THE WAKE COUNTY DRUG OVERDOSE PREVENTION AND TOBACCO USE INITIATIVE: ANNUAL REPORT

JANUARY 1- DECEMBER 31, 2018

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I. EXECUTIVE SUMMARY

This annual report provides an evaluation of the first year of the Wake County Drug Overdose Prevention and Tobacco Use Initiative (Initiative). The Initiative was formed in response to the growing problem of drug overdoses and tobacco use in Wake County, with the overarching goal of engaging individuals with substance use disorders in the recovery process by expanding access to prevention, treatment, and recovery support services over a three-year period (July 1, 2017-June 30, 2020). The purpose of this evaluation is to gain insight into how effectively the Initiative's goals and corresponding objectives were met from January 1-December 31, 2018[1] (year one).

The evaluation methodology, based on an established framework by the Centers for Disease Control and Prevention (CDC), assesses implementation and initial program outputs for year one. In addition to the evaluative analysis, this report provides relevant background, outlines goals, describes programmatic structures and activities, and assesses the client demographics as compared to the target population. The quantitative data collected during year one will serve as baseline data against which progress for the objectives in 2019 and 2020 will be measured.

Results show a crucial early success of the Initiative. Data from December 31, 2018:

- 717 Advance Practice Paramedic (APP) Encounters for Substance Use
- **338 clients linked to Certified Peer Support Specialists**
- 196 clients referred from Certified Peer Support Specialists to resources
- 260 clients contacted in field-based settings by the Injury and Drug Prevention Community Nurse

A vignette tells the story of one client, who was able to turn her life around as a direct result of these efforts. This report lists other noteworthy successes as well as significant challenges encountered. Each challenge merited a response on the part of Initiative staff, so the report details those responses.

One of the key preliminary conclusions is the Initiative, to date, has been beneficial to the citizens of Wake County. As of December 31, 2018:

Significant progress was made in the inaugural year, but more data (to be collected during years two and three of the Initiative) will validate this claim. This report concludes with a series of five recommendations including:

1. Sustained sources of funding
2. Improvement in referral processes and coordination
3. Additional support for staff and family and friends of clients
4. Better awareness of available resources and services
5. Improvement in information management

[1] Calendar year 2018 was the first full year for which there was enough data to produce an annual report.

It is the hope of the data evaluation team that the report will be shared with stakeholders, policymakers and the community, serving as a useful tool in Wake County's response to the issues of drug overdoses and tobacco use.

A Story of Hope: One Young Man's Journey

J. is a 24-year old heroin user who has encountered numerous overdoses. In October 2018, he was referred to Ashley, one of the Certified Peer Support Specialists who follows up with individuals after a non-fatal Opioid overdose. At first, he was reluctant to engage with Ashley. A few months later, J.'s mother, Anne, found him unresponsive in her home and administered Naloxone saving his life. Seeing her frustration, anxiety, anger and fear, Ashley referred Anne to Healing Transitions' family program for mutual support.

Recognizing his need for help after the overdose, J. reached out to Ashley seeking medication assisted treatment (MAT), which reduces drug cravings, through a treatment facility. Not only does J. battle with severe addiction, anxiety and depression, he also has Leukemia. Fortunately, his Leukemia diagnosis qualified him for Medicaid which allows him to afford MAT. Before connecting with treatment, J. overdosed in the middle of a store which employs a pharmacist who administered Naloxone.

Ashley received another desperate call from Anne a few weeks later as J. overdosed a third time in the month of January. Ashley tried to get him into medical detox, but no beds were available, so he was referred to another program for detox. Ashley communicated with J. regularly during his week-long stay in the program and arranged for him to stay in an Oxford House after his release.

J. followed through with the treatment provider while receiving MAT and attended treatment in February and March of 2019. He then began seeing a more convenient private doctor due to transportation difficulties since he has no car or license. He continues to attend outpatient treatment and is in compliance with probation requirements. J. moved out of the Oxford House and lives with his dad with the understanding that J. continue MAT and treatment.

J. reports that he has not used Opioids since his last overdose on January 28th, 2019. J. is the father of a three-year-old girl and maintains supervised visitation with her often and he works with his father installing carpeting. J. is trying to rebuild the trust that was lost with his parents. His goal is to obtain a reliable vehicle and his driver's license later this year. J. has made a remarkable turn-around in his life and has hope for the future.

II. PROGRAM DESCRIPTION

Background and Stakeholder Engagement

From 2010 to 2014, injury surveillance data showed an alarming increase in heroin overdose deaths in Wake County[2]. In late 2015, Wake County Human Services (WCHS) and the Wake County Sheriff's Office (WCSO) jointly convened the Wake County Drug Overdose Prevention Coalition (Coalition) in response to the opioid overdose problem. Members of this coalition include: people with lived experience with substance use disorders, community leaders, providers of recovery services, harm reduction specialists, law enforcement officers, emergency medical services (EMS) personnel, and public and behavioral health professionals. This Coalition was the cornerstone for the County's strategic thinking and long-range planning that took place in 2016 and 2017 to address the opioid epidemic. Its work contributed to a three-year, $950,000 allocation of ABC funds from the Wake County Board of Commissioners to create the Initiative. The Coalition's members and other stakeholders have been continuously engaged in the development of the Initiative as well as its evaluation.

Goals

The goals of this Initiative are to:

1. Create a coordinated infrastructure in Wake County for access to prevention, treatment and recovery support services for drug and tobacco misuse
2. Increase availability for peer support recovery training
3. Expand access to prevention, treatment and recovery support services for those with substance use disorders
4. Increase community awareness on the prevention of substance misuse and tobacco use
5. Make Naloxone widely available

Specific objectives were developed for each goal and are listed in Appendix 1.

Key Activities

To accomplish the Initiative's goals, a multi-agency and interdisciplinary approach was designed that leverages resources found in the larger Wake County community. Figure 1 illustrates the programmatic components of the Initiative. At the center lies overall coordination and program management for the Initiative; the staff member responsible is the Injury and Drug Prevention Consultant. The four quadrants represent the areas where the key capacity-building, prevention and treatment activities occur.

Peer support recovery-focused curriculum development and training is intended to increase the number of Peer Support Specialists (CPSS) in the community. CPSS are people living in recovery with mental illness and/or substance use disorders and who provide support to others who can benefit from the CPSS's lived experiences. The Rapid Response Project is a team of CPSS working

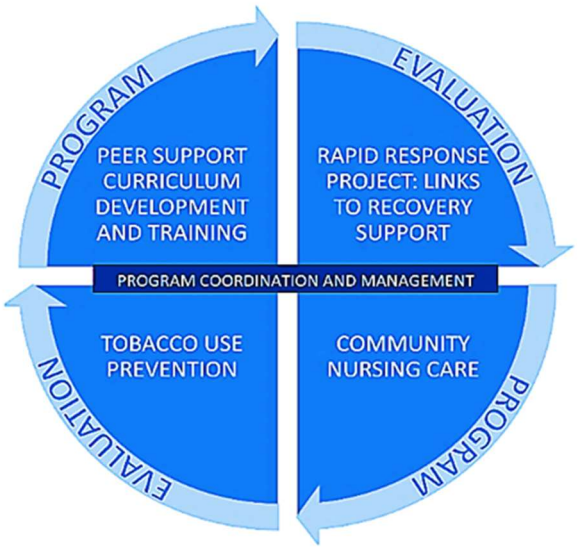
[2] Unintentional Heroin Poisoning Deaths by County, 2008-2017, found at https://www.injuryfreenc.ncdhhs.gov/DataSurveillance/Poisoning.htm, 3/19/19.

with Advance Practice Paramedics from Wake County Emergency Medical Services (EMS). This team links individuals to recovery support services.[3]

The Injury and Drug Prevention Community Nurse (IDPCN) provides case management to include nursing assessments and referrals for: wound care, pregnancy care, homelessness, food insecurity, access to Medication Assisted Treatment (MAT), and sexually transmitted disease (STD) testing and evaluation. The IDPCN also provides services such as group education on the prevention of adverse health outcomes, pregnancy testing, immunizations to at risk populations, and assisting with outbreak responses as necessary. Tobacco Use Prevention and Support provides smoking cessation help and youth education on tobacco prevention and misuse of other substances.

Naloxone has become more widely available to the community through the Rapid Response Team and EMS. These efforts include distribution directly to vulnerable and high-risk individuals and their family members. Plans are underway to increase community access to Naloxone through other means, such as through IDPCN activities. Program Evaluation touches and cycles through all areas to ensure adherence to program goals and objectives while supporting continuous quality improvement throughout the project. For details on each area's key activities, see Appendix 2.

FIGURE 1



[3] See https://www.samhsa.gov/sites/default/files/partnersforrecovery/docs/ROSCs_principles_elements_handout.pdf (accessed 3/19/19) for further discussion on the principles of recovery and recovery support. *Recovery* from substance use disorders is a process of change through which an individual achieves abstinence and improved health, wellness and quality of life. *Recovery support* entails person-centered and self-directed approaches to care that build on the strengths and resilience of individuals, families, and communities to take responsibility for their sustained health, wellness and recovery from substance use disorders.

Target Population

The target population for this Initiative is persons with substance use disorders, or persons at risk for misuse of substances and tobacco use, engaged by any of the activities described in Figure 1. The most recent data for unintentional opioid-related deaths in Wake County (Appendix 6) show that the highest number of deaths occur in white men between the ages of 25-44. An analysis of the first year of client data from the Rapid Response Team shows that 70% of clients were white, 57% were male and 61% were ages 25-44[4]. The project's demographic breakdown suggests that the most at-risk population is receiving the services.

III. EVALUATION DESIGN AND METHODOLOGY

Evaluation Design

This evaluation is based on the CDC framework and approach to evaluation described at https://www.cdc.gov/eval/framework/index.htm. It measures progress in accomplishing the diverse and numerous objectives of the Initiative (Appendix 1), using the metrics for the implementation and client-focused goals in Appendices 3 and 4. The following questions are asked:

Goal 1: Create a coordinated infrastructure in Wake County for access to prevention, treatment and recovery support services for drug and tobacco misuse

1. Was a full time Injury and Drug Prevention Consultant to provide project management for the Initiative and the Coalition hired?
2. Was a Program Evaluator hired?
3. Was an Injury and Drug Prevention Community Nurse (IDPCN) hired?
4. Is there a contract in force with an agency for development of a Peer Support Recovery Focused Curriculum?
5. Has Recovery Communities of North Carolina's (RCNC) used the existing Recovery Coach Academy to train individuals?
6. Is there a contract in force between Wake County Human Services and Healing Transitions, to develop a rapid response team with Wake EMS to link persons with substance use disorders to recovery support services?
7. Has a rapid response team to link persons with substance use disorders to recovery support services been established and activated?
8. Is there a contract in force with an agency for development of a program to train youth ambassadors in tobacco prevention?
9. Is there a contract in force with Quitline NC to provide smoking cessation services to eligible callers in Wake County?

Goal 2: Increase availability for peer support recovery training

10. Has a credentialed Peer Support Recovery Focused Curriculum been developed?

[4] Data comes from Healing Transitions FIVE CRM database, 3/5/19.

11. Have at least four individuals been identified, registered, and trained to provide CPSS training?
12. Have individuals been trained using the newly developed and credentialed training for Certified Peer Support Specialists?

Goal 3: Expand access to prevention, treatment and recovery support services for those with substance use disorders

Goal 3 objectives cannot be fully evaluated until the end of 2019 and 2020. The 2018 data collected from Healing Transitions, EMS and the IDPCN will be used as baseline data for comparison to the data collected in 2019 and 2020. Further, the metrics for the IDPCN encounters changed as the role evolved to largely focus on care-coordination and case management in Q4; therefore, there is not consistent data for these metrics in 2018.

Goal 4: Increase Community Awareness on the Prevention of Substance Misuse and Tobacco Use

Goal 4 objectives cannot be evaluated yet, because the contractual activities for tobacco use prevention and cessation as well as substance use education had not started during 2018.

Goal 5: Make Naloxone Widely Available in Wake County

Goal 5 objectives cannot be fully evaluated until the end of 2019 and 2020 because the processes for distributing Naloxone by the IDPCN were not in place during 2018. The number of kits distributed by EMS will be used as baseline data for comparison to the data collected in 2019 and 2020.

Data Collection Methods

The development of the metrics to measure the program objectives engaged Subject Matter Experts (SMEs) from the various program areas and the evaluation team (Appendix 5). Data for these metrics were collected by the program evaluator and entered into an excel database. Data sources include the Wake EMS system, Healing Transitions FIVE CRM software, the Wake County Injury and Drug Prevention Community Nurse database and Quitline NC. During 2018, three progress reports were produced to track program progress and to refine data collection and metrics. In addition, information about the program's successes and challenges was gathered by feedback at internal team meetings, the Coalition, and a Survey Monkey questionnaire administered to stakeholders at the end of 2018.

IV. RESULTS (Program Outputs)

This section of the annual report details progress made toward each of the Initiative's five goals. More information and data can be found in the appendices.

TABLE 1 **Evaluation Results for Wake County Drug Overdose Prevention and Tobacco Use Initiative** **Goal 1: Create a coordinated infrastructure in Wake County for access to prevention, treatment and recovery support services for drug and tobacco misuse**	
Evaluation Question	**Result**
1. Was a full time Injury and Drug Prevention Consultant to provide project management for the Initiative and the Coalition hired?	Completed January 2018
2. Was a Program Evaluator hired?	Completed January 2018
3. Was an Injury and Drug Prevention Community Nurse hired?	Completed February 2018
4. Is there a contract in force with an agency for development of a Peer Support Recovery Focused Curriculum?	Completed January 2018
5. Has Recovery Communities of North Carolina (RCNC) used the existing Recovery Coach Academy to train individuals?	Completed October 2018
6. Is there a contract in force between Wake County Human Services and Healing Transitions to develop a rapid response team with Wake Emergency Medical Services, to link persons with substance use disorders to recovery support services?	Completed November 2017
7. Has a rapid response team to link persons with substance use disorders to recovery support services been established and activated?	Completed April 2018
8. Is there a contract in force with an agency for development of a program to train youth ambassadors in tobacco prevention?	Contract with Poe Center for Health Education completed October 2018
9. Is there a contract in force with Quitline NC to provide smoking cessation services to eligible callers in Wake County?	Completed October 2018

TABLE 2 Evaluation Results for Wake County Drug Overdose Prevention and Tobacco Use Initiative: Goal 2: Increase availability for peer support recovery training	
Evaluation Question	**Result**
1. Has a credentialed Peer Support Recovery Focused Curriculum been developed?	This objective had not been fully met by end of 2018. The curriculum has been submitted to UNC and waiting for approval.
2. Have at least 4 individuals been identified, registered, and trained to provide CPSS training?	Completed April 2018, when four individuals were identified, registered, and trained to provide CPSS training.
3. Have individuals been trained using the newly developed and credentialed training for Certified Peer Support Specialists?	Not completed in 2018 but in October 2018, RCNC's existing Recovery Coach Academy was used to train 32 individuals in the Peer Support Recovery Focused Curriculum

Goal 3: Expand access to prevention, treatment and recovery support services for those with substance use disorders

Summary of client encounters[5] and referrals as of 12/31/18 (for details see Appendix 4: Client-Focused Goals):

- 717 Advance Practice Paramedic (APP) Encounters for Substance Use
- **338 clients linked to Certified Peer Support Specialists**
- 196 clients referred from Certified Peer Support Specialists to resources
- 260 clients contacted in field-based settings by the Injury and Drug Prevention Community Nurse

Goal 4: Increase Community Awareness on the Prevention of Substance Misuse and Tobacco Use

- Data is not available, contractual activities were not started in 2018

Goal 5: Make Naloxone widely available in Wake County

- As of 12/31/18, 302 Naloxone kits distributed by EMS (Appendix 4)

[5] Numbers for clients linked to CPSS, referred from CPSS and contacted by IDPCN are unduplicated. Numbers for APP encounters are potentially duplicated, which points to the issue of people who have repeat drug overdoses in Wake County.

A Testimonial: One Young Mother's Story

At the January 29, 2019 Wake County Drug Overdose Prevention Coalition meeting, one young woman who had been connected to the Rapid Response Team gave the following testimonial (which has been slightly edited for clarity and brevity):

The first time that I met Gina [CPSS] she dropped what she was doing, and this was like dinner time, so it was not regular work hours. She drove out to HT [Healing Transitions] and she spoke with a pregnant girl. This girl felt alone, she felt scared, she was sick, she was terrified of being pregnant for the first time. [Gina] was concerned with the health of the mother and the unborn baby, but she disarmed this girl. The first-time mother-to-be, related to her immediately.

After a ton of talking to and begging the girl to go to the hospital, the girl finally gave in very reluctantly. This was the beginning of this pregnant girl opening up and trusting someone else. Gina took her to the hospital and made sure that she was checked in and taken care of, she called her daily to check in with her and whenever she was discharged she had already taken care of her long-term outpatient rehab treatment. Basically, she got me set up at Southlight. She also made sure that the baby was ready and taken care of for all of her prenatal care at the OB High Risk clinic at WakeMed.

So, Gina I thank you every day, because you were so nonjudgmental to me. You were loving to a complete stranger you didn't know. Obviously, that stranger was me. Gina was the first person I've trusted in a long time. In the next few months Gina was a major support system for me, she gave me rides, she encouraged me, she helped me. She got me into a much better living situation, going from living months in a homeless shelter to getting me into an Oxford House and planning long-term for me and my baby and living situations.

Fast forward to 10 months later, and because of how Gina impacted my life, I have a healthy baby girl that was born with no withdrawals. A wonderful family relationship, a great boyfriend and father of my baby girl. We have our own apartment and we're able to pay our own bills and provide for our child. I'm now currently working part-time have continued my outpatient treatment and I've been living a clean and sober lifestyle and it all began with Gina being such a positive role model to me. Thank you so much for giving her [Gina] the tools and the resources to make a difference.

V. SUCCESSES AND CHALLENGES

The Initiative had many noteworthy successes in its first year as well as some challenges relative to the following aspects of the program:

- Implementation and infrastructure
- Collaboration and coordination among agencies and partners
- Training and education
- Engagement of individuals and assistance in their recovery process
- Evaluation

Successes

Staffing was a critical part of program's implementation and infrastructure. The hiring of the Injury and Drug Prevention Consultant in January 2018 allowed for coordination and management of the Initiative to begin. The Rapid Response Team Coordinator and two Certified Peer Support Specialists (CPSS), working alongside Advance Practice Paramedics (APPs) from Wake EMS, established the Rapid Response Team that linked clients to CPSS. For most of 2018, the two CPSS performed remarkably in developing relationships with EMS, other initiative team members, clients and their families. (They were joined by a third CPSS on the team in September 2018.) The hiring of an Injury and Drug Prevention Community Nurse (IDPCN) provided community nursing care that had previously been unavailable, especially for high risk and underserved pregnant women. This led to development of referral pathways to: WakeMed's high-risk OB/GYN clinic, WCHS's family planning services, MAT providers, primary care and syringe exchange services. An independent evaluator from the community, with experience and insights into the issues surrounding substance use disorders, was hired to provide evaluation and data management for the Initiative. In addition, the evaluator, the Wake County Human Services Epidemiologist and Data Analyst formed a team allowing for more effective data management and evaluation. Another administrative success was aligning Wake County's drug treatment court under the WCHS's Division of Public Health.

The establishment of this program resulted in successful collaboration and coordination with numerous partners and agencies to accomplish the diverse objectives and activities of this program (Appendices 1 and 2). Key partners included (but were not limited to): Healing Transitions, Wake County EMS, Recovery Communities of North Carolina, North Carolina Harm Reduction Coalition, Poe Center for Health Education, NC Public Health Foundation, QuitlineNC, Wake County Human Services (Public Health and Child Protective Services) and members of the Wake County Drug Overdose Prevention Coalition.

Training and education of both staff and the community was crucial in the implementation of this program. In early 2018, the two new CPSS completed Recovery Coach Academy training, and the Injury and Drug Prevention Community Nurse completed training in would care and case management. During activation of the Rapid Response Team in April 2018, training for the CPSS with the Advanced Practice Paramedics was accomplished. Providing training to increase the number of CPSS is critical to engage people with substance use disorders, as well as their families. A Peer Support Recovery Focused Curriculum was submitted to and reviewed by the UNC School of

Social Work for credentialing. While waiting for completion of this review process, in October 2018 RCNC trained 32 individuals using their existing Recovery Coach Academy training. This Initiative also focuses on tobacco prevention, and a contract between WCHS and Poe Center for Health Education to train youth ambassadors in tobacco use prevention and substance misuse was initiated in October 2018. In addition, numerous internal and external program staff were educated through presentations on the Initiative. A billboard campaign highlighting increased naloxone access targeted the entire Wake County community.

The Initiative's coordinated approach provided case management and monthly in-depth individual case studies. Insights shared by team members from diverse perspectives (IDPCN, Hepatitis C Bridge Counselors, Love Wins homeless outreach and Harm Reduction Coalition, for example) facilitated comprehensive client care and strategies for complex cases.

Evaluation is critical to the success of any program and was incorporated from the outset of the Initiative. The evaluation team not only produced this evaluation but provided essential information for informed decision making. Activities included the collection, analysis, interpretation and communication of data to Initiative stakeholders and Wake County leadership via quarterly progress reports.

Challenges

While there were many successes, there were also challenges for this new community-focused project. Though program funding technically began in July 2017, hiring process and approval delays prevented getting key staff in place at WCHS until January/February 2018. Challenges in getting the Rapid Response Team operational included ensuring the appropriate staff were in place and ensuring funding for the Rapid Response Team Administrator's position. Rapid Response Team activities did not start until April 2018.

Working with multiple, diverse agencies presents challenges in understanding each other's purpose and roles, especially with the newly created positions of the Initiative. Defining the IDPCN's role was complicated, since the role's components were diverse and changed as the project evolved. Getting the nurse established in the community was slowed by the length of time it took to develop policies and protocols and building trust with clients.

Training programs for peer support and tobacco prevention could not be implemented during 2018 for several reasons. Procedural and approval processes delayed the developing and advertising of request for proposals (RFPs) to: a) recruit agencies to provide training and b) execute contracts with the chosen vendor. Additionally, the Peer Support Recovery Focused Curriculum submission was delayed due to changes with the certification agency's process and timeline, which in turn impeded the Initiative's goals of increasing the number of CPSS in Wake County.

Structuring the data evaluation plan was a complex undertaking, given the diversity of activities across all service components (i.e. EMS, Public Health, Clinics, and Healing Transition). Working with the various program areas to develop, then choose, which data metrics to measure the objectives took time. There were also delays in the execution of data use agreements. In addition, CPSS staff faced the dual challenges of acquiring sensitive information from very vulnerable people,

then documenting that information into a database they had to learn (FIVE CRM). Over time, the CPSS became more effective and efficient at both tasks.

Perhaps the most challenging goal of this Initiative is to engage and maintain individuals with substance use disorders in the recovery process. Building trusting relationships between staff and clients takes time to develop; this is also true for new staff working together for the first time. Finally, there were significant challenges in identifying resources for clients. There are significant deficits in CPSS staff capacity, medical services for uninsured clients, detox beds, longer-term treatment options, and funding for MAT, naloxone kits, housing, and transportation.

Response to Challenges

Given that programmatic activities did not begin in earnest until halfway through FY 2018, staff worked diligently once in their roles to begin serving clients. The Injury and Drug Prevention Consultant secured 10-month grant funding through NC DHHS to fund the salary of the Rapid Response Team Administrator from November 2018-August 2019. Once Wake EMS and CPSS began following up with clients to get them into recovery, they discovered that client demand significantly exceeded the capacity of two CPSS staff. The same grant that paid for the Rapid Response Team Administrator also paid the salary for a third CPSS.

The IDPCN worked closely with the Data Evaluator to accurately describe the nurse's community activities in 2018. The IDPCN's skill set allowed for an adept and skillful public health response to a Hepatitis A outbreak in late 2018; consequently, one of the nurse's most significant statistics was a high number of Hepatitis A immunizations administered in Q4 2018 (Appendix 4).

Since the Peer Support Recovery Focused Curriculum still has not been approved, Recovery Communities of North Carolina (RCNC) used its existing Recovery Coach Academy to train individuals as CPSS in October 2018. Once the 24 CPSS receive their official training through an approved curriculum, they will need standards established and additional role definition. Currently, there is a multi-disciplinary group working on developing standards and establishing a continuum of care.

Continual re-evaluation and adjustments to metrics was essential as the CPSS and IDPCN roles evolved during year one; therefore, the Data Evaluator spent a significant amount of time with staff to accurately document each client's care coordination process.

Providing enough resources for individuals who need recovery services entails a "larger-level" response that is discussed in the *Preliminary Conclusions/Recommendations* section of this report.

VI. PRELIMINARY CONCLUSIONS/RECOMMENDATIONS

This Initiative has been successful in launching a new and diverse program. Of the 12 objectives in Goals 1 and 2, nine (75%) were completed by end of 2018 (Appendix 3). However, at the completion of the Initiative's first year, negative outcomes from drug overdoses and tobacco use are still very much present in Wake County. Mortality from other synthetic opioid (including fentanyl) and cocaine overdoses has increased in a very short period. Overall, the other synthetic opioid death rate in Wake County increased 82.4% from 2012-16 to 2013-17 (Appendix 6). Cocaine deaths also rose 45.8% in Wake from 2012-16 to 2013-17 (Appendix 7). From 2012-16 to 2013-17, the death rate from other synthetic opioids (including fentanyl) increased significantly in the following demographic groups: men (95.6%), women (64.3%), non-Hispanic whites (82.6%), 15-24-year-olds (57.1%), 25-34-year-olds (97.4%), 35-44-year-olds (69.6%) and 45-54-year-olds (105.9%) (Appendix 6). While the most significant increases were seen in the demographic groups listed above, it must be noted that opioid and cocaine deaths increased among all races/ethnicities and age groups.

Trachea/bronchus/lung cancer was the leading cause of cancer-related deaths in Wake County during 2013-2017, with 1,421 deaths. Smoking is the chief risk factor for lung cancer mortality (as well as the leading cause of preventable death and disability) in the United States. Electronic cigarettes (e-cigarettes) are the most commonly used tobacco products by youth. In 2017, more than 2.9 million U.S. middle and high school students reported using e-cigarettes in the past 30 days. While cigarette smoking among youth is down in North Carolina, there was an 894% increase in use of e-cigarettes among youth from 2011 to 2017.[6]

The solution to this crisis is complex and requires a multifaceted societal approach with components outlined in the NC Opioid Action Plan[7]:

- Coordinating the state's infrastructure to tackle the opioid crisis
- Reducing the oversupply of prescription opioids
- Reducing the diversion of prescription drugs and the flow of illicit drugs
- Increasing community awareness and prevention
- Making naloxone widely available
- Expanding treatment and recovery systems of care

While the activities of Wake's initiative align with and address most of the state's goals, the state has focus areas that are beyond the current scope. This Initiative now needs to move beyond the implementation phase and focus on assessing and measuring the needs of our client population to achieve improvements in their health and well-being. Therefore, we recommend the following:

[6] See http://www.wakegov.com/humanservices/data/Documents/Chronic%20Disease%20Report%202018%2012.31.18.pdf, pages 7-9.

[7] See https://www.ncdhhs.gov/about/department-initiatives/opioid-epidemic/north-carolinas-opioid-action-plan.

1. Sustained sources of funding

Recovery is a long journey and takes time. To continue to engage clients in the initiation and maintenance of recovery and thereby expand the scope of this program, a secure source of funding is needed. It is recommended that research for funding sources begin as soon as possible in 2019. In addition, more funding is needed for support resources, especially for the underserved, such as Medication-Assisted Treatment (MAT), transportation to appointments, and naloxone kits for the uninsured.

2. Improvement in referral processes and coordination

Beyond the monthly Rapid Response Team meeting (a forum for in-depth case studies) improvement is needed in the referral pathways and coordination among partners and agencies where clients are referred (e.g. Love Wins, hospitals for wound care and high-risk pregnancies, clinics for treatment of STDs, Wake Brook for medical detox inpatient stays). Documentation and standardization of all referral pathways is strongly recommended. Identifying the areas that facilitate (or hinder) each of these pathways should be discussed at scheduled meetings with appropriate partners, so adjustments can be made accordingly.

3. Additional support for staff, family, and friends of clients, and the community

It is essential that this program provide support for self-care and the health and wellness of the CPSS, Bridge Counselors and other staff as needed. Daily supervision meetings where self-care and boundary setting are discussed is needed. External support monthly from someone outside of the system that they work in, mutual aid meetings that support the personal recovery, and Employee Assistance Programs are also helpful. It is recommended the Coalition identify funds for additional staff training, professional development and networking, and purchasing of work cell phones, rather than personal cell phones, for communication with their clients.

Staff need to become better educated on how to provide support to family members and friends of clients by knowing what support services are available and how to link to them. Development of a comprehensive compendium or quick guide of services (such as the availability of grief counseling and support groups for families of clients with substance use disorders) would be helpful.

Wake County needs a more sustained effort in order to become a tobacco-free community. The Wake County Human Services Board's Public Health Committee issued a charge to encourage more comprehensive tobacco-free policies and regulations in Wake County's municipalities. In response to the vaping epidemic affecting youth, WCHS is assisting with a *Tobacco-Free Community Forum* in May 2019.

4. Better awareness of available resources for treatment and other services for clients

Reaching out to clients through this program has underscored the need for more resources such as: medical services for uninsured, detox bed availability and longer-term treatment options, funding for medication-assisted treatment (MAT) and naloxone kits, housing, and transportation. Staff may not be fully aware of what resources are currently available to Wake residents. Researching and

utilizing resource directories such as Wake Network of Care (http://wake.nc.networkofcare.org/mh/) and other repositories to determine the availability of resources is recommended.

5. Information management improvement

The current data management process involves collecting and reporting data to measure program outputs (Appendices 3 and 4) for the implementation phase of this Initiative. However, data that help answer questions about client outcomes along the continuum of recovery, and barriers to achieving positive health and quality of life outcomes (i.e. addressing social determinants of health), need to be analyzed and reported. In addition, determining how these indicators will be used to track biological, psychological, and social factors has not been established.

The Healing Transitions FIVE CRM Client Relationship Database has been upgraded to capture data that include (but are not limited to): multiple overdose events, compliance with referrals for recovery services, follow through with plan of care, completion of treatment, no healthcare insurance, medication-assisted treatment needs, lack of housing, food insecurity, transportation problems, unemployment, income instability and social support. The presence of complicating chronic or infectious diseases needs to be added. However, the FIVE CRM database does not capture all the data about clients served through this program. A better data repository and information management system is needed to capture and analyze date information from multiple data sources.

Therefore, it is recommended establishing a data analytics team[8] that will:

a) convene a group of interdisciplinary stakeholders from partner agencies to design a data model that establishes a uniform process for collecting, analyzing, translating and reporting results on indicators of health and quality of life outcomes for our clients;

b) explore the use of health information technology for better integration of data sources. Options might include accessing the statewide NC HealthConnex (formerly the North Carolina Health Information Exchange), utilization of patient records in the Wake County GE Centricity electronic medical records (EMR) and Practice Management System, Healing Transition's FIVE CRM software and access to our clients' hospital records.

VII. ENSURE USE and SHARE CONCLUSIONS

Preliminary results of this evaluation were shared with the Coalition members at the January 2019 quarterly meeting, to allow them to provide additional input into this evaluation. This report will be shared with the Wake County Leadership, the Wake County Drug Overdose Prevention Coalition and other stakeholders by request.

[8] The recommended data analytics team is separate from the staff who currently work as the Initiative's data evaluation team.

APPENDICES

Appendix 1: Goals and Objectives for the Initiative

APPENDIX 1: GOALS AND OBJECTIVES FOR THE INITIATIVE	
GOAL 1	**CREATE A COORDINATED INFRASTRUCTURE IN WAKE COUNTY FOR ACCESS TO PREVENTION/TREATMENT/RECOVERY SUPPORT SERVICES for DRUG MISUSE AND TOBACCO USE**
Objective	
1.1a	By end of 2018, hire a full time Injury and Drug Prevention Consultant to provide project management for the Initiative and the Coalition.
1.1b	By end of 2018, hire a Program Evaluator.
1.1c	By end of 2018, hire a full time IDPCN*.
1.2a	By end of 2018, contract with an agency for development of a Peer Support Recovery Focused Curriculum.
1.2b	By end of 2018, use Recovery Communities of North Carolina's (RCNC) existing Recovery Coach Academy as the Peer Support Recovery Focused Curriculum.
1.3	By end of 2018, contract with an agency for development of a team with Wake Emergency Medical Services to link persons with substance use disorders to recovery support services.
1.4	By end of 2018, contract with a youth-serving agency to train youth ambassadors in substance use and tobacco prevention.
1.5	By end of FY 2018, contract with Quitline NC to provide smoking cessation services to eligible callers in Wake County.
GOAL 2	**INCREASE AVAILABILITY FOR PEER SUPPORT RECOVERY TRAINING**
Objective	
2.1	By end of 2018, complete and have credentialed a Peer Support Recovery Focused Curriculum.
2.2	By end of 2018, identify, train, and register at least 4 individuals to provide Certified Peer Support Specialist (CPSS) training.
2.3	By end of 2019, train 24 individuals using a recovery focused curriculum.
2.4	By end of 2020, train a minimum of 20 youth as youth ambassadors to provide community education on substance use and tobacco prevention.

GOAL 3	EXPAND ACCESS TO PREVENTION, TREATMENT AND RECOVERY SUPPORT SERVICES FOR THOSE WITH SUBSTANCE USE DISORDERS
Objective	
3.1	By end of 2020, determine if the number of EMS opioid-related encounters has decreased.
3.2	By end of 2020, increase the number of clients with substance use disorders linked to CPSS.
3.3	By end of 2020, increase the number of clients linked to recovery support services.
3.4a	By end of 2020, increase the number of SUD** clients contacted in field-based settings, via both traditional and alternative (field outreach and texting) modalities.
3.4b	By end of 2020, increase the number of SUD** clients attending group-based educational sessions.
3.4c	By end of 2020, increase the number of group-based educational sessions.
3.4d	By end of 2020, increase the number of SUD** clients attending one-on-one educational sessions.
3.5	By end of 2020, increase the number of clients referred for Needle Exchange Program (NEP) services by the IDPCN*.
3.6	By end of 2020, increase the number of clients receiving wound care (related to needle injections).
3.7	By end of 2020, increase number of clients receiving Hepatitis A and B immunizations from the IDPCN*.
3.8	By end of 2020, increase number of clients referred by IDPCN* for testing/follow-up for HIV, Hepatitis C, Syphilis, Gonorrhea and Chlamydia.
3.9	By end of 2020, increase the number of women of child-bearing age referred by IDPCN* for pregnancy care and women's health services.
3.10	By end of 2020, increase number of clients referred to food resources by the IDPCN*.
3.11	By end of 2020, increase number of clients referred to primary care by the IDPCN*.
GOAL 4	**INCREASE COMMUNITY AWARENESS ON THE PREVENTION OF SUBSTANCE MISUSE AND TOBACCO USE**
Objective	
4.1	By end of 2020, increase the number of registered callers to Quitline NC.
4.2	By end of 2020, increase the number of those registered callers served through public/private partnership with Quitline NC.
4.3	By end of 2020, trained youth ambassadors will educate a minimum of 15 community groups (five per fiscal year) on substance use and tobacco prevention.
GOAL 5	**MAKE NALOXONE WIDELY AVAILABLE**
Objective	
5.1	By end of 2020, increase the number of clients given Narcan kits by the WCHS IDPCN.
5.2	By end of 2020, increase the number of Narcan kits distributed by Wake EMS.

* Injury and Drug Prevention Community Nurse

** Substance Use Disorder

Appendix 2: Activities by Program Area

APPENDIX 2: ACTIVITIES BY PROGRAM AREA			
PROGRAM AREA	**STAFF RESPONSIBLE/AGENCY**	**KEY ACTIVITIES**	**KEY PARTNERSHIP(S)**
Coordination and Management	Injury and Drug Prevention Consultant (WCHS)	• Management of the implementation and coordination of the Wake County Drug Overdose Prevention and Tobacco Use Initiative • Facilitation of the Wake County Drug Overdose Prevention Coalition • Oversight for contractual agreements with Initiative partners	Initiative staff from WCHS, Healing Transitions, Recovery Communities of North Carolina (RCNC), NC Harm Reduction Coalition and Wake EMS, Tobacco prevention partners
Training	Executive Director (RCNC)	• Development of a Peer Support Recovery Focused Curriculum • Identifying/training/registering with UNC Behavioral Healthcare Resource Program at least 4 individuals to provide the curriculum • Providing training to a minimum of 24 individuals within 3 years	UNC Behavioral Healthcare Resource Program (BHRP)
Rapid Response System—Link to Recovery Support (see Appendix 4)	Recovery Engagement Coordinator, Certified Peer Support Specialists (CPSS) (HT) Advance Practice Paramedics (APPs) (Wake EMS)	• Peer navigator assistance to individuals who come to the attention of law enforcement, EMS, the NC Harm Reduction Syringe Exchange Program and the WCHS health clinics due to their opioid use and its consequences • Linkage to recovery support resources	Initiative staff from WCHS, Healing Transitions, RCNC, NC Harm Reduction Coalition and Wake EMS
Community Nursing Care	Injury and Drug Prevention Community Nurse (WCHS)	• Nursing assessments and referral process for linkages to behavioral health and wrap around services • Wound treatment	Healing Transitions, NC Harm Reduction Coalition, WCHS staff

		• Coordination of resources for naloxone distribution	
Tobacco Use Prevention	Smoking Cessation and Nicotine Replacement Therapy (NRT) Counselors (Quit line Staff)	• Providing counseling and Nicotine Replacement Therapy (NRT) for registered/eligible QuitlineNC callers	Region 7 Tobacco Prevention Control Manager (based at WCHS) with NC Public Health Foundation and QuitlineNC
	Poe Center for Health Education	• Training a minimum of 20 Wake County youth on substance use and tobacco use prevention	Initiative staff from WCHS, Tobacco Contracted Partners
Program Evaluation	Program Evaluator (Contract)	• Develops a written evaluation plan for each component of the Initiative • Provides monitoring of program objectives with quarterly reports, annual written summary reports and a project final report	Initiative staff from WCHS, Healing Transitions, RCNC, NC Harm Reduction Coalition and Wake EMS

Appendix 3: Implementation Goals

APPENDIX 3: IMPLEMENTATION GOALS (1) CREATE A COORDINATED INFRASTRUCTURE FOR DRUG MISUSE AND TOBACCO USE PREVENTION/TREATMENT/RECOVERY SUPPORT SERVICES (2) INCREASE AVAILABILITY FOR PEER SUPPORT RECOVERY TRAINING			
AGENCY/STAFF RESPONSIBLE	**OBJECTIVE**	**METRIC**	**STATUS**
WCHS Health Promotion Section Program Manager	1.1a	Hire a full time Injury and Drug Prevention Consultant to provide project management for the Initiative and the Coalition.	Completed January 2018
WCHS Epidemiologist	1.1b	By end of FY 2018, hire a Program Evaluator.	Completed January 2018
WCHS HIV/STD Outreach Program Manager	1.1c	By end of FY 2018, hire a full time Injury and Drug Prevention Community Nurse.	Completed February 2018
WCHS Injury and Drug Prevention Consultant and Recovery Communities of North Carolina (RCNC)	1.2a	Contract with an agency for development of a Peer Support Recovery Focused Curriculum.	Completed January 2018
WCHS Injury and Drug Prevention Consultant, RCNC	1.2b	Use RCNC's existing Recovery Coach Academy as the Peer Support Recovery Focused Curriculum in Fall 2018.	Completed October 2018 (32 trained)
WCHS Injury and Drug Prevention Coordinator, Rapid Response Team (HT and Wake EMS)	1.3	Contract with an agency for development of a team with Wake Emergency Medical Services to link persons with substance use disorders to recovery support services.	Completed November 2017
WCHS Injury and Drug Prevention Consultant	1.4	Contract with a youth-serving agency (Poe Center for Health Education) to train youth ambassadors in tobacco use prevention.	Completed October 2018
WCHS Injury and Drug Prevention Consultant	1.5	Contract with a Quitline NC to provide smoking cessation services to eligible callers in Wake County.	Completed October 2018
RCNC	2.1	Complete and have credentialed a Peer Support Recovery Focused Curriculum by Spring 2019	In progress
RCNC	2.2	At least 4 individuals identified/trained/registered to provide CPSS training	Completed April 2018
RCNC	2.3	Minimum of 24 individuals trained in a recovery focused credentialed curriculum	Not Started
Poe Center for Health Education	2.4	Minimum of 20 youth trained as youth ambassadors to provide community education on substance use and tobacco prevention	Not started

Appendix 4: Client-Focused Goals

APPENDIX 4: CLIENT-FOCUSED GOALS (3) EXPAND ACCESS TO TREATMENT AND RECOVERY (4) PREVENT SUBSTANCE USE/TOBACCO USE (5) MAKE NALOXONE MORE WIDELY AVAILABLE						
OBJ	**METRIC**	**CY 2018**				**TOTAL**
		Q1	**Q2**	**Q3**	**Q4**	
	EMS METRICS					
3.1	Advance Practice Paramedic (APP) Encounters for Substance Use	144	157	238	178	**717**
3.1	Opiate Overdose (OD) Receiving Narcan	96	110	120	110	**436**
3.1	Opiate OD No Narcan	47	25	28	26	**126**
3.1	Narcan Administrations by EMS with APP/Healing Transitions Follow-up	0	58	118	59	**235**
3.1	Opiate OD with Narcan but no EMS transport	39	52	73	54	**218**
	HEALING TRANSITIONS METRICS					
	Healing Transitions Incoming Referrals by Source					
3.2	Healing Transitions (HT)	1	32	8	2	**43**
3.2	Wake EMS	1	67	116	93	**277**
3.2	Family or Friend and Community	0	5	3	7	**15**
3.2	Individual Self-Referral	0	0	0	0	**0**
3.2	NC Harm Reduction Coalition	1	1	0	1	**3**
3.2	WCHS Injury and Drug Prevention Community Nurse (IDPCN)	0	0	0	0	**0**
3.2	WCHS Child Welfare	0	0	0	0	**0**
	TOTAL LINKED TO CPSS	**3**	**105**	**127**	**103**	**338**
	Healing Transitions referrals to community partners					
3.3	Primary Care	2	1	0	1	**4**
3.3	Mutual-aid support groups	1	3	2	8	**14**
3.3	Residential Living	1	1	2	2	**6**
3.3	Suboxone Only Medication Assisted Treatment	1	2	2	18	**23**
3.3	NC Harm Reduction Coalition	0	17	15	7	**39**
3.3	WCHS IDPCN	0	0	2	2	**4**
3.3	Formal Substance Use Disorder (SUD) Treatment	14	46	26	20	**106**
	TOTAL REFERRED BY CPSS	**19**	**70**	**49**	**58**	**196**
	WCHS Injury and Drug Prevention Community Nurse (IDPCN) METRICS[9]					
3.4a	Total Clients Contacted in Field-Based Settings	NA	NA	NA	260	**260**
3.4b	Total Clients Attending Group Educational Sessions	NA	NA	NA	257	**257**
3.4c	Total Group Educational Sessions Conducted	NA	NA	NA	8	**8**
3.4d	Total One-on-One Educational Sessions Conducted	NA	NA	NA	20	**20**
3.5	Referred for Needle Exchange Services	0	2	2	5	**9**
3.6	Received Wound Care	0	0	2	6	**8**
3.7	Received Hepatitis A/B Immunizations	0	0	0	139	**139**

[9] Metrics for the IDPCN encounters changed as the role evolved to largely focus on care-coordination and case management in Q4; therefore, there is not consistent data for these metrics in 2018.

3.8	Referred for STD Testing/Follow-Up (HIV, Syphilis, Gonorrhea., Chlamydia and Hepatitis C)	0	0	0	11	**11**
3.9	Women of Child-Bearing Age Screened for Pregnancy	0	0	0	4	**4**
3.9	Positive for Pregnancy	0	1	2	1	**4**
3.9	Referred to pregnancy care and other Women's Health Services	0	1	2	15	**18**
3.10	Referred to food resources	0	0	1	1	**2**
3.11	Referred to primary care (Medical, Dental, Vision)	0	0	4	32	**36**
	TOBACCO USE PREVENTION METRICS					
4.1	Number of Registered Callers	242	215	206	146	**809**
4.2	Callers Served by Public/Private Partnership	0	0	0	0	**0**
4.3	Number of Community Groups Educated by Trained Ambassadors	0	0	0	0	**0**
	NALOXONE DISTRIBUTION METRICS					
5.1	Naloxone kits distributed by Injury and Drug Prevention Nurse	0	0	0	0	**0**
5.2	Naloxone kits distributed by EMS	54	61	131	56	**302**
	TOTAL KITS DISTRIBUTED	**54**	**61**	**131**	**56**	**302**

Appendix 5: Process for Metric Development

Discussions with subject matter experts (SMEs) were crucial in the development of the metrics. Many Coalition members are leaders of their organizations as well as experts in their fields—rich sources of primary data—which was a huge advantage from the outset in answering this fundamental question: "What processes and outcomes do we need to measure, to determine if we are having an impact?" Additionally, the data evaluation team utilized its contacts at the NC Division of Public Health's Injury and Violence Prevention Branch to determine additional secondary data sources. Perhaps most importantly, the Data Evaluation Team spent ten months (July 2017-April 2018) convening staff members who conduct the everyday work to develop high quality indicators for the Initiative. They met with Wake EMS, Healing Transitions, RCNC, WCHS Division of Child Welfare, and the WCHS Division of Public Health's HIV/STD Community Outreach and Tobacco Prevention Control Programs to establish each metric's wording (with all necessary context and nuance), reporting methods/schedules/pathways and data use agreements where applicable. As more experience was gained with the program, the metrics for Community Nursing were revised.

Appendix 6: Unintentional Opioid Overdose Deaths and Death Rates by Type and Demographic, Wake County

APPENDIX 6

Unintentional Opioid Overdose Deaths and Death Rates by Type and Demographic

Wake County, 2012-2016 Compared to 2013-2017

		Heroin			Other Synthetic Opioids			Commonly Prescribed Opioids		
		Deaths Rate		Death Rate ↑	Deaths Rate		Death Rate ↑	Deaths Rate		Death Rate ↑
		2012-16	2013-17		2012-16	2013-17		2012-16	2013-17	
Gender	Male	86 3.5	105 4.2	20%	57 2.3	112 4.5	95.6%	68 2.8	89 3.6	28.6%
	Female	26 1.0	32 1.2	20%	28 1.1	46 1.8	64.3%	41 1.6	47 1.8	12.5%
Race/ Ethnicity	White non-Hispanic	97 3.1	117 3.8	22.6%	72 2.3	131 4.2	82.6%	95 3.1	115 3.7	19.4%
	Black non-Hispanic	9 *	12 1.1	N/A	9 *	20 1.9	N/A	11 1.0	15 1.4	40%
	American Indian non-Hispanic	0 0	0 0	N/A	0 0	0 0	N/A	1 *	1 *	N/A
	Asian non-Hispanic	0 0	0 0	N/A	1 *	1 *	N/A	0 0	1 *	N/A
	Hispanic	4 *	5 *	N/A	1 *	4 *	N/A	1 *	3 *	N/A
	Other/ Unknown	1 *	3 *	N/A	2 *	2 *	N/A	1 *	1 *	N/A
Age	0-14	0 0	0 0	N/A	0 0	0 0	N/A	0 0	0 0	N/A
	15-24	19 2.8	22 3.2	14.3%	19 2.8	30 4.4	57.1%	14 2.1	16 2.3	9.5%
	25-34	38 5.2	44 5.8	11.5%	29 3.9	58 7.7	97.4%	25 3.4	40 5.3	55.9%
	35-44	32 4.1	40 5.1	24.4%	18 2.3	31 3.9	69.6%	28 3.6	29 3.7	2.8%
	45-54	17 2.3	22 3.0	30.4%	12 1.7	26 3.5	105.9%	28 3.9	33 4.4	12.8%
	55-64	4 *	7 *	N/A	6 *	12 2.1	N/A	13 2.4	17 3.0	25%
	65+	2 *	2 *	N/A	1 *	1 *	N/A	1 *	0 0	N/A
All		112 2.2	137 2.7	22.7%	85 1.7	158 3.1	82.4%	109 2.2	136 2.7	22.7%

*Number of deaths was too small to calculate a rate for these demographic groups.

Appendix 7: Cocaine Deaths by Demographic, Wake County