

RAPID REVIEW

Test Strips for Drug Checking

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Key Findings

- Immunoassay test strips are sensitive, low-cost, and simple to use.¹⁻⁵ They require minimal drug residue, return quick results that are easy to interpret, and are well accepted among people who use drugs (PWUD).¹⁻⁵ Test strips may be used as a standalone option, can be offered in combination with other harm reduction strategies⁶⁻⁸, or included as part of a complementary suite of drug checking technologies^{4,9-13}.
- Evidence from a limited number of studies indicated that fentanyl test strip use as part of other harm reduction efforts was followed by an observed reduction in fatal opioid overdoses, and that fentanyl test strip use on its own was perceived by health professionals to reduce fatal overdoses.
- Fentanyl test strip use as part of other services was associated with reductions in reported non-fatal overdoses. Mixed results were observed for the impact of fentanyl test strip use, on its own or as part of other services, on perceived overdose safety among PWUD.
- Fentanyl test strip use, on its own or as part of other services, was associated with increased risk reduction behaviours, with most commonly assessed behaviours among people who use opioids including abstaining from use (e.g., disposing, selling or giving to others, returning to supplier) or using a lower dose than usual.

Scope

- This rapid review addresses the following question: What is the impact of test strips on health outcomes and drug use behaviours related to overdose for PWUD? Health outcomes related to overdose may include fatal or non-fatal drug toxicity (e.g., drug-related emergency department (ED) visits, hospital admissions, etc.). Drug use behaviours related to overdose may include not using drugs alone, having naloxone available, modifying dose or route of administration, or other behaviours.
- This rapid review is related to Public Health Ontario's (PHO's) 2017 [Evidence Brief: Drug checking services as a harm](#)¹⁴ and covers test strip use as a standalone option by PWUD off-site in private settings, test strip use as a standalone option by PWUD or drug checking staff on-site within service settings, or test strip use as part of a broader-scope suite of drug checking technologies.
- The focus of this rapid review is on the use of immunoassay test strips with a drug sample of any type prior to use. These single-use test strips use an immunoassay involving the binding of an antibody with an antigen to detect the presence or absence of a substance, which is presented as a binary result.^{1,2,5,15} The use of immunoassay test strips to detect adulterants prior to drug use is a harm reduction strategy aimed at reducing negative consequences associated with drug use.

The use of immunoassay test strips to detect drugs or adulterants in biological samples (e.g., urine) following drug use is outside the scope of this review. Other types of drug checking kits, such as colourimetric reagents that change colour in the presence of specific drugs, as well as portable or laboratory drug checking technology are also outside the scope of this review.¹⁶ Hereafter, immunoassay test strips are referred to as “test strips” in this rapid review.

Background

The Canadian 2023 [Joint Statement from the Co-Chairs of the Special Advisory Committee on the Epidemic of Opioid Overdoses](#) called for a coordinated public health approach involving a range of actions, including upstream prevention efforts, harm reduction services, reducing stigma, and support for treatment and recovery.¹⁷ Drug checking technology was cited as an example of an action taken to help prevent and reduce harms for PWUD.¹⁷ Drug checking at supervised consumption sites is one of the supportive services for harm reduction authorized by the federal government to contribute to addressing the opioid overdose crisis.¹⁸ From January to September 2023, there were 5,867 accidental apparent opioid toxicity deaths in Canada.¹⁹ Of these, 32% of deaths (n=1,946) occurred in Ontario, including 85% involving fentanyl in the province.¹⁹ Fentanyl and fentanyl analogues continue to be major drivers of the opioid overdose²⁰, and benzodiazepines and xylazine have emerged as frequent co-occurring substances in fentanyl samples²¹. The detection of fentanyl and co-occurring substances in the field is key to harm reduction strategies for mitigating unintentional exposure and overdose with these substances.^{5,21}

Drug checking technologies vary widely in complexity, portability, rapidness, costs, identification of substances, detection limits, and purpose (qualitative vs. quantitative analysis).^{4,5} Studies demonstrated that fentanyl test strips have 87.5%²² to 96.3%²³ sensitivity and 90.4%²³ to 95.2%²² specificity in drug samples. Given the low false negative rates of 3.7% and 12.5%, test strips are considered beneficial and the method of choice for detecting the presence fentanyl in drug samples.^{22,23} Test strips were initially developed for testing biological samples following drug use, such as urine drug screening; however, they also can be used prior to drug use for testing drug samples at the point of use by PWUD, which can allow for broader scale up as part of harm reduction strategies.^{1,2} For example, the Rapid Response Fentanyl Test Strip manufactured by BTNX Inc. was initially only used in urine samples until a subsequent study reported that the test strips also had high sensitivity and specificity for fentanyl when used in drug samples.^{2-4,15} Test strips are sensitive, low-cost, simple to use without requiring extensive scientific knowledge, require minimal drug residue, quick to return results that are easy to interpret, and well accepted among PWUD.¹⁻⁵ Test strips may be used alone, offered in combination with other harm reduction strategies (e.g., naloxone, single-use injection equipment)⁶⁻⁸, or included as part of a complementary suite of drug checking technologies^{4,9-13}. The collection of used fentanyl test strips has been proposed to allow for additional laboratory analysis of recovered substances (e.g., benzodiazepines), which may potentially contribute to more extensive supply-level monitoring.²⁴

Various test strips exist for use with various substances, including fentanyl, benzodiazepines^{13,25}, and xylazine²⁶, and their demand will shift according to the substances that characterize the unregulated drug supply.²⁴ In Ontario, some public health units distribute test strips for these three substances.²⁷ The utility of drug testing strips may vary by population; for example, individuals who are dependent on opioids may use test strips for reasons (e.g., to detect benzodiazepines or xylazine contamination in a sample of fentanyl) that differ from young adults experimenting with unregulated drugs (e.g., to detect fentanyl contamination in a sample of cocaine). The reach of the distribution program for test strips may also impact population level outcomes, if it is available to people who may not have access to other types of drug checking technologies. Given the strong need to mitigate opioid-related harms and support for drug checking as a harm reduction intervention, this rapid review addresses the impact of test strips on health outcomes and drug use behaviours related to overdose for PWUD.

Methods

A rapid review was conducted to facilitate timely response for decision making, feasibility, and to keep the review question within scope.²⁸ An existing, well-done 2022 systematic review of drug checking generally (i.e., not focused solely on test strips) was located in preliminary searching.²⁹ That review featured a comprehensive search strategy and process, and given its very recent publication date and direct relevance, it was used as a key document to identify potentially relevant papers. The original set of 90 papers included in the 2022 review were screened for relevance. In order to update the literature from the 2022 review onward, its search strategy (last updated October 26, 2019) was used by PHO Library Services to design and execute scientific and grey literature searches, limiting the search to English language articles published 2019 to the present. We conducted database searches April 17, 2024, with grey literature searches conducted March 27, 2024. For grey literature searches, 16 search strings were conducted in custom search engines for Canadian Health Departments and Agencies, US State Government Websites, International [outside of Canada] Public Health Resources, and general Google content. A total of 471 results were reviewed by one reviewer, across the 16 search strings. The full search strategy is available upon request from PHO.

One PHO staff member screened search results for relevance with the content lead validating inclusions. Sources published in 2019 and onward were eligible for inclusion if they included: 1) adults who use drugs; 2) immunoassay test strip use for any drug type prior to drug use in drug samples; 3) on- or off-site test strip use as a standalone option for drug checking by PWUD or staff, as part of a broader-scope suite of drug checking or harm reduction services (e.g., with confirmatory laboratory testing), or in comparison to other drug checking technologies; 4) health outcomes related to overdose, such as fatal or non-fatal drug toxicity (e.g., drug-related ED visits, hospital admissions, etc.) or drug use behaviours related to overdose (e.g., not using alone, having naloxone available, modifying dose or route of administration, etc.); and 5) were either primary research studies, systematic searches and syntheses of the literature, or guidelines developed via a literature review or consensus process. Primary studies that presented quantitative results on the outcomes of interest were eligible for inclusion; impacts described in qualitative literature were not included due to the high volume of literature identified for this rapid review. Lastly, sources published in English that provided results from Organization for Economic Co-operation and Development member countries were eligible.

One PHO staff member extracted relevant data. Quality appraisal was conducted for included reviews using the [Healthevidence.org Quality Assessment Tool for Review Articles](https://www.healthevidence.org/quality-assessment-tool-for-review-articles); the methodological quality of a review scoring ≤ 4 , 5 to 7, or ≥ 8 out of a total score of 10 was rated as weak, moderate, or strong, respectively.³⁰ Quality appraisal for primary studies was not conducted; however, quality was assessed according to the study's methodological robustness for elucidating a direct association between test strip use specifically and the outcomes of interest. Specifically, quality considerations for primary studies included: 1) study design; 2) whether drug samples were tested using test strips on- or off-site in the study; 3) whether test strips were distributed or made available as part of the study; 4) whether the measure used to assess the intervention/exposure was specific to test strips alone; and 5) whether the measure was directly or indirectly related to the outcome (e.g., overdose incidence or rate vs. perceived overdose safety; post-test strip result provision, retrospective, vs. hypothetical drug use behaviour). Generally, higher quality primary studies were considered to be those that included a strong study design, on- or off-site drug sample testing using test strips distributed or made available specifically for the study, an intervention/exposure that was assessed using a measure specific to test strips alone, as well as a measure that directly assessed the outcome. The set of included papers was divided between two reviewers who made independent assessments of quality and resolved uncertainties via discussion.

Results

Characteristics of Included Papers

A total of 30 papers, including four review articles and 26 primary studies, were included in this rapid review.

The four review articles included two systematic reviews^{29,31} and two scoping reviews^{32,33}. All four reviews included comprehensive literature searches, with searches ranging from inception of the databases through 2022. The reviews were conducted by research groups in Canada (n=2)^{29,32} and the United States (U.S.) (n=2)^{31,33}; however, all reviews examined multiple jurisdictions and most commonly included studies conducted in Canada, U.S., Australia, United Kingdom, Portugal, Germany, and Slovenia, among other countries. The number of included studies ranged from 6 to 90 across the reviews. In all four reviews, fentanyl test strip use and other drug checking technologies (e.g., fourier transform infrared spectroscopy (FTIR) and mass spectrometry^{31,33}) were investigated. Only one review conducted quality appraisal of their included studies.²⁹ Based on ten quality criteria, one review was rated high in quality (i.e., score of 10)²⁹, two rated moderate in quality (i.e., score of 5 or 6)^{32,33}, and one rated low in quality (i.e., score of 4)³¹.

The 26 primary studies that presented quantitative results on the outcomes of interest included five experimental studies^{9,10,15,25,34} and 21 observational studies (four prospective cohort^{6,8,35,36}, 14 cross-sectional^{3,4,12,13,26,37-45}, two mixed-methods^{46,47}, and one case-study⁷). Study sample sizes ranged from 12 to 1,482 PWUD recruited across a range of settings, for example at harm reduction or substance use treatment sites, EDs, public festivals, and among the general population. Although two studies did not recruit PWUD specifically, these were included because relevant health outcome data about PWUD were reported; one described a rapid public health response involving test strips to a cluster of overdoses⁷, and the other surveyed 592 community pharmacists who sold test strips⁴⁴. The jurisdictions covered across the primary studies included the United States (U.S.) (n=20), Canada (n=2), United Kingdom (n=2), and Mexico (n=2). Of the 26 studies, two reported results from the larger Fentanyl Overdose Reduction Checking Analysis Study (FORECAST), a cross-sectional study conducted in three U.S. east coast cities (Baltimore, Maryland; Boston, Massachusetts; and Providence, Rhode Island)^{3,4}; two other studies reported results from the larger Screening for Adulterants like Fentanyl and Risks of Fentanyl Test Strip Use (SAFeR) study, a sequential exploratory mixed-methods study conducted at four sites in southern Wisconsin, U.S.^{46,47}.

While all 26 primary studies investigated fentanyl test strips, two studies also included benzodiazepine test strips^{13,25}, and one study included xylazine test strips²⁶. Of the two studies that included benzodiazepine test strips, one study asked about a group of drug checking interventions that included fentanyl or benzodiazepine test strips or other technologies¹³, and the other study did not report results for benzodiazepine test strips due to the small number of tests conducted exclusively using these test strips²⁵. In the single study that inquired about xylazine test strips, their impact on the outcomes of interest were not assessed; rather, PWUD who reported heroin/fentanyl use were asked about their interest in hypothetical xylazine test strips.²⁶ Of note, in five studies, test strip use was described as part of a broader-scope suite of drug checking services, which most commonly included FTIR^{4,9,10,12,13}, colourimetric reagent tests^{9,10,12}, and ultraviolet spectroscopy^{9,10,12}, among other technologies. The broader drug checking services, including test strips, were conducted during public festivals in two studies^{10,12}, as part of an established syringe services program (SSP) in one study⁴, and at temporary community locations in one study⁹; in the remaining study, drug checking services were not conducted, but their use was assessed as part of a cross-sectional survey administered across multiple harm

reduction sites¹³. Drug samples were tested by the research team or participants using test strips distributed or made available specifically for the studies in 13 of the 26 studies.^{6,8-10,12,15,25,26,34,35,37,41,42} In contrast, testing of drug samples was not reported explicitly in five studies, although test strips were available to participants at SSPs or distributed within the community, and their use was assessed using surveys or interviews.^{4,7,38,46,47} Neither drug sample testing nor test strip distribution/availability was reported in the remaining eight studies (e.g., cross-sectional surveys with measures on test strip use).^{3,13,36,39,40,43-45}

Findings

The outcomes assessed across the 30 papers included fatal overdose, non-fatal overdose, and drug use behaviours. None of the papers reported quantitative results on ED visits or hospital admissions related to overdose.

Fatal Overdose

Two primary studies assessed the impact of fentanyl test strip use on fatal overdose directly⁷ and indirectly⁴⁴. When fentanyl test strips were used as part of other harm reduction efforts, there was an observed reduction in fatal opioid overdoses.⁷ Fentanyl test strip use alone was perceived by health professionals to reduce fatal overdoses.⁴⁴ In the case study on the Connecticut Statewide Opioid Response Directive (SWORD), involving state and local public health and safety departments and local harm reduction groups, six deaths were reported within a cluster of fentanyl-contaminated crack cocaine overdoses in a small geographical area over a 5-day outbreak.⁷ In response to the outbreak, extra state-funded fentanyl test strips were provided to a local partner agency that distributed more than 300 test strips and 125 naloxone kits and provided education to people who use crack cocaine over the 5-day period.⁷ No additional overdose deaths similar in nature were reported in the area after the fifth day (a single overdose was reported several weeks later).⁷ The authors concluded that the public health response, including test strip distribution, limited the number of deaths that would have occurred.⁷ In the cross-sectional study conducted among community pharmacists, the most common perceived benefit (reported by 81.4% of pharmacists) to selling fentanyl test strips was reducing fatal overdoses.⁴⁴

Non-fatal Overdose

Two reviews (one high quality systematic²⁹, one moderate quality scoping³³) assessed the impact of fentanyl test strip use on non-fatal overdose. Both reviews cited the same primary study by Karamouzian et al. (2018), which linked intended behaviours with health outcomes among PWUD who used fentanyl test strips on-site at a supervised injection facility.^{29,33,48} When fentanyl test strips were used, PWUD who received a positive result compared to a negative result prior to drug use were significantly more likely to report intentions to use a lower dose than usual (odds ratio (OR) (95% CI) = 9.36 (4.25, 20.65); P=0.0001). In turn, among all PWUD in the study, those who reported dose reduction intentions were significantly less likely to overdose following consumption at the supervised consumption service (OR (95% CI) = 0.41 (0.18, 0.89); p-value not reported).^{29,33,48}

Eight primary studies assessed the impact of fentanyl or benzodiazepine test strip use on non-fatal overdose^{4,6,7,12,13,25,37,47}. The impact of fentanyl or benzodiazepine test strip use on non-fatal overdose was assessed directly in three studies^{6,7,13} and indirectly in three other studies^{4,37,47}. Two of the studies reported overdose incidence among all PWUD without pre-post or between-group comparisons, which did not allow for further conclusions to be drawn for this outcome^{12,25}.

Three primary studies reported that fentanyl test strip use, as part of harm reduction or drug checking services, was associated with reductions in reported non-fatal overdoses^{6,7,13}, which corroborate results from the included reviews. Firstly, the prospective cohort study, wherein fentanyl test strips were distributed as part of a harm reduction program (including provision of naloxone, single-use injection equipment, and harm reduction education), indicated that self-reported past-month overdose experiences decreased (7.0% at baseline, 1.8% at one-month follow-up) among 57 PWUD who used at least one fentanyl test strip in the past month; however, this decrease was not statistically significant “likely due to the short follow-up duration and small sample size”.⁶ Secondly, in the cross-sectional study wherein fentanyl or benzodiazepine test strips were included as part of a broader drug checking measure (participants were asked if they used any of a list of drug checking interventions), PWUD who used drug checking (including test strips) compared to those who did not reported significantly fewer opioid overdoses (36.5% vs. 63.5%, respectively; $P=0.0132$) and stimulant overdoses (41.5% vs. 58.5%, respectively; $P=0.0137$) in the past six months.¹³ Interestingly, higher self-reported past six-month stimulant overdose was also significantly associated with past six-month use of drug checking (adjusted odds ratio (AOR) (95% CI) = 2.12 (1.04, 4.31); $P=0.039$), while there was no association between stimulant use itself and previous opioid overdose.¹³ The authors suggested that the rarity of adverse events associated with stimulant use (e.g., overamping) may lead those who have negative experiences to get their drugs checked.¹³ Lastly, in the case study on SWORD, at least 22 overdoses were reported over the 5-day outbreak, during which additional fentanyl test strips and naloxone kits were distributed and education was disseminated.⁷ No additional overdoses similar in nature were reported in the area after the fifth day until several weeks later when a single case was reported.⁷ The authors concluded that the public health response, including test strip distribution, prevented additional overdoses.⁷

Mixed results were observed for the impact of fentanyl test strip use, alone or as part of drug checking, on perceived overdose safety among PWUD.^{4,37,47} In the cross-sectional study wherein drugs were tested by people who inject opioids using fentanyl test strips available at a SSP, perceived overdose safety as it related to their most recent fentanyl test strip use was assessed using the question “Does using [fentanyl test strips] make you feel better able to protect yourself from overdose?”.³⁷ A high percentage of people who inject opioids (77.0%) reported that fentanyl test strips made them feel more able to protect themselves from overdose, although multivariate model results showed no significant association between fentanyl test strip results and perceived overdose safety.³⁷ Similarly, when fentanyl test strips and FTIR were included as part of a general drug checking measure, the majority of PWUD (86.7% to 93.8%) reported that “drug checking would make them feel better about protecting themselves from overdose”.⁴ In the mixed-methods study wherein drugs were not reported to be tested although fentanyl test strips were available at SSPs, PWUD answered the question “Currently, what would you guess your risk of overdose is?” using a seven-point Likert scale (0=extremely low, 6=extremely high).⁴⁷ Perceived overdose risk was similar among PWUD who reported ever having used drugs tested with fentanyl test strips either by themselves or others compared to those who did not, and multivariate model results also showed no significant association between fentanyl test strip use and perceived overdose risk.⁴⁷

Drug Use Behaviours Related to Overdose

Three reviews (one high quality systematic²⁹, one low quality systematic³¹, one moderate quality scoping³²) assessed the impact of fentanyl test strip use on drug use behaviours. Drawing conclusions across the reviews was not feasible due to the narrative descriptions of their individual studies, heterogeneity with respect to the drug use behaviours reported, and specificity of results to fentanyl test strips alone³² vs. drug checking in general^{29,31}. The high quality systematic review²⁹ included a discussion on drug use behaviours collectively and cited three fentanyl test strip studies^{15,37,49}, which support an association between fentanyl detection via test strips and increased risk reduction behaviours (i.e., using a lower dose than usual, using with others, administering a test dose).

Across the 24 primary studies that assessed the impact of fentanyl test strip use on drug use behaviours, the majority support an association between fentanyl test strip use, alone or as part of harm reduction or drug checking services, and increased risk reduction behaviours (actual and intended), and corroborate the finding from the high quality systematic review²⁹. Across the 24 primary studies, the most commonly assessed drug use behaviours were abstaining from use (e.g., disposing, selling or giving to others, returning to supplier) (n=19 studies, with people who use opioids comprising the majority of the study population in 14 studies) or using a lower dose than usual (n=19, with people who use opioids comprising the majority of the study population in 15 studies).

Direct comparisons across the 24 studies were not possible due to the heterogeneity in how drug use behaviours were assessed (e.g., post-test result provision^{6,9,10,15,25,35,41} vs. retrospective^{3,8,34,36-39,46,47} vs. hypothetical^{4,12,13,26,40,42,43,45}, using mutually vs. non-mutually exclusive response options) and reported (e.g., among those who received a positive vs. negative test strip result, those who reported results were as expected vs. not as expected, those who were available for follow-up, or the entire study population). The five highest-quality studies recruited people who use opioids^{6,15,23,33} or reported their drug of choice was an opioid³⁹, involved testing drug samples using fentanyl test strips, and assessed actual drug use behaviours following the provision of fentanyl test strip results. Among these studies, fentanyl test strip use led to increased risk reduction behaviours among 45.2% to 100.0% of participants who received a positive result for fentanyl; the behaviours assessed included having used a lower dose than usual (n=5 studies); abstained by disposing, selling or giving to others (n=4); used slower than usual (n=3); avoided solitary use by having someone present or check on them (n=3); administered a test dose (n=3); and ensured naloxone was available (n=2).^{6,15,25,35,41} Test strip results themselves were reported to influence behaviour change.^{6,10,37} Park et al. (2020) reported a clear demarcation among the 69% of people who use opioids having engaged in risk reduction behaviours following a fentanyl-positive test strip result compared to 8% following a negative result.⁶ In addition, multivariate model results showed that people who inject opioids who received a fentanyl-positive result at their last test strip use compared to a negative result were significantly more likely to practice safer drug use behaviours (AOR (95% CI) = 5.1 (2.1, 12.2); p-value not reported).³⁷ Similar findings were reported among PWUD who received results from combined drug checking and harm reduction services (including fentanyl test strips) that were not as expected (79.9% to 100.0%) compared to results as expected (43.8% to 46.3%).¹⁰

In interpreting the proportion of people who use opioids who increased actual risk reduction behaviours following fentanyl test strip use (i.e., ranging from 45.2% to 100.0%), several studies noted the importance of recognizing that not all PWUD can change their behaviours in response to test results due to various physical, social, and economic factors.^{9,37,41,45,46} For example, drug disposal behaviours may be lower when PWUD experience withdrawal⁹ or greater addiction severity⁴⁶, lack funds to repurchase a different batch of drugs⁴⁵, or do not have access to unadulterated drugs⁴¹. Indeed, lower drug disposal behaviours observed at drug checking services in community vs. festival settings may be due to differences in service user demographics.⁹ In addition, people who inject drugs (PWID) who were unemployed compared to those who were employed had significantly lower odds of reporting safer drug use behaviours (AOR (95% CI) = 0.29 (0.13, 0.66); p-value not reported), highlighting the impact of economic instability on drug use behaviours, particularly among including PWID who experience homelessness, eviction, residential transience, and incarceration.³⁷

Conclusion

Evidence from recent reviews and primary studies included in this rapid review supports the positive impacts of fentanyl test strip use, as a standalone option by PWUD or staff or as part of other drug checking or harm reduction services, on health outcomes and drug use behaviours related to overdose among PWUD. Evidence from a limited number of primary studies indicated that fentanyl test strip use as part of other harm reduction efforts was followed by an observed reduction in fatal opioid overdoses⁷, and that fentanyl test strip use on its own was perceived by health professionals to reduce fatal overdoses⁴⁴. Evidence from reviews and primary studies supported associations between fentanyl test strip use as part of other services and reductions in reported non-fatal overdoses. Mixed results were observed for the impact of fentanyl test strip use, on its own or as part of drug checking, on perceived overdose safety among PWUD. Evidence from a review and primary studies supported an association between fentanyl test strip use, on its own or as part of other services, and increased risk reduction behaviours; e.g., abstaining from use, using a lower dose than usual, using slower than usual, avoiding solitary use, administering a test dose, and having naloxone available. Several studies noted the importance of recognizing that not all PWUD can change their drug use behaviours in response to test results due to various physical, social, and economic factors.^{9,37,41,45,46}

The findings identified in this rapid review demonstrate the utility of fentanyl test strips and potential for expanded use amid the current opioid overdose crisis. In a recent article published in 2024, an interdisciplinary team of public health researchers, analytical chemists, evaluators, and harm reductionists aimed to identify drug checking methods for harm reduction organizations (such as SSPs) that can contribute to supply-level monitoring in the U.S. without compromising individual-level information for PWUD.²⁴ Four analytical techniques (test strips, illicit drug paper analytical device (idPAD), paper dots, and Bitrex) were compared against four key considerations: 1) immediate utility to PWUD, 2) integration into SSP workflow, 3) balance between individual- and population-level data needs, and 4) attention to the legal context.²⁴ The interdisciplinary team recommended that SSPs continue distributing fentanyl test strips, while allowing used test strips to be submitted for further analysis (instead of disposal) to contribute to additional supply-level data.²⁴

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