Reviewer's report

Title: Epidemiology of Community-Onset Staphylococcus aureus Infections in Pediatric Patients: An Experience at Children's Hospital at Central Illinois

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Reviewer: Kevin Laupland

Reviewer's report:

Mongkolrattanothai and colleagues review their experience with patients admitted to their tertiary care referral hospital in Illinois USA with community-onset S. aureus infections. Their primary objective in doing so is to assist local clinicians in selecting antimicrobial agents. A total of 199 patients are reviewed of which 2/3 have skin and soft tissue infections. They find that MRSA is very common, and occurs in a higher proportion of skin and soft tissue infections. Multidrug resistant MRSA is uncommon. They conclude that patients admitted to their hospital with suspected S. aureus infection should be empirically treated for both MSSA and MRSA.

In general, the paper is well-written. This is an important and topical area.

Major Compulsory Revisions

While I believe that the authors do fulfill their stated objective to assist local clinicians with antibiotic selection, it is not readily apparent whether this paper will be of interest to clinicians working at other institutions. In other words, what general principles or lessons learned can be applied elsewhere? What limitations of the existing literature does this paper address? I recommend that the authors revise the introduction and discussion with emphasis along these lines.

Minor Essential Revisions

1. If a large proportion of cases are MRSA, and that virtually all anti-MRSA agents are active against MSSA, is the recommendation that both an MRSA and MSSA agent be used in combination supported by the available data (at least in non-severe disease)?

2. Given that 199 patients were included, percents could be consistently reported without decimals.

3. The authors chose a definition for invasive disease that is different than what I believe is most widely accepted-namely that invasive disease is defined solely by the isolation of S. aureus from a normally sterile body site. Pneumonia is usually only considered invasive if blood cultures or another site such as pleural fluid is positive. The observation that a patient had a positive culture from gallbladder was not considered invasive is odd. Similarly the three patients with positive blood cultures. Some added detail in the discussion would be nice detailing the choice of definitions and exclusion of these patients. Perhaps the authors could
just classify patients as SSTI and non-SSTI?

4. The addition of denominator data (ie per hospital admissions) to Figure 1 would help to interpret changes.

5. The second paragraph of the discussion is confusing-our data highlights important regional differences.. yet ... not different than other regions of United States.

6. Reporting a systematic search to identify other studies of the same topic would go a long way to convince reader of the novelty (or not) of this study.

7. Much of the data in Table 1 is mentioned in text and footnotes; would prefer to see the data tabulated only if feasible.

8. Table 2 could be deleted without consequence.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I have authored studies in this area. Otherwise no potential conflict of interest.