EVALUATION PROFILE FOR

Linkage to Care Initiatives

OVERDOSE DATA2ACTION

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

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Purpose of the Evaluation Profile

This evaluation profile PROVIDES GUIDANCE in designing evaluations of their linkage to care initiatives.

This resource is meant to demonstrate how to conduct evaluations, in many cases using existing programmatic data, to produce actionable and timely findings. These findings will be used to inform program managers and stakeholders about how well initiatives are being implemented, and how effective they are at bringing about desired outcomes. This profile provides guidance on the types of evaluation questions, indicators, data sources, and data collection methods that may be used to evaluate a linkage to care initiatives.

EVALUATION CONSIDERATIONS

CDC funded entities[1] should tailor their evaluations to stakeholder needs and the stage of development for each activity. Evaluations should serve programmatic needs to ensure high-quality initiatives are developed, reach program goals, and are tested for effectiveness.

The evolving nature of drug overdoses requires that programs strategically pivot to address emerging needs. Evaluators should remain vigilant to changing needs and look for ways to provide practical and actionable information to program implementers and decision makers.[2] Decisions surrounding the level of rigor needed for a given evaluation should be weighed and balanced by the evaluation standards of utility, feasibility, propriety, and accuracy.[3] Examples are provided throughout the profiles to show where less rigorous, but potentially more accessible, data (e.g., discussions with stakeholders, program recipient logs, meeting notes) may be useful in evaluations.

CONTENT ORGANIZATION

The following items are included:

1. **Evaluation Profile**
   The profile is organized by process and outcome evaluation subcategories to demonstrate aspects that stakeholders may want to explore at various stages of an initiative's life cycle. Evaluations often touch upon multiple subcategories; therefore, a glossary is included to provide detailed information on each subcategory.

2. **Description and Logic Model**
   The description highlights core components of each activity, and the logic model shows expected outputs and outcomes. These may help implementers and evaluators see how their own activities or initiatives may be similar or differ from the ones presented.

2 Linkage to Care Initiatives

Linkage to care is a coordinated system and practice of ASSISTING INDIVIDUALS WITH ACCESSING CARE OR SERVICES related to problematic opioid use.

Linkage to care[4] initiatives use non-fatal overdose and other data from different potential data sources [(e.g., emergency medical services (EMS), emergency departments (ED)/health systems, justice systems, harm reduction services)] to identify people who are at risk for overdose or have recently experienced a non-fatal overdose (i.e., program recipients) and link them with evidence-based treatment options [e.g., Medication for Opioid Use Disorder (MOUD), harm reduction strategies (e.g., naloxone)], and wraparound services (e.g., transportation to treatment, housing assistance and others).[AF] Linkage to care may occur in a variety of settings (e.g., doctor's office, emergency room, home, school, and virtually through telephone or online resources), and at any point along the recovery continuum.[D]

Core components of this activity may include:

1. **Partnership development and sustainability:**
   - → Conduct outreach and develop partnerships with community and jurisdictional organizations that provide evidence-based opioid use treatment (e.g., MOUD), as well as wraparound services and representatives from the intended audience(s) [(e.g., those with lived experience with Opioid Use Disorder (OUD) or in recovery)]
   - → Provide stigma-reduction education to service providers, as well as education on resources related to OUD and wraparound services
   - → Develop standard operating procedures[5] (SOPs) and data use agreements for referral and retrieval of data
   - → Sustain and foster the referral network to address changing needs of people at risk for overdose
2. **Outreach activities:**
   - → Provide in-person visits or phone calls to individuals who are at risk for overdose
   - → Conduct active follow-ups and appointment reminders for hard-to-reach individuals
   - → Conduct substance use and readiness-to-change assessments with program recipients
   - → Conduct brief motivational interview(s) with program recipients
3. **Overdose education and naloxone distribution (OEND):**
   - → Educate program recipients to recognize overdose and use harm reduction strategies (e.g., avoid mixing multiple drugs)
   - → Distribute naloxone[6] and training on its use to program recipients and their friends and family.
4. **Active referral to other available treatment options and wraparound services:**
   - → Provide active[7] referral-to-treatment options (e.g., setting up primary care provider appointments, group counseling) and wraparound services (e.g., arranging transportation to MOUD treatment centers, exploring health insurance options) based on specific assessments of individuals by trained staff
   - → Initiate MOUD treatment (e.g., buprenorphine induction)
   - → Provide active case management to ensure receipt of care or services

LOGIC MODEL

Linkage to Care Initiatives

OVERDOSE DATA2ACTION

INPUTS

Data Access

Accessibility of data (policies)

Data agreement to receive data from: EMS, ED/health system, justice system, harm reduction services, or others

Quality data

Data Management Plan[a]

Partnership

Established referral and procedures with healthcare, harm reduction, and other social service partners

Resources

Comprehensive list of available harm reduction, treatment, and social service resources in the jurisdiction

Overdose education curriculum

Staffing

Trained staff on active referral, case management, motivational interviewing, harm reduction strategies, and treatment options

Peer navigators supported with on-the-job coaching and additional support services

Friends and family of people at-risk for an overdose engaged and supported in recovery process

ACTIVITIES

Partnership

Outreach & develop new referral and wraparound service network, including people with lived experience with OUD or recovery

Provide trainings on OUD/wrap-around services resources as well as stigma reduction training for partners

Develop Standard Operating Procedures (SOP)[b]

Sustain and foster the referral network to address changing needs of people at risk for an overdose

Outreach Activities

Initial outreach, and active follow-up with individuals (e.g., unreachable the first time, ensure treatment initiation)

Assess readiness to change and provide brief motivational interviews

Overdose Education & Naloxone Distribution

Educate and train individuals (e.g., person at risk for an overdose, their friends, family or community members) on harm reduction strategies and provide naloxone[c] and train on use

Referral and Wraparound Services

Actively refer[d] individuals to treatment and wraparound services[e]

Initiate treatment

Provide active case management

OUTPUTS

Partnership

Active referral and wraparound service network

Tailored services provided to address needs

Outreach Activities

Active outreach and follow-up with people at risk for an overdose

Completed motivational interview to assess readiness

Overdose Education & Naloxone Distribution

Training provided on how to prevent, recognize, and respond to an opioid overdose (e.g., harm reduction strategies, provide naloxone kit and train on use)

Referral and Wraparound Services

Appointments scheduled for treatment

Assist in obtaining access to services (e.g., transportation, insurance)

Provide take-home buprenorphine until appointment with provider (within 72 hours)

Continuity of care

SHORT-TERM OUTCOME

System and Partners

Integrated infrastructure among partners to support active referral and case management

Timely coordination and responses of referral services

Individual-Level

Service providers and Clinicians

- Increased knowledge of opioid use disorder, stigma reduction best practices, and evidence-based treatment (i.e., medication for opioid use disorder (MOUD)) among clinicians and service providers
- Increased clinicians' capacity to provide treatment and wraparound services

Program Recipients

- Increased knowledge & self-efficacy to recognize and respond to an overdose and to incorporate harm reduction strategies
- Increased behavioral intention to enter treatment
- Increase awareness of treatment options and wraparound services available

Active Referral & Linkage to Treatment

Increase number of individuals actively referred and linked to treatment

INTERMEDIATE-TERM OUTCOME

Behavioral Change

Increased retention in treatment and wraparound services

Decreased illicit opioid use

System Outcome

Enhanced access and continuity of linkage to care services

LONG-TERM OUTCOME

Morbidity

Decrease rate of opioid misuse, opioid use disorder, or non-fatal overdoses

Mortality

Decreased drug overdoses death rate, including prescription and illicit opioid overdose death rates

[a] CDC requires recipients who collect or generate data with federal funds to develop, submit, and comply with a data management plan (DMP) for each collection or generation of public health data undertaken as part of the award and, to the extent appropriate, provide access to and archiving/long-term preservation of collected or generated data. For more information please see CDC's DMP policy.

[b] SOP should include considerations about screening, development of an individualized plan, and who does the linkage. This should be developed in conjunction with a clinician or addiction specialist in decisions about appropriate care.

[c] The purchase of naloxone is prohibited with CDC's OD2A funds.

[d] Active referral includes directing clients to a service, such as making appointments; providing transportation; providing a "warm hand-off"; or using a peer navigator.

[e] Wraparound services may include arranging for transportation to treatment; assistance with insurance sign-up; securing appointments; HIV/Hep C testing; housing assistance; employment services; and others.

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3 Process Evaluations

Process evaluations DOCUMENT AND DESCRIBE HOW A PROGRAM IS IMPLEMENTED. They normally occur when programs or initiatives are early in their development and are based on stakeholders' needs.[E]

Context

Evaluation Question

What factors influence the applicability and feasibility of executing the linkage to care initiative in your jurisdiction?

Sample Indicators

Partnership

- Description of potential partners and services offered
- Description of engagement with intended audience(s) (e.g., people at risk for overdose, people with lived experience, people in recovery) through all phases of the program
- Description of insurance coverage for clinician reimbursement and options and cost of treatment in area
- Description of capacity of referral agencies to provide care and wraparound services from new referral program
- Number of organizations with data relevant to individuals at risk for overdose or individuals who experienced a non-fatal overdose
- Number of organizations with services related to substance use treatment, social services, and wraparound services
- Number and percentage of organizations indicating willingness to establish partnership with the initiative

Data and Data Access

- Description of established data use agreement(s) set up with partnering organizations (e.g., outlines data storage and use)
- Description of data quality and variables for linkage

Resources

- Assessment of needs of the given population to create referral and case management systems (e.g., unique needs identified)
- Description and number of established standard operating procedures (SOPs) and data use agreements for referral to partnering organizations (e.g., procedures to set up an appointment with a treatment center, patient release to share data with partners)
- Funding for operations of the initiative (e.g., staffing time at partner agencies for referral and provision of services)
- Description of overdose education and naloxone distribution (OEND) training curriculum

Staffing

- Number of trained staff available for initiative operations
- Description of existing training available for staff on peer support, healthcare navigation, and other best practices (e.g., stigma reduction)

DATA SOURCES

- Jurisdictional policies
- Organizational policies
- Internal administrative data
- Stakeholders

DATA COLLECTION METHODS

- Environmental Scan
- Scan of administrative data, document review
- Stakeholder engagement (e.g., informal conversation)

Reach

Evaluation Question

To what extent have linkage to care initiative(s) been made available to the intended audience(s)?

Sample Indicators

Partnership

- Number of new partnerships developed and initiated
- Description of overall partnerships developed, and its completeness based on needs of individuals experiencing an overdose

Outreach Activities

- Total number of potential recipients to be reached
- Number and percentage of potential recipients contacted (e.g., via phone, home visit, email)
- Number and percentage of potential recipients who received follow-ups (i.e., any outreach attempts after initial contact) number and percentage eligible potential recipients who agreed to participate
- Number of follow up contacts received by participants

DATA SOURCES

- Administrative data retrieved from EMS, ED/ health system, justice system, harm reduction services, or others; internal administrative data (e.g., phone log)

DATA COLLECTION METHODS

- Scan of administrative data

Dose Delivered or Received

Evaluation Question

To what extent has each component of the linkage to care initiative been delivered and received by the intended audience(s)?

Sample Indicators

Partnership

- Number and percentage of partners (e.g., service providers, clinicians) who received training (or did not receive) trainings on available OUD/wraparound services and stigma reduction

Outreach Activities

- Number and percentage of program recipients who completed assessment (e.g., readiness to change) and brief motivational interview

Overdose Education and Naloxone Distribution

- Number and percentage of program recipients did (or did not) receive overdose education (e.g., prevent, recognize and respond to an opioid overdose, harm reduction strategies)
- Number of sessions program recipients received
- Number and percentage of program recipients who received (or did not receive) naloxone kit
- Number and percentage of program recipients who received (or did not receive) training on naloxone administration

Referral & Wraparound Services

- Number and percentage of program recipients confirmed first treatment appointment with clinician, service provider, or other substance use treatment services (linkage)
- Number and percentage of program recipients who initiated care with referred opioid use treatment services (linkage)
- Number and percentage of kept appointments in 12-months (retention)
- Number and percentage of program recipients referred for wraparound services (e.g., transportation, insurance signup) (linkage)
- Number and percentage of program recipients who did not access treatment due to lack of wraparound services
- Number of program recipients dispensed buprenorphine (or given to take home)
- Number and percentage of program recipients who did (or did not) receive referral to substance use treatment services

DATA SOURCES

- Administrative data (e.g., assessment records, referral or visit logs)

DATA COLLECTION METHODS

- Scan of administrative data

Fidelity

There may be circumstances in which strict fidelity to the original plan may actually work against an intended outcome. In this case, adaptation is necessary and expected. Tracking fidelity and purposeful/data-informed deviations are important for understanding implementation; however, strict fidelity should not supersede necessary adaptations that will facilitate outcomes.

Evaluation Questions

To what extent were linkage to care initiatives conducted as originally planned?

If adaptation/revision of the initiative was needed, why were revisions needed?

Sample Indicators

Overall

- → Description of adherence to linkage to care initiatives plan
- → Description of reasons why the activities were adapted (e.g., lack of staff or resources, unwillingness of partners, stigma)
- → Description of adaptations made to the initiative (e.g., staff capacity, data access, partnership)

DATA SOURCES

- Administrative data (e.g., assessment records, visit logs)
- Initiative staff and other stakeholders

DATA COLLECTION METHODS

- Scan of administrative data
- Informal or formal interviews with stakeholders

Implementation

Evaluation Questions

How feasible was it to implement the linkage to care initiative in your jurisdiction?

How well (i.e., quality, timeliness) was the linkage to care initiative implemented in your jurisdiction?

How acceptable was the linkage to care initiative in your jurisdiction?

What implementation lessons were learned?

Sample Indicators

Overall

- → Description of feasibility in terms of data access, partnership, resources (e.g., funding), and staff capacity
- → Description of implementation lessons learned

Partnership

- → Description on the changes to the quality of the partnerships (e.g., active engagement[8]) over time
- → Description of changes over time in accessibility and quality of data from jurisdictional partners

Outreach Activities

- → Description of outreach activities' quality (e.g., completeness, dose, representativeness)
- → Time to initial contact (e.g., within 48 hours)
- → Description of extent to which outreach activities met the needs of participants (acceptability, satisfaction, areas for improvement, etc. obtained through qualitative interviews)
- → Number and percentage of program recipients who would recommend this program to others
- → Number and percentage of program recipients who reported being satisfied with outreach
- → Number and percentage of program recipients who reported outreach was conducted in a stigma-free manner

DATA SOURCES

- Stakeholders
- Administrative data (e.g., issue logs, meeting minutes)
- Program recipients, service providers, clinicians, or peer navigator feedback

DATA COLLECTION METHODS

- Informal discussion or interviews with stakeholders and program staff
- Scan of administrative data
- Survey of program participants, service providers, clinicians, or peer navigators,
- Interviews with participants, service providers, clinicians, or peer navigators

Overdose Education and Naloxone Distribution (OEND)

- Description of how well OEND was conducted and delivered to program recipients (e.g., were all training topics covered?)
- Time to OEND (e.g., within 48 hours)
- Number and percentage of program recipients who reported being satisfied with OEND training
- Number and percentage of program recipients who reported training was of high quality[9]

Referral & Wraparound Services

- Description of how well referral and wraparound services were conducted and delivered based on dose indicators
- Time to referral and wraparound services
- Number and percentage of program recipients who reported being satisfied with referral services
- Description of completeness of the linkage to care initiative (i.e., linkage and retention)
- Number and descriptions of any unmet participant needs or services
- Description of barriers and facilitators of linkage to care initiative

Individual-Level Change Outcomes

Evaluation Question

Did the program improve or contribute to the intended knowledge, attitude, skills and behavioral outcomes for intended audience(s)?

Sample Indicators

Short-Term

- → Service Providers or Clinicians
  - Changes in knowledge of OUD, wraparound services, stigma reduction best practices, and evidence-based treatment (i.e., MOUD)
  - Changes to knowledge about OUD and attitudes toward people with OUD
  - Change in intention to refer clients with OUD to wraparound services
  - Changes in ability to provide stigma-free services to people with OUD
- → Program Recipients
  - Changes in knowledge & self-efficacy to recognize and respond to an overdose
  - Changes in behavioral intention to enter treatment
  - Changes in awareness of treatment options and wraparound services available
  - Change in knowledge of and self-efficacy to incorporate harm reduction strategies
  - Changes in number and percentage of missed appointments

Intermediate-Term

- → Changes in retention in MOUD and wraparound services
- → Changes in periods of drug use or illicit drug use (e.g., abstinence) for those retained in care
- → Changes in perceived quality of life

DATA SOURCES

- Service providers
- Clinicians
- Program recipients
- Stakeholders

DATA COLLECTION METHODS

- Interviews with service providers, clinicians, program recipients, other stakeholders
- Short surveys after brief motivational interviews, OEND activities or referral services
- Survey pre-post with service providers, clinicians, and program recipients

Community and System Change Outcomes

Evaluation Question

To what extent did the program produce or contribute to the intended community and system outcomes?

Sample Indicators

Short-Term

- → Description of integrated infrastructure (e.g., timely coordination; decreased response time) among partners to support active referral and case management
- → Number and percentage of partners with SOP and data share agreements in place for treatment and referrals to wraparound services (e.g., following individual progress through the cascade of care)
- → Number and percentage of partners that have a functional referral and feedback system in place
- → Percent change in number of program recipients actively referred and linked to treatment

Intermediate-Term

- → Changes in time to linkage to care (e.g., time of first contact, first treatment appointment, first appointment with wraparound services)

DATA SOURCES

- Administrative data (e.g., referral log, time log)
- Stakeholders

DATA COLLECTION METHODS

- Scan of administrative data
- Informal discussion or interviews with stakeholders and program staff

Unintended Outcomes

Evaluation Question

Which unintended outcomes (positive and negative) were produced as a result of this initiative?

Sample Indicators

Overall

- → Description of unintended outcomes (positive or negative) identified (e.g., negative: peer support navigators experience difficulty in their own recovery due to stress or strain from their work or data used by law enforcement to identify and arrest people that abuse drugs; positive: community referral systems are strengthened and result in improved health outcomes for related conditions like HIV or Hep C, or training of providers, staff, family, and friends on preventing, recognizing, and responding to an overdose leads to decrease in stigma)

DATA SOURCES

- Stakeholders, service providers, clinicians and program recipients

DATA COLLECTION METHODS

- Stakeholder interviews
- Document review (e.g., meeting notes, SOPs, policy changes)

Morbidity and Mortality Outcomes

Evaluation Question

What were the changes in opioid-related morbidity and mortality when comparing before and after linkage to care initiative?

Long-Term Sample Indicators

Number and percentage changes in morbidity and mortality indicators

Morbidity

- Patients receiving multiple naloxone administrations (MNAs) from emergency medical services (EMS)
- Patients transported to the emergency department (ED) for overdose by EMS where primary impression recorded in National Emergency Medical Services Information System (NEMSIS) is *drug* overdose
- Patients refusing transport by EMS where primary impression recorded in NEMSIS is drug overdose
- EMS calls where naloxone was administered
- All-drug non-fatal overdose emergency department visits
- Emergency department visits involving non-fatal opioid overdose, excluding heroin
- Emergency department visits involving non-fatal heroin overdose with or without other opioids
- All-drug non-fatal overdose hospitalizations
- Hospitalizations involving non-fatal opioid overdose, excluding heroin
- Hospitalizations involving non-fatal heroin overdose with or without other opioids

Mortality

All drug overdose deaths

- Drug overdose deaths involving opioids
- Drug overdose deaths involving prescription opioids
- Drug overdose deaths involving heroin
- Drug overdose deaths involving synthetic opioids other than methadone

DATA SOURCES

- Jurisdictional mortality and morbidity data
- ED/health department morbidity and mortality data
- CDC WONDER
- National Emergency Medical Services Information System (NEMSIS) and/or local EMS data
- PDMP data
- Private data sources (e.g. IQVIA, hospital discharge/billing)
- Local syndromic surveillance systems
- SUDORS
- BioSense

DATA COLLECTION METHODS

- Reviews of jurisdictional reports (e.g., annual progress reports)
- Secondary data analysis
- Review of opioid morbidity and mortality data dashboards or reports

Glossary

Active referral includes directing clients to a service like making appointments, providing transportation, providing a "warm hand-off," or using a peer navigator.

Data management plan: CDC requires awardees for projects that involve the collection or generation of data with federal funds to develop, submit, and comply with a Data Management Plan (DMP) for each collection or generation of public health data undertaken as part of the award and, to the extent appropriate, provide access to and archiving/long-term preservation of collected or generated data. The DMP describes the data to be collected or generated in the proposed project; standards to be used for collected or generated data; mechanisms for providing access to and sharing of the data (including provisions for the protection of privacy, confidentiality, security, intellectual property, or other rights); plans to share data with CDC that meet CDC's reporting and surveillance requirements; use of data standards that ensure all released data have appropriate documentation that describes the method of collection, what the data represent, and potential limitations for use; and plans for archival and long-term preservation of the data, or explaining why long-term preservation and access are not justified. Recipients will be required to submit a more detailed DMP, within the first 6 months of award. For more information, please see CDC's DMP policy.

Environmental scan is a research effort to review existing resources, research, practices, or policies to understand the current landscape of information and activities about a health issue.

Harm reduction is any program or policy designed to reduce drug-related harm without requiring the cessation of drug use. There are many established and emerging harm reduction strategies to prevent opioid overdose-related mortalities, including administering naloxone, safe injection sites, drug checking services, and opioid substitution therapy. Definition Source

Linkage to care refers to a coordinated system or practice of assisting individuals with accessing care or services related to problematic opioid use. Care should be initiated in-person by the client. A follow-up component is included to determine that the individual has been linked to needed services.

Medications for Opioid Use Disorder (MOUD) is the use of medications approved to treat opioid use disorder. Medications relieve the withdrawal symptoms and psychological cravingsthat cause chemical imbalances in the body. MOUD programs provide a safe and controlled level of medication to treat opioid use disorder and other strategies and services needed to support recovery. Definition from SAMHSA

Naloxone is a drug that can reverse the effects of opioid overdose and can be life-saving if administered in time. Naloxone was approved for use in the United States in 1971 to prevent overdose by opioids such as heroin, morphine, and oxycodone. It blocks opioid receptor sites, reversing the toxic effects of the overdose. Naloxone is administered when a patient is showing signs of opioid overdose. The medication can be given by intranasal spray, intramuscular (into the muscle) injection, subcutaneous (under the skin) injection, or intravenous injection.[10]

Naloxone standing orders are laws that permit the provision of medicine to a person who meets predetermined criteria (Davis, C. and Carr, D., 2017). Unintentional drug overdose is a leading cause of preventable death in the United States. Increasing access to naloxone has been a priority for jurisdictions in reducing drug overdose deaths. Naloxone standing orders increase access to naloxone. All jurisdictions now have laws that address access to naloxone for people at risk of opiate overdose. Thirty-seven jurisdictions provide criminal immunity for prescribers who prescribe, dispense, or distribute naloxone to laypersons. Forty-nine jurisdictions authorize pharmacists to dispense naloxone without a patient-specific prescription.[11]

Opioid use disorder (OUD) is a problematic pattern of opioid use that causes significant impairment or distress. A diagnosis is based on specific criteria such as unsuccessful efforts to cut down or control use or use resulting in social problems and a failure to fulfill obligations at work, school, or home, among other criteria.

Outcome evaluations assess progress on the sequence of outcomes (e.g., short-, intermediate-, and long-term) the intervention aims to achieve. Outcome evaluations normally occur when an intervention is established, and it is plausible to expect changes in a given timeframe. They should be planned from the beginning of an intervention, as they often rely on baseline data that need to be collected before the intervention starts.[c] Outcome evaluations may examine the following areas:

- **Individual-Level Outcomes:** The extent to which the intervention has affected changes in a given audience's knowledge, skills, attitudes, intentions, efficacy, and/or behaviors.

- **Community and System Change Outcomes:** The extent to which the intervention has affected changes in a community, organization, or system(s).
- **Unintended Outcomes:** The extent to which the intervention had unplanned or unanticipated effects—either positive or negative.
- **Morbidity/Mortality Outcomes:** The extent to which the intervention has affected changes in the target audience's morbidity or mortality.

Overdose education and naloxone distribution (OEND) are training programs aimed to reduce harm and risks associated with life-threatening opioid-related overdose and deaths. The length and content delivered during trainings may vary and can include stigma reduction training. Training on naloxone should cover overdose recognition and response, including the naloxone cascade of care whereby individuals are aware that naloxone is an effective opioid overdose intervention, have access to naloxone, and are trained on how to use naloxone during an overdose event. Training should address norms on possessing naloxone, especially during times of drug use.[12]

Process evaluations document and describe how a program is implemented. Process evaluations normally occur when programs or initiatives are early in their development, and are based on stakeholders' needs.[E] Process evaluations may examine the following areas:

Context: Aspects of the larger social, political, and economic environment that may influence an activity's implementation.

Reach: The extent to which the intended target audience(s) is exposed to, or participates in an activity. If there are multiple interventions, then *reach* describes the proportion that participates in each intervention or component.

Doses delivered/received: The number (or amount) of intended units of each intervention, or each component that is delivered or provided.

- **Dose delivered** is a function of efforts of the people who deliver the intervention. The extent to which the intervention staff member (e.g., academic detailers, educators) actively engaged with, interacted with, were receptive to, and/or delivered intervention materials and resources to the target audience(s).
- **Dose received** is a characteristic of the target audience(s), and it assesses the extent of engagement of participants with the intervention.

Fidelity: The extent to which the intervention is delivered as planned. It represents the quality and integrity of the intervention as conceived by the developers. (Note: In some circumstances, strict fidelity to the original plan may actually work against an intended outcome. In these cases, adaptation is necessary and expected. Tracking fidelity and purposeful/data-informed deviations is important to understand implementation; however, strict fidelity should not supersede necessary adaptations that will facilitate outcomes.)

Implementation: The extent to which the intervention is feasible to implement and sustain, is acceptable to stakeholders, and is done with quality. Examination of these dimensions may also result in noted lessons learned, barriers, and facilitators that can help others when replicating similar initiatives.

Stigma-free services are lessons learned from the field of HIV/AIDS treatment suggest that reducing service provider and clinician stigma can improve care and patient outcomes.[13] Health-related stigma describes a socio-cultural process in which social groups are devalued, rejected, and excluded on the basis of a socially discredited health condition, such as opioid use disorder. Stigma has been shown as a barrier to overdose prevention at several levels (individual, societal, etc.). Reducing stigma can be achieved through interventions focused on people with opioid use disorders (self-stigma), targeting the general public (social stigma), and by focusing on healthcare clinicians and first responders (structural stigma).[14]

Wraparound services are a variety of complimentary services that may be needed by clients like: primary care physician; office-based opioid treatment; addiction specialist; outpatient treatment programs; inpatient treatment programs; mental health services; infectious disease treatment; obstetric services, housing services; vocational or psychosocial rehab; and family resources.

Additional information on wraparound services can be found in these articles:

Brooklyn, J. R., & Sigmon, S. C. (2017). Vermont hub-and-spoke model of care for opioid use disorder: development, implementation, and impact. *Journal of addiction medicine*, 11(4), 286.

Stoller, K. B. (2015, December). A collaborative opioid prescribing (CoOP) model linking opioid treatment programs with office-based buprenorphine providers. In *Addiction science & clinical practice* (Vol. 10, No. S1, p. A63). BioMed Central.

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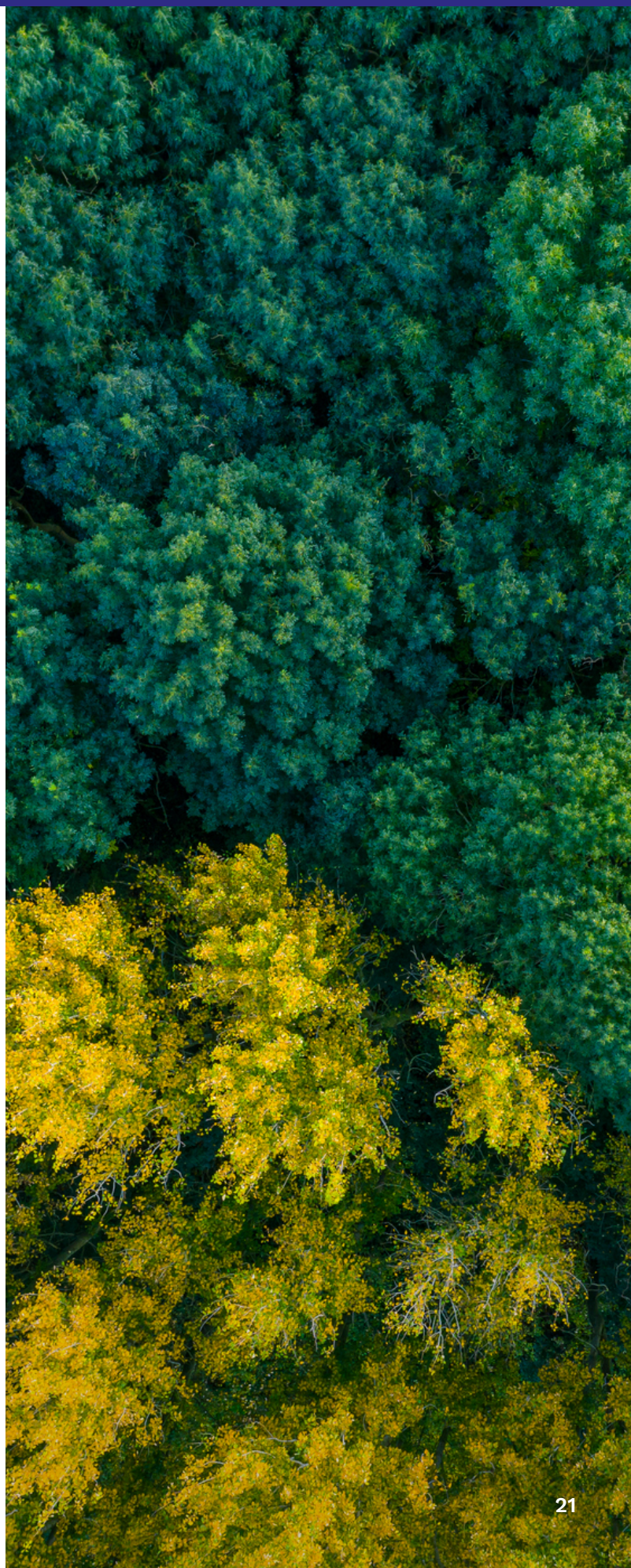

Endnotes

[1] Recipients can be state, district, county, or city health departments, tribal health organizations, or other bona fide agents of the health department.

[2] See Improving the Use of Program Evaluation for Maximum Health Impact: Guidelines and Recommendations for more information on how large programs use evaluation findings to improve their interventions and inform strategic direction. Furthermore, evaluation approaches like developmental evaluation or rapid feedback evaluations may be helpful models for evaluators to use while working on overdose prevention efforts.

[3] CDC Evaluation Standards: https://www.cdc.gov/eval/standards/index.htm

[4] Linkage to care may include: emergency department/clinician referrals; Screening, Brief Intervention, and Referral to Treatment (SBIRT); warm hand-offs; crisis lines; mobile applications; as well as other means to facilitate care assistance.

[5] SOPs should include considerations about screening, development of an individualized plan, and who does the linkage. This should be developed in conjunction with a clinician or addiction specialist in decisions about appropriate care.

[6] The purchase of naloxone is prohibited with CDC's OD2A funds.

[7] Active referral includes directing clients to a service, such as making appointments, providing transportation, providing a "warm hand-off," or using a peer navigator.

[8] Active engagement could be operationalized as: increased attendance or participation at meetings; taking on more responsibilities within the partnership; or expanding services, etc. Jurisdictions should operationalize this for their context.

[9] High quality training could be operationalized as: defines clear learning objectives; maintains audience engagements; incorporates adult learning principals; meets training needs; improves participant's skills and self-efficacy. Jurisdictions should operationalize this for their context.

[10] SAMHSA: Medication Assisted Treatment: Naloxone

[11] PDAPS: Naloxone Overdose Prevention Laws

[12] National Harm Reduction Coalition: Overdose Prevention

[13] NCBI: Reducing stigma among healthcare providers to improve mental health services (RESHAPE): protocol for a pilot cluster randomized controlled trial of a stigma reduction intervention for training primary healthcare workers in Nepal

[14] NCBI: The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review