

New study sheds light on medication administration errors leading to death

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Medication administration errors leading to death are common with anticoagulants and antibiotics in particular, according to a new study that analysed incidents reported in England and Wales. The most common

error category was omitted medicine, followed by a wrong dose or a wrong strength. In half of the reported incidents, the patient was aged over 75.

"Our findings show that more attention should be paid to the safe [administration](#) of medication especially when it comes to older people. It is important to make sure that the patient gets the right dose of medication at the right time and in the right way," says Academy of Finland Postdoctoral Researcher Marja Härkänen, the lead author of the article, from the University of Eastern Finland.

The study was conducted in collaboration between the University of Eastern Finland, King's College London, University College London and the NIHR Imperial Patient Safety Translational Research Centre, London. The findings were newly published in *Research in Social and Administrative Pharmacy*.

The data for the study was obtained from the National Reporting and Learning System for England and Wales, where medication administration errors were reported between 2007 and 2016. During this time period, [health care professionals](#) reported a total of 517,384 medication administration errors in the system. The researchers analysed incidents reported as resulting in death, 229 cases in total.

Incidents resulting in death were most often reported on hospital wards (66%) and in patients aged over 75 years. The drug groups most commonly associated with administration errors were [cardiovascular drugs](#), drugs impacting on the nervous system and drugs for treating infections. The individual drugs most commonly associated with administration errors, on the other hand, were injectable anticoagulants, antibiotics and analgesics. Nearly one third of the medication administration errors were omissions, with a wrong dose or a wrong strength as the next most common [error](#) categories.

According to Professor Katri Vehviläinen-Julkunen from the University of Eastern Finland, medication administration errors are common.

"Although all errors do not cause harm to the patient, it is important to work to prevent especially those that do. This requires sufficient human resources and competent staff, as well as technological and digital solutions that promote competence development among staff, and that ensure medication safety."

"While incident report data are subject to under-reporting, under-reporting may be less likely for errors that result in death, and so this study also represents a useful approach to learning from reported medication incidents. It also highlights the importance of preventing the omission of doses, as these were commonly implicated in our data," commented Professor Bryony Dean Franklin from University College London and the NIHR Imperial Patient Safety Translational Research Centre.

"This study demonstrates the vulnerability of the elderly to missed [medication](#) errors and the need for vigilance in avoiding serious consequences for patient safety and quality of care," Professor Anne Marie Rafferty from King's College London concludes.

More information: Marja Härkänen et al. Medication administration errors and mortality: Incidents reported in England and Wales between 2007– 2016, *Research in Social and Administrative Pharmacy* (2018). [DOI: 10.1016/j.sapharm.2018.11.010](https://doi.org/10.1016/j.sapharm.2018.11.010)

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