

Check the Monitor:

Parole & Probation Technologies in Review

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Table of Contents

Introduction	5
I. Community Supervision Technologies	7
A. GPS and Smartphone Applications	7
B. Alcohol Use Monitoring	13
C. Drug Use Monitoring	17
E. Conclusion.....	24
II. Limited Process at Revocation Proceedings	24
A. United States Courts	27
B. California	30
C. Georgia	32
D. Indiana	33
E. New York	34
F. Texas	35
G. Conclusion.....	36
III. Solutions	37
A. Robust, Effective, and Clear Procedural Protections	38
B. Training for Decision Makers	39
C. Technical Violation Reform	40
Conclusion	41

Introduction

Community supervision has entered a new era. Gone are the days when parole or probation meant simple check-ins with an officer. Today, individuals are monitored around the clock by technologies that promise rehabilitation or efficiency—but carry profound risks.

Consider a recent pilot program in Tippecanoe County, Indiana: individuals released on parole wore smartwatches that tracked their heart rates and body temperatures 24/7. Based on these measurements, a connected smartphone application determined their “progress” toward “lower stress” and “healthy thinking patterns” and reported these assessments to their parole officers.¹ The application used artificial intelligence to interact with users, with future versions to analyze background audio using AI to infer location and behavior.²

Although the Indiana program was meant to assist with rehabilitation, it also collected evidence that could be used to allege violations of the conditions of release and send people back to prison. Yet revocation hearings offer inadequate safeguards against flawed technology. In Indiana, for example, a person facing an alleged parole violation may have no attorney; have a low standard of proof; and see any evidence with “some substantial indicia of reliability”³ admitted against them.

Indiana is no outlier. Jurisdictions across the country use technology to monitor individuals on community supervision⁴ and to allege that they violated their conditions of release. This evidence then forms the basis for revocation proceedings, which are not designed to reveal problems with complex technological evidence.

If the state can revoke community supervision based on technological assertions, it must ensure, at a minimum, that the technology is accurate. Otherwise, individuals will lose their freedom despite having done nothing wrong. There is reason to doubt the reliability

¹ Marcus Rogers, *AI Enabled Community Supervision for Criminal Justice Services* (final report), 20 (Mar. 2024), <https://www.ojp.gov/pdffiles1/nij/grants/308693.pdf>.

² *Id.* at 32-33.

³ *Harris v. State*, 836 N.E.2d 267, 280 (Ind. Ct. App. 2005).

⁴ This paper refers to probation, parole, and supervised release collectively as “community supervision.” Probation is a sentence to supervision in the community and outside of prison, whereas parole is a type of community supervision that occurs after incarceration. Supervised release is federal parole. When released on parole, probation, or supervised release, an individual typically must follow certain conditions, such as not drinking alcohol or traveling to designated areas, and if they violate those conditions, they can suffer consequences, including incarceration.

of these tools today, but judges, parole boards, and legislators have the power—and the responsibility—to address this problem.

With about 3.7 million individuals on probation or parole,⁵ the stakes are high. About 40% of new prison admissions nationwide are for violations of probation or parole conditions.⁶ In 2023 alone, nearly 200,000 people went to prison for parole or probation violations—including over 110,000 for technical violations such as missing a virtual meeting or drinking alcohol.⁷ Revocations also disproportionately impact Black people, who are significantly more likely to be incarcerated for a violation than white people.⁸

The paper proceeds as follows:

- Part I describes current community supervision technologies, including location tracking, alcohol monitoring, and drug testing, and the reliability concerns with each.
- Part II describes and compares the relevant parole and probation revocation procedures used in the selected jurisdictions: the United States Courts, California, Georgia, Indiana, New York, and Texas.
- Part III recommends that jurisdictions codify procedural reforms, such as providing attorneys at revocation proceedings; increasing the standard of proof for violations; allowing discovery rights; limiting hearsay evidence; and imposing stringent reliability requirements for scientific evidence. It also calls for training decision makers on current technologies used in community supervision and limiting incarceration for technical violations.

⁵ Probation & Parole, *Prison Policy Initiative*, https://www.prisonpolicy.org/research/probation_and_parole/ (last visited Dec. 4, 2025) (estimating over 2.9 million probationers and over 800,000 parolees) (hereinafter “*Prison Policy Initiative*”).

⁶ *Id.*

⁷ *Supervision Violations and Their Impact on Incarceration*, Council of State Governments Justice Center, <https://projects.csgjusticecenter.org/supervision-violations-impact-on-incarceration/key-findings/> (last visited Dec. 4, 2025).

⁸ Equal Justice Initiative, *Probation and Parole Driving Mass Incarceration* (Nov. 25, 2020), <https://eji.org/news/probation-and-parole-driving-mass-incarceration/#:~:text=Research%20has%20found%20that%20Black,offenses%20by%20those%20under%20supervision> (“Black people are 50 to 100% more likely to be charged with parole violations, even after controlling for relevant demographics and legal factors” and are “more likely to be returned to prison for a parole violation.”); Kendra Bradner & Vincent Shiraldi, Columbia University Justice Lab, *Racial Inequities in New York Parole Supervision*, 1 (March 2020) (“Black and Latinx people are significantly more likely than white people to be under supervision, to be jailed pending a violation hearing, and to be incarcerated in New York State prisons for a parole violation.”).

I. Community Supervision Technologies

Community supervisions technologies generally fall into one of three categories:⁹ (1) location monitoring and smartphone applications; (2) alcohol-detection devices worn on the wrist and ankle; and (3) drug testing methods. Each technology within these categories relies on complicated scientific methods to function, and each can produce inaccurate results—some more often than others.

A. GPS and Smartphone Applications

1. Introduction

In recent years, the number of people in the United States on electronic monitoring (“EM”) in the criminal legal system has ballooned. In 2005, there were about 50,000 people on EM, but as of 2022, following the COVID-19 pandemic, that figure has reached nearly half a million people—a tenfold increase.¹⁰

Jurisdictions use various technologies to track the location of individuals on parole or probation that fall within the broader category of EM, including radio-enabled devices, satellite GPS devices, and smartphone applications.¹¹ At least sixteen companies provide EM products, with the highest market shares held by SCRAM¹² Systems (Alcohol Monitoring Systems, Inc.), SuperCom Ltd., Allied Universal Security Services, LLC, Sentinel Offender Services, LLC, and BI Incorporated.¹³

⁹ This Paper uses the term “community supervision technologies” to refer to machines, devices, tests, and algorithms, and computerized systems that take measurements and/or produce evidence used to prove violations of community supervision conditions. Others have used the term “machine-generated proof” to refer to a similar category of evidence used at trial. *See, e.g.*, Andrea Roth, *Machine Testimony*, 126 Yale L. J. 1972, 1976 n. 11 (2017).

¹⁰ Nazish Dholakia, *Electronic Monitoring Is an Extension of Mass Incarceration*, Vera Inst. (Jan. 30, 2024), <https://www.vera.org/news/electronic-monitoring-is-an-extension-of-mass-incarceration>.

¹¹ *How Location Monitoring Works*, United States Courts, <https://www.uscourts.gov/about-federal-courts/probation-and-pretrial-services/evidence-based-practices/federal-location-monitoring/location-monitoring-reference-guide/how-location-monitoring-works> (last visited Nov. 24, 2025).

¹² SCRAM stands for “Secure Continuous Remote Alcohol Monitor.” *About SCRAM Systems*, SCRAM, <https://www.scramsystems.com/our-company/about-us/> (last visited Nov. 28, 2025).

¹³ *Electronic Offender Monitoring Solutions Companies*, Mordor Intelligence, <https://www.mordorintelligence.com/industry-reports/global-electronic-offender-monitoring-solutions-market/companies> (last visited Nov. 24, 2025).

Some believe that increasing use of EM helps offenders and society because electronically monitored individuals are not in prison,¹⁴ while others, such as Michelle Alexander (author of *The New Jim Crow*¹⁵), have argued that EM devices are simply “digital prisons” that “are to mass incarceration what Jim Crow was to slavery.”¹⁶ Critics argue EM does not fix mass incarceration or racial disparities in the criminal justice system; it reproduces these problems in a different way.

Notwithstanding this criticism, jurisdictions across the country use EM to monitor hundreds of thousands of individuals, and this monitoring can then lead to incarceration. Decision makers must therefore understand how EM works and whether they can rely on the evidence it produces.

2. GPS Ankle Monitoring

One form of EM is the traditional GPS ankle monitor. These ankle monitors use GPS technology to track the location of the person wearing the monitor and send that location to the probation officer.

The accuracy of GPS ankle monitors in part depends on the accuracy of GPS itself. GPS works by detecting a participant’s location via satellites. Multiple satellites send signals toward earth, and the device receives the signals at slightly different times. Software can then calculate the location of the device based on its distance from multiple satellites over time. Accurate timekeeping is therefore essential to GPS because the time determines the location calculation.¹⁷

Additional factors that impact the reliability of GPS include satellite geometry, signal blockage, the design of the receiving device, and atmospheric conditions. Under open sky, GPS is typically accurate within 16 feet, but accuracy worsens near buildings, bridges,

¹⁴ See, e.g., Taylor Tiamoyo Harris, *Amid Calls to Reform Bail, Judges in St. Louis Embrace Ankle Monitors*, NYTimes (Apr. 10, 2025), <https://www.nytimes.com/2025/04/10/us/st-louis-ankle-monitors.html>; Kentrell Owens et al., *Electronic Monitoring Smartphone Apps: An Analysis of Risks from Technical, Human-Centered, and Legal Perspectives*, USENIX Association, 4085 (Aug. 2022), <https://www.usenix.org/system/files/sec22-owens.pdf> (user described community supervision smartphone application as “extremely inefficient all around” but “better [than] prison..”).

¹⁵ Michelle Alexander, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness* (rev. ed., 2012).

¹⁶ Michelle Alexander, *The Newest Jim Crow*, NYTimes (Nov. 8, 2018), <https://www.nytimes.com/2018/11/08/opinion/sunday/criminal-justice-reforms-race-technology.html>.

¹⁷ *How Do You Measure Your Location Using GPS?*, National Institute of Standards and Technology, <https://www.nist.gov/how-do-you-measure-it/how-do-you-measure-your-location-using-gps> (last visited Nov. 24, 2025).

or trees.¹⁸ Location spoofing or jamming—that is, the intentional use of fake signals or signal noise to disrupt GPS readings—can also interrupt service.¹⁹

Device design affects accuracy, too. Devices can calculate a more precise position, for example, if they include WiFi and cell tower location tracking, in addition to GPS. Devices can decrease accuracy by having poor battery life, because a device must stay charged to receive a signal.²⁰

Many jurisdictions have reported problems with their GPS ankle monitors, including battery malfunction, loss of service, and false tampering alerts.²¹ A report by the Congressional Government Accountability Office surveyed federal probation officers and found widespread technical malfunctions.²² Of the 79 probation chiefs surveyed, 86% reported equipment connection issues due to poor cellular service, 80% reported equipment malfunctions due to defects, 68% reported equipment connection issues due to poor GPS signal, and 46% reported equipment outages due to natural disasters or inclement weather.²³ Studies in Wisconsin, Massachusetts, and Los Angeles have similarly documented technical problems with GPS ankle monitors, including malfunctions that have led to wrongful arrests.²⁴

¹⁸ GPS Accuracy, <https://www.gps.gov/gps-accuracy-0> (last visited Nov. 24, 2025).

¹⁹ Anne Kaurenan et al., *Explainer: What is GPS jamming and why is it a problem for aviation?* Reuters (May 1, 2024), <https://www.reuters.com/business/aerospace-defense/what-is-gps-jamming-why-it-is-problem-aviation-2024-04-30/>.

²⁰ See, e.g., Yazmine Nichols, *Jailed for a faulty battery and left to catch COVID-19*, ACLU News & Commentary (June 25, 2021), <https://www.aclu.org/news/criminal-law-reform/jailed-for-a-faulty-battery-and-left-to-catch-covid-19> (describing how father of three imprisoned after ankle monitoring device battery failed).

²¹ ACLU, *Rethinking Electronic Monitoring: A Harm Reduction Guide*, 7 (Sept. 2022), <https://assets.aclu.org/live/uploads/publications/2022-09-22-electronicmonitoring.pdf>.

²² U.S. Gov't Accountability Off., GAO-23-105873, *Pretrial Supervision: Actions Needed to Enhance Management of the Location Monitoring Program*, 29 (2023), <https://www.gao.gov/assets/gao-23-105873.pdf> (hereinafter “GAO Report”).

²³ *Id.* at 28.

²⁴ Riley Vetterkind, *Wisconsin doubles GPS monitoring despite five years of malfunctions, unnecessary jailings*, Wisconsin Watch (Mar. 4, 2018), <https://wisconsinwatch.org/2018/03/wisconsin-doubles-gps-monitoring-despite-five-years-of-malfunctions-unnecessary-jailings/> (reporting that, in just one month, Wisconsin monitoring center lost cell service 56,853 times with 895 offenders and that, of the 52 arrest warrants that month, 13 involved equipment malfunctions); *Probation department replacing 3,000 ankle bracelets for criminals*, WCVB5 (July 7, 2016), <https://www.wcvb.com/article/probation-department-replacing-3-000-ankle-bracelets-for-criminals/8236960> (study reports that hundreds of arrest warrants issued every month in Massachusetts due to signal loss on GPS devices); Paige St. John, *One in four GPS devices on criminals in L.A. County were faulty*, Los Angeles Times (Dec. 27, 2013) <https://www.latimes.com/local/la-me-ff-gps-audit-20131228-story.html> (reporting that one in every four GPS devices faulty, with problems such as batteries that would not charge and excessive false alarms).

3. Smartphone Applications

Following reports of problems with GPS ankle monitors, many companies have developed smartphone monitoring apps as an alternative. While these apps may avoid the stigma of an obvious ankle monitor and improve location accuracy, their expanded capabilities create new avenues for technical failure.

Many different apps offer various surveillance capabilities. Most track location, while some can support remote reporting to a corrections officer, deliver calendar reminders for court dates and other appointments, collect biometric data, sense alcohol consumption, track phone calls, and more.²⁵

Some apps require the monitored individual to use their own smartphone, while others lease them a smartphone built for surveillance.²⁶ The companies also use different approaches to verify the individual's proximity to the phone: Some require regular check-ins using biometric information, such as the person's fingerprint, voice, or face; others include a wrist monitor that communicates with the phone by radio frequency; and some use a combination of these approaches.²⁷

An app made by researchers at Purdue University and funded by the federal government tracks personal health data, screen time, location, meeting attendance, and more, and uses AI to communicate with monitored individuals.²⁸ Users wear an Android smartwatch, which collects data about the user, including "vital indicators like heart rate and temperature, primarily to detect when and how the user experiences acute stress."²⁹ As noted above, researchers tested this system on people on parole in Indiana.

The system's acute stress measurement is concerning because smartwatch sensors are not always accurate. Android advises, for example, that if its heart rate monitor is "not working," users should try to "[k]eep still" because "[s]ometimes, moving makes the

²⁵ See Staff Editors, *Smartphone Monitoring Today: A Survey of Applications*, Civic Research Institute, J. Offender Monitoring 5, 10 (2023) (hereinafter "*Smartphone Monitoring Today*"); Michael Osbourne et al., *Smartphone Applications for Community Supervision*, Criminal Justice Testing and Evaluation Consortium (2023), <https://globcci.org/wp-content/uploads/2023/09/CJTEC-Brief-Report-on-Smartphone-Applications-for-Community-Supervision.pdf>; Owens, *supra* note 14, at 4084; Dhruv Mehrotra & Molly Osberg, *When Your Freedom Depends on an App*, Gizmodo (Apr. 27, 2020).

²⁶ *Smartphone Monitoring Today*, *supra* note 25, at 10.

²⁷ *Id.*

²⁸ Rogers, *supra* note 1, at 12-13, 31.

²⁹ *Id.* at 12.

sensor inaccurate.”³⁰ In general, heart rate sensors can be inaccurate due to skin type, signal crossover, motion artifacts, or even tattoos.³¹ Moreover, inferring stress from biometrics is difficult. Stress is “highly subjective, with stimuli triggering the stress process varying between individuals.”³²

The use of artificial intelligence (“AI”) in this app should also raise concerns. The app includes an AI chatbot as part of users’ behavioral health sessions and assignments.³³ The researchers are also working on “an automated AI system that would be able to identify the nature of a location from background noise (sounds) recorded from that location.”³⁴ This tool could help determine whether a person on community supervision is in a prohibited location. The problem is that AI systems can hallucinate, that is, they may “confidently generate an answer that isn’t true.”³⁵ In the community supervision context, this means the AI may falsely accuse someone of violating a condition that requires them to avoid certain locations or stay at home.

But even less sophisticated surveillance apps can malfunction. Lapses in cell phone service can interrupt connectivity, as can problems with smartphone hardware components, such as the battery, camera, or GPS chipset.³⁶ One study that investigated the technical capabilities of 16 different EM apps found that users experienced malfunctions “mostly related to an inability to use the app to successfully perform a check-in—an important requirement of community supervision.”³⁷ “This inability to check-in was often attributed to failures in the apps’ facial recognition, voice recognition, or location detection systems.”³⁸ One user reported, for example: “I didn’t have makeup on when I took the first pictures, however when I put on makeup, facial recognition

³⁰ *Track your heartrate with your watch*, Wear OS Google Help, <https://support.google.com/wearos/answer/9429085?hl=en&co=GENIE.Platform%3DAndroid#zippy=%2Cfix-a-heart-rate-monitor-thats-not-working> (last visited Nov. 28, 2025); see *id.* (cautioning that the “heart-rate functions are not medical devices, and are intended for informational purposes only”).

³¹ Elena Romero-Perales et al., *Electronic Design for Wearables Devices Addressed from a Gender Perspective: Cross-Influences and a Methodological Proposal*, *Sensors*, 6 (June 2023).

³² Evgenia Lazarou & Themis P. Exarchos, *Predicting stress levels using physiological data: Real-time stress prediction models utilizing wearable devices*, 2 *AIMS Neurosci.*, 76, 84 (2024).

³³ Rogers, *supra* note 1, at 29.

³⁴ *Id.* at 33.

³⁵ OpenAI, *Why language models hallucinate*, <https://openai.com/index/why-language-models-hallucinate/> (last visited Dec.4, 2025).

³⁶ American Probation & Parole Association, *Leveraging the Power of Smartphone Applications to Enhance Community Supervision*, 9 (2020).

³⁷ Owens, *supra* note 14, at 4084.

³⁸ *Id.*

becomes much harder, even in adequate lighting.”³⁹ This anecdote accords with research showing that facial recognition technology can produce false and biased results, with the highest error rates often for Black women.⁴⁰

Another report found similar problems with the Telmate Guardian EM app, owned by ViaPath. Security experts described the app’s code as “sloppy” and “irresponsible.”⁴¹ Users reported that “the app is faulty to the point of being unusable, inaccurately reporting their locations, failing to recognize the biometric data it relies on, and asking them to check in so often it makes daily life nearly impossible.”⁴² Multiple users reported that the Guardian EM app “requests users check in dozens of times throughout the night, sounds alarms frantically at 2:00AM, and falsely claims users are violating stay-at-home orders.”⁴³

Although companies advertise surveillance apps as reducing officer workloads, this is not always reality. Frequent false alarms can negatively impact probation officers, who must respond immediately to certain alerts, even in the middle of the night, often without overtime pay for this extra work.⁴⁴ Federal chief probation officers have also reported that EM is assigned in cases where it is not a good fit, such as where the person has severe mental health limitations or unstable housing.⁴⁵

Because many surveillance apps are new or still in development, researchers have not thoroughly tested their accuracy, and this section only scratches the surface on potential problems with the different apps. But it appears that many can malfunction to the detriment of various individuals involved. Given the ever-expanding capabilities of EM,

³⁹ *Id.*

⁴⁰ See Joy Buolamwini & Timnit Gebru, *Gender shades: Intersectional accuracy disparities in commercial gender classification*, 81 Proceedings of Machine Learning Research 1, 8 (Feb. 2018) (“Overall, male subjects were more accurately classified than female subjects . . . and lighter subjects were more accurately classified than darker individuals. An intersectional breakdown reveals that all classifiers performed worst on darker female subjects.”); see also Jacob Snow, *Amazon’s Face Recognition Falsely Matched 28 Members of Congress with Mugshots*, ACLU News & Comment. (July 26, 2018), <https://www.aclu.org/news/privacy-technology/amazons-face-recognition-falsely-matched-28> (Amazon’s facial recognition tool incorrectly matched 28 members of Congress with other people who had been arrested for a crime).

⁴¹ Mehrotra, *supra* note 25.

⁴² *Id.*

⁴³ *Id.*

⁴⁴ GAO Report, *supra* note 22, at 31, 32 (“The increased use of GPS devices has resulted in increased workloads for officers as they must monitor additional location data and investigate potential violations 24 hours per day, 7 days per week. . . . Key alerts require officers to respond immediately. . . . [O]fficers do not receive additional pay for responding to alerts after hours.”).

⁴⁵ *Id.* at 26-27.

and with the next generation of apps using advanced sensor technology and AI, it is essential that courts and other stakeholders understand how these technologies work and their reliability before relying on them to make decisions about human liberty.⁴⁶ With AI, understanding how the technology works may not even be possible; in that case, the technology may be inappropriate for criminal justice use altogether.

B. Alcohol Use Monitoring

Jurisdictions nationwide use wearable alcohol monitoring devices to detect whether individuals on probation or parole have ingested drinking alcohol in violation of a no-drinking condition of release. If an alcohol monitoring device asserts that the user drank alcohol, the person can be found in violation of a no-drinking condition and face incarceration or other consequences, even if they say they did not drink.⁴⁷ The South Dakota Supreme Court, for example, affirmed a revocation of probation based on evidence that the Secure Continuous Remote Alcohol Monitoring (“SCRAM”) ankle device detected drinking—despite the user’s claims that he did not drink and that the chemicals he encountered as a farmer caused the monitor to record a false positive.⁴⁸ The available alcohol detection devices have now expanded from SCRAM ankle monitors to wrist-worn devices, but all types can produce false positives.

1. SCRAM

SCRAM’s alcohol ankle monitor is the most widely used device of its kind on the market.⁴⁹ Unfortunately, the SCRAM monitor can produce incorrect readings due to water damage, atmospheric interferences, improper calibration, and other causes.

The SCRAM ankle monitor is secured around the user’s leg, with a gap between the skin and the monitor.⁵⁰ The device takes a sample of the vapor produced by the user’s sweat.⁵¹

⁴⁶ *Smartphone Monitoring Today*, *supra* note 25, at 10; Steven Schuetz et al., *Smartphone Applications for Community Supervision*, Criminal Justice Testing and Evaluation Consortium, 16 (2023), <https://globcci.org/wp-content/uploads/2023/09/CJTEC-Brief-Report-on-Smartphone-Applications-for-Community-Supervision.pdf>.

⁴⁷ *SCRAM CAM: Continuous Alcohol Monitoring*, SCRAM Systems, <https://www.scramsystems.com/monitoring/scram-continuous-alcohol-monitoring/> (last visited Nov. 7, 2024).

⁴⁸ *State v. Lemler*, 774 N.W.2d 272, 286-88 (S.D. 2009).

⁴⁹ *About Us*, SCRAM Systems, <https://www.scramsystems.com/our-company/about-us/> (last visited Dec. 5, 2024).

⁵⁰ See U.S. Patent No. 8,165,824 B2 col. 1 l. 60 (issued Apr. 24, 2012).

⁵¹ Paul R. Marques & A. Scott McKnight, *Evaluating Transdermal Alcohol Measuring Devices*, Nat’l Highway Traffic Safety Admin., 8 (Nov. 2007).

A pump inside the monitor pulls the vapor sample across the alcohol fuel cell, producing a “measurement value proportional to the alcohol vapor concentration.”⁵² This measurement is known as Transdermal Alcohol Concentration (“TAC”).⁵³ The monitor then transmits the data to the “SCRAM Wireless Base Station,” which uploads the data to SCRAM Optix, the company’s online monitoring software.⁵⁴ If the software generates a violation alert, it is reviewed to determine if the TAC indicates drinking.⁵⁵

Multiple factors can impact the accuracy of the TAC measurements, and it is often unclear whether any of these factors have affected a given reading. Water, for example, can build up over time and damage parts of the SCRAM device.⁵⁶ As SCRAM admits in a patent: “Condensation of moisture into water droplets within an alcohol monitor can eventually damage internal components, thus reducing the service life of the alcohol monitor.”⁵⁷ This can impact the device’s ability to take accurate measurements and raises questions about how a person can swim or bathe without damaging the device.⁵⁸ The patent proposes taking “advantage of gravity, allowing any water droplets that form to flow out of [the device] while the subject is in an upright position (walking or standing).”⁵⁹ But it is not clear whether this proposed solution works, given that users are not always upright.

Alcohols in the atmosphere can also produce inaccurate TAC readings. SCRAM’s patent explains this issue: “Environmental interferences may be found in bars, bakeries, barber shops, hair salons, and other locations where menthol, propanol, isopropanol, ethanol, and other similar compounds are present.”⁶⁰ The patent’s solution is to create a baseline value from averaged samples and label any sample below this baseline value as an interferent and any sample above as a drinking event.⁶¹ But this does not solve the problem fully because it requires precise calibration, which may not occur, and does not

⁵² U.S. Patent No. 8,165,824B2 col. 2 ll. 13-14 (issued Apr. 24, 2012).

⁵³ *Id.* at col. 1 l. 50.

⁵⁴ *SCRAM CAM: Continuous Alcohol Monitoring: How It Works*, SCRAM Systems, <https://www.scramsystems.com/monitoring/scram-continuous-alcohol-monitoring/> (last visited Dec. 5, 2024).

⁵⁵ *Id.*

⁵⁶ See Marques, *supra* note 51, at 2; Bob Lansdorp et al., *Wearable Enzymatic Alcohol Biosensor*, 19 *Sensors* 2380, 2380 (May 24, 2019).

⁵⁷ U.S. Patent No. 8,165,824 B2 col. 7 ll. 12-15 (issued Apr. 24, 2012).

⁵⁸ See Marques, *supra* note 51, at 2.

⁵⁹ U.S. Patent No. 8,165,824 B2 col. 7 ll. 25-26 (issued Apr. 24, 2012).

⁶⁰ *Id.* at col. 9 ll. 4-8.

⁶¹ See *id.* at col. 3 ll. 1-13.

eliminate the risk of an interferent being incorrectly labeled as a violation if it surpasses the threshold value.

SCRAM devices can also be inaccurate due to calibration error. Every person is different and has different skin properties.⁶² Skin hydration, for example, can affect how easily alcohol moves across the skin barrier and therefore impact TAC readings.⁶³ Thus, if the officer does not calibrate the device to the individual properly, it may produce false readings.

Although the SCRAM company may have ways of minimizing or eliminating the problems with its device, it is difficult to tell whether a given reading is accurate because the company does not disclose much about how it determines a drinking event. SCRAM does not disclose, for example, how its software works.⁶⁴ Defense attorneys and scientific experts report that prosecutors provide limited discovery to the defense about SCRAM at parole and probation violation hearings, which typically have limited or unclear disclosure requirements, making it difficult for individuals to defend against SCRAM evidence. Courts and parole boards can help increase the reliability of SCRAM readings by insisting on evidence of proper calibration and ordering more discovery on how SCRAM works in general and about any issues with the specific device worn.

2. Wrist-Worn Monitors

Although most jurisdictions still use SCRAM ankle monitors, wrist-worn alcohol monitors have developed rapidly in recent years.⁶⁵ These wrist-worn monitors aim to detect alcohol consumption via sweat and resemble commercial fitness trackers, such as Fitbit.⁶⁶

Wrist alcohol monitors appear to have some advantages over ankle monitors. They are smaller, making them perhaps more discreet and comfortable for individuals ordered to

⁶² See Joseph C. Anderson & Michael P. Hlastala, *The Kinetics of Transdermal Ethanol Exchange*, 100 J. Applied Physiology 649, 654-55 (Oct. 20, 2005).

⁶³ *Id.*; see also Joseph C. Anderson, *A new approach to modeling transdermal ethanol kinetics*, Physiological Reports 12(19), 9 (Oct. 2, 2024) (explaining how “poorly understood water content of the skin can affect the movement of alcohol across the skin.”).

⁶⁴ See *SCRAM CAM: How It Works*, <https://www.scramsystems.com/monitoring/scram-continuous-alcohol-monitoring/>.

⁶⁵ Yan Wang et al., *Wrist-worn alcohol biosensors: Applications and usability in behavioral research*, 92 Alcohol 25 (2021).

⁶⁶ *Id.*

wear them.⁶⁷ Wrist monitors typically take more frequent measurements than the SCRAM ankle monitor. The BACtrack Skyn, for example, takes measurements every 20 seconds, which may improve accuracy over SCRAM, which takes measurements every 30 minutes.⁶⁸ The wrist monitors, however, differ in design from SCRAM in ways that may negatively impact their accuracy.

There are two types of wrist-based alcohol monitors: enzyme-based monitors and electrochemical cell monitors. Electrochemical cell wrist monitors use the same basic technology as the SCRAM ankle monitor.⁶⁹ Devices that have used this approach include the *WrisTAS* by Giner Labs, the BACtrack *Skyn*, and the Quantac *Tally* (which ceased operations in 2017).⁷⁰ Like SCRAM, these wrist monitors sample vapor from the wearer's sweat, which travels across the device's fuel cell to produce an electrical signal.⁷¹ That signal is then used to determine if there is ethanol in the wearer's sweat. Unlike SCRAM ankle monitors, however, wrist devices tend to use passive diffusion instead of an air pump to move the sample through the fuel cell, allowing the device to be smaller and more power-efficient, but potentially introducing new inaccuracies.⁷²

Electrochemical cell wrist monitors must also be calibrated to wrist skin instead of ankle skin, as these areas of the body have different properties, and it is not clear at this time whether the available wrist monitors have the technology to accurately calibrate on an individual level.⁷³ These differences may make electrochemical cell wrist monitors produce more false positives than the SCRAM ankle monitor. On the other hand, wrist devices may have a humidity sensor (as the Quantac device did)⁷⁴ to reduce inaccuracies from water damage.

⁶⁷ See Cassandra J.C. Wright et al., *Small, slim, sleek, and familiar: user experiences with an ION wearable research alpha prototype transdermal alcohol monitor*, 30 Addictions Rsch. & Theory 1, 1 (Oct. 2021).

⁶⁸ Tara E. Karns-Wright et al, *Time Delays in Transdermal Alcohol Concentrations Relative to Breath Alcohol Concentrations*, 52 Alcohol & Alcoholism 35, 36 (2017); *Innovative Biosensor*, BACtrack SKYN, <https://skyn.bactrack.com/> (last visited Dec. 8, 2025).

⁶⁹ See Jimikaye B. Courtney et al., *Acceptability and validity of using the Bactrack skyn wrist-worn transdermal alcohol concentration sensor to capture alcohol use across 28 days under naturalistic conditions – A pilot study*, 108 Alcohol 30, 34 (2023).

⁷⁰ Yan Wang et al., *Wrist-Worn Alcohol Biosensors: Strengths, Limitations, and Future Directions*, 81 Alcohol 83 (Dec. 2019) (hereinafter “Wang, *Future Directions*”).

⁷¹ *Id.*; Garrett I. Ash et al., *Sensitivity, specificity, and tolerability of the Bactrack Skyn compared to other alcohol monitoring approaches among young adults in a field-based setting*, 46 Alcohol, Clinical & Experimental Rsch. 783, 787 (2022).

⁷² See Wang, *Future Directions*, *supra* note 70.

⁷³ See *id.*

⁷⁴ *Id.*

The other type of wrist monitor is enzyme-based, which means it contains the enzyme alcohol oxidase.⁷⁵ The monitor samples the wearer's perspiration, and if there is ethanol present, it reacts with the enzyme.⁷⁶ This reaction produces hydrogen peroxide, from which the device measures how much alcohol is present in the sample.⁷⁷ The ION Wearable device by Milo Sensors used this technology.⁷⁸

Both enzyme-based wrist monitors and electrochemical cell wrist monitors face many of the same issues as SCRAM ankle monitors. Both kinds of devices, for example, could inadvertently measure alcohol in the environment. Water damage issues are also possible with wrist devices. The ION Wearable device attempted to solve SCRAM's water fouling issue by incorporating a replaceable cartridge into its device.⁷⁹ Though the cartridge may have prevented long-term water damage, it added a level of complication for the user by requiring them to replace it every other day.⁸⁰

Newer wrist monitors try to solve the problems with SCRAM, such as water damage and interferents, and have had some success, but have also added different sources of potential inaccuracy. Because of issues facing both SCRAM ankle monitors and the emerging wrist-based monitors, it is important that courts and others scrutinize evidence derived from these monitors and understand whether sources of potential inaccuracy existed in each case.

C. Drug Use Monitoring

Most individuals on parole or probation must submit to drug testing.⁸¹ Urinalysis remains the most common testing method in this context.⁸² But newer technologies such as saliva, hair, and sweat testing have emerged as alternatives. Researchers are also

⁷⁵ Bob Lansdorp et al., *Wearable Enzymatic Alcohol Biosensor*, 19 *Sensors* 2380, 2381 (May 24, 2019).

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ See Eileen Brobbin, *Accuracy of Wearable Transdermal Alcohol Sensors: Systematic Review*, *J. Med. Internet Res.* (Apr. 14, 2024).

⁷⁹ Lansdorp, *supra* note 75, at 2381.

⁸⁰ *See id.*

⁸¹ Kate Weisburd, *Carceral Control: A Nationwide Survey of Criminal Court Supervision Rules*, 58 *Harv. C.R.-C.L.L. Rev.* 1, 19, 24 (2023) (national survey of supervisory conditions finding 70% of programs have either required or discretionary drug testing as standard conditions).

⁸² Jessica Reichert, *Drug Testing in Community Corrections: A Review of the Literature*, Illinois Criminal Justice Information Authority (Jan 1, 2023), <https://icjia.illinois.gov/researchhub/articles/drug-testing-in-community-corrections-a-review-of-the-literature>.

studying whether AI-based urinalysis could be more accurate than conventional methods.⁸³

Drug tests vary in their reliability. Urinalysis, for example, can produce false positive or false negative results (due to testing error or intentional manipulation of the test),⁸⁴ while wearable sweat patches may alert due to past, not current, drug use.⁸⁵ These technological limitations suggest that decision makers should exercise caution when interpreting drug test results.

1. Urinalysis

Urinalysis is the broad term for testing urine samples, which is the most common form of supervisory drug testing.⁸⁶ Urine samples can be analyzed using several different methods, including immunoassay, gas chromatography, and mass spectrometry.

An immunoassay screen “use[s] antibodies to detect the presence of specific drugs or metabolites.”⁸⁷ Immunoassays are qualitative, meaning they will show either the presence or absence of a specific drug in the urine sample.⁸⁸ A positive result means the sample passed the minimum detection threshold for that substance.⁸⁹

Immunoassay screens are “relatively quick, inexpensive, and sensitive,” but their lack of specificity can create both false positives and false negatives.⁹⁰ These inaccurate results are “due to [the] interaction of antibod[ies] with molecules with similar structures,”

⁸³ Hyun Jin Kim, *Artificial Intelligence in Diagnostics: Enhancing Urine Test Accuracy Using a Mobile Phone-Based Reading System*, 45 *Annals Lab. Med.* 178, 178-84 (Dec. 16, 2024) (testing AI-based program to interpret urine test strips using smartphone cameras).

⁸⁴ Karen E. Moeller et al., *Urine Drug Screening: Practical Guide for Clinicians*, 83 *Mayo Clinic Proc.* 66, 66 (2008); Dirk K. Wissenbach & Andrea E. Steuer, *Advances in testing for sample manipulation in clinical and forensic toxicology*, 415 *Analytical and Bioanalytical Chemistry* 5101, 5102 (2023).

⁸⁵ David A. Kidwell & Frederick P. Smith, *Susceptibility of PharmChek™ drugs of abuse patch to environmental contamination*, 116 *Forensic Sci. Int'l* 89, 104 (2001).

⁸⁶ David A. Kidwell et al., *Comparison of daily urine, sweat, and skin swabs among cocaine users*, 133 *Forensic Sci. Int.* 63, 63 (2003).

⁸⁷ Moeller, *supra* note 84, at 66; *see also id.* (“Forms of immunoassay techniques include cloned enzyme donor immunoassay; enzyme-multiplied immunoassay technique (EMIT), a form of enzyme immunoassay; fluorescence polarization immunoassay (FPIA); immunoturbidimetric assay; and radioimmunoassay (RIA).”).

⁸⁸ Mena Raouf et al., *A Practical Guide to Urine Drug Monitoring*, 4 *Fed. Prac.* 38, 39 (Apr. 2018).

⁸⁹ *Id.*

⁹⁰ *Id.*

meaning the immunoassay test may alert for similar but not identical antibodies.⁹¹ The risk of interference depends on the specific test and substance, but “one reference laboratory found that the percentage of false positives for their immunoassay tests ranged from 0% (for ethanol and cocaine) to 34% (for opiates).”⁹²

At minimum, a proper interpretation of immunoassay results requires “detailed medication history, including prescription, nonprescription, and herbal medications, and proper knowledge of medications that cross-react.”⁹³ Further, household items including “vanilla extract, vitamins, hand sanitizers, and over-the-counter medications” may lead to a false positive result.⁹⁴ Some jurisdictions dictate “that if a person ingests a substance that leads to a false positive, the test will be treated as if the person ingested drugs.”⁹⁵ A diluted sample may also be treated as a positive test, where dilution is measured via a creatinine concentration test.⁹⁶ Finally, immunoassays fail to identify drug use beyond a limited detection window. The exact length of the detection window varies by substance, ranging from anywhere between twelve to twenty-four hours (for heroin) to eight days (for PCP), or more, depending on regularity of use.⁹⁷

Because immunoassay testing can be inaccurate, immunoassay positives should be treated as only presumptive until corroborated by a gas chromatography/mass spectrometry (“GC/MS”) screen.⁹⁸ GC/MS “use[s] gas or high-performance liquid chromatography to separate various drugs, and mass spectrometry to detect them.”⁹⁹ It has “a much lower threshold for detection” compared to immunoassay and is better able “to accurately distinguish individual drugs and metabolites.”¹⁰⁰

⁹¹ Jessica M. Boyd & S.M. Hossein Sadrzadeh, *Limitations of immunoassays for screening of drugs of abuse in urine: issues of false positive and false negative results*, 14 *Accurate Results in the Clinical Laboratory* 233, 233 (Jan. 2019).

⁹² *Id.*

⁹³ Moeller, *supra* note 84, at 73.

⁹⁴ Fiona Doherty, *The Ordeal of the “Dirty Urine,”* 36 *Fed. Sent. R.* 197, 198 (Apr. 1, 2024).

⁹⁵ *Id.*

⁹⁶ Paul L. Cary, *The Use of Urine Creatinine Concentrations for Abstinence Monitoring in Treatment Courts*, National Association of Drug Court Professionals, at 11, https://www.flcourts.gov/content/download/879820/file/Paul%20Cary%20Handout.%20Use-of-Urine-Creatinine_Paul-Cary_Aug-2021,%209-22-23.pdf (last visited Dec. 11, 2025).

⁹⁷ Boyd, *supra* note 91, at 235.

⁹⁸ See Raouf, *supra* note 88, at 39.

⁹⁹ Neelima Kale, *Urine Drug Tests: Ordering and Interpreting Results*, 99 *Am. Fam. Physician*, 33, 35 (2019).

¹⁰⁰ *Id.*

GC/MS screens, however, can be impractical in the supervisory context. A urine sample must be sent to a lab with specialized equipment for GC/MS screening, making the process more expensive than immunoassay.¹⁰¹ Furthermore, GC/MS screening must be calibrated to the specific drug it is intended to test, meaning GC/MS “can fail to identify a positive specimen (eg [sic], hydromorphone, fentanyl) if the column is designed to detect only certain substances (eg [sic], morphine, codeine).”¹⁰² For this reason, GC/MS testing is often used only as the corroborative test to a positive immunoassay screen. GC/MS itself can fail due to equipment malfunctions, improperly set machine temperature, or human error.¹⁰³

Whether a GC/MS screen is required to confirm a positive immunoassay varies by jurisdiction. At least in the federal system, a positive immunoassay result requires further GC/MS testing.¹⁰⁴ But in some jurisdictions, only the court or parole board can order GC/MS confirmation—not the accused.¹⁰⁵

2. Sweat patches

Sweat patches are devices placed on the user’s skin that monitor for the presence of drugs. Sweat patches were introduced as a less invasive, more convenient drug testing alternative to urinalysis. The person wears a drug detecting patch for between five to fourteen days, which is then removed and tested for the presence of drugs or drug metabolites.¹⁰⁶ Though the sweat patch can be more convenient than urinalysis because it limits trips to testing centers, sweat patch testing can also be significantly more expensive, making it a less popular alternative.¹⁰⁷

¹⁰¹ *Id.*

¹⁰² Moeller, *supra* note 84, at 66.

¹⁰³ Paul C. Giannelli et al., *Scientific Evidence*, 686-88 (4th ed. 2014).

¹⁰⁴ *How Substance Use Testing and Treatment Work*, United States Courts (March 2020), <https://www.uscourts.gov/services-forms/probation-and-pretrial-services/supervision/how-substance-use-testing-and-treatment-work#a2>.

¹⁰⁵ *See, e.g.*, Virginia Department of Corrections, Operating Procedure 841.5, Substance Use Testing and Treatment Services, 9 (2023), <https://vadoc.virginia.gov/files/operating-procedures/800/vadoc-op-841-5.pdf>.

¹⁰⁶ N. De Giovanni & N. Fucci, *The Current Status of Sweat Testing for Drugs of Abuse: A Review*, 20 *Current Med. Chemistry* 545, 551 (2013).

¹⁰⁷ Marek C. Chawarski et al., *Utility of sweat patch testing for drug use monitoring in outpatient treatment for opiate dependence*, 33 *Substance Abuse Treatment* 411, 412 (May 23, 2007).

Though there are different commercial options for sweat patches, most jurisdictions use the PharmChek patch,¹⁰⁸ produced by PharmChem, Inc.¹⁰⁹ Developed in the 1990s, this device “consist[s] of a medical-grade cellulose blotted paper collection pad covered by a thin layer of polyurethane and acrylate adhesives.”¹¹⁰ The collection pad is comprised of “inert cellulose,” a substance which retains unevaporated sweat.¹¹¹ Prior to the application of the sweat patch, the skin is cleaned, typically with isopropyl alcohol, to remove prior contaminants and prevent bacterial growth while the sweat patch is worn.¹¹²

After the supervisee has worn the patch for the required duration, a trained technician removes the patch for testing.¹¹³ The testing laboratory then examines the patch for signs of “tampering, contamination, or damaged or opened security seals,” which results in a rejected sample.¹¹⁴ Accepted samples are tested via immunoassay followed by a liquid chromatography with tandem mass spectrometry test, which is similar to GC/MS.¹¹⁵

PharmChem says on its website that PharmChek patches “can be worn while the wearer showers, exercises, works, and sleeps.”¹¹⁶ PharmChek assures its customers that “the wearer does not need to change any daily activities but must still treat the patch with care.”¹¹⁷

¹⁰⁸ Macroduct is another sweat patch brand, though most sweat patch litigation involves PharmCheck. See Katherine Polzer, *Attitudes About Advances in Sweat Patch Testing in Drug Courts: Insights from a Case Study in Southern California*, 49 *Journal of Offender Rehabilitation* 52, 56-57 (2010).

¹⁰⁹ Giovanni, *supra* note 106, at 551.

¹¹⁰ *Id.*

¹¹¹ *Id.* at 551-52.

¹¹² *Id.*

¹¹³ *How The Sweat Patch Works*, PharmChek, <https://www.pharmchek.com/resources/how-the-sweat-patch-works> (last visited Dec. 11, 2025).

¹¹⁴ *Id.*

¹¹⁵ *Id.*; *The Difference Between GC/MS and LC/MS Systems*, GenTech Scientific (May 16, 2023) <https://gentechscientific.com/the-difference-between-gc-ms-and-lc-ms-systems/>.

¹¹⁶ *How The Sweat Patch Works*, PharmChek, <https://www.pharmchek.com/resources/how-the-sweat-patch-works> (last visited Dec. 11, 2025).

¹¹⁷ *Id.*

Sweat patches have been accepted as reliable by some courts,¹¹⁸ despite challenges to their accuracy and the potential for false positives.¹¹⁹ Sweat patches tend to be least accurate for those recovering from substance abuse, as cleaning prior to placement is ineffective at removing all prior contaminants.¹²⁰ In one example, a former but not current user of both cocaine and methamphetamine was monitored over a six month period with both urine testing and sweat patches. Though all urinalysis testing came back negative, five of the thirteen sweat patches collected were positive for either cocaine, methamphetamine, or both.¹²¹ Sweat patches may also be less accurate after exercise.¹²²

Based on research conducted on both urinalysis and sweat patches, it is reasonable to remain wary of a single positive test through either technology. Even a GC/MS screen can mistakenly alert for drug use.

D. Other Technologies

Although this section has focused on technologies specific to probation and parole hearings, these are not the only technologies producing evidence used at revocation hearings. When a person allegedly violates their probation or parole by committing a new crime, the prosecutor must prove at the revocation hearing that the crime occurred (usually by preponderance of the evidence). In that situation, a prosecutor may bring in evidence from all different kinds of forensic and policing technologies, such as DNA, fingerprints, and body camera footage. Because the prosecutor can introduce this evidence without complying with the hearsay rules, *Daubert*, or many other protections that would apply at a trial, flaws in the evidence may not reveal themselves. It is beyond

¹¹⁸ See *United States v. Stumpf*, 54 F. Supp. 2d 972, 973 (D. Nev. 1999) (ruling that PharmCheck sweat patches were reliable enough for the revocation of supervised release, due to the “very low potential rate of error and that [sweat patch standards were] sufficiently rigorous to assure reliability”); *United States v. Meyer*, 485 F. Supp. 2d 1001, 1012 (N.D. Iowa 2006) (finding that sweat patch evidence was sufficiently reliable to justify probation revocation).

¹¹⁹ See *United States v. Snyder*, 187 F. Supp. 2d 52, 60 (N.D.N.Y. 2002) (“[A]lthough the sweat patch is generally reliable, it cannot be relied upon in situations where it is shown that the possibility of exterior contamination exists due to exposure to a basic solution containing drugs.”); *United States v. Bentham*, 414 F. Supp. 2d 472, 473-75 (S.D.N.Y. 2006) (recognizing potential for false positives by PharmCheck patch but determining that patch was accurate in that case).

¹²⁰ See Giovanni, *supra* note 106, at 559.

¹²¹ Joseph A. Levisky et al., *Comparison of urine to sweat patch test results in court ordered testing*, 122 *Forensic Sci. Int’l* 65, 65 (2001).

¹²² See David A. Kidwell & Frederick P. Smith, *Susceptibility of PharmChek™ drugs of abuse patch to environmental contamination*, 116 *Forensic Sci. Int’l* 89, 104 (2001).

the scope of this paper to scrutinize the reliability of forensic technologies used at both trials and revocation proceedings, but many others have done this analysis.¹²³

Another type of fallible technology used in revocation proceedings is the risk assessment. Risk assessment tools typically collect a set of inputs and then use statistical modeling to generate a risk level label for a person, such as “low risk,” “moderate risk,” or “high risk.”¹²⁴ Many jurisdictions use risk assessments to determine what consequences should follow from a violation of parole¹²⁵ or probation.¹²⁶ Although risk assessments are meant to increase accuracy and lead to more just outcomes, critics say bias creeps in at every stage.¹²⁷ A study of the widely-used Correctional Offender Management Profiling for Alternative Sanctions (“COMPAS”) tool, for example, found that false positives were more common for Black people than for white people, meaning a Black person not rearrested within the study period was more likely to be classified as “high risk” than a white person from a similar background who was not rearrested.¹²⁸ Because this paper focuses on technologies used to prove that a violation occurred, and decision makers typically use risk assessments to determine consequences for a violation, this paper does

¹²³ See, e.g., Roth, *supra* note 9, at 1982 (explaining reliability issues with DNA evidence); Bradford T. Utery, *Accuracy and reliability of forensic latent fingerprint decisions*, National Institute of Standards & Technology, U.S. Dept. of Commerce (Dec. 16, 2010) (explaining reliability issues around fingerprint evidence); Andrea Macarulla Rodriguez, *Google timeline accuracy assessment and error prediction*, 3 *Forensic Sci. Res.* 240 (Oct. 2018) (explaining reliability issues with Google location data evidence).

¹²⁴ Alex Chohlas-Wood, *Understanding Risk Assessment Instruments in Criminal Justice*, Brookings Institution (June 19, 2020), <https://www.brookings.edu/articles/understanding-risk-assessment-instruments-in-criminal-justice/>; Megan Stevenson, *Assessing Risk Assessment in Action*, 103 *Minn. L. Rev.* 303, 315 (2018).

¹²⁵ Ebony L. Ruhland et al., *The Continuing Leverage of Releasing Authorities: Findings from a National Survey Executive Summary*, Robina Institute, Executive Summary at 7 (2017) (“The majority of the 38 responding jurisdictions required the use of a risk assessment at [parole] revocation. This requirement was either by statutory mandate, agency policy, or administrative rule.”); Susan Turner et al., *Development of the California Static Risk Assessment Instrument*, UC Irvine Center for Evidence-Based Corrections, 4 (Sept. 2013) (California risk assessment used to make recommendations to parole agents regarding sanctions).

¹²⁶ Jennifer K. Elek et al., *Using Risk and Needs Assessment Information at Sentencing: Observations from Ten Jurisdictions*, Center for Sentencing Initiatives, 17-18 (Oct. 5, 2015) (“Most of the jurisdictions interviewed use actuarial RNA information in responding to probation violations. . . . Most commonly, risk assessment information is used in conjunction with other information in determining the level of sanction or control to be imposed upon a violation, or whether revocation is appropriate.”).

¹²⁷ Matt Henry, *Risk Assessment: Explained*, *The Appeal* (Mar. 25, 2019), <https://theappeal.org/risk-assessment-explained/>.

¹²⁸ Sandra G. Mayson, *Bias in, Bias Out*, 128 *Yale L.J.* 2218, 2234 (2019). Many risk assessments use arrests to predict risk level, but arrest data reflects the behavior of law enforcement and not necessarily individual behavior. See *id.*

not assess the fallibility and bias of risk assessments. But others have produced important work in this area.¹²⁹

E. Conclusion

While probation and parole officers rely on the above technologies to monitor individuals, and courts use the resulting evidence to make decisions about human liberty, these technologies can be unreliable. Traditional GPS ankle monitors can malfunction, but their replacements—surveillance smartphone applications—can also fail. Newer alcohol wrist monitors may produce fewer false positives than alcohol ankle monitors, but independent testing is scarce. Drug tests can produce false negatives and false positives, although tests vary in their accuracy. Given the consequences, involved parties must ensure malfunctions are rare and quickly uncovered by the adversarial process.

II. Limited Process at Revocation Proceedings

The technologies discussed earlier generate evidence used to justify revoking probation or parole and imposing penalties, including incarceration. Yet the limited revocation process lacks adequate safeguards to detect flaws in complex technological evidence.

When an individual has been accused of violating their probation or parole, the United States Constitution entitles them to basic due process.¹³⁰ But “the full panoply of rights due a defendant [at trial] does not apply.”¹³¹ The “minimum requirements of due process” for probation or parole revocation hearings are:

¹²⁹ See, e.g., Julia Angwin et al., *Machine Bias*, Pro Publica (May 23, 2016), <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing> (investigation of COMPAS risk scores for 7,000 people in Florida showed racial bias and unreliability in predicting recidivism); Julia Dressel & Hany Farid, *The Accuracy, Fairness, and Limits of Predicting Recidivism*, *Sci. Advances* 2 (Jan. 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5777393/> (study of COMPAS finds that it is barely more accurate than human prediction); *Report on Algorithmic Risk Assessment Tools in the U.S. Criminal Justice System*, Partnership on AI, 3 (2019) <https://partnershiponai.org/wp-content/uploads/2021/08/Report-on-Algorithmic-Risk-Assessment-Tools.pdf> (“Using risk assessment tools to make fair decisions about human liberty would require solving deep ethical, technical, and statistical challenges, including ensuring that the tools are designed and built to mitigate bias at both the model and data layers, and that proper protocols are in place to promote transparency and accountability. The tools currently available and under consideration for widespread use suffer from several of these failures . . .”); cf. Rebecca Wexler, *Code of Silence*, *Wash. Monthly* (June 11, 2017), <https://washingtonmonthly.com/2017/06/11/code-of-silence/> (private companies claim their risk assessment algorithms are trade secrets and refuse to reveal how they work).

¹³⁰ *Morrissey v. Brewer*, 408 U.S. 471, 489 (1972).

¹³¹ *Id.* at 480.

(a) written notice of the claimed violations of parole; (b) disclosure to the parolee of evidence against him; (c) opportunity to be heard in person and to present witnesses and documentary evidence; (d) the right to confront and cross-examine adverse witnesses (unless the hearing officer specifically finds good cause for not allowing confrontation); (e) a ‘neutral and detached’ hearing body such as a traditional parole board, members of which need not be judicial officers or lawyers; and (f) a written statement by the factfinders as to the evidence relied on and reasons for revoking parole.¹³²

The “decision as to the need for counsel must be made on a case-by-case basis in the exercise of a sound discretion by the state authority charged with responsibility for administering the probation and parole system.”¹³³

Beyond these procedural protections, jurisdictions decide for themselves how much process is due at parole and probation violation hearings. This section focuses on the procedural protections that apply at revocation hearings in the United States Courts, California, Georgia, Indiana, New York, and Texas. These jurisdictions were selected so that the analysis would cover both small and large jurisdictions, states in varied geographic locations, states that have undertaken community supervision reforms, and jurisdictions with different approaches to probation and parole procedures. The analysis also relies on interviews with attorneys who practice parole and probation law.

There is significant variation in parole and probation revocation hearing procedures. In California, for example, there is a right to appointed counsel at both probation and parole revocation hearings, but in Georgia, counsel is only appointed if the individual makes a request and shows that fundamental fairness requires an attorney.¹³⁴

Although most jurisdictions use the preponderance of the evidence standard, New York uses the higher “clear and convincing” evidence standard for parole revocation hearings.¹³⁵

In many states, hearsay is admissible at probation revocation hearings if the court finds it trustworthy or substantially reliable,¹³⁶ but in New York, “hearsay alone” cannot

¹³² *Id.* at 489; *Gagnon v. Scarpelli*, 411 U.S. 778, 782 (1973) (same due process rights that *Morrissey* said apply at parole revocation proceedings also apply at probation revocation proceedings).

¹³³ *Gagnon*, 411 U.S. at 790.

¹³⁴ Compare Cal. Pen. Code. § 1203.2(b)(2), with *Vaughn v. Rutledge*, 462 S.E.2d 132, 133 (Ga. 1995), and *Foskey v. Sapp*, 229 S.E.2d 635, 637 (Ga. 1976) (Hill, concurring).

¹³⁵ N.Y. Comp. Codes R. & Regs. tit. 9 § 8005.19(e).

¹³⁶ See, e.g., *People v. Brown*, 215 Cal. App. 3d 452, 454-55 (1989); *Reyes v. State*, 868 N.E.2d 438, 441 (Ind. 2007).

“satisfy the requirement that a finding of a probation violation must be based upon a preponderance of the evidence.”¹³⁷ In Georgia, hearsay *is not* admissible in probation revocation proceedings but *is* admissible in parole revocation proceedings.¹³⁸

The jurisdictions also vary in how they scrutinize scientific expert testimony at revocation hearings. In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,¹³⁹ the Supreme Court held that scientific expert testimony admitted at trial must be reliable, with four relevant factors: whether the theory or technique is generally accepted in the scientific community; whether it can be (and has been) tested; whether it has been subject to peer review and publication; and the error rate.¹⁴⁰ *Daubert* does not bind the states, and they have made different choices about whether to follow *Daubert*, *Frye*,¹⁴¹ or another test when assessing scientific testimony at trial.

For revocation hearings, *Daubert* or the state equivalent is not typically required, but some variation exists. Texas uses its version of the *Daubert* standard at probation revocation hearings, while Indiana allows any evidence with “some substantial indicia of reliability.”¹⁴² California and the United States Courts have analyzed scientific testimony under *Daubert* or a similar test at probation revocation hearings without saying that doing so is required.¹⁴³ None of the selected jurisdictions are clear about whether *Daubert* or a similar test applies at parole revocation hearings. This means the accused must first argue about what standard applies to scientific testimony before they can argue about whether the technological evidence meets that standard. This is especially challenging for those without an attorney or other support outside of prison.

The lower procedural protections for probationers and parolees at revocation hearings mean that technological evidence introduced against them receives less scrutiny than it would at trial. Attorneys help courts understand technological evidence because they

¹³⁷ *People v. Owens*, 685 N.Y.S.2d 556, 556 (1999).

¹³⁸ Compare *Goodson v. State*, 444 S.E.2d 603, 603 (Ga. Ct. App. 1994) (“Hearsay evidence has no probative value and is inadmissible in a probation revocation proceeding.”), with *Williams v. Lawrence*, 540 S.E.2d 599, 602 (Ga. 2001) (holding that hearsay evidence is admissible at a parole revocation hearing because parole is administrative whereas probation is a judicial matter).

¹³⁹ 509 U.S. 579 (1993).

¹⁴⁰ *Id.* at 593-94.

¹⁴¹ Before *Daubert*, many jurisdictions followed *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923), which held that “general acceptance” was a prerequisite to admitting scientific testimony at trial. Because *Daubert* was only binding on federal jurisdictions, some states, such as New York, continue to use the *Frye* standard.

¹⁴² Ind. R. Evid. 101(d)(2); *Carter v. State*, 706 N.E.2d 552, 554 (Ind. 1999).

¹⁴³ See, e.g., *People v. Buell*, 224 Cal. Rptr. 3d 498, 501-04 (Cal. Ct. App. 2017); *Stumpf*, 54 F. Supp. 2d at 973.

have the resources and experience to coordinate and prepare scientific experts and to analyze and explain why technological evidence may not be reliable. Discovery is vital to defending a case with technological evidence because it determines whether the accused may access information about how the technology works and how it was applied in their case. The standard of proof can be decisive because a lower standard may mean the technology used does not have to be as reliable to support a violation finding without corroborating evidence. *Daubert* and *Frye* matter because these standards help ensure that scientific testimony is based on a tested and reliable method. And hearsay rules are important because scientific reports may be hearsay and not subject to cross-examination that could reveal flaws in the evidence.¹⁴⁴

Beyond the statutes and case law, there are practical considerations to challenging scientific evidence at revocation hearings not reflected in the statutes or case law. In some states, for example, revocation hearings tend to occur quickly, whereas in other jurisdictions they languish because there is no right to a speedy revocation hearing. In jurisdictions where hearsay evidence must be reliable or where there must be good cause to admit it, some attorneys report that they have nonetheless never seen hearsay excluded from a revocation hearing, even over defense objection. Some practitioners also report that parole revocation hearings are generally much less formalized and regulated than probation revocation hearings, which can lead to uncertainty and uneven communication between prosecutors and the defense about the expected evidence. Others report that prosecutors do not turn over scientific evidence because they prefer to offer a plea deal instead of providing discovery. Encouraging discovery could therefore lead to more plea deals rather than reveal flaws in the evidence.

A. United States Courts

As of 2025, 121,777 individuals were under some kind of federal post-conviction supervision, with the majority (89.7%) serving terms of “supervised release.”¹⁴⁵ The federal government has three kinds of post-conviction monitoring: probation, parole, and supervised release. Probation is a sentence to a period of supervision outside of a detention facility.¹⁴⁶ Until 1984, federal parole was the term used for people incarcerated

¹⁴⁴ See, e.g., *Com. v. Joraskie*, 519 A.2d 1010, 1011 (Pa. Super. 1987) (urinalysis report hearsay).

¹⁴⁵ United States Sentencing Commission, *Supervised Release*, [https://www.ussc.gov/research/quick-facts/supervised-release#:~:text=Data%20from%20the%20Administrative%20Office,91.4%25%20\(7th%20Circuit\)](https://www.ussc.gov/research/quick-facts/supervised-release#:~:text=Data%20from%20the%20Administrative%20Office,91.4%25%20(7th%20Circuit)) (last visited Dec. 12, 2025) (hereinafter “*Supervised Release*”).

¹⁴⁶ *Post-Conviction Supervision*, U.S. Courts <https://www.uscourts.gov/services-forms/probation-and-pretrial-services/post-conviction-supervision#:~:text=Probation%20serves%20as%20an%20alternative,supervised%20release%20in%20the%20community> (last visited Dec. 12, 2025).

and then released to community supervision, and there are still a small number of individuals on federal parole.¹⁴⁷ But the Sentencing Reform Act of 1984 replaced federal parole with supervised release for most cases.¹⁴⁸ Like parole, supervised release is a period of post-imprisonment supervision.¹⁴⁹ Federal Rule of Criminal Procedure 32.1 governs proceedings for revocation of probation or supervised release.

There is a right to appointed counsel at probation and supervised release revocation hearings in the federal system,¹⁵⁰ and the preponderance of the evidence standard applies.¹⁵¹

The accused is entitled to “disclosure of the evidence against” them.¹⁵² This requirement appears to be limited to the evidence used at the hearing to prove a violation.¹⁵³ Rule 32.1 and the Due Process Clause may not compel a prosecutor, for example, to turn over the probation officer’s interview notes or the accused’s probation file, if the prosecutor does not intend to use these items in their case-in-chief, although discovery rights at revocation hearings are not uniform across federal districts.¹⁵⁴

It is also not clear whether there is a right to exculpatory evidence in federal supervised release proceedings.¹⁵⁵ As of 2015, it was the official policy of the United States Probation

¹⁴⁷ Douglas A. Berman, *Reflecting on Parole’s Abolition in the Federal Sentencing System*, 81 Fed. Prob. 18, 18 (Sept. 2017).

¹⁴⁸ United States Sentencing Commission, Office of the General Counsel, *Primer on Supervised Release*, 1 (2021).

¹⁴⁹ *Supervised Release*, *supra* note 145.

¹⁵⁰ 18 U.S.C. §§ 3006A(a)(1)(C), (a)(1)(E); 28 C.F.R. § 2.48(b).

¹⁵¹ 18 U.S.C. § 3583(e)(3) (supervised release); *Taylor v. U.S. Parole Comm’n*, 734 F.2d 1152, 1155 (6th Cir. 1984) (parole); *United States v. Bujak*, 347 F.3d 607, 609 (6th Cir. 2003) (probation).

¹⁵² Fed. R. Crim. P. 32.1(b)(2)(B).

¹⁵³ Federal Defenders of San Diego, *Defending a Federal Criminal Case*, 35.05.03.05 (2023); Alison K. Guernsey, *Rethinking Supervised Release Discovery with an Eye Toward Real “Fundamental Fairness,”* 34 Fed. Sent. R. 295, 297 (2022).

¹⁵⁴ See *United States v. Donaghe*, 924 F.2d 940, 944 (9th Cir. 1991) (no violation for prosecution to fail to provide probation office visit notes when only used on cross-examination); *United States v. Tham*, 884 F.2d 1262, 1265 (9th Cir. 1989) (no violation for prosecution to fail to provide entire probation file when not used as evidence); *United States v. Neal*, 512 F.3d 427, 436 (7th Cir. 2008) (no violation for failing to provide documents or physical items not introduced as evidence at revocation hearing). See also Guernsey, *supra* note 153, at 297.

¹⁵⁵ See, e.g., *United States v. Guardino*, 972 F.2d 682, 689 (6th Cir. 1992) (finding no reversible error in failure to disclose draft memo by probation officer that defense argued showed officer bias); *United States v. Neal*, 512 F.3d 427, 438 (7th Cir. 2008) (declining to reach question whether exculpatory evidence must be turned over in revocation proceedings); *United States v. Dixon*, 187 F. Supp. 2d 601, 602, 604 (S.D.W. Va. 2002) (recognizing that “[s]ome courts have questioned whether *Brady* is applicable in the revocation context,” but requiring limited file review by probation officer for exculpatory evidence); Guernsey, *supra*

Office (“USPO”) to deny requests for exculpatory and mitigating evidence, such as, for example, negative drug tests when the violation is based on a positive drug test.¹⁵⁶ Some courts, however, have held that *Morrissey* does require the USPO to turn over material mitigating evidence.¹⁵⁷

While the federal system is not bound by the Federal Rules of Evidence or *Daubert* at the revocation stage, federal courts sometimes use *Daubert* to analyze novel scientific methods in the revocation context.¹⁵⁸ In *Stumpf*, for example, the defendants challenged the use of sweat patch evidence and asserted it was scientifically unsound.¹⁵⁹ The District of Nevada held it could “properly look to *Daubert*” for guidance when “assessing the reliability of scientific evidence,” and held that the evidence was reliable and admissible based on expert testimony provided.¹⁶⁰

There is no guarantee, however, that federal courts will rely on Rule 702 or *Daubert* when considering technological evidence. In *United States v. Zubeck*, the Western District of Missouri found that the use of sweat patches, supported by expert testimony, was reliable and admissible for revocation of supervised release without referencing *Daubert* or Rule 702.¹⁶¹ Similarly, in *Snyder* the court did not reference *Daubert* or Rule 702 but concluded that the sweat patch test there was unreliable because of the possibility of “exterior contamination.”¹⁶²

Federal Rule of Criminal Procedure 32.1 requires that a probationer or supervisee have the right to “question any adverse witness, unless the court determines that the interest of justice does not require the witness to appear.”¹⁶³ Courts have interpreted this rule as allowing hearsay evidence at revocation hearings when “it bears sufficient indicia of

note 153, at 298 (with two possible exceptions, “none of the remaining [federal] districts have specific, formal rules for supervised release discovery that, on their face or in practice, require the routine disclosure of exculpatory and mitigating evidence”).

¹⁵⁶ Guernsey, *supra* note 153, at 296-98.

¹⁵⁷ See, e.g., *Dixon*, 187 F. Supp. 2d at 604 (requiring prosecutors to turn over “[m]aterial information that is either directly exculpatory or of value in impeaching a witness who will testify at the revocation hearing” and specifying that information is “material only if it reasonably could be expected to result in non-revocation or a lower sentence”).

¹⁵⁸ Fed. R. Evid. 1101(d)(3) (stating that the Federal Rules of Evidence are inapplicable to “revoking probation or supervised release”); see also *Hyser v. Reed*, 318 F.2d 225, 240 (D.C. Cir. 1963) (holding that the “Parole Board is not bound by the rules of evidence” when considering parole violations).

¹⁵⁹ 54 F. Supp. 2d at 973.

¹⁶⁰ *Id.* at 972-74.

¹⁶¹ 248 F. Supp. 2d 895, 897-99 (W.D. Mo. 2002).

¹⁶² 187 F. Supp. 2d at 61, 63.

¹⁶³ Fed. R. Crim. P. 32.1(b)(1)(B)(iii).

reliability.”¹⁶⁴ Such indicia may include the “detail of the statement, the declarant’s consistent recounting of the statement on different occasions, or other evidence independently corroborating the statement.”¹⁶⁵ The Due Process right to confrontation also requires that the court balance the accused’s interest in confrontation against the government’s proffered “good cause” for not presenting live testimony.¹⁶⁶ Courts have allowed, for example, hearsay urinalysis laboratory reports at revocation hearings because they were “the regular reports of a company whose business it is to conduct such tests,” and the defense “made only general, unsubstantiated claims that the laboratory tests may have been defective.”¹⁶⁷

In sum, a person facing revocation in the federal system based on complex technological evidence may not have access to exculpatory evidence, the evidence against them may be hearsay, and even if a scientific expert testifies, their opinion may not be reliable under *Daubert*. Although more formalized than other jurisdictions, the federal revocation process is still not set up to uncover flaws in technological evidence.

B. California

As of 2022, California has over 200,000 people on community supervision.¹⁶⁸ In the past, the California Board of Parole Hearings held parole revocation hearings, but local superior courts now hear both parole and probation revocation cases, using similar procedures at both.¹⁶⁹ At these hearings, the accused has a right to appointed counsel,¹⁷⁰ and prosecutors must prove violations by a preponderance of the evidence.¹⁷¹

For discovery, prosecutors must preserve and turn over “evidence material to the issue of [] guilt or innocence,” and courts may permit a probationer to inspect the non-

¹⁶⁴ *United States v. Stanfield*, 360 F.3d 1346, 1360 (D.C. Cir. 2004) (collecting cases).

¹⁶⁵ *United States v. Franklin*, 51 F.4th 391, 397-98 (1st Cir. 2022).

¹⁶⁶ See, e.g., *United States v. Alvear*, 959 F.3d 185, 189 (5th Cir. 2020); *United States v. Sutton*, 916 F.3d 1134, 1138-39 (8th Cir. 2019); *United States v. Comito*, 177 F.3d 1166, 1170-71 (9th Cir. 1999); *United States v. Frazier*, 26 F.3d 110, 114 (11th Cir. 1994); see also *United States v. Williams*, 443 F.3d 35, 45 (2d Cir. 2006) (good cause analysis required only where hearsay does not fall into a recognized exception).

¹⁶⁷ *United States v. Bell*, 785 F.2d 640, 643 (8th Cir. 1986).

¹⁶⁸ Danielle Kaeble, U.S. Dept. of Justice, *Probation and Parole in the United States, 2022*, 19 (May 2024). The only states with larger populations under supervision were Texas and Georgia. *Id.*

¹⁶⁹ See Heather Mackay & Prison Law Office, *California Prison and Parole Handbook*, § 11.23; Cal. Pen. Code § 3000.08(c); *Valdivia v. Brown*, 956 F. Supp. 2d 1125, 1132 (E.D. Cal. 2013).

¹⁷⁰ Cal. Pen. Code. §§ 1203.2(b)(2); 3000.08(f).

¹⁷¹ Cal. Pen. Code § 3044(a)(5); Cal. Ct. R. 5.580; *People v. Rodriguez*, 795 P.2d 783, 784-85 (Cal. 1990).

confidential portions of their own probation file.¹⁷² At parole revocation hearings specifically, the accused is entitled to “a copy of any police, arrest, and crime reports, criminal history information, and child abuse reports . . . pertaining to those proceedings.”¹⁷³ Although the accused need not provide reciprocal discovery to the prosecution,¹⁷⁴ it is unclear whether other trial discovery rules may apply.¹⁷⁵

California courts also have not decided what standard applies to scientific expert testimony at revocation hearings. California does not follow *Daubert* at criminal trials, but rather uses a standard known as “*Kelly/Frye*” based on *People v. Kelly* and *Frye v. United States*.¹⁷⁶ California courts have referenced the *Kelly/Frye* standard in revocation hearing cases, but it is unclear whether the standard is required.¹⁷⁷

Testimonial hearsay is admissible at revocation hearings based on a “good cause” showing and a balancing test.¹⁷⁸ Documentary hearsay evidence, such as laboratory reports or chemical tests, may be admitted based on trustworthiness and sufficient indicia of reliability.¹⁷⁹

¹⁷² *People v. Moore*, 666 P.2d 419, 421 (Cal. 1983); *Cnty. of Placer v. Superior Ct.*, 30 Cal. Rptr. 3d 617, 621 (Cal. Ct. App. 2005).

¹⁷³ Cal. Pen. Code § 3063.5.

¹⁷⁴ *Jones v. Superior Court*, 8 Cal. Rptr. 3d 687, 689 (Cal. Ct. App. 2004).

¹⁷⁵ Compare *id.*, with *Cnty. of Placer*, 30 Cal. Rptr. 3d at 622 (declining to decide whether the Penal Code discovery provisions apply to revocation proceedings).

¹⁷⁶ *People v. Kelly*, 549 P.2d 1240 (Cal. 1976); *Frye v. United States*, 293 F. 1013 (D.C. Cir. 1923).

¹⁷⁷ See *People v. Nolan*, 116 Cal. Rptr. 2d 331, 334 (Cal. Ct. App. 2002) (holding *Kelly/Frye* application was unnecessary “because this case does not involve a new scientific technique.”); *People v. Buell*, 224 Cal. Rptr. 3d 498, 503-04 (Cal. Ct. App. 2017) (holding that SCRAM evidence would have satisfied *Kelly/Frye* because courts in other states have accepted such evidence as reliable and the defendant did not present his own evidence challenging SCRAM’s reliability.)

¹⁷⁸ *People v. Arreola*, 875 P.2d 736, 738 (Cal. 1994) (requiring good cause showing to admit preliminary hearing transcript); *People v. Shepherd*, 151 Cal. App. 4th 1193, 1202, *as modified* (June 26, 2007) (court erred by admitting hearsay evidence about the accused’s alcohol consumption without good cause); *United States v. Comito*, 177 F.3d 1166, 1170 (9th Cir. 1999) (“[I]n determining whether the admission of hearsay evidence violates the releasee’s right to confrontation in a particular case, the court must weigh the releasee’s interest in his constitutionally guaranteed right to confrontation against the Government’s good cause for denying it.”).

¹⁷⁹ *People v. Maki*, 39 Cal. 3d 707, 709 (1985) (hearsay invoice allowed); *People v. Brown*, 215 Cal. App. 3d 452, 454 (1989) (hearsay chemical test results allowed).

C. Georgia

Georgia has the highest supervision population in the nation with about 1 in 23 adults under community supervision, compared to the national average of 1 in 66.¹⁸⁰ Parole revocation hearings take place before the Georgia Board of Pardons and Parole,¹⁸¹ while courts hear probation revocation cases.¹⁸²

At both parole and probation revocation hearings, counsel is appointed on a “case-by-case basis,” and only as “fundamental fairness” requires.¹⁸³ By statute, Georgia requires the preponderance of the evidence standard at probation revocation hearings.¹⁸⁴ There is “no legal burden of proof” for parole revocation hearings.¹⁸⁵ But the Parole Board uses the preponderance of the evidence standard “as a matter of practice.”¹⁸⁶

For probation and parole revocation hearings, there is no Georgia authority on discovery requirements beyond *Morrissey* and *Gagnon*.

As of 2022, Georgia analyzes scientific testimony at criminal trials using *Daubert* and Georgia Code section 24-7-702(f). It previously used a “verifiable certainty” test from *Harper v. State*, 292 S.E.2d 389 (Ga. 1982).¹⁸⁷ Georgia courts have applied the *Harper* test to analyze scientific testimony at probation revocation hearings.¹⁸⁸ It therefore

¹⁸⁰ Georgia Department of Community Supervision, *2022 Fact Sheet: Answering the Most Common Questions About Probation & Parole in Georgia* (2022).

¹⁸¹ State Board of Pardons and Paroles, *Parole Violations & Revocations*, <https://pap.georgia.gov/parole-population-georgia/parole-conditions/parole-violations-revocations#:~:text=When%20a%20parolee%20has%20reportedly.revocation%20order%20may%20be%20issued> (last visited Dec. 15, 2025).

¹⁸² Ga. Code § 42-8-34.1.

¹⁸³ *Vaughn v. Rutledge*, 462 S.E.2d 132, 133 (Ga. 1995); *Foskey v. Sapp*, 229 S.E.2d 635, 637 (Ga. 1976) (Hill, concurring).

¹⁸⁴ Ga. Code § 42-8-34.1(b).

¹⁸⁵ Alexis Lee Watts et al., Robina Inst. of Crim. L. & Crim. Just., *Profiles in Parole Releases and Revocation: Examining the Legal Framework in the United States, Georgia*, 17 (2016).

¹⁸⁶ *Id.*

¹⁸⁷ See *Smith v. State*, 882 S.E.2d 300, 310 n.6 (Ga. 2022) (explaining evolution of Georgia standard for scientific testimony over time).

¹⁸⁸ *Harper v. State*, 292 S.E.2d 389, 395 (Ga. 1982) (holding that in all proceedings, scientific evidence must be proven reliable with “verifiable certainty”); *Bowen v. State*, 531 S.E.2d 104, 105-07 (Ga. Ct. App. 2000) (holding that, under the *Harper* standard, the trial court had erred by revoking probation for drug usage because it had failed to “prove that this urine testing procedure had become scientifically established with verifiable certainty in Georgia or in other jurisdictions”); *Grinstead v. State*, 605 S.E.2d 417, 418-20 (Ga. Ct. App. 2004) (holding that relying on solely one case to prove drug test was reliable was not sufficient to meet the *Harper* standard of reliability).

appears likely that the new *Daubert* standard also applies to probation revocation hearings. Georgia has not indicated if there is a required level of scrutiny for scientific testimony at parole revocation hearings. The Georgia Code states that the rules of evidence do not apply to proceedings for revoking parole,¹⁸⁹ and the Georgia rules on the rights of people on parole do not mention any ability to challenge scientific evidence.¹⁹⁰

At probation revocation hearings, hearsay evidence is inadmissible because it “has no probative value.”¹⁹¹ In contrast, the Georgia Supreme Court has held that “the Parole Board may admit hearsay” and that hearsay evidence at such hearings “is *not* subject to the general principle in Georgia that hearsay evidence has no probative value even if admitted without objection.”¹⁹² Based on an objection or invocation of the due process right to confrontation, Georgia courts may need to consider whether there is good cause for not allowing confrontation.¹⁹³

D. Indiana

In Indiana there is a right to counsel at probation revocation hearings,¹⁹⁴ but not at parole revocation hearings.¹⁹⁵ Whether to provide counsel for parole revocation proceedings is “decided on a case-by-case basis in the exercise of the Parole Board’s sound discretion” and “should be provided where the parolee makes a request for counsel based on a timely and colorable claim: (1) that he has not committed the alleged parole violation or (2) that there are substantial reasons which justified or mitigated the violation.”¹⁹⁶

The standard of proof at both probation and parole revocation hearings is preponderance of the evidence.¹⁹⁷ Indiana law does not articulate discovery rights beyond *Morrissey* and *Gagnon*.

At both probation and parole revocation hearings, courts can consider scientific evidence that has “some substantial indicia of reliability.”¹⁹⁸ Although *Daubert* and Indiana Rule

¹⁸⁹ Ga. Code. § 24-1-2(c)(4).

¹⁹⁰ Ga. Comp. R. & Regs. 475-3-.08(6).

¹⁹¹ *Goodson v. State*, 444 S.E.2d 603, 603 (Ga. Ct. App. 1994); *Barnett v. State*, 392 S.E.2d 322, 323 (Ga. Ct. App. 1990).

¹⁹² *Williams v. Lawrence*, 540 S.E.2d 599, 602 (Ga. 2001).

¹⁹³ *Id.* at 603.

¹⁹⁴ Ind. Code Ann. § 35-38-2-3(f).

¹⁹⁵ *Hawkins v. Jenkins*, 374 N.E.2d 496, 500 (Ind. 1978).

¹⁹⁶ *Id.*

¹⁹⁷ Ind. Code Ann. § 35-38-2-3(f); *Mathews v. State*, 64 N.E.3d 1250, 1256 (Ind. Ct. App. 2016).

¹⁹⁸ *Carter v. State*, 706 N.E.2d 552, 554 (Ind. 1999); *Harris*, 836 N.E.2d at 280.

of Evidence 702(b) (on scientific expert testimony at trial) do not apply at probation revocation hearings, they can be “helpful to Indiana courts in determining whether expert scientific testimony in probation revocation hearings possesses substantial indicia of reliability.”¹⁹⁹ Hearsay, too, is admissible at Indiana probation and parole revocation hearings if it passes a “substantial trustworthiness test.”²⁰⁰

E. New York

New York’s Less is More: Community Supervision Revocation Reform Act of 2021 (“**the Less is More Act**”) raised the standard of proof for a parole violation to clear and convincing evidence, eliminated incarceration for first or second “technical” violations, and strengthened the right to appointed counsel.²⁰¹

People on probation or parole now have a right to appointed counsel at all stages of a revocation hearing.²⁰² The standard of proof for a probation violation is preponderance of the evidence,²⁰³ while the standard for a parole violation is clear and convincing evidence.²⁰⁴ The evidence must also show that the person on parole violated at least one condition “in an important respect.”²⁰⁵ Although people on probation or parole do not have the same discovery rights at a revocation hearing as they would at trial,²⁰⁶ some New York courts have held that they should have access to prior statements and notes of a testifying witness.²⁰⁷

The *Frye* standard appears to apply to reviewing scientific evidence at probation revocation hearings in New York. In *People v. Dorcent*, for example, the court held a *Frye* hearing and determined that SCRAM evidence was admissible because “the People have

¹⁹⁹ *Mogg v. State*, 918 N.E.2d 750, 756 (Ind. Ct. App. 2009).

²⁰⁰ *Reyes v. State*, 868 N.E.2d 438, 440-41 (Ind. 2007); *Pierce v. Martin*, 882 N.E.2d 734, 736 (Ind. Ct. App. 2008).

²⁰¹ N.Y. Comp. Codes R. & Regs. tit. 9, § 8005.19(e); *id.* § 8005.20(e)(2); Legal Aid Society, *What You Need to Know About the Less is More Act*, <https://legalaidnyc.org/get-help/parole/what-you-need-to-know-about-the-less-is-more-act/> (last visited Dec. 17, 2025) (hereinafter “*What You Need to Know About the Less is More Act*”).

²⁰² N.Y. Crim. Proc. Law § 410.70(4); N.Y. Comp. Codes R. & Regs. Tit. 9 § 8004.4(d); N.Y. Exec. Law § 259-i(3)(A)(vii).

²⁰³ N.Y. Crim. Proc. Law § 410.70(3).

²⁰⁴ N.Y. Comp. Codes R. & Regs. tit. 9 § 8005.19(e).

²⁰⁵ *Id.*

²⁰⁶ *People v. Mitchell*, 607 N.Y.S.2d 417, 418 (N.Y. App. Div. 1994); *Milburn v. New York State Div. of Parole*, 569 N.Y.S.2d 849, 850 (N.Y. App. Div. 1991).

²⁰⁷ *Mitchell*, 607 N.Y.S.2d at 418; *People ex rel. Deyver by Weinstein v. Travis*, 657 N.Y.S.2d 306, 308 (N.Y. Sup. Ct. 1997), *aff’d*, 668 N.Y.S.2d 966 (N.Y. App. Div. 1997).

satisfied the general requirements of *Frye* for admissibility of the SCRAM device, as well as established that the procedures followed in this case were reliable.”²⁰⁸ In *People v. Bohrer*, the defendant argued that evidence from his ignition interlock device was inadmissible without a *Frye* hearing.²⁰⁹ Although the court agreed with the defendant that the “necessity of a *Frye* hearing turns on the reliability of the proffered scientific evidence, not on the nature of the proceeding at which it is offered,” it decided that a *Frye* hearing was unnecessary there because the court could take judicial notice that ignition interlock devices are generally accepted as reliable.²¹⁰ It is not clear whether the *Frye* standard may also apply at parole revocation hearings.

Hearsay is admissible in a probation revocation hearing in New York, but “hearsay alone does not satisfy the requirement that a finding of a probation violation must be based upon a preponderance of the evidence.”²¹¹ “[T]he People must present facts of a probative character, outside of the hearsay statements, to prove the violation.”²¹² For good cause, hearsay evidence can be introduced at a parole revocation hearing.²¹³

F. Texas

Other than the lower preponderance standard of proof, there are “few procedural differences between a Texas criminal trial and a Texas [probation] revocation proceeding.”²¹⁴ There is a right to appointed counsel at probation revocation proceedings,²¹⁵ and scientific evidence is reviewed under the *Daubert* standard and Texas Rule of Evidence 702.²¹⁶ Texas does, however, appear to allow hearsay evidence at probation revocation hearings if the evidence is generally reliable and trustworthy.²¹⁷ Texas courts have permitted, for example, testimony by a probation officer about incidents in the probation file that the officer did not personally witness,²¹⁸ and (in an

²⁰⁸ 909 N.Y.S.2d 618, 620-26 (N.Y. Crim. Ct. 2010).

²⁰⁹ 952 N.Y.S.2d 375, 377 (Just. Ct. 2012).

²¹⁰ *Id.* at 380.

²¹¹ *People v. Owens*, 685 N.Y.S.2d 556, 556 (N.Y. App. Div. 1999).

²¹² *People v. Pettway*, 730 N.Y.S.2d 597, 597 (N.Y. App. Div. 2001).

²¹³ *People ex rel. McGee v. Walters*, 62 N.Y.2d 317, 318-19 (N.Y. 1984).

²¹⁴ *Ex parte Doan*, 369 S.W.3d 205, 210 (Tex. Crim. App. 2012).

²¹⁵ Tex. Code Crim. Proc. Ann. art. 42A.751(k).

²¹⁶ *See, e.g., Hernandez v. State*, 116 S.W.3d 26, 28-31 (Tex. Crim. App. 2003) (en banc) (trial court abused its discretion by revoking probation based on urinalysis results not shown to be reliable under *Daubert* or *Kelly v. State*, 824 S.W.2d 568, 573 (Tex. Crim. App. 1992), interpreting Texas Rule of Evidence 702).

²¹⁷ *Frazier v. State*, 600 S.W.2d 271, 274 (Tex. Crim. App. 1979) (holding that hearsay testimony admitted without objection at probation revocation hearing had probative value and constituted sufficient evidence in support of order revoking probation).

²¹⁸ *Id.* at 272, 274.

unpublished case) about the content of emails from an ankle monitor vendor.²¹⁹ There is a split in authority in Texas on whether the Confrontation Clause applies at probation revocation hearings.²²⁰

Parole revocation proceedings, on the other hand, are overseen by Texas's Board of Pardons and Paroles and lack most of the procedures of a criminal trial. If a parole officer issues a revocation warrant based on an alleged violation, they will then ask whether the person wishes to waive their right to preliminary and revocation hearings.²²¹ This can occur without counsel present because appointment of counsel at parole revocation proceedings is discretionary.²²² Parole can be revoked if "a preponderance of the credible evidence" shows a violation.²²³ The accused is entitled to "full disclosure of the evidence" and must be notified of this right when they waive their right to a hearing.²²⁴ At the hearing, testimonial hearsay may be admitted based on "good cause,"²²⁵ and an adult victim's fear of testifying with the defendant present can qualify as good cause.²²⁶ After a revocation hearing is held or the person waives their right to a hearing, a three-person panel of parole board members and parole commissioners decides whether to revoke by a majority vote.²²⁷

G. Conclusion

In 1972, the Supreme Court recognized that people under community supervision have a liberty interest in remaining out of prison. But it justified lower procedural protections at revocation hearings based on the person's past conviction of a crime and the perceived

²¹⁹ *Kesler v. State*, No. 03-22-00530-CR, 2024 WL 3586270, at 1 (Tex. App. July 31, 2024) (unpublished).

²²⁰ *Cunningham v. State*, 673 S.W.3d 280, 287-90 (Tex. App. 2023) (explaining split in authority and holding that Confrontation Clause applied in that case).

²²¹ *Parole in Texas: Answers to Common Questions*, Texas Department of Criminal Justice Parole Division, 41, https://www.tdcj.texas.gov/bpp/publications/PIT_English.pdf (hereinafter "*Parole in Texas*") ("At the initial interview with the parole officer, the offender is required to choose whether they want to have their hearing(s) or waive their right to one or both hearings.").

²²² 37 Tex. Admin. Code § 146.3. In deciding whether to appoint counsel, the Parole Board considers "(1) whether the releasee is indigent; (2) whether the releasee lacks the ability to articulate or present a defense or mitigation evidence in response to the allegations; and (3) the complexity of the case and whether the releasee admits the alleged violations." *Id.*; see also *Ex parte Taylor*, 957 S.W.2d 43, 48 (Tex. Crim. App. 1997) (counsel need not be appointed when parolee is "capable of asking meaningful questions, understanding the proceedings, and presenting witnesses, testimony, and evidence concerning the allegations").

²²³ 37 Tex. Admin. Code § 146.9(b).

²²⁴ 37 Tex. Admin. Code § 146.4(b)(1)(C).

²²⁵ *Id.* § 146.4(b)(1)(E).

²²⁶ *Taylor*, 957 S.W.2d at 44.

²²⁷ *Parole in Texas*, *supra* note 221, at 41.

risk that this makes them more likely to commit another crime.²²⁸ The Court has also opined that, if revocation proceedings become more like trials, they may be unnecessarily prolonged, expensive, and “less attuned to the rehabilitative needs of the individual probationer or parolee.”²²⁹

At the same time, the Court recognized that the state has no interest in revoking community supervision without adequate procedural guarantees. Society has an interest in restoring the person on supervision “to normal and useful life within the law” and thus “in not having parole revoked because of erroneous information.”²³⁰ It also benefits everyone to provide basic fairness: “fair treatment in parole [and probation] revocations will enhance the chance of rehabilitation by avoiding reactions to arbitrariness.”²³¹

Since the Court decided *Morrissey* and *Gagnon*, community supervision has changed dramatically, but basic fairness remains as important as ever. With revocations now based on complex scientific evidence, it is even more apparent that individuals need attorneys, discovery, and rules of evidence when facing revocation. Unfortunately, jurisdictions across the nation provide less process than is needed.

III. Solutions

To ensure baseline fairness, parole and probation revocation procedures must lead to accurate determinations about whether a given violation occurred. But current revocation procedures may not uncover flaws in the complex technological evidence used to prove community supervision violations today.

Three areas of reform would help move jurisdictions toward a fairer system. First, revocation procedures must change to better suit the task of uncovering flaws in complex technological evidence—anything less risks technology-driven injustice. Second, decision makers must receive mandatory, regular training to understand the technologies used in community supervision, or decisions will continue to rely on flawed evidence. And third, jurisdictions must end carceral sentences for technical violations—a policy shift that would reduce mass incarceration and curb harm from technology.²³²

²²⁸ See *Morrissey*, 408 U.S. at 483.

²²⁹ *Gagnon*, 411 U.S. at 787-88 (there opining specifically on providing attorneys to probationers).

²³⁰ *Morrissey*, 408 U.S. at 484.

²³¹ *Id.*

²³² The suggested reforms in this section are not comprehensive. This paper does not address, for example, reforming the legislative review process for acquiring new community supervision technology, even though such reforms can improve the accuracy and reliability of criminal justice technology. See, e.g., Catherine Crump, *Surveillance Policy Making by Procurement*, 91 Wash. L. Rev. 1595, 1655-62 (2016)

A. Robust, Effective, and Clear Procedural Protections

Every jurisdiction surveyed in this paper could reform its revocation procedures to better uncover flaws in technological evidence.

First and foremost, states must **guarantee appointed counsel** to every person facing revocation—anything less risks wrongful incarceration. Attorneys are essential to advancing the interests of the accused and educating decision makers on potential flaws in the evidence. It is fundamentally unfair to allow attorneys to assist in these ways for those who can afford them and not for others; all those facing revocation need counsel. Although providing appointed attorneys would cost money, the public could recoup those costs in reduced prison populations and improved recidivism outcomes as attorneys help individuals remain on a path to rehabilitation. Providing attorneys—and thus formalizing the revocation process—may also incentivize officers to advance fewer violations to the revocation stage, leading to smaller carceral populations overall.

Second, jurisdictions must codify robust procedural protections for those facing revocation, including a **higher standard of proof, discovery rights, strict limits on hearsay, and stringent reliability requirements** for scientific evidence.

Revocation hearings are not civil cases; the standard of proof to restrict liberty should be at least clear and convincing evidence. New York has made this change,²³³ and other jurisdictions must follow suit.

Discovery is also essential. If there is a device that produced certain evidence, the defense should have access to that device and the resources to test it. The prosecution should also provide documents describing how the technology works, how it has been tested, the results of those tests, whether the researchers were independent or affiliated with the corporation, and any problems that have arisen with the technology.

For any AI-based product, the companies producing the product may not even know how it works. This is not a reason to deny discovery but a reason why AI, at least in its current form, is not compatible with criminal consequences. The adversarial process cannot uncover truth if neither side can understand the mechanism behind an accusation.

(discussing potential reforms at the local, state, and federal level to practices around procurement of surveillance technology).

²³³ N.Y. Exec. Law § 259-i(3)(f)(viii).

Hearsay must be limited, so that witnesses explaining technological evidence can be cross-examined, and decision makers should use *Daubert* or a different rigorous standard to interrogate the reliability of scientific evidence. These are not perfect solutions, and there have been fair criticisms of the rules of evidence at trial as themselves inadequate to scrutinize “machine” evidence.²³⁴ But in the community supervision context, especially at the state level, excluding hearsay and using *Daubert* would be an improvement over the current system. In some places, courts and parole boards can simply enforce current “reliability” standards for revocation hearing evidence without legislative reform.

Third, jurisdictions need to **clarify revocation procedures**. The federal system has some of the most robust procedural protections for revoking supervised release in Rule 32.1, but even there, the discovery rules, for example, are unclear. Jurisdictions across the country fail to define their procedures for probation and parole revocation proceedings. Legislators need to create clear revocation procedures and courts need to interpret them so that attorneys and the accused know how the rules apply. As an interim measure, parties can enter into agreements requiring discovery, as occurred in the Western District of North Carolina, where the United States Attorney and Federal Defender agreed to a memorandum of understanding establishing a standard discovery procedure for that district.²³⁵ Courts and other decision makers can encourage these types of agreements from those practicing before them.

B. Training for Decision Makers

Beyond legislative and judicial action, individuals involved in the community supervision system (such as attorneys, judges, parole board members, and legislators) must learn about the science behind the relevant technologies. This education needs to be ongoing and current. The technologies change rapidly, and education must keep pace.

Understanding the science would help decision makers know when to exercise their discretion to require more discovery or more explanation as to why they should rely on

²³⁴ See Roth, *supra* note 9; *Exhibit A.I. (Part II): The Rules of Evidence and Machine Testimony*, Berkeley Tech. L. J. Podcast (Oct. 21, 2025), <https://btlj.org/2025/10/berkeley-technology-law-journal-podcast-exhibit-a-i-part-ii-the-rules-of-evidence-and-machine-testimony/>.

²³⁵ Guernsey, *supra* note 153, at 298. The MOU required that, by the preliminary hearing, the USPO turn over any all information it has relating to: “(1) Defendant’s prior criminal record (typically provided as an attachment to the petition); (2) Any law enforcement investigative materials related to the alleged violation(s); (3) Any warrants or court orders related to the alleged violation(s); (4) Any police reports or incident reports related to the alleged violation(s); (5) Any video or audio recordings related to the alleged violation(s); (6) Any photographs related to the alleged violation(s); (7) Any lab reports related to the alleged violation(s); (8) Any witness statements related to the alleged violation(s); (9) Any statements of the defendant related to the alleged violation(s); and (10) Any statements or reports made by a U.S. Probation Officer related to the alleged violation(s).” *Id.*

the evidence in finding a violation or revoking community supervision. Many states have mandatory annual conferences for judges that may educate about technology, but this is not a guarantee.²³⁶ The National Computer Forensics Institute offers judges a free course on digital evidence, but this is not a requirement and only a small subset of judges will attend.²³⁷ Technology education needs to be mandatory, thorough, and relevant to the specific technologies used in the jurisdiction.

Training for parole board members is similarly lacking.²³⁸ The National Institute of Corrections provides training for new members and sponsors an annual conference, but there is seemingly no uniform and comprehensive training on monitoring technology.²³⁹ States each have their own approach with little transparency, but training on relevant monitoring technology does not seem to be readily available.

C. Technical Violation Reform

In recent years, some jurisdictions have considered or passed legislation to limit incarceration for technical violations of community supervision. These jurisdictions include New York, which passed the Less is More Act to, among other changes, limit incarceration for technical violations, guarantee an attorney for parole revocation hearings, and raise the standard of proof for violations to clear and convincing evidence.²⁴⁰ New York defines “technical violation” as “any conduct that violates a condition of community supervision in an important respect, other than the commission of a new felony or misdemeanor offense under the Penal Law.”²⁴¹ Incarceration for first or second technical violations is prohibited with certain exceptions.²⁴² Virginia has

²³⁶ Jule Pattison-Gordon, *How Do — and Should — Judges Stay Up to Date on Technology?*, Government Technology (Aug. 29, 2022), <https://www.govtech.com/public-safety/how-do-and-should-judges-stay-up-to-date-on-technology>.

²³⁷ *Id.*

²³⁸ *See Parole Board Members Weigh in on How to Address the Community Supervision Crisis*, Arnold Ventures (Jan. 10, 2024), <https://www.arnoldventures.org/stories/parole-board-members-weigh-in-on-how-to-address-the-community-supervision-crisis> (noting general lack of training for parole board members).

²³⁹ *See id.*

²⁴⁰ *See What You Need to Know About the Less is More Act*, *supra* note 201.

²⁴¹ N.Y. Exec. Law § 259(6).

²⁴² Incarceration may be imposed for first or second violations “for alcohol use if the person is subject to community supervision due to a conviction for driving under the influence of alcohol,” “for drug use if the person is subject to community supervision due to a conviction for driving under the influence of drugs,” for “obtaining a driver’s license or driving a car with a valid driver’s license . . . if either action is explicitly prohibited by the person’s conviction,” for “failing to notify community supervision officer of contact with any law enforcement agency . . . if the person intended to hide illegal behavior,” and for “failing to obey other special conditions . . . if the failure cannot be addressed in the community and all reasonable community-based means to address the failure have been exhausted[.]” N.Y. Exec. Law § 259-i(B)(xii).

similarly limited incarceration for first or second technical violations.²⁴³ Delaware and Connecticut have also considered legislation to limit incarceration for technical violations of probation.²⁴⁴

Although not their primary purpose,²⁴⁵ these efforts to reduce incarceration for technical violations would lessen the problem of incarceration based on faulty technological evidence. Many of the technologies explored in this paper, such as GPS monitors, SCRAM alcohol monitors, and drug tests, most often produce evidence of technical violations, not new criminal offenses. Reducing incarceration for technical violations should therefore also reduce overall incarceration based on complex and faulty supervision technologies.

Conclusion

This white paper has described community supervision technologies available today—and the many ways they can malfunction. Yet the procedures used to determine whether an individual has violated their conditions of release are inadequate to uncover these problems. Jurisdictions must make changes to community supervision to meet the present moment.

There is much left to research. New surveillance technologies emerge all the time for parole and probation use, as well as for policing, sentencing, and pretrial release. There is no easy fix for the problems identified in this paper, and the optimal solutions will differ by jurisdiction. But stronger procedural procedures, better training, and limiting incarceration for technical violations are essential first steps.

²⁴³ Va. Code Ann. § 19.2-306.1(C) (“The court shall not impose a sentence of a term of active incarceration upon a first technical violation of the terms and conditions of a suspended sentence or probation, and there shall be a presumption against imposing a sentence of a term of active incarceration for any second technical violation of the terms and conditions of a suspended sentence or probation.”).

²⁴⁴ See S.B. 4, 152nd Gen. Assemb. (Del. 2023); H.B. 6361, 344th Gen. Assembl. (Conn. 2025).

²⁴⁵ See, e.g., ACLU of Delaware, *Delaware’s Broken Probation System: The Urgent Need to Reform Community Supervision in the First State*, at 13 (Aug. 2020), https://www.aclu-de.org/sites/default/files/probation_report_final.pdf (urging probation reform because “[t]echnical probation violations are fueling Delaware’s mass incarceration epidemic”).