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Electronic Clinical Decision Support Tools for Obesity and Gastroesophageal Reflux Disease: the Provider's Perspective

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Letter to the Editor

Electronic clinical decision support (CDS) in the medical record is a potentially powerful tool to improve patient outcomes. Although CDS is increasingly utilized, limited data exist on the utilization, strengths, and drawback of CDS tools in the management of gastrointestinal disease.¹⁻³ We recently described the design and effective implementation of The Reflux Improvement and Monitoring (TRIM) program, which leveraged CDS to provide a 6-month patient-centered weight loss counseling program tailored to patients with gastroesophageal reflux disease (GERD) and administered by trained health educators.⁴ While we reported patient health beliefs regarding TRIM, we did not explore provider perspectives. In this study we aimed to assess provider factors and perspectives related to the CDS and TRIM in order to better inform future CDS implementation.

In this study we first prospectively examined the association between provider level factors and CDS acceptance defined as the percentage of CDS firings that led to a signed referral order between October 2015 and September 2017 in General Internal Medicine (GIM) and Gastroenterology (GI) outpatient clinics at a single academic medical center. Next we evaluated provider satisfaction with and perceptions of the CDS through a survey study. Surveys were distributed in email or paper form to 102 providers in the GIM and GI clinics between March and May 2017. The 13-item survey utilized Likert and modified Likert scales, multiple choice selection, and free response.

Among 2,361 unique triggered CDS alerts for patients with obesity and GERD, 503 (21.3%) were accepted and led to referral orders being placed for TRIM. Female providers were significantly more likely to refer compared to male providers (OR 1.9, CI 1.5–2.3; $p < 0.01$)

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and GI providers were significantly more likely to refer compared to GIM providers (OR 2.5, CI 2.0–3.1, $p < 0.001$). Provider age did not influence likelihood of referral.

Survey response rate was 42% (43/102). The majority of providers (76%) agreed or strongly agreed that TRIM was an effective intervention for their patients with obesity and GERD. Providers were most likely to offer TRIM to patients that displayed high motivation for weight loss, and with more severe obesity. The top reported barrier to referral for GIM providers was a lack of time to consider the CDS, which appeared for them mixed in with other CDS in a dedicated section of the patient chart. When asked what would encourage them to refer more patients to TRIM, 60% of GIM providers selected satisfied patient/provider testimonials, and 40% selected having TRIM referral orders available outside of the CDS. Only 11% believed that having CDS appear more often would encourage them to refer more patients, suggesting that increased CDS must be balanced against the potential for alert fatigue.

This post-hoc analysis provides the following important lessons for future CDS implementation: 1) satisfied patient and provider testimonials should be integrated into program promotion, 2) promotion should be particularly emphasized to providers in departments outside of the implementers' home department, and 3) empowering and educating providers to place referrals outside of CDS is essential.

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Abbreviations:

(CDS)	Clinical decision support
(TRIM)	The Reflux Improvement and Monitoring
(GERD)	Gastroesophageal reflux disease
(GIM)	General Internal Medicine
(GI)	Gastroenterology

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