

# Study finds diabetes medicine behind false positive urine test

February 27 2024, by Bob Yirka

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A doctor at the Corporal Michael J. Crescenz Department of Veterans Affairs Medical Center, in Philadelphia, found that a patient at the center had experienced a false positive urine test after taking

empagliflozin, an SGLT2 inhibitor, used to treat diabetes.

In a letter to the editor [published](#) in the *New England Journal of Medicine*, Dr. Aaron Schwartz relates that he and his team discovered the [false positive](#) and then tested the impact of storing [urine samples](#) without refrigeration.

In this [case study](#), a patient at the Veterans Affairs Center in Philadelphia reported to his doctor that he had failed several mandatory drug tests as part of his probation obligation, despite 10 months of abstinence. The team at the center contacted their own lab which had also tested samples of urine from the same patient during the same time frame.

They reported finding no evidence of alcohol in the patient's urine. But they did detect glycosuria. Suspecting that it had been produced due to the patient taking the prescribed medicine empagliflozin, Schwartz contacted the probation office and asked how they stored urine samples collected from those on probation. He found that all urine samples were stored at room temperature, but never for longer than 24 hours.

To test their suspicion that empagliflozin was behind the false positive, the doctor and his team collected more urine samples and stored some on a shelf and some in the refrigerator for 24 hours. Testing of the samples showed no evidence of alcohol in the refrigerated samples and false positives on all of those stored at [room temperature](#).

Schwartz explains that the medication caused an increase in both the amount of sugar in the urine and in bacteria levels. The bacteria went to work on the sugar and produced alcohol in the same way that they do when fermenting wine. Schwartz concludes that [city officials](#) need to be made aware of possible medical reasons for false positive alcohol tests to prevent those who have not violated their probation from being accused

of doing so.

**More information:** Aaron L. Schwartz, SGLT2 Inhibitors and False Positive Toxicology Tests, *New England Journal of Medicine* (2024).  
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