

Warning about keeping and storing medicines

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(Medical Xpress) -- Many people keep their medicines in places that may be too hot and humid, or too cold, to keep them safe to use, new University of Otago research suggests.

Professor Pauline Norris from the School of [Pharmacy](#) says undergraduate researchers on summer studentships used data from a previous nationwide study to identify where people kept medicines.

They then placed small devices that take regular readings of temperature and humidity in those places.

Many people reported keeping medicines in handbags and backpacks for

ease of access but Pharmacy student Chong Chi Shen found that bags left in the sun can get very hot quickly and remain hot for long periods of time. In Dunedin on a warm day, the front compartment of one backpack left in the sun reached more than 60 Degrees Celsius.

“These temperatures, particularly those observed in the backpack, will accelerate chemical and physical degradation of many medicines,” says one of the lead researchers Dr. Clare Strachan.

“Of particular concern are proteins such as insulin, which is regularly carried round in backpacks and is likely to degrade within hours at temperatures above 60 °C.

“This can be dangerous. For example, insulin that has been heated too much does not work to lower blood sugar levels in people who need to control their diabetes,” she says.

Temperatures in cars in the sun where medicines were kept were also high - over 50 °C. The study authors are also recommending that people try to avoid leaving their medicines in cars for long periods of time.

Surprisingly to the researchers, the study also found that cargo holds in planes can dip below freezing point on long haul flights, and in this study the temperature fell to -4°C.

This could also be damaging to a range of medicines, such as emulsions, solutions and proteins. Therefore, the study authors recommend that people carry their medicines, particularly liquid and protein medicines such as insulin, with them in the cabin of the plane on long flights, instead of keeping them in checked luggage.

Professor Norris said Pharmacy student Campbell Hewson also found that kitchens and bathrooms were the most commonly reported rooms

for storing medicines; in one bathroom 100% humidity was reached, while a kitchen reached 85% humidity.

Dr. Strachan says excess [humidity](#) could potentially cause chemical degradation or physical changes, which may affect the efficacy, safety or appearance of the [medicine](#).

Provided by University of Otago

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