



CECIL COUNTY DRUG AND ALCOHOL ABUSE COUNCIL MEETING MINUTES December 15, 2016

Meeting Location: Cecil County Health Department

Members in Attendance: Scott Adams, John Bennett, Tyler Brown, Sean Cannon, Kenneth Collins, Joseph Fisona, April Foster, Stephanie Garrity, Tyra Kenly, Rebecca Larson, Mike Massuli, Bob Meffley, Dr. James Ziccardi

Others in Attendance: Virgil Boysaw Jr, Marc Butler, Daniel Coulter, Beth Creek, Earl Grey, Jackie Hartman, Laurie Humphries, Becky Kiersznowski, Raymond Lynn, Daniel Norvell, George F. Stanko

Call to Order: John Bennett called the meeting to order at 3:00 p.m. and welcomed everyone.

COUNCIL BUSINESS:

Chairperson's Report - John Bennett:

 Asked the Drug and Alcohol Abuse Council (DAAC) members to consider development of process for awards of \$500 mini grants to support DAAC goals and objectives. Similar minigrants had been awarded to various community groups for Tobacco education.

Board of Health Report - Stephanie Garrity:

• Reported that the Board of Health met last October, and received an update on the Community Health Improvement Plan.

County Executive Report - Joe Fisona for County Executive-Dr. Alan McCarthy:

• Mr. Joe Fisona read from a letter sent to the DAAC by County Executive. Dr. McCarthy apologized for his absence from the meeting, and expressed concern for the negative impact substance abuse continues to have on our Cecil County community. Acknowledged that Cecil County's efforts to address substance use disorders were organized into four major categories: Prevention, Treatment, Recovery [Support] and Public Safety. Recognized the role of Cecil County Drug and Alcohol Abuse Council and encouraged all to continue with efforts.

County Health Officer Report - Stephanie Garrity:

- Reported that Senate Bill 97 passed in the prior legislative session, and enabled local health departments and/or private providers with local health department approval, to provide syringe service programs. Stephanie reported her service on the state committee charged with developing regulations for the syringe service programs, and had shared draft regulations for comments. Additional comments on the draft regulations were encouraged.
- Reported on 21st Century Cares Act, and anticipated increased funding to combat opioid addiction.

Healthy People.	Healthy	Community.	Healthy	Future.
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- Informed on resignation of MD Department of Health and Mental Hygiene (DHMH) Secretary Van Mitchell. Governor Hogan selected his Secretary of Appointments, Dennis Schrader, as DHMH Secretary.
- Announced that grant funds for community based substance use disorder (SUD) treatment will be discontinued on December 31, 2016; these funds will be allocated to the State's administrative service organization (Beacon Health Options) to support expanded Medicaid reimbursement for SUD treatment and short term treatment of the uninsured and can be accessed by all licensed SUD providers, not just local health departments. Local providers include: Project Chesapeake (opened September 2016); Upper Bay Counseling, (which expanded their service continuum to include SUD treatment in October 2016), and Ashley (opened December 2016). Open Door is also expected to begin to also offer outpatient SUD services during 2017. The Health Department will continue to provide outpatient treatment services on a fee-for-service basis as long as services are needed by the community. The Department also plans to continue prevention, care coordination (including services for those seeking residential care), and recovery support programming, as well as a planning authority role.

Other Committee/ Sub-Committee Reports:

• Workforce Committee: Mike Massuli, speaking for Committee Chair-Howard Isenberg, reported that members of the workforce committee recently joined a new workgroup of the Maryland Addition Directors Council (MADC) to address and resolve workforce issues. The MADC group recently met with the executive director of the Board of Professional Counselors (BOPC). [The BOPC is Maryland's licensing authority of professional counselors and therapists.] The discussion focused on insufficient Maryland reciprocity and a new requirement for an internship. [The internship appears to be a barrier for new providers because the requirement currently applies to all providers credentialed outside of Maryland, including those with significant years of professional experience.] The MADC committee also expressed concerns regarding the BOPC's lack of responsiveness to applications and requests for assistance. The BOPC executive director expressed agreement to consider the implications of the above, and reported insufficient BOPC staff to meet demand for responses and requests for provider assistance.

Recognitions and Awards, John Bennett:

• Acknowledged the extraordinary leadership of the Honorable Tari Moore, former County Executive for Cecil County. Awarded Ms. Moore a plaque of recognition for her efforts to address substance use disorders and expand related prevention, treatment, recovery support and public safety initiatives throughout the jurisdiction.

PRESENTATIONS AND DISCUSSION TOPICS:

Exercise and Addiction Recovery - Dr. Jim Ziccardi, DO, FACC

Dr. Ziccardi's presentation slides attached to these minutes. Presentation focused on how
exercise affects the brain and its potential as an adjunctive treatment for chemical dependence.
Improved mood, decreased depression, decreased cravings and improved coping strategies/skills
were noted benefits.

Introduction to Sheriff's Office Heroin Coordinator - Raymond Lynn, Cecil County Sheriff's Office

- Mr. Lynn, a retired State Trooper who worked for the past four years as a Flight Medic, started as the Cecil County Heroin Coordinator on December 5, 2016.
- Presently working on communicating with other local and state agencies. Intends to record and track fatal and non-fatal overdoses to evaluate where resources need to be. Data will help inform the process.

<u>Community Health Improvement Plan</u> - Dan Coulter, Health Policy Analyst, Cecil County Health Department

- Mr. Coulter's presentation slides are attached to these minutes. Presentation included an overview of the Community Health Needs Assessment (CHNA), and Community Health Improvement Plan (CHIP), as developed by Union Hospital and the Cecil County Health Department in collaboration with the Cecil County Community Health Advisory Committee (CHAC). The CHNA included an examination of the health status of Cecil County residents to identify key public health issues and assets available to address these issues. The CHIP is informed by the CHNA, and serves as a long-term, systematic effort to address public health issues.
- Top five identified health issues from the CHNA included: Illicit Drug Use/Problem Alcohol Use, Homelessness, Mental Health, Poverty and Obesity. On January 21, 2016, CHAC meeting members voted to select top three priority categories, including: (1) Behavioral Health Illicit Drug Use / Problem Alcohol Use, Mental Health, and Access to Behavioral Health Care; (2) Chronic Disease Diabetes, Heart Disease and Stroke, and Respiratory and Lung Diseases; and (3) Determinants of Health Poverty, Homelessness, and Educational Attainment. Respective goals, objectives and strategies were developed related to the health priorities.
- Stephanie Garrity expressed appreciation for the contributions and effort of the CHAC.
 Suggested that the DAAC members include as a standing agenda item, the objectives and strategies of priority 1-behavioral health. A motion was initiated and seconded to post the CHAC goals and objectives on the DAAC agenda under sub-committees. The motion passed unanimously.

REVIEW OF MEETING MINUTES FROM SEPTEMBER 29, 2016:

Minutes from the DAAC meeting of September 29, 2016 were reviewed and adopted with no changes.

FOR THE GOOD OF THE CAUSE:

John Bennett, DAAC Chair - John announced that the Mini Grants may be discussed at the next DAAC meeting. John commented on DAAC membership vacancies, and encouraged those interested to submit an application for membership. [Applications are submitted to the Cecil County Executive office for review and subsequent approved by Cecil County Council.]

Mike Massuli, Cecil County Health Department - With appreciation to Beth Creek, the Maryland Strategic Prevention Framework (MSPF) Coalition recently received approval for its needs assessment; the coalition will begin work on developing a strategic plan to reduce underage alcohol use and young adult binge drinking. The Opioid Misuse Prevention Program (OMPP) submitted its strategic plan. Pending approval, the OMPP intends to focus efforts on educating prescribers regarding smarter prescribing practices, increasing drug takeback opportunities, and revitalizing http://www.rewriteyourscript.org/ to promote awareness in the community regarding prevention, treatment, and recovery resources(this sentence needs to be re-written). The Maryland Public Opinion Survey on Opioids (MPOS) is available to complete online until December 23, 2016. Requested DAAC and audience members to help promote the survey.

Becky Larson, Project Chesapeake - Reports that Project Chesapeake is very busy.

Bob Meffley, Cecil County Council Representative to DAAC - Recently elected to County Council. Reported observations of significant improvement within the county and encouraged by efforts. Thanked everyone for making him part of this council.

Ken Collins, Cecil County Health Department - Expressed appreciation to County Executive Alan McCarthy, County Councilman Bob Meffley, and County Councilwomen Jackie Gregory for their opening remarks to students at the Youth Leadership Summit, and to Sheriff Adams for his presentation to the students.

Joe Fisona, Cecil County Executive Representative - Advocated for use of Deterra®, a drug deactivation system. A person simply puts their medication in the deactivation package and shakes. The package contains a carbon that bonds to pharmaceutical compounds, and neutralizes the active ingredient in the drug. The biodegradable bag can then be placed into the trash.

Sean Cannon, Cecil County Public Schools - Reported that Public Schools added a third Life Skills teacher for grades 3rd through 12th. Also, reported that the two day summit at North Bay included 80 students representing five high schools and the School of Technology. The students are developing plans to address drug and alcohol issues that they see in their communities. Nearly all the schools are developing similar plans including mentoring younger students at-risk for substance use. Added that the Cecil County Public Schools hosted substance abuse informational meetings for parents; the Sheriff's Office and Health Department were included.

PUBLIC COMMENT:

Daniel Norvell, Upper Bay Counseling & Support Services - Commented on a needle exchange program in Delaware. Reported that the program was very successful for disposal of contaminated needles and increasing access to treatment. Advocated for development of similar program in Cecil County.

April Foster, STEPS Recovery Resources - Reported on recent activities facilitated and/or sponsored by STEPS including: Recovery Celebration on May 14th (approximately 175 in attend with 29 vendors present); an Information Paint Night where participants saw short film about addiction and painted, and four overdose response trainings (63 people trained). STEPS plans to facilitate SMART (Smart Management and Recovery Training) meetings at Janes United Methodist Church, On Our Own of Cecil County, and the Harford County Detention Center, as well as a Celebrate Recovery meeting at Conowingo Baptist Church. Continuing to refer several individuals to treatment facilities and assisted their families. Accepting applications for NAMI (National Alliance on Mental Illness) Peer to Peer Recovery beginning on January 20, 2017. Next year's Recovery Celebration is currently scheduled for May 13, 2017. More information available at http://www.stepsrecoveryresources.org/

Beth Creek, YES – Facilitating a program for children of incarcerated parents and accepting referrals. Visit www.youthempowermentsource.org and https://www.drugfreececil.org/ for more information.

Becky Kiersznowski, Upper Bay Counseling & Support Services - Currently providing substance use disorder (SUD) treatment in Elkton. Beginning in February, Upper Bay will also provide SUD treatment in Cecilton.

Adjourned: 4:00 PM

Next Meeting: March 23, 2017 Submitted by Alicia O'Connor

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On March 23, 2017, these minutes were reviewed and approved by consensus vote of the DAAC membership.



Cecil County Community Health Needs Assessment (CHNA) & Community Health Improvement Plan (CHIP): Presentation to DAAC 12/15/16

Daniel Coulter, M.P.H., Health Policy Analyst/ Accreditation Coordinator daniel.coulter@maryland.gov

CHNA & CHIP Overview

- Developed by UHCC and CCHD in Collaboration with the Cecil County Community Health Advisory Committee (CHAC).
- CHNA: Examination of the health status of Cecil County residents to identify key public health issues and assets available to address these issues.
- CHIP: Long-term, systematic effort to address public health issues identified through the Community Health Needs Assessment (CHNA).



Why Complete a CHNA & CHIP?

- Comprehensive health information
- Justification of resource allocation
- Coordination and collaboration
- Strengthened partnerships
- Identified strengths and weaknesses
- Benchmarks and baselines for performance improvement



CHNA- Methods

Community Health Survey

- Online survey open to all Cecil County adult residents
- Questions related to Demographics, Community Health, Quality of Life, and Access to Care

Focus Groups

- Elderly
- Homeless
- Spanish-speaking

Review of Secondary Data

 U.S. Census, MD SHIP, MD BRFSS, MD YRBS, County Health Rankings, etc.

Top 5 Identified Health Issues: 2015 Community Health Survey

- Illicit Drug Use/Problem Alcohol Use (80.9%)
- Homelessness (34.5%)
- Mental Health (30.6%)
- Poverty (18.7%)
- Obesity (18.7%)

(%)= Percentage of Community
Health Survey respondents that
chose the topic as one of the top 3
most important health issues in Cecil
County



Development of the CHIP

Selection of Health Priorities

- January 21, 2016 CHAC Meeting:
 - CHAC members presented with CHNA findings
 - Voting to select top 3 priority categories
 - Members broken into 3 groups by expertise/interest to select
 2-3 issues per category to address

Creation of Work Plans

- March 16, 2016 CHAC Meeting:
 - Three groups developed work plans including goals, objectives, strategies and responsible parties to address each health priority.

Finalized Plan Presented to CHAC on July 21, 2016

CHIP Priorities

Priority 1: Behavioral Health

- Illicit drug use and problem alcohol use
- Mental health
- Access to behavioral health services

Priority 2: Chronic Disease

- Diabetes
- Heart disease and stroke
- Respiratory and lung disease

Priority 3: Determinants of Health

Poverty

Homelessness

CHIP Responsibilities

Behavioral Health

- Goal 1.1- DAAC
- Goal 1.2- MHCSA Advisory Council
- Goal 1.2 DAAC & MHCSA Advisory Council

Chronic Disease

- Goal 2.1- Healthy Lifestyles Task Force
- Goal 2.2 Objective 1- Cancer Task Force
- Goal 2.2 Objective 2- Tobacco Task Force
- Goal 2.3- Healthy Lifestyles Task Force

Determinants of Health

Goals 3.1 & 3.2- CCIACH Determinants of Health Subcommittees

Priority 1: Behavioral Health Goals and Objectives

- Goal 1.1: Reduce the prevalence of substance use disorders in Cecil County.
 - Objective 1.1.1: By June 30, 2019, reduce the druginduced death rate by 5%.
 - Baseline: 26.5 deaths per 100,000 population; Source: SHIP Measure, Maryland DHMH VSA
 - Objective 1.1.2: By June 30, 2019, reduce the percentage of youth in grades 9-12 reporting the use of alcohol on one or more of the past 30 days to no more than 33.8%.

Baseline: 37.5% in 2013; Source: 2013 Maryland YRBS

Objective 1.1.1 Strategies

- Continue to provide Narcan training to law enforcement officers and the public.
- Provide education at pharmacies and physicians' offices on prescription drug abuse and Narcan Training.
- Advocate for the development of more treatment options for adults and adolescents in the county.
- Partner with providers to increase the utilization of existing services.

- Work with the school system to reach at-risk adolescents.
- Increase participation in prevention and education programs such as My Family Matters and Strengthening Families.
- Provide incentives for attending programs.
- Promote the creation of educational messages focusing on prevention.
- Implement recommendations of Cecil County's Local Overdose Fatality Review Team (LOFRT).

Objective 1.1.2 Strategies

- Partner with Maryland Strategic Prevention
 Framework 2 (MSPF2) to implement strategies
 identified through a needs assessment.
- Continue to support and expand Life Skills training in Cecil County Public Schools.



Priority 1: Behavioral Health Goals and Objectives

- Goal 1.2: Improve the mental health and wellbeing of Cecil County residents.
 - Objective 1.2.1: By June 30, 2019, reduce the percentage of youth in grades 9-12 who felt sad or hopeless almost every day for two weeks or more during the past 12 months to no more than 24.8%.
 - Baseline: 27.5% in 2013; Source: 2013 Maryland YRBS
 - Objective 1.2.2: By June 30, 2019, decrease the suicide rate in Cecil County by 5%.
 - Baseline: 15.1 deaths per 100,000 population in 2011-2013;
 Source: SHIP Measure, Maryland DHMH VSA.

Objective 1.2.1 Strategies

- Promote depression screening during wellness checkups.
- Research programming to promote the health and well-being of youth.
- Promote Behavioral Health Integration in Pediatric Primary Care (B-HIPP).



Objective 1.2.2 Strategies

- Promote the availability of crisis and suicide hotlines.
- Continue to support, promote the utilization of, and expand mobile crisis services in Cecil County.
- Promote regular screening for depression during primary care provider visits.
- Promote Mental Health First Aid (MHFA) training.



Priority 1: Behavioral Health Goals and Objectives

- Goal 1.3: Improve access to behavioral health services in Cecil County.
 - Objective 1.3.1: By June 30, 2019, decrease the rate of emergency department visits related to mental health conditions by 10% and emergency department visits related to substance use disorders by 5%.
 - Baseline- Mental Health Conditions: 5501.6 ED visits per 100,000 population in 2014
 - Baseline-Substance Use Disorders: 2165.7 ED visits per 100,000 population in 2014.
 - Source: SHIP Measures. Maryland HSCRC Research Level Statewide Outpatient Data Files.

Objective 1.3.1 Strategies

- Provide education to reduce the stigma surrounding behavioral health disorders.
- Increase awareness of behavioral health resources and services in the community.
- Continue to support outreach efforts to enroll uninsured residents in health insurance/ Medical Assistance.
- Reduce the health impact of violence and trauma by integrating trauma-informed care throughout the health care and behavioral health systems.

- Expand options for inpatient and outpatient behavioral health treatment for Cecil County residents.
- Partner in the development of a regional crisis center.
- Promote a system of care that integrates somatic and behavioral health care.
- Continue to hold monthly ER Diversion meetings.

Priority 2: Chronic Disease Goals and Objectives

- Goal 2.1: Reduce the morbidity of diabetes in Cecil County.
 - Objective 2.1.1: By June 30, 2019, increase physician practice sites making referrals to chronic disease selfmanagement programs by 2 sites.
 - Baseline: 0 sites
 - Objective 2.1.2: By June 30, 2019, increase the number of sites hosting chronic disease self-management programs by 5 sites.
 - Baseline: 7 sites in 2015; Source: Living Well Programs
 - Objective 2.1.3: By June 30, 2019, create 1 county-wide walking program.

Objective 2.1.1 and 2.1.2 Strategies

- Engage 2 physician practice sites to participate in the chronic disease self-management programs
- Track the number of referrals made by the 2 physician practice sites.
- Engage 5 additional sites to host chronic disease self-management programs.



Objective 2.1.3 Strategies

- Implement a walking program that tracks the number of participating individuals, testimonials received, and total miles walked.
- If successful, create a plan for future walking programs.



Priority 2: Chronic Disease Goals and Objectives

- Goal 2.2: Reduce mortality from lung cancer in Cecil County.
 - Objective 2.2.1: By June 30, 2017, increase the number of individuals receiving low-dose lung CT screenings by 5%, in order to increase awareness for lung cancer prevention.
 - Baseline: 108 persons screened from Calendar Year 2015 Calendar Year 2016 (as of June 29, 2016); Source: Union Hospital Lung Health Program.
 - Objective 2.2.2: By June 30, 2019, reduce the prevalence of tobacco use among adolescents by 5% and cigarette smoking among adults by 5%.
 - Baseline-Adolescents: 24.6% in 2013
 - Baseline-Adults: 12.4% in 2014.

Sources: Maryland SHIP Measures. 2013 Maryland YRBS. Maryland

BRFSS



Objective 2.2.1 Strategies

- Advertise and promote the low-dose lung CT screening program in the community.
- Support recommendations of the Union Hospital Cancer Program's community outreach plan for low-dose lung CT screenings.



Objective 2.2.2 Strategies

- Promote community smoking cessation and prevention resources to youth-serving organizations.
- Educate adults about community-based and state-based smoking cessation and prevention resources.
- Support recommendations of the Cecil County Tobacco Task Force.



Priority 2: Chronic Disease Goals and Objectives

- Goal 2.3: Reduce morbidity and mortality of heart disease and stroke in Cecil County.
 - Objective 2.3.1: By June 30, 2019, reduce high blood pressure among adults by 5%, in order to reduce the incidence of stroke in Cecil County.
 - Baseline: 30.1% in 2006-2012; Source: Maryland BRFSS
 - Objective 2.3.2: By June 30, 2019, increase the percentage of students who eat vegetables one or more times per day by 5%, in order to reduce the incidence of heart disease in Cecil County.
 - Baseline: 58.0% in 2013; Source: Maryland YRBS
 - Objective 2.3.3: By June 30, 2019, implement a wellness program for one local small business.

Objective 2.3.1 Strategies

- Educate and support health care providers on how to write prescriptions for physical activity.
- Provide a community-wide campaign to reduce sodium intake.
- Support recommendations from the Union Hospital Stroke Program for stroke prevention in the community.



Objective 2.3.2 Strategies

- Partner with schools, day cares, and the Head Start program to provide education to staff and community members on nutrition for youth.
- Support the transition from the school year to the summer by working with summer food program providers to increase access to and awareness of summer food programs in the community.

- Advocate for the incorporation of healthy foods into school lessons.
- Utilize local media to provide helpful tips, recipes, and/or news stories on healthy lifestyle choices as they pertain to the CHIP objectives



Objective 2.3.3 Strategies

- Implement a wellness program at a local small business that provides wellness challenges for employees to participate in.
- Require the partnering small business to provide prizes/awards for its staff that win the challenges.



Priority 3: Determinants of Health Goals and Objectives

- Goal 3.1: Reduce the burden of poverty in Cecil County to improve the overall health of Cecil County residents.
 - Objective 3.1.1: By October 30, 2016, research existing and new or innovative anti-poverty programs/ initiatives for implementation in Cecil County.



Objective 3.1.1 Strategies

- Get information on the anti-poverty program recently presented at the BHA Child/Adolescent Conference.
- Identify & research existing anti-poverty programs in the county.

- Collect information from faith-based anti-poverty initiatives.
- Investigate Carroll County's program model.
- Review all options as a group.



Priority 3: Determinants of Health Goals and Objectives

- 3.2: Reduce the prevalence of homelessness in Cecil County to improve the overall health of the community and its residents.
 - 3.2.1: By June 30, 2018, expand services and interventions for homeless individuals/families to decrease prevalence of homelessness in Cecil County by 10%. Services/interventions will be based on three tiers, including: 1) emergency/immediate assistance, 2) intermediate/short-term assistance, and 3) longer-term assistance geared toward those experiencing chronic homelessness.



Baseline: 191 Homeless individuals counted in 2015; Source: Point in Time Homeless Survey

Objective 3.2.1 Strategies

- All tiers: implement a county-wide coordinated assessment system for efficient linkage to services and housing options for all.
- All tiers: participate in technical assistance from HUD to develop a by-name list to end veteran homelessness.
- All tiers: seek funding for or develop case management/ housing search services whose sole eligibility criteria is that of being homeless.



- Explore the possibility of a multidisciplinary meeting to review those at risk of homelessness or those with complex housing needs.
- Tier 1: create the availability of 24hour resource assistance to people experiencing homelessness, including emergency shelter during extreme weather events.
- Tier 1: establish liaisons between law enforcement and provider agencies.
- Tier 2: establish a community furniture bank to assist those transitioning from homelessness back into stable housing.

Next Steps

- Selection of strategies to focus efforts on as a group for FY 2017.
- Discuss roles for implementing strategies and how to measure progress on those strategies.



Community Health Advisory Committee Meeting

January 19, 2017

4:30-6:00 pm

Cecil County Health Department Auditorium



Exercise, the Road to Recovery

James W. Ziccardi, DO, FACC

GOAL

How exercise effects the brain and can be an adjunctive treatment for chemical dependence.

Recommendations for how much exercise to perform and general health benefits to be gained.

Epidemiology-SUD

- 1. Alcohol and drug abuse: may affect 20% of population.
- 2. Cost: \$500,000,000/yr?
- 3. Spontaneous remission very low!!
- 4. Relapse Rates: 60-90% in 1st yr.
- 5. Drug Addiction: leading cause of preventable death.
- 6. Long term sobriety (recovery) 10 to 90%

RECOVERY

PHYSICAL

MENTAL

SPIRITUAL

GENERAL POPULATION ATTAINING HEALTHY ACTIVITY LEVELS

Only 15-30% of Americans perform minimal exercise requirements, and less than 10% of moderate to vigorous activity levels.

EXERCISE RECOMMENDATIONS

- 1. 30 minutes daily at least 5X a week at moderate level (60-70% PMHR).
- 2. 75 minutes a week at vigorous level (70-80%). 300 min. of moderate + 150 min. vigorous for extensive health benefits.
- 3. Perform stretching daily, strength training 2X weekly.
- 4. 10 min. warm up, at least 5 min cool down
- 5. Can provide a 50% reduction in all cause mortality and at laast a 30% in CV disease

TREATMENT MODALITIES for SUD

- 1. Rehabilitation 30-90 days?
- 2. 12 Step of Faith based participation
- 3. Counseling
- 4. Cognitive Behavior Therapy
- 5. Medical (drug therapy)
- 6. Exercise
- 7. Meditation/Yoga

Medical Therapy for SUD

*Long Acting Opiod Agonist:

Methadone

Buprenorphine

*Risk of addiction, drug interactions, Diabetes, nicotine addiction and premature death.

*Opiod Antagonist:

Naltrexone: blocks endorphins

*Risk of opiod overdose

Benefits of Exercise in Recovering Individuals

- 1. Increased self efficacy for abstinence.
- 2. Improved mood sates, reduced depression.
- 3. Decreased urges and craving.
- 4. Improved coping strategy/skills
- 5. Provides a natural pleasure state.
- 6. Positive alternative to substance abuse.
- 7. Decrease stress activity
- 8. Health Benefit

IMPACT of PHYSICAL EXERCISE on SUBSTANCE ABUSE DISORDERS: A META-ANALYSIS

22 Studies: alcohol, illicit drugs and cigarette smoking.

- 1. Increased abstinence
- 2. Ease withdrawal symptoms
 - 3. Reduce anxiety and depression
- Moderate and high intensity aerobic exercise performed by Guidelines of ASCM and Mind-Body exercise can be effective and long term treatment for those with SUD.

Oct. 2014 Wang et. Al.



Rat Race

Three groups:

- 1. Drank alcohol, no exercise: had loss of neurons
- 2.*Drank alcohol and exercised.
- 3.* Drank H2O and exercised.
 - * Groups 2+3 had increased neurogenesis

Alc 33 (2004) 63-71

EXERCISE EFFECTS on the BRAIN

- 1. Neurogenesis, increased BDNF.
- 2. Mood enhancement, Serotonin?
- 3. Endorphin release.
- 4. Dopaminergic reinforcement
- 5. Increased Norepinepherine
- 5. Increased Glutamate, and GABA.
- 6. Increased brain plasticity

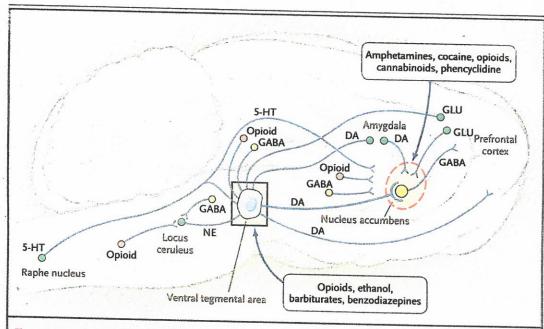


Figure 4. Neural Reward Circuits Important in the Reinforcing Effects of Drugs of Abuse.

As shown in the rat brain, mesocorticolimbic dopamine (DA) systems originating in the ventral tegmental area include projections from cell bodies of the ventral tegmental area to the nucleus accumbens, amygdala, and prefrontal cortex; glutamatergic (GLU) projections from the prefrontal cortex to the nucleus accumbens and the ventral tegmental area; and projections from the γ -aminobutyric acid (GABA) neurons of the nucleus accumbens to the prefrontal cortex. Opioid interneurons modulate the GABA-inhibitory action on the ventral tegmental area and influence the firing of norepinephrine (NE) neurons in the locus ceruleus. Serotonergic (5-HT) projections from the raphe nucleus extend to the ventral tegmental area and the nucleus accumbens. The figure shows the proposed sites of action of the various drugs of abuse in these circuits.

BRAIN DERIVED NEUROTROPHIC FACTOR

- 1.Promotes neurogenesis esp. in Hippocampus (Center of learning and Memory)
- 2. Protects existing neurons.
- 3. promotes synaptic plasticity: increases efficiency of signal transmission across synaptic cleft between neurons
- *Brain starts to lose nerve tissue at 30 yoa.

ENDORPHINS

- 1. Like heroin and morphine, but is a natural substance.
- 2. Blocks physical and mental pain.
- 3. Released after 30 minutes of sustained aerobic exercise.

Serotonin

Neurotransmitter

- 1. Found throughout the brain.
- 2. Perception, mood control, temperature regulation
- 3. Tryptophan a precursor, increased during and after exercise.
- 4. Low in depressive states

Norepinepherine

Neurotransmitter + Hormone

- 1. Regulates arousal to environment.
- 2. Mood enhancement and dreaming
- 3. Hormonal Effects:

Blood Pressure Vaso-constriction Heart rate

Dopamine

Neurotransmitter

- 1. Reward motivated behavior.
- 2. Stimulants to receptors highly addictive.
- 3. Exercise increased in VTA but not NA

GABA-Glutamate

Neurotramsmitters

- 1. GABA: anxiety reducing, prevents overexcitation in glutamate receptors. (Benzodizapines action site)
- 2.Glutamate: primary excitatory neurotransmitter in brain. (Alcohol action site)
- 3. Both found throughout the brain
- 4. *Greater neurogenesis in GABA neurons
- in chronic exercise.
- *Animal studies, but seen as calming effect clinically in humans.

Phenylethylamine

Neurotransmitter

- 1. Precursor of Catacholamines
- 2. Releases: Norepinepherine and Dopamine
- 3. Derivative of Methamphetamine
- 4. Anti-depressant Effects
- 5. Runner's High? Individual response variable
- 6. Chocolate: contains phenylethyamine

Preferred Type of Exercise

- 1. Walking 75%, (women)
- 2. Resistance training 37%, (men)
- 3. Gym/YMCA 33%
- 4. Sports 32%
- 5. Swimming 28%, (women)
- 6. Exercise videos 25%, (women)
- 7. Yoga/Stretching 22%, (women)
- 8. Running 18%, (men)

BARRIERS to COMPLIANCE

- 1. Time constraints
- 2. Cost
- 3. Physical impairments
- 4. Emotional motivation!!!!
- 5. Availability

Exercise Addiction

- 1. Exercise has a low incidence of Addiction.
- 2. Runner's High: low occurance
- 3. Dopamine release from VTA vs. NA, less addicting than any of those identified in SUD.
- 4. Continue to Exercise: despite personal injury, inconvenience, disruption to other areas of life, ie. Marital, occupational et al.
- 5. Exercise for intrinsic rewards.
- 6. Experience disturbing deprivation sensations when unable to exercise.
- 7. Phenylethylamine?

Healthy Committed Exercise

- 1. Exercise at recommended levels (ACSM)
- 2. Exercise for extrinsic rewards.
- 3. Experience a sense of well-being, accomplishment, and health.
- 4. Do Not suffer from withdrawal symptoms
- 5. Have "Drive to Exercise but are not Driven)

Healthy Physical Activity/Exercise

- 1.The goal should be to acquire a sense of balance and structure.
- 2.Develope an attitude resulting in a sustainable long term psychological, social and health outcomes.
- 3. Is a non-pharmacologic treatment for SUD, that targets both early and late phases of the addiction process.
- 4. Results in secondary health benefits.
- 5. Should be recommended to all appropriate individuals with a SUD, as adjunct therapy for recovery.
- 6.Exercise recommendations should follow the guidelines of ACSM