

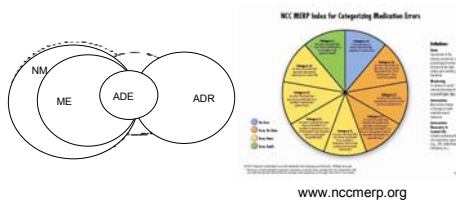
Evaluation of Voluntary Reports and Triggers  
Regarding Adverse Drug Events over Time from a  
Childrens Hospital in Stockholm, Sweden

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Goal of the project

1. Analyze identified adverse drug events (ADE) caused by medication errors (ME) by a pediatric trigger tool...
2. ...and the voluntary reported ADE's at the Karolinska University Children's Hospital, Stockholm, Sweden.

Our definition of an ADE

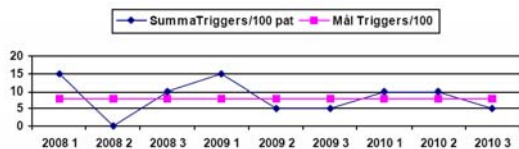


Research method: Triggers

- During the first three months of 2008, 2009 and 2010 a random selected patient population of 20 children per month (0-18 years with a hospital stay of more than two days) were evaluated with the pediatric trigger tool developed by Institute of Healthcare Improvement ([www.ihl.org](http://www.ihl.org)).
- **Example:** Naloxone is an trigger, if naloxone is administrated the chart is evaluated if this is an event caused by a medication error in the handling of opiates.

Results: Triggers

- On average 8 triggers per 100 patients were identified having a probable correlation to drug therapy. Comparable to Takata et al., Pediatrics 2008.



Research method: Voluntary Reports

- From the electronic voluntary report database (HändelseVis) all drug associated events were extracted from the total population.
- All ADEs are broken down into parts of the drug handling process and described over time.

### Results: Voluntary Reports (I)

- 1,6 voluntary report with risks, medication errors and adverse drug events were collected per 100 patients. Adverse events with NCCMERP category of  $\geq E$  accounted for 0,2 reports per 100 patients.

### Results: Voluntary Reports (II)

- The adverse drug events over time describe eg.
  - Wrong reconstitution of vancomycin vanished in 2009 with the introduction of compounded vials.
  - Dosing errors is introduced 2009 with a CPOE system is present lacking pediatric specific tools as dose range checks.

### Conclusion

- The reporting rate is similar to international studies. Recurrent errors in a drug handling process needs a build in memory which continuously help to identify known risks eg.
  - pediatric dose range checking
  - smart pumps
  - pediatric formulary
  - pediatric hospital pharmacy
  - etc.