

# Care home error rate of liquid medicine doses 4 times higher than pills

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Care home residents are more than four times as likely to get the wrong dose of medicine when it is in liquid form as they are when given pills/capsules provided in a dispenser, indicates research published online in *BMJ Quality and Safety*.

Dispensers, known as monitored dosage systems or MDS for short, comprise a tray or cassette with compartments for one or more doses for a particular day or a given time. They are intended to simplify drug rounds for care home staff and cut the risk of mistakes.

But swallowing difficulties mean that some elderly people need to take their medicines in liquid form, while drugs, such as inhalers, injections, [cancer drugs](#), and those requiring refrigeration, cannot be provided in dispensers.

Most care homes therefore usually use two parallel systems of drug administration, say the study authors, who set out to compare the dosing error rates in these systems.

Included in the research were 233 residents in 55 UK care homes, which were selected to provide a representative sample of different sizes, ownership, and type of care offered.

Dosing errors were picked up during the course of two drug rounds for each of the residents and from data collected from error reports from a recent previous study of the same group of care home residents.

Tablets/capsules in dispensers accounted for more than half (53%) of medicines given to the residents, with just under a third (29%) of [pills](#) not provided in dispensers. Around one in nine drugs was in liquid form and around 4% were inhalers. The remainder were injectables/creams/eye-drops.

The results showed that mistakes were more than four times as likely to be made with a liquid medicine as they were with a tablet/capsule from a dispenser.

And the likelihood of a mistake was 19 times higher when using a cream, injection or eye drop, and more than 33 times as likely when an [inhaler](#) was used.

Although the error rate was lower, mistakes were also made with tablets/capsules. The rate was twice as high for tablets/capsules provided in the manufacturer's original packing as it was for pills provided in a dispenser.

Older people are already at much higher risk from drug errors and the subsequent consequences, because they often need to take several medicines for several ailments, and they metabolise drugs differently, say the authors

But although dispensers seem to carry less risk of a dosing error, they are not without their difficulties, say the authors.

They require the manual transfer and checking of pills, which is both labour-intensive and expensive, and this is not easy when several tablets are needed for one compartment, they point out.

But for those medicines that cannot be provided in this way, care home staff need better training in how to administer them safely, say the

authors.

Provided by British Medical Journal

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