Medication storage temperatures inside emergency vehicles
A pilot study in a temperate climate country

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Background and importance
Crucial medicines are carried on board of emergency vehicles. Out-of-hospital environnements were shown to expose medicines to extreme temperatures, sunlight and vibrations3,4.

Aim and objective
Determine whether the interior of our local emergency vehicles met room temperature (RT) standards (15 – 25°C).

Materials and methods

Phase 1 MAPPING
48 hours (1 point/minute)
% 2 x 12-hour observation
July 2020
1 vehicle
15 temperatures probes

Phase 2 MEASURING
6 weeks (1 point/10 minutes)
July – August 2020
7 vehicles
6 non-medical vehicles
1 medical vehicle
14 temperatures probes
% 2-4 per vehicle (storage bags)

Results

Phase 1 MAPPING
Mean arithmetic temperature [°C] ± CI 95%
25.8 ± 0.2
Means kinetic temperature (USP-NF) [°C]
25.4 – 26.4
Absolute maximum value [°C]
35.3

Phase 2 MEASURING
% of time during which temperature of vehicle >25°C and >30°C

Mean arithmetic temperature [°C] ± CI 95%
Non-medical vehicle (n=6) 27.7 ± 0.01
Medical vehicle (n=1) 28.4 ± 0.03
Means kinetic temperature (USP-NF) [°C]
Non-medical vehicle (n=6) 27.6 – 28.3
Medical vehicle (n=1) 26.9 – 29.5
Absolute maximum value [°C]
38.0 38.9

References
1. Pictures : Star Graphics (Switzerland)

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