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File Name: 23a0246p.06

UNITED STATES COURT OF APPEALS

FOR THE SIXTH CIRCUIT

UNITED STATES OF AMERICA,

Plaintiff-Appellee,

v.

MUSTAFA DEVILLE REYNOLDS,

Defendant-Appellant.

No. 22-1431

Appeal from the United States District Court
for the Western District of Michigan at Grand Rapids.
No. 1:20-cr-00024-1—Paul Lewis Maloney, District Judge.

Argued: July 26, 2023

Decided and Filed: November 9, 2023

Before: McKEAGUE, GRIFFIN, and MURPHY, Circuit Judges.

COUNSEL

ARGUED: Dennis Belli, Columbus, Ohio, for Appellant. Daniel T. McGraw, UNITED STATES ATTORNEY'S OFFICE, Grand Rapids, Michigan, for Appellee. **ON BRIEF:** Dennis Belli, Columbus, Ohio, for Appellant. Daniel T. McGraw, UNITED STATES ATTORNEY'S OFFICE, Grand Rapids, Michigan, for Appellee.

OPINION

MURPHY, Circuit Judge. A jury convicted Mustafa Reynolds of selling a fentanyl-heroin mixture that killed two young men. Investigators connected Reynolds to these fatal drugs in part through cellphone records, including records showing the general locations of several phones. Reynolds now raises four issues on appeal. First, he argues that the government introduced

insufficient evidence to convict him. Second, he argues that a government expert identified the phones' general locations using a software program that flunks the reliability standards from *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Third, he argues that the district court violated the Constitution by excluding text messages that allegedly supported his innocence. And lastly, he argues that the prosecutor improperly "vouched" for a key government witness during closing arguments. Disagreeing on all fronts, we affirm.

I

This case comes to us after Reynolds's criminal trial. So our summary of the facts will resolve any evidentiary conflicts in the light most favorable to the jury's guilty verdict. *See United States v. Maya*, 966 F.3d 493, 496 (6th Cir. 2020).

Allen McAllister and Brett Dame were close friends who lived in Grand Rapids, Michigan. They met while forming their band and still performed together years later in the summer of 2019. McAllister played the drums; Dame played lead guitar. Apart from their shared love of music, they also struggled with a shared heroin addiction. Sadly, on the night of August 20, 2019, the young men fatally overdosed on drugs that they had separately obtained from the same source: Reynolds.

Before that night, McAllister and Dame had learned of Reynolds from a heroin addict named Dan Errico. Errico bought heroin from a few dealers, including Reynolds. According to Errico, Reynolds had "pretty good" and "consistent" heroin. Errico Tr., R.173, PageID 1810. Reynolds usually sold drugs to his customers behind a local store close to Errico's Grand Rapids home.

After meeting at a deli where they worked, McAllister and Errico eventually started using heroin together. At first, McAllister relied on Errico to get his heroin from Reynolds. After McAllister learned Reynolds's phone number, however, he began to contact Reynolds directly for heroin purchases.

Electronic records from August 20 reveal how McAllister obtained the fatal drugs from Reynolds. McAllister first withdrew $60 from an ATM. His phone placed him at this ATM at

4:05 p.m. because it connected to nearby Wi-Fi. McAllister next texted Reynolds at 4:06 p.m. asking to buy $40 worth of heroin. Reynolds agreed, telling McAllister to meet him "behind the store" at which he normally sold drugs. Beracy Tr., R.174, PageID 1930. At 4:17 p.m., McAllister responded: "Okay, here." Heikkila Tr., R.175, PageID 2119. A minute later, his phone connected to Wi-Fi near this store. Data from Reynolds's phone showed that he too was near the store at this time.

Around 5:00 p.m., McAllister arrived at his parents' home for dinner. At first, his parents noticed that "he was kind of messed up." T. McAllister Tr., R.173, PageID 1767. Assuming that McAllister was on drugs, his parents encouraged him to seek help. He refused but began to act normally as the night wore on. The family watched television for several hours. McAllister decided to leave around 10:30 p.m. His parents let him drive because he "was pretty much fine" by that point. *Id.*, PageID 1768. They hugged him goodbye for what was to be the last time. McAllister stopped for gas at 10:36 p.m. and arrived at his own home shortly before 11:00 p.m.

McAllister lived with three roommates. At about 2:30 a.m., one of the roommates came home from a night out and spotted McAllister's car in the driveway with its driver's side door open. As he approached the car, the roommate saw an "unconscious" McAllister sitting behind the wheel with a guitar in his lap and dark fluid coming from his nose. Foster Tr., R.173, PageID 1779, 1781. The roommate called 911 after he could not rouse McAllister.

Paramedics found a pulse and took McAllister to a hospital. But doctors could not save him. McAllister died several hours later on August 21.

An equally tragic series of events led to Dame's death. McAllister introduced Errico to Dame. At the time, Dame was on medication to help end his heroin addiction. McAllister believed that this medication could help Errico kick his drug habit too. But things worked out the opposite way. Dame relapsed and asked Errico to act as a "middleman" by buying heroin for him from Reynolds. Errico Tr., R.173, PageID 1823. Errico did so a "handful" of times. *Id.*, PageID 1824. Dame would pay Errico using Cash App, which allowed him to transfer money from his phone.

Around 7:00 p.m. on August 20, Dame asked Errico to buy him heroin because "he was going through withdrawals." *Id.*, PageID 1826, 1839. Errico had just transacted with Reynolds

an hour or so earlier. But he agreed to buy more for Dame and coordinated with Reynolds. Phone records showed a call from Errico to Reynolds at 7:01 p.m. and other calls between them at 7:29 and 7:39. To pay for the transaction, Dame sent $85 to Errico on Cash App ($80 for the drugs and $5 for the app fee). Dame gave Errico $40 worth of the heroin for his "middling" services. Dame biked to Errico's apartment. Errico then rode Dame's bike to the usual transaction place with Reynolds by the store. Reynolds typically sold Errico a brown- or gray-colored heroin. This time, Reynolds sold heroin with a purple hue.

When he returned, Dame took a little heroin in Errico's presence to alleviate his withdrawal symptoms. Dame then left. Errico later used a larger portion and overdosed. When he came to around 10:28 p.m., he called Dame to warn him about the heroin's strength. Although Dame "said he felt fine," Errico would not speak to him again. *Id.*, PageID 1840–41.

Dame lived with a roommate. His roommate recalled that they stayed home for most of the evening on August 20, but that Dame left for a couple hours "at one point." Little Tr., R.174, PageID 1904. Dame told his roommate that he had gone "to a person named Dan's house" and obtained a "research chemical" there. *Id.*, PageID 1904–05. Concerned by this claim, Dame's roommate checked on him a few times during the night. At around 5:00 a.m., Dame's roommate found him "[d]iscolored and not breathing[.]" *Id.*, PageID 1906. His roommate called 911.

As with McAllister, paramedics took Dame to the hospital. While Dame survived longer than McAllister, he too passed away on August 24.

On the night of the overdoses, the Grand Rapids police began to investigate. Officers found a baggie of a "brownish green" substance in McAllister's car. Clark Tr., R.173, PageID 1800–02. While the substance looked like heroin, a field test proved inconclusive. Dame's roommate also found a purplish powder next to his body. But field tests again came back negative for drugs. So the parties stipulated that "no heroin or fentanyl was found" near the victims. Tr., R.173, PageID 1793.

More fruitfully for the investigation, the police obtained the victims' cellphones. On August 27, Reynolds still seemingly had not learned of McAllister's death. He sent McAllister's phone the following texts: "Wassup?" "Wassup? You good?" "Wassup? You good? Fire in."

Beracy Tr., R.174, PageID 1930–31. Reynolds used the word "fire" to refer to "very strong" heroin. Errico Tr., R.173, PageID 1817. The detective who had McAllister's phone responded to these texts by acting as McAllister.

After this initial contact, the detective coordinated a drug deal with Reynolds. He texted Reynolds using a new phone number and pretended to be a different heroin user who had heard of Reynolds. The detective and Reynolds negotiated a $200 deal for two "kinds" of heroin, both of which Reynolds described as "fire." Beracy Tr., R.174, PageID 1935–36. After driving to Reynolds's usual transaction place near the store, the officer exchanged the money for two baggies from Reynolds. One of the baggies contained a brownish-tan substance; the other a purple substance. During the transfer, Reynolds pointed to one of them and said: "Be careful with this one. Don't do too much of it." *Id.*, PageID 1941. As Reynolds walked away, officers arrested him. Testing revealed that the tan powder contained roughly equal amounts of heroin and fentanyl. But the purple powder contained much more fentanyl than heroin.

During the investigation, medical personnel looked into McAllister's and Dame's causes of death. As for McAllister, the medical examiner concluded that he died from a fentanyl overdose. An expert toxicologist also opined that McAllister would not have died but for his use of fentanyl. As for Dame, the medical examiner found that he died from a mixed-drug overdose. Fentanyl was the most significant contributor followed by morphine and cocaine. That said, the examiner also found that the fentanyl alone would have killed him. And an expert toxicologist opined that the but-for causes of Dame's death were heroin and fentanyl.

A federal grand jury indicted Reynolds. The government charged him with three counts of distributing a mixture containing heroin and fentanyl for his drug sales to McAllister, Dame (through Errico), and the detective. *See* 21 U.S.C. § 841(a)(1). The government also sought an increased punishment for the first two counts because Reynolds's distribution had resulted in two deaths. *See id.* § 841(b)(1)(C). A jury convicted Reynolds on all counts. Varying above Reynolds's guidelines range, the district court imposed a sentence of 328 months' imprisonment.

II

Reynolds now raises four claims. He argues that the government did not introduce enough evidence to support his convictions. He argues that it used cellphone-location software that lacked reliability under *Daubert*. He argues that the district court should have allowed him to admit some of Errico's text messages. And he argues that the prosecutor wrongly "vouched" for Errico.

A. Sufficiency Challenge

Reynolds first argues that the government presented insufficient evidence to convict him of the two distribution counts connected to his drug sales to McAllister and Dame (through Errico). This argument faces an uphill battle because of the "demanding" nature of the governing legal test. *United States v. Hinojosa*, 67 F.4th 334, 340 (6th Cir. 2023) (quoting *United States v. Potter*, 927 F.3d 446, 453 (6th Cir. 2019)). Reynolds must show that no "rational trier of fact could have found the essential elements of the crime beyond a reasonable doubt." *United States v. Davis*, 970 F.3d 650, 658 (6th Cir. 2020) (citation omitted). And when asking whether enough evidence existed, a reviewing court must resolve all "evidentiary conflicts or credibility disputes" in the light most favorable to the jury's guilty verdict. *Hinojosa*, 67 F.4th at 340.

Reynolds's sufficiency challenge addresses only one of the "essential elements" of these two convictions: that his drug sales caused the deaths of McAllister and Dame. *Davis*, 970 F.3d at 658 (citation omitted). Federal drug laws increase the punishment for the distribution of an illegal substance "if death or serious bodily injury results from the use of such substance[.]" 21 U.S.C. § 841(b)(1)(C). The Supreme Court has held that this text—specifically, the phrase "results from"—requires proof that the drug that a defendant sold was the "but for" cause of a victim's death. *Burrage v. United States*, 571 U.S. 204, 210–14 (2014). Yet we have since held that the text does not require proof of a proximate-cause connection. *United States v. Jeffries*, 958 F.3d 517, 520–21 (6th Cir. 2020). We have also held that the text does not require proof that a defendant sold the fatal drugs directly to the victim; the government need only show that the drugs that the defendant illegally sold were the "same drugs that caused [the] death." *Davis*, 970 F.3d at 656.

Reynolds raises only a narrow challenge to this element. He does not dispute that a reasonable jury could have found that he sold a fentanyl-heroin mixture to McAllister on August

20, 2019. Nor does he dispute that a reasonable jury could have found that he sold a fentanyl-heroin mixture to Errico, who gave a portion to Dame on the same date. Next, Reynolds does not dispute that the medical experts' testimony permitted a reasonable jury to find that fentanyl was the but-for cause of McAllister's death and that fentanyl and heroin were the but-for causes of Dame's death. Reynolds thus is left to argue only that no reasonable jury could have found that the fentanyl-heroin mixtures that he sold were the "same ones" that killed the two victims. *United States v. Ewing*, 749 F. App'x 317, 328 (6th Cir. 2018).

Reynolds is mistaken. Start with McAllister's death. The evidence showed that Reynolds sold him a fentanyl-heroin mixture around 4:17 p.m. on August 20. Errico testified that he had introduced McAllister to Reynolds and that McAllister started buying heroin directly from Reynolds. On August 20, both men's phones recorded an obvious drug sale. McAllister asked Reynolds: "Got 40, can I come thru?" Heikkila Tr., R.175, PageID 2119. Reynolds responded "Yea" and directed McAllister to "behind the store" where he normally sold drugs. *Id.* McAllister then said: "Okay, here." *Id.* The phones also placed both men near the store at this time.

In addition, the evidence showed that McAllister bought no other drug from the time that he purchased Reynolds's drugs to the time that he overdosed. Witness testimony and cellphone Wi-Fi data located McAllister at his parents' home from about 5:00 p.m. until about 10:30 p.m. Both Wi-Fi data and bank records next showed that he made a stop for gas at around 10:36 p.m. and arrived at his own home around 11:00 p.m. And Wi-Fi data showed that he did not go anywhere from that point until his roommate found him at 2:30 a.m. Further, Reynolds's later transaction with the detective showed that he was selling a fentanyl-heroin mixture near the time of McAllister's death. There was also no evidence that McAllister had a supply of either drug at his home. Given all this evidence, a reasonable jury could have found that McAllister used (and died from) the specific fentanyl-heroin mixture that Reynolds had sold him several hours earlier. *See, e.g., United States v. Assfy*, 2021 WL 2935359, at *5–6 (6th Cir. July 13, 2021).

Turn to Dame's death. Direct evidence connects Dame to the drugs that Reynolds sold. Errico testified that he bought Dame the "purple" heroin from Reynolds between 7:00 p.m. and 8:00 p.m. on August 20. Errico Tr., R.173, PageID 1826, 1835–36, 1839. Errico added that Dame ingested a "match head size" of this heroin and left with the rest. *Id.*, PageID 1838–39. Errico

then "overdosed" on the same heroin and called Dame to warn him. *Id.*, PageID 1839–40. Plenty of evidence corroborated Errico's memory. Cash App records showed that Dame paid Errico $85. Phone records showed calls between Errico and Reynolds during the 7:00 hour (to coordinate the sale) and from Errico to Dame at 10:28 (to warn Dame). According to Dame's roommate, moreover, Dame noted that he had gone to "Dan's house" and obtained a "research chemical" (the purple heroin). Little Tr., R.174, PageID 1904–05. His roommate also testified that Dame left at this "one point" but did not suggest that Dame went anywhere else. *Id.*, PageID 1904. Together, this evidence likewise reasonably established that the drugs Reynolds sold Errico were the ones that killed Dame. *See Davis*, 970 F.3d at 658; *United States v. Simer*, 835 F. App'x 60, 65–66 (6th Cir. 2020).

In response, Reynolds raises a legal challenge to his conviction for Dame's death and a factual challenge to his convictions for both deaths. Legally, Reynolds contends that the death-results enhancement in 21 U.S.C. § 841(b)(1)(C) applies only to three sets of defendants: those who directly distribute drugs to a victim, those who conspire with a direct distributor, or those who act as that direct distributor's accomplice. Appellant's Br. 37–38 (citing *United States v. Hamm*, 952 F.3d 728, 744–47 (6th Cir. 2020); *United States v. Swiney*, 203 F.3d 397, 401–06 (6th Cir. 2000)). The enhancement cannot apply to Dame's death, this argument goes, because Errico directly distributed the drugs to Dame, and Reynolds did not conspire with Errico or act as his accomplice. But *Davis* rejected an identical argument. *See* 970 F.3d at 656–57. Reynolds's narrow reading of the enhancement conflicts with the statute's plain language, which requires only that the drugs underlying a defendant's conviction "be the same drugs that caused death." *Id.* at 656.

Reynolds's two attempts to distinguish *Davis* fall short. He argues that *Davis* conflicts with our earlier cases in *Hamm* and *Swiney*. Yet *Davis* distinguished those decisions as involving a conspiracy offense (*Swiney*) or a conspiracy theory to hold a defendant liable for a distribution offense (*Hamm*). *Id.* at 657. Like *Davis*, this case involves neither claim. And *Davis*'s reading of those decisions binds us here. After all, precedent on what precedent means is itself precedent. *See United States v. Turner*, 602 F.3d 778, 785–86 (6th Cir. 2010). Reynolds next argues that *Davis*'s reading cannot apply retroactively to conduct that predates the decision's issuance date

under the due-process principles from *Bouie v. City of Columbia*, 378 U.S. 347 (1964). *Bouie* sometimes bars courts from retroactively applying "unexpected and indefensible" readings of statutes. *Id.* at 354 (citation omitted). Suffice it to say, *Davis*'s plain-text approach raises no fair-notice concerns. *Cf. United States v. Beals*, 698 F.3d 248, 272–73 (6th Cir. 2012).

Factually, Reynolds relies on our decision in *Ewing* to argue that an "unexplained gap in the evidence" exists. 749 F. App'x at 329. But this case does not contain *Ewing*'s "exceptional" facts. *Simer*, 835 F. App'x at 66; *United States v. White*, 2022 WL 3643324, at *3–4 (6th Cir. Aug. 24, 2022). In *Ewing*, the defendant sold the victim heroin, but no heroin showed up in the victim's blood. 749 F. App'x at 328–29. This "unexplained" mismatch between the drug that the defendant sold and the drug that killed the victim rendered the death-results evidence insufficient. *Id.* at 329–30. No mismatch exists here. When accounting for Reynolds's sale to the detective, a reasonable jury could have found that he sold McAllister and Dame a fentanyl-heroin mixture. And medical examiners found both drugs in the blood of both victims.

Reynolds thus points to other "unexplained" evidentiary gaps. We will list only his primary examples: In McAllister's case, several hours passed between the afternoon drug deal and the late-at-night overdose. McAllister's parents also believed that he arrived at their house high. Reynolds thus argues that McAllister must have used Reynolds's drugs before visiting his parents and obtained more drugs from someone else later. In Dame's case, by comparison, several hours again passed between the drug deal and the overdose. Errico also provided the following testimony about what Dame told him during Errico's nighttime warning call: Dame "said he was meeting up with someone to pick up marijuana, *I think something else*, but I don't remember what." Errico Tr., R.173, PageID 1840 (emphasis added). Reynolds argues that Dame could have picked up the fatal "research chemical" at this hypothetical later exchange. Although these speculative possibilities might provide "a good closing argument," they fall well short of showing insufficient evidence. *United States v. Atkins*, 289 F. App'x 872, 878–79 (6th Cir. 2008). Indeed, we "commonly" deny sufficiency arguments based on "conjecture" about "unknown intervening sources of drugs," *Simer*, 835 F. App'x at 65–66, or "the time that elapsed between the sale and [the victim's] death," *Assfy*, 2021 WL 2935359, at *6. The arguments fare no better in this case.

B. *Daubert* Challenge

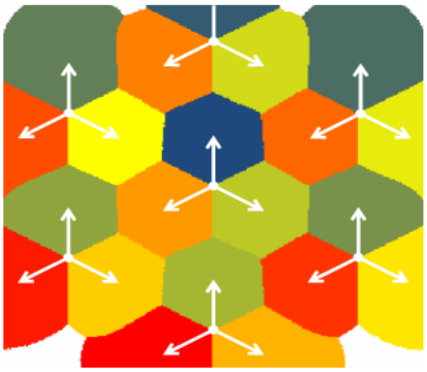
Before trial, the government told Reynolds that it planned to use Detective Thomas Heikkila with the Grand Rapids Police Department as an expert on cellphone-location data. It also gave Reynolds a copy of Heikkila's proposed presentation mapping the locations of the phones of McAllister, Dame, Errico, and Reynolds on August 20. Reynolds moved to exclude Heikkila's testimony because he relied on cellphone-location software ("TraX") that Reynolds believed to be unreliable under *Daubert*. Although finding this issue "close," the district court denied Reynolds's motion after two days of hearings. *United States v. Reynolds*, 2021 WL 3750156, at *5 (W.D. Mich. Aug. 25, 2021). Heikkila thus gave his presentation at trial. Reynolds contends that the district court wrongly rejected his *Daubert* challenge.

1. Background on TraX Software

a. This dispute requires us to start with the basics of cellphone technology. In the 1100s, the word "cell" came to mean a small "chamber" or "room" in which a monk or hermit lived. *Cell*, *Oxford English Dictionary*, https://www.oed.com/view/Entry/29468 [https://perma.cc/JT7E-L6H2]. By the 1800s, the word expanded to cover the "structural and functional unit[s] of all living organisms," probably because the units looked like little "chambers" (or "cells") under a microscope. *See id.*; *see also Webster's New International Dictionary* 433–34 (2d ed. 1934).

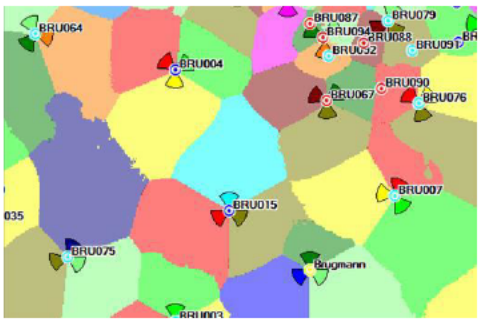
"Cell" phones likewise got their name because a provider's network contains many different "coverage areas" or "cells." *See* V.H. MacDonald, *Advanced Mobile Phone Service: The Cellular Concept*, 58 Bell Sys. Tech. J. 15, 16–17 (1979). Each coverage area has an antenna at a "cell site," and cellphones in the area use radio waves to transmit information to this antenna and beyond. *United States v. Reynolds*, 626 F. App'x 610, 615 (6th Cir. 2015). Although we often refer to cell sites as "cell towers," *id.*, providers can mount these antennas on surfaces ranging from "flagpoles" to "church steeples" to the "sides of buildings." *Carpenter v. United States*, 138 S. Ct. 2206, 2211 (2018). The standard "cell site" provides 360-degree coverage in every direction. It typically achieves this result by using three antennas pointed in three directions—each with 120 degrees of coverage. *See Reynolds*, 626 F. App'x at 614; *see also Carpenter*, 138 S. Ct. at 2211. In the theoretical world, each antenna's coverage area would take on a hexagonal

shape when viewed from a map of cell sites placed within equal distance of each other. *See* Gordon L. Stüber, *Principles of Mobile Communication* 14–15 (Kluwer Acad. 1996). Reynolds's expert, Dr. Vladan Jovanovic, provided a picture of this theoretical hexagonal "cell" pattern:



Jovanovic Aff., R.109-1, PageID 995; *see* Jovanovic Tr., R.125, PageID 1243.

In the real world, antennas do not have uniform coverage areas. *See* Stüber, *supra*, at 14. An actual coverage area will depend on many factors. What is the antenna's signal strength and height? What is the area's topography and makeup? Is it hilly or flat, wooded or urban? How many calls occur in the area? How many neighboring cell sites exist? Jovanovic Aff., R.109-1, PageID 995. Cell sites in rural areas can cover up to 60 miles while those in dense areas might cover only 300 meters. Ray Tr., R.106, PageID 789. And companies often ensure that some areas have overlapping coverage from multiple antennas so that the network does not drop calls as a phone moves in between them. Jovanovic Aff., R.109-1, PageID 994; Ray Tr., R.106, PageID 808–09. To give an example, Dr. Jovanovic provided this real-world map of the coverage area of several antennas created with a "propagation prediction tool" on which cellphone providers rely:



Jovanovic Aff., R.109-1, PageID 995–96. (Because parts of the coverage areas overlap, the colors on this map identify the antenna with the "best" signal for the specific area. *Id.*, PageID 994.)

b. To identify the general locations of the relevant cellphones on August 20, Detective Heikkila used a program called TraX created by a company called ZetX. Sy Ray founded ZetX. He spent decades in law enforcement with a specialty in cellphone records.

The process for identifying the location of a particular phone at a particular time begins by obtaining the "raw data" that the provider (say, Verizon or AT&T) has for the phone. Ray Tr., R.106, PageID 788. Different providers store different records in dozens of different formats. *Id.*, PageID 788–90, 834–36. The data might include the time of a text or call, the antenna that the phone connected to, the antenna's position and direction, and how far away the phone was to the antenna. *Id.*, PageID 798–800, 842. During investigations, police often subpoena these records. Providers typically send them in a digital format that is not easy to decipher. The data will "look like a bunch [of] numbers to most people." *Id.*, PageID 788.

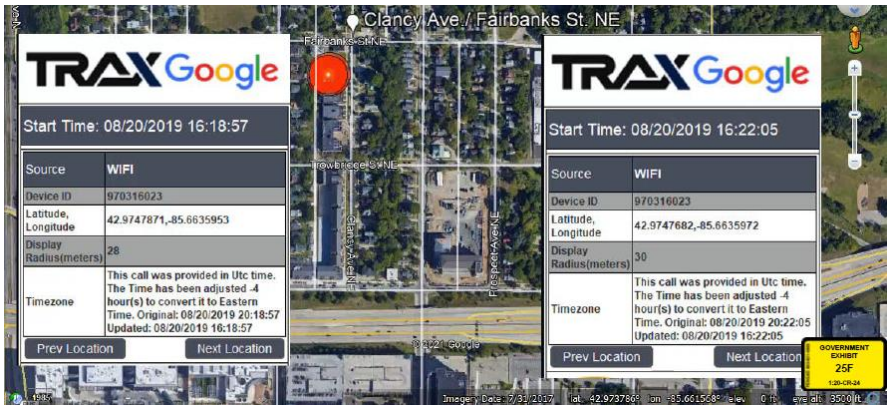
That is where TraX comes in. As a "visualization program," TraX converts a cellphone provider's not-user-friendly data into different types of user-friendly Google Earth maps (depending on the type of data provided). *Id.*, PageID 788, 833–34. TraX can make this conversion because it recognizes most of the "data sets" that the different cellphone providers use. *Id.*, PageID 833–34. The software also contains (and regularly updates) the locations of all the cell sites for all cellphone providers.

Detective Heikkila obtained 90 days' worth of records for the phones of McAllister, Dame, Errico, and Reynolds. He used TraX to create a video (and screen shots) of this data on August 20. Heikkila obtained three types of records. Google provided Wi-Fi data; Verizon provided "round-trip-time" (or "RTT") data; and Verizon and AT&T provided call-detail records showing the cell-site antennas to which the phones had connected for calls. We will summarize these records in turn.

Wi-Fi Data. Google provided Wi-Fi location data for McAllister's Android phone. This type of phone requires a customer to have a Gmail account associated with it. The Gmail account uses the phone to regularly scan for Wi-Fi routers, and Google keeps a list of routers whose signals

reached the phone. The Wi-Fi data pinpoints the phone to a more precise location than cell-site data would. According to Heikkila, Google produced data that placed McAllister's phone within 14 to 57 meters of different Wi-Fi routers at several points on August 20.

Heikkila entered this Google information into TraX. TraX converted it into maps that had circles with these meter-sized radiuses around the specific Wi-Fi sites. McAllister's phone likely would have been within or near the circles at the relevant times. For example, this TraX exhibit showed McAllister's phone close to the store at which Reynolds normally sold drugs around the time of their drug deal on August 20 at 4:18 p.m.:

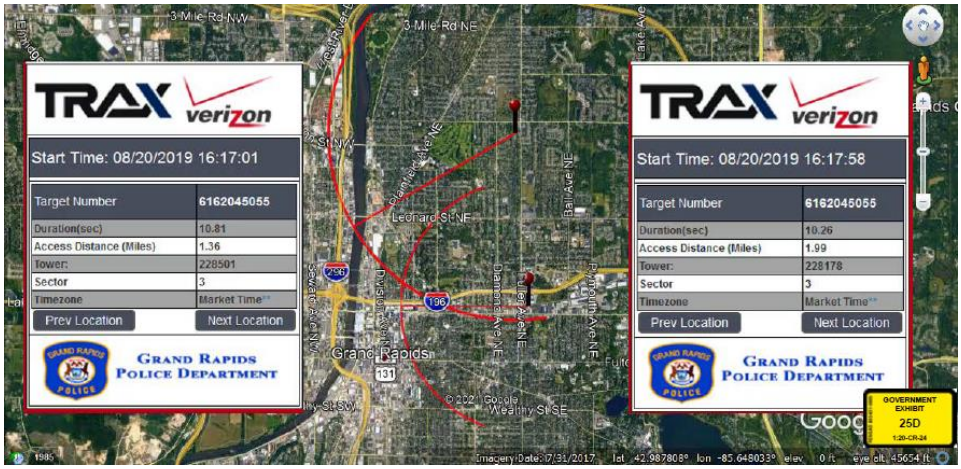


Ex. 25F, R.92-1, PageID 584; Heikkila Tr., R.106, PageID 883. Similar Wi-Fi data (and TraX maps) placed McAllister at his home from 12:30 p.m. to 4:00 p.m. This data also placed him at the ATM to withdraw money for the drugs at 4:05 p.m., at his parents' house about an hour later, at the gas station at about 10:36 p.m., and back at his home just before 11:00 p.m.

Round-Trip-Time Data. Verizon next produced round-trip-time data. Because cellphone providers want a "reliable network" that allows customers to connect quickly when a call comes in, phones are constantly "searching out" the best cell site at a location. Heikkila Tr., R.175, PageID 2148–49; *Carpenter*, 138 S. Ct. at 2211. Verizon keeps records of these not-in-use pings to cell sites. Its records show the antenna to which a phone connected, the "time" of the connection, and the "distance" between the phone and the antenna. Heikkila Tr., R.106, PageID 867–68.

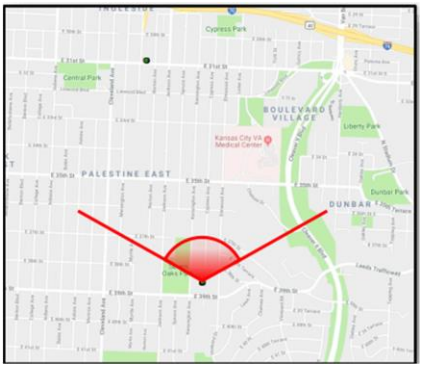
Heikkila obtained these round-trip-time records for McAllister's, Errico's, and Reynolds's phones and put the data into TraX. TraX converted each relevant record into a map that contained a red circular line ("an arc") around the specific antenna's location. Jovanovic Aff., R.109-1, PageID 969. Suppose hypothetically a Verizon record showed that a phone was one mile away from an antenna that had the standard 120 degrees of coverage. TraX would produce a map of the antenna's location, and this map would include a 120-degree arc (that is, one-third of a circle) with a one-mile radius around the antenna. *See* Heikkila Tr., R.106, PageID 868. One would "expect the device to be along that arc somewhere" at the time it connected to the antenna. Heikkila Tr., R.175, PageID 2149.

Even more usefully, a phone often connects to two different antennas at two different cell sites in quick succession. TraX will map the two arcs from these two connections on the same map. One would expect the two arcs to "cross" each other near the phone's location at that time. *Id.*, PageID 2151. According to Heikkila, for instance, these crossing arcs placed Reynolds's phone near the store where he sold drugs to McAllister around 4:18 p.m. (the same time that Google's Wi-Fi data placed McAllister's phone near that store):



Ex. 25D, R.92-1, PageID 582; Heikkila Tr., R.175, PageID 2151–52. Heikkila also used round-trip-time data to corroborate McAllister's Wi-Fi data.

Antenna-Coverage Mapping. Verizon and AT&T lastly provided call-detail records showing the antennas that the phones of Reynolds, Errico, and Dame connected to for calls on August 20. Heikkila input this data into TraX, and the software created maps that contained shaded sections identifying an antenna's approximate coverage area (or "horizontal plane"). Heikkila Tr., R.106, PageID 883–84. Importantly for the *Daubert* motion, TraX creates nontraditional coverage areas. Assume that a cellphone provider has placed three antennas each with 120 degrees of coverage at a cell site. Traditional mapping of one of these antennas will draw a 120-degree "wedge" in the direction that the antenna points. Ray Tr., R.106, PageID 805. Reynolds's briefing identified an example of this wedge-shaped mapping:

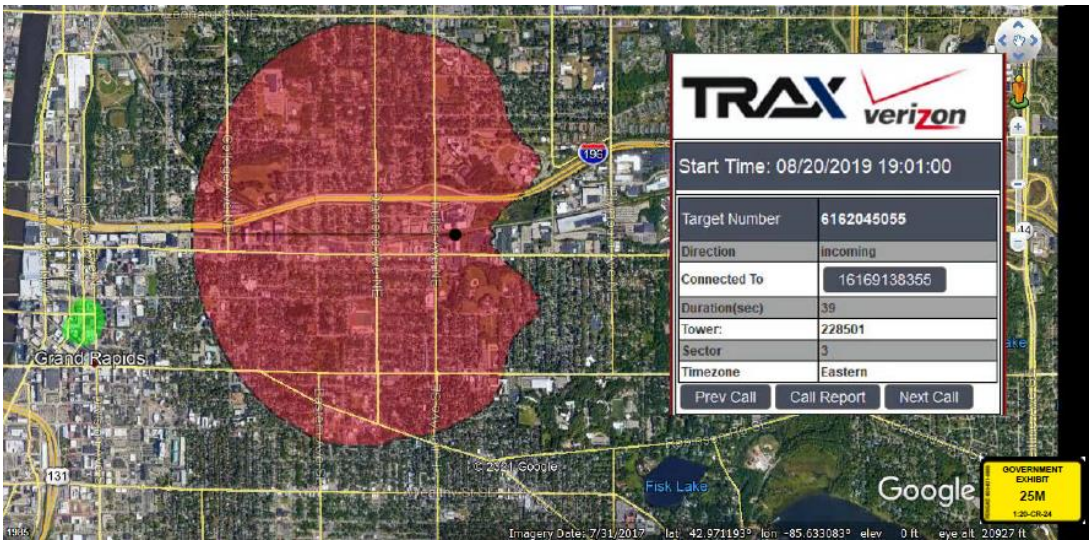


Supp. Br., R.112, PageID 1104.

Ray rejected this wedge-shaped approach for TraX based on the "drive testing" that his company conducted in the field. Ray Tr., R.106, PageID 805–06. As its name suggests, a party engaged in drive testing will drive around an area with equipment that measures the antenna that a phone connects to on the trip. *See id.*, PageID 792. This testing will reveal where one antenna "hands off" a phone to another antenna and thereby allow the tester to map out the coverage area of the antenna of interest. *Id.*, PageID 792–93; *United States v. Morgan*, 45 F.4th 192, 197–98 (D.C. Cir. 2022). According to Ray, TraX does not use the wedge shape because his company's drive testing "never corroborates" that shape. Ray Tr., R.106, PageID 806.

So what shape does TraX use instead? Ray explained that scientists can measure the way an antenna's radio frequencies will emanate by putting the antenna in an "anechoic chamber" (or "very secure" room). *Id.* An antenna's radio frequencies in this room will take on the same

amoeba-like radiation pattern. TraX maps all coverage areas using this same shape. *Id.*, PageID 806–09; Jovanovic Aff., R.109-1, PageID 993. The following map, for example, showed the TraX-identified coverage areas of the antennas that Errico's and Reynolds's phones connected to (in green and red) when Errico called Reynolds at 7:01 p.m. to coordinate a drug deal for Dame:



Ex. 25M, R.92-1, PageID 591; *see* Heikkila Tr., R.175, PageID 2159.

Notice that while this map's two colored areas have the same shape, their sizes substantially differ. TraX identifies the size of coverage areas using a proprietary algorithm. Ray's company created this algorithm based on its millions of drive tests measuring the hand-off ranges of millions of antennas. Ray Tr., R.106, PageID 793–95, 824. The algorithm predicts where the "hand-offs" between antennas "will occur" by considering many factors, including the number of antennas in the area and their distance to the antenna in question. *Id.*, PageID 795, 809–10, 852–54. The algorithm will produce the amoeba shape of a particular size that will represent an "estimate" of the antenna's coverage area (and the general location of a phone that used it). *Id.*, PageID 846.

At trial, Detective Heikkila used these antenna-coverage maps largely to corroborate Errico's testimony that he bought drugs from Reynolds for Dame. Heikkila created a coverage map for Errico's and Dame's phones when Dame called Errico asking to buy heroin before 7:00 p.m. Heikkila Tr., R.175, PageID 2158–59. He also created several maps for Errico's and Reynolds's phones, including when Errico called Reynolds at 7:01 p.m. *Id.*, PageID 2159.

2. *Daubert* Analysis

At first blush, Reynolds's *Daubert* motion seemed to challenge TraX's mapping of all three types of data. But his expert, Dr. Jovanovic, said nothing about TraX's mapping of Wi-Fi data. And Jovanovic agreed that TraX's use of "arcs" to map round-trip-time data was "generally accepted in the relevant scientific/technical community[.]" Jovanovic Aff., R.109-1, PageID 969. He questioned TraX's mapping of this data only on fact-specific grounds. *Id.* Thus, Reynolds's briefing raised no *Daubert* challenge to either of these two types of maps. Reynolds instead challenged only TraX's antenna-coverage mapping—in particular, its universal use of amoeba-shaped coverage areas for antennas and its use of a proprietary algorithm to determine the size of this amoeba shape. Dr. Jovanovic testified that he had "never seen" the use of this identical shape to map coverage areas in "engineering books, technical papers, patents" or anything else. Jovanovic Tr., R.125, PageID 1229. In his experience, "normal cell sites" do not take this shape. *Id.*, PageID 1233. The district court nevertheless found that TraX's maps were sufficiently reliable. *See Reynolds*, 2021 WL 3750156, at *5.

We review a district court's "admissibility decision" for an abuse of discretion. *United States v. Gissantaner*, 990 F.3d 457, 463 (6th Cir. 2021). We see no such abuse here. Start with the governing law. Federal Rule of Evidence 702 permits an expert to opine on a subject if the party that seeks to use the opinion shows four things. The party must first show that "the expert's scientific, technical, or other specialized knowledge will help the" jury "understand" a piece of "evidence" or "determine a fact in issue[.]" Fed. R. Evid. 702(a). That is, the opinion must be "relevant" to a claim in the case. *Madej v. Maiden*, 951 F.3d 364, 369 (6th Cir. 2020) (quoting *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 147 (1999)). Next, the party must show that the expert based the "testimony" "on sufficient facts or data," that the testimony results from "reliable principles and methods," and that "the expert has reliably applied the principles and methods to the facts of the case." Fed. R. Evid. 702(b)–(d). That is, the opinion must be sufficiently "reliable." *Madej*, 951 F.3d at 369 (quoting *Kumho Tire*, 526 U.S. at 147).

Reynolds does not dispute that the government satisfied several of Rule 702's hurdles here. He agrees that Detective Heikkila's testimony about the location of the phones helped prove (and so had relevance to) the charged drug crimes. *See id.* at 370. Next, assuming the general validity

of TraX's antenna-coverage mapping, Reynolds does not challenge the district court's conclusion that Heikkila reasonably applied the software program when creating the specific maps that he used. *See Reynolds*, 2021 WL 3750156, at *5. This case thus concerns only the reliability of TraX's general technique for mapping an antenna's coverage area.

The Supreme Court has told district courts to ask four questions when deciding whether a general technique is the "product of reliable principles and methods" sufficient to allow the jury to consider it in a specific case. *Gissantaner*, 990 F.3d at 463 (citing *Daubert*, 509 U.S. at 593–94). Can third parties "test" the technique to decide if it reaches correct results in individual cases? Have other knowledgeable experts engaged in "peer review" of the technique to assess its general validity? Does the technique have a "known or potential rate of error"? And has the "relevant scientific community" come to generally accept the technique? *Daubert*, 509 U.S. at 593–94.

At the same time, the Court has made clear that these four factors do not create general requirements that an expert's opinion must meet in every case. *See Kumho Tire*, 526 U.S. at 150–52. Rather, the district court has discretion just as much "in deciding *how* to test an expert's reliability" as it does in answering the reliability question. *Id.* at 152. Some factors may have more importance in some cases than in others. *Id.* at 150–52; *see Madej*, 951 F.3d at 374.

The district court reasonably applied these guideposts to TraX's antenna-coverage mapping. For starters, the court conceded that nobody has engaged in any peer review of TraX's amoeba-shaped coverage areas or its algorithm for determining their sizes. *See Reynolds*, 2021 WL 3750156, at *3. In other words, no scientists have opined on TraX's validity (one way or the other) in scientific publications. *See Gissantaner*, 990 F.3d at 464. But, as the Supreme Court has noted, it is sometimes not surprising that peers have not reviewed a given technique if the relevant issue has never "interested any scientist." *Kumho Tire*, 526 U.S. at 151. And, as another court has noted, TraX might have few (if any) uses outside of "criminal investigations" to make it worthy of a scientist's time. *United States v. White*, 2023 WL 3161953, at *4 (M.D. Pa. Apr. 27, 2023).

In any event, on the specific record created in this case, the district court could reasonably decide that the other three factors trumped this lack of peer review. *First*, when considered from a high level of generality, the function that TraX performs has general (perhaps universal)

acceptance. *See Gissantaner*, 990 F.3d at 466. Courts and scientists alike have "widely accepted" the common practice of determining a cellphone's "general location"—with critical emphasis on *general*—by identifying the specific antenna that the phone connected to at a specific time. *United States v. Gatson*, 744 F. App'x 97, 102 (3d Cir. 2018) (citation omitted); *see, e.g.*, *Morgan*, 45 F.4th at 202; *United States v. McNeal*, 763 F. App'x 307, 308 (4th Cir. 2019) (per curiam); *United States v. Pembrook*, 876 F.3d 812, 824–25 (6th Cir. 2017), *vacated on other grounds by Calhoun v. United States*, 139 S. Ct. 137 (2018); *United States v. Lewisbey*, 843 F.3d 653, 659 (7th Cir. 2016); *United States v. Hill*, 818 F.3d 289, 297–98 (7th Cir. 2016); *United States v. Jones*, 918 F. Supp. 2d 1, 4–6 (D.D.C. 2013). Even Reynolds's expert, Dr. Jovanovic, agreed that it is "possible" to map an antenna's coverage area in order to identify the general location of a phone that connected to it. Jovanovic Tr., R.125, PageID 1259. He also did not object to the "wedge" shape that "most" investigators use to display coverage areas. *Id.*, PageID 1231.

At the same time, courts have cautioned that an antenna-mapping technique might raise *Daubert* concerns if the expert "overpromises on the technique's precision" by misleadingly suggesting that the data pinpointed a defendant to a *precise* location—like GPS data can do. *Hill*, 818 F.3d at 299; *see United States v. Jones*, 2022 WL 17884450, at *4 (W.D. Ky. Dec. 23, 2022). We and other courts have similarly criticized techniques—for example, those that wrongly assume that a phone always connects to the closest antenna—that *underestimate* the phone's potential geographic location. *See Reynolds*, 626 F. App'x at 615–16; *United States v. Evans*, 892 F. Supp. 2d 949, 956–57 (N.D. Ill. 2012). Ray himself agreed that a method for identifying a phone's general location would be "extremely problematic" if it "cut[] off some potential areas that [the] device could be" when it connected to an antenna. Ray Tr., R.106, PageID 812–13.

TraX's antenna-coverage maps fall within these accepted parameters—at least on the evidentiary record that the parties created here. TraX's antenna-coverage maps identify only the "approximate location" at which a cellphone might have been when it connected to an antenna. *Morgan*, 45 F.4th at 202. In fact, Ray testified that TraX follows a "conservative" approach for identifying an antenna's potential coverage area (and so a phone's general location). *United States v. Mitchell*, 365 F.3d 215, 239 n.19 (3d Cir. 2004). According to Ray, TraX's amoeba-shaped coverage areas are "larger" than an antenna's real-world coverage areas. Ray Tr., R.106, PageID

810. The reason? He prefers that experts who use this technology can come into court and "say I feel very confident that" a cellphone of interest was "within that shaded area" when it connected to the antenna. *Id.* Ray views the decision to "make[] the area bigger" as "exculpatory" to a defendant because the map suggests that the defendant might have placed the call from a broader area than the traditional "wedge" shape would. Ray Tr., R.125, PageID 1266–67, 1278. Critically, moreover, Reynolds's expert *agreed* with Ray's assessment that TraX followed this approach. Dr. Jovanovic critiqued the maps in this case precisely because they "overestimate[d]" "the coverage and handoff area" as compared to his estimation of the actual coverage and handoff area. Jovanovic Aff., R.109-1, PageID 1001. So both sides agreed that TraX does not suffer from the defects that have plagued other techniques: its maps do not "overpromise[]" their "precision" by excluding plausible areas where the phone might have been located. *Hill*, 818 F.3d at 299.

Heikkila also explained the maps' limits to the jury at trial. He noted that the shaded areas represented only an "estimation" of the phones' locations. Heikkila Tr., R.175, PageID 2145. And he conceded that the phones could be "anywhere" in the areas or even "just outside" them. *Id.*

Two final data points support our conclusion that TraX's antenna-coverage maps adhere to an accepted approach. We have sometimes asked whether other law-enforcement bodies use the technique. *Gissantaner*, 990 F.3d at 466. And Ray testified that "pretty much every federal entity in the United States" uses TraX. Ray Tr., R.106, PageID 804. LexisNexis also recently bought TraX and undertook "extreme due diligence" when doing so. *Id.*, PageID 803–04.

Second, *Daubert*'s "testing" factor bolsters TraX's reliability. All agree that its maps are "testable" to see if they accurately portray an antenna's coverage area and the locations at which the antenna will hand off coverage to neighboring antennas. *Gissantaner*, 990 F.3d at 464; *see Reynolds*, 2021 WL 3750156, at *2–3. Ray explained several ways that TraX can be—and has been—tested. As one example, his company has created a "database with well over 25 million" round-trip-time records from many different antennas. Ray Tr., R.106, PageID 799. For a specific antenna, the company can use this round-trip-time data to identify the farthest away that a phone has been when it connected to the antenna. *Id.*, PageID 800. The company can then evaluate how well its TraX-created map for the antenna matches this round-trip-time data. *Id.* As another example, any party can engage in drive testing of a specific antenna and compare the coverage

area that results from that testing to the TraX-created map. Ray's company has "conducted drive tests" for "over 2.5 million cell sites" to determine their coverage areas. *Id.*, PageID 794. After every drive test, the company "compare[s]" the test results against TraX's estimated map to assess the software's accuracy. *Id.*, PageID 795–96; *cf. United States v. Bonds*, 12 F.3d 540, 558 (6th Cir. 1993). Dr. Jovanovic likewise readily agreed that drive testing "can be used to measure—to test their methodology." Jovanovic Tr., R.125, PageID 1246, 1249.

Third, *Daubert*'s "error rate" factor also supports Trax's reliability—again, when evaluated against this case's record. Importantly, courts must undertake *Daubert*'s reliability inquiry (including this error-rate inquiry) for the "particular matter to which the expert testimony [is] directly relevant." *Kumho Tire*, 526 U.S. at 154 (emphasis omitted). Suppose an expert wants to testify that a general method for identifying latent fingerprints positively matched a print to a specific person. The key reliability question in that scenario would be the general method's rate of false *positives* (that is, the rate that it matches a fingerprint to the wrong person). *Mitchell*, 365 F.3d at 239–40. The method's rate of false *negatives* (that is, the rate that it fails to match a fingerprint to the right person) would be "immaterial" to how reliably it makes positive matches. *Id.* at 239. (Of course, things would be flipped if, say, defense counsel offered the evidence to rule out a defendant's prints). And these two error rates may not be the same. Indeed, a "conservative" method might have a high false-negative error rate to minimize its false-positive error rate "out of an abundance of caution." *Id.* at 239 n.19. So courts conducting *Daubert* hearings must keep in mind the specific opinion that an expert plans to convey. *Id.* at 239.

A similar distinction matters in this case. The parties have debated two different error rates—one that we will call a "location accuracy" rate and the other that we will call a "coverage accuracy" rate. The "location accuracy" question asks: What are the chances that a phone that connected to a specific antenna would fall within the amoeba-shaped areas of TraX's maps? The "coverage accuracy" question asks: What are the chances that an antenna's real-world coverage area would resemble in size and shape the amoeba-shaped area of a TraX map?

An extreme hypothetical confirms that the two error rates for these two different questions could look quite different. Suppose records showed that a person's phone connected to an antenna in downtown Grand Rapids and a software program mapped the antenna's potential coverage as

the entire State of Michigan. The map would likely have a 0% error rate on the location-accuracy question: there would be a 100% chance that the call came from within the mapped area. But the map would have a 100% error rate on the coverage-accuracy question: there would be a 0% chance that the map accurately resembled the antenna's actual (much smaller) coverage area.

Given these different questions and different error rates, we must consider "*the purpose*" for which the government offered these maps. *Mitchell*, 365 F.3d at 239. It used them to show the general locations of various phones at the various times that they made calls. So the location-accuracy question is the "relevant" one. *Kumho Tire*, 526 U.S. at 154 (emphasis omitted). On that question, Ray offered undisputed testimony: his company's drive testing has shown a 95% "accuracy" rate. Ray Tr., R.106, PageID 793, 795. In other words, the company predicted "with a 95 percent accuracy that" a cellphone would have been inside the amoeba-shaped area on a TraX map when it connected to the corresponding antenna. *Id.*, PageID 811, 847. True, Ray testified about internal (not external) tests to estimate this error rate. But he explained how his company conducted them, and the district court identified no "serious deficiencies" in his methodology. *Bonds*, 12 F.3d at 560; *see Reynolds*, 2021 WL 3750156, at *4.

Dr. Jovanovic, by contrast, asked and answered the coverage-accuracy question. Looking at this issue from the perspective of a cellphone provider trying to map its network, he testified that TraX's coverage areas were nearly universally wrong. Jovanovic Tr., R.125, PageID 1234–38. He thus disagreed with Ray's 95% accuracy rate—but for an entirely different question that was "immaterial to the *Daubert*" inquiry. *Mitchell*, 365 F.3d at 239. Whether a wedge-shaped map or an amoeba-shaped map better displays an antenna's real-world coverage area is beside the point to whether a phone would likely fall within the amoeba-shaped area. In fact, Dr. Jovanovic conceded as much. He noted that the coverage "accuracy" question "in terms of mapping" is a "substantial[ly] different" question than "the probability that [a] phone would be in the area indicated" by TraX's maps. Jovanovic Tr., R.125, PageID 1235. He added that one could "achieve a hundred percent accuracy" for the latter question by drawing big enough coverage areas. *Id.*, PageID 1307. But he never opined on this location-accuracy question for TraX's maps. So the district court reasonably credited Ray's low error rate because it stood alone.

To reiterate, we reach a narrow holding. This case's record indicates that TraX's antenna-coverage maps adhered to the methods that courts have permitted. Both sides agreed that TraX mapped an antenna's coverage area (and so a phone's general location) more broadly than the actual coverage area. And undisputed testimony showed that this conservative choice resulted in a low error rate on the relevant question that the government sought to answer: whether a phone that connected to the antenna would fall within TraX's coverage area. On this record, the district court did not abuse its discretion in permitting Detective Heikkila to opine about these maps.

C. Constitutional Evidentiary Challenge

At trial, Reynolds sought to admit two strings of text messages between Errico and another drug dealer named "Dee" between August 23 and 27—several days after the victims overdosed. The first string showed Errico's efforts to sell Xanax pills to Dee. Other evidence suggested that drug dealers could lace Xanax pills with fentanyl, and Dame had fentanyl and a benzodiazepine, like Xanax, in his system. Reynolds thus wanted to use these texts to argue that Dame might have died from a fentanyl-laced Xanax pill he got from Errico. The second string of texts included a statement from Errico to Dee noting: "knocked me out just like the other stuff." Tr., R.175, PageID 2204. Because Errico used similar language when discussing his overdose from the purple heroin on August 20, Reynolds argued that these texts showed that Dee (not Reynolds) could have sold this fatal heroin. The district court excluded this evidence as irrelevant. Reynolds argues that its decision violated his constitutional right to present a complete defense.

He is mistaken. At the outset, Reynolds's argument does not require us to decide whether the district court properly found these text messages irrelevant under Federal Rule of Evidence 401. If he had done so, we would have noted that the federal rules set a "low bar" for relevancy. *Potter*, 927 F.3d at 452. Indeed, evidence must only have a "tendency" to make a fact "of consequence" "more or less probable[.]" Fed. R. Evid. 401. But Reynolds has brought no rules-based challenge. Rather, he has swapped out Rule 401's relatively low bar for a much higher bar by arguing that the district court violated the Constitution. Because he raises no other argument, we must consider only that constitutional question—one that we review de novo. *See United States v. Reichert*, 747 F.3d 445, 453 (6th Cir. 2014).

The Constitution gives courts and rule drafters alike "broad latitude" to exclude evidence from a criminal trial. *Holmes v. South Carolina*, 547 U.S. 319, 324 (2006) (citation omitted). So defendants who claim that a district court's exclusion of evidence violated their constitutional right to present a complete defense must meet two demanding requirements. *See United States v. Guy*, 708 F. App'x 249, 257 (6th Cir. 2017); *Reichert*, 747 F.3d at 453–54.

Requirement One: The exclusion of evidence will violate the right to present a complete defense only if a court can describe the exclusion as "arbitrary" or as "disproportionate" to the interest that the court sought to serve. *Holmes*, 547 U.S. at 324 (citation omitted); *Crane v. Kentucky*, 476 U.S. 683, 689–90 (1986). A defendant typically cannot make this showing when challenging "well-established rules of evidence," such as those that bar irrelevant or prejudicial information. *Holmes*, 547 U.S. at 326–27. These rules allow courts to exclude evidence of innocence that is "speculative or remote" to the crime. *Id.* at 327 (citation omitted). At the same time, the Supreme Court has repeatedly found that a court arbitrarily excluded evidence of innocence when it "radically" departed from these usual rules. *Id.* at 325–28 (collecting cases); *see, e.g.*, *Crane*, 476 U.S. at 687–91.

Requirement Two: The exclusion of evidence will violate the right to present a complete defense only if a defendant has a "weighty" reason for seeking to admit the evidence. *Holmes*, 547 U.S. at 324 (citation omitted). A defendant, of course, has such an interest if the evidence is "indispensable" to proving an innocence defense. *Crane*, 476 U.S. at 691. But beyond that, a defendant can meet this second requirement only if the omitted evidence would have "create[d] a reasonable doubt" about the defendant's guilt that would not have existed based on the admitted evidence alone. *Reichert*, 747 F.3d at 453–54 (quoting *United States v. Blackwell*, 459 F.3d 739, 753 (6th Cir. 2006)).

Reynolds has met neither requirement. For starters, the district court did not exclude the text messages between Errico and Dee on some previously unheard-of theory of evidence. *Cf. Holmes*, 547 U.S. at 328. It excluded them because it believed they were not relevant under Rule 401. And the rule prohibiting irrelevant evidence qualifies as one of those "familiar" rules of evidence that are "unquestionably constitutional[.]" *Montana v. Egelhoff*, 518 U.S. 37, 42 (1996) (plurality opinion); *see Holmes*, 547 U.S. at 327. As Professor Thayer explained, the exclusion of

evidence that has no bearing on a defendant's guilt or innocence is a "presupposition" to "the very conception of a rational system of evidence[.]" James Bradley Thayer, *A Preliminary Treatise on Evidence at the Common Law* 264–65 (1898); *see* 1 *Wigmore on Evidence* 655 (Tiller rev. 1983). So Reynolds must show that the district court misinterpreted Rule 401 to such an extent that we can describe its decision as "arbitrary." Yet a court's mistaken application of an established rule will "rarely" violate the Constitution. *United States v. Hardy*, 586 F.3d 1040, 1044 (6th Cir. 2009).

That is true here. The district court did not act arbitrarily because Errico's text messages were, at most, "marginally relevant." *United States v. Bellamy*, 682 F. App'x 447, 452 (6th Cir. 2017) (citation omitted); *see Reichert*, 747 F.3d at 454. Errico sent the messages between August 23 and 27—*after* the victims overdosed. The messages were thus "remote" to the crimes at issue in the trial. *Holmes*, 547 U.S. at 327 (citation omitted). Reynolds also asked the jury to engage in rank "speculati[on]" with these messages. *Id.* (citation omitted). One set of texts merely showed that Errico attempted to sell Xanax pills to Dee. The messages did not suggest that Errico had laced these pills with fentanyl (or had the means to do so). And they did not suggest that Errico had ever sold Xanax pills to Dame, let alone fentanyl-laced ones. The other set of texts simply suggested that Errico had been "knocked out" by unknown drugs. One would have to take a large logical leap to believe that this fact meant that Dee had provided the fatal drugs that Errico gave to Dame—despite Errico's contrary testimony and the electronic records corroborating it.

Besides, Errico's text messages would not have produced any "doubt" about Reynolds's guilt. *Reichert*, 747 F.3d at 453–54 (quoting *Blackwell*, 459 F.3d at 753). In fact, Reynolds had a separate "avenue" of introducing the basic defense theory that another drug dealer provided the fatal drugs: through Errico himself. Errico admitted that he had "various dealers" other than Reynolds, including "Dee." Errico Tr., R.173, PageID 1809. Errico also admitted that he had been "offering" counterfeit Xanax pills to Dee and other drug dealers at the relevant time. *Id.*, PageID 1885. So texts showing that Errico got other drugs from Dee or tried to sell Xanax to Dee added nothing new. Reynolds's constitutional claim thus fails.

D. Closing-Argument Challenge

Reynolds lastly argues that the prosecutor improperly "vouched" for Errico during closing arguments. A defendant who challenges a prosecutor's closing arguments must prove two things. *See United States v. Garcia*, 758 F.3d 714, 722–23 (6th Cir. 2014). First, the defendant must show that a prosecutor engaged in "improper" tactics. *Id.* Second, the defendant must show that those tactics were "sufficiently flagrant" to warrant a reversal when evaluated under various factors that we have developed. *Id.* at 723; *United States v. Carroll*, 26 F.3d 1380, 1383–87 (6th Cir. 1994). We normally review this type of challenge for an abuse of discretion, provided the defendant objects at trial. Otherwise, we apply the demanding plain-error test. *See United States v. Acosta*, 924 F.3d 288, 298–99 (6th Cir. 2019). Here, Reynolds did not object, so he must show a plain error. And he has identified no improper tactics, let alone "plainly" improper ones.

Prosecutors can engage in improper "vouching" in various ways. To begin with, they improperly vouch for a witness by conveying their personal beliefs that the witness testified credibly. *See United States v. Young*, 470 U.S. 1, 8, 18–19 (1985). They thus may not use personal pronouns and argue things like: "I want to suggest" that a witness "was telling the truth." *United States v. Krebs*, 788 F.2d 1166, 1176–77 (6th Cir. 1986). Nor can prosecutors even imply their personal beliefs. So they cannot argue that a cooperating codefendant testified truthfully on the ground that they would not recommend a favorable sentence if this witness had lied. *See United States v. Francis*, 170 F.3d 546, 550–51 (6th Cir. 1999); *Carroll*, 26 F.3d at 1388–89. Apart from asserting personal opinions, prosecutors also improperly "vouch" for (or "bolster") a witness if they imply that the witness testified truthfully based on facts not in the record. *See Garcia*, 758 F.3d at 723; *see also Acosta*, 924 F.3d at 299. A prosecutor, for example, cannot ask police witnesses vague questions about whether they "corroborated" their information without disclosing any of the details of the so-called "corroboration." *Francis*, 170 F.3d at 551.

But these "vouching" rules should not be taken too far. Prosecutors do not act improperly when they explain why the evidence objectively permits the jury to find that a witness testified honestly. *See Garcia*, 758 F.3d at 723–24; *United States v. Boyd*, 640 F.3d 657, 671 (6th Cir. 2011). A prosecutor may, for example, point out that a witness's plea agreement required the witness to tell the truth. *See United States v. Trumbo*, 849 F. App'x 147, 152–53 (6th Cir. 2021);

United States v. Wells, 623 F.3d 332, 341–44 (6th Cir. 2010); *United States v. Reid*, 625 F.3d 977, 982–84 (6th Cir. 2010); *United States v. Trujillo*, 376 F.3d 593, 607–09 (6th Cir. 2004). And a prosecutor may note that a witness voluntarily decided to testify and that the absence of a plea agreement suggested that she "lacked a reason to lie." *United States v. Henry*, 545 F.3d 367, 379–80 (6th Cir. 2008). These evidence-rooted arguments are especially proper to rehabilitate a witness whom the defense has attacked. *See United States v. Byrd*, 690 F. App'x 892, 894 (6th Cir. 2017); *Henry*, 545 F.3d at 379; *United States v. Thomas*, 29 F. App'x 241, 243–45 (6th Cir. 2002).

The prosecutor's comments in Reynolds's case fall well within the proper side of this divide. During the examination of Errico, the prosecutor elicited evidence from him about why he had "agreed to cooperate" with the government. Errico Tr., R.173, PageID 1843. Errico suggested that it was "right thing to do" and that he was "hoping" that "nothing too bad comes [his] way." *Id.*, PageID 1844. Errico then admitted that the government had made him no promises in exchange for his testimony and that it could still charge him with a crime. *Id.* But Errico hoped that the government would take his "cooperation" into account. *Id.*

The prosecutor followed up on this testimony at closing argument. Reynolds challenges the following statement by the prosecutor as improper "vouching" for Errico:

> [Defense counsel] called Dan Errico a 21st century drug dealer. And I agree. It is the 21st century and he dealt drugs to Brett Dame. But he testified about that under oath, he admitted that. He did it with no promise of immunity, no promise of leniency, just the hope that he would be given some consideration. He has under oath, admitted to committing a crime that resulted in somebody's death.

Tr., R.176, PageID 2291. This statement is nothing of the sort. The prosecutor did not convey (explicitly or impliedly) a personal opinion that Errico had testified credibly. *See Garcia*, 758 F.3d at 723. Nor did the prosecutor suggest that outside-the-trial evidence confirmed Errico's honesty. *See id.* Instead, like the prosecutor in *Henry*, the prosecutor reiterated evidence that supported the inference that Errico lacked a motive to lie. *See* 545 F.3d at 379. And the prosecutor did so only after Reynolds's counsel had attacked Errico as an unreliable drug dealer seeking to avoid criminal charges. Tr., R.176, PageID 2278, 2288; *see Thomas*, 29 F. App'x at 244–45.

In response, Reynolds compares his case to our decision in *Carroll*. There, a prosecutor argued that the government would void the plea agreements of two witnesses if it determined that

they lied at trial. *Carroll*, 26 F.3d at 1382 & n.1. This suggestion that the government would place the witnesses in "jeopardy" if they had lied qualified as improper vouching because it "implied" that the government believed them. *Id.* at 1389. Yet the prosecutor here did not engage in similar tactics. She made no suggestion that the government would punish Errico if he lied. She merely provided evidence-backed reasons why the jury could conclude that Errico told the truth—something that the government had every right to do. *See Henry*, 545 F.3d at 379.

* * *

All told, the government introduced enough evidence to convict Reynolds. The district court did not abuse its discretion by allowing Detective Heikkila to testify about the cellphone-location maps he created with TraX. It did not violate the Constitution by barring Reynolds from admitting Errico's text messages. And the prosecutor did not vouch for Errico. We thus affirm.