**Evaluation of WHO recommendations for care of chest-indrawing pneumonia using Pneumonia Etiology Research for Child Health (PERCH) study findings**

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**INTRODUCTION**

Integrated Management of Childhood Illness (IMCI) Pocket Book: 2013 update

**METHODS**

**RESULTS**

**CONCLUSIONS**

Under the 2013 IMCI pneumonia definitions:

- 6% of CIP cases were hypoxic, which approximates how many cases could be incorrectly recommended for home care in settings where pulse oximetry is unavailable.
- Inclusion of nasal flaring improved identification of hypoxemia and dramatically increased the number of children who met severe pneumonia criteria (i.e. recommended for hospitalization).
- 5% CIP cases (home care recommended) experienced poor outcomes, which highlights the need for follow-up care.
- 8% of hypoxic CIP cases without signs of RD experienced treatment failure, which was similar to pneumonia cases with signs of RD and highlights the need for pulse oximetry.
- Age, fever, tachypnea, and wheezing were not good predictors of hypoxemia and cannot be used in place of pulse oximetry.

**TABLE 1.** Treatment failure and poor outcomes by 2013 IMCI pneumonia definitions

<table>
<thead>
<tr>
<th>2013 IMCI chest-indrawing pneumonia (CIP)</th>
<th>Severe pneumonia with signs of RD, but no danger signs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoxic (hospital rec.)</td>
<td>Not hypoxic (home care rec.)</td>
</tr>
<tr>
<td>Percentage (%)</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>Total</td>
<td>50 (100)</td>
</tr>
<tr>
<td>Newly diagnosed HIV+ (in-hospital)</td>
<td>5 (10.0)</td>
</tr>
</tbody>
</table>

**TABLE 2.** Clinical characteristics and potential predictors of hypoxemia among PERCH participants with 2013 WHO chest-indrawing pneumonia

**FIGURE 1.** Classification of PERCH cases into 2013 IMCI Pocket Book clinical definitions

**FIGURE 1.** Findings:

- 6% of CIP cases had hypoxemia with no signs of RD.
- Hypoxemia was 3-4 times more common among cases who met 2013 IMCI severe pneumonia definitions compared to CIP cases.
- The majority of severe pneumonia cases were classified as severe pneumonia due to signs of RD, not danger signs.
- Nasal flaring was the most common sign of RD and was the only severe pneumonia criteria for 42% (733/1750) of severe pneumonia cases.