

Adverse Drug Events Trigger tool

In an effort to bring some standardization and efficiency to the chart-review process, a **two-step** method is used. As the **first step**, a set of screening criteria identifying the presence of certain sentinel words or results in the chart that potentially indicate an adverse event, and therefore warrants further scrutiny. This approach, now known by the term "trigger tool," can be used either manually or with computer automated methods. It has been adapted for a variety of healthcare settings to identify potential adverse events and has been well described in the literature.¹ As part of an AHRQ funded project, our research assistants were able to perform this task competently, using the upper part of the tool shown below.

In the **second step** the "triggered" charts are reviewed further to determine whether an adverse event occurred and, if so, to obtain additional details from charts, such as preventability and severity. In our case physicians and a pharmacist carried out this review step, which relied on their clinical judgment and consensus. They used the lower part of the tool. In our work the reviewers reported the preventable events on a visual format that illustrated the "story" (slide 33 in reference 2)

We have successfully used paper-based and web-based versions of this trigger tool. The Microsoft Access version for the tool is shown the below. This efficient and convenient tool was developed as a consequence of the study of positive predictive values of a much larger number of plausible trigger types in primary care settings.^{1,2}

ADE Trigger Tool

UPN <input type="text"/>	DATE <input type="text"/>	<input type="checkbox"/> Any Trigger	<input type="radio"/> Pre <input type="radio"/> Post
Laboratory Results	<input type="checkbox"/> BUN>80	<input type="checkbox"/> AST>80	<input type="checkbox"/> INR>5
	<input type="checkbox"/> Creat>2.	<input type="checkbox"/> ALT>84	<input type="checkbox"/> TSH<0.3 and Synthroid
Life Events	<input type="checkbox"/> ER Visit	<input type="checkbox"/> Hospitalization (unplanned)	<input type="checkbox"/> Death
	<input type="checkbox"/> Medications D/C'd (one med only)	<input type="checkbox"/> Other Trigger	
			Notes
Detailed Chart Review	<input type="checkbox"/> Chronic disease	<input type="checkbox"/> False Positive	Data Monitoring
Is the trigger medication-related? <input type="text"/>	If N then STOP		Any Data Monitoring issues?: <input type="text"/>
What was the effect on the patient? <input type="text"/>	Severity Categories		Action Taken
Was the event preventable? <input type="text"/>	If Y, at what stage? <input type="text"/>		
Comments: <input type="text"/>			Consensus
			Is there initial <input type="text"/>
			If No, was the disagreement resolved? <input type="text"/>

- Severity Categories:** None/minimal: No change in symptoms, may have abnormal labs.
Mild: Reversible complications, not requiring hospitalization, e.g. brief/mild symptoms (e.g. <1day).
Moderate: Reversible complications, not requiring hospitalization, e.g. ER visit, prolonged symptoms (e.g. 1 day or more).
Severe: Severe or irreversible complications e.g. hospitalization, permanent disability, death.
Undetermined: Not enough information provided in the patient chart to confidently give a severity level.

REFERENCES:

1. Singh R, Wisniewski AM, Fox C, McLean-Plunkett EA, Kee R, Cadzow R, Okazaki S, Singh G. Experience with a Trigger Tool for identifying ADE's among older adults in ambulatory primary care. *Quality and Safety in Healthcare* 2009; 18:199-204.
2. Singh G, Singh R. Experience with a Trigger Tool for detecting ADE's among older adults in ambulatory primary care. [A PowerPoint Presentation](#) at the Agency for Healthcare Research and Quality 3rd Annual PBRN Research Conference. May 16-18, 2007. Bethesda, Maryland.