APPENDIX B: CODEBOOK

	Social environment		
1.	Close Friendship	Refers to any description of an interaction or relationship with a close friend as producing or reducing drug- related harms.	
2.	Collective Knowledge	Describes an overall awareness of community members or social networks regarding risk factors for drug- related harms, as well as services, policies, programs and behaviors for reducing such harms. It can refer to knowledge of risk and protective factors locally or in other environments.	
3.	(De) Sensitization to drug- related harms	Any description of a personal or community's reaction or sentiment related to seeing, hearing or learning about events in community or networks associated with drug-related harms that conveys a sense of normalcy, apathy, or acceptance to such problems.	
4.	Drug-related migration	The movement of people either towards an area to have easier access to drugs or away from an area that has easy access to drugs	
5.	Experiencing death of friend of loved one related to drug use	Any mention of personally experiencing the death of a close friend of loved one related to drug use.	
6.	Personal or close experience with overdose	When an individual discusses a time that they or somebody they know overdosed	
7.	Multiplex social ties	Refers to situations where a person describes having different types of intersecting social relationships with different groups of people or networks. For example, it could refer when a person's familial, work, and drug use environments overlap.	
8.	Media	Any description of any type of media outlet discussing and/or influencing community perceptions and values related to drug-related harms.	
9.	Family	The basic social unit including parents, children, partners, significant others etc. Family can also refer to people not blood related but for whom close ties have been drawn.	
	• Familial drug use	Refers to drug use within family units.	
	Familial incarceration	Refers to current or prior incarceration of a family member.	
	Familial ties	Refers to a person's description of the history, nature, and/or quality of relationships with members of family.	
	Family as a support system	Describes emotional, social, or material support provided by a family.	

Parental use around children	Refers to situations where parents are using drugs in front of their young children.
10. Injecting/drug use with others	When a participant discusses injecting or using drugs in the presence of others as protective factor against overdose
11. Injecting/drug use alone	When a participant discusses using injecting or using drugs alone as a protective factor
12. NORMS	Parent code for community norms around a range of topics in the social environment.
Norms- drug use	Refers to perceived community beliefs or values (positive and negative) related to the consumption of drugs.
Norms regarding law enforcement	Refers to perceived community beliefs or values (positive and negative) related to presence, policies, encounters, or actions of police, prosecutors, probation, parole, and other law enforcement agencies.
 Norms-Gender-power dynamics 	Refers to perceived community beliefs or values (positive and negative) related to cultural expectations of genders that imperil or protect against risk of acquiring, transmitting, or detecting a communicable disease or overdose or related to other drug-use behaviors.
Norms-overdose	Beliefs and attitudes toward preventing, witnessing, or responding to a drug overdose shared by members of a social network or community.
Norms- Power dynamics between users and dealers	Refers to perceived community beliefs or values (positive and negative) related to the power advantage or disadvantage between a person selling drugs and a person using drugs that may prevent or cause harm.
Norms- Religiosity	Norms or beliefs on any topic based on a person's spirituality or religious doctrines.
Norms-Social conservatism	Norms and beliefs promoting abstinence-based and/or punitive approaches to drugs and sex-related behaviors and outcomes
Norms-Individualism/ personal responsibility	Moral belief that everyone should bear personal responsibility for their life course including drug and sex- related behaviors and outcomes
13. Social capital	Refers to a person's trustful connections and reciprocity with other community members (or lack thereof) as a risk or protective factor for drug-related harms.
14. Peer pressure	When a person describes situations where drug-related behaviors are influenced by the attitude or insistence of peer(s).
15. Social enrichment, across lifespan	Any past, current, or future reference to the presence or absence or removal of institutions, businesses, public services, or other opportunities for people to engage in recreational, pro-social, educational, and extracurricular activities for positive emotional, educational, or physical development from youth through adulthood.
16. Social networks of PWUD	The social structure made up of individuals who use drugs.

17. Stigma	Stigma refers to community beliefs or norms that negatively stereotype and discriminate against people based on drug use, overdose, disease, sexual orientation, sex work, health seeking behaviors, criminal records, or any other social factor that may influence drug-related harms.
18. Social drug use	When a participant discusses using with others as a form of socializing/socialization

Policy Environment	
1. Criminalization	Parent code to describe laws and policies criminalizing behaviors or characteristics of a person.
Criminalization of drug use	Refers to any level of police harassment, arrest, prosecution, incarceration, or criminal sanction or collateral consequence of a criminal record related to using drugs.
Criminalization of equipment/ paraphernalia	Refers to any level of police harassment, arrest, prosecution, incarceration, and criminal sanction or collateral consequence of a criminal sanction related to possession of injection or other types of paraphernalia or drug use equipment.
Criminalization of Overdose	Refers to any direct or indirect instance where a person is arrested, prosecuted, or convicted for participating in a drug transaction that results in a fatal overdose or where homeowner gets in trouble.
2. Drug testing policies	Refers to private and public policies that require drug testing for school, employment, housing, or any other benefit.
3. Good Samaritan laws	Any reference to statutory rules that provide an individual civil or criminal immunity from legal sanctions for calling 911 or administering naloxone in the event of witnessing an overdose.
4. Confidentiality policies	Refers to any statutory or institutional rules that protect the privacy of an individual's health records.
5. Hospital policies	Refers to any rules, policies, or practices set by local hospitals or emergency rooms in the context of providing treatment and services for drug-related harms.
6. Jail or prison policy	Reference to how policies or environmental conditions of correctional facilities imperiled or protected against drug-related harms.
7. Health department policies	Reference to rules or policies governing any service provided by a state, local or county health department.
8. MAT policies	Describes any reference to desire to access, attempt to access, or utilization of any type of medication assisted therapy.
9. Naloxone access or distribution law or policy	Refers to any statutory, regulatory, or institutional policies governing the prescription, financing, distribution, administration, and utilization of naloxone, the antidote for reversing respiratory failure associated with opioid overdose.
Law enforcement induced OD reversals	Administration and/or distribution of Naloxone by police or correctional officers
10. Pharmacy policies	Any reference to policies of pharmacies that produce or reduce drug and sex related harms. For example, this could include whether individual pharmacies elect to prescribe or distribute naloxone over the counter; or sell syringes.

11. Shelter or drug treatment fac policies	Reference to any encounter with a local shelter or drug treatment program and how its policies, rules, or environmental conditions imperil or protect against drug-related harms. For example, could refer to curfews, abstinence-only rules for residency etc.
12. Workplace policies	Describes any polices related to the process of applying, securing, or retaining employment.
	Healthcare environment
1. Over-prescribing	Refers to physicians providing patients with a quantity of opioids that is likely beyond the required dosage for their current ailment.
2. Doctor-shopping	Refers to people going to one or more clinicians with the goal of acquiring opioids, benzodiazepines, or other psychoactive substances for recreational purposes (note: can be in addition to legitimate pain and psychiatric conditions)
3. Dropping OD'ing individual off at ER	Refers to when the people present during an overdose drop off the affected person at an ER instead of using other methods such as calling 911
4. Access	Parent code that denotes a person's access to prevention, healthcare, or other relevant services for different types of clinical conditions.
Access to medical treatment via the criminal justice system	Any reference to accessing medical care (for HCV/HIV/OD reversal/syringes/STI services/ condoms, drug treatment) in detention centers, half-way houses, jails, prisons or through drug courts or other man
Access to health education, information	Receiving (or lacking access to) scientifically accurate educational and informational services on HCV/HIV/overdose/safer injection/STI/safer sex
Access to MAT	Access (or lack of) to MAT in terms of cost, insurance, waiting time, convenience (location, rules), friendliness of service providers, type of clinic.
Access to general health services	Access (or lack of) to general health services in terms of cost, insurance, waiting time, convenience (location, rules), friendliness of service providers, type of clinic
Access to Naloxone	Access (or lack of) to Naloxone in terms of cost, time, convenience, friendliness of service providers, distributing entity
Access to emergency room services	Refers to experiences accessing any type of treatment in a hospital emergency room.
Access to EMT/ambulance services.	Refers to experiences with EMTs, ambulances, or first responders.
5. Health care accessibility factors	Parent code that refers to the range of factors influencing accessibility of health-related services (location, hours, cost, time, friendliness etc.)
Location	When issues related to the location is cited as a factor influencing ones' ability to access healthcare or treatment services.
• Cost	Refers to out-of-pocket expenditures for accessing treatment for SUD, HIV, HCV, or any other medical condition.

• Time, Hours	When issues related to the time, hours, or schedules are cited as influencing ability to access healthcare or treatment services. For example, this could refer to lacking time off of work, operating hours of program, waiting lists for services etc.
Demeanor of healthcare providers	When issues related to the demeanor of healthcare providers are cited as a factor influencing ones' likelihood or decision to access healthcare or treatment services.
Insurance	When issues related to a person's health insurance status is cited as a factor influencing one's ability to access healthcare or treatment services.
Transportation	When issues related to traveling via car, bus, bike, or any other means is cited as a factor influencing ones' ability to access healthcare or treatment services.
Confidentiality	When a person cites concerns over privacy or disclosure of personal health information
6. Source of Harm Reduction Tools or services	Refers to a person or entity that holds or provides another person with sterile <i>injection equipment, naloxone, MAT, or condoms.</i>
Clinics, hospitals, or doctor's office	When clinics, hospitals, or doctor's office are source of sterile injection equipment, naloxone, MAT, or condoms.
Diabetics	When diabetic is source of sterile injection equipment, naloxone, MAT, or condoms.
Drug dealers	When drug dealer is source of sterile injection equipment, naloxone, MAT, or condoms.
EMTs or first responders	When EMT is source of sterile injection equipment, naloxone, MAT, or condoms.
• Family	When family is source of sterile injection equipment, naloxone, MAT, or condoms.
• Friend	When friend is source of sterile injection equipment, naloxone, MAT, or condoms.
Pharmacy	When pharmacy is source of sterile injection equipment, naloxone, MAT, or condoms.
Police, source HR	When police are source of sterile injection equipment, naloxone, MAT, or condoms.
Romantic partner	When romantic partner is source of sterile injection equipment, naloxone, MAT, or condoms.
• SAP	When SAP is source of sterile injection equipment, naloxone, MAT, or condoms.
Sex worker	When sex worker is source of sterile injection equipment, naloxone, MAT, or condoms.

Law Enforcement Environment— These codes focus on experiences and exposures to aspects of the criminal justice system and their consequences for behavior and health. Codes here are distinct from those related to law and policy, despite overlap.		
1.	Arrest or conviction records	Influence of arrest or conviction records on citizens' well-being (employment, access to benefits, in instances of overdose.)
2.	Calling 911	Any mentions of calling or not calling 911/law enforcement/EMS in emergency situations
3.	Crackdowns	Refers to police tactics that involve arresting people in areas known for drug-related activity or sex work.
4.	Fear of law enforcement	Fear of arrest, incarceration, or other criminal sanctions that influence a person's behavior or ability to avoid harms.
5.	Incarceration	Refers to any direct or indirect experience related to a person being incarcerated.
6.	Policing practices	Practices of law enforcement discriminating PWUD or otherwise violating their rights that are not explicitly prescribed by laws or depend on law enforcement discretion (crackdowns, profiling, arrest quotas)
7.	Probation or parole practices	The experience of being under surveillance or subject to the conditions of probation or parole, and relationships with community corrections officers.
8.	Profiling	Refers to police classifying, harassing, or arresting people based on their physical appearance, location, or other attributes.
9.	Reentry after incarceration	Describes direct or indirect experience of reintegrating into the community following a period of incarceration.

Physical Environment		
1. Heroin adulteration	Any mention of Fentanyl or other adulterants that are added to heroin and other drugs.	
Settings	Parent code that captures any settings. This will typically refer to places where people engage in drug and/or sex- related behavior. However, can also include mention of these places outside the context of drugs and sex.	
1. Cars or vehicles	Refers to a parked or moving automobile.	
2. Parties	Refers to a social gathering of people inside a residence or any outside location where many or most attendees are engaging in drug use.	
3. Friends home	Refers to the residence or domicile of a friend, typically a house, apartment, or trailer.	
4. Gas station	Refers to an establishment that sells gasoline and other items.	
5. High School	Refers to the building and surrounding property where students attend 9 th through 12 th grade.	
6. Jail or prison	A correctional facility where people are detained who have been accused or convicted	
7. Motels or hotels	Refers to any property that rents rooms by the hour or night to customers.	
8. Outdoors	Refers broadly to any outside space such as parks, the lake, woods, etc. where people are using drugs, having sex, overdosing, or engaging in other related behaviors.	

9. Parking lots	Refers to space devoted to parking vehicles on any private or public property.
10. Personal home	Refers to any place that an individual considers his or her personal residence.
11. Public bathrooms	Any restroom in any location that is accessible to members of the public. This also refers to restrooms located in gas stations, department stores, fast food restaurants that are for patrons.
12. Residential bathroo	Any restroom located in a residential dwelling. This typically refers to a restroom in a home.
13. Portable-potty	A port-able restroom that is temporarily located in public space, work site, or other location.
14. Residential drug treatment facility	Any drug treatment facility where people temporarily reside while receiving treatment (voluntarily or court- mandated)
15. Setting for drug dealing	Generally refers to any location where drugs transactions occur.
16. Shelters	Refers to temporary housing locations for any displaced, homeless, or transient person.
17. Trailers	A mobile home or
18. Trap house	Any house, trailer, apartment, or other dwelling where people use and cell drugs and/or participate in transactions exchanging sex for money, drugs, shelter or other benefits.
19. Workplace	Refers to any place of employment.
20. Anywhere	When a participant refers to not having a preferred location to inject
21. Street	Refers to public thoroughfares like roads, streets, etc.
Features of settings	
1. Abandoned	Refers to buildings, homes, barns, trailers, or any space that is unoccupied by residents and/or neglected and unkempt by property owners.
2. Cleanliness	Perceived cleanliness of the place where injection is prepared or performed or where people have sex.
3. Cold	A place that is described as having a relatively frigid temperatures.
4. Conditions for aseptic injection	An area where people can inject drugs where they have access to aseptic injection equipment
5. Visibility	Quality of visibility in a setting, includes discussions of dark or well lit
6. Electricity	Setting has connectivity to an electric grid.
7. Internet	Setting has access to internet.
8. Locking doors	Setting has doors that lock from the inside.
9. People present	Refers to setting where multiple people are physically present.
10. Physical Mobility	The ability for a person to easily or not easily commute to places where they can receive services, have sex, respond to overdose, or purchase drugs
11. Presence of used syringes	Refers to discarded syringes in any setting.

12. Privacy	A space or area that is not accessible to public because of its location or lack of access by the general public .
13. Public Space	Places that can accessed by the general public without special permission
14. Remoteness	Being physically distant from services or other properties of an environment that contribute to feelings of isolation or inability to protect oneself from drug-related harms.
15. Running water, plumbing	Setting has operating sinks, toilets, showers, for purposes of drinking water and maintaining hygiene.
16. Urban vs Rural	Difference between rural and urban settings in terms of access to drugs and services
17. Quality of cellular service	Refers to whether or not people in this setting can take or place calls. Lack or presence of cell signal/connectivity
18. Proximity to hospital	Refers to settings relationship to nearest hospital or whether people consider
19. Ability of EMS to access	An area that is difficult for EMS to reach due to terrain, remoteness or other factors
20. Drugs Present	When a setting is likely to have other drugs and alcohol present or available for consumption affecting risk to harms

	Economic Environment	
1.	Owning a cell phone	When participants discuss having or not having a cell phone or other barriers to owning/purchasing a cellular device.
	COSTS 1	
2.	Cost of illicit drugs	Refers to the price of drugs in illicit markets in terms of money, sex, or other goods or services. Exchanged
3.	Cost of transportation	Cost of traveling via car, bus, bike, or any other means, as measured in currency.
4.	Cost of education or vocational	Cost of obtaining educational degree or vocational credentials, typically in the context of an advanced degree for career development.

¹ NOTE: Costs related to healthcare are coded in the healthcare environment.

training.	
5. Employment, job market opportunities	A parent code that describes trends in the employment statuses and job market in the surrounding community, Kentucky, Appalachia or relative to a particular vocation or trade.
• Full-time	Any mention of full-time employment.
• Part-time	Any mention of part-time employment.
Steadiness of job	Refers to retention of employment (full-time or part-time)
Physical labor and pain	Describes jobs and work opportunities that involve intensive physical labor and may result in injury or pain.
• Wages or Income	Broadly refers to hourly, monthly, or annual earnings from providing a service.
• Informal economies	Economic transactions and exchanges between the community members outside the laws and radar of formal businesses and economic markets. This not only includes drug markets, but also services provided for "under-the-table" payments for manual labor, childcare, or other services.

Phenomena of Interest—						
This section covers themes and topics that frequently span across environmental levels						
1.	Overdose	A code to denote any description or mention of overdose				
2.	Dependency	Refers to physiological addiction to a drug.				
3.	Tolerance to drugs	Tolerance of central nervous system to the effects of opioids, requiring higher dose				
Overdose Prevention Strategies- Strategies employed by participants or PWID to minimize overdose risk						
•	Cautioning on amount of drug being used	When participant advises or instructs another PWID on how much of a substance they should consume/inject.				
•	Use by others, before personally using substance	When participant discusses watching others use and adjusting how much they would take as a result. For example, participant sees their friend take a certain amount and begin to nod off. As a result person mixes less of the drug into their solution.				
•	Not injecting drugs	Refers to consuming substances using other routes of administration in order to minimize overdose risk				
•	Using small amounts	When a participant discusses using smaller quantities in order to avoid overdosing.				
•	Testing drug purity, content	Refers to testing the drug before consuming a larger amount of it. Can be done using a test kit, snorting or tasting drug before injecting.				
•	Keeping door unlocked	Refers to participants keeping doors or other barriers unlocked so that others may enter room/bathroom/etc. in an effort to minimize drug related harms like overdose				
•	Self-injection	When a participant prepares and injects solution himself or herself instead of asking another person present.				
•	OD reversal without Narcan or EMS	Refers to other methods of reviving someone who is overdosing for example, places them in a cold shower or bath, slapping them, CPR, etc.				
•	Drug dealer honest about purity	Refers to instances where drug dealer is honest about content or purity or substances they are selling to their clients				
•	Not thinking about overdose	When an individual mentions that they do not think or worry about overdosing when engaging in various risk behaviors				

Individual factors—knowledge, attitudes, skills, reasoning, and behaviors Versuladar Codes related to knowledge of drug and sex-related harms,				
Knowledge	prevention and treatment approaches, available services,			
1. Awareness of services	Awareness about availability, accessibility, location of services			
2. Knowledge of rights	Refers to person's knowledge of rights when interacting with criminal justice system, law enforcement, etc.			
3. Knowledge of overdose risk and prevention	Refers to person's knowledge of strategies that reduce risk of overdose or dying from an overdose			
4. Drug source/drug quality	Refers to being familiar with where the substance originated and/or it's quality (potency, adulteration, etc)			
Reasoning, wishes				
5. Self-control	Controlling one's cravings related to drug use or risky sex			
6. In withdrawal	When participant engages in various behaviors because they are in withdrawal and sick.			
7. Quicker onset of effects	When participants discuss using certain routes of administration over others because of how quickly they feel effects of a substance			
Attitudes and Emotions	Individually held beliefs and attitudes			
8. Attitudes towards abstinence	Attitudes towards abstaining from drug use			
9. Attitudes towards protection	Attitudes towards protecting or not protecting self or others from harmful consequences of drug use or risky sex			
10. Desensitization to drug harms	Lack of motivation or emotional reaction to drug related harms due to overexposure or commonness of risky behaviors			
11. Fatalism, learned helplessness, hopelessness	Describes a situation where a person expresses sentiments of desperation, hopelessness about their life circumstances or prospects. Instances where sense of helplessness and hopelessness interfere with their ability or motivation to protect from drug or sex related harms.			
12. Fear of detection	Fear that someone can detect drug use			
13. Mistrust of people	Mistrust of anyone or anything outside of routine life/PWUD or family circle			
14. Internalized stigma	Refers to feelings of shame, disgust, and disdain for oneself in the context of drug use, addiction, HIV, HCV, or sex work.			
15. Perception of risk	Refers to a person's perceived risk of drug and sex-related harms.			
• Perception of risk for opioid dependency	Refers explicitly to a person's perceived risk of opioid dependency.			
Perception of risk for overdose	Refers explicitly to a person's perceived risk of overdose.			
16. Reaction to death	Emotional or any other reaction to deaths related to drugs or HIV			
17. Reaction to overdose	Emotional or any other reaction to an overdose			
Freak out/scared	When people present during an overdose are fearful and have a			

	heightened emotional response
Leave person	When people present leave the individual or setting (may or may not call 911 or perform CPRwill be double coded)
Behaviors	
Behaviors related to protection	Codes referring to general protection measures
18. Protection from harm	A code to denote any description of protecting oneself or others from drug or sex-related harms.
19. Injecting drug use	Parent code referring to injecting drug use-related behaviors
Rushing	Rushing during injection
Transition to injection	from non-injecting use
Not focusing on injection	When a participant discusses situations or scenarios where they are not able to focus on injecting safely
Concern for used syringe littering	When a participant discuses their concern with syringes being left around in the community
20. Naloxone/Narcan	Any reference to obtaining, carrying and using Naloxone
Nasal Naloxone	Using Naloxone nasal spray
Carrying Naloxone	Refers to situation where a person carries Naloxone in their possession when traveling between destinations (does not include care providers, first responders etc.).
Reaction to OD reversal	Any reaction as naloxone neuters the effect of opioids
21. Non-injecting drug use behaviors	Refers to modalities of drug use other than injection: snorting, smoking, ingesting, depositories, patches or subcutaneous methods.
Paraphernalia-Money	When a participant references using money or bills to ingest drugs
General drug use-related behaviors, conditions	
Being high	Any description or mention of being high from drugs
Carrying drugs	Refers to situation where a person carries drugs in their possession when traveling between destinations.
Causes for drug use	Any proximal or distal factors that, according to participants, may contribute to the risk of drug use (e.g. boredom, prescription of opioids etc.)
Drug dealing	Refers to the act of selling drugs for financial or material gain.
22. Mixing drugs	Using mixture of drugs
23. Immediate use after the purchase	Using drugs at dealer's home or on the way from there

24. Testing drug potency	Testing purity and strength of drugs before purchasing or before consuming
25. Transition to heroin	Transitioning to heroin from NMPO.
26. Withdrawal	Any description or mention of withdrawal from drugs
27. Detoxification	The process of detoxifying from chemical dependence.