

# Temperatures of drug storage areas in large animal veterinary practice vehicles in the summer

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## Introduction

Large animal veterinarians carry drugs in storage areas in practice vehicles which are not typically refrigerated. The most common upper limits of storage temperatures for U.S. approved non-refrigerated drugs are 77°F or 86°F. Because ambient temperatures in many locations in the U.S. exceed these temperatures in summer, our objective was to measure storage area temperatures in two distinct geographic locations to evaluate the extent to which manufacturers' recommended storage temperatures are exceeded.

## Materials and Methods

A convenience sample of 12 vehicles from five central Texas practices and 12 vehicles from four south central Nebraska practices was used. Temperatures were recorded in one drug storage compartment in each vehicle from May 15 to September 16, 2013, at 15 minute intervals using self-contained, battery operated temperature recording devices.

## Results

The highest overall temperatures recorded in a storage unit were 130.0°F and 117.9°F in Texas and Nebraska, respectively. The overall mean temperature recorded across all 24 storage units was 84.4°F: 80.4°F in Nebraska and 88.5°F in Texas. In Nebraska, at least one temperature over 77°F was recorded on a mean of 111/124 days and a mean of 63% of total logger readings. In Texas, temperatures over 77°F were recorded on a mean of 123/124 days and a mean of 95% of total logger readings.

## Significance

Temperatures in storage units in participating veterinary practice vehicles exceeded labelled drug storage temperatures a significant portion of the summer of 2013. More research is needed to determine whether these excursions above the manufacturers' recommended storage temperatures alter efficacy of stored drugs.