

## Trends in Obtaining Chest Radiographs and the Diagnosis of Community-Acquired Pneumonia: 2008-2018

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Geanacopoulos et al ([10.1542/peds.2019-2816](https://doi.org/10.1542/peds.2019-2816)) evaluated children with respiratory illness from 3 months to 18 years of age from 2008 to 2018 in 30 hospitals who submit data into the Pediatric Health Information System, a national data repository for free-standing children's hospitals.

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Are you aware that in 2011 the Pediatric Infectious Diseases Society and the Infectious Diseases Society of America (PIDS/IDSA) published guidelines ([10.1093/cid/cir531](https://doi.org/10.1093/cid/cir531)) recommending against obtaining routine chest radiographs (CXR) to confirm clinically suspected community acquired pneumonia (CAP)? As with many evidence-based clinical guidelines, adherence to the recommendations are easier said than done. In the case of diagnosing CAP in emergency facilities,

83% of children still get chest radiographs despite not having an indication according to these guidelines ([10.1093/jpids/piz026](https://doi.org/10.1093/jpids/piz026)). What are the trends in getting CXRs? Geanacopoulos et al ([10.1542/peds.2019-2816](https://doi.org/10.1542/peds.2019-2816)) evaluated children with respiratory illness from 3 months to 18 years of age from 2008 to 2018 in 30 hospitals who submit data into the Pediatric Health Information System, a national data repository for free-standing children's hospitals. The authors found that while CXR utilization declined significantly from 87 to 80% ( $p < 0.001$ ) when CAP was diagnosed, this rate was still high. To no surprise, CXR utilization was associated with the likelihood of pneumonia being diagnosed.

Why do we overuse CXRs performed with suspected CAP? Is it because pediatricians are not familiar with these guidelines? Are we just being overly cautious? What should we be doing differently? To answer these questions, we asked Dr. Todd Florin, an emergency medicine specialist at Lurie Children's Hospital, and Dr. Jeffrey Gerber from Children's Hospital of Philadelphia to provide us with an accompanying commentary ([10.1542/peds.2019-3900](https://doi.org/10.1542/peds.2019-3900)). Drs. Florin and Gerber credit vaccines like the 13-valent pneumococcal vaccine with reducing rates of pneumococcal bacterial pneumonia, potentially reducing the need for CXR over time as observed in this study. The commentary calls for us to consider implementing quality-improvement initiatives to begin to make a dent in the persistently high rates of CXRs still being ordered. The issue of

antibiotic use is not discussed in this study but certainly related to CAP. This too is an area of overuse that could use some quality-improvement stewardship, especially since most CAP is viral. Perhaps the use of biomarkers will make the biggest dent in our ability to predict who needs further diagnostic workup like a CXR or treatment for fever with respiratory signs and symptoms? Hopefully future studies will cough up the solutions to further reduce utilization of CXR and antibiotics in the treatment of pneumonia and other respiratory illnesses.

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