How to develop and assess innovative medication safety clinical programs

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Background: It is well recognized that medication errors occur and can affect success in treating patients. Programs in Germany using the teacher-practitioner model and an HIV/AIDS service in the USA are few of the clinical programs developed and assessed.

Objectives: In both programs the objective was to 1) determine the incidence medication errors; and 2) describe the nature and cause(s) of errors to guide future programs.

Methods: In 1 program 10 student-paired groups were used as extenders on an internal medicine ward in 3 consecutive 4-hour long blocks using a paper-based system. In another program a daily antiretroviral utilization report was used to identify adults who were receiving ART, and had been admitted to a tertiary care teaching hospital during 2 consecutive months in 2005. Patients’ charts, medication profiles, and medication administration records were reviewed for medication errors. Once identified, etiology and cause were further investigated through interviews.

Results: In the first example, 29 actual drug-related problems were identified in 9 patients, median age of 71, range 51-88. There was an average of three drug-related problems per patient, range 1-5. In the later study 69 combined ART- and (OI)-related medication errors were identified in 20 of 26 (77%) evaluated patients, with 2.7 medication errors per patient with 54% of the errors occurred within the first 24 hours of admission. Inadequate medication reconciliation on admission caused 21 of 37 (57%) admission related errors. The most prevalent error types included missing doses (20%), under-dosing (13%), over-dosing (13%), therapy omission (13%), and drug-drug interaction (12%).

Conclusions: Prospective investigation of potential for medication errors provided in-depth insight into the diverse nature of medication errors, risk factors and potential preventive strategies of the errors. Various approaches can be used based on resources and primary concerns. Maintaining the service and re-evaluation of the changes is possible.

Biography

Snyder is a Clinical Assistant Professor for the University of Florida, coordinator for experiential training and clinical educator in the Internal Medicine. She received her BSc in Pharmacy from the University of Washington in 1994. After moving to Germany in 2000 to finish her Doctor of Pharmacy (PharmD) she received a post at the University of Bonn to assist with the development and evaluation of the Teacher-Practitioner Model. Dr. Snyder has presented and published national and international in peer-reviewed journals. She taught a semester at the University of Jordan and is an active member of the European Society of Clinical Pharmacist Education SIG.

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