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Medication incidents related to technology in a University-affiliated general hospital in 2006-2010

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Introduction: Technology often helps to reduce medication errors. The objective of this study was to assess medication errors in relation to technology used in the prescription or administration of medications.

Methodology: Medication incidents reported during 2006 – 2010 in a University-affiliated general hospital were analysed by a pharmacist and technology-related errors were identified. Technology-related errors were further classified as user and device errors

Results: 1538 medication incidents were reported. 17.3% of all incidents were technology-related, of which the majority were due to user errors (17%) rather than device errors (0.3%). 75.6% of the technology-related errors were prescribing errors, followed by drug administration (14.3%), dispensing (8.3%) and others (1.3%). 10.5% of all incidents were linked to computerised medication order entry, 4.0% to 2-D bar-coded patient identification labels, 1.3% to infusion pump devices, 1.2% to computer-aided medication label generation and 0.3% to other technologies. The leading causes for technology-related errors included incorrect computer entry (49.2%), failure to comply with policies and procedures (39.1%), similar drug name (6.0 %), device fault (1.9%) and lack of supervision (1.1%). 12% of the technology-related incidents were detected after the drug had been administered.

Conclusion: Technology may reduce medication errors but can also introduce new errors, which are mainly due to user mistakes. Therefore, when using technology-related interventions, careful and continuous monitoring is still needed in order to eliminate medication errors.