

## Evaluation of a hybrid paper–electronic medication management system at a residential aged care facility

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### Accessory Publication: Clinical significance of medication errors

#### Table 1. Classification criteria

The clinical significance of a medication discrepancy is based on both the likelihood and the potential severity of an adverse consequence if doses are either missed or administered incorrectly (e.g. wrong medication, wrong dose) for a typical aged care resident (84 years old, frail, multiple comorbidities, prescribed nine regularly scheduled medications and at least one ‘p.r.n.’ medication)

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Highly significant
Moderate to high likelihood of a high-severity adverse consequence <sup>A</sup>
Moderately significant
Moderate to high likelihood of a medium-severity adverse consequence <sup>B</sup>
OR
Low likelihood of a high-severity adverse consequence
Low significance
Any likelihood of a low-severity adverse consequence <sup>C</sup>
OR
Low likelihood of a medium-severity adverse consequence

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<sup>A</sup>A ‘high-severity adverse consequence’ is defined as any adverse consequence that could cause major resident discomfort or harm OR that may require either medical attendance or admission to hospital.

<sup>B</sup>A ‘medium-severity adverse consequence’ is defined as any adverse consequence that could cause mild to moderate resident discomfort or harm OR that may require telephone consultation with a medical practitioner.

<sup>C</sup>A ‘low-severity adverse consequence’ is defined as any situation other than those listed above.

**Table 2. List of medicine classes and risk classification**

Note: errors related to discrepancies between the general practitioner (GP)-signed medication chart and the paper back-up medication administration chart are treated as lasting <24 h because these are only used temporarily when the computer system is unavailable. BPSD, behavioural and psychological symptoms of dementia; p.r.n., *pro re nata* (when required); NSAIDs, non-steroidal anti-inflammatory drugs

Medicine class	Risk category
Amiodarone	Moderate if >24 h, otherwise low
Analgesics, opioid (e.g. morphine, oxycodone, buprenorphine)	High
Analgesics, other (e.g. paracetamol, NSAIDs)	Moderate
Acid-suppressing medications/antacids	Moderate if >24 h or p.r.n., otherwise low
Anticoagulants	High
Anticonvulsants	High if >24 h, low if <24 h and indication = pain, moderate if <24 h and indication is seizure disorder or BPSD
Antidepressants	Moderate if >24 h, otherwise low
Antidiarrhoeals	Moderate
Anti-emetics	Moderate
Antihistamines	Moderate if >24 h or for p.r.n. use, otherwise low
Anti-infectives, oral or ocular	High if >24 h, otherwise moderate
Anti-infectives, topical	Moderate if >24 h, otherwise low
Antiparkinsonian medications	High
Antipsychotics	Moderate
Antiplatelet drugs	High if >24 h, otherwise low
Betahistine	Low
Benzodiazepines	Moderate, unless <24 h AND p.r.n. for insomnia (low)
Bisphosphonates, strontium	Moderate if >7 days, otherwise low
Bronchodilators	Moderate
Carbimazole, propylthiouracil	Moderate if >24 h, otherwise low
Cardiovascular medications (including diuretics) except amiodarone and lipid-lowering drugs	Moderate
Cholinesterase inhibitors, memantine	Moderate if >24 h, otherwise low
Cold, cough and flu medicines	Low
Complementary medicines of minor or unproven clinical benefit (e.g. glucosamine, krill)	Low
Colchicine	Moderate
Corticosteroids, inhaled	Moderate if >24 h, otherwise low
Corticosteroids, oral	High if >24 h, otherwise moderate
Glaucoma medications	Moderate
Hypoglycaemics, oral (except sulfonylurea group)	Moderate if >24 h, otherwise low
Hypoglycaemics, oral (sulfonylurea group only)	High if >24 h, otherwise moderate
Immunomodulators and antineoplastics	High if >24 h, otherwise moderate
Insulin	High
Laxatives	Moderate if >24 h, otherwise low
Lipid-lowering medications	Low
Lubricant eye drops	Low
Mineral supplements (e.g. potassium, magnesium etc.)	Moderate if >24 h, otherwise low
Pyridostigmine (for myasthenia gravis)	High
Sulfasalazine	Moderate if >24 h, otherwise low
Thyroxine	Moderate if >24 h, otherwise low
Topical analgesics, steroids etc. (not anti-infectives)	Low
Urate-lowering medications (e.g. allopurinol)	Moderate if >24 h, otherwise low
Vitamin supplements (e.g. vitamin D, thiamine)	Low