



OPERATIONAL DEFINITION

MEASUREMENT: Adverse Drug Events (ADE) per 1000 doses

I. Description and Rationale

This measure answers the question: How often do we cause harm to a patient due to the drugs we give them?

Adverse drug events (ADE) is measured as the rate of adverse drug events per 1000 doses. This rate is estimated using a “trigger” tool on a random sample of 20 inpatient medical records per month. The trigger tool was developed from an existing tool used in adult healthcare that was tested and modified by a 14-site collaborative conducted by the Child Health Accountability Initiative (CHAI). This tool consists of 15 triggers that emerged as critical indicators for pediatric ADEs (e.g., Diphenhydramine is frequently used for allergic reactions to drugs). Triggers are defined as occurrences, prompts, or flags found during the review of a medical record that trigger further investigation to determine the presence or absence of a medication error.

II. Population Definition (Inclusions/Exclusions)

All inpatients with a length of stay greater than 2 days, regardless of age.

III. Data Source(s)

Clinical Effectiveness retrospective chart review

IV. Sampling and Data Collection Plan

20 randomly selected inpatients per month with a length of stay greater than 2 days

V. Calculation

Numerator: The number of adverse drug events identified using the trigger tool

Denominator: The total number of doses given to the sample population.

This is reported as a ratio per 1000 doses ($(\text{numerator}/\text{denominator}) * 1000$)

VI. Analysis Plan and Frequency of Reporting

Data is collected monthly. It is reported quarterly for the CCHMC hospital scorecard and monthly for the Patient Safety team and Inpatient CSI dashboard. Monthly data is plotted on a control chart.

VII. Reporting Venues

- Results are reported on the CCHMC Hospital Scorecard under “Health Care Delivery”
- Results are reported monthly on the Inpatient CSI Dashboard
- Monthly control chart is posted on Centerlink under Patient Safety (link entitled, “[Pediatric Trigger Tool Analysis ADE Rate per 1000 Doses](#)”)

VIII. Limitations

IX. Experts/Resources

- www.chca.com
- Classen DC, Pestotnik SL, Evans RS, Burke JP. Computerized Surveillance of Adverse Drug Events in Hospital Patients. *JAMA* 1991;266(20):2847-2851
- Holdsworth MT, Fichtl RE, Behta M, Raisch DW, Mendez-Rico E, Adams A, Greifer M, Bostwick S, Greenwald BM: Incidence and impact of adverse drug events in pediatric inpatients. *Arch Pediatr Adolesc Med.* 2003. 157(1): 60-5
- Rozich JD, Haraden CR, Resar RK: Adverse drug event trigger tool: a practical methodology for measuring medication harm. *Qual Saf Health Care.* 2003. 12:194-200.

X. Revision History

Version	Primary Author(s)	Description of Version	Date Completed
Draft	KR		06/02/2004
Final	AMA	Reformatted/Additional information regarding venues	02/08/2005