Stimulant use following the publicity of cardiovascular safety and the introduction of patient medication guides.

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Abstract

PURPOSE:
To explore changes in stimulant utilization and pre-treatment electrocardiography (ECG) screening in response to cardiovascular (CV) safety concerns.

METHODS:
Two source populations were established from Florida Medicaid Fee-for-service beneficiaries between 2001 and 2008: approximately 44,571 newly diagnosed attention deficit/hyperactivity disorder patients and 33,000 new stimulant users. Time-series design and Joinpoint analysis were used to describe monthly trend changes in stimulant initiation, persistence, dosing, and pre-treatment ECG screening.

RESULTS:
Initial and maintenance daily dose declined 6 mg (95% confidence interval [CI] -14 to -1.9) methylphenidate (MPH) equivalent dose from a steady 27 mg after Canada withdrew Adderall XR in February 2005; the trend rebounded to a daily dose of 23 mg, after the remarketing of Adderall XR and a debate in the US over issuing a boxed warning on stimulant CV safety in early 2006. Monthly initiation increased 3.9% (CI -1.0 to 9.1) after the boxed warning debate to 54 per 100 patients per month (CI 44 to 68), but declined 2.4% (CI -3.6 to -1.2) after requirement of medication guides in February 2007. Monthly ECG screening increased 3.2% (CI 2.3 to 4.2) after Adderall XR withdrawal and further increased 13% (CI 4 to 23) after the American Heart Association recommended pre-treatment ECG screening to 40 per 100 patients per month (CI 17 to 48).

CONCLUSIONS:
The first signal of stimulant CV safety concerns was followed by varying responses depending on the outcome measure used, suggesting that patients and physicians responded at different times after the publicity of safety concerns. Clinical consequences of the changes are uncertain.