PBS, Pharmaceutical Benefits Scheme; PI, product information; TGA, Therapeutic Goods Administration.

Guidelines (eTG)

Focused on 'Terminal care'

- Care in the last days of life (during the deterioration or terminal phase)
- Recommendations for:
 - Pain management
 - Dyspnoea causing distress
 - Respiratory tract secretions
 - Nausea and vomiting
 - Agitation
 - Sedation for refractory distress

eTG also included emergency care presentations

- When there is a sudden change in symptoms requiring a rapid recognition and response to avoid unnecessary suffering
- Recommendations for: Acute severe pain, Acute severe dyspnoea, Acute airway obstruction, Acute severe nausea and vomiting, Acute agitation and altered mental state, Severe haemorrhage, Seizures: emergency treatment

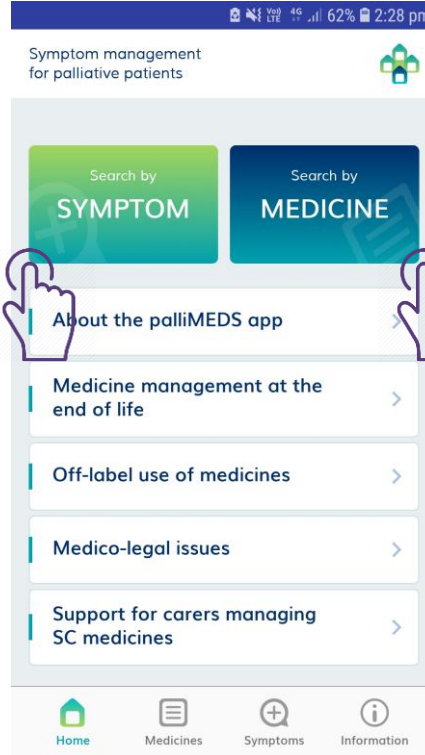
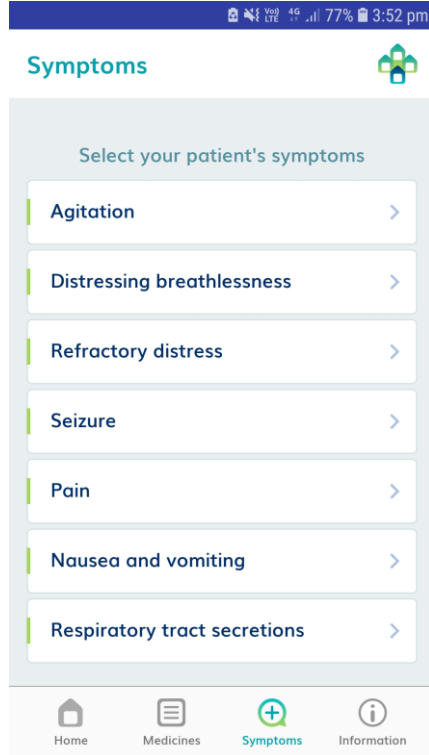
eTG also included ongoing palliative care

- Recommendations for: Pain management, Symptomatic relief of dyspnoea, Nausea and vomiting, Psychological symptoms, Neurological and neuromuscular symptoms

Expert review

- Iterative review of concept, content, app prototype and final build by NPS MedicineWise and *caring@home*
 - Critical review of content organised by Liz Reymond (*caring@home*)
- Contribution and critical review of medico-legal issues by Australian Centre for Health Law Research, Queensland University of Technology
- Content/app prototype shared with health professionals with expertise or special interest in palliative care

palliMEDS navigation



Navigation example

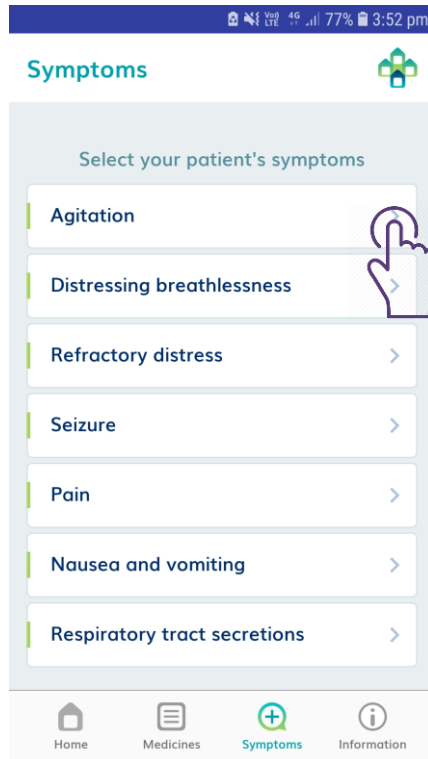
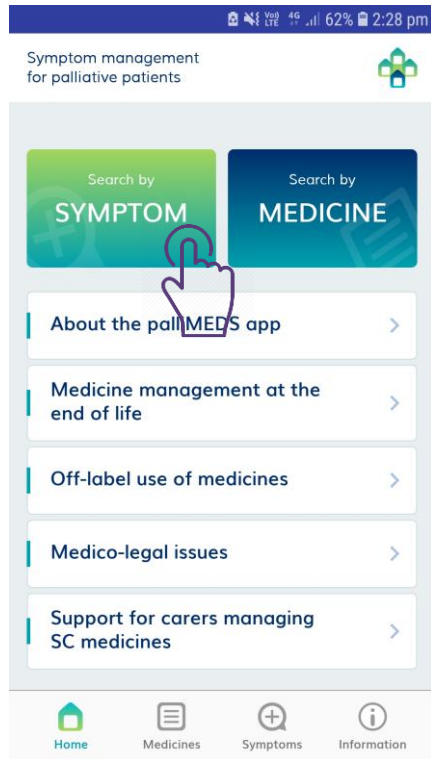
Search by symptom



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Symptom management for palliative patients



Navigation example

Search by symptom



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Symptom management for palliative patients



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Clonazepam liquid (oral drops) and injection¹⁻⁶

Symptom: [Change >](#)
Agitation

Doses Medicine info **Symptom info** TGA-PBS listings

Anticipatory prescribing

Anticipatory prescribing or prescribing for intermittent symptoms of agitation, in patients not taking benzodiazepines:

- 0.2 to 0.5 mg sublingually or subcutaneously, 2-hourly as required.

Notes:

- For anticipatory prescribing, monitor response and adjust dose and frequency as required. Review therapy after three doses, or sooner if there is no response to treatment.

Regular prescribing



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Clonazepam liquid (oral drops) and injection¹⁻⁶

Symptom: [Change >](#)
Agitation

Doses **Medicine info** Symptom info TGA-PBS listings

- For patients already taking an oral benzodiazepine but unable to swallow, consider changing to subcutaneous or sublingual clonazepam, or subcutaneous midazolam.
- Seek specialist advice without delay if a patient appears to be distressed and is not responding to treatment despite adequate doses.



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Clonazepam liquid (oral drops) and injection¹⁻⁶

Symptom: [Change >](#)
Agitation

Doses Medicine info **Symptom info** TGA-PBS listings

- Common at the end of life.
- Patients may be restless, unable to get comfortable, and may pluck at the air or bed sheets.
- May be due to discomfort, pain, delirium, emotional distress, medicine toxicity, changes in metabolism, or withdrawal effects from medicines, alcohol, nicotine or illicit drugs.
- Keep patients in a calming environment, and look for potential underlying causes of agitation (eg, urinary retention, faecal loading, uncontrolled pain).



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Clonazepam liquid (oral drops) and injection¹⁻⁶

Symptom: [Change >](#)
Agitation

Doses Medicine info Symptom info **TGA-PBS listings**

ANZSPM-endorsed medicine

Clonazepam

- Oral liquid: 2.5 mg/mL (10 mL bottle)
- Injection solution: 1 mg/mL (pack of 5)

TGA-approved brands

Rivotril

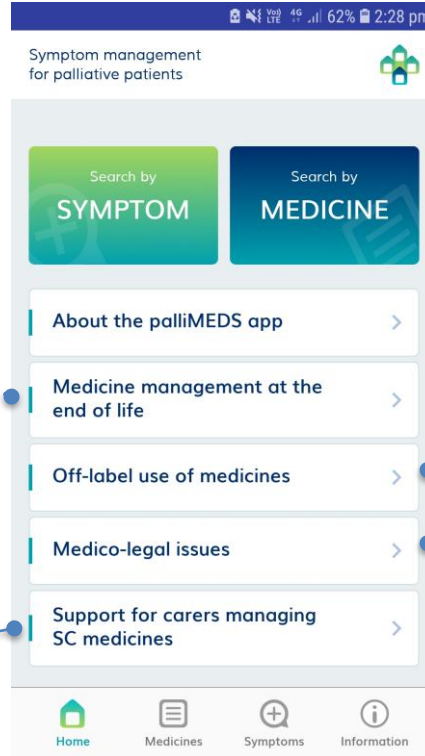
PBS listings

Oral liquid 2.5 mg/mL

Supporting info

- Key principles of medicine management (prescribing, dosing, administration, monitoring)
- Why should this medicine be continued?

- Colour-coded labels
- Label colours for ANZSPM-endorsed medicines
- Label details
- Essential training of carers



- Quality use of medicines off-label

- The doctrine of double effect
- The doctrine of double effect in Australian law
- Further information

Uptake:

Google Play analytics



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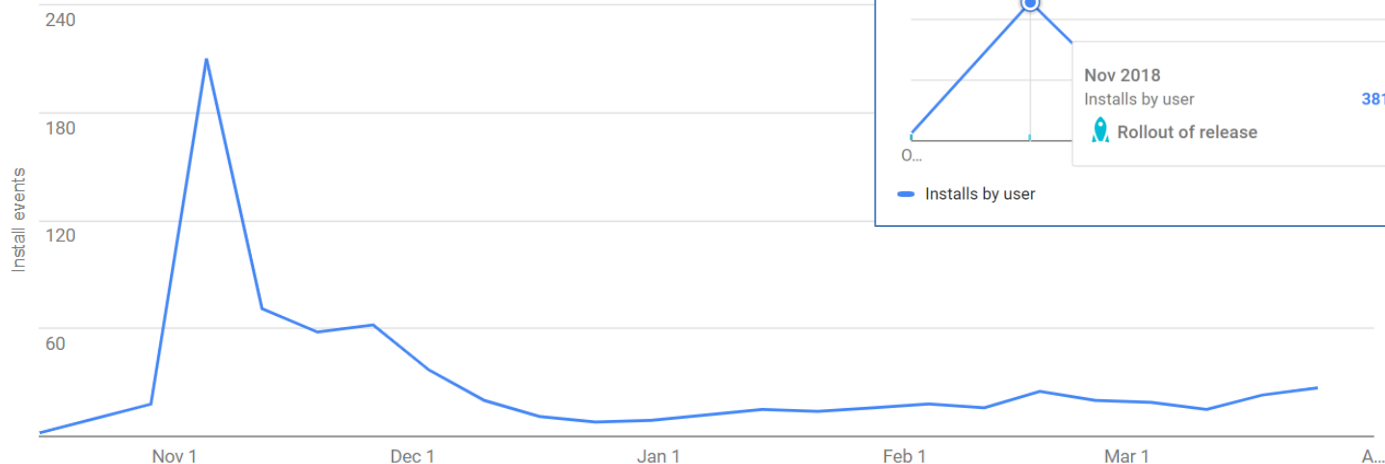


Symptom management for palliative patients

Install events by Android Version

Sun, Oct 21, 2018 — Mon, Apr 1, 2019

Install events — All Android versions



Installs by user ?

646

500

0...

Nov 2018

Installs by user

Rollout of release

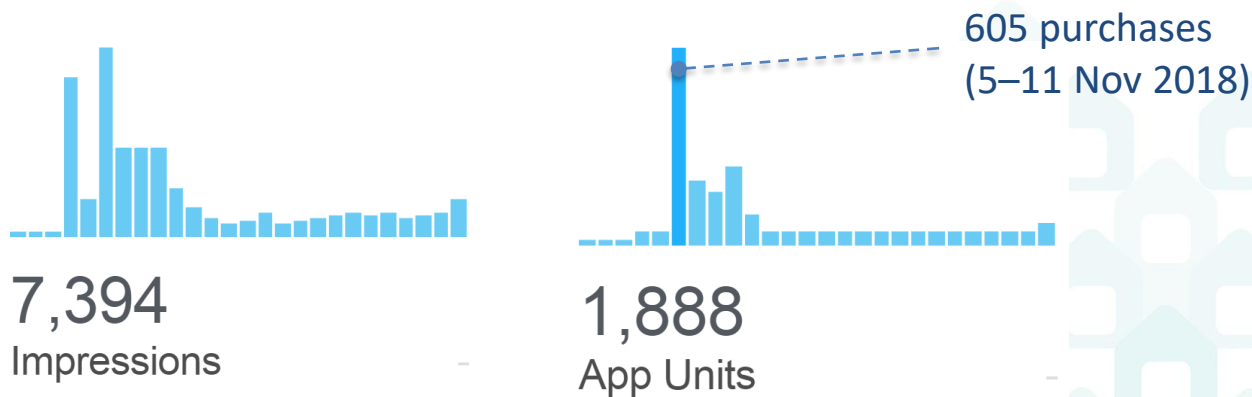
381

Installs by user



Uptake:

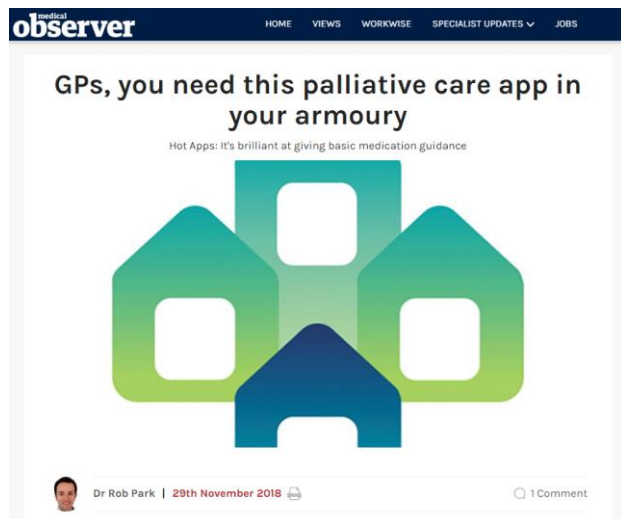
App Store analytics



| | App Store search | Web referrer | App referrer | App Store browse |
|-------------|------------------|--------------|--------------|------------------|
| Impressions | 53% (392,000) | 7% (553) | 1% (69) | 39% (285,000) |
| App Units | 68% (129,000) | 25% (472) | 3% (51) | 4% (74) |

Uptake:

5-star review



Pros: 'Contains everything a GP needs'

Cons: 'None'

Verdict: 'Five stars (must have now)'

'...it's brilliant at giving basic guidance on dose, route and frequency for those less commonly encountered medicines and situations'

'It also includes further information that a GP may need...'

'...even highlights the ever-important, but oft-neglected, carer support'

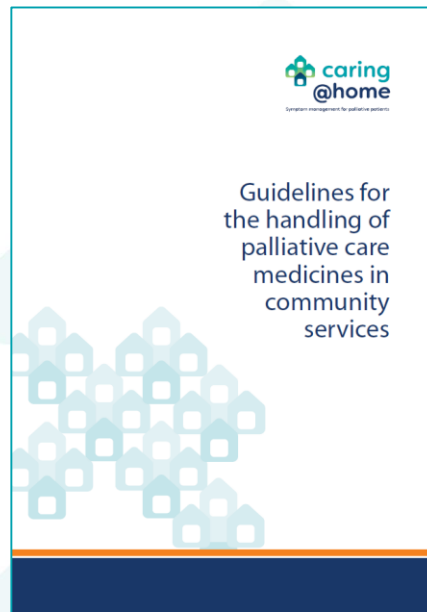
'This app is now a permanent fixture on my smartphone device'

'If you are a GP, you should definitely add this to your app armoury'

Guideline development

Background

- Developed by NPS MedicineWise, for *caring@home* project
- Provide consensus-based approach to the handling of palliative care medicines by community services
- Considers jurisdictional legislative requirements, policies and guidelines across all Australian states and territories
- Endorsed by Palliative Care Australia



PalliativeCare
AUSTRALIA

Guideline development

Expert review

ACT: ACT Health Protection Service and Calvary Healthcare

NSW: NSW Poisons Information Centre

NT: Medicines and Poisons Control,
NT Department of Health

QLD: Medicines Regulation and Quality,
QLD Department of Health

SA: SA Health

TAS: Department of Health and Human Services

VIC: Drugs and Poisons Regulation,
Department of Health and Human Services

WA: Medicines and Poisons Regulation Branch,
WA Department of Health

Ntl: Palliative Care Australia



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Symptom management for palliative patients

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Many thanks to all those who have contributed to the making of palliMEDS and the Guidelines