Funding Priority 5: Simultaneously Deploy and Evaluate Select Primary, Secondary, and Tertiary Prevention Strategies

Rationale

Public health efforts to address the opioid overdose crisis can be categorized as primary, secondary, or tertiary prevention. Preventive efforts can be considered across the lifespan, from youth through old age. In general, primary prevention focuses on averting development of harms or disease and, in the case of the opioid overdose crisis, targets initiation of nonprescribed opioid use. Secondary prevention targets initiation among the highest risk groups or progression to more regular use or riskier use patterns. This can include early identification of people at risk for injury, efforts to prevent progression of use of nonprescribed opioids to OUD, or early treatment for people with diagnosed OUD prior to experiencing opioid-related harms. Tertiary prevention attempts to attenuate the consequences of disease and, in the context of the opioid overdose crisis, can include efforts to reduce the fatality of overdose events, mitigate other harms related to opioid use, and provide low barrier treatment for OUD. Where primary prevention involves universal interventions, secondary prevention interventions are targeted, and tertiary prevention interventions are even more selective. Primary prevention efforts are appealing for their prospective long-term benefits, but they require targeting a large number of individuals without OUD to effectively reduce overdose risk downstream. Secondary and tertiary efforts are appealing because they target the small number of people who are at highest risk of overdose, but often require a larger per-person investment of resources to be effective.

Evidence

Primary Prevention

Prevention, especially among youth, can have important long-term benefits.[1] However, as highlighted by the National Institute on Drug Abuse (NIDA), unfortunately, there are few scientifically valid programs that specifically prevent prescription opioid, heroin, or fentanyl initiation among youth. Some commonly used programs do not work and most prevention programs have focused on preventing initiation of other substances (e.g., alcohol, tobacco or cannabis), not opioids.[2,3-7] Risk and protective factors for non-opioid substance use have been identified that might provide guidance for preventing opioid initiation[8] and universal prevention shows promise.[9] NIDA acknowledges "there is a gap in the evidence for interventions and strategies to prevent non-medical use of opioids and OUD in the transition from adolescence to young adulthood." A recent scoping review of prescription opioid misuse among youth and emerging adults concluded that, importantly, few evidence-based prevention or early intervention programs were identified.[10] Because of this, the Principles recommend that "jurisdictions should be sure that the programs that they are funding are supported by a solid evidence base. Jurisdictions should also fund long-term evaluations of youth prevention programs to ensure that they are having their desired effect." Strategies to consider, that require ongoing evaluation to demonstrate efficacy, include identifying and treating comorbid mental health in youth, trauma prevention, and treatment and education regarding the dangers of polysubstance use (e.g., in school and community settings). Safe opioid prescribing can limit diversion of prescription opioids and minimize transitions to OUD in

individuals receiving chronic long-term opioids.[11] Addressing social determinants (as discussed under Priority 6) and community mental health can further decrease opioid initiation and progression to OUD.

DMHAS currently supports a range of primary prevention efforts including public-facing educational and media efforts (e.g., Change the Script), college and school-based awareness campaigns (e.g., Connecticut Healthy Campus Initiative, State Educational Resource Center), community coalition-based interventions and SAMHSA's Strategic Prevention Framework, and parent-targeted education campaigns (e.g., Governors Prevention Partnership). In addition, DMHAS and DPH have supported efforts to educate prescribers on safer opioid prescribing practices via academic detailing. Evidence on the effectiveness of these efforts should inform the OSAC's decisions regarding funding primary prevention efforts. Primary prevention efforts implemented in the state that are evidence-based and have demonstrated success via rigorous evaluation should be considered for additional financial support.

Secondary Prevention

There is evidence to support programs designed to prevent progression of nonprescribed opioid use among those who have started, provide MOUD treatment and harm reduction where indicated – especially among high-risk populations (overdose survivors, pregnant and parenting people, hospitalized patients, people leaving carceral or non-medication-based treatment settings, individuals with psychiatric comorbidities) – and, where indicated, provide multi-modal evidence-based chronic pain treatment. Abrupt tapering of long-term opioid treatment for chronic pain can increase risk for overdose and should be avoided.[12-15]

Tertiary Prevention

There are effective interventions that decrease risk for injection-related infections such as endocarditis, Hepatitis C, and HIV. There is, additionally, robust evidence to support naloxone, syringe services, and other harm reduction services (discussed under Priority 2) for the prevention of harms associated with opioid use and OUD.

Potential Impact

The impact of efforts to prevent overdose deaths in youth will not be immediate. One computer modeling analysis found that, across strategies designed to 1) prevent prescription opioid misuse, 2) reduce heroin initiation, 3) decrease the number of people receiving a prescription, and 4) decrease the rate of development of OUD, no strategy achieves more than a 2% reduction in overdose by 2032; however, impact grows over time.[16] Reducing heroin initiation (and by extension, fentanyl initiation) should have a more immediate and meaningful impact on overdose deaths than reducing prescription opioid initiation.

Strategies

Primary Prevention

Strategy #1: Fund primary prevention of opioid use among youth.

Goal: Reduce the number of Connecticut youth who initiate opioids.

- **Tactic #1:** Fund initiatives to increase access to interventions with high levels of evidence ratings such as those listed by the Blueprints for Healthy Youth Development or the SAMHSA Evidence-based Practices Resource Center.

- **Tactic #2**: Fund rigorous simultaneous and long-term evaluations of primary prevention programs that are initiated to assure these interventions are meaningfully decreasing opioid initiation and producing other anticipated outcomes. These could be implemented and evaluated in a variety of settings including school, afterschool, summer, extracurricular, and community-based settings. Given the association between childhood trauma and mental health with substance use, particular attention should be paid to these comorbid or antecedent events such as preventing adverse childhood experiences (ACEs).

Strategy #2: Expand access to programs that address social determinants of health and community mental health to decrease opioid initiation and progression to OUD (see Funding Priority 6 for tactics).

Strategy #3: Support safe opioid prescribing, limit diversion of prescription opioids, and decrease the transition to OUD in those receiving chronic long-term opioids.

Goal: Decrease any adverse personal and public health impact of opioid prescribing for acute and chronic pain.

- **Tactic #1:** Fund initiatives that support prescribing clinicians to embed the Prescription Drug Monitoring Program into the electronic medical record systems of all Connecticut prescribers. Facilitating access to the PDMP in prescriber workflow when they may write prescriptions for controlled substances increases the likelihood that this information will be used to inform clinical decisions. Currently, several large health care systems in the state have done this, but not all Connecticut prescribers, especially ones outside of large systems, have access to these enhanced electronic medical record systems to track controlled substance prescribing.

- **Tactic #2:** Fund initiatives that provide training on safe and effective opioid prescribing and multimodal treatment of acute and chronic pain (including buprenorphine for acute pain), especially efforts that reduce unnecessary opioid prescriptions following common acute painful conditions (e.g., dental procedures[17,18], minor musculoskeletal injuries[19,20]).

Secondary Prevention

Strategy #4: Expand access to MOUD treatment with special attention to access for youth and young adults and individuals with co-occurring psychiatric disorders (see Funding Priority 1 for tactics).

Strategy #5: Provide multimodal chronic pain treatment.

Goal: Increase access to multimodal chronic pain treatment.

- **Tactic #1:** Fund programs to expand access to multimodal chronic pain treatments and CBT for chronic pain in the community and general medical settings.

Strategy #6: Prevent injection-related infections.

Goal: Reduce infectious complications of injection drug use.

- **Tactic #1:** Fund initiatives that expand access to services demonstrated to help prevent injection-related infections (e.g., distribution of sterile syringes and injection equipment) across community-based, general medical (hospitals, EDs, primary care), behavioral health, carceral, specialty addiction treatment, and harm reduction settings.

Tertiary Prevention

Strategy #7: Expand access to naloxone, syringe services, and other harm reduction services (see Funding Priority 2 for tactics relevant to this strategy).

Priority 5 References

1. Compton WM JC, Baldwin GT, Harding FM, Blanco C, Wargo ER. Targeting Youth to Prevent Later Substance Use Disorder: An Underutilized Response to the US Opioid Crisis. *American Journal of Public Health.* 2019;109(S3):S185-S189.
2. Ramos C C-CL, Samuel-Jakubos H, Basurto L. *Evidence-Based Interventions for Adolescent Opioid Use Disorder: What Might Work for High-Risk Ohio Counties?* Washington, DC.: Urban Institute;2018.
3. Stockings E HW, Lynskey M, Morley KI, Reavley N, Strang J, Patton G, Degenhardt L. Prevention, Early Intervention, Harm Reduction, and Treatment of Substance Use in Young People. *Lancet Psychiatry.* 2016;3(3):280-296.
4. Strang J VN, Degenhardt L, Hickman M, Johnson K, Koob GF, Marshall BD, Tyndall M, Walsh SL. . Opioid Use Disorder. *Nature Reviews Disease Primers.* 2020;6(1):3.
5. Faggiano F MS, Versino E, Buscemi D. Universal school-based prevention for illicit drug use. *Cochrane Database of Systematic Reviews.* 2014;12.
6. MacArthur GJ HS, Caldwell DM, Hickman M, Campbell R. . Peer-led interventions to prevent tobacco, alcohol, and/or drug use among young people aged 11-21 years: A systematic review and meta-analysis. *Addiction.* 2016;111(3):391-407.
7. Foxcroft DR TA. Universal Alcohol Misuse Prevention Programmes for Children and Adolescents: Cochrane Systematic Reviews. *Perspectives in Public Health.* 2012;132(3):128-134.
8. Griffin KW BG. Evidence-Based Interventions for Preventing Substance Use Disorders in Adolescents. *Child Adolesc Psychiatr Clin N Am.* 2010;19(3):505-526.
9. Spoth R TL, Shin C, Ralston E, Redmond C, Greenberg M, Feinberg M. Longitudinal Effects of Universal Preventive Intervention on Prescription Drug Misuse: Three Randomized Controlled Trials With Late Adolescents and Young Adults. *AJPH.* 2013;103(4):665-672.
10. Bonar EE CL, Roche JS, Philyaw-Kotov ML, Bixler EA, Sinelnikow S, Kolosh A, Cihak MJ, Cunningham RM, Walton MA. Prescription Opioid Misuse among Adolescents and Emerging Adults in the United States: A Scoping Review. *Prev Med.* 2021;132(105972).
11. DiPrete B RS, Maierhofer CN, Fulcher N, Chelminski PR, Ringwalt CL, Ives TJ, Dasgupta N, Go VF, Pence BW. Association of Opioid Dose Reduction With Opioid Overdose and Opioid Use Disorder Among Patients Receiving High-Dose, Long-term Opioid Therapy in North Carolina. *JAMA Netw Open.* 2022;5(4):e339191.
12. Agnoli A XG, Tancredi DJ, Megnan E, Jerant A, Fenton JJ. Association of Dose Tapering With Overdose or Mental Health Crisis Among Patients Prescribed Long-term Opioids. *JAMA.* 2021;326(5):411-419.
13. Oliva EM BT, Manhapra A, Kertez S, Hah JM, Henderson P, Robinson A, Paik M, Sandbrink F, Gordon AJ, Trafton JA. Associations between stopping prescriptions for opioids, length of opioid

treatment, and overdose or suicide deaths in US veterans: observational evaluation. *BMJ.* 2020;368(283).
14. Binswanger IA SS, Xu S, Narwaney KJ, McClure DL, Rinehart DJ, Nguyen AP, Glanz JM. Opioid Dose Trajectories and Associations With Mortality, Opioid Use Disorder, Continued Opioid Therapy, and Health Plan Disenrollment. *JAMA Netw Open.* 2022;5(10):e2234671.
15. Larochelle MR LS, Shapei Y, Clothier BA, Goldsmith ES, Bohnert, ASB. Comparative Effectiveness of Opioid Tapering or Abrupt Discontinuation vs No Dosage Change for Opioid Overdose or Suicide for Patients Receiving Stable Long-term Opioid Therapy. *JAMA Netw Open.* 2022;5(8):e2226523.
16. Stringfellow EJ LT, Humphreys K, DiGennaro C, Stafford C, Beaulieu E, Homer J, Wakeland W, Bearnot B, McHugh RK, Kelly J. Reducing opioid use disorder and overdose deaths in the United States: A dynamic modeling analysis. *Science Advances.* 2022;8(25):eabm8147.
17. Schroeder AR DM, Newman TB, Bentley JP, Park KT. Association of opioid prescriptions from dental clinicians for US adolescents and young adults with subsequent opioid use and abuse. *JAMA Intern Med.* 2019;179(2):145-152.
18. Chua KP KB, Waljee JF, Brummett CM, Nalliah RP. Dental opioid prescriptions and overdose risk in patients and their families. *American Journal of Preventive Medicine.* 2021;61(2):165-173.
19. Jones CM DR, Koes BW, Latimer J, Maher CG, McLachlan AJ, Billot L, Shan S, Lin CW, McLachlan H, Webb M. Opioid analgesia for acute low back pain and neck pain (the OPAL trial): A randomized placebo-controlled trial. *Lancet.* 2023.
20. Finney FT GT, Hu HM, Waljee JF, Brummett CM, Walton DM, Talusan PG, Holmes JR. Rate of opioid prescriptions for patients with acute ankle sprain. *Annals of Internal Medicine.* 2019;171(6):441-443.