

Appendix A: Summary of evidence from surveillance

2019 surveillance of Respiratory tract infections (self-limiting): prescribing antibiotics (2008) NICE guideline CG69

Recommendation 1.7: identifying those patients with RTIs who are likely to be at risk of developing complications

Overview of 2019 surveillance methods

NICE's surveillance team checked whether recommendation 1.7 in [Respiratory tract infections \(self-limiting\): prescribing antibiotics](#) (NICE guideline CG69) remains up to date.

The surveillance process consisted of:

- Literature searches to identify relevant evidence.
- Assessing the new evidence against current recommendation to determine whether or not to update the recommendation.
- Consulting on the proposal with stakeholders.

Evidence considered in surveillance

Search and selection strategy

We searched for new evidence related to recommendation 1.7. The search strategy from the guideline was adopted (see CG69 [appendices](#) for further information about the search strategy).

We found 2 studies in a search for observational studies and systematic reviews published between January 2012 and January 2019.

Summary of evidence from surveillance

Studies identified in searches are summarised from the information presented in their abstracts.

Identifying those patients with RTIs who are likely to be at risk of developing complications

Recommendation in this section of the guideline

- 1.7 An immediate antibiotic prescription and/or further appropriate investigation and management should only be offered to patients (both adults and children) in the following situations:
- if the patient is systemically very unwell
 - if the patient has symptoms and signs suggestive of serious illness and/or complications (particularly pneumonia, mastoiditis, peritonsillar abscess, peritonsillar cellulitis, intraorbital and intracranial complications)
 - if the patient is at high risk of serious complications because of pre-existing comorbidity. This includes patients with significant heart, lung, renal, liver or neuromuscular disease, immunosuppression, cystic fibrosis, and young children who were born prematurely
 - if the patient is older than 65 years with acute cough and two or more of the following criteria, or older than 80 years with acute cough and one or more of the following criteria:
 - hospitalisation in previous year
 - type 1 or type 2 diabetes
 - history of congestive heart failure
 - current use of oral glucocorticoids.

For these patients, the no antibiotic prescribing strategy and the delayed antibiotic prescribing strategy should not be considered.

Surveillance proposal

This recommendation should not be updated.

2019 surveillance summary

We identified 2 studies relevant to recommendation 1.7 and that addressed the review question: 'What are the clinical symptoms, signs and risk factors that predict which patients with self-limiting respiratory tract infections (RTIs) are likely to develop complications?'

Acute sore throat

A prospective cohort study (1) of adults (n=14,610) presenting to English GP practices with acute sore throat sought to identify risk of common suppurative complications. A model including the independent predictors of complications (severe tonsillar inflammation and severe earache) offered modest prognostic utility, with neither present in 70% of cases: AUC

(area under the curve) 0.61, 95% CI 0.57 to 0.65. Similarly, prediction rules for bacterial infection occurred in patients with low scores when using Centor criteria and FeverPain measures.

A prospective cohort study (2) of adults (n=28,883) presenting to United Kingdom GP practices with acute sore throat sought to identify predictors of pneumonia. The study identified 4 clinical (radiograph confirmed) characteristics associated (p<0.05) with pneumonia (temperature >37.8°C, crackles on auscultation, oxygen saturation and pulse >100/min) with the positive predictive value of having 1 of these signs was 20.2%, 95% CI 17.3 to 23.1.

Intelligence gathering

When developed in 2008 the guideline recommendation 1.7 was based on evidence from 6 studies. However, the evidence was limited by volume and the range of conditions it covered. Committee expertise and consensus was required to interpret the evidence, fill gaps in the evidence with their knowledge and help identify situations where immediate antibiotic prescribing may be appropriate (see section 2.4 of [the full guideline](#) for further information).

Impact statement

The 2 studies identified at the 2019 surveillance review provide limited evidence on predictors of complications in patients with acute sore throat in primary care. One study identified 4 clinical signs for pneumonia in people presenting with lower respiratory tract symptoms in routine primary care, whereas 1 study of predictors of suppurative complications for acute sore throat in primary care found that history and examination and scores to predict bacterial infection cannot usefully identify those who will develop complications. There remains limited evidence on clinical symptoms, signs and risk factors that can distinguish populations at risk of future complications.

Overall, there was insufficient evidence to amend or update the recommendation 1.7 for patients where the no antibiotic prescribing strategy and the delayed antibiotic prescribing strategy should not be considered.

New evidence is unlikely to change guideline recommendations.

References

1. Little P, Stuart B, Hobbs FD, Butler CC, Hay AD, Campbell J, et al. (2013) Predictors of suppurative complications for acute sore throat in primary care: prospective clinical cohort study. *BMJ* 347:f6867
2. Moore M, Stuart B, Little P, Smith S, Thompson MJ, Knox K, et al. (2017) Predictors of pneumonia in lower respiratory tract infections: 3C prospective cough complication

cohort study. European Respiratory Journal 50(5):11

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