

WORKING DRAFT
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POTENTIAL ROSC MEASURES FOR CHILDREN, ADOLESCENTS, TRANSITION AGE YOUTH, AND FAMILIES (CATAYF)

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Introduction

The recovery oriented systems of care (ROSC) framework has been effectively used to transform acute and palliative care approaches to behavioral health disorders to models of assertive and sustained recovery management, but efforts to extend this framework to the transformation of services for children, adolescents, transition age youth (age 16-25), and families (CATAYF) remain at an early developmental stage. The below table was created by the Hancock County Board of Alcohol, Drug Addiction, and Mental Health Services as it explored options to extend its ROSC development efforts to include research-grounded CATAYF service initiatives and CATAYF-specific system performance measures. We hope it will be helpful to other communities as they embark on similar initiatives. The table begins with A CATAYF General category of ROSC initiatives and measures that apply across CATAYF populations and then proceeds to look at key research findings, potential interventions, and potential clinical and systems performance measures for each population. Our goal was not to review all CATAYF research but rather to draw upon actionable CATAYF research findings—studies with the most significant implications for CATAYF service practices and systems of care performance measures. Communities may select from this extensive menu of potential performance measures those key measures most suitable to their systems of care and current data collection capabilities.

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Acronyms used within the table include the following:

AA Alcoholics Anonymous

ACC Assertive Continuing Care

ACE Adverse Childhood Experiences

AOD Alcohol and Other Drugs

ARC Assessment of Recovery Capital

ASAM American Society of Addiction Medicine

ATAYF Adolescents, Transition Age Youth & Families

AUD Alcohol Use Disorder

BARC Brief Assessment of Recovery Capital

CAC Consumer Advisory Committee

CATATY Children, Adolescents, Transition Age Youth, and Families

CDI Child Directed Intervention

CJ Criminal Justice

CWS Child Welfare System

CRAFT Community Reinforcement & Family Training

CYF Child Youth Family

DSM Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association

EBT Evidence-based Treatment

EO Early Age of Onset

E-Recovery Electronic (computer/phone/tablet) based Recovery Support Services

FASD Fetal Alcohol Spectrum Disorder

FI First Intoxication

F-2-F Face-to-face

GAIN Global Appraisal of Individual Need

H-RQoL Health-related Quality of Life

IFC Intensive Family Coaching

LGBTQ lesbian, gay, bisexual, transgender, queer, or questioning

MAT Medication Assisted Treatment

MH Mental Health

NA Narcotics Anonymous

NAS Neonatal Abstinence Syndrome

OD Overdose

OUD Opioid Use Disorder

Q & A Question and Answer

QoL Quality of Life

RMA Recovery Mutual Aid

REBM Relationship Enhancement and Behavioral Management

ROSC Recovery oriented System of Care

SED Severe Emotional Disturbance

SMART SMART Recovery

SMI Serious Mental Illness

SUD Substance Use Disorder

TAY Transition Age Youth

Tx Treatment

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
CATAYF	Representation: CATAYF	Assure CATAYF involvement in	CATAYF Consumer	CATAYF and peer inclusion

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
General	services have until recently been designed, delivered, and evaluated without the direct involvement of CATAYF representatives (White et al., 2002)	the planning, design, conduct, and evaluation of prevention, early intervention, treatment, and post-treatment recovery support services. Assure inclusion of local CATAYF service agencies and peers in planning & evaluation processes	Advisory Committee (CAC) # CAC advisory meetings # CATAYF volunteers	in Governance Board and service committees # of funded agencies with CATAYF Consumer Advisory Committees
CATAYF General	SUD Vulnerability in General Population “Over 90% of the U.S. population use an addictive substance at least one time. Approximately 85% of the population do not develop SUD. In the residual population, substance use is prodromal to development of a SUD” (Tarter, 2019). “Large scale epidemiological studies ... convincingly demonstrate approximately half the variance (source of causation) in SUD is genetic” (Tarter, 2019; Kendler et al., 2003).	Community-wide prevention and education programs that convey risk factors for SUD development and recovery support resources for individuals and families.	Clinical measures to distinguish transient, low severity AOD problems from SUDs of high severity, complexity and chronicity requiring sustained and assertive recovery management	Community measures of AOD use, AOD-related problems, and AOD problem resolution across the spectrum of problem severity Number of family screens for heritable or other risk Based on these screens, # of derived child or family interventions for education, prevention or relationship enhancement and wellness Number of linkages to

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				recovery supports
CATAYF General	<p>Recovery Prevalence & Pathways Recovery prevalence and quality of life in recovery can be measured through national (Kelly et al., 2017) and local community surveys (White et al., 2013)</p> <p>Multiple pathways & styles of adult SUD recovery are being mapped (Flaherty et al, 2014; Zemore et al., 2016; Kelly et al., 2017) but such variations have yet to be charted specifically for adolescents, TAY, and families.</p>	<p>Include CATAYF relevant recovery and quality of life measures within local health survey</p> <p>Among individuals with any prior SUDs, compare local data with following national prevalence data for past-year substance use and DSM-5 symptomology: abstinence (14.2%), asymptomatic use (36.9%), symptomatic use (10.9%), and persistent/recurrent SUD (38.1%) (McCabe et al., 2018).</p>	<p>Ensure availability of a system and continuum of care for CATAYF</p> <p>Provision of normative data on recovery prevalence, pathways, and recovery QoL to service consumers</p> <p>Linkage relationships with service committees of secular, spiritual, & religious recovery mutual aid groups and recovery community organizations</p>	<p>ASAM Continuum of care for CATAYF populations is existent</p> <p>Baseline and annual or biennial recovery prevalence rates across CATAYF populations</p> <p>Map CATAYF recovery support pathways / changes over time</p> <p># of workforce trainings on multiple pathways of recovery and ROSC conceptual alignment</p> <p>Independently report CATAYF data to community & service consumers to reduce SUD misconceptions and related stigma</p>
CATAYF General	<p>Service Attraction & Access CATAYF encounter special obstacles in accessing SUD treatment and recovery</p>	<p>Provide CATAYF-specific outreach services and a One-Stop or centralized access point for services</p>	<p>Documentation of contact frequency and successful CATAYF</p>	<p>Incidence of stigma & other barriers to service initiation; rates of service utilization;</p>

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	support resources, including negative perceptions of treatment, fear of social stigma attached to SUDs, lack of insurance or ability to pay, lack of CATAYF-specific services, lack of existing CATAYF representation in recovery support groups, and transportation issues (van der Pol et al., 2013; Liebling et al., 2016).	<p>Conduct public education and prevention events aimed at reducing SUD and stigma for CATAYF populations</p> <p>Encourage development of CATAYF recovery support groups and E-recovery support services (youth friendly online groups, virtual alternative peer groups, web- and mobile-based recovery apps, etc.</p>	<p>service/support linkage; improved service access for CATAYF population</p> <p>% of admitted clients with no prior service history</p> <p># monthly hits on website; # hits on screening pages</p>	<p># of sponsored public education/prevention/early intervention events</p> <p>Average time from service request to service delivery across funded agencies</p> <p>% of people on waiting list prior to service initiation; average time on waiting list</p>
	There are populations with special needs who face unique obstacles to accessing needed treatment, e.g., women with opioid use disorder (Patrick et al., 2018)	<p>Provision of interim support services for people on waiting list for service</p> <p>Provide problem screening instruments, service Q & A & service reviews on agency website</p>	<p>Average time from service request to service delivery</p>	<p>% of CATAYF receiving at least one recovery support service within 7 days of contact</p> <p>% of people retained between 1st and 2nd appointment</p>
	Populations of people with SUD/SED/SMI who are recycling through emergency medical services without linkage to appropriate services	Implementation of Recovery Management Checkups in Primary Care (RMC-PC) protocol	<p>#of SUD, MH and Trauma screens</p> <p>Average time from problem assessment</p>	<p>Appropriate clinical matching and changes in level of care placement exist and are used over time</p>

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	<p>and with high mortality risks (Urbanoski et al., 2018). Assertive SUD screening and linkage within primary care increases SUD treatment admissions, treatment duration, and post-treatment recovery outcomes (Scott et al., 2018)</p>	<p>Inclusion of family or advocate in all services</p>	<p>to initial service contact</p>	<p># of CATAYF recovery support meetings Average time from problem onset to initial recovery support linkage % of SUD admissions from health care providers</p>
	<p>Online recovery support resources can provide increased access to CATAYF recovery support resources (Molfenter et al., 2015; Liang et al., 2018) especially for marginalized populations (e.g., LGBTQ youth, Allen et al., 2016).</p>	<p>Expand available electronic clinical/recovery support tools Educate community and clinical CATAYF populations on available E-recovery support services and tools</p>	<p># hits on agency website for links to e-recovery support resources</p>	<p># outreach hours per month/quarter Continued use of Cultural and Linguistic Specialist for system of care consultation # of bi-lingual staff and volunteers working within the system of care</p>
	<p>Clinical populations with a family history of SUD/SEM/SMI problems constitute special populations that may require increased pre-treatment efforts to enhance readiness for change (Kibitov et al., 2018)</p>	<p>Potential use of outreach workers & recovery coaches to enhance readiness for clinical services CATAYF-specific outreach efforts in schools, youth serving agencies, allied health</p>	<p># of service admissions resulting from outreach contacts # of service admissions resulting from CATAYF at risk</p>	<p>Changes in admission of underserved populations</p>

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	<p>Assertive peer outreach workers can engage adult active opioid users with successful linkage to treatment (Scott et al., 2018), but this intervention has not yet been tested with adolescent opioid users. Peer recovery support services are becoming an integral component of the behavioral health care system (Myrick et al., 2016; Davidson et al., 2012; White, 2009), but research related to CATAYF-specific peer services is extremely limited at present.</p>	<p>agencies, and allied systems (e.g., criminal justice, child welfare)</p> <p>Assure culturally and linguistically competence outreach and service provision</p> <p>Formulate marketing plan to reach underserved populations that includes social media and culturally-mediated communication channels</p>	<p>outreach contacts</p> <p># of bi-lingual staff & volunteers</p> <p>Change in admission rates, demographics of underserved populations</p> <p>% of family/advocate involvement</p>	
<p>CATAYF General</p>	<p>Assessment & Service Planning</p> <p>The pattern of adolescent and TAY substance use is most often one of multiple substance use over time, suggesting the limitation of any intervention focusing on one substance (Merrin et al., 2018)</p>	<p>System-wide Integration of global versus categorical assessment instruments (e.g., Global Appraisal of Individual Need/GAIN).</p> <p>Shift from deficit-based to strengths based assessment protocol using such instruments as the Assessment</p>	<p>% of clients assessed at mild to moderate problem severity levels (# DSM SUD symptoms)</p> <p>Documented use of recovery capital measures within</p>	<p>Average problem severity (# DSM SUD symptoms) and recovery capital scores of persons entering system of care</p> <p>#training/consultations related to strengths-based assessment & service planning</p>

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		of Recovery Capital (ARC, Groshkova et al., 2012), Brief Assessment of Recovery Capital (BARC, Vilsaint et al., 2017), or Rapid Recovery Progression Measure (RRPM, Elison et al., 2017).	clinical supervision	Family/advocate involvement
	Integrated SUD/SED/SMI assessment, service planning & delivery with ancillary services increase recovery outcomes compared to parallel of sequential treatment (Wolitzky-Taylor et al., 2018)	Continue to pursue service integration efforts and experiments in co-location of service delivery. Include all systems in service delivery, e.g. Court, CYF, CJ. Marketing of CATAYF services to primary care physicians/pediatricians, assistants, practitioners, nurses	Percentage of clients receiving the following: Case management, transportation, day care, housing, financial counseling, educational services, vocational services, legal counseling #/% of new clients referred from primary health care resources #/% of clients provided or linked to primary care services	# of formal and active cross-sector service integration projects # of clients/families in cross-sector services linked to recovery supports #/% of new clients referred from primary health care resources
CATAYF	Optimal Service Duration A	Test strategies that can	Average service	CATAYF service completion

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General	<p>major concern related to SUD treatment is the percentage of people who begin but do not complete a course of treatment (over 50%)(White, 2008)</p> <p>Recovery outcomes increase if recovery support is maintained across levels of care for at least 90 days (NIDA, 2018)</p>	<p>enhance service retention, e.g., warm welcome techniques, motivational interviewing training, peer coaching, contact following missed service appointments, managed care (case management)</p> <p>Provide continuity of recovery support across levels of care transitions.</p>	<p>duration by demographic and clinical profile</p> <p>CATAYF service completion rates by program and population</p> <p>% of people in detox and IOP/residential care successfully linked to lower levels of care</p>	<p>rates by program</p> <p>% of people served in residential and/or outpatient modalities for at least 90 days across levels of care.</p> <p>#/% of persons served readmitted to care within 90 days of discharge</p> <p>% of CATAYF served who report positive service satisfaction at conclusion of primary treatment</p> <p>Days/costs of inpatient/residential care for whole system</p> <p>% of people admitted to care with prior treatment admissions (tracking desired reductions across time)</p>
CATAYF General	Post-treatment Monitoring & Support Post-treatment SUD recurrence is common (See	Provide a clinically-titrated schedule of post recovery checkups (monitoring,	# of follow-up call attempts and connections	% of CATAYF receiving follow-up contact within 14 days of clinical service

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	White, 2008) but can be reduced via post-treatment recovery support (Dennis & Scott, 2007); Early post-treatment SUD recurrence is associated with increased mortality risk (Kline-Simon et al., 2017)	support, early re-intervention if & when needed), with high intensity in first 90 days following discharge, followed by quarterly and annual checkups thereafter.	#/% of clients who receive at least 6 recovery checkups in first 90 days following cessation of clinical services	cessation % of CATAYF receiving warm handoffs to continuing, uninterrupted care
	Emotional health may decline in early months of recovery before increasing (Kelly et al., 2018); period of peak emotional distress in SUD recovery appears a few years into the recovery process (Dennis et al., 2007)	Sustain telephonic or e-recovery support checkup on at least an annual basis for five years from point of service discharge.	#/% of clients who report recovery mutual aid group attendance in past month	% of people admitted to same or higher level of care in 90 days and year following discharge
	SUD recovery is not fully stabilized until 4-5 years of continuous recovery (See White, 2008).	Offer/suggest increased frequency of recovery support contact when major stressors are identified within recovery check-ups	#/% of clients reporting volunteer or sponsorship contact in last week	#/% of clients within funded agencies who receive at least 6 recovery checkups in first 90 days following cessation of clinical services
	Stressful life events constitute a major barrier to SUD remission stability and warrant increased recovery support (McCabe et al., 2016)	Independently monitor rates of CATAYF continuing care /recovery checkup contacts	Rates of service re-admission in year following discharge	% of clients receiving at least annual recovery checkups for 5 years following last service appointment

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	<p>Post-treatment continuing care reduces the rate of readmissions following treatment discharge (Reif, Acevedo et al., 2017)</p> <p>Youth in medication assisted treatment are at increased risk of early drop out and warrant focused follow-up and re-engagement (Samples et al., 2018) Drop-out rates from methadone maintenance treatment range from 46-65% within a year of admission (Lo et al., 2018)</p> <p>CATAYF recovering from co-occurring SUD/SED/SMI are at increased risk of ongoing challenges and benefit from sustained monitoring and support (Kronenberg et al., 2015)</p>	<p>Provide high intensity F-2-F outreach and telephonic contact with adolescents and TAY who disengage from MAT.</p> <p>Integrated SUD/SED/SMI recovery checkups and recovery planning review</p>	<p>% of adolescents and TAY who drop out of MAT who are assertively linked to recovery support services</p> <p>Reporting of Continuing care data for CATAY with co-occurring disorders</p> <p>Linkage to family and/or peer support</p>	<p>Rates of service re-admission in year following discharge</p> <p>Mortality of adolescents & TAY within 90 days of MAT dropout.</p>
	<p>Reducing Mortality Risks For people recovering from an opioid use disorder, there is</p>	<p>Provide increased monitoring and support during service transitions and terminations.</p>	<p>Number of deaths from drug-related incident during</p>	<p>Quarterly reporting of deaths during or immediately following</p>

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	<p>increased risk of death during transitions, e.g., release from incarceration, moving between levels of SUD care, and immediately following service termination (Pizzicato et al., 2018; Johnson et al., 2005; Scott et al., 2011).</p> <p>People who survive a drug overdose are at significantly increased risk for death in the following 12 months related to diverse substance, psychiatric, and medical conditions (White, 2018; Olfson et al., 2018)</p> <p>Mortality risks following a non-fatal opioid overdose decline with admission to medication assisted treatment (Larochelle et al., 2018)</p> <p>The visibility of opioid overdose deaths belies the dominant pattern of</p>	<p>Conduct follow-up contacts within 30 days of discharge regardless of discharge status</p> <p>Require reports of all deaths during & immediately following treatment. Conduct reviews of each for system improvement.</p> <p>Provide enhanced frequency of recovery checkups with depression screen for those in high risk cluster</p> <p>Peer-based recovery supports provided through emergency services and hospital emergency rooms with linkage to treatment and recovery support resources (Waye et al., 2018).</p>	<p>treatment or within 30 days of service termination</p> <p>Documentation of critical incident debriefing on deaths within 90 days of Tx discharge</p> <p>% of assessed ER overdose patients linked to MAT or RMA group</p> <p>% of opioid admissions with multiple SUDs</p> <p>% of alcohol hospitalizations linked to follow-on treatment</p> <p>% linked to peer support</p>	<p>treatment</p> <p>Overdose deaths incidence and demographics</p> <p>OD survival rate</p> <p>% of OD patients linked to “warm handoffs” and service within 7 days of emergency incident</p> <p>% of assessed ER overdose patients linked to MAT</p> <p>% of MAT patients linked to peer supports</p> <p>Percent of opioid-affected CATAYF also meeting criteria for other SUDs/SED/SMI</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	<p>polysubstance use & deaths from multiple drug interactions (Jalal et al., 2018). The majority of persons diagnosed with a SUD meet criteria for multiple SUDs (McCabe et al, 2017).</p> <p>Persons are at increased risk for suicide following an alcohol-related emergency hospitalization (Bowden et al., 2018)</p>	<p>Prevention, Harm reduction), early intervention, treatment and recovery support services focus on all patterns of substance use and addiction rather than substance-specific interventions.</p> <p>Include depression screens within ER interventions and follow-up contacts with assertive link to psychiatric care a& RMA groups as indicated.</p>	<p>% of persons served with both past OD & suicide attempt</p>	<p># of community overdoses and overdose deaths</p> <p>Existence of a community strategic plan to address and prevent OD and Suicide Reported suicide attempts/deaths</p>
CATAYF General	<p>Health-related Quality of Life (H-RQol) in Recovery CATAYF experiencing remission from SUD/SED/SMI experience improved H-RQol and lower health-related costs (Kelly et al., 2018; Laudet, 2013) but continue to experience lower H-RQol than the general population (Rubio et al., 2013; White et al., 2013).</p>	<p>Screening of all behavioral health care (BHC) clients for primary health care problems.</p> <p>Assertive provision or linkage of BHC clients for primary health care problems</p> <p>Increase integration of behavioral health care and primary health care</p> <p>Co-location of BHC and PHC</p>	<p>% of clients screened for primary health care problems</p> <p>% of SUD/SED/SMI clients with chronic primary health disorders; % of clients using ER or inpatient hospital services in past year for primary health care issues; % of clients referred for</p>	<p>ER and inpatient hospitalization rates before & following service provision</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
		services	primary health care services	
	Much of compromised H-RQoL and related mortality is linked to high rates of concurrent tobacco dependence (Hirsch, 1995); Smoking cessation increases SUD recovery rates and related H-RQoL (Prochaska et al., 2004).	Integrate smoking cessation support into SUD/SED/SMI treatment' include vaping, juuling	% of clients who are regular tobacco et al users at admission % of clients who are regular tobacco et al users at discharge & follow-up	% of funded programs offering smoking et al cessation services
CATAYF General	Service Team Composition Research to date on peer-based recovery support services suggest that such services can enhance long-term SUD/SED/SMI recovery outcomes (Bassuk et al., 2016; Reif et al., 2014; Repper et al., 2011; White, 2009) and may have particular utility within the child welfare system (Ryan et al., 2016; Ryan et al., 2017).	Increase CATAYY-focused peer recovery support services, including volunteer peer recovery support networks for adolescents, TAY, and families; create continuum of peer services across combinations of co-occurring conditions and CATAYF with special needs Integrate paid peer recovery support specialists within multidisciplinary professional service teams Create peer council representing this diversity of	Average client/counselor ration Quarterly # of volunteers and volunteer hours #/percentage of clients receiving peer recovery support services	Quarterly # of volunteers and volunteer hours #/% of CATAYF receiving peer recovery support services # of people in catchment area certified as peer recovery support specialists # of paid peer positions

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
		needs to generate service design and implement recommendations		
CATAYF General	Service Relationship Therapeutic alliance is a key factor in service retention, a primary mechanism of change within the service process, and the primary factor in service satisfaction (de Giorgi et al., 2018; Vernmark et al., 2018; Karver et al., 2018).	Staff training in motivational interviewing Formally measure & track service engagement rates by program and by worker Review administrative discharge policies	Average therapeutic alliance ratings over time within client service evaluations # of client grievances % of positive urine screens during treatment #/% of administrative discharges Peer telephonic post-treatment evaluation ratings with re-linkage when needed	Systems level client retention data, i.e. 90 days, 6 months, 1 year
CATAYF General	Locus of Service Delivery Assertive outreach efforts are recommended to reach the majority of adolescents and TAY with SUDs/ODs who do not seek SUD/OD treatment	Extend face-to-face service delivery into natural environments of those served Expand E-recovery support services across the stages of	#/% of services offered outside of agency service facilities	# of outreach programs # of outreach service contacts # of co-location pilots

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	<p>(Wu et al., 2016; Carmona et al., 2017; Guo et al., 2017).</p> <p>Online recovery support technologies provide an effective means of expanding service reach beyond service facilities (Bergman et al., 2018) but these new technologies have to date focused primarily on adults (Fowler et al., 2016)</p>	recovery	# of E-Recovery support contacts	#/% of funded agencies offering specialized CATAYF E-recovery support services
CATAYF General	<p>Recovery Landscape/Space There has been a recent increase in the development of new recovery support institutions and ecological models of community-focused prevention and recovery support e.g. recovery support groups, recovery residences, recovery industries, recovery ministries, recovery cafes, recovery celebration events, etc. (White et al., 2012; Ashford et al., in press)</p>	<p>Volunteer and paid positions focused on recovery community resource development</p> <p>Encourage development of CATAYF services within new recovery support institutions</p>	<p>Ecological assessments included within assessment data and service planning</p> <p>% of staff who have attended a local recovery support group in past month</p>	<p>Number of CATAYF recovery support groups/meetings</p> <p>#/capacity of recovery homes that accept parents and children.</p> <p>Annual recovery resources mapping survey noting the number of CATAYF-inclusive recovery support institutions</p>

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	Increased ethnic/cultural identity can serve as a protective factor against SUD development and recurrence (McCarron et al., 2018; Carter et al., 2018; White & Sanders, 2008)	Support ethnic cultural revitalization movements that address health and relationship challenges within the contexts of historical trauma and needed personal/cultural renewal. Engage culturally indigenous leaders and institutions in CATAYF service planning and delivery.	% of staff trained in cultural competence & cultural pathways of recovery Client/family measures of improved recovery capital	Cultural diversity within all governance, planning, and clinical advisory committees Ethnicity of CATAYF service admissions
Children	Child Mortality Accidental opioid poisoning of children and related deaths have increased in tandem with opioid prescribing and the expansion of medication-assisted treatment of opioid addiction (Gaither et al., 2016; Finkelstein et al., 2017; Allen et al., 2017). The 8,986 deaths of children and adolescents from opioid poisoning in the U.S. between 199 and 2016 marks a 3-fold increase in the mortality rate. This includes 605 of children aged 0-4 (Gaither et al., 2018). Nearly	Multimedia community and professional education on risks to children, appropriate medication storage, and timely and proper medication disposal. Verbal warning and pamphlet insert with all opioid prescriptions on dangers of opioid poisoning in children.	Quarterly # of presentations Quarterly # of media info disseminations via newspaper, TV, Social Media	Quarterly/annual # of drug poisoning deaths among children # of screens and educational presentations to families and children on effects of all SU, including parental-child bonding and impact on short and term child development

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	<p>5,000 children are evaluated for opioid poisoning in U.S. annually in emergency departments (Lovegrove et al., 2018). In addition to opioid poisoning, parental addiction creates adverse experiences for children through opioid misuse during pregnancy, impaired parenting, weakened attachment, material deprivation, and extended separations between parents and children (Feder et al., 2018).</p>			
Children: Gestation Period	<p>Fetal development is linked to good nutrition, absence of toxic chemicals, drugs, alcohol and infection and emotional regulations of mother. (Behnke, 2013, Chapman et al., 2007))</p>	<p>Insure health of mother during pregnancy; pre-natal examinations</p>	<p>Assess physical and psychological health of mother and family</p>	<p># of women receiving complete physical and psychological assessments</p> <p># of women connected to treatment</p> <p># of women connected to peer supports</p>
Neonatal Period	<p>The first month after birth is critical for establishing parental caregiving practices</p>	<p>Assess capabilities and limits of mother and home life, support</p>	<p>Measure of quality of relationship between child and mother and</p>	<p>Develop quality measure for family that includes recovery capital</p>

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	and social support (Tarter, 2019)	Provide parenting training with SU treatment (if needed)	home Delivering hospital is aware, in advance of delivery, of SU and Tx History of mother	development, peer support % of parents provided parenting and peer support % of babies born with SU related comorbidity or mortality
	Fetal Alcohol Spectrum Disorder (FASD) is linked to increased risk for early onset AOD use and related problems, increased risks for adult substance use disorders, mood disorders, and neurocognitive impairments (Grant et al., 2013).	Host panel to review continuum of care for alcohol and drug-exposed infants, e.g., screening at-risk mothers, scoring systems for pre-natal care involvement, neonatal drug withdrawal, type and duration of pharmacotherapy, and post- discharge monitoring and support	Staff Review of panel recommendations # parent education sessions on FASD & NAS in community & clinical settings	Quarterly/annual incidence of reported FASD & NAS # FASD & NAS community training sessions # of pre-natal care visits among service-enrolled mothers # FASD/NAS info brochures disseminated to service consumers & public
	Neonatal Abstinence Syndrome (NAS) The incidence of (NAS) has increased in tandem with the opioid epidemic (Pryor et al., 2017).	Conduct screenings for (FASD) and Neonatal Abstinence Syndrome (NAS) for all persons entering addiction treatment and integrate accommodations for the potential	# of joint client	#% of parents in child welfare system due to

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	<p>Cross-sector service planning and integration increase the number of pregnant women seeking services for SUDs (Kozhimannil et al., 2018) and enhance parent retention in treatment, parental SUD recovery, and parent retention of child custody (Huebner, Posze et al., 2015). “Fetus exposure to addictive drugs, toxic chemicals, infectious microbes, and stress hormones interact with genotype in myriad complex ways to influence future SUD risk before birth.” (Tarter, 2019)</p> <p>“Neonatal abstinence syndrome (gastrointestinal distress, disturbed sleep, irritability, etc.) severely challenges maternal caregiving.” (Tarter, 2019)“</p> <p>“Difficult temperament (e.g., intense emotionality, irregular</p>	<p>cognitive/behavioral deficits such individuals may exhibit that could compromise their long-term recovery outcomes.</p> <p>Provide information to parents on long-term effects of FASD and NAS and parental management strategies.</p> <p>Cross-agency joint service planning</p> <p>Parental coaching for new parents/mothers in recovery from opioid addiction.</p>	<p>service planning meetings</p> <p>% of pregnant women in treatment receiving prenatal care, sustained monitoring, & support</p> <p># of parents participating in parenting in recovery classes as part of treatment or continuing care</p>	<p>substance-related neglect/abuse receiving SUD services</p> <p>#% of women in service who retain custody of their children</p> <p>Average # of pre-natal visits of pregnant mothers within funded agencies</p> <p># of parents participating in parenting in recovery classes as part of treatment or continuing care</p> <p># of parents connected to a peer support service</p> <p>% of births with severe SU related comorbidity or mortality n infant</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	sleep rhythms, fussiness, irritability) is more frequent in offspring of SUD parents.” (Tarter, 2019; Horner et al., 2015; Caspi et al., 1995)			
Children Infancy	Difficult temperament (e.g. intense emotionality, irregular sleep rhythms, fussiness, irritability) is more frequent in offspring of SUD parents (Horner, 2015). Early Development and Developmental Delays Infants of methadone-prescribed opioid-dependent mothers exhibit poorer neurodevelopmental difficulties for the first six months compared to controls (McGlone & Mactier, 2015).	Assessment of parental competence, recovery and investment in parenting Linkage of mothers/infants for specialized support services.	Integrate ongoing parenting support with SU Tx and recovery plan % of patients & infants provided post-discharge monitoring for at least 6 months. % of new mothers in MMT who receive parental education and coaching	% of families receiving parenting of infants training with SU tx % of linkage to peer supports % receiving parenting-focused services
	Toddlerhood is a critical period for acquiring habits of sharing and cooperative play, extinguishing norm-violating behaviors (e.g., hitting, biting), internalizing pro-social values, and using language for	Develop parenting in recovery training curricula for integration in treatment and as a post-treatment recovery support service	# of parents completing parenting in recovery training Continue measurement of relationship and	# of parents completing parenting in recovery training # of parents linked to Peer Support or Intensive Family Coaching (IFC)

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	emotional self-regulation, impulse control, and problem solving (Tarter, 2019; Eiden et al., 2004).		bonding of mother/child	
Children	<p>Heritability Risks SUDs are transmitted intergenerationally through a variety of genetic/biological and environmental (parent /sibling /family, peer, and community) mechanisms that vary across persons and subgroups (Vossoler et al., 2013; Kendler et al., 2003; Evans et al., 2014). Substance use Disorders (SUDs) are heritable disorders with heritability risks ranging from 39-72% (Goldberg & Gould, 2018; Enoch, 2006; Crist et al., 2018). Children of parents who have a SUD are at 4-7 times the risk of SUD development compared to children of unaffected parents (Tarter, 2019; Vanyukov & Tarter, 2000)—genetic risks that may be enhanced by</p>	<p>Providing targeted education, prevention and early intervention services to children of parents admitted to SUD treatment and to other children affected by parental AOD problems.</p> <p>Communicating heritability risk to SUD-affected parents with info on potential youth prevention and early intervention resources, noting that SUD risk is not fixed as it varies across the child’s development and through the availability of resources that enhance resistance and resilience (Tarter, 2019).</p>	# of teaching interventions on SUD vulnerability of children	<p>Development & dissemination of a Policy Statement on Promoting Family Recovery and Intergenerational Health (Evans et al., 2014)</p> <p>Create a Council on Intergenerational Health—a multi-agency coalition committing staff and public financial resources toward joint policy and service initiatives aimed at understanding and stemming the intergenerational transmission of AOD problems, mental health challenges, child neglect and abuse, school failure, criminality, and violence (Evans et al., 2014)</p>

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	<p>prenatal alcohol exposure and adverse developmental experiences (Goldschmidt et al., 2018). “Half the variance (source of causation) in SUD etiology is genetic”; this risk of vertical SUD transmission is to a spectrum of SUDs and related behaviors rather than to a specific substance: “even though policymakers, clinicians and media focus on specific compounds as distinct societal scourges, all SUDs are variants of one disorder.” (Tarter, 2019).</p> <p>“SUD Risk is greatest in children whose parents developed SUD before 30 years of age” (Tarter, 2019).</p> <p>“Whereas intergenerational risk for SUD occurs in all socioeconomic strata, the greatest risk is transmitted to children domiciling in disadvantaged</p>	<p>Service planning should focus on the broad spectrum of risky AOD use and related SUDs rather than the drug crisis of the moment. Channel present alarm about opioid addiction toward community response to full spectrum of AOD and related problems.</p> <p>Explore identifying high risk youth & families via available screening instruments, e.g., Transmissible Liability Index (TLI), Drug Use Screening Inventory Inventory (DUSI-R)(Tarter, 2019; Tarter & Kirisci, 2001)</p> <p>Provide targeted prevention and early intervention</p>	<p># of children of parents in treatment who are identified as at risk for SUD development & provided prevention services</p>	<p># of children of parents in treatment who are identified as at risk for SUD development & provided education and prevention services related to intergenerational risk factors and built resilience and recovery</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	<p>neighborhoods” (Tarter, 2019; Ridenour et al., 2009).</p> <p>The interaction of biological and environmental risk factors produces phenotypes (biological and psychological characteristics) that dramatically elevate the risk of SUD development (Abuh-Saleh et al., 2017).</p> <p>“It is feasible to measure intergenerational risk to identify youths requiring prevention intervention” (Tarter, 2019).</p> <p>“Deploying interventions that impede genetic liability from manifesting as impaired psychological regulation and non-normative socialization is required to lower SUD risk” (Tarter, 2019; Fishbein et al., 2006)</p>	<p>activities to high risk children, youth, and families.</p>		
Children	<p>Developmental Problems Most (60- 75%) children of</p>	<p>Screening children of parents entering SUD treatment for</p>	<p># of children under 13 participating in</p>	<p>% of CATAYF agencies routinely screening</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	<p>alcohol-dependent parents will not go on to develop AOD problems (Beardless et al, 1986), but children who have experienced sustained exposure to severe parental addiction and/or mental illness can suffer profound developmental effects and are in greatest need of indicated prevention and early intervention services (Pandina et al, 1989). Children of parents with SUDs experience increased rates of psychosocial problems which dissipate when the parent is treated for the SUD and the child has access to psychosocial supports (Burdzovic, Andreas & O'Farrell, 2017).</p> <p>“Harbingers of SUD are usually detectable, such as conduct disorder (CD) and attention deficit hyperactivity disorder (ADHD) before the</p>	<p>emotional distress and behavioral problems and assertively linking them to community resources to enhance resilience and health.</p> <p>Provision of training to CATAYF agencies on behavioral health screening</p> <p>Include physical/emotional health, AOD status and school performance of children into adult assessment and recovery check-up protocol</p> <p>Appropriate access to evaluation and treatment resources for CD and ADHD, including access to medication or ADHD; development of</p>	<p>family/child programs as part of parental SUD treatment</p> <p>Scale of child health indicators in parental post-treatment recovery checkups</p>	<p>children for behavioral health risks</p> <p>#/% of children identified as at risk or experiencing for development of behavioral health problems</p> <p>#/% of at risk children successfully linked to prevention or early intervention resources</p> <p>Community-level developmental markers for children , e.g. # of identified high-risk youth; families; # of educational and prevention interventions</p> <p># of families connected to Peer Support or Intensive Family Coaching</p> <p>% of related families seen</p>

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	<p>child reaches ten years of age. Psychiatric disorder, particularly externalizing disorders, greatly amplify SUD risk.....Severe externalizing behavior disorder is childhood portends SUD consequent to hard illegal drugs whereas lower severity of the liability during childhood predisposes to alcohol and nicotine disorders” (Tarter, 2019; Krueger et al., 2002).</p>	<p>specialized CD and ADHD recovery management programs for youth</p> <p>Saturated services to high risk youth, including coping and social competence and interpersonal etiquette training and access to normative socialization (Connection to pro-social groups and organizations) as well as resources to enhance academic and other areas of achievement, e.g., employment, artistic, athletic.</p>		<p>kept in tact</p> <p># of youth treated for CD or ADHD</p> <p>Screening of all youth for family history or pre-disposing risk factors</p> <p># of youth identified at risk connected to education, prevention and recovery supports.</p>
Children	<p>Parent Child Relationships</p> <p>SUDs can produce negative effects on the parent-child relationship, though these seem to be more pronounced in Euro-American than African-American parents (Slesnick et al., 2014).</p> <p>Weak parent-child bonding from low parental competence, sparse parent-</p>	<p>Inclusion of parenting training and coaching as an integral or adjunctive component of addiction treatment.</p> <p>Assertive linkage to parental training and support resources in the community.</p> <p>Explore use of parent-child assessment instruments as adjuncts to SUD treatment</p>	# of clients/partners participating in parenting training	<p>Rates of Substance-related child placement</p> <p>Quarterly # of parenting support group meetings</p> <p>% of SUD families connected to peer support groups</p>

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	<p>child communications, and inadequate supervision increases risks of psychological dysregulation, non-normative socialization, suboptimal acquisition of pro-social values and morals in the child, which in turn increases the risk of early AOD use and SUD onset (Tarter, 2019)</p> <p>There is a clear but complex relationship between parental addiction, child neglect, child maltreatment, and the subsequent emotional and behavioral health of children. (Ryan et al., 2016; Dunn et al., 2002; Choe et al., 2013)</p> <p>Grandparents bear an inordinate responsibility for care of grandchildren affected by parental SUD/SED/SMI. (de Toledo & Brown, 2013)</p>	<p>Providing parents in SUD treatment access to parenting in recovery peer support groups</p> <p>Professional and peer support service included respite care for grandparents involved in SUD/SED/SMI-related caretaking</p> <p>Legal rights of grandparents made known/supported</p>	<p># of grandparents receiving caregiver support services</p>	<p># of grandparents receiving caregiver support services</p> <p>% of grandparents receiving services connected to peer support</p>
Children	Adverse Childhood Experiences (ACEs) (trauma) constitute a major risk factor	Screening for childhood trauma; provision of trauma-informed treatment methods;	% of clients screened for ACEs	Community wide incidence of child abuse, neglect & other ACEs

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	for early SUD development and greater SUD severity (Taplin et al., 2014; Austin et al., 2017), including overdose (Lake et al., 2015), although these effects may differ by substance and ethnicity (Werner et al., 2016).	overdose prevention education; monitoring recurrence of behavioral/substance health issues in family		# parental deaths of children under age 16 # of divorces # in-county school transfers Recovery capital score of family/child (e.g. family intact, stabilized in treatment, quality of home life, job, medical care, service, school, etc.)
Children	Recovery Support & Family Reunification Comprehensive cross sector programs for substance affected women and their children produce increased family reunification rates but often require support beyond time-limited reunification expectations (Brook et al, 2007).	Provision of recovery and parenting coach to women recovering from an SUD within the child welfare system	% of CWS involved parents in treatment % of CWS-involved parents treated for SUD who receive recovery coaching.	% of funded SUD treatment programs that have a family/child treatment track Rates of Substance-related family reunification & permanency outcomes
	Medication assisted treatment (MAT) of opioid	Expand access to MAT and recovery coaching for parents	# of CWS-involved parents receiving	# of CWS-involved parents receiving MAT

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	addiction (Hall et al, 2016) and recovery coaching (Ryan et al., 2016) have independently been found to enhance maternal SUD recovery rates and rates of parent-child reunification.	in the child welfare system (CWS).	MAT	% of MAT parents connected to specialized recovery groups
Adolescents	Protective factors that lower the risk of AOD problem development among youth include: personal assets (social conscience, personal values, interpersonal values and skills, risk avoidance, activity participation, positive identity, and school engagement) and ecological assets (connection to family, adult mentors, connection to community, parent involvement, connection to school, rules and boundaries, and safety) (Theokas et al., 2005). Family specific protective factors include a positive relationship with the non-addicted parent, close supervision by the non-	Service goals could include: attachment of each child with at least one caring adult, availability of at least one positive, encouraging role model for each child, balance of emotional closeness and support with clear behavioral expectations, ensuring regular parent-child time, consistent family rituals, positive ethnic/cultural identification, availability of teaching/coaching life skills and competencies, clear expectations/consistent discipline (including AOD use rules), communication of high expectations, encouraging dreams and aspirations via	Changes in recovery capital during treatment and follow-up Implement a transmissible liability index (TLI), e.g. DUSI-R, if available, to predict vulnerability.	Develop asset markers for inclusion in consumer survey of CATAYF Use survey data to plan recovery community asset development activities and track aggregate measures of community recovery capital

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	<p>addicted parent, quality relationships with both parents, maintenance of key family rituals, e.g., family celebrations (birthdays, holidays), family traditions (vacations, reunions), and patterned routines (meals, bedtimes), and access to social support outside the family (Studies reviewed in White, Evans et al., 2009)</p>	<p>identification of strengths and interests, and attachment to extended family and social network (Kumpfer et al., 2004).</p>		
<p>Adolescents</p>	<p>Early Age of Onset (EO) of first drug use, age of first intoxication (FI), and shorty delay between EO and FI exert a profound influence on the later trajectory of AOD problems (Sartor et al., 2016; Morean et al., 2014; Caetano et al., 2014) though this risk may be substance specific (Ohannessian et al., 2015). EO gender gap has disappeared to point that by mid-adolescence, females are more likely to initiate drinking than males (Cheng et al, 2016)</p>	<p>Parenting education on EO effects and importance of preventing/delaying onset of drug exposure via parental communications and supervision; “oversight and supervision of adolescents are critically important as is inculcation of consequential thinking” (Tarter, 2019) Concentrating youth prevention resources on the middle school years</p>	<p>Average age of onset of drug use among treatment admissions</p>	<p>Local AOD use survey data (youth binge drinking rate & other drug use rates) compared to national data (e.g., Monitoring the Future)</p> <p>Annual average age of onset of drug use at treatment admission</p> <p>Average age of onset of drug use in community</p> <p># of professional education events including recovery definition and recovery</p>

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	<p>and experience a more rapid transition to alcohol dependence (Cheng, Chandra et al., 2016). EO has been associated with greater SUD risk, faster problem progression, & greater problem complexity / chronicity (White, Evans et al., 2009). Risk of EO of drug use is amplified by early age of SED onset (Birrell et al., 2015)</p> <p>Energy drink consumption has been linked to early drinking onset (Mann et al, 2016) and subsequent drinking-related problems (Arria et al., 2016), as has tobacco smoking & poly-tobacco use (Conway et al., 2018)</p>	<p>Add energy drink use to data collected at assessment; use risk cluster to target early adolescents in need of sustained monitoring and support</p> <p>Assess all substance use, e.g. marijuana, vaping, juuling, topical ointments, caffeine, etc.</p>	<p>Test EO of energy drink use as a predictor of SUD severity, complexity, & chronicity</p> <p>Assess and address all substance use during treatment, in post-treatment recovery checkups & reporting of program outcomes</p>	<p>capital measurement, including CATAYF definitions and measures</p> <p># of community education programs on new or other substance use that may be harmful to community</p>

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	<p>Adverse childhood experiences (ACEs) (addicted or mentally ill parent, parental discord/separation/divorce, or physical/sexual abuse) increase the likelihood of early onset of drinking and subsequent SUD risks (Rothman et al., 2008)</p>	Targeting youth with ACEs for focused prevention and early intervention services	Measure presence of trauma & traumagenic factors (EO of trauma, trauma duration, multiple perpetrators, boundary invasive forms of trauma, inadequate family or institutional response to trauma, etc.)	Community level ACE measures Average recovery capital scores of adolescents admitted and discharged from treatment
Adolescents	<p>Peer/Family Influences on SUD Middle-school youth with behavioral health problems are at increased risk of substance use and related problems during high school entry (Burdzovic Andreas et al., 2015). Peer group socialization exerts a significant influence on adolescent substance use (Beardslee et al., 2018; Martins et al., 2017; Ennett et al., 2006). This risk includes non-medical use of prescription medications</p>	<p>Primary prevention programs in all middle schools</p> <p>Middle school student assistance programs and counsel availability</p> <p>Therapeutic resources linked to juvenile court / detention / probation</p>	<p>Measure perception of peer AOD use</p> <p>Provide normative information on peer AOD use</p>	<p>Annual survey data on middle school AOD use</p> <p>% of youth reporting AOD using opportunities</p> <p>Changes in community recovery capital scores that support adolescent health and recovery</p>

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	<p>(Boyd et al., 2016), with risk of non-medical prescription opioid use presently higher among non-Hispanic white adolescents in rural communities (Monnat et al., 2016; Vaughn et al., 2016)</p> <p>Family rejection, school victimization, and discrimination increases SUD-development risk of LGBTQ youth and young adults (Johns et al., 2018; Hatchel et al., 2018; Klein et al., 2016; Huebner et al., 2015; Slater et al., 2017).</p>	LGBTQ-inclusive professional & public education	LGBTQ-specific recovery support information dissemination	
Adolescents	<p>Other SUD Vulnerability</p> <p>Youth in foster care, independent living and those diagnosed with PTSD or conduct disorder are at increased risk for SUDs (Braciszewski et al., 2012; McMillen et al., 2007).</p>	<p>Focused prevention and early intervention resources for youth involved in child welfare system and in mental health service system</p> <p>Screen each adolescent for all medication and substance use</p>	# of at-risk youth engaged in services	# of at-risk youth engaged in services
	Co-Morbidity Risk Youth successfully treated for depression have decreased	Review prescribed medications regularly for clinical effectiveness and safety	% of youth admitted to SUD Tx with co-occurring SED/SMI	% of youth with co-occurring disorders who receive integrated care

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	<p>risk of future SUD but remain at risk for alcohol-related problems (Curry et al., 2012)</p> <p>Family Influences Family factors influence SUD vulnerability and recovery outcomes, particularly for minority youth (Wang et al., 2005)</p>	<p>Monitoring adolescents treated for SED/SMI for future SUD/AUD risks</p> <p>Family inclusion and family-focused treatment of adolescent SUDs</p>	<p>#/% of adolescents treated for SUD whose families were involved in Tx</p> <p># of family-inclusive sessions</p>	<p>% receiving targeted peer support</p> <p># of family inclusive sessions with SUD youth within funded agencies</p>
Adolescents	<p>Evidence-based Treatment (EBT) There are evidence-based, brief individual/group therapies for substance-involved adolescents, e.g., MI, CBT, MDFT, ACRA, TSF, etc. (NIDA, 2018)</p> <p>Twelve-Step Facilitation with adolescents produces comparable recovery outcomes to motivational enhancement therapy/cognitive-behavioral therapy (Kelly, Kaminer et al., 2017)</p> <p>Adolescents may need special</p>	<p>Training of local SUD service providers & clinical supervisors in adolescent EBTs</p> <p>Linking funding to EBT provision</p> <p>Training supervisors in EBT fidelity monitoring</p> <p>Introduce adolescent to various pathways to recovery</p>	<p>EBT fidelity monitoring ratings</p> <p>Clinical supervision documentation</p> <p>Connect treatment to chosen supportive pathway to recovery</p>	<p>Quarterly # of EBT training sessions provided</p> <p>% of funded adolescent treatment programs using EBTs</p> <p>% in treatment connected to recovery pathway or support</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	<p>supports to enhance recovery mutual aid (RMA) participation due to logistical obstacles, lower motivation for recovery, and problems with identification with older mutual aid members (Labbe et al., 2014)</p> <p>Duration and completion of initial inpatient treatment and subsequent duration of medication support is associated with improved abstinence outcomes for adolescents in medication assisted treatment of opioid use disorders (Mutlu et al., 2016; Smyth et al., 2018; Chang et al., 2018)</p>	<p>Youth-focused recovery coaching during and following primary treatment</p> <p>Encourage development of local Young People in Recovery chapter</p> <p>Use of recovery coaching to enhance treatment retention and level of care transitions</p>	<p>% of youth successfully linked to RMA groups</p> <p>Completion rate of adolescents across levels of care</p>	<p># of young people's RMA meetings in community</p> <p>Completion rate of adolescents across levels of care</p> <p>% of adolescents in treatment self-reporting as "in recovery."</p>
Adolescents	<p>Treatment Outcome</p> <p>Recovery/remission rates for adolescents following specialty SUD treatment average more than 40% with remission spanning</p>	<p>Integrate post-treatment recovery checkups and treatment evaluation data collection</p>	<p>Report all outcomes across categories of abstinence, asymptomatic use, symptomatic use, & persistent/recurrent</p>	<p>One-year post-treatment SUD remission rates</p> <p>Remission/Recovery % at 90 days, 6 months and 1 year</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	continuous abstinence and asymptomatic use—patterns that vary by problem severity (White, 2012)		SUD	
Adolescents	<p>Post-treatment Fragility Most adolescents are precariously balanced between recovery and resumption of AOD use following addiction treatment, particularly during the first 30 days following treatment; AOD status at 90 days following treatment is highly predictive of recovery status at one year following treatment (Godley et al., 1999).</p> <p>Recovery stability is enhanced by assertive continuing care, e.g. post-treatment monitoring & support via recovery checkups (Godley et al., 2007) & can be cost-effectively delivered using lay volunteers (Godley et al., in press).</p>	<p>Assertive approaches to continuing care (ACC)</p> <ul style="list-style-type: none"> --all admitted clients/families, not just “graduates” --primary responsibility for continued contact rests with the treatment institution --capitalizes on temporal windows of vulnerability (saturation of monitoring and support in the first 90 days following treatment) --individualizes the duration and intensity of monitoring --utilizes assertive rather than passive (verbal encouragement only) linkage to communities of recovery --incorporates multiple media for sustained recovery support --emphasizes continuity of contact in a primary recovery support relationship over time (White & Kurtz, 2006). 	% of clients receiving ACC for at least one year after primary treatment	% of adolescents readmitted to SUD treatment within one year

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Adolescents	Peer Influences on Recovery Post-treatment peer adjustment is a major determinant of treatment outcome. Adolescents who experience major relapse have the highest density of substance users in their posttreatment social milieu (Godley et al., 2005; Fisher, 2014; Best et al., 2016)	Monitoring & support with post-treatment social network reconstruction Development of sober social activities for youth in recovery	Changes in social recovery capital during and first year following treatment	Average post-treatment recovery capital scores
	Adolescents involved in peer helping experience elevated recovery outcomes and quality of life in recovery (Lee et al., 2016)	Create peer helping and community service opportunities for youth in recovery	Integration of peer helping within treatment milieu # youth volunteers	# of youth in recovery serving as volunteers across funded agencies
Adolescents	SUD Recurrence & Recovery Rates Post-treatment SUD recurrence rates for adolescents are high and can result in recycling of adolescents through very expensive levels of care without measurable long-term recovery outcomes (Risberg et al., 2003)	Extend acute care models of intervention to models of sustained recovery management Assertive models of continuing care	Post-treatment status of treated adolescents % of treated youth readmitted within one year	# of adolescent self-reporting recovery within community health survey % of treated youth readmitted within one year

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
Adolescents	<p>Value of Recovery Mutual Aid (RMA) Recovery mutual aid networks (AA, NA, SMART, Alateen, etc.) offer considerable support for long-term recovery, but they suffer from low teen participation rates, and their effect is dependent upon intensity and duration of participation (Kelly et al., 2008; Kelly & Urbanoski, 2012; Passeti et al., 2012). The value of recovery mutual aid participation extends to youth with co-occurring disorders, including those with a social anxiety disorder (Tonigan et al., 2018; Pagano et al., 2015)</p> <p>Studies of 12-Step participation among SUD adolescents note minimal concerns related to safety issues or other harm from such participation (Kelly et al., 2011)</p>	<p>Encourage development of young people’s recovery support meetings and youth-focused recovery advocacy organization (e.g., Young People in Recovery)</p> <p>Encourage utilization of youth-focused E-Recovery Support Resources</p> <p>Monitor any safety issues that arise from youth RMA participation</p>	<p>#/% of youth successfully linked to RMA groups or a peer support network</p> <p>One year youth RMA retention rate</p> <p># reported negative effects from RMA participation</p>	<p># of youth RMA groups meetings or % of peer connections</p> <p># hits/links on Youth E-recovery resources on website</p>
Transition Age Youth	<p>TAY Focus TAY are a special population with distinct</p>	<p>TAY-specific service planning and evaluation activities</p>	<p>Documentation of TAY representation in</p>	<p>Documentation of TAY representation in service</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
(TAY)	<p>SUD/SED/SMI recovery support needs Settersten et al., 2005; Davis et al., 2009)</p> <p>Transition Risk Factors Personal/family life transitions increase SUD risk and can weaken recovery stability, e.g., changes in residence, employment, family conflict/violence, marital status, health status, community reentry from military service or prison, exposure to community violence, etc. (Satre et al., 2012; Fleming et al., 2010; Meisel et al., 2017). TAY experiencing SED/SMI are at increased risk of subsequently developing SUDs (Miranda et al., 2016)</p> <p>Child maltreatment and its residual effects constitute a recovery obstacles for TAY with SUD/SED/SMI (Yo et al.,</p>	<p>Targeted SUD prevention, HR, EI, TX, and recovery support services</p> <p>SUD screening/education within all mental health services includes training in trauma-informed care</p> <p>Assure transitional supports for youth aged 18-21 who are aging out of the child service system.</p>	<p>service planning</p> <p>TAY service utilization data</p>	<p>planning</p> <p>TAY service utilization data</p> <p># of MH/Trauma trainings to population</p> <p># of youth in child service system aged 17-18</p> <p>% connected to treatment or peer support</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	2007) Youth who have received institutional support for behavioral health problems may be at increased risk as they age out of these service systems (Heflinger et al., 2008; Ringeisen et al, 2015; Davis et al., 2006; McMillen et al., 2005)		Measure of individual recovery capital obtained	Measure of individual recovery capital provided to person
Transition Age Youth (TAY)	Vulnerability for SUD/SED/SMI onset and recurrence increases for TAY due to relationship, residential, and financial instability (Elswick et al., 2018) The transition to adulthood is a vulnerable period for health problems among African Americans as indicate by increasing rates of substance use and obesity (Chen et al., 2018). Young LGBTQ adults are at	Targeted service marketing to TAY Developing transition resources guides for TAY Availability of flyer on LGBTQ recovery support resources	# of TAY served #/% of African American TAY served LGBTQ TAY served	# of TAY served #/% of African American TAY served in comparison to population representation % LGBTQ TAY served connected to peer support

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	<p>increased risk for development of SUDs and may experience special obstacles to help seeking (Schuler et al., 2018; Demant et al., 2017.)</p> <p>Internet-based services may be an effective medium to reach LGBTQ and other marginalized youth populations (Schwinn et al., 2015)</p>	that includes E-recovery support resources		
Transition Age Youth (TAY)	Early Predictors of TAU AOD Problems AOD problems at age 21 are associated with poor family functioning during adolescence (Lee et al., 2014)	Enhance adolescent/family support resources		% of TAY seeking services whose families did not seek services during TAY's adolescence
Transition Age Youth (TAY)	Limited Help-seeking among TAU TAU access psychiatric and social services at lower rates than either adolescents or older adults (Copeland et al., 2015; Pottick et al., 2008)	Targeted marketing to TAY		# of TAY served within funded agencies
Transition Age Youth (TAY)	Mortality Risks Polysubstance using TAY with co-occurring psychiatric disorders are at particular high risk of	OD education; Access to MAT	# Drug-related deaths among TAY	# Drug-related deaths among TAY

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	overdose death (Yule et al., 2018); overdose risks decline with entry into medication assisted treatment (Schiavon et al., 2018)			
Transition Age Youth (TAY)	Harm Reduction (HR) Needs Multiple factors underscore the need for a continuum of HR services for TAY, e.g., propensity for polysubstance use, risk-taking, substance-related mortality risks (Marshall et al., 2016)	HR to recovery service continuum		# TAY receiving HR education and services
Transition Age Youth (TAY)	Continuity of Care Admission to treatment within 14 days of discharge from detox reduces treatment readmissions (Lee et al., 2014)	Use of outreach workers or recovery coaches in detox to encourage transition to other levels of care	% of persons discharged from detox services admitted to treatment within 14 days	% of TAY youth connected to continuing care and/or peer support prior to discharge from hospital % of persons discharged from detox with “warm handoff” to treatment; peer support % of persons discharged from detox services admitted to treatment within 14 days
Transition	Treatment & Treatment	Working with TAY across	Report all outcomes	TAY one year post-

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	<p>et al., 2015)</p> <p>TAY with co-occurring disorders may benefit from RMA groups specifically for people who share these multiple challenges (Hagler et al., 2015)</p>			
Families	<p>Role of Family in Recovery Initiation There are evidence-based models of family training and support that increase help-seeking of an addicted family member (Meyers et al., 1998; Miller et al., 1999; Foote et al., 2014).</p>	<p>Provide family skill building as a support service to SUD-affected family members</p>	<p># of family members calls for assistance also successfully linked to CRAFT</p>	<p># families participating in CRAFT or skill building and support</p>
Families	<p>Scope of Family SUD Recovery spans improvement of personal health and functioning of each family member, improvement in the quality of subsystem relationships (adult intimate relationships, parent child relationships, sibling relationships), increased clarity and consistency of family roles, rules, and rituals,</p>	<p>Shift from person-focused care to family-focused education, intervention and care within ROSC initiatives; unit of service becomes the “family” as defined by the primary patient</p>	<p>Development of family health indicators</p> <p># of CRAFT or other family trainings given</p>	<p>Family representation in systems decision-making</p> <p># family members serving as volunteers or advocates</p> <p># of family support groups offered</p> <p>Development of family recovery capital instrument</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	enhanced quality and flexibility of external boundary transactions (the family's relationship with outside kinship and social networks), & reduction of risk for intergenerational transmission of SUDs and related problems (White & Savage, 2005)	Training in trauma informed care provided to families and/or caretakers		% of families receiving trauma based care training
Families	Parenting Effects on Child SUD Risks Child exposure to parental drinking is linked to earlier onset of drinking and greater association with deviant peers which in turn is linked to increased drinking in young adulthood (Mahedy et al., 2018). "A child's psychological propensities toward SUD are enhanced by parental modeling, including frequent intoxication, use of illegal drugs, taking addictive medicines without physician oversight, AOD use as a response to emotional distress, DUI, and	Parent education on effects of parental drinking exposure on CATAY development Community education on family interventions is made available, e.g. CRAFT training (Foote et al., 2014). Parenting in Recovery training as an adjunct to clinical services	Parenting education integrated into community education and addiction treatment # of parents linked to parenting training % of parents reporting one or more of following: family check in on return from school or work, regular family	Age on onset of alcohol use within community surveys # of community education programs on family interventions and recovery supports % of young people admitted to SUD treatment reporting parental SU problems % of cases where "the family" is designed as the unit of care as addressed collectively

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	<p>incarceration.”(Tarter, 2019) Weak monitoring has been linked to increased involvement with AOD-using peers, and strict alcohol-specific rule setting and monitoring in combination with warm parent-child communication have been shown to lower rates of early alcohol exposure and alcohol-related problems (Konig et al., 2014; Li et al., 2014).</p> <p>Disrupted family rituals play a significant role in the intergenerational transmission of AOD problems (Wolin et al., 1980).</p> <p>“Consolidating health behaviors such as regular eating and sleeping schedules, physical exercise, hygiene, and safety measures (, e.g., wearing a helmet or seat belt) reinforces self-efficacy and</p>	<p>Necessary releases for family and multi-agency communication signed System support and guidance for family intervention is made available</p> <p>Family ritual planning within parenting in recovery education</p> <p>Culture development and linkage to indigenous cultural resources for recovery support</p>	<p>meals, family holiday rituals, family vacations, etc.</p>	<p>% of families connected to Family Coaching or Peer Support (e.g. Al-Anon, Alateen, Family Support Groups)</p> <p>% of families reporting establishment or resumption of family rituals following treatment</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	emotional well-being” (Tarter, 2019).	Include value and teaching of science and recovery based health-related behaviors within parenting in recovery curriculum		
Families	Family Treatment Drug Courts are a promising intervention for SUD parents involved in the child welfare system, with studies showing enhanced rates of recovery and family reunification (Zhang et al., 2018)	Collaboration with Family & Drug Courts or procedures to assure family inclusion in drug/recovery court programs Connection of families to existing court or community treatment	# families involved in court intervention program	# of families or family services linked to SUD/MH court or community treatment/services programs % of families and % of individuals connected to peer support % of families remaining intact during and following service provision
Families	Family Life in Recovery Survey data is available documenting the long term positive effects of recovery on the family in such areas as physical health, relational health, housing stability, financial security, etc.	Conduct family health assessments for all persons admitted for SUD/SED/SMI treatment		Pre-Post treatment measures of family recovery capital & health % of admissions in which family recovery capital was used in treatment planning

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	(Andersson et al., 2018)			% of families treated as a unit and held intact
Families	<p>Recovery & Family Distress Parental recovery initiation, by suddenly destabilizing addiction-shaped family roles, rules, rituals, and relationships, can exert strain on family members and the family system as a whole during the early stage of recovery. Such strain, without sources of support, can destabilize the adult intimate relationship, lead to emotional/behavioral problems in children, and threaten family stability (Brown & Lewis, 1999)</p>	<p>Professionally facilitated family programs that educate and support families in early recovery.</p> <p>Assertive linkage to peer-led family and couples recovery support groups</p>	<p>Review of family stability status and health within recovery checkups</p>	<p>Changes in marital status within life in recovery surveys</p> <p>Assess effects of life disruption on sustaining recovery</p>
Families	<p>Family- and couples-focused treatment generates improved child adjustment outcomes superior to those found in treatments that focus solely on the individual with the substance use disorder (Powers et al., 2008).</p>	<p>Family/couples therapy and family support services</p> <p>Treating “family” as a unit in care</p>	<p>Changes in marital and living circumstances during and following treatment</p> <p># of parents completing parenting</p>	<p>Changes in marital and living circumstances during and following treatment</p> <p>Increased recovery/peer support during life changes</p> <p># of parents completing parenting training</p>

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
	<p>Maternal Effects of Parenting Training Parenting training integrated into SUD treatment enhances maternal recovery outcomes (Moreland et al., 2018)</p> <p>Gender specific culturally informed treatment can enhance recovery outcomes for pregnant and post-partum women (Krans et al., 2018 McCarron et al., 2018)</p>	<p>Parenting training as adjunct to clinical services</p> <p>Gender-specific treatment settings and services</p> <p>Early specialized prenatal care for dependent pregnant women</p> <p>Specialized new born care in hospitals and continuing care</p>	<p>training</p> <p>Service retention / completion rates by gender identification</p> <p># of pregnant women in specialized care</p> <p># of babies born to women in specialized program</p>	<p>Service retention / completion rates by gender identification</p> <p># of pregnant SUD women in specialized program</p> <p>% of newborns born without significant morbidity or mortality.</p>
Families	<p>Parenting/Sibling Influence on Child AOD Use Parenting interventions that prevent, delay, or reduce child AOD use include cautionary communications about drinking, drinking rules, drinking consequences, and reduced exposure of children to parental drinking and access to alcohol and other drugs within the home(Cox et al., 2018; Maggs et al., 2019).</p>	<p>Include AOD-specific parenting messages and prevention knowledge within parenting in recovery training</p> <p>Inform and empower parents to find help for child AOD use</p>	<p>% of parents reporting AOD problems of one or more of their children</p> <p>% of parents who have provided one or more of the noted AOD interventions in past month</p>	<p># of parenting in recovery meetings</p> <p># of parents in SUD treatment completing parenting training</p> <p>Parent feedback surveys to strengthen system# of education and prevention sessions with community, family and individual</p>

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	Horizontal SUD Transmission: Younger siblings of older youth with AOD problems are at increased risk of developing such problems (Luthar et al., 1992; Windle, 2000; Tarter, 2019).	Target the younger siblings of adolescents and young adults admitted for addiction treatment for prevention and early intervention services	# of siblings involved in education/support activities	
Families	Peer Support There are emerging models of peer delivered, family-to-family (F2F) SUD recovery support (Anthony et al., 2018) and peer support groups (e.g., Grief After Substance Passing, GRASP) for families who have experience a substance-related death in the family.	Family led recovery support groups in each community Input from families incorporated into development of system of care	# of family members participating in parent recovery support groups in past month	# of family support group meetings per month All pathways to recovery, faith based and other, are recognized in support groups
Families	Family Recovery Cost Benefits Addiction treatment and recovery stabilization produce future lowering of medical costs for family members (Weisner et al., 2010).	Screening physical health of other family members during SUD/SED/SMI admissions Linking other family members to primary care resources as needed	# family primary care referrals in past month	# family primary care referrals in past month Changes in ER use, hospital admissions, arrests, OD, incarceration, , etc. over time Improved aggregate Family Recovery scores in

Population	Research Finding	Potential Service Interventions	Potential Program/Clinical Measures	Potential Systems Measures
				community

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