Building Recovery Ecosystems
Three Waves of Opioid Overdose Deaths

- **Any Opioid**
- **Other Synthetic Opioids** (e.g., Tramadol or Fentanyl, prescribed or illicitly manufactured)
- **Commonly Prescribed Opioids** (Natural & Semi-Synthetic Opioids and Methadone)
- **Heroin**

**Wave 1:** Rise in Prescription Opioid Overdose Deaths
**Wave 2:** Rise in Heroin Overdose Deaths Started in 2010
**Wave 3:** Rise in Synthetic Opioid Overdose Deaths Started in 2013

Figure 4. Age-adjusted rate of drug overdose deaths involving opioids, by type of opioid: United States, 2001–2021

Figure 5. Age-adjusted rate of drug overdose deaths involving stimulants, by type of stimulant: United States, 2001–2021

*Significant increasing trend from 2001 through 2005, significant decreasing trend from 2008 through 2011, then significant increasing trend from 2011 through 2021, p < 0.05.
*Significant increasing trend from 2001 through 2005, stable trend from 2005 through 2008, then significant increasing trend from 2008 through 2021 with different rates of change over time, p < 0.05.
*Significant increasing trend from 2001 through 2006 with different rates of change over time, significant decreasing trend from 2006 through 2019, then stable trend from 2019 through 2021, p < 0.05.

NOTES: Drug overdose deaths were identified using International Classification of Diseases, 10th Revision (ICD–10) underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Among these deaths, the following ICD–10 multiple cause-of-death codes indicate the drug type(s) involved: T40.0–T40.4, T40.6, any opioid; T41.1, heroin; T42.2, natural and semisynthetic opioids; T42.3, methadone; and T42.4, synthetic opioids other than methadone. Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population. Deaths involving more than one opioid category (a death involving both methadone and a natural or semisynthetic opioid, for example) were counted in both categories. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, ranging from 75% to 79% from 2000 through 2013 and increasing from 81% in 2014 to 95% in 2021. Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db457_tables.pdf?pdf


*Significant increasing trend from 2001 through 2005, significant decreasing trend from 2006 through 2011, then significant increasing trend from 2011 through 2021, p < 0.05.
*Significant increasing trend from 2001 through 2005, stable trend from 2005 through 2008, then significant increasing trend from 2008 through 2021 with different rates of change over time, p < 0.05.

NOTES: Drug overdose deaths were identified using International Classification of Diseases, 10th Revision (ICD–10) underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14. Among these deaths, the following ICD–10 multiple cause-of-death codes indicate the drug type(s) involved: T40.5, cocaine; and T43.6, psychostimulants with abuse potential. Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population. Deaths may involve more than one drug. The percentage of drug overdose deaths that identified the specific drugs involved varied by year, ranging from 75% to 79% from 2000 through 2013 and increasing from 81% in 2014 to 95% in 2021. Access data table for Figure 5 at: https://www.cdc.gov/nchs/data/databriefs/db457_tables.pdf?pdf

Figure 1. Age-adjusted rate of drug overdose deaths, by sex: United States, 2001–2021

- Deaths per 100,000 standard population
- Male
- Female
- Total

Notes:
1. Rate for males is significantly higher than for females for all years, p < 0.05.
2. Significant increasing trend from 2001 through 2021, with different rates of change over time, p < 0.05.
3. Significant increasing trend from 2001 through 2006, stable trend from 2006 through 2013, then significant increasing trend from 2013 through 2021, p < 0.05.


Figure 2. Rate of drug overdose deaths, by selected age groups 15 and over: United States, 2020 and 2021

- Deaths per 100,000 population
- Age groups: 15-24 years, 25-34 years, 35-44 years, 45-54 years, 55-64 years, 65 years and over

Notes:
1. Except for those aged 15-24, rates in 2021 were significantly higher than in 2020 for all age groups, p < 0.05.
2. Age group with highest rate in 2020 and 2021, p < 0.05.

Intersection with Adverse Childhood Experiences (ACEs)

The three types of ACEs include:

- **ABUSE**
  - Physical
  - Emotional
  - Sexual

- **NEGLECT**
  - Physical
  - Emotional

- **HOUSEHOLD DYSFUNCTION**
  - Mental Illness
  - Incarcerated Relative
  - Mother treated violently
  - Substance Abuse
  - Divorce

Impact of ACEs on Health and Well-Being
Relationship between overdose deaths, drug hospitalizations, and child welfare caseload rates (2011-2016)

Figure 3. Foster Care Entry Rates and Drug Overdose Death Rates, 2016

Source: AFCARS and CDC Small Area Estimates of Drug Overdose Death Rates (Age Adjusted). Colors indicate counties above or below the county median age-adjusted overdose death rate (15.4 per 100,000) and foster care entry rate (906 per 100,000 children).
 Monthly drug overdose deaths

Note: Synthetic opioid deaths exclude those from methadone. Specific drug-class deaths are not mutually exclusive.

Data: Final 2016–2019 monthly totals: CDC WONDER; Estimated 2020 monthly totals: Calculations based on National Vital Statistics System Provisional Drug Overdose Death Counts, CDC WONDER.

What is a Recovery Ecosystem?
How A Recovery Ecosystem Creates Recovery Capital

- Criminal Justice
- Treatment Providers
- Counselors
- Community Support
- Self-Directed

- Case Management
- Peer Support
- Stable Housing
- Education Support
- Physical/Mental Health
- Life Skills Development
- Employment Support

- Employment
- Transportation
- Housing
- Social Support
• Between 42-66% of people with a substance use disorder achieve full remission from addiction, using many different pathways

• 9-11% of the US population reports having had a substance use disorder – ~28 million

Source: Recovery Research Institute, Harvard University, https://www.recoveryanswers.org/
Developing the Rural Recovery Ecosystem Index
Recovery Ecosystem Index

• Goals of the project:
  • Measure the strength of rural county-level recovery ecosystems
  • Build a mapping tool using the Recovery Ecosystem Index
  • Provide data to support community planning, programming, and technical assistance to strengthen recovery ecosystems
Selecting indicators for recovery ecosystem index:

• NORC/ETSU conducted a literature review on recovery ecosystems, identifying several concepts and potential indicators to include in the index

• During the first TEP meeting, we solicited input on key concepts for the index, including potential indicators

• Based on this information, NORC/ETSU compiled a list of over 100 potential indicators

• We investigated the data availability for these indicators and removed ones that lacked publicly available county-level data

• We then reviewed 36 indicators with the TEP to prioritize for inclusion in the index

• Final index includes 14 indicators
## Final Recovery Ecosystem Index Measures

<table>
<thead>
<tr>
<th>Component/ Domain</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUD Treatment</strong></td>
<td>Substance Use Treatment Facilities Per Capita</td>
</tr>
<tr>
<td></td>
<td>Providers Licensed to Administer Buprenorphine Per Capita</td>
</tr>
<tr>
<td></td>
<td>Average Distance to Nearest Medication-Assisted Treatment (MAT) Provider</td>
</tr>
<tr>
<td></td>
<td>Mental Health Providers Per Capita</td>
</tr>
<tr>
<td><strong>Continuum of SUD Support</strong></td>
<td>Recovery Residences Per Capita</td>
</tr>
<tr>
<td></td>
<td>Average Distance to Nearest Syringe-Service Program (SSP)</td>
</tr>
<tr>
<td></td>
<td>Narcotics Anonymous (NA) or Self-Management and Recovery Training (SMART) Meetings per Capita</td>
</tr>
<tr>
<td></td>
<td>Drug Court Presence</td>
</tr>
<tr>
<td></td>
<td>Drug-Free Communities Coalition Presence</td>
</tr>
<tr>
<td></td>
<td>Policy Environment Score</td>
</tr>
<tr>
<td><strong>Social and Infrastructure</strong></td>
<td>Vehicle Availability</td>
</tr>
<tr>
<td></td>
<td>Severe Housing Cost Burden</td>
</tr>
<tr>
<td></td>
<td>Broadband Access</td>
</tr>
<tr>
<td></td>
<td>Social Associations Per Capita</td>
</tr>
</tbody>
</table>
## Policy Indicators

- **State-level policies**
- **Scored 1 to 10**

<table>
<thead>
<tr>
<th>Category</th>
<th>Policy</th>
</tr>
</thead>
</table>
| Good Samarian Overdose Prevention Laws | Does the law provide protection from probation or parole violations?  
**Does the jurisdiction have a drug overdose Good Samaritan Law?**  
Is reporting an overdose considered a mitigating factor in sentencing? |
| Commercial Insurance and Medicaid Coverage of Medications for Opioid Use Disorder Treatment | Does the state require commercial insurers to provide coverage for MOUD?  
Does the state Medicaid plan include coverage for behavioral health supports for MOUD?  
**Does the state have an approved Medicaid State Plan Amendment to facilitate the provision of MOUD?** |
| Requirements for Licensure and Operations of Medications for Opioid Use Disorder Treatment | Are licensed SUD programs required to facilitate access to MOUD programs?  
**Does state law allow for the operation of syringe service programs (SSPs)?**  
**Does state law allow for the possession of syringes by SSP participants?** |
| Syringe Service Program Laws | Does state law allow for the operation of syringe service programs (SSPs)?  
**Does state law allow for the possession of syringes by SSP participants?** |
Overview of Mapping Tool – Methodology & Data Sources

### Methodology & Data Sources

<table>
<thead>
<tr>
<th>Category</th>
<th>Metric</th>
<th>Data Source/Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUD Treatment</td>
<td>Number of Providers Licensed to Administer Buprenorphine Per Capita</td>
<td>SAMHSA (N-SSATS Data) (As of February 2022)</td>
</tr>
<tr>
<td></td>
<td>Average Distance to Nearest Medication-Assisted Treatment (MAT) Provider</td>
<td>SAMHSA (N-SSATS Data) (As of February 2022)</td>
</tr>
<tr>
<td></td>
<td>Number of Mental Health Providers Per Capita</td>
<td>County Health Rankings and Roadmaps (data from CMS, National Provider Identification)</td>
</tr>
<tr>
<td></td>
<td>Number of Recovery Residences Per Capita</td>
<td>SAMHSA (N-SSATS Data) (As of February 2022)</td>
</tr>
<tr>
<td></td>
<td>Average Distance to Nearest Syringe-Service Program (SSFP)</td>
<td>SAMHSA (N-SSATS Data) (As of February 2022)</td>
</tr>
<tr>
<td></td>
<td>Number of Narcotics Anonymous (NA) of Self-Management and Recovery Training (SMART) Meetings Per Capita</td>
<td>NA Meeting Search SMART Meeting Search (As of May 2022)</td>
</tr>
<tr>
<td></td>
<td>Continuum of SUD Support Drug Court Presence</td>
<td>National Drug Court Resource Center (As of February 2022)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ONDCP Lists of FY 2021 Drug Court Publication Data (As of February 2022)</td>
</tr>
</tbody>
</table>

- Number of providers licensed to administer buprenorphine per 100,000 residents
- Average number of miles between zip codes without a provider and the nearest zip code with a provider
- Number of mental health providers per 100,000 residents. Mental health providers are defined as psychiatrists, psychologists, licensed clinical social workers, counselors, marriage and family therapists, mental health providers that treat alcohol and other drug abuse, and advanced practice nurses specializing in mental health care.
- Number of recovery residences per 100,000 residents
- Average number of miles between zip codes without a facility and the nearest zip code with a facility
- Number of NA or SMART meetings per 100,000 residents
- The value is 1 if there is at least one drug court in the county and 0 if there are no drug courts
- The value is 1 if there is at least one drug court publication data in the county, 0 if there is none.
New Resources to Support Use of REI Tool

Released in August 2023:

- Two videos that provide demonstrations of the mapping tool and how to use the REI
  - Welcome to the Recovery Ecosystem Index Mapping Tool: About the Tool
  - How to Use the Recovery Ecosystem Index Mapping Tool
- Recovery Ecosystem Index Action Guide

Using the Recovery Ecosystem Index (REI) Mapping Tool

The term “Recovery Ecosystem” is used to describe the community-level factors that are in place to support individuals in recovery from substance use disorder (SUD). This tool allows community organizations, policymakers, researchers, and the general public to create county-level maps to understand these factors in their communities and where additional resources are most needed to provide support to individuals in recovery. Insights derived from this tool can be used to target resources and interventions to enhance recovery ecosystems.

Click here for an Action Guide on how to apply our tool to your work.
Action Guide: How to Apply the REI Tool

Goal:
Improve the Recovery Ecosystem in Your Community

- Identify Local Data
- Assess Growth Areas and Gaps
- Communicate Needs to Policymakers
- Understand Concept of a Recovery Ecosystem
- Gather Data from the Tool
- Start Discussions About Recovery Ecosystems with Local Partners
Step 1: Understanding the Concept of Recovery Ecosystem

• Review resources provided to understand the concept of a recovery ecosystem

Understanding the Concept of a Recovery Ecosystem

Before exploring the Recovery Ecosystem Index Mapping Tool, you should understand the concept of a recovery ecosystem.

Millions of individuals are estimated to have a substance use disorder (SUD), contributing to serious health, social, and economic consequences. Ensuring services and resources to support individuals in recovery from SUD is good for our residents, our communities, and our economies.

A recovery ecosystem creates the environment that individuals in recovery and their families need. In a community with a strong recovery ecosystem, individuals can access recovery support services, including treatment, housing, and employment. A recovery ecosystem provides peer and social support, education and training opportunities, employment opportunities, transportation supports, childcare supports, leisure and recreational opportunities, housing, and access to health care and mental health services. A recovery ecosystem surrounds individuals with the ability to remove barriers, pursue meaningful employment, and maintain recovery transitioning to a productive and positive quality of life engaging with family and community. Developing a recovery ecosystem supports individuals and families by providing a range of evidence-based methods for dealing with the complex issue of SUD. For more information on recovery ecosystems, visit: EpischerGroup.org
Step 2: Gather Data from the Tool

• The base map of the tool can be either the Recovery Ecosystem Index or drug overdose mortality

• View the base map to see the distribution across the United States for these indicators

Users can gather data on a range of indicators from the tool, such as Recovery Ecosystem Index scores, overdose mortality, sociodemographic data, economic data, and more. These data can be used in grant, proposal, and report writing as well as inform community planning.
rei.norc.org – Base Map – Overall Recovery Ecosystem Index
rei.norc.org – Base Map – Overdose Mortality (2018-2021)
• Overview of Mapping Tool – Overlays
• Overview of Mapping Tool – Contextual Overlays
Overview of Mapping Tool – County Fact Sheet

Clare County, MI

Recovery Ecosystem Index Score
4.0

30,655 Population (Rural)

Hover over a variable in the data table, and its definition will appear below.
## Overview of Mapping Tool – View Details

### Clare County, MI

**Recovery Ecosystem Index Score**

<table>
<thead>
<tr>
<th>Score</th>
<th>Population (Rural)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>30,655</td>
</tr>
</tbody>
</table>

Hover over a variable in the data table, and its definition will appear below.

### State Policies:

Note: Some policy information may be outdated. Please review the Methodology & Data Sources page for more information on the source for each policy and the year the data were most recently updated.

<table>
<thead>
<tr>
<th>Policy</th>
<th>Michigan</th>
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</thead>
<tbody>
<tr>
<td>Does the law provide protection from probation or parole violations?</td>
<td>No</td>
</tr>
<tr>
<td>Is reporting an overdose considered a mitigating factor in sentencing?</td>
<td>No</td>
</tr>
<tr>
<td>Does the state require commercial insurers to provide coverage for MOUD?</td>
<td>No</td>
</tr>
<tr>
<td>Does the state Medicaid plan include coverage for behavioral health supports for MOUD?</td>
<td>No</td>
</tr>
<tr>
<td>Does the state have an approved Medicaid State Plan Amendment to facilitate the provision of MOUD?</td>
<td>Yes (Michigan Medicaid St...) (Michigan Medicaid St...) (Michigan Medicaid St...)</td>
</tr>
<tr>
<td>Are licensed SUD programs required to facilitate access to MOUD programs?</td>
<td>No</td>
</tr>
<tr>
<td>Does state law allow for the operation of syringe service programs (SSPs)?</td>
<td>Locally Permitted</td>
</tr>
<tr>
<td>Does state law allow for the possession of syringes by SSP participants?</td>
<td>Yes (Mich. Comp. Laws Sec. 333.7453 (1))</td>
</tr>
</tbody>
</table>
rei.norc.org – Base Map – Correlation Graphs
Download Data

• Users can download an Excel file of the raw data within the tool at the **Methodology & Data** tab
Step 3: Start Discussions about Recovery Ecosystems with Local Partners

The data and recovery ecosystem score and sub-scores from the tool can be used to start and guide community discussions with local partners.

- Users can choose between four data tables, using the ‘Select data table’ drop-down menu on the county fact sheet:
  1) Recovery Ecosystem Index
  2) Drug Overdose Mortality
  3) Socio-Demographic
  4) Economic
Step 3: Start Discussions about Recovery Ecosystems with Local Partners

• The data tables can be circulated to local partners to guide discussions about available resources and contextual information for your community.

• Relevant questions may be:
  1) Where are the gaps in our community?
  2) What do we want more data on? What data do we have access to for our local community related to the recovery ecosystem?
     a. What additional data are available for our local community?
  3) How can we strengthen our recovery ecosystem?
  4) Who should we involve when strengthening our recovery ecosystem?
  5) What are the other factors present in our community that may impact our recovery ecosystem?
Step 3: Start Discussions about Recovery Ecosystems with Local Partners

- Users can print out data tables of the county fact sheet by clicking ‘Print Data Tables’ in the upper right corner.
Step 4: Identify Local Data

- The information and data in the tool can be supplemented with local data to fill gaps, provide more granular information, assess ecosystem strengths, and allow further assessment of gaps and growth areas.
Step 5: Assess Growth Areas and Gaps

- The index is broken down into three components that impact the strength of a recovery ecosystem: SUD Treatment; Continuum of SUD Support; and Infrastructure and Social Factors.

- The Recovery Ecosystem Index subcomponent scores and data, as well as the accompanying policy data can be leveraged to determine priority areas for counties.

Users can utilize the county-level fact sheets to assess current strengths and growth areas within the three sub-components of the Recovery Ecosystem Index, as well as compare current resources in their county with averages at the state and national levels.
Step 5: Assess Growth Areas and Gaps

- County fact sheets also include a summary of state policies that comprise the policy environment score.

<table>
<thead>
<tr>
<th>State Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note: Some policy information may be outdated. Please review the Methodology &amp; Data Sources page for more information on the source for each policy and the year the data were most recently updated.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policy</th>
<th>Kentucky</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the law provide protection from probation or parole violations?</td>
<td>No</td>
</tr>
<tr>
<td>Does the jurisdiction have a drug overdose Good Samaritan Law?</td>
<td>Yes (Ky. Rev. Stat. Sec. 218A.133) (Ky. Rev. Stat. 218A.133(2))</td>
</tr>
<tr>
<td>Is reporting an overdose considered a mitigating factor in sentencing?</td>
<td>No</td>
</tr>
<tr>
<td>Does the state require commercial insurers to provide coverage for MUD?</td>
<td>No</td>
</tr>
<tr>
<td>Does the state Medicaid plan include coverage for behavioral health supports for MUD?</td>
<td>Yes (NMS Waver)</td>
</tr>
<tr>
<td>Does the state have an approved Medicaid State Plan Amendment to facilitate the provision of MUD?</td>
<td>No</td>
</tr>
<tr>
<td>Does state law allow for the operation of syringe service programs (SSPs)?</td>
<td>Legal</td>
</tr>
<tr>
<td>Does state law allow for the possession of syringes by SSP participants?</td>
<td>Yes (Ky. Rev. Stat. Sec. 218A.500 Definitions for KRS 218A.500 and 218A.510, unlawful)</td>
</tr>
</tbody>
</table>
Step 6: Communicate Needs to Policymakers

The data tables available from the county fact sheet page can be used as printed sheets to hand to policymakers. Users can additionally utilize the map to visually show how their county compares to others within the state.

• To visually compare a county with others in the state, users can filter to their state in the ‘Filter by state’ drop-down menu.
Step 6: Communicate Needs to Policymakers

Recovery Ecosystem Index

Drug Overdose Mortality
Step 6: Communicate Needs to Policymakers

- Users can also utilize location overlays available in the top left corner.

- For example, only the rural designated counties can be selected.
Recovery Ecosystems: A Real World Example
Recovery Ecosystems: A Real-World Example
Recovery Ecosystems: A Real-World Example
Recovery Ecosystems: A Real-World Example

- Between 2008-2012 and 2013-2017, counties in Eastern Kentucky represented 8 of the 10 counties nationally with the greatest decline in drug overdose mortality, among the population aged 15 to 64 years old.
Recovery Ecosystems: A Real-World Example

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay County</td>
<td>29.5 deaths per 100,000</td>
<td>-52.2 deaths per 100,000</td>
</tr>
<tr>
<td>Johnson County</td>
<td>38.8 deaths per 100,000</td>
<td>-49.7 deaths per 100,000</td>
</tr>
<tr>
<td>Floyd County</td>
<td>73.8 deaths per 100,000</td>
<td>-34 deaths per 100,000</td>
</tr>
<tr>
<td>Magoffin County</td>
<td>35.6 deaths per 100,000*</td>
<td>-32.8 deaths per 100,000</td>
</tr>
<tr>
<td>Breathitt County</td>
<td>46.4 deaths per 100,000</td>
<td>-32 deaths per 100,000</td>
</tr>
<tr>
<td>Bath County</td>
<td>44.2 deaths per 100,000*</td>
<td>-30.7 deaths per 100,000</td>
</tr>
<tr>
<td>Powell County</td>
<td>70.1 deaths per 100,000</td>
<td>-30.4 deaths per 100,000</td>
</tr>
<tr>
<td>Letcher County</td>
<td>46.3 deaths per 100,000</td>
<td>-28.8 deaths per 100,000</td>
</tr>
</tbody>
</table>
Themes contributing to declines in overdose mortality in Eastern Kentucky:

- Increased access to treatment
  - Medicaid expansion and Kentucky’s enhanced substance use treatment benefits
- Recovery community and initiatives (i.e., recovery housing, second chance employment)
- Changing approach of the criminal justice system
- Harm reduction
- Reduced stigma
- Partnerships, community coalitions, and longstanding commitment to addressing substance use
- Primary prevention and education
- Shifts in drug use patterns
DECLINING OVERDOSE MORTALITY IN EASTERN KENTUCKY
Understanding Declining Rates of Drug Overdose Mortality in Eastern Kentucky

Michael Meit, Megan Hofferman, Maggie Cheney, Katherine Geffand, Tamra Klaiman, Frances Felner, Melissa Store

Project Description
With funding from the Center for Disease Control and Prevention (CDC) and the National Association of County and City Health Officials (NACCHO), the NORC Walsh Center for Rural Health Analysis and the University of Kentucky Center for Excellence in Rural Health (UC ECHR) conducted this study to understand possible factors associated with declining rates of drug overdose mortality in Eastern Kentucky. Several counties in Eastern Kentucky have seen declines in drug overdose mortality rates over the past decade, and we continue to learn from the state of Kentucky and other, in terms of identifying the factors driving these changes. This project provided an opportunity to analyze over 10 years of date to see if there were differences in the patterns of overdose mortality by county and the factors that may have been contributing. We conducted a retrospective review of overdose deaths in the region and an intensive qualitative study. NORC and UC ECHR identified counties and states that may contribute to the declines, including approaches that could be implemented in other communities.

Background
DECLINES IN DRUG OVERDOSE MORTALITY
In October 2016, NORC released an updated mapping tool. Background information was obtained from the CDC National Center for Health Statistics (NCHS) National Vital Statistics System (NVSS). Drug overdose mortality was determined using the standard International Classification of Diseases 10th Revision (ICD-10) underlying cause of death codes used by CDC (T40.44X, X40-X44, X60-X64, and Y10-Y14). Between 2005-2012 and 2013-2017, 8 counties in Eastern Kentucky were among the 10 counties nationally with the greatest decline in drug overdose mortality; among the top 10 counties nationally, 14 were in Eastern Kentucky. Even as rates declined in Eastern Kentucky, drug overdose mortality rates in neighboring states increased dramatically, prompting the research team to explore policies and programs that may have contributed to these observed trends.

Figure 1: Changes in Drug Overdose Mortality from 2005-2012 to 2013-2017


DECLINING OVERDOSE MORTALITY IN EASTERN KENTUCKY
Kentucky’s Capacity for Substance Use Disorder Treatment Exceeds Nation

Olivia A. Sullivan, EMT, MPH; Amy E. Wahlquist, MS; Michael Meit, MA, MPH