

OUD Community Perceptions & Awareness — Results Summary

TN Counties: Claiborne, Franklin, Giles, Hickman, Lawrence, and Marshall • **Fielding** July–Aug 2025

What this is:

An anonymous household survey of adults in six rural Tennessee counties assessing perceptions of opioid use disorder (OUD), stigma, and awareness of services like medication-assisted treatment (MAT). Mailers used the USPS **Every Door Direct Mail (EDDM)** program with a QR code linking to the survey.

Executive Summary

- **People mostly agree OUD is a disease and that MAT works.**
- **Stigma persists**—especially around safety and social distance—so **trusted local voices** matter.
- **Those affected by substance use personally have lower stigma** – self or loved ones.
- **Billboards appear to boost awareness.**

What’s being reported in the communities

- **Solid reach, modest response:** ~6.9k households mailed; 293 completes (~4.3%).
- **High exposure to the issue:** Two-thirds report being **personally affected** (self or loved one) by substance use.
- **Stigma is still common:** Overall stigma index mean **2.82** (1–5 scale; lower=worse). About **62%** fall in “likely present” (<3.0).
 - Most stigmatic domain signals: **Dangerousness/Unpredictability** and **Social distance**.
 - Less stigmatic domain signals: **Blame** and **Fatalism** (relatively higher/less negative scores).
- **Attitudes toward treatment are broadly positive:**
 - **80%** agree “drug abuse is a disease.”
 - **75%** agree MAT is essential.
- **Awareness of the mobile unit:** ~**52%** say they’ve heard of the mobile MAT unit (route-weighted).
- **Billboards may help with awareness:** People who recall **any billboard** are more likely to report mobile MAT awareness than those who don’t recall a billboard (descriptive; not causal)

How we did it (in brief)

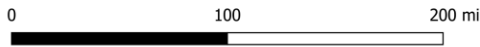
- **Sampling frame:** 12 residential EDDM carrier routes (2 per county) selected via a reproducible multi-stage process (ZIP eligibility → ZIP stratified by population → random carrier route within ZIP).
- **Mailing waves:** Mid-July (Claiborne, Giles, Hickman, Lawrence) and late-August (Franklin, Marshall).
- **Billboards:** Giles/Lawrence (Jun 16–Aug 10); Franklin/Marshall (Aug 1–31); **Claiborne had no billboard.**
- **One adult per household** (next-birthday method); online informed consent; anonymous responses.

Survey at a glance

- | |
|--|
| • Households reached (route-based): 6,887 |
| • Total responses: N=293 - Overall response rate: 4.3% |
| • Stigma index (12 items; lower = more stigma): mean 2.82 (SD 0.73) |

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TN Counties Surveyed about Perceptions Related to Opioid Use and Treatment



■ Surveyed Counties

- Memphis
- Nashville
- Knoxville

County	Mailers	Respondents	Response Rate (%)
Hickman	1064	62	5.8
Lawrence	1044	48	4.6
Claiborne	1339	59	4.4
Giles	1008	42	4.2
Marshall	1027	36	3.5
Franklin	1405	46	3.3

Table 1. Sample characteristics (counts shown; medians where noted)

Measure	Value
Age — median (IQR)	51 (38–63)
Gender (n)	Woman 53.9% (158); Man 28% (82); Missing 18.1% (51)
Self-identified race/ethnicity (n)	White 76.5% (224); Black 9.2% (27); Missing 14.3% (42)
Adults in household (n)	1 adult 21.8% (64); 2 adults 47.8% (140); 3 adults 12.6% (37); 4+ adults 4.4% (13); Missing 13.3% (39)
Children in household (n)	0 children 58.7% (172); 1 child 14.7% (43); 2 children 5.5% (16); 3+ children 2.4% (7); Missing 18.8% (55)
Affected by substance use (self or loved one) (n)	Yes 67.6% (198); No 18.4% (54); Not sure 7.8% (23); Missing 6.1% (18)

Notes: IQR = inter quartile range; n=sample size

Table 2. Awareness & Exposure

Billboard recall (N=235)	Unadjusted		Adjusted Estimate
	n	%	%
No exposure	83	35.3	40.3
Saw once	37	15.7	16.3
Saw occasionally	40	17.0	18.9
Saw routinely	53	22.6	24.5
Missing	22	9.36	-
Mobile MAT awareness (N=197)	n	%	
Yes	91	53.8	52.5
No/Unsure	106	46.2	47.5

Note: (Billboard recall excludes Claiborne; “Adjusted” = route-weighted estimate.)

Table 3. Stigma Overview (Lower numbers = more stigma. On a scale of 1-5, with 3 being unsure)

Measure	Value
Overall Stigma, Mean (SD)	2.82 (0.73)
Range of Mean	1–4.25
Stigma likely present (<3.0)	182 (62.1%)
Stigma possibly present (3.0–3.99)	71 (24.2%)
Stigma likely not present (≥4.0)	33 (11.3%)
Missing	7 (2.4%)
Domains (mini-scales)	
Dangerous: 2.54 (0.93) • Blame: 3.02 (1.43) • Social distance: 2.93 (0.86) • Fatalism: 2.91 (1.17)	

Table 4. Standalone Attitudes

Statement	Unadjusted			Adjusted		
	Agree %	Not sure %	Disagree %	Agree %	Not sure %	Disagree %
“Drug abuse is a disease”	80.5	8.2	11.3	80.8	8.4	10.8
“MAT programs can be essential”	74.7	18.1	7.2	74.4	18.4	7.2

Table 5. Stigma Across Domains and Affected by Substance Use Status (mean, sd)

Experiences and beliefs	Dangerous	Blame	Social Distance	Fatalism
Affected by substance use (self or loved one)	2.58 (0.08)	3.12 (0.13)	3.04 (0.06)	3.12 (0.10)
- Not Affected	2.29 (0.08)	2.92 (0.15)	2.72 (0.09)	2.84 (0.20)
Agrees Drug Abuse is a Disease	2.63 (0.07)	3.11 (0.11)	2.99 (0.06)	2.98 (0.10)
- Not Sure	2.29 (0.15)	2.95(0.34)	2.93 (0.10)	2.44 (0.13)
- Disagrees	2.09 (0.10)	2.39(0.20)	2.66 (0.09)	2.88 (0.15)
Agrees MAT is essential	2.40 (0.05)	2.94(0.09)	2.80 (0.04)	2.95 (0.05)
- Not Sure	2.96 (0.11)	3.69(0.23)	3.46 (0.15)	3.11 (0.23)
- Disagrees	2.95 (0.26)	2.14(0.25)	3.18 (0.16)	2.13 (0.27)

Table 6. Recalling Seeing Billboards & MAT Awareness

Billboard exposure (Claiborne excluded)	n	Aware of mobile MAT (%)	Agree MAT is essential (%)	People who recall any billboard are more likely to say they’re aware of the mobile MAT unit. Attitudes toward MAT remain broadly positive across groups.
Saw any billboard	130	67.5	54.1	
No billboard	83	23.3	45.9	

Design, setting, and sampling

We conducted a cross-sectional household survey in six rural Tennessee counties (Claiborne, Franklin, Giles, Hickman, Lawrence, Marshall) as part of a stigma-reduction initiative. Households were reached using the U.S. Postal Service **Every Door Direct Mail (EDDM)** program. Following a predefined protocol, we first screened ZIP Codes for county predominance (>75% overlap by population or land area), stratified eligible ZIPs within each county by population (high/low), then randomly selected **two ZIPs per county**. Within each selected ZIP we identified all residential EDDM carrier routes (excluding PO Boxes and business-only routes) and randomly selected **one route per ZIP**, yielding **12 primary routes (two per county)**.

Mailers contained a QR code linking to the anonymous survey and requested one adult per household (random adult by “next birthday” method) to respond. Wave 1 mailers landed mid-July (Claiborne, Giles, Hickman, Lawrence) and Wave 2 late-August (Franklin, Marshall). Billboard campaigns ran June–August in all counties except **Claiborne** (no billboard placement). Billboard recall was not asked in Claiborne.

Postcard Example

Understanding Opioid Use and Treatment Survey

We want to hear from residents in your area about opioid use and treatment, understanding, and stigma. Your voice matters.

Take a **10-15 minute survey** about community health and opioid use.

Enter to win one of ten \$40 Visa gift cards!

Scan the QR code



One response per household, please.

*If more than one adult lives
in your home, the person with
the next upcoming birthday should
complete the survey.*

I AM *true*
BLUE
MIDDLE TENNESSEE STATE UNIVERSITY

MT
Center for Health
and Human Services

Measures

Stigma scale (12 items)

Respondents rated 12 statements about opioid/heroin use on a 5-point Likert scale (1=Strongly agree ... 5=Strongly disagree). Per protocol, **lower scores indicate higher stigma**. The overall stigma index is the **mean of the 12 items** (allowing item-level missingness; mean computed on available items). See Appendix for question specifics.

Stigma domains (a priori composites)

For interpretability, the 12 items were organized into four theory-informed domains. Each domain score is the mean of its items (same 1–5 coding; lower = more stigma):

- **Dangerousness & Unpredictability**
Q8_1 (children not allowed to play outside), Q8_2 (unpredictable), Q8_3 (threat to safety), Q8_4 (dangerous to forget they are users)
- **Social Distance (avoidance/preferences)**
Q8_6 (avoid socializing), Q8_7 (bother me to live near a user), Q8_8 (hard to be friends), Q8_9 (not vote for past user), Q8_10 (prefer not to work with), Q8_11 (fine with marrying into family)†.
- **Blame/Personal Responsibility**
Q8_5 (usually responsible for their condition).
- **Fatalism/Chronicity**
Q8_12 (addicts for life).

† **Coding note:** Item Q8_11 (“I would be fine letting someone who had a history of opioid and heroin use marry into my family”) was **retained as written** per protocol but reverse coded in analysis.

Standalone attitudes (reported separately)

Two single-item attitudes, also coded 1–5 (lower = more agreement):

- “Drug abuse is a disease” (Q8_16)
- “Medication-assisted treatment (MAT) programs can be essential” (Q8_17)

Awareness, exposure, and willingness

- **Billboard recall** (4 levels): none / saw once / saw occasionally / saw routinely (not asked in Claiborne).
- **Mobile MAT awareness:** Yes / No / Not sure. For binary summaries we used mat_yes (Yes=1, No/Not Sure=0).
- **Willingness to use a mobile MAT unit:** 5-point Likert (1=Very unlikely ... 5=Very likely).

Demographics & household

Age (years), gender, self-identified race/ethnicity, adults in household (1/2/3/4+), children in household (0/1/2/3+), affected by substance use (self or loved one: Yes/No/Not sure), county and ZIP of residence.

Data processing and missingness

Data were exported from Qualtrics that had been filled out by respondents electronically. They were then imported from Excel into R statistical software, variables were standardized to consistent labels and case, and numeric Likert variables were coerced to numeric (1–5). “Not sure” on Likert items is coded 3. For proportions (e.g., awareness), “Not sure” is reported explicitly; for binary understandings, it is treated as “no”. Stigma scores (overall and domains) use row-means with **available-case** handling.

Weighting

To account for unequal route sizes and differential response by route, we applied **route base weights**:

$$w_i = \frac{\text{households mailed in respondent's route}}{\text{number of respondents from that route}}$$

Weights were merged to respondent records via route_id. All “Adjusted” estimates in the report are **weight-adjusted** using these base weights.

R implementation (survey package): `svydesign(ids=~1, weights=~base_w, data=dat)`

Analytic approach

- **Descriptives:** Unadjusted (raw) and weight-adjusted means/proportions with standard errors. Billboard recall excludes Claiborne and observations with missing recall.
- **Stigma bands:** For communication, the overall stigma index was categorized as: **Likely present** (<3.0), **Possibly present** (3.0–3.99), **Not present** (≥4.0).
- **Exploratory associations:** Weight-adjusted cross-tabs (e.g., Mobile MAT awareness by billboard recall) reported as descriptive, not causal.

Ethics

The protocol (IRB-FY2025-265; Middle Tennessee State University) was approved on May 22, 2025. Participation was voluntary and anonymous; participants were provided a chance to provide contact information to be entered into a drawing for a \$40 Visa Gift Card (10 total winners). If participants decided to enter the drawing, their contact information was stored separately from the questionnaire data.

References

Stone KW, Chesak GM, Bowman AS, et al. A cross-sectional study of stigma towards opioid users among rural law enforcement and community members in Tennessee. *Harm Reduction Journal*. 2024. <https://harmreductionjournal.biomedcentral.com/articles/10.1186/s12954-024-01114-7>

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Rural Health Information Hub. Rural response to the opioid crisis overview. 2025. <https://www.ruralhealthinfo.org/topics/opioids>

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Appendix - Survey Items

Stigma scale (12 items; coded 1=Strongly agree ... 5=Strongly disagree; lower score = more stigma)

For each statement: Strongly agree / Agree / Not sure / Disagree / Strongly disagree

1. If I knew that a heroin addict lived nearby, I would not allow my children to play alone outside.
2. One important thing about people addicted to heroin or opioids is that you cannot tell what they will do from one minute to the next.
3. People who use heroin or opioids are a threat to the safety of our community.
4. Although some heroin/opioid users may seem all right it is dangerous to forget that they are drug users.
5. Persons addicted to heroin and/or opioids are usually responsible for their own condition.
6. If I knew someone was addicted to heroin or opioids I would try not to socialize with them.
7. It would bother me to live near a person who used heroin or opioids.
8. It would be difficult for me to develop a friendship with someone who uses heroin or opioids.
9. I would not vote for a politician if I knew they had been addicted to heroin or opioids.
10. If I could, I would prefer not to work with someone who was a known user of heroin or opioids.
11. I would be fine letting someone who had a history of opioid and heroin use marry into my family.
12. Most people who become addicted to heroin or opioids are addicts for life.

Standalone attitudes (reported separately; not part of the 12-item index)

For each statement: Strongly agree / Agree / Not sure / Disagree / Strongly disagree

13. A typical drug user belongs to the lower class.
14. Males are more likely to be a drug user.
15. Most drug users are employed.
16. Drug abuse is a disease.
17. Medication-assisted treatment (MAT) programs can be an essential tool in aiding treatment and preventing overdose deaths.

Demographics & household

- Typical drug user race/ethnicity (perception):
Black or African-American / American Indian or Alaska Native / Asian / Hispanic or Latine / White /
Not listed (write-in)
- Age (years)
- Gender:
Man / Woman / Not listed (write-in) / Prefer not to say
- Self-identified race/ethnicity:
Black or African-American / American Indian or Alaska Native / Asian / Hispanic or Latine / White /
Not listed (write-in) / Prefer not to say
- Adults in household (18+):
1 / 2 / 3 / 4 or more
- Children in household (<18):
0 / 1 / 2 / 3 or more
- Affected by substance use (self or close loved one):
Yes / No / Not sure

Awareness, exposure & willingness

- Billboard recall in your county (past year):
Haven't seen any / Saw at least one, only once / Saw one or more occasionally / Saw them routinely
- Open text (if saw any billboard): Messages or phrases you recall (free text)
- County of residence (dropdown list incl. "Outside of Tennessee")
- ZIP code (free text)
- Heard of a mobile MAT unit in your area:
Yes / No / Not sure
- Willingness to use a mobile MAT unit if you or someone close needed help:
Very unlikely / Unlikely / Neutral / Likely / Very likely