There is a new tool to help battle the opioid epidemic that works like a pregnancy test to detect fentanyl, the potent substance behind the escalating number of deaths roiling communities around the country.

The test strip, originally designed for the medical profession to test urine, can also be used off-label by heroin and cocaine users who fear their drugs have been adulterated with the synthetic opioid fentanyl. The strips are dipped in water containing a minute amount of a drug and generally provide a result within a minute—with one line indicating positive for fentanyl, and two lines negative.

Overdose-prevention organizations in the U.S. first started buying and handing out fentanyl test strips about two years ago, and they caught on quickly. Now, states like California and
Rhode Island and cities such as Baltimore, Philadelphia and Columbus, Ohio, are distributing them, or plan to soon.

“This is an effective way to have people thinking about risks,” said Louise Vincent, executive director of the Greensboro, N.C., chapter of the advocacy group Urban Survivors Union, which has been distributing strips since last year. “It’s so important to give people as many tools as we can.”

The moves have encountered opposition. Elinore McCance-Katz, head of the federal government’s Substance Abuse and Mental Health Services Administration, said the approach relied on the flawed premise that drug users would make rational choices. She also said the strips aren’t guaranteed 100% accurate.

“We can’t afford to create a false sense of security” for users, Dr. McCance-Katz wrote on the agency’s blog in October. “Let’s not rationalize putting tools in place to help them continue their lifestyle more ‘safely.’ ”

Groups that work with drug users say the strips provide an additional means of saving lives, along with distributing overdose-reversal drug naloxone and clean needles. And they create another way to engage users and potentially steer them to treatment programs.

Several studies published this year suggest test strips could alter drug users’ behavior. Among a group of users who tested such drugs as cocaine, heroin and prescription painkillers with the strips, half got at least one positive result, according to a study published in November by researchers at Brown University and other institutions. Among those, 45% responded by using smaller amounts of the drug, 42% ingested it more slowly and 36% did a test hit before taking a full dose.

Many of the advocacy organizations use fentanyl test strips made by Canadian biotechnology company BTNX Inc., and their sales have soared in the U.S., reaching 766,000 strips so far this year, compared with 117,000 in 2017, said Chief Executive Iqbal Sunderani. The cost: $1 a piece.

The company first began selling the strips in 2013 to doctors in Canada, who needed to ensure that patients who were prescribed fentanyl to treat severe pain were taking the medication. Three years later, a supervised drug-injection facility in Vancouver began using the strips to test illicit drugs.

A study published in February by Johns Hopkins Bloomberg School of Public Health found that BTNX strips were highly accurate, detecting fentanyl successfully 96% of the time at one lab.
and 100% of the time at another. Mr. Sunderani said the strips also can detect at least 10 fentanyl analogues, or chemical cousins, including carfentanil.

The strips aren’t approved by the U.S. Food and Drug Administration. While they could fall under state drug-paraphernalia laws that usually ban the use of testing equipment, there isn’t settled case law on the issue, said Lindsay LaSalle, director of public health law and policy at the Drug Policy Alliance. Some jurisdictions, including Maryland and Rhode Island, have passed measures making test strips legal.

Early adopters of fentanyl test strips in the U.S. were harm-reduction groups, which provide services like counseling and needle exchanges. Jess Tilley, who works with drug users in Massachusetts, started handing them out about two years ago and found an eager response.

“It spread like wildfire,” she said.

Elaine, a 45-year-old heroin and cocaine user in Holyoke, Mass., who declined to give her last name, said she gets about 50 strips a month from Ms. Tilley and hands some out to friends. If she gets a positive result, she said, she uses only a small amount of the drug and makes sure she has someone present.

“It’s vital that I have the strips,” she said.

Write to Arian Campo-Flores at arian.campo-flores@wsj.com