

Why space travel demands a well-stocked cosmic pharmacy

In space, no one can hear you sneeze. But if an astronaut does catch the flu, it can be a major problem. With the nearest Walgreens several hundred kilometers away, every medication an astronaut could possibly need on a space mission must be packed beforehand. It makes designing a pharmacy for space extremely complicated.

On top of that, of course, space itself poses potential medical issues. That extreme environment is known to [warp the human body](#), shift fluids, and [shrink bones](#), among other things. But microgravity can also affect how medications are metabolized.

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To better understand the mysteries surrounding what drugs would be effective for long-term stays in space, [professor Virginia] Wotring designed an iOS app that six crewmembers aboard the ISS volunteered to use for logging their meds in 2017. Every time they took a pill, the astronaut would record the drug name, the dose, the indication for taking the medicine, and whether they thought it worked.

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Medication use, on average, was somewhat more than on Earth, Wotring and [Johnson Space Center's LaRona] Smith found. Sleep was the most common reason for taking a drug, but mild painkillers like ibuprofen were also frequently swallowed. "Most medications were considered partially effective," they wrote... NASA is in the process of adopting a similar protocol so they can better track their cosmonaut's drug needs. Until then, a lot of unknowns remain.

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