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Technology-related medication errors – incidence, nature and causes in a tertiary hospital

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Aims of this study
Analysis of technology-related medication errors

Methods
Definitions
Technology-related errors – Any error that involved technologies used in hospitals to reduce medication errors
User related errors – Any technology-related error associated with a human failure
Device related errors – Any technology-related error that occurred due to a technical defect of a device

Study process
• 1538 incidents were reported during the period of analysis (2006 – 2010)
• All incidents were reviewed by a pharmacist and technology-related incidents were identified as follows

Pathway for incident analysis

Results
Incidence of technology-related errors
17.3% of all incidents were ‘technology-related’ and most were due to ‘user errors’

Types of technology-related errors
Most technology-related errors were prescribing errors followed by drug administration and dispensing errors

Technologies involved in technology-related errors
Most technology-related errors were related to computerised medication order entry

Severity of technology-related errors
12% of technology-related errors reached the patient and 6.4% caused some form of harm to the patient

Most common underlying causes and their % contribution to the occurrence of technology-related errors

Conclusions
Technologies have a potential to introduce new errors
Most technology-related errors are related to user errors than technical defects
Common underlying causes were incorrect computer entry and staff not complying to policies and procedures
When using technological interventions, systems need to be improved in a way that errors cannot happen
Staff training and continuous monitoring are also important to minimise technology-related errors