

3.3 Percentage of medication orders that include error-prone abbreviations

Purpose

This indicator assesses the effectiveness of processes that encourage clear and unambiguous communication of medication orders.

Background and evidence

One of the major causes of medication errors is the use of potentially dangerous abbreviations in prescribing.¹ An abbreviation used by a prescriber may mean something quite different to the person interpreting the prescription. Abbreviations may not only be misunderstood but can also be combined with other words or numerals to appear as something altogether unintended. Although using abbreviations may seem to be a timesaving convenience, use of abbreviations does not promote patient safety.²

The Institute for Safe Medication Practices (ISMP) and the US Food and Drug Administration (FDA) have recently launched a campaign to help eliminate use of error-prone abbreviations in prescribing.³

Key Definitions

Error-prone abbreviations relevant to this indicator, and their acceptable alternatives, are outlined below:

Error-prone Abbreviation	Intended Meaning	Why?	What should be used?
µg, mcg or ug	microgram	Mistaken as 'mg'	microgram
U or u	unit	Mistaken as the numbers '0' or '4', causing a 10-fold overdose or greater (eg 4U seen as '40' or 4u seen as '44'). Mistaken as 'cc' so dose given as a volume instead of units (eg 4u seen as 4 cc)	unit
No leading zero before a decimal point (eg .5mg)	0.5mg	Mistaken as 5mg if the decimal point is not seen	Use zero before a decimal point when the dose is less than a whole unit
Trailing zero after decimal point (eg 1.0mg)	1mg	Mistaken as 10mg if the decimal point is not seen	Do not use trailing zeros for doses expressed in whole numbers
qd or QD	every day	Mistaken as 'Qid', especially if the period after the 'q' or the tail of the 'q' is misunderstood as an 'i'	daily
o.d. or OD	once daily	Mistaken as 'right eye' (OD-oculus dexter), leading to oral liquid medications administered in the eye. Can also be mistaken for BD (twice daily)	'daily', preferably specifying the time of the day, eg 'morning', 'mid-day', 'at night'

Continued next page

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Data collection for local monitoring

Recommended sample selection: A random sample of current inpatients. Random means each patient has an equal chance of inclusion in the audit. Adult, paediatric and neonatal patients should be included.

Recommended sample size: The following sample sizes are recommended based on the number of beds in the hospital:

Number of beds in hospital	Sample size
150 or more	20% of current inpatients
30 - 149	30 current inpatients
Less than 30	All current inpatients

Collecting a larger sample where possible will increase the sensitivity of the data.

Recommended methodology: Review of medication charts. All medication orders on all current medication charts should be included in the review.

Data collection for inter-hospital comparison

This indicator may be suitable for inter-hospital comparison. In this case, definitions, sampling methods and guidelines for audit and reporting need to be agreed in advance in consultation with the coordinating agency.

References

1. Sentinel Event Alert: Issue 35 - January 25, 2006. Vol. 2006: Joint Commission on Accreditation of Healthcare Organizations, 2006.
2. Dunn E, Wolfe J. Let go of Latin! *Veterinary and Human Toxicology* 2001; 43:235-36.
3. FDA and ISMP Launch Campaign to Reduce Medication Mistakes Caused by Unclear Medical Abbreviations. *FDA News: Food and Drug Administration and the Institute for Safe Medication Practices*, June 14, 2006.
4. Recommendations for Terminology, Abbreviations and Symbols used in the Prescribing and Administration of Medicines. NSW TAG Safer Medicines Group, 2006.
5. Medication Safety Self Assessment for Australian Hospitals: Institute for Safe Medication Practices (Adapted for Australian use by the NSW Therapeutic Advisory Group and the Clinical Excellence Commission), 2007.

Indicator calculation

$$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$$

Numerator = Number of medication orders that include error-prone abbreviations

Denominator = Number of medication orders in sample

Limitations and interpretation

This indicator does not measure the use of error-prone abbreviations other than those specified. Other error-prone abbreviations should also be avoided.

Further information

The NSW TAG SAFER Medicines Group has developed a comprehensive list of error-prone abbreviations⁴ available from www.nswtag.org.au

The *Medication Safety Self Assessment for Australian Hospitals*⁵ (MSSA) can help identify potential strategies for improvement with this and other indicators. The MSSA encourages development of robust systems for safe prescribing, dispensing, administration and monitoring of medications. The MSSA is available at www.cec.health.nsw.gov.au