STASH, Vol. 21(1) – Characteristics associated with fentanyl test strip use among people who use drugs in Rhode Island

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Fentanyl, a potent synthetic opioid, drives most drug overdose deaths in the United States. In 2023, fentanyl was involved in an estimated 74,702 fatal overdoses. Illicit drugs like heroin and cocaine are often laced with fentanyl, putting people who use drugs (PWUD) at risk of unintentional fentanyl use. Fentanyl test strips ("test strips") are an important harm reduction tool, allowing PWUD to detect the presence of fentanyl in their drugs. This week, STASH reviews a study by Jacqueline E. Goldman and colleagues that investigated PWUD's awareness of and experiences with test strips in one U.S. state.

What was the research question?

What characteristics and experiences are associated with and predictive of test strip use among PWUD in Rhode Island?

What did the researchers do?

The researchers analyzed the baseline survey data of 509 participants enrolled in the Rhode Island Prescription and Illicit Drug Study between September 2020 and February 2023. Participants were adults living in Rhode Island who had used illicit drugs in the past 30 days. They were recruited through advertisements and from syringe exchange programs. Participants reported their demographic information, current and past drug use behaviors and experiences, and awareness of test strips prior to study enrollment. Participants who had previously heard of test strips were asked about their experiences with them. The researchers conducted bivariable and multivariable analyses to identify factors associated with and predictive of test strip use.

What did they find?

Nearly three-quarters of participants (73.9%) had heard of test strips before

enrollment. Among them, half had used test strips. Lifetime test strip use was associated with a history of selling drugs, witnessing an overdose, and administering naloxone to someone who was overdosing (see Figure). Female gender identity and having administered naloxone were predictors of test strip use. Overall, participants who were aware of test strips prior to enrollment were more likely to have previously witnessed or experienced an overdose and administered naloxone. Notably, participants who exclusively engaged in solitary drug use were less likely to have heard of test strips compared to those who used drugs around others, and solitary drug use was not associated with test strip use.

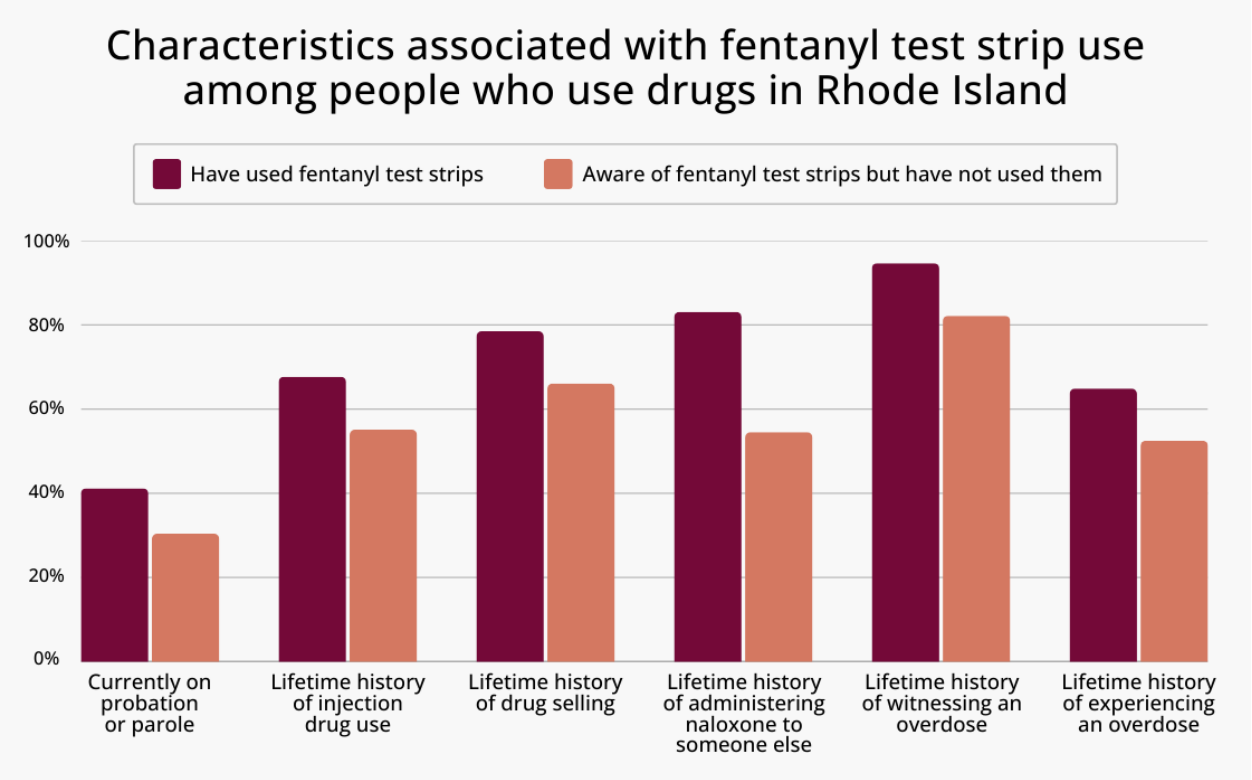

Figure. Characteristics associated with test strip use among PWUD in Rhode Island, comparing those who have used test strips and those who are aware of test strips but have not used them. For example, 78.5% of people who had used test strips had a lifetime history of selling drugs, while 66.1% of people who were aware of but had never used test strips had a lifetime history of selling drugs. All characteristics are statistically significant. Click image to enlarge.

Why do these findings matter?

Fentanyl test strips are an important tool for preventing fatal and nonfatal overdose among PWUD. This study found that the majority of PWUD are aware of test strips, but only half have used them. Certain subgroups of PWUD, like those who exclusively engage in solitary drug use, are at higher risk of fatal overdose but less likely to be aware of and use test strips. More efforts are needed to

inform and educate PWUD about test strips and their benefits. Strategies could include mail-order services and door-knocking programs in neighborhoods with high levels of illicit drug use. Test strips should also be made available in places where PWUD naturally go, like syringe exchange programs and addiction treatment centers.

Every study has limitations. What are the limitations of this study?
Participants resided in Rhode Island (where test strips are decriminalized), and many were recruited from syringe exchange programs. These findings may not be generalizable to states where test strips are not decriminalized, or to PWUD who are not engaged in harm reduction services.

For more information:
Visit the CDC website to learn more about fentanyl test strips and how to use them. If you are worried that you or someone you know is experiencing addiction, the SAMHSA National Helpline is a free treatment and information service available 24/7. For additional self-help tools, visit our Addiction Resources page.

— Kira Landauer, MPH

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