British Thoracic Society community acquired pneumonia guideline and the NICE pneumonia guideline: how they fit together

W S Lim,1 D L Smith,2 M P Wise,3 S A Welham,4 on behalf of the British Thoracic Society

ABSTRACT
The British Thoracic Society (BTS) guideline for the management of adults with community acquired pneumonia (CAP) published in 2009 was compared with the 2014 National Institute for Health and Care Excellence (NICE) Pneumonia Guideline. Of the 36 BTS recommendations that overlapped with NICE recommendations, no major differences were found in 31, including those covering key aspects of CAP management: timeliness of diagnosis and treatment, severity assessment and empirical antibiotic choice. Of the five BTS recommendations where major differences with NICE were identified, one related to antibiotic duration in low and moderate severity CAP, two to the timing of review of patients and two to legionella urinary antigen testing.

BACKGROUND
The British Thoracic Society (BTS) guideline for the management of adults with community acquired pneumonia (CAP) published in 2009.1 In December 2014, the National Institute for Health and Care Excellence (NICE) Pneumonia Guideline (CG191) was released.2 In this overview, the key differences between these guidelines are highlighted and plans for future guidance in this topic area are discussed.

METHOD
Following the release of the NICE Pneumonia Guideline, a small working group was convened under the auspices of the BTS Standards of Care Committee to review the BTS CAP Guideline recommendations taking into account NICE guidance. Each BTS recommendation was mapped to the relevant NICE Guideline recommendation(s), where applicable. Clinical judgement was applied to determine if any ‘major differences’ existed; in this context, the term ‘major difference’ is applied to denote a difference in the details of a recommendation that might mean a change in clinical practice, it does not describe the magnitude of any potential impact on clinical practice.

All BTS recommendations were annotated according to the following three levels: (1) Not included in NICE Guideline—BTS recommendation remains valid, (2) Overlap between NICE and BTS recommendations but no major difference exists—BTS recommendation remains valid and (3) Overlap between NICE and BTS recommendations, some difference exists.

Due to differences in the methods used to grade the levels of evidence in each guideline, it was not possible to compare the strength of recommendations between guidelines.

RESULTS
The NICE Guideline contains 27 recommendations, of which 3 relate to hospital acquired pneumonia, one to lower respiratory tract infections including CAP and 23 specifically to CAP. The BTS Guideline contains 137 recommendations, all relating specifically to CAP. Of these 137 recommendations, 36 overlapped with NICE Guideline recommendations. Major differences with the NICE Guideline were considered to exist for only five BTS recommendations (see table 1).

In particular, no major differences were noted in the recommendations pertaining to the key aspects of the management of CAP: severity assessment, antibiotic choice and timeliness of treatment. Both guidelines recommend the use of:
A. clinical judgement in conjunction with the CURB-65 score (CRB65 score for primary care) to assess illness severity,
B. a single antibiotic as initial empirical therapy in patients with low severity CAP,
C. dual combination antibiotics comprising amoxicillin and a macrolide for patients with moderate severity CAP, and
D. dual combination antibiotics comprising a β-lactamase stable β-lactam (such as co-amoxiclav) and a macrolide for patients with high severity CAP.

In addition, both guidelines recommend that processes are be put in place to allow the radiological diagnosis and treatment of patients with CAP within 4 h of presentation to hospital.

**DISCUSSION**

The larger number of recommendations in the BTS Guideline compared with the NICE Pneumonia Guideline is partly due to differences in the scope of these two guidelines. Some of the areas covered in the BTS Guideline that were not evaluated for the NICE Guideline include the management of specific pathogens commonly associated with CAP, failure to improve and complications related to CAP.

Where the two guidelines overlap, there is considerable harmony. No major differences are evident in relation to the main pillars supporting the management of CAP. The NICE Guideline accordingly updates and strengthens the importance of these aspects of care. The BTS CAP Guideline remains valid with respect to these recommendations as does the BTS CAP Care Bundle, which contains these key elements.

For the five BTS recommendations where major differences with the NICE Pneumonia Guideline exist,
adherence to the NICE Pneumonia Guideline is recom-
mended in preference to the BTS Guideline. With
respect to the duration of antibiotic therapy for low
severity CAP, in the UK many local hospital antibiotic
guidelines currently already advocate a 5-day course as
opposed to a 7-day course. This is in keeping with the
broader objective of avoiding antibiotic overuse. The
NICE Guideline adds valuable evidence-based support
for this action.

The topic of non-invasive ventilation (NIV) or contin-
uous positive airways pressure (CPAP) in patients with
respiratory failure due to CAP was evaluated for the
NICE Guideline and a NICE research recommendation
was made but no practice recommendation. This stance
from NICE is similar to the tone of the BTS Guidelines
which recommends that ‘Neither non-invasive ventilation
(NIV) nor continuous positive airways pressure
(CPAP) support is routinely indicated in the manage-
ment of patients with respiratory failure due to CAP’,
and ‘If a trial of non-invasive support is considered indi-
cated in CAP, it must only be conducted in a critical care
area where immediate expertise is available to enable a
rapid transition to invasive ventilation’.

Many recommendations included in the BTS CAP
Guideline covered topic areas that were not evaluated
for the NICE Guideline. A review of the evidence base
related to these recommendations is desirable in order
to bring these recommendations up to date. In the
meantime, these recommendations remain valid.

To help users clearly identify areas of overlap between
the two guidelines, an annotated version of the BTS
CAP Guideline has been produced and is available on
the BTS website: http://www.brit-thoracic.org.uk

FUTURE DIRECTIONS
The BTS Standards of Care Committee will, at a later
date, decide on the timing and scope of a future update
of the BTS CAP Guideline building on the excellence of
the NICE Pneumonia Guideline. Topics to be consid-
ered for inclusion in future BTS CAP Guideline include
the management of pneumonia associated with viral
pathogens, specifically influenza, and aspiration
pneumonia.

The relative lack of major differences between the
NICE and BTS guidelines might be viewed positively as
demonstrating coherence and consistency in guidelines.
However, it also highlights the relative lack of substantial
innovation and advancement over recent years in the
evidence base related to the clinical management of
CAP. More attention to translational and clinical
research is merited if further improvements in the care
of patients with CAP are to be gained.

Contributors WSL is the author with overall responsibility for the article.
WSL, DLS, MPW and SAW all contributed to the development and drafting of
the paper and all gave overall approval for submission.

Competing interests None declared.

Provenance and peer review Not commissioned; internally peer reviewed.

Open Access This is an Open Access article distributed in accordance with
the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license,
which permits others to distribute, remix, adapt, build upon this work non-
commercially, and license their derivative works on different terms, provided
the original work is properly cited and the use is non-commercial. See: http://
creativecommons.org/licenses/by-nc/4.0/

REFERENCES
1. Lim WS, Baudouin SV, George RC, et al., Pneumonia Guidelines
Committee of the BTS Standards of Care Committee. BTS
guidelines for the management of community acquired pneumonia in
2. NICE. National Institute for Health and Care Excellence, Pneumonia
org.uk/guidance/cg191
3. BTS Care Bundles for CAP and COPD. 2014. https://www.brit-
 thoracic.org.uk/audit-and-quality-improvement/bts-care-bundlesfor-cap-and-copd/
4. Department of Health. UK Five Year Antimicrobial Resistance