Effectiveness of a Clinical/Billing Alert System vs Education Alone in Assisting Physicians to Correctly Bill for Asthma Nebulization Treatments in the Pediatric Office Setting

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Abstract

Missed billing opportunities can be a negative outcome of the implementation of non-interfaced clinical and billing information systems. We describe a decision support system that prompts physicians with suggested billing options at the point of ordering nebulized medications. A baseline rate of 70% missed billing opportunities decreased to 38% with education alone and to 7% with an alert system. Decision support can best support billing opportunities when automated and appearing at the point of care.

Description

Treatment with a nebulized medication is a common office procedure (CPT 94640) for patients who present with acute exacerbation of asthma in the office setting. An unintended consequence of the introduction of a clinical Electronic Health Record (EHR) in the 36 practice Pediatric Ambulatory Network at The Children's Hospital of Philadelphia was the substantial loss of thousands of dollars of revenue related to missed billing for in-office nebulization treatments. Unlike previous workflows using paper documentation, ordering and billing, electronic documentation and ordering of the medication was separate from the billing for the nebulization therapy, and therefore often missed.

Review of electronic health records of patients where a nebulized medication was ordered for the treatment of acute exacerbation of asthma revealed that there was no corresponding billing record for approximately 70% of those orders. After an extensive educational program, focusing on both the importance of accurate and compliant billing as well as specific methods of how to easily and efficiently bill for these procedures within the EHR, occurrences of missed billing dropped overall to an average of 38% (range: 10% to 54%).

An intervention of a novel decision support system through the EHR, called “Charge Advisor”, was introduced at the point of care of ordering the nebulized medication, in a graduated fashion, to all 36 pediatric practices using the EHR. Within a three month period overall average missed charges dropped to 7% (range: 0% to 15%).

Decision support systems, in addition to educational efforts, are effective and can best support billing opportunities when automated and appearing at the point of care.