

2.4 Percentage of adult patients with community acquired pneumonia that are assessed using an appropriate validated objective measure of pneumonia severity

Purpose

This indicator addresses effectiveness of processes that promote judicious selection of treatment choices for patients with community acquired pneumonia (CAP).

Background and evidence

A careful assessment of pneumonia severity is required in all patients presenting with CAP. A number of CAP scoring systems have been developed as objective measures to stratify patients with CAP according to their disease severity and provide guidance with regard to the most appropriate empirical antibiotic therapy.¹ CAP scoring systems aid clinical judgement, rather than replace it. They should never be used in isolation to decide management and the clinical and social context of the patient must always be considered.¹

Two scoring systems derived from Australian studies are identified in the Therapeutic Guidelines: Antibiotic.¹ The CORB and SMART-COP systems use predictors of mortality and of the requirement for intensive respiratory or vasopressor support. These tools draw attention to the important clinical features that predict clinical deterioration. SMART-COP^{3,4} is generally preferred as it is more accurate and has been extensively studied. CORB may be used as an alternative due to its simplicity and ability to be used in the absence of investigation results.¹

Key definitions

Adult patients with community acquired pneumonia refers to all patients aged 18 years and over who present to the emergency department (ED) or are directly admitted to the hospital with community acquired pneumonia (CAP). Patients presenting to ED may be subsequently admitted to the hospital or transferred back to the community for community care.

A careful assessment of pneumonia severity is required in all patients presenting with CAP.

An appropriate validated objective measure of pneumonia severity refers to use of the CORB² and SMART-COP^{3,4} or other validated objective measures of severity. The tool(s) used for severity assessment may be determined at a hospital level, but should be endorsed by the drug and therapeutics committee or other appropriate committee. Pneumonia severity should be objectively assessed and explicitly documented prior to administration of antibiotics.

Validated means the tool has been tested for inter-rater reliability when used according to specific instructions.

Assessed means there is explicit documentation in the medical record of the tool used and the resultant score.

Data collection for local use

Please refer to the section *Using the National Quality Use of Medicines Indicators for Australian Hospitals* for guidance on sample selection, sample size, measurement frequency and other considerations.

Inclusion criteria: Patients aged 18 years and over presenting to the ED or directly admitted to hospital with CAP.

Exclusion criteria: Nil.

Recommended data sources: Medical records including emergency department records.

The data collection tool for QUM Indicator 2.4 assists data collection and indicator calculation.

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.

Indicator calculation

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

Numerator = Number of adult patients with CAP that were assessed using an appropriate validated objective measure of pneumonia severity

Denominator = Number of patients presenting with CAP in sample

Limitations and interpretation

The objective assessment tools described in this indicator have been validated for use in adults, but are not suitable for use in children. Paediatric patients are therefore excluded from this indicator, although the systematic assessment of pneumonia severity remains important in these patients.

CAP scoring systems assist stratification of pneumonia severity and together with clinical judgment can guide management, including the selection of empirical antibiotic therapy. See *Indicator 2.5: Percentage of patients presenting with community acquired pneumonia that are prescribed guideline concordant antibiotic therapy* for further information regarding appropriate antibiotic therapy. It is recommended that Indicators 2.4 and 2.5 are collected concurrently where possible.

Further information

Medication Safety Self Assessment for Australian Hospitals⁵ (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 medicines. The MSSA is available at www.cec.health.nsw.gov.au

This indicator can be used to assist hospitals in meeting the National Safety and Quality Health Service Standard 1 [items 1.2.1, 1.2.2, 1.5.2, 1.6.1, 1.6.2, 1.8.1], Standard 3 [items 3.1.1, 3.4.1, 3.4.2, 3.4.3, 3.14.3, 3.14.4] and Standard 4 [items 4.2.1, 4.2.2, 4.5.1, 4.5.2].⁹

References

1. Antibiotic Expert Groups. Therapeutic guidelines: antibiotic. Version 15. Melbourne: Therapeutic Guidelines Limited; 2014.
2. Buisson KL, Thursky KA, Black JF, et al. Identifying severe community-acquired pneumonia in the emergency department: a simple clinical prediction tool. *Emerg Med Australas* 2007; 19: 418-426.
3. Charles PG, Wolfe R, Whitby M, et al. SMART-COP: a tool for predicting the need for intensive respiratory or vasopressor support in community-acquired pneumonia. *Clin Infect Dis* 2008; 47: 375-384.
4. Robins-Browne KL, Cheng AC, Thomas KA, et al. The SMART-COP score performs well for pneumonia risk stratification in Australia's Tropical Northern Territory: a prospective cohort study. *Trop Med Int Health* 2012; 17(7): 914-919.
5. Medication Safety Self Assessment for Australian Hospitals: Institute for Safe Medication Practices USA (Adapted for Australian use by NSW Therapeutic Advisory Group and the Clinical Excellence Commission), 2007.
6. Australian Commission on Safety and Quality in Health Care. National Safety and Quality Health Service Standards. Sydney, ACSQHC, 2012.