



Getting to Zero Mecklenburg

A Community Plan to Reduce
New Cases of HIV in Mecklenburg County

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Mecklenburg County's PLAN for continuous reduction in new cases of HIV

Executive Summary

The HIV Epidemic

The HIV epidemic continues in the United States (U.S.), and the Southeast United States has become its epicenter. Major Southeast cities and counties, such as Charlotte/Mecklenburg County, are still experiencing high rates of new HIV infections. The Charlotte Metropolitan area is ranked among the worst 25% of metropolitan areas in the nation for new HIV infections [CDC, 2017] and some members of the population (e.g., young Black men who have sex with men (YBMSM)) experience rates of infection that are comparable to those of developing countries. In addition, stigmatization and disparities in access to healthcare, HIV prevention interventions, and treatment remain a major problem. YBMSM, women of color, and persons who inject drugs (PWID) are among those with the highest rates of new infection, but the epidemic impacts virtually all groups within Mecklenburg County. These issues are further compounded by the fact that, until this PLAN, there has been a lack of community-wide collaboration in response to HIV in Mecklenburg County.

Development of the PLAN

Growing concern among community members, Public Health, and healthcare providers, as well as recent advances in HIV treatment and prevention interventions (e.g., Pre-Exposure Prophylaxis (PrEP) and Treatment as Prevention (TasP)) have spurred discussions about the need for a more aggressive and comprehensive community-wide approach to address new HIV infections in Mecklenburg County. In the Fall of 2017, encouraged by the renewed commitment of the Board of County Commissioners (BOCC), Mecklenburg County Public Health (MCPH) along with community members, HIV care providers, educators and members of the faith-based community, began a series of planning meetings to create plans for an aggressive, comprehensive and effective community-level approach to lower new HIV infection rates and to improve care for people living with HIV (PLWH) in Mecklenburg County. The HIV Community Planning Group, comprised of the aforementioned stakeholders, was formed to construct a Mecklenburg County HIV prevention plan (the PLAN).

Prevention of new HIV infections is a core principle of the PLAN. Costs for prevention activities pale in comparison to future savings in treatment, not to mention the human benefit of the extension of productive and healthy years of life. The PLAN has been built on community input and participation, application of sound principles of public health, evidence-based strategies, reviews of experiences from other major cities struggling with the HIV epidemic, the National HIV/AIDS Strategy – 2020, and the specific needs of Mecklenburg County. The HIV Community Planning Group and Ad Hoc Committees met frequently, developed PLAN goals and strategies, and constructed prioritized objectives believed to be most impactful. Although the PLAN is for all residents of Mecklenburg County, it places a special

emphasis on the most effective interventions, minimizing health disparities and addressing those who are at highest risk for HIV infection.

As has been the case in many other jurisdictions' HIV programs, this PLAN is designed to be a living blueprint that is adaptable to re-assessments of the HIV epidemic, the changing needs of the community and outcomes of the interventions. Modifications to the PLAN will be necessary and are to be expected. Ongoing evaluations based on sound public health principles are essential to the PLAN. Formal needs assessments will be conducted to help guide the future direction of the PLAN. A community-level group will be formed to provide governance and will oversee progress, needs assessments and updates to the PLAN. Coordination of the PLAN's implementation will be facilitated by a Project Manager.

The PLAN

The HIV Community Planning Group determined that our goal is to achieve a continuous reduction in new cases of HIV. To accomplish this goal, there are three principle strategies to be addressed in the PLAN. Within each of these three strategies, there are several priority objectives, which are outlined below and additional details are described in the PLAN.

The following are the PLAN's strategies:

- Education and Testing Strategy
- Pre-Exposure Prophylaxis (PrEP) Strategy
- Treatment as Prevention (TasP) Strategy

These strategies and objectives intersect with important social and structural determinants of health, such as access to affordable housing, transportation, employment and economic opportunity, healthcare and health insurance, and unequal access to quality education. These factors are barriers to achieving health equity and contribute to HIV-related disparities in our community.

Education and Testing Strategy

The Education and Testing strategy is a comprehensive approach to disseminating information on HIV infection and the means and resources for prevention and treatment. The strategy will address priority populations, in addition to the county's population as a whole. Effective health-promoting educational approaches are necessary to help people learn to avoid infection and to effectively seek care.

Persons whose HIV positive status is unknown account for a substantial proportion of new HIV infections. Studies show that earlier detection of HIV infection and connection to sustained treatment results in more beneficial health outcomes and prevention of the spread of new infections. HIV testing, including outreach into priority populations, is key to early identification, treatment, and will serve as a platform for reaching those who are at risk.

The following are prioritized objectives for this strategy:

- Community-wide media campaigns to increase awareness of prevention and resources
- Encouraging routine "opt-out HIV testing" as standard of care
- Provide information and educational tools on HIV prevention to schools and colleges

- Provide current, accurate information on HIV to the medical community
- Expand testing in non-traditional locations and times

Pre-Exposure Prophylaxis (PrEP) Strategy

Pre-exposure prophylaxis (PrEP) is one of the most effective methods of HIV infection prevention. Although the use of PrEP was approved by the Food and Drug Administration (FDA) in 2012 and strongly advocated by Public Health organizations, PrEP is vastly under-utilized in Mecklenburg County. Steps to increase usage of PrEP are a cornerstone of the PLAN.

The following are prioritized objectives for this strategy:

- Increase access to PrEP for the uninsured by sustaining and expanding MCPH’s pilot PrEP project
- Provide leadership and logistical support for a PrEP providers’ collaborative to educate providers, strengthen links between providers and support services, and enhance the PrEP referral network
- Community education - Increase awareness of PrEP and provider locations
- Increase the availability of support services to those accessing PrEP

Treatment as Prevention (TasP) Strategy

Effective treatment and suppression of HIV lengthens lives and improves the quality of life for PLWH. An additional benefit is the prevention of new infections since persons whose virus is suppressed by treatment pose virtually no risk of transmitting HIV infection to others. The goal of TasP is prompt and early entry of patients into treatment and effective treatment maintenance to suppress the virus in PLWH in Mecklenburg County and thus to decrease the risk of transmission of HIV to new individuals. This requires effective early detection of infection, navigation to treatment and sustained maintenance of suppressive antiretroviral therapy (ART). ART is the combination of medications used to treat HIV.

The following are prioritized objectives for this strategy:

- Maintain community input into development and implementation of HIV-related services
- Encourage integrated care for PLWH, including primary and behavioral healthcare
- Expand patient navigation services
- Explore newer models of linkage to care, e.g. “test and treat” strategies
- Use needs assessment to identify opportunities for improvement in care and support services
- Collaborate with service providers to address social determinants of health issues
- Establish data sharing agreements with community partners to better understand client utilization of testing, treatment, and support services

First Year Actions

The first year of the PLAN will be a time for foundation setting. Critical actions will need to occur, in the first year, to ensure successful implementation of the PLAN. Members of the HIV Community Planning Group prioritized these as the top three actions for the first year:

I. **Hiring or placement of a full-time Project Manager**

The Project Manager will be fully responsible for implementing and sustaining the PLAN and is instrumental in laying the foundation of the PLAN through the achievement of first-year action items. The Project Manager's responsibilities will include:

- Helping to establish and leading the PLAN's governing body and subcommittees and ensuring community input in direction setting.
- Building effective relationships with key stakeholders, including faith leaders, the hospital systems, providers, community partners and PLWH. These relationships will be instrumental in leveraging resources and implementing the PLAN's objectives.
- Coordinating training and support for providers, faith leaders and other stakeholders, relative to the PLAN's objectives.
- Coordinating and facilitating governing body and subcommittee meetings, creating and disseminating appropriate information for meetings including agendas, meeting minutes, data reports, presentations and other materials.
- Working with community partners to operationalize the PLAN by developing annual action plans for each objective, overseeing implementation and providing status updates.
- Overseeing data collection, analysis and outcome evaluation. Realigning performance measures with the PLAN as updates are made.
- Updating the PLAN annually, in collaboration with the governing body, and providing presentations to the appropriate groups.
- Identifying resource needs, funding opportunities and preparing proposals for grants and funding requests.

II. **Implementing an HIV needs assessment**

The needs assessment is a critical component of the PLAN's implementation. The needs assessment will involve a systematic process for obtaining and analyzing information to determine the current status and resource needs for HIV Education and Testing, PrEP and TasP. The needs assessment will include a comprehensive resource inventory and gap analysis to identify unmet needs. Among other things, the needs assessment will help identify HIV testing and prevention messaging needs for the media campaign and opportunities for improvement in HIV care and support services. More broadly, it will serve to aid the governing body with direction setting, including determining priorities, making improvements to the PLAN, and allocating resources. Implementation of the needs assessment process will be led by the Project Manager.

III. **Continuing and expanding the pilot PrEP project**

After strong community support, in the first quarter of 2018 MCPH began implementation of the pilot PrEP project. The 24-month pilot is aimed at providing PrEP to at least 320 high-risk, uninsured individuals, through contracts with community partners who provide clinical services in areas with access to high-risk individuals. This is a tremendous first step towards reducing new cases of HIV; however, if PrEP utilization in Mecklenburg County is going to be successful, the pilot must continue, and a scale-up is necessary.

Mecklenburg County needs more primary care providers who are willing to provide PrEP. Resources must be augmented for traditional providers of PrEP (i.e., infectious disease doctors) to increase their capacity for serving prospective PrEP clients. Additional resources will enhance their ability to offer PrEP, regardless of a patient's insurance status. In addition to resources, leadership, education, and support for providers offering or considering PrEP, is essential to the success of PrEP and aligns with the responsibilities of the Project Manager.

IV. Expanding the role and capacity of Disease Intervention Specialists (DISs)

A critical need that must be addressed in the first year of the PLAN is the hiring of 2 new Disease Intervention Specialists (DISs) to increase MCPH's effectiveness in identifying newly HIV-infected individuals and serving those persons who are at increased risk for HIV exposure. Because of the DIS role in tracing those persons who are newly diagnosed with HIV and their contacts, DISs are uniquely positioned to utilize all three PLAN strategies – TasP, education and testing, and PrEP. For TasP to be effective, newly discovered PLWHs must rapidly enter therapy to limit the HIV exposure of their contacts. MCPH is adopting a rapid response laboratory HIV testing system, which will require additional DIS resources to maximize the benefit of early identification and rapid linkage to treatment for PLWHs. PLWHs will be brought more quickly into effective, suppressive ART, which will lower their likelihood of transmitting HIV. The PLAN also envisions that increased staffing will bolster the DIS effectiveness as outreach educators and enablers of HIV testing for at-risk contacts of PLWH. Thirdly, the DIS role will be expanded to include information and advice to contacts on the use of PrEP. Finally, as the County HIV activities are increased through the PLAN, there will be more people who will need the services DISs provides. Thus, the expansion of DIS is likely only to just keep up with the increasing needs.

Future of the PLAN

The PLAN is a living document, and therefore, continuous improvement and revisions of the PLAN are critical. Ongoing evaluation will be required to determine which interventions are successful and should be continued or expanded, as well as replacement of those interventions that are not effective. Thus, real-time evaluations will be a critical part of the PLAN, and such evaluations will need direction, oversight, and implementation by the Project Manager and a well-established and sustaining governing body (see *Section: Future Directions and Governance of the PLAN*). The governing body and the continuous assessment of PLAN activities will usher the PLAN into its next stages and will help to assure continuity, as well as sustainability of the outcomes of the PLAN and the goal to achieve a continuous reduction in new cases of HIV in Mecklenburg County.

Introduction

Current State of HIV in Mecklenburg County

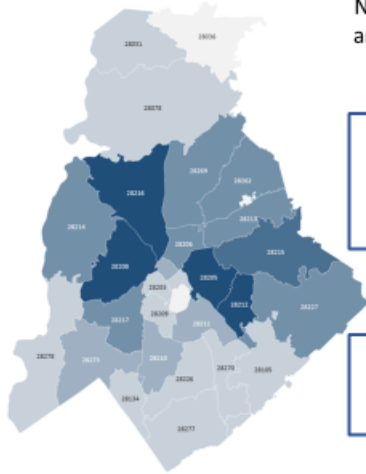
The goal to achieve **continuous reduction in new cases of HIV** is supported by what the epidemiological data tells us. At the end of 2018, an estimated 35,457 people in North Carolina were living with HIV. Of those, nearly 1 in 5 (over 7,000 people) reside in Mecklenburg. In Wake County, with essentially the same population size, over 3,700 people are currently living with HIV. Nowhere else in North Carolina does this disease have a greater impact on its residents' financial health, mental health, physical health and overall quality of life (i.e. burden of disease), than Mecklenburg County.

Risk factors for HIV are the same for everyone regardless of age, race, ethnicity or gender. However, a range of social, economic, and demographic factors contribute to higher rates of infection in some groups more than others. In Mecklenburg, nearly 1 in 5 new HIV infections occur among people age 15 - 24 years and Blacks account for nearly 7 out of 10 new infections. A substantial burden of disease is found among males, who represent nearly 80% of new infections each year. Furthermore, the rate of Black males living with an HIV diagnosis is 5 times that of White males. Moreover, while recent data point to declines in infections among women, Black females are 12 times more likely to be infected with HIV than White females, one of the largest HIV related disparity gaps in the county. Success in HIV prevention can only be achieved by addressing these disparities and working to achieve health equity for all Mecklenburg County residents.

Mecklenburg HIV AIDS Prevalence and New Infections

The Face of HIV Infection in Mecklenburg Based on 2018 New Diagnoses = 255 cases

2013 – 2018 Newly Diagnosed HIV Infections



Nearly 1 in 7 persons with HIV are undiagnosed and unaware of their status (CDC)

6,847

number of persons with an HIV Diagnosis who are living in Mecklenburg (Aware of HIV Status)

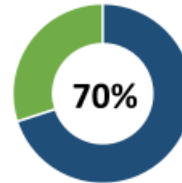
255

Number of people newly diagnosed with HIV in 2018

Source: NC DHHS, HIV/STD Prevention and Care Unit, Mecklenburg Line List
Prepared by: MCHD, Epidemiology Program



are Young People age 15 – 24 years



are African American



are Males

In addition to the burden of HIV and HIV related disparities, syphilis infections in Mecklenburg County are on the rise. Early Syphilis cases in the county have nearly doubled, increasing from 263 early syphilis reports in 2014 to 507 new infections in 2016. Primary and secondary syphilis, the most infectious stages of syphilis, have increased in Mecklenburg County by more than 160%. Recent data show early signs of improvement with overall rates declining in years 2017 and 2018. However, infection rates remain much higher than 5 years previous. Increased rates of syphilis infections have serious implications for the HIV epidemic in Mecklenburg. Individuals with syphilis are more likely to get HIV in the future. One reason is the behaviors that put someone at risk for syphilis will often put them at risk for HIV infection. This recent increase of syphilis has the potential to lead to HIV infection outbreaks in Mecklenburg County if the risk behaviors are not addressed at the community level.

2013 – 2018 Early Syphilis (Primary, Secondary and Early Latent) Infection Rates in Mecklenburg

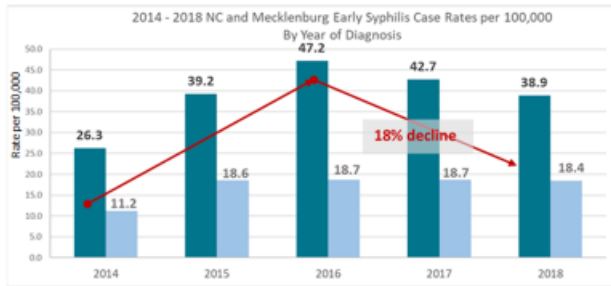


427 cases

Early Syphilis cases
in 2018

2014 – 2018 Newly Diagnosed Early Syphilis Cases

Year:	2014	2015	2016	2017	2018
Cases:	263	392	507	460	427

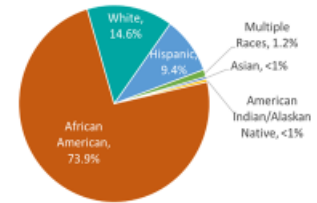


Source: NC EDSS, Mecklenburg County Data
Prepared by: MCHD, Epidemiology Program

Anyone who has sex is at risk for Syphilis, but some groups are more affected. In 2018:

By Race

Over 70% of new diagnoses were among African Americans.



Nearly 1 in 3

syphilis cases were among young adults ages 25 - 29.



8 out of 10

are male



Contributing Factors to the Current State

Local epidemiologic data show that HIV disproportionately affects Blacks in Mecklenburg County; however, it does not explain why. The “why” is explained when we discuss the social and structural determinants of health. Mecklenburg County neighborhoods most affected by HIV are also disproportionately affected by the social and structural determinants of health that originate from social, political and racial injustice. Social and structural determinants include lack of access to affordable housing, transportation, employment, economic opportunity, healthcare and health insurance, and unequal access to quality education. These factors contribute to HIV related disparities between Blacks and Whites and create barriers to achieving health equity in our community.

In Mecklenburg County, the lack of a community-wide comprehensive HIV education and testing initiative, particularly one that aims to address the disproportionately high rates of HIV infection among Black men who have sex with men (BMSM), further perpetuates the barriers created by the social determinants of health. Because discussing HIV has not been normalized in Mecklenburg County through broad-based education and awareness, one of the barriers created is stigma. Stigma is a perceived negative attribute that causes someone to devalue or think less of a person or group of people. Stigma discourages people from talking about HIV in regular daily conversations and prevents people from getting tested for HIV and knowing their status. Stigma also perpetuates homophobia, transphobia, and racism, which are barriers to engagement for communities of color and lesbian, gay, bisexual, transgender, queer and questioning (LGBTQ) communities.

Even with an HIV diagnosis, some people fear seeking treatment and remaining in care due to the stigma. For BMSMs, there is a stigma associated with being Black, a man, a man who has sex with other men and living with HIV. This combination is a huge barrier to HIV prevention and care and can only be

addressed when Mecklenburg County begins to destigmatize HIV through a community-wide comprehensive HIV education and testing initiative that encourages societal dialogue about HIV and related topics.

In addition to comprehensive HIV education and testing, evidence-based biomedical HIV prevention interventions such as Pre-Exposure Prophylaxis (PrEP) and Treatment as Prevention (TasP) are effective strategies towards reducing the rate of new HIV infections. PrEP is an FDA approved medication and a critical HIV prevention tool that offers high-risk, HIV negative individuals a way to take an active role in their sexual health by taking a single pill each day (Truvada® [tenofovir/emtricitabine]) to reduce the risk of acquiring HIV. When someone is exposed to HIV through sex or injection drug use, PrEP works to stop the virus from making copies of itself and establishing a permanent infection in the body. When taken consistently, PrEP has been shown to reduce the risk of sexually acquired HIV infection by more than 90% and the risk of HIV infection among PWID by more than 70% [CDC Vital Signs, Dec 2015]. Because no prevention strategy for sexually active people is 100% effective and PrEP does not protect against other sexually transmitted diseases (STDs), it is most effective when taken consistently and combined with other prevention methods, such as condoms and routine STD testing. Unfortunately, social and structural factors such as lack of affordable health insurance, limited knowledge of PrEP and inadequate access to culturally competent clinical care are just a few of the barriers faced by BMSMs and other vulnerable populations where rates of HIV transmission are disproportionately high. For Mecklenburg County to effectively utilize PrEP as an HIV prevention intervention, a comprehensive community strategy that considers these barriers, is needed.

TasP involves connecting PLWH to HIV medical care and educating them on the importance of remaining in medical care and taking antiretroviral medications every day, exactly as prescribed. PLWH can achieve an undetectable viral load by adhering to their HIV treatment regimen. Once an undetectable viral load is achieved and maintained, there is effectively no risk of transmitting HIV. Clinical trials and epidemiologic data show that TasP is the most effective biomedical intervention to reduce the number of new HIV infections. However, according to the Charlotte Ryan White Transitional Grant Area (TGA) 2012 Comprehensive Plan, 25% of the PLWH minority population had not received medical care within 12 months of being diagnosed. Those surveyed reported loss of employment and/or health insurance as reasons for not being in care. As previously mentioned relative to PrEP, these barriers must also be considered for TasP to most effectively reduce the rate of new HIV infections in Mecklenburg County.

Goal and Strategies

Continuous Reduction in New Cases of HIV in Mecklenburg County is the overarching goal to address HIV's impact on our community. To achieve this goal, we will utilize a collaborative, comprehensive approach that includes ***Education and Testing, PrEP*** and ***TasP*** as its three key strategies, and considers the social and structural determinants of health in the implementation of objectives that are intended to decrease barriers that are the source of HIV related disparities. The objectives for each strategy represent what the community has determined as actionable measures that will best address the needs of Mecklenburg County relative to HIV prevention. Furthermore, the strategies and objectives align with the vision of the White House's National HIV/AIDS Strategy to "become a place where new HIV infections are rare, and when they do occur, every person regardless of age, gender, race/ethnicity, sexual orientation, gender identity or socio-economic circumstance, will have unfettered access to high quality, life-extending care, free from stigma and discrimination" [Office of National AIDS Policy, 2015].

Goal: Reduce the number of new cases of HIV by 75% in 5 years (by end of 2024) and 90% in 10 years (by end of 2029)

Education and Testing Strategy

1. **Objective:** Conduct community-wide media campaigns to increase the community’s awareness of prevention strategies and local HIV-related resources
2. **Objective:** Encourage both healthcare systems and community providers of care to implement routine “opt-out HIV testing” as a standard of care, according to CDC recommendations
3. **Objective:** Provide current, accurate information and tools re: HIV prevention to schools and colleges
4. **Objective:** Provide current, accurate information on HIV to the medical community (CDC screening recommendations, opt-out HIV testing, PrEP, and treatment as prevention)
5. **Objective:** Expand testing in non-traditional locations and times (evenings and weekends)

Pre-Exposure Prophylaxis (PrEP) Strategy

1. **Objective:** Increase access to PrEP for the uninsured by sustaining and expanding Mecklenburg County Public Health’s pilot PrEP project
2. **Objective:** Provide leadership and logistical support for PrEP providers collaborative to educate medical providers, strengthen links between providers and services supporting PrEP users, and enhancing the referral network to provide seamless continuity of services
3. **Objective:** Conduct community education efforts to increase understanding of PrEP and awareness of PrEP provider locations
4. **Objective:** Increase the availability of support services to those accessing PrEP to increase compliance and acceptance

Treatment as Prevention (TasP) Strategy

1. **Objective:** Maintain community input into development and implementation of HIV-related services
2. **Objective:** Encourage integrated care for persons living with HIV to include primary care and behavioral health services
3. **Objective:** Expand patient navigation services
4. **Objective:** Collaborate with providers to explore newer models of linkage to care, such as “test and treat” strategies
5. **Objective:** Utilize available needs assessment processes to identify gaps in services and opportunities for improvement in HIV care
6. **Objective:** Collaborate with service providers to address social determinants of health
7. **Objective:** Establish data sharing agreements with community partners to better understand client utilization of testing, treatment, and support services

THE PROJECT MANAGER WILL COORDINATE IMPLEMENTATION OF ALL OBJECTIVES

Education and Testing Strategy

The Education and Testing strategy plans a comprehensive approach for disseminating information on HIV infection and the means and resources for prevention of HIV infection and its treatment. Studies in other jurisdictions have demonstrated that at-risk individuals are remarkably under-informed about HIV and means for self-protection. This strategy intends to arm individuals with important information that will facilitate their choices to protect themselves from acquiring HIV. Community-wide education and awareness strategies will address priority populations, in addition to the county's population as a whole. Effective health-promoting educational approaches are necessary to help people learn to avoid infection and to effectively seek care.

Persons whose HIV positive status is unknown account for a substantial proportion of new HIV infections. Studies show that earlier detection of HIV infection and connection to sustained treatment result in more beneficial health outcomes and prevention of the spread of new infections. HIV testing, including outreach into priority populations, is key to early identification, treatment, and will serve as a platform for reaching those who are vulnerable to HIV infection. Education and testing strategies will facilitate the PLAN's PrEP and TasP strategies. The following details the prioritized objectives for this strategy.

Objective 1

Conduct community-wide media campaigns to increase the community's awareness of prevention strategies and local HIV-related resources.

Why Is This Important?

In 2014, a survey completed by the D.C. Department of Health revealed that half of their residents learned something new about HIV and that residents were getting tested and obtaining condoms due to the district's five-year community-wide campaign to educate residents about HIV [DC Takes on HIV, 2014]. Connecting with Mecklenburg County residents where they live, work and play is one of the most effective ways to educate them on HIV related topics, including how to prevent HIV, how to get tested and the importance of both. The lack of health literacy has a negative impact on all HIV prevention strategies; therefore, improving the community's awareness is the first step to achieving continuous reduction of new HIV cases in Mecklenburg County. Furthermore, increased community awareness is an effective tool to encourage HIV dialogue among partners, between patients and providers, and in the broader community; thereby, facilitating these conversations as a normal part of our culture and serving to destigmatize HIV.

How Are We Doing?

Charlotte/Mecklenburg's community-wide HIV prevention efforts are relatively non-existent when compared to the efforts of other urban areas such as D.C., Chicago, Atlanta, and Baltimore, who utilize public transportation and large billboards to bring awareness to HIV topics. Gaps in this area include:

- Virtually no public advertisement regarding HIV testing and prevention in any public spaces in Mecklenburg County, other than what is distributed by local HIV agencies.

- No existing awareness efforts to inform the community about PrEP and TasP as HIV prevention strategies.
- Lack of local advertisement on social media outlets accessible to and focused on high risk-populations (e.g., YBMSMs).
- Unwillingness or concern among Mecklenburg County’s faith community to display HIV testing literature and prevention messages in their churches.

How Will We Achieve This Objective?

Achieving this objective will include implementing a county-wide HIV needs assessment, including completing focus groups with the public and utilizing social media surveys to identify testing and prevention messaging needs. Resources such as Mecklenburg County’s Public Input Survey can be utilized to solicit feedback as well as responses from the school system’s Youth Risk Behaviors Survey.

Additional tasks include:

- Contracting with a vendor to design, develop and implement an HIV media campaign based on the needs assessment and is inclusive of each of the HIV prevention strategies detailed in the PLAN.
- Identifying funding sources that will support the purchase of advertising space such as billboards, social media sites, public transportation space, etc.
- Reaching out to various faith organizations to engage in open discussions with their leadership about HIV related topics, including:
 - Identify willing faith leaders, i.e., gatekeepers, who are interested in working on an HIV education, awareness, and prevention initiative.
 - Facilitating a series of focus groups with interested faith leaders to determine the best approach for engaging their congregations and surrounding neighborhoods in an HIV stigma reduction intervention.
 - Working with faith leaders and their congregations to develop HIV Education and Testing messages that are culturally sensitive to the faith community.
 - Working with faith leaders and their congregations to coordinate community-wide testing and education initiatives, with a focus on neighborhoods surrounding their various churches.

What Are the Best Practices?

Utilizing findings from the needs assessment is a best practice as it allows the results to guide the implementation of the community-wide media campaign, ensuring the most effective approaches when engaging the community and specific populations that are highly impacted by HIV (e.g., people of color). This includes contracting with a vendor that has been successful with designing, developing and implementing HIV media campaigns.

How Will We Measure Our Success?

- Track the number of clicks on social media ads.
- At testing sites, survey clients on how they were made aware of the testing event.
- At testing sites, survey clients on how they were prompted to get tested.

Objective 2

Encourage both healthcare systems and community providers of care to implement routine “opt-out HIV testing” as a standard of care, according to CDC recommendations.

Why Is This Important?

In 2018, 255 people were newly diagnosed with HIV in Mecklenburg County [MCPH Epidemiology Program, 2018]. According to the CDC, half of Americans recently diagnosed with HIV had been living with the virus for at least three years before being diagnosed. If that statistic is applied to Mecklenburg County, that means approximately 128 of the 255 people diagnosed in 2018 had been living with HIV since 2015. If routine “opt-out HIV testing” – which involves routinely performing an HIV test after notifying the patient that the test will be done and consent is implied unless the patient declines – was administered during doctor visits, some of those reflected in Mecklenburg County’s numbers would have been diagnosed sooner and had an opportunity for early HIV treatment. Studies show that the sooner PLWH are diagnosed, connected to care and placed on an HIV medication regime, the more likely they are to have positive health outcomes. Additionally, an HIV medication regime lowers the viral load, which reduces the risk of transmitting HIV to others. Thus, routine opt-out HIV testing as a standard of care represents a significant opportunity to reduce the number of new HIV cases in Mecklenburg County.

How Are We Doing?

The CDC recommends that individuals between the ages of 13 and 64 get tested for HIV at least once as part of routine health care, and those with risk factors get tested more frequently [CDC, 2006]. According to NC law, HIV testing may be offered as a part of routine lab work. A specific consent form for HIV testing is not required as long as the patient is informed that they are being tested for HIV and given the opportunity to refuse. Additionally, pre-test counseling is not required, and post-test counseling is only required with a positive HIV test [N.C.G.S. §41A.0202(15)]. Given the CDC’s recommendation and the measures taken by NC state law to remove some of the medical community’s barriers to providing routine HIV testing, routine opt-out HIV testing is inconsistently and limitedly offered in Mecklenburg County. MCPH offers routine opt-out HIV testing and, through Gilead’s FOCUS Program, over the past two years, Atrium Health has integrated routine HIV testing into its entire system. Because of these tremendous efforts, routine HIV testing has increased in Mecklenburg County; however, there remains an opportunity to increase implementation of routine opt-out HIV testing as a standard of care across all healthcare systems and community providers of care.

How Will We Achieve This Objective?

One of the first steps needed to achieve this objective is completing an assessment to determine the current policies and practices that exist among Mecklenburg County’s medical community relative to routine HIV testing. Concurrently, contact should be made with healthcare organizations who have implemented routine opt-out HIV testing as a standard of care or engage Gilead’s FOCUS Program to understand their testing policy, its implementation, financial implications, lessons learned and other outcomes to develop a strategy that will guide engagement with local health care systems and community providers around this topic. Related to financial implications, in 2013 HIV screenings were upgraded in the U.S. Preventive Services Task Force (USPSTF) rating system, indicating that Medicare and Medicaid would reimburse the cost. Additionally, private reimbursement for HIV testing has expanded to routine screening [SMJ, 2013]. However, since there are state regulations that impact what private and public insurers reimburse for medical services, further assessment is needed to determine what North Carolina allows and if there are cost barriers that need attention at the legislative level.

What Are the Best Practices?

The CDC and USPSTF have specific recommendations and guidelines for routine HIV testing in various clinical settings, including obstetrician-gynecologist clinics, hospitals, emergency departments, STD clinics, and primary care and family practice facilities. These recommendations and guidelines should be utilized to develop comprehensive organizational policies and procedure changes for routine opt-out HIV testing as a standard of care to mitigate barriers to successful implementation of this HIV testing approach. Best practices that should be considered include:

- Developing an appropriate fee structure so that routine HIV testing is cost-effective for the provider but is not cost prohibitive for clients and insurers.
- Modifying clinic flow to support routine HIV testing.
- Modifying the electronic medical record (EMR) system to prompt staff to offer routine HIV testing.
- Developing tools and training staff on how to offer, conduct and counsel for HIV positive results
- Establishing linkage to HIV treatment and case management services.
- Monitoring and evaluating the routine HIV testing process [Broeckert et al., 2017].

How Will We Measure Our Success?

- Percentage of newly diagnosed individuals over the previous year (before routine testing was implemented).
 - Note: Increased testing should increase the number of newly diagnosed individuals; an increase in newly diagnosed individuals, relative to the increase in HIV testing, is recognized as a positive outcome of routine opt-out HIV testing.
- Percentage of those previously diagnosed and out of care.
- The time between infection and diagnosis; by age, race, and ethnicity.
- Overall long-term reduction in new cases of HIV.

Objective 3

Provide current, accurate information and tools regarding HIV prevention to schools and colleges.

Why Is This Important?

Like the rest of the U.S., young people in Mecklenburg County engage in risky sex behaviors. Young people, aged 15-24, accounted for 20% of all new HIV diagnoses in Mecklenburg County in 2018 [MCPH Epidemiology Program, 2018]. According to Charlotte-Mecklenburg Schools (CMS) 2017 Youth Risk Behaviors Survey (YRBS) results for High School Students:

- 38% had ever had sexual intercourse.
- 25% had sexual intercourse during the previous 3 months.
- 36% had not discussed with their parent(s) or another adult about what they expect them to do or not do, as it pertains to sex.
- 18% drank alcohol or used drugs before their last sexual encounter.
- Only 11% reported ever being tested for HIV.

These numbers reflect the need for comprehensive sexual health education and more current and accurate HIV prevention messaging in schools and colleges, so that young people adopt lifelong attitudes and behaviors that reduce their risk for HIV.

How Are We Doing?

In 2009, Congress shifted financial support from abstinence education to evidence-based programs. That same year North Carolina adopted the Healthy Youth Act, requiring public schools to extend

beyond the abstinence until marriage approach to provide more comprehensive sexual education options [AIDS Education Prevention, 2012]. In Mecklenburg County, CMS meets the requirement of this legislation through its “Reproductive Health and Safety Education” (RHASE) curriculum. RHASE is an abstinence-based comprehensive sexual education program, which teaches abstinence as the best method for avoiding STIs and unintended pregnancy but also teaches about condoms and contraception to reduce risk. The program is one of the best in the state; however, studies have called into question the efficacy of abstinence-based sexual education. In 2012, the CDC analyzed several abstinence programs and comprehensive sexual education programs. The analysis showed that comprehensive programs reduced sexual activity, number of sex partners, the frequency of unprotected sex, and STIs. They also increased the use of condoms. The review of abstinence programs showed a reduction only in sexual activity [Carroll, 2017]. Such findings provide evidence for the state and CMS to consider evidence-based comprehensive sexual education programs; particularly programs that focus on HIV prevention.

Like CMS, charter schools must comply with the Healthy Youth Act. In Mecklenburg County, there are approximately 27 charter schools that are each governed by their Board. Each Board has the authority to determine its school’s sexual health program, as long as it complies with NC law. Given this fact, it is certain that these programs vary by school, with some being more comprehensive than others.

The levels of sexual health education offered at Mecklenburg County’s colleges, and universities vary significantly. Davidson College offers a comprehensive sexual health program that partners education and peer health advising with HIV testing through MCPH staff. UNC Charlotte (UNCC) partners with Carolina Care Partnership to offer HIV testing. Its student health center offers PrEP and hosts a variety of prevention programs and activities, including sexual health week. Both schools offer models that could be successfully duplicated at other local universities and colleges where there is an opportunity for a more comprehensive sexual health program and HIV prevention activities.

How Will We Achieve This Objective?

To implement this objective, MCPH will partner with CMS and charter schools to encourage and assist them with utilizing the CDC’s Health Education Curriculum Analysis Tool (HECAT) for sexual health curriculum. This tool helps schools conduct a clear, complete, and consistent analysis of their sexual health education curriculum to ensure that the curriculum is comprehensive and promotes the prevention of sexual risk-related health problems, including HIV [CDC, 2012].

Using CDC recommendations and modeling elements of Davidson’s and UNCC’s sexual health programs, MCPH and its community partners will develop a standard for sexual health programs and activities at colleges and universities.

What Are the Best Practices?

Sexual health program curriculum and standards will be age and culturally and linguistically appropriate. Epidemiologic data will be utilized to inform the development of standards for colleges and universities, to ensure appropriate social and behavioral interventions are recommended for the student population. For effective implementation of the standards, technical assistance will be offered by staff from MCPH and its community partners.

How Will We Measure Our Success?

- HIV education service delivery satisfaction survey (for college-age students).
- Sexual health training and education survey (for teachers).

- Track the number of newly diagnosed HIV positive individuals at local colleges and universities.
- Track YRBS results for improvements in key indicators (e.g., % of CMS high school students who reported ever being tested for HIV).

Objective 4

Provide current, accurate information on HIV to the medical community (CDC screening recommendations, opt-out HIV testing, PrEP, and treatment as prevention).

Why Is This Important?

In 2016, 7 in 10 individuals at high risk for HIV had a doctor's visit and did not receive an HIV test [CDC Vital Signs, 2017]. 1 in 3 primary care doctors and nurses have no knowledge of PrEP [CDC Vital Signs, 2015]. 82% of clients in the Charlotte TGA Ryan White program achieved viral suppression in 2017. A correlation could be made between each of these statistics and how medical provider knowledge, or lack thereof, has an impact on the rate of new HIV infections. Knowledge of HIV status, taking PrEP daily, and maintaining viral suppression by adhering to medical treatment, are all effective HIV prevention interventions. The more that providers are aware of current and accurate information on HIV, the better equipped they are to address HIV in Mecklenburg County.

How Are We Doing?

PLWH interface with various providers in Mecklenburg County, some of whom are not adequately trained regarding the most current guidelines, recommendations or advances in HIV prevention and treatment. Local providers have an opportunity to enhance the client experience, thereby increasing the likelihood of preventing HIV infection, particularly among high-risk individuals, or maintaining PLWH in medical care. There is a lack of health literacy and cultural proficiency as it relates to caring for individuals of various backgrounds including: race/ethnicity, socioeconomic status, sexual orientation, and gender identification. HIV education and training for medical professionals working in various disciplines and types of medical facilities will lead to clients who are better informed about HIV risks, prevention methods or medical treatment adherence. Other HIV related topics that have been identified as a competency need among Mecklenburg County medical professionals include:

- Knowledge of behavioral interventions that aim to alter behaviors that make individuals more vulnerable to becoming HIV positive or transmitting HIV.
- Knowledge regarding PrEP —what it is and how to access it.
- HIV testing and counseling for youth.

How Will We Achieve This Objective?

To achieve this objective, the medical community must first support the need for more HIV education and cultural competency training. Strategic partnerships with the Charlotte Medical and Mecklenburg Medical Societies, to promote the importance of HIV knowledge and awareness, can provide the assistance needed for buy-in among medical providers. Contractual agreements with organizations who can provide HIV related training to the medical community, including Charlotte Area Health Education Centers (AHEC) and the North Carolina AIDS Training and Education Center (NCATEC), will be executed to facilitate implementation of this objective. Hospital systems must require that internist, infectious disease, and primary care physicians complete an annual comprehensive HIV training. Healthcare providers seeking to offer PrEP should receive on-going training to ensure proficiency in this topic. This should be demonstrated by obtaining at least two (2) continuing medical education (CME) hours per year. Providers who have a contract with MCPH to provide PrEP will be required to complete annual cultural competency and other HIV related training.

What Are the Best Practices?

To ensure that medical providers are completing HIV training that is relevant, culturally competent and demonstrates best practices in HIV, every two years MCPH will release an HIV training guide, based on CDC recommendations. The HIV training guide will advise medical professionals on emerging HIV issues, recommend training opportunities both local and national, and provide information on other resources to improve their HIV competency. MCPH will work with AHEC and NCATEC so that there is alignment between their HIV course offerings and the HIV training guide. The guide will be released to local providers through various avenues, include online, local hospital systems' newsletters, and medical society publications.

How Will We Measure Our Success?

- Annual survey to assess attitudes, beliefs and service delivery relative to specific HIV topics.

Objective 5

Expand testing in non-traditional locations and times (evenings and weekends).

Why Is This Important?

In Mecklenburg County, the top five ZIP Codes with the highest prevalence of PLWH are 28205, 28208, 28212, 28206, and 28215 [MCPH Epidemiology, 2018]. Generally, the demographics of these areas reflect a large racial/ethnic minority population. Furthermore, there is a significant disparity in the prevalence and new diagnoses of HIV in the Black population as compared to Whites. Males represented nearly 80% of new infections in 2018, and Black males are five times more likely to be living with HIV than White males. The rate of Black females living with an HIV diagnosis is 12 times that of White females. [MCPH Epidemiology, 2018]. Based on 2014 – 2018 age-adjusted data, HIV death rates among Mecklenburg racial/ethnic minorities are 5 times higher than death rates for Whites [MCPH Epidemiology, 2018]. Given these statistics and studies that show the significance of routine HIV testing and education and their positive impact on reducing the rate of HIV, it is important to increase access to testing by expanding beyond health care settings (i.e. non-traditional locations) and the traditional Monday – Friday, 8 am- 5 pm hours, particularly in areas of high HIV prevalence.

How Are We Doing?

In Mecklenburg County, there are a limited number of non-traditional HIV testing locations and times located in the top five ZIP Codes for HIV prevalence. Among the non-traditional sites that exist, there is inadequate coordination of testing due to competition for the limited funding available for these sites to provide testing and other services (e.g. linkage to care). This competition is a barrier to collaboration among these sites. Specifically, agencies that manage testing sites often do not share with each other where they will be testing to ensure that there is no overlap in testing times and locations. Agencies develop their own testing strategies, hours and locations with no coordination, which creates service gaps relative to the need for later testing hours, weekend hours or convenient locations in the areas with high HIV rates and disparity.

How Will We Achieve This Objective?

To implement expanded testing in non-traditional locations and times, an analysis is needed to determine the geographic areas of greatest need for non-traditional HIV testing sites, hours and potentially available locations. The analysis should also examine new HIV testing approaches and opportunities to increase access and coordination of rapid testing service in non-traditional locations. This analysis should include input from PLWH, MCPH staff including the epidemiology and disease investigation/surveillance programs, agencies currently offering HIV testing at non-traditional locations

and other key stakeholders. Once the analysis is complete, MCPH and other agencies will need to adjust their testing strategy to better align with the need as determined by the analysis. Alternative funding opportunities will need to consider for community-based organizations (CBOs) to address the issue of limited funding. If funding is offered, contractual agreements with CBOs will need to include specific requirements that reflect best practices for HIV testing in non-traditional sites, require specific non-traditional hours and collaboration among funded CBOs. Implementation of this objective should enhance, not supplant, current testing services that provide HIV testing, during traditional hours, in ZIP Codes with high HIV prevalence.

What Are the Best Practices?

In 2016, CDC released guidance for HIV testing providers titled *“Implementing HIV Testing in Nonclinical Settings: A Guide for HIV Testing Providers.”* Its purpose was to identify key issues that impact the delivery of HIV testing in non-traditional locations and provide guidance to successfully navigate these issues. Best practices from this guidance that will need to be considered for this objective include:

- Adhering to program standards, including local and state public health policies and laws.
- Utilizing strategies and recruitment efforts to reach populations at high risk for HIV infection and locating in geographic areas with populations that are disproportionately affected by HIV.
- Offering simple, accessible, and culturally competent testing services to minimize client barriers.
- Utilizing HIV testing technologies that are the most sensitive, cost-effective, and feasible and establish relationships with facilities offering laboratory-based HIV testing to refer clients who may have acute HIV infection.
- Streamlining HIV testing including delivering key information, conducting the HIV test, completing brief risk screening, providing test results, and delivering referrals tailored to the client’s specific risk.
- Supporting clients with access to follow-up HIV care, treatment, and prevention services and implementing protocols to help clients navigate the health care system.
- Facilitating referral and linkage by establishing partnerships with organizations that offer essential follow-up services, including clinics that offer HIV care and treatment and PrEP.
- Offering HIV testing services for partnered relationships to (a) attract high-risk clients who are not otherwise testing and (b) identify HIV-discordant couples and previously undiagnosed HIV-positive clients [CDC, 2016].

If implemented correctly, expanding testing in non-traditional locations and times can effectively reach high-risk populations, identify undiagnosed PLWH and link them to HIV medical care and treatment and identify high-risk HIV-negative individuals in need of HIV prevention services, such as PrEP and other social and behavioral interventions. [CDC, 2016]

How Will We Measure Our Success?

Data from these measures will need to be compared with baseline data.

- Track number of non-traditional sites and times added.
- Track number of tests administered at non-traditional locations.
- Track number of tests administered at non-traditional times.
- Track site’s HIV positivity rate.

Pre-Exposure Prophylaxis (PrEP) Strategy

Pre-exposure prophylaxis (PrEP) is one of the most effective methods of HIV infection prevention (Grant 2010, Baeten 2012, Molina 2015). Although the use of PrEP was approved by the FDA in 2012 and strongly advocated by Public Health organizations, PrEP is vastly under-utilized in Mecklenburg County. Persons who are at risk of acquiring HIV take one pill per day (Truvada®[tenofovir/emtricitabine]) and are monitored every three months by their healthcare providers for infection and for side effects, which are infrequent. PrEP has been shown to prevent new HIV infection in up to 90% of diligent users. Based on recent qualitative research, PrEP is vastly under-utilized in Mecklenburg County. Steps to increase usage of PrEP are a cornerstone of the PLAN. The following details the prioritized objectives for this strategy.

Objective 1

Increase access to PrEP for the uninsured by sustaining and expanding Mecklenburg County Public Health's pilot PrEP project.

Why Is This Important?

According to the first-ever data released by AIDSVO on PrEP users across the U.S., more than 77,000 people were prescribed PrEP in 2016. This represents a 73% increase year over year from 2012 to 2016 [AIDSVO, 2018]. This is good news for some; however, PrEP use remains inconsistent among populations that could benefit from it the most. Black and Latino MSM (BLMSM) continue to be over-represented in the HIV epidemic, yet access PrEP services the least among all MSM [Pulsipher et al., 2016]. In Mecklenburg County, Black men are five times more likely to be diagnosed with HIV than White men [MCPH Epidemiology, 2018]. According to the CDC, 1 in 2 BMSM and 1 in 4 Latino MSM (LMSM) will be diagnosed with HIV at some point in their lifetime if current HIV infection rates continue [CDC, 2016]. In a recent study from the University of California, BLMSM reported a higher willingness to take PrEP if it were available to them than White MSM (WMSM), yet BLMSM are far less likely to be on PrEP than their White counterparts [Pulsipher et al., 2016]. It is critical that PrEP programs focus on BLMSM who are disproportionately burdened by HIV. The same disparity can be seen among women and young adults. In Mecklenburg County, Black women are 12 times more likely to be diagnosed with HIV than White women [MCPH Epidemiology, 2018]. In 2016, women accounted for 19% of new HIV infections but only seven percent of all PrEP users in the U.S. [AIDSVO, 2018]. In Mecklenburg County, nearly 1 in 5 new HIV diagnoses occur among young people age 15 to 24 [MCPH Epidemiology, 2018]. Women of color and people under the age of 24 are disproportionately affected by HIV, yet they make up less than 20% of total PrEP users in the U.S. [Highleyman, 2016]. Trans women are also at a higher risk of HIV infection, and while actual data for trans women of color who are on PrEP is unknown, that number is also probably low.

The South continues to bear the greatest burden of HIV infections in the U.S. Southern states accounted for more than half (52%) of new HIV diagnoses in 2016, but only 30% of all PrEP users reside in the South, and nearly half of all PrEP users were concentrated among just five states: New York, California, Florida, Texas, and Illinois [AIDSVO, 2018]. PrEP use is not reflective of the HIV epidemic or the availability of Truvada®; it's reflective of who has access. These statistics show that we are failing our most vulnerable populations thus leaving people most at risk of HIV infection without an additional tool to keep them safe.

How Are We Doing?

Although Truvada® has been approved by the FDA as the only PrEP drug for HIV since July 2012, uptake has been slow in Mecklenburg County, especially among highest risk individuals and individuals who lack health care. In a May 2016 survey of 56 participating health departments in North Carolina, only two were prescribing PrEP [Zhang et al., 2017]. Although Mecklenburg County accounts for more new cases of HIV than any other county in North Carolina, it was not one of the two county health departments providing PrEP. According to the website prelocator.org, there are currently eight health clinics in Mecklenburg County that provide PrEP for the uninsured; however, most of those clinics operate on a sliding fee scale. Scientific advances, like PrEP, could one day bring Mecklenburg County closer to virtually eliminating new HIV infections, but the only way this can be achieved is by expanding access to PrEP for our most vulnerable populations. PrEP must be available to the most vulnerable populations, where they receive care, and at a cost that they can afford. Unfortunately, the people who need PrEP the most in Mecklenburg County are not even aware that it exists. We must do more to increase knowledge and awareness of PrEP in populations that bear the greatest burden of disease. Education and awareness campaigns must also be cognizant of the specific needs of our most vulnerable populations.

Despite the overwhelming evidence that points to the effectiveness of PrEP in preventing new HIV infections, 1 in 3 primary care doctors and nurses still have never heard of it [CDC Vital Signs, 2015]. There are countless stories in Mecklenburg County from patients who have been denied PrEP from their primary care doctors either because they didn't know enough about PrEP to feel comfortable prescribing it or because of their personal feelings about PrEP. Untrained medical providers and a lack of broad-based understanding of PrEP create a significant barrier to accessing PrEP for many disproportionately affected individuals in Mecklenburg County. Lack of knowledge about PrEP can lead to misinterpretations about the complexity of managing patients on PrEP. Moral judgment and the misconception that PrEP promotes irresponsible behavior and promiscuity can create such stigmatizing environments that some patients eventually give up on pursuing PrEP altogether. Medical providers who serve high-risk populations must be willing to provide PrEP.

How Will We Achieve This Objective?

Although the number of people in need of PrEP and the number of people receiving PrEP in Mecklenburg County is not known, the county is making progress in increasing access to PrEP, especially for uninsured individuals through MCPH's pilot PrEP project. In November 2017, the HIV Community Planning Group, made up of community partners as well as public health staff, began convening to address HIV prevention in Mecklenburg County. Because of these HIV planning sessions, there was an overwhelming desire to have MCPH prioritize PrEP for high risk, uninsured individuals in Mecklenburg County. A plan to use 2017-2018 contingency funds to pilot PrEP in Mecklenburg County was presented at the BOCC meeting on December 19, 2017. This plan was accepted by the BOCC and a pilot PrEP project was initiated through new contracts with four community partners already providing clinical services in areas with access to high-risk individuals, with plans to expand beyond these four community partners in the future. The pilot PrEP project will be a 24-month pilot aimed at providing PrEP to at least 320 high-risk, uninsured individuals

If the pilot PrEP project is to be successful, investments must be made in community awareness and education for high-risk individuals. There must also be a scale-up in other providers willing to provide PrEP regardless of insurance status. Resources must be augmented for traditional providers of PrEP services to increase their capacity for serving prospective PrEP clients. Local newspapers and other publications, as well as radio stations, must be utilized with public service announcements and culturally

competent and relevant messaging. Providers in Mecklenburg County must have adequate education and support through the expansion of existing medical education programs as well as utilizing local medical publications to publish more articles about PrEP, so that local providers will have the knowledge and resources to adequately care for patients on PrEP. Deciding to utilize PrEP can be a difficult step for individuals. If Mecklenburg County is to increase access to PrEP, support must go beyond the provider and patient relationship and must also include support to help patients not only access PrEP but continue a PrEP regimen.

What Are the Best Practices?

Expansion of the number of providers offering PrEP to uninsured individuals in Mecklenburg County beyond the four community partners is a best practice because successfully increasing access to PrEP is key to reducing new HIV infections. Integrating PrEP into existing HIV and clinical services is a best practice for maintaining and expanding PrEP in Mecklenburg County because it leverages existing infrastructure and resources which speeds the rate at which PrEP is offered. Incorporating PrEP into STD partner services is a best practice to increase access to PrEP for the uninsured because Disease Intervention Specialists (DIS) are ideally situated to identify persons who might benefit from PrEP. Likewise, utilizing community outreach and testing programs is a best practice because community outreach workers are situated within communities most heavily impacted by HIV thus providing access to clients who might benefit from PrEP the most. Utilizing state STD surveillance data to identify individuals at increased risk of HIV and linking them to services is also a best practice because it is an opportunity to be proactive versus reactive, as well as provide up-to-date risk reduction education and services such as PrEP. Utilizing PrEP Navigators is a best practice because PrEP Navigators can be effective in reducing and eliminating barriers to timely prevention, diagnosis, and treatment in their community through recruitment, linkage, and retention to care and health outcomes for people of color at high-risk for HIV.

How Will We Measure Our Success?

- Number of high-risk individuals recruited into the pilot PrEP project.
- Number of pilot PrEP project participants who return for follow up appointments every three months.
- Number of pilot PrEP project participants on continuous Truvada® therapy at the end of 24-months.
- Percent of individuals on Truvada® who maintain an HIV-negative status during the pilot PrEP project.
- Pre/post survey to determine the increase in education and awareness about PrEP because of the pilot PrEP project.

Objective 2

Provide leadership and logistical support for a PrEP provider collaborative to educate medical providers, strengthen links between providers and services supporting PrEP users, and enhancing the referral network to provide seamless continuity of services.

Why Is This Important?

Collaboratives help improve coordination and communication between healthcare professionals. In turn, quality of care, as well as patient outcomes, are improved. It is often said that we can accomplish more together than we can alone. Collaborative approaches allow for individual skills as well as

collective skills and experience to function together, resulting in a higher level of services that would be achieved working alone. Strong, sustainable provider collaboratives have been shown to strengthen relationships, teach best practices, gain clinical improvements, and create a unified voice.

A plethora of studies concluded that the behavior of medical providers as a key factor that needs to change to improve patient care. While true, the focus cannot be placed solely on the individual clinician; we must also examine the organizational and structural barriers that shape the behavior. The greater challenge is to change the behavior of medical providers and get everyone on the same page, despite fragments in the healthcare structure. Consistency, continuity, and coordination among providers, working together to provide seamless patient care, is what is needed.

Consistency of care means that there should be low variability in care regardless of whom a patient sees or where a patient goes for care. In other words, a primary care provider should be as familiar with PrEP as an infectious disease doctor. Continuity of care is a provider-led, team-based approach to health care that reduces fragmentation of care and improves overall patient care. Coordination of care means that medical providers work together across disciplines to provide unified patient care. A multidisciplinary approach brings together medical providers who may seldom communicate and helps achieve a continuous caring relationship with the patient and seamless service through integration, coordination, and sharing of information for the provider. Patient care can only be seamless when it is consistent, continuous and coordinated. A PrEP providers collaborative is critical to achieving this seamless patient care.

How Are We Doing?

In Mecklenburg County, collaboratives exist between community partners, medical providers, individuals, and community organizations; however, there currently is not a PrEP provider collaborative to meet the needs of medical providers prescribing PrEP. Even with a PrEP providers collaborative in place, the challenge for MCPH will be whether it has the internal capacity and resources to manage the relationships, linkages, partnerships, and communication between the collaborative members.

How Will We Achieve This Objective?

A full-time Project Manager is needed to manage the implementation of the PLAN, including all aspects of the pilot PrEP project. The main goal of healthcare providers is to offer patients the best care. To do so, many healthcare providers need a skill that is not automatically associated with healthcare – project management. Project managers help organizations save time and money, improve their return on investment, and reduce risk. As organizations take on new projects and improve existing processes at every stage of the continuum of care, the need for skilled project managers continues to emerge. Project management can offer structure and discipline and allows organizations to accomplish more in less time, save resources and foster collaboration. In addition to hiring a skilled Project Manager, existing collaboratives with the Greater Charlotte HIV Collaborative, Black Treatment Advocates Network (BTAN) Charlotte, PowerHouse Project, and other community partners must be strengthened and expanded and existing resources must be utilized to avoid reinventing the wheel.

What Are the Best Practices?

A resource inventory specifically for PrEP providers is needed in Mecklenburg County. Compiling a provider-focused resource inventory for PrEP providers is a best practice for providing support and continuity of services. Educational information, billing codes for PrEP, payer contact information,

pharmacies familiar with ART, locations for STD/HIV screening as well as a list of local PrEP champions/experts willing to provide consultation to other providers, should be included in the resource. Identifying and utilizing PrEP champions can be particularly valuable as they are a resource for gaining and sustaining momentum for the PrEP strategy.

How Will We Measure Our Success?

- Number of providers involved in the PrEP collaborative before and after implementation of the pilot PrEP project.
- Number of new PrEP partnerships and collaborations because of the pilot PrEP project.
- Number of providers utilizing PrEP providers resource inventory.

Objective 3

Conduct community education efforts to increase understanding of PrEP and awareness of PrEP provider locations.

Why Is This Important?

The CDC estimates that approximately 1.2 million adults at substantial risk for HIV could benefit from comprehensive HIV strategies, including PrEP [CDC, 2015 MMWR Weekly Report]. As of 2015, only 1.7% of the population in NC utilized PrEP [Mera et al., 2016]. PrEP use in the U.S. is largely limited to White men age 25 and older [Mera et al., 2017]. Even though MSM, and in particular BMSM, are the most affected by HIV in the U.S., research shows that many are unaware that PrEP exists, which means that individuals at the highest risk for HIV are likely not benefitting from PrEP. A 2015 study of BMSM in Atlanta found that only 23% were aware of PrEP [Eaton et al., 2015]. Black women are also disproportionately impacted by HIV in Mecklenburg County. Women may have fewer interactions with medical providers who are knowledgeable about PrEP. Reproductive health clinics and obstetricians/gynecologists may not be as informed as sexual health clinics serving MSM, and therefore, women's health providers must be leveraged to offer PrEP as an effective strategy to reduce HIV infection. Education efforts to increase interest in PrEP are needed to reach Black women, including trans women of color who may be missed with PrEP messages otherwise. The message for women must no longer be one of protecting themselves from their partners but, instead, one of empowerment to take care of their health. Aggressive campaigns to educate individuals about PrEP is needed in Mecklenburg County, especially among BMSM, Black women, and trans women of color. Several studies show that once educated, high-risk populations have an increased willingness to access PrEP; however, community education efforts can have no effect if high-risk individuals do not know where to go to get PrEP.

How Are We Doing?

A directory of PrEP providers is available through NCATEC; however, an up-to-date directory of Mecklenburg County PrEP clinics and providers, especially those that provide PrEP for uninsured individuals, must be created and maintained to provide locally relevant information. Currently, there is no HIV Hotline in Mecklenburg County; however, MCPH does offer an HIV/STD testing and information line that provides information on testing and some resources. The lack of a local HIV Hotline is a missed opportunity to provide additional education and awareness about PrEP and PrEP providers in Mecklenburg County. Furthermore, while many households in Mecklenburg County do have internet access, community education efforts must include both new communication platforms (i.e., social media and dating apps) as well as more traditional platforms (i.e., print media). Learning curves for utilizing

new communication platforms may be steeper for older individuals, so community education efforts must be tailored to meet the needs of varying age groups.

How Will We Achieve This Objective?

Increasing community awareness and understanding of PrEP and the location of PrEP providers will require the implementation of ongoing educational campaigns for populations disproportionately affected by HIV in areas with the highest prevalence of HIV. A PrEP Community Awareness Plan has been established to educate the community about PrEP, provide information on where to access PrEP, and educate that STD prevention is easy and can make “healthy the new sexy”. The primary audience for this awareness plan is young Black and Latino men and women ages 18-32. The secondary audience is individuals without insurance. The tertiary audience is all sexually active people in Mecklenburg County.

Key messages include:

- I. Being healthy is sexy.
- II. PrEP is an effective HIV prevention method.
- III. PrEP is accessible without insurance.

Strategies and tactics include:

Strategy 1: Educating the community about PrEP.

Tactic: Widespread awareness campaign in English and Spanish.

Strategy 2: Destigmatizing STD prevention.

Tactic: Utilizing diverse images and familiar faces in awareness campaigns.

Strategy 3: Advertising focused in key areas and venues.

Tactic: Focusing on bars and clubs, various events, and utilizing partnerships and outreach efforts already in place.

Strategy 4: Empowering the community to take care of its health.

Tactic: Messaging on campaigns inclusive of questions such as, “Is PrEP Right for You?”

For the PrEP Community Awareness Plan to be successful, gatekeepers must be utilized to build and strengthen relationships within communities at highest risk for HIV. Traditionally Black and Latino institutions such as barbershops, beauty shops, bodegas, churches, and fraternities and sororities must be recruited in education and awareness efforts as well.

What Are the Best Practices?

Peer education is a best practice as it has been found to be an effective channel for behavior change, especially among vulnerable populations that may treat external information and sources with suspicion. Peer education respects the influence that peers have on one another. Peer education recognizes that education has a better chance of leading to behavior change when it comes from individuals that share similar experiences. Empowering high-risk populations with PrEP education helps move them from the stage of unawareness about PrEP to the stage of understanding. Once there is knowledge and understanding, they are more likely to utilize PrEP as a prevention method and effect positive changes in their life.

Utilizing focus groups is a best practice because it can help better understand and identify feelings and perceptions about PrEP within high-risk populations. Focus groups can help to understand better how to successfully and effectively communicate with high-risk populations to ensure that community education campaigns reach high-risk populations with culturally relevant and competent messages.

How Will We Measure Our Successes?

- Demand for PrEP before community education efforts and after community education efforts.
- Survey community's awareness of PrEP and provider locations, before community education efforts and after community education efforts.
- Number of individuals accessing PrEP because of community education efforts.
- Impact community education efforts have on participants' attitudes and behaviors before the pilot PrEP project begins, as it is implemented and once it ends.

Objective 4

Increase availability of support services to those accessing PrEP to increase compliance and acceptance.

Why Is This Important?

For some high-risk individuals, social and environmental factors can make it more difficult to adhere to PrEP regimens. Many high-risk individuals cannot access or interpret the health care delivery system to the best of their advantage. Support services, such as case management, patient navigation, and peer navigation can help facilitate retention in care. As of July 2016, the state of Rhode Island provides case management services to individuals deemed to be at risk for HIV based on defined behaviors and characteristics. Building off the successes of targeted case management (TCM) for PLWH, similar services for high-risk individuals including intake process, assessment, re-assessments, care planning, referral including behavioral health, medical appointments, housing, HIV testing, STD testing, and vaccinations have been included for high-risk HIV negative individuals.

How Are We Doing?

Mecklenburg County has case management and patient navigation services to support PLWH; however, those same types of support services are not available to help prevent high-risk individuals from HIV infection. Case management programs are designed to support the provision of high-impact prevention services. The Ryan White program defines case management as, "a range of client-centered services that link clients with healthcare, psychosocial, and other services by trained professionals." Patient navigators work to streamline entry and utilization of care by connecting individuals with healthcare services in a timely manner; improving access to medications, education, transportation, and counseling; and providing other case management support that can reduce barriers to care. These are critical pieces missing in Mecklenburg County that could help high-risk HIV negative individuals on PrEP stay engaged in the care system. Peer navigator programs have also been successful in helping individuals with medication adherence and increasing access to services.

How Will We Achieve This Objective?

Increasing compliance and acceptance of PrEP in Mecklenburg County will require the utilization of some of the same support services available to PLWH. Case management services, patient navigation, and peer navigation must be leveraged to facilitate a more comprehensive delivery of services and address the medical and support service needs of high-risk HIV negative individuals on PrEP.

In addition, there is a need for a central PrEP resource (i.e. directory), specifically for Mecklenburg County, with PrEP providers that have been vetted so that individuals seeking PrEP services are not accessing services from medical providers who lack the knowledge to prescribe PrEP or who have moral belief systems that deter them from prescribing PrEP to high-risk individuals. It is important that this directory be made available via the web, as well as traditional print format.

What Are the Best Practices?

Howard Brown Health, one of the nation's largest LGBTQ organizations, started a CDC Demonstration Project in July 2015 utilizing PrEP case management to provide managed PrEP primary care to individuals in need of more assistance for taking or managing PrEP. This short-term, intensive program provided sexual health and HIV/STD reduction education, medical appointment retention, and medication access support to PrEP-eligible individuals. Standard enrollment into PrEP case management consists of three appointments; however, some individuals are enrolled for longer. PrEP case management staff guide individuals through their first three appointments, while simultaneously providing sexual health information and PrEP medication adherence training. Because of the demonstration project, there was increased adherence and retention for HIV vulnerable PrEP patients and referral systems were developed through community partnerships.

How Will We Measure Our Successes?

- Number of individuals enrolled in pilot PrEP project.
- Number of individuals utilizing support services for pilot PrEP project.
- Number of support services for PrEP available before pilot PrEP project and after pilot PrEP project.

Treatment as Prevention (TasP) Strategy

TasP refers to the use of antiretroviral treatment (ART) to prevent HIV transmission. When treatment is prescribed early, and adherence to treatment is consistent, the amount of virus in the blood becomes undetectable levels, and there is effectively no risk of HIV transmission. Thus, in addition to effective treatment lengthening and improving the quality of life in PLWH, suppressive treatment has the added benefit of preventing new infections in others.

Clinical studies have demonstrated that persons whose virus is suppressed pose virtually no risk of transmitting HIV to others. [Cohen 2012, Cohen 2016, Rodger 2016] The HIV Prevention Network (HPTN 052) study demonstrated that the use of ART by HIV positive men and women reduce the risk that their HIV negative partner would become infected by 96%. The final HPTN 052 study results in 2015 showed that no participant with a fully suppressed viral load transmitted the virus to his or her HIV negative partner. TasP has perhaps the greatest impact of any in reducing new HIV diagnoses. Such a strategy requires timely linkage to care, rapid initiation of ART, achieving viral suppression and retention in care. The success of TasP is dependent upon PLWH adhering to their HIV treatment.

The greatest risk of transmission of HIV is in the early stages of a new infection or when a patient drops out of care and the virus is no longer suppressed. Thus, prompt, early entry into treatment and effective retention in care will decrease the risk of transmission of HIV to new individuals.

Public health jurisdictions such as San Francisco and New York City have demonstrated the effectiveness of programs designed to shorten the time between detection of HIV infection and the start of ART [Bacon 2018, Buchbinder 2018, Scheer 2018, Daskalakis CROI 2017]. These interventions have had a favorable impact on interruption of transmission of HIV and reducing new HIV infections [Buchbinder 2018]. Many public health jurisdictions have considered TasP to be a significant part of their push to eliminate new HIV infections [POZ, 2017]. Early treatment and retention in care have been well-demonstrated to be important to the success of limiting HIV burden in the community [Mugavero 2013, Castel 2012].

The TasP strategy of the Mecklenburg County PLAN is intended to decrease new HIV diagnoses in Mecklenburg County by increasing the numbers of newly HIV positive patients who are rapidly and effectively treated by ARVs and by retaining patients in care. Meeting this goal of viral suppression in PLWH in Mecklenburg County requires effective early detection of infection, prompt navigation to care and treatment, and sustained maintenance of suppressive ART. The availability of supportive social and economic wrap-around services will be key to recruitment to care and retention in care for many of the priority populations of Mecklenburg County. Furthermore, critical to success will be the physical, emotional and spiritual support provided by the faith community. The following details the prioritized objectives for this strategy.

Objective 1

Maintain community input into the development and implementation of HIV-related services.

Why Is This Important?

Achieving public health goals of HIV-prevention requires collaboration with partners that reflect the diversity of the community. This includes PLWH and providers across the spectrum of HIV services. This input helps to assure quality of service, and that the real needs of the community are being addressed. Ensuring this ongoing community involvement is recommended by the CDC and the Health Resources and Services Administration (HRSA).

How Are We Doing?

Mecklenburg County has a population of over 1 million people; there are 6,837 residents diagnosed and living with HIV alongside an estimated 900 persons who are unaware of their status; and the County's new HIV infection rate is in the top 25% of comparable municipalities in the United States (see *Introduction*). There have been ongoing efforts since 2016 to create a community-wide HIV plan. Lack of political will, inconsistent engagement and a lack of coordination have hampered the effectiveness of these efforts and impacted the quality of HIV-related services. A renewed effort in 2017, including a presentation at BOCC addressing HIV-related disparities in Mecklenburg County, has sparked renewed efforts by community partners and has restored credibility to community planning efforts setting a foundation for expanded participation that is reflective of the community's diversity.

Nevertheless, gaps remaining are:

- Lack of Federal funding to foster integration and collaboration.
- Lack of consistent Federal/State funding to support HIV services despite increased incidence and prevalence of HIV.
- Lack of general community awareness of the HIV epidemic in Mecklenburg County.

How Will We Achieve This Objective?

Sustaining community involvement will include implementing short-term, mid-term and long-term tasks and strategies to meet evolving needs of the community. Recommendations include implementing a county-wide HIV inventory (e.g., a needs assessment) to provide an accurate understanding of the current state of HIV efforts in Mecklenburg County regarding HIV education, HIV testing, knowledge of the preventive benefits of TasP and PrEP, identifying the barriers to engaging in treatment and to retain PLWH in treatment.

An effective needs assessment process will provide platforms for community input in the shaping of HIV services. The results, reflecting community needs, will help create programs and policies that reflect their contribution, resulting in greater participation and collaboration in implementation.

Other actions to increase community engagement will include raising our awareness of the effectiveness of solutions in other communities. These may include San Francisco's "Getting to Zero" program; New York City's "End the Epidemic" program; establishment of a test and treat strategy as standard of care to improve entry into the treatment cascade; more frequent HIV testing and use of the opt-out testing strategy; education of providers who do not provide frequent HIV care; and community education and awareness of HIV testing and treatment.

What Are the Best Practices?

Research supports inclusive and representative community involvement in integrated planning of prevention and care programs as key to further progress in reaching the goals of HIV prevention.

For the Mecklenburg County HIV PLAN, "community" is defined broadly, and includes not only key stakeholders, but others who may contribute by their expertise, interest, and energy. Community are those engaged professionally in HIV care and support, such as providers, members of health and support agencies, healthcare and public health professionals; those whom HIV affects directly (PLWH, partners, friends and acquaintances); those who may not be directly affected but have a concern for those who are affected; the faith community, who believe that they should provide help to neighbors in need; and all others who wish to become engaged. Strong and sustained participation in the planning and execution of plans by individuals at-risk of HIV and PLWH is desired.

Recommended strategies for achieving community involvement include Initiating open dialogues to understand, to provide solutions to jurisdictional challenges, to identify engagement barriers and to identify opportunities. This requires representation from various entities to ensure support and coordination of funding streams, including community and key stakeholders.

Sustaining ongoing community input requires considering health inequities as a priority to ensure prioritization of HIV prevention activities and resources to the most disproportionately affected populations. Surveillance data should inform the engagement process, and guide the delivery of culturally and linguistically appropriate prevention services.

How Will We Measure Our Success?

- Documentation of active participation in planning and implementation processes by representative, diverse community members,
- Ongoing and annual surveying of participants to gauge satisfaction with process and outcomes,
- Modifications in plans in response to community input.

Objective 2

Encourage integrated care for persons living with HIV to include primary care and behavioral health services.

Why Is This Important?

Social determinants of health are critically important for engagement PLWH. The patient's ability to remain in care is enhanced if medical services are paired with necessary integrated services which address social determinants such as mental health, substance abuse, housing, education and transportation needs. If these issues are not adequately addressed, their presence in the life of PLWHs will interfere with adherence to medication and retention in care. Established programs, such as the Ryan White assistance program, have struggled with these issues due to insufficient support service resources in Mecklenburg County and the difficulty with coordinating support services.

In September 2017 the CDC reported "When antiretroviral treatment results in viral suppression, defined as less than 200 copies/ml or undetectable levels, it prevents sexual HIV transmission." In other words, *U=U*, "Undetectable equals Untransmissible." Clinical trials have shown a 93% to almost 100% effectiveness of viral suppression in preventing transmission.

This acknowledgment of TasP endorses the importance of getting HIV-positive individuals into care as soon as possible. The effectiveness of TasP is determined by HIV-positive individuals initiating effective treatment, remaining engaged in care and achieving the viral suppression that will prevent further transmission.

This cannot be achieved in a vacuum, or in a system of disconnected services. A client's ability to remain in care is enhanced if medical services are integrated with necessary mental health services, addressing those issues (e.g., addiction, depression, and stigma) that interfere with consistent taking of prescribed medications. Achieving the goal of viral suppression, which will result in improved health and prevention of new infections, requires an integrated approach that considers both the physical and mental health needs of the client. This involves the collaborative efforts of substance abuse providers, case managers, social workers and other human service providers.

How Are We Doing?

The HIV Community Planning Group has identified inconsistent approaches to care, lack of coordinated reporting and issues with data sharing as major challenges to maintaining sustained HIV care. There is a need for establishing a clear definition of integrated care for use by clients and providers, and the greater inclusion of mental health services in the treatment network.

How Will We Achieve This Objective?

Achieving this objective will necessitate inclusion of effectiveness of integrated services in the county-wide HIV needs assessment. Data on treatment approaches of different providers and their effectiveness will also need to be collected to understand the current state of treatment offered in Mecklenburg County and existing relationships between medical and mental health providers. This data will help establish clear guidelines on integrated care and the development and utilization of a Memorandum of Understanding with providers to foster adoption of these guidelines.

There is also a need to create a standardized, consistent process for gathering data on client utilization of services and available resources for referral. This will also help identify gaps in needed resources and

identify opportunities for enhancing integration of care. Implementation of these processes will rely on the work of a coordinating body with staff support to manage ongoing and emerging responses to HIV.

Achieving Integrated care requires coordination with efforts that address the social determinants of health, including transportation, education, housing and employment.

What Are the Best Practices?

Expanding opportunities for integrated services to address co-morbid conditions, such as mental illnesses ensures that access for clients' needs are being met which will reduce HIV and STIs while increasing access to care. Inter-disciplinary healthcare teams, including diverse membership such as physicians, psychologists, social workers, and occupational and physical therapists are needed to fulfill patients' diverse needs and to maximize beneficial health outcomes.

Exploration of other jurisdictions' experiences and practices will facilitate understanding the processes other jurisdictions have of basic services for optimal HIV care. These experiences can be used by those providing HIV services.

Effective strategies of medical care for HIV-positive individuals that integrates mental health services in support of viral suppression include high degrees of collaboration and communication among health professionals that share information related to patient care and the establishment of comprehensive treatment plans to address patients' biological, psychological, and social needs. The interdisciplinary health care team includes a diverse group of members (e.g., physicians, psychologists, social workers, and occupational and physical therapists), depending on the needs of the patient.

The mental health needs of patients can be met by providers offering cognitive, capacity, diagnostic, and personality assessments; behavioral health assessment and treatment. The goal is to provide individuals with the self-management skills necessary to effectively manage their HIV status. Effective approaches include diagnosis and treatment of mental and behavioral health problems (e.g., depression, suicide risk, anxiety disorders, addiction, and insomnia); consultation and recommendations to family members, significant others, and other health care providers; and addressing comorbidities of ongoing substance use and active psychiatric disorders.

There is an important role for the faith community in achieving this objective. Offering spiritual and social support to those under treatment, publicly addressing issues of stigma that impede adherence and advocating for persons to know their HIV status and receive care will have a positive impact on prevention of new infections.

Services for integration of care should also include case management/social work, transportation and legal services.

In addition, those caring for and supporting patients must provide culturally and linguistically competent services, exhibit a desire to build trust and work to eliminate stigma in the environments in which they serve patients.

How Will We Measure Our Success?

- Outcome based analyses will measure retention in care (including measures of duration of retention), improvements in clients' health and satisfaction and ultimately the reduction of new HIV infections in the County.
- Additional measures of success will include determining the establishment of integrated care guidelines specifying mental health resources, and establishment of referral processes for guiding HIV-positive clients to appropriate services.

Objective 3

Expand patient navigation services.

Why Is This Important?

Assisting HIV-positive individuals with navigating the health care delivery system and networks of supportive services is invaluable in maintaining treatment adherence and to retention of patients in care, resulting in viral suppression. Providers of this assistance include HIV medical case managers and HIV patient navigators. Understanding that these services can complement each other, the HIV Community Planning Group recognizes a lack of clarity about the roles of case managers and the emerging patient navigation service.

Although definitions and functions may vary from provider to provider, generally a patient navigator functions as a patient advocate who links clients into care and assists in retaining them in care. In some settings, people playing these roles are called case managers, peer advocates and other terminologies. The functions of navigators may overlap with other roles (e.g., case managers, social workers, or peer counselors). Medical case management, an eligible Ryan White CARE Act service as defined by HRSA and the CDC definition of HIV patient navigation, shares many qualities. Both are processes of service delivery to help a person obtain timely, essential and appropriate HIV-related medical and support services to optimize an individual's health and prevent HIV transmission and acquisition. These services include, linking persons to health care systems, assisting with health insurance and transportation, identifying and reducing barriers to care (e.g., mental health and substance abuse, housing, transportation, employment), and tailoring health education to the client to influence his or her health-related attitudes and behaviors. Peer and paraprofessional navigation, ART initiation and adherence, education and counseling, outreach and case management approaches are recommended in guidelines on entry and retention in HIV care by the International Association of Providers in AIDS Care.

Evidence supports case management and patient navigation services as cost effective approaches to retaining clients in care, addressing obstacles to care and eliminating health disparities. The prevention of viral transmission, avoidance of medical complications and expensive inpatient medical services reduce costs and have a positive impact on the health of the client and the community.

How Are We Doing?

There is currently only one HIV Patient Navigator employed by MCPH; this is not sufficient to meet client demand. There is no consistent use of patient navigation or case management services from provider to provider, and there is no overall county-wide understanding of the availability of such services.

Associated needs include: education of providers of the role of Patient Navigator and greater collaboration with medical case management services; understanding the capacity of different organizations to provide patient navigation; integration of HIV patient navigation in health-related referral networks (e.g., the Aunt Bertha Referral Platform).

How Will We Achieve This Objective?

One of the first steps in the process should be an inventory of the use of and availability of patient navigators who support patients in reaching and remaining in sustained care for HIV. Achieving this objective will include inclusion in the countywide HIV needs assessment data on demand for patient navigation and case management services.

Establishing consensus on functions of case management and patient navigation providers will eliminate confusion among providers, consumers, and funders, enhance collaboration, and optimize resources in support of viral suppression goals. In response to needs assessment findings, increasing where necessary the capacity for HIV patient navigation and provide evidence-based training on effective HIV patient navigation approaches.

What Are the Best Practices?

Effective HIV patient navigation identifies client needs and barriers and develops care plans. A key service is client tracking and outreach for the out-of-care, re-engaging them in accepting and adhering to recommended therapies. This is more than making appointments. Supporting client retention in care often requires establishing trust, providing emotional support and encouragement and helping to address the stigma that is inhibiting treatment adherence and retention in care. This requires providers familiar with the network of services, and who are culturally and linguistically competent.

Patient navigators play a key role in coordinating services and educating clients about the service system, connecting clients to behavioral health services in support of integrated care and addressing social determinants of health (e.g., housing, employment, etc.) that impact patients remaining in care and achieving viral suppression. The desired outcome of these services is assisting the client in achieving self-management of their HIV status.

As with Objective 2, those supporting patients must provide culturally and linguistically competent services, must exhibit a desire to build trust, and work to eliminate stigma in the environments in which they serve patients.

How Will We Measure Our Success?

- Measuring increase in PLWH linked to care
- Measuring rates of retention in care and comparing against baseline rate.
- Measuring rates of achieving viral suppression and comparing against baseline rate
- Role clarification of medical case managers and patient navigators.
- Increase in medical case management and patient navigation capacity to support the integration of care.
- Client surveys will assess satisfaction with navigation and case management services.

Objective 4

Collaborate with providers to explore newer models of linkage to care, such as “Test and Treat” strategies.

Why Is This Important?

It is critical to assure prompt and robust linkage to care as a way to prevent transmission of HIV and minimize new infections. One recent innovation is the use of a “Test and Treat” strategy. The goal of test and treat is to implement rapid HIV treatment as soon as possible with ARV medications to reduce the spread of new HIV transmission. Clinical service jurisdictions such as the San Francisco Department of Health clinics have achieved the start of treatment within days of diagnosis [Scheer 2018, Buchbinder 2018].

Test and treat intends that patients are tested and treatment started on the same day, if their HIV test is positive. With this “rapid start” approach, the risk of HIV transmission is substantially decreased, because PLWH who are receiving treatment are far less likely to transmit infection to others. The sooner treatment is started, the shorter the time to viral suppression. This improves the health outcomes in people who do not yet know their sero-status, and reduces HIV transmission. Rapid ART initiation reduces the loss of patients in the period between testing and treatment, supporting earlier viral suppression.

The Center for Disease Control (CDC) defines treatment as the goal of achieving viral suppression as a result of entering the HIV Care Continuum [CDC, 2017]. The continuum consists of 4 stages: 1) diagnosed, 2) linked to care within 30 days of learning they are HIV positive, 3) received medical care/treatment and 4) retained in care and virally suppressed. Collaboration with other providers who may not be familiar with newer models of HIV management is critical within our county. The CDC has provided several initiatives to help improve the outcomes of the HIV Continuum of care:

- Funding health departments and community-based organizations to increase testing, improve linkage to care and support improvement to viral suppression.
- Providing technical assistance (tools and skills for HIV presentations).
- Improving surveillance (lab data).
- Researching new approaches (i.e. behavior interventions).
- Developing guidelines.
- Launching educational campaigns on HIV Risk Reduction Tools.

Test and treat is not a stand-alone intervention but is joined to other interventions recommended in this report. Achieving the benefits requires engaging with specialists in HIV care to expand adoption of this approach to HIV testing, treatment and patient management by medical providers across the community.

How Are We Doing?

Although there is awareness of the importance of rapid treatment among some HIV treatment providers, there seems to be inconsistency in the time it takes for newly diagnosed patients to enter care and to start treatment. The reasons for this are not entirely clear. There may be inconsistencies in understanding the importance of rapid start of treatment among some providers, patients and support organizations. In other instances, there may be structural and procedural barriers to rapid entry to the Care Continuum. Successfully engaging specialists in HIV care in establishing standard practice guidelines and promoting widespread adoption by other medical providers require further research on implementation, with specific recommendations that will address local challenges. Mecklenburg County

can learn from other communities that have made significant progress in reducing HIV transmission (e.g., New York, San Francisco) [Scheer 2018, Daskalakis 2017].

There is a growing provider awareness of the benefits of HIV testing and rapid start of ART. However, members of the HIV Community Planning Group identified a need for greater coordination among medical providers, medical education directed to some providers who are not familiar with rapid start of treatment, and establishment of referral networks to increase client access to early-intervention treatment.

How Will We Achieve This Objective?

Achieving this objective will require assessment of deficiencies/issues leading to delays in moving patients from diagnosis to treatment. Measurements of provider standards of care regarding test and treat and identifying barriers to implementation will be necessary. This will identify those providers in need of ongoing medical education on implementing rapid start ART to achieve earlier viral suppression.

There is a need for enhanced coordination of outreach efforts by County staff, patient navigators and other providers to identify individuals and connect them to effectively test and treat practitioners, and helping to overcome barriers to access.

The HIV Community Planning Group recommends exploration of centralizing HIV care around experienced providers, creating available reception points for referrals that would increase access of clients.

What Are the Best Practices?

Evidenced-based approaches for implementing test and treat and expanding its use as a standard of care include coordinated provider education on the benefits of early intervention to increase the number of providers offering rapid ART. Test and treat must be linked to integrated care, patient navigation, outreach and linkage to and retention in care efforts, recognizing the challenges of initiating and remaining in HIV care.

Training of providers must be complemented by patient education to encourage self-management and to facilitate rapid entry into care and treatment, as well as retention in care, adherence to treatment, and prevention of STDs. Retention in supportive services for promotion of sexual health maintenance will support achieving viral suppression.

Best practices include the enhancement of providers' knowledge in HIV prevention, health and clinical education to raise awareness, build skills, eliminate stigma and discrimination, improve consumer health literacy, ensure high-quality care and services while preventing further transmission of HIV within Mecklenburg County. TasP is one intervention that has been proven by many trials to be effective in preventing the spread of HIV. However, our goal is to provide support and educate providers who may not be knowledgeable about HIV standards regarding rapid start of ART.

How Will We Measure Our Success?

- Shortening of time between first detection of HIV infection and entry into care, start of treatment, and time to viral load suppression,
- Analysis of data showing the effect of clients receiving TasP, rates of retention in care and attainment and maintenance of viral suppression,

- Assessment of the numbers of providers who are using rapid entry into treatment strategies including test and treat strategies effectively.

Objective 5

Utilize available needs assessment processes to identify gaps in services and opportunities for improvement in HIV care.

Why Is This Important?

The needs assessment will provide an overview of the current HIV service landscape, identify key gaps and identify available resources to best meet the needs of our patients. By obtaining a needs assessment of the County we can identify issues with systems and processes that may result in gaps in services. The needs assessment will provide summary analyses of comprehensive needs of patients and those who are at risk for HIV within Mecklenburg County, including priority populations. It will identify specific populations of concern who are at risk and lack engagement or retention in care (Black and Latina women, transgender persons and MSM).

The needs assessment will build upon existing processes (e.g., Ryan White Comprehensive Needs Assessment) and will serve as a foundation for addressing new and evolving concerns regarding HIV services and utilizing new technologies for increasing community participation in the process. By identifying gaps and implementing improvements, we can increase the proportion of PLWH who are prescribed ART and are able to stay engaged in HIV medical care and adhere to their treatment so that they can achieve viral load suppression. This will allow them to live healthier, longer lives and reduce the chances that they will transmit HIV to others.

How Are We Doing?

The existing needs assessment successfully meets the needs of the Ryan White program, and provides a basis for enhancements of community interest, so that all voices are heard. However, Mecklenburg County has lacked a county-wide strategy or work plan for HIV. This currently proposed PLAN is intended to remedy this short-coming. There are county, community and provider gaps in addressing the needs for PLWH, and little has been done in the way of a comprehensive HIV needs assessment. Creating an HIV-related needs assessment will inform future iterations of the PLAN by providing important information to the key stakeholder and planners. A needs assessment will also provide additional opportunities for key stakeholders to provide dynamic input and to be involved in future directions of the PLAN.

Planning and implementation of these recommendations would be enhanced by a dataset that would make easily accessible information on patient utilization of HIV-related services, provider adoption of rapid start ART, integration of care and other approaches that facilitate viral suppression.

How Will We Achieve This Objective?

The needs assessments will need to identify community-based organizations, public health, providers and other service stakeholders who manage HIV clients to be able to view a variety of populations that may not be otherwise identified. The County will need to benefit from utilizing experienced consultants to conduct a community-wide HIV needs assessment, which focuses on a Continuum of Care Model and that is inclusive, accessible and reflects emerging needs in Mecklenburg County.

What Are the Best Practices?

The HIV Care Continuum is a model that is used by federal, state, and local agencies to identify issues and opportunities related to improving the delivery of services to persons with HIV. The HIV Care Continuum has five main “steps” or stages including: 1) HIV diagnosis, 2) linkage to care, 3) retention in care, 4) antiretroviral use, and 5) viral suppression. The model should also identify issues and opportunities related to improving the delivery of services to high-risk, HIV-negative individuals, such as HIV testing and linkage to appropriate prevention services, behavioral health, and social services.

The HIV Care Continuum provides a framework that depicts the series of stages a person with HIV engages in from initial diagnosis through their successful treatment with HIV medication. It shows the proportion of individuals living with HIV who are engaged at each stage. The HIV Care Continuum allows grantees and planning groups to measure progress and to direct HIV resources most effectively. The development and analysis of a comprehensive HIV Care Continuum involves collaboration across HIV care and treatment, prevention, and surveillance partners and will inform program planning. Grantees and planning groups need to develop an HIV Care Continuum for their jurisdiction as a part of the Statewide Coordinated Statement of Need (SCSN) needs assessment process.

How Will We Measure Our Success?

- Completion of a comprehensive needs assessment to identify opportunities for promoting HIV prevention and care, and subsequent actions to implement services that address these needs.

Objective 6

Collaborate with service providers to address social determinants of health.

Why Is This Important?

Achieving successful HIV prevention and disease management is negatively impacted by the structural determinants and conditions in which people are born, grow, live, work and age. The most commonly identified barriers to prevention and care services in Mecklenburg County involve social determinants of health that can affect access to all needed healthcare services. Such factors include poverty and lack of employment opportunities; low literacy/lack of education; housing; violence; lack of food security; substance abuse; mental illness; transportation issues and more. These are especially impactful for HIV-positive individuals attempting to access care, remain in treatment, and achieve the viral suppression that will improve their health and prevent transmission of the virus.

How Are We Doing?

Many Mecklenburg County residents suffer from one or more of these negative social determinants, and the HIV at-risk population is especially likely to be disadvantaged by social determinants of health. Although not typically considered in addressing the medical model of HIV, public health approaches require that these social determinants are addressed as vigorously as are the medical components of HIV. Addressing the social determinants of health and their impact on HIV is limited by the lack of an effective community body to advocate for HIV/AIDS issues. The HIV Community Planning Group also sees the lack of a Board of Health, separate from the BOCC, as a limitation. There is not a central coordinating body to address the spectrum of HIV-related issues.

How Will We Achieve This Objective?

Establishing and enhancing structures that support the collaboration among providers needed to address these complex issues would be facilitated by creating a central coordinating body to direct local efforts that address HIV. This central coordinating body would strengthen alliances for planning and

implementation of essential services that impact PLWH. This will include HIV-related services such as testing, care and support (e.g., Public Health, medical providers, community-based organizations) and those that impact social determinants of health (e.g., Department of Social Services, Housing, employment training and readiness, etc.).

The collective impact of this central coordinating body will provide formal channels for educating the BOCC on the status of HIV in Mecklenburg County with a focus on the social determinants of health.

What Are the Best Practices?

Other communities are successful in reducing transmission of HIV by coordinating efforts addressing the social determinants of health. Research into these approaches will provide a template for adoption of successful strategies in Mecklenburg County.

How Will We Measure Our Success?

- Number of clients receiving ART and rates of retention in care, attainment and maintenance of viral suppression.
- Increase in number of clients achieving stable housing, employment, increased access to transportation and other social support services.

Objective 7

Establish data sharing agreements with community partners to better understand client utilization of testing, treatment and support services.

Why Is This Important?

Understanding how well the PLAN initiatives are countering the challenges of HIV and achieving the desired goals of HIV prevention and viral suppression is critical for project success. This requires the safe, secure sharing of data to identify what is working, and what needs to be changed. Eliminating silos of service will enhance efficiency and effectiveness. HIV surveillance data is needed to evaluate the PLAN, but needs to be enhanced beyond the current level of surveillance. Integrated and collaborative data sharing among communities providing HIV Continuum of care will help in providing an inventory of the gaps in services. It may also be an effective way to track clients who are out of care, and it can be check for duplication of services.

How Are We Doing?

While there is some data sharing in the community, the primary source of HIV surveillance comes from State and County surveillance programs and some Ryan White monitoring. Data are available from some of the largest providers of HIV care, but overall these data are fragmented and are not reported in a user-friendly format. However, there are substantial holes in the current HIV surveillance data analyses needed to assess with granularity the details of HIV-directed interventions included in this PLAN. Furthermore, state-based surveillance lacks the required local specificity and timeliness. Assessments of the effectiveness of HIV PLAN interventions require relatively rapid assessments of interventions; the current turn-around of information of 18 months or more is not conducive to the needs for executing an agile plan.

How Will We Achieve This Objective?

Successful implementation of this objective will include engaging experts in data collection, management, security and analysis to establish standard data reporting formats and platforms across

the county that will include information on utilization of services, clinical outcomes, and deliverables. Current data sources will need to be enhanced, including more rapid availability of analyses of current surveillance systems. Community advisory groups can monitor progress on different facets of HIV services.

What Are the Best Practices?

Utilizing available local resources (e.g., UNCC) in the development of a secure data sharing network and training to build capacity for understanding data, is a best practice that supports successful implementation of this objective.

How Will We Measure Our Success?

- Establishment of a user-friendly data sharing system for use in program management and evaluation.

Cross-Cutting Topics

Cross-cutting topics are those that simultaneously impact the strategies utilized in the PLAN. They are important topics that need to be continuously considered and addressed as the PLAN is implemented and re-assessed. The success of the PLAN depends on it.

Barriers and Social Determinants of Health

The reasons for health inequities in Mecklenburg County are multifaceted. Individual-level determinants, including high-risk behaviors, are major drivers of HIV transmission and acquisition; however, these behaviors do not exist in a vacuum. A range of social and structural factors also influence the patterns of HIV distribution among vulnerable populations in Mecklenburg County. Only when social determinants of health are incorporated in addressing health disparities and promoting health equity will Mecklenburg County see its goal of continuous reduction of new cases of HIV realized.

Whether we are discussing education and testing, HIV prevention methods such as PrEP, or TasP, certain social, economic and environmental factors contribute to the HIV related health disparities among various populations in Mecklenburg County. Lower socioeconomic status (SES) seems to put people at greater risk of HIV infection regardless of race/ethnicity. HIV infections are highest among people who are less educated, have lower incomes and who are unemployed. This may be because people of lower SES are more likely to choose immediate survival over risk of HIV infection. When faced with a lack of resources, many people are forced to participate in unprotected sex, sex exchange, and coerced sex. Individuals with lower SES may have to contend with more stressful life events and may have fewer resources to cope with them. Substance abuse and mental health resources must be strengthened to help individuals cope with multiple, competing issues. Mental health and substance abuse treatment services have been shown to increase entry into primary care, as well as improved clinical retention for HIV-positive individuals [White, Gordon, & Mimiaga, 2014; Lee et al., 2015].

Periods of homelessness has been associated with engaging in riskier sexual behavior, which increases a person's risk of HIV infection. Reviews have found that housing stability is positively associated with increased HIV medication adherence, utilization of health and social services, improved health status, and decreased HIV risk behaviors [Leaver, Bargh, Dunn & Hwang, 2007]. Lack of transportation is a major reason for missing health care appointments, which costs the U.S. health care system \$150 billion each year [Sviokla, Schroeder, & Weakland, 2010]. Individuals who are older, less educated, female, minority, low income – or a combination of these – are most affected by transportation barriers [Syed,

Gerber, & Sharp, 2013]. Adequate and reliable transportation services are fundamental to healthy communities.

Food is a fundamental human need that influences health and quality of life. Unfortunately, more than 23 million people live in food deserts in the U.S. [U.S. Department of Agriculture, 2010]. Food insecurity leads to poor health outcomes and can have a negative impact on disease management, prevention and treatment. In a poll of more than 60,000 Feeding America clients, 66% reported having to choose between food and medical care in the past year [Isham, 2016]. The risk of HIV infection is just one of many daily struggles for people of lower SES. When faced with multiple, competing issues, protecting one's health may take a backseat.

Access to health care is directly impacted by poverty and politics. Politics shape the social, economic, and environmental conditions that, in turn, shape the health of populations. ART can be as much as 70% of HIV treatment cost. Many PLWH rely on Medicare, Medicaid, and HMAP (HIV Medication Assistance Program) to help cover the medical costs associated with HIV. These programs are weakening due to reduction in state and federal funding. Political decisions have led to growing health inequalities and increasing rates of disease and death. North Carolina is one of many states that have yet to expand Medicaid. For individuals without health insurance, the out-of-pocket costs for PrEP can be as high as \$13,000 per year. The cost of Truvada®, alone, can be up to \$1300 per month. Gilead, the manufacturer of Truvada®, does offer a Patient Assistance Program (PAP) to help cover the cost of medication for lower income individuals, but when adding the cost of doctor's visits and labs, PrEP is still financially out of reach for many of the people who need it most. Without access to healthcare, many individuals lack access to education and prevention interventions to help reduce their risk of HIV infection as well as medications, routine health screenings, and early detection to improve their health outcomes once diagnosed with HIV.

Studies show that there is a direct correlation between lower health literacy and greater risk of adverse health conditions, medication adherence, and mortality. Also, people with lower health literacy are more likely to rate their health as lower and have more risky lifestyle behaviors. Unlike many other social determinants of health, health literacy may be more flexible to change through interventions that improve communication. Because we know that infectious diseases spread through social networks and physical locations, some people are at a higher risk for HIV infection simply due to where they live. In Mecklenburg County, people who live in certain ZIP Codes may be at a greater risk for HIV infection because more cases of HIV are concentrated in those neighborhoods. Residential segregation and social isolation increase the likelihood of having a sexual partner who is living with HIV, especially in ZIP Codes with higher incidences of HIV. Social segregation leads to social disorganization and a lack of resources in poorer neighborhoods, which in turn, facilitates the spread of HIV.

More work needs to be done to address not just the behaviors that put a person at risk for HIV infection but also the underlying factors, often out of one's control, which also influence those decisions and further perpetuate HIV related health disparities in Mecklenburg County. Solutions to these barriers will not be easy, but the HIV Community Planning Group will continue to seek resolutions. Future evolutions of the PLAN will more deliberately address these structural and social factors that continue to contribute to the disproportionate rates of HIV infection in Mecklenburg County among certain populations.

Partnerships

Development of the PLAN was collaborative and community driven. These same elements will be critical during implementation, to achieve the goal of continuous reduction in new cases of HIV. As the governance structure is developed and the PLAN is operationalized, strategic partnerships between various sectors, including private, public, non-profits and faith organizations, will be developed to access a broader range of funding resources, expertise and community support around HIV prevention. Lead agencies will be identified for each objective and charged with facilitating the implementation. Partner agencies will be identified to help support and build capacity for the lead agencies' implementation efforts. In advance of this work, approaches such as Collect Impact —which is based on the principle that no single policy, public organization or agency can address complex social issues alone —will need to be examined and utilized to build a strong partnership framework. Most importantly, PLWH are our most vital partners and we will work diligently to ensure that they are present and heard throughout this process.

Funding Opportunities

Successful funding of the PLAN will rely on a public-private partnership that leverages resources from many sources and that reflect the broader community's interest in the prevention of HIV.

Progress in HIV treatment has lessened the sense of crisis about the disease. For most, it is no longer considered a “death sentence.” However, extended lives present new challenges, including remaining in care, living with a chronic disease, addressing the complications of ART and the impacts of the social determinants of health.

The “medicalization” of HIV has led to decreased federal and state funding for prevention activities. There is limited federal funding for education and testing. Most CDC funding is provided to state departments of health, which is then allocated to local health departments. Current budget guidelines have led to a flatlining of these resources. The recommended coordinating body should pursue federal grants that support a comprehensive approach to HIV, including mental health, substance abuse, housing and other cofactors. Potential sources include the Substance Abuse and Mental Health Services Administration, Health and Human Services Office of Minority Health and U.S. Department of Housing and Urban Development.

Approaching private foundations and corporate charities often requires a local “match” to show community commitment to the efforts. Successful applications may require county funds as “seed money” to establish projects that would qualify for external support. County support for the PrEP Pilot Project is an example of a local investment that positions the community for successful application to other sources. Based on the outcomes of the pilot PrEP project, the county should pursue funding from pharmaceutical companies and increased participation in programs such as Gilead Sciences' *FOCUS Program* a public health initiative of Gilead Sciences and product-agnostic. Through partnerships with FQHCs, health departments, health systems, hospitals and other health entities, it provides funding and technical assistance in the implementation of CDC and USPSTF guidelines for HIV and Viral Hepatitis screening and timely linkage to care. Funding cannot be used beyond the first linkage post-diagnosis. Local philanthropies committed to the community's health should be engaged in dialogues that increase their awareness of the effectiveness of interventions such as PrEP and the impact of their support.

County and grant funding currently provide resources across the spectrum of HIV services. Education, testing, surveillance, epidemiology, case management and patient navigation have made a positive difference in the health of the community. County support should increase in identified areas (e.g., patient navigation) that have proven effective.

TasP is a proven method of achieving the goals of viral suppression and reduces HIV transmission. Key to these efforts is the continuation of MCPH's successful management and implementation of the Ryan White program that provides treatment, medical case management and supportive services. This program has had a major impact on access to quality care and has helped integrate care among providers. The county should encourage its federal representatives to maintain support and expand it to meet increased demand. Per-patient funding is less in the South than in other regions, even though the South leads the nation in new cases. This imbalance needs to be addressed.

The governing body will need to share grant writing and other resources to optimize opportunities to secure funding. These applications, when possible, should not focus solely on HIV, but should be linked to efforts to address the cross-cutting social determinants of health (e.g., housing, transportation, food insecurity, childcare, violent trauma, education, job training and readiness, and stigma) that impact HIV prevention and treatment. A collective model – like that developed by the Leading on Opportunity Task Force – that is inclusive of numerous factors, offers the greatest opportunity for securing funding beyond county dollars.

Future Direction and Governance of the PLAN

Continuous improvements and revisions of the PLAN are to be expected and will be required to sustain and build on the successes of this first PLAN. The currently prioritized objectives and actions to address them will need ongoing evaluation to determine which interventions are successful and should be continued or expanded, as well as which ones may need modification or replacement. Real-time evaluations will be a critical part of the PLAN, and such evaluations will need direction, oversight and interpretation by a well-established and sustaining governing body. Furthermore, additional issues will need to be addressed in response to changes in the HIV epidemic and the emergence of effective new tools to combat the epidemic. Therefore, this PLAN will be revisited for potential updates no less frequently than annually.

Continuous assessment of PLAN activities by a governing body will usher the PLAN into its next stages and will help to assure continuity and sustainability of PLAN outcomes. The governing body will include PLWH, agencies/organizations and practitioners who serve the affected populations, the faith community and county representation in its membership. Thus, the governing body will be a broad-based representation of principle stakeholders and will continue the inclusiveness of the current HIV Community Planning Group. One of the next steps in the further development of the PLAN will be determination of the detailed structure and membership, and remit of this governing body.

Because of the need for coordinated activities among a variety of organizations and community interests, a clear, centralized pathway of coordination and communication is critical. A Project Manager will be needed to serve in a full-time capacity. The Project Manager will maintain a broad, yet functional understanding of the various HIV-related activities undertaken by stakeholders. The Project Manager will facilitate coordination among various HIV agencies, practitioners, and the county; and will serve as a

focal point for those engaged in PLAN activities. The Project Manager is to be a facilitating role, but not necessarily a supervisory role.

Finally, the PLAN and its results will be regularly presented to the BOCC, or its delegate, for review. The governing body and the Director of MCPH will report progress and recommendations for changes in the PLAN to the BOCC no less than annually. They will keep the BOCC, or its delegate, informed of any important interim issues, on an “as needed” basis.

Conclusion

This PLAN has grown out of collaborations among MCPH and community members, HIV care providers, educators and members of the faith-based community, with a goal of decreasing new HIV infections in Mecklenburg County and to improve care for PLWH.

As detailed in this document, the PLAN is built around three principle strategies; in each there are priority objectives.

- Education and Testing Strategy – informing the community about HIV prevention interventions; decreasing the number of individuals who are unaware of their HIV status;
- Pre-Exposure Prophylaxis (PrEP) Strategy – prevention of infection in persons who are most at risk of acquiring HIV; and
- Treatment as Prevention (TasP) Strategy – early treatment and effective treatment maintenance, which not only improves and lengthens lives of those who are diagnosed with HIV but prevents new infections through the suppression of the virus.

These strategies and their objectives are interactive and synergistic, and each is important in addressing the HIV epidemic in Mecklenburg County and the needs of PLWH and those vulnerable to HIV infection. Understood in the PLAN is the importance of social and structural determinants of health, which create barriers and HIV-related disparities in our community. Ongoing evaluations of the PLAN and HIV needs assessments will be required, since the PLAN is to be a living blueprint, responding to changes in the HIV epidemic in Mecklenburg County, the changing needs of the community and outcomes of the PLAN’s interventions. Modifications and evolution of the PLAN over the succeeding years will be necessary and are to be expected.

For the PLAN to have sustained success, ongoing broad community engagement is required. Strong MCPH leadership is needed, but action cannot be unilateral or monolithic. The many partners in the PLAN will provide input, contributions, and actions. Collective involvement is expected from government, private, non-profit, voluntary agencies, practitioners in HIV, PLWH, and members of the faith community.

Finally, the success of the PLAN will depend on adequate resourcing, especially from the county, but also from other public and private agencies. County funding may be leveraged to find additional sources of funding in the future. However, funding for the PLAN’s implementation must be done with a collective and collaborative approach that is sustainable, reliable and responsive to the changing needs of the community.

To achieve the PLAN's **goal of continuous reduction in new cases of HIV in Mecklenburg County**, deep and lasting commitment to the PLAN will be needed, as well as organized and well-directed support for the first year and future years.

Appendix A

Action plan 2020-2022

Goal: Reduce the number of new cases of HIV by 75% in 5 years (by end of 2024) and 90% in 10 years (By end of 2029)

SMART Objective I.D	SMART Objective	Activities	Measure/Indicator	2020	2021	2022	Responsible party(ies)
Outreach and Education 1	By the end of 2022, reach at least 60% of MeckCo. Residents and visitors with an evidenced-based HIV prevention message.	<p>a) Conduct community-wide media campaigns to increase the community's awareness of HIV prevention strategies and local HIV-related resources.</p> <p>b) Begin dialogue with CMS central office/PTA</p> <p>c) Provide current, accurate information on HIV to the medical community (CDC screening recommendations, opt-out HIV testing,</p>	<p>% of MeckCo residents and visitors reached with a HIV prevention message Calculation: (Number of MeckCo. residents and visitors reached with a prevention message/Total number of MeckCo. population and visitors) *100</p>	20%	40%	60%	<p>a) G2Z - Education and Outreach Workgroup, CBOs, Medical Providers, FBOs, MCPH marketing contractor b) MCPH senior leadership c) MCPH outreach team d) Community organizations, FBOs</p>

		<p>PrEP, and treatment as prevention).</p> <p>d) Partner with community organizations and FBOs to provide educational sessions on HIV prevention in the community.</p> <p>e) Develop and implement a text messaging campaign targeting adolescents.</p> <p>f) Develop and Implement social media campaign that speaks to adolescents.</p>					
Outreach and Education 2	By the end of 2022, increase screening rates of eligible Mecklenburg County residents by 20%	<p>a) Provide current, accurate information on HIV screening to the medical community (CDC screening recommendations, opt-out HIV testing, PrEP, and treatment as prevention)</p> <p>b) Expand HIV testing at non-traditional locations and times</p>	<p>% eligible MeckCo. residents who have been screened for HIV</p> <p>Calculation: (Number of eligible MeckCo. residents screened/Total number of</p>	5%	12%	20%	<p>a) MCPH outreach team</p> <p>b) MCHD, agencies providing HIV testing</p> <p>c) CBOs</p>

		c) Update directory of agencies providing HIV testing, including testing times	eligible residents) *100				
Outreach and Education 3	By the end of 2022 increase HIV testing rates in priority populations by 50%	<p>a) Expand HIV testing at non-traditional locations and times</p> <p>b) Work with EDs to implement HIV testing for high risk populations.</p> <p>c) Provide current, accurate information on HIV to the medical community (CDC screening recommendations, opt-out HIV testing, PrEP, and treatment as prevention).</p>	<p>% priority populations tested for HIV</p> <p>Calculation: (Number of priority population tested for HIV/Total number of priority populations) *100</p>	10%	30%	50%	<p>a) MCHD, agencies providing HIV testing</p> <p>b) Emergency Department, NCHETC</p> <p>c) MCPH</p>
Outreach and Education 4	By 2022 educate 30% of primary care providers and ERs on routine Opt Out HIV testing	a) Work with Gilead Focus to provide education/training on implementing routine opt out testing at Primary Care settings,	% primary care providers educated/trained on routine Opt Out Testing	5%	15%	30%	a) Gilead FOCUS , NCHETC

		community clinics and EDs	<p>Calculation: (Number of primary care providers trained on routine opt-out testing/Total number of primary care providers)*100 % ER clinicians educated/trained on routine Opt Out testing</p> <p>Calculation: (Number of primary care providers trained on routine opt-out testing/Total number of primary care providers)*100</p>				
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SMART Objective I.D	SMART Objective	Activities	Measure/Indicator	2020	2021	2022	Responsible party(ies)
PrEP 1	By the end of 2022, at least 85% of MeckCo. population is aware of PrEP	<p>a) Conduct community-wide media campaigns to increase the community's awareness of PrEP</p> <p>b) Partner with community organizations to provide educational sessions on PrEP in the community.</p> <p>c) Medical providers to increase awareness of PrEP to clinic population.</p> <p>d) Meet and engage with key stake holders and gatekeepers of communities of color and vulnerable populations to increase efforts and awareness of PrEP provider locations.</p>	<p>% of MeckCo. population aware of PrEP</p> <p>Calculation: (Number of persons reached with a PrEP awareness message / Total MeckCo. population) *100</p>	35%	50%	85%	<p>a) Marketing vendor / MCPH</p> <p>b) Community based organizations</p> <p>c) Medical Providers</p> <p>d) Community partners</p>

PrEP 2	By the end of 2022, at least 30% of persons with PrEP indications are on PrEP.	<p>a) Conduct community-wide media campaigns to increase the community's awareness of PrEP, especially among the Black / African American communities.</p> <p>b) Expand number of providers on the PrEP Initiative.</p> <p>c) Partner with community organizations to provide educational sessions on PrEP within their communities.</p> <p>d) Establish a data sharing agreement with Gilead Sciences for data on PrEP prescriptions dispensed.</p> <p>e) Initiate conversations with the MeckCo. jails to encourage provision availability of PrEP in jails.</p> <p>f) Create a seamless PrEP referral process for recently released high risk inmates who received PrEP while in jail.</p> <p>e) Continue to increase awareness of the PrEP Initiative for uninsured high risk individuals.</p>	<p>% of persons with PrEP indications who are receiving PrEP.</p> <p>Calculation: (Number of persons with PrEP indications who are on PrEP /Total number of persons with PrEP indications) *100</p>	15%	20%	30%	<p>a) Community organizations, medical providers, G2Z group</p> <p>b) Primary care providers</p> <p>c) Community based organizations including Faith Based Organizations</p> <p>d) APhi-UNC</p> <p>e) Jail clinic staff</p> <p>f) Jail clinic staff</p>
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PrEP 3	By the end of 2022, at least 90% of persons referred to PrEP by MCHD are linked to PrEP services within 10 days. (by linkage we mean attending first PrEP screening appointment)	a) Establish an active referral process between MCHD and PrEP providers. b) Establish PrEP navigation at MCHD	% of persons referred to PrEP by MCHD who are linked to care within 10 days. Calculation: (Number of persons referred to PrEP by MCHD who are linked to PrEP services within 10 days/Total number referred to PrEP services by MCHD) *100	50%	75%	90%	a) MCHD/ PrEP providers b) MCHD
PrEP4	By the end of 2022, efforts are made to contact 100% of PrEP Initiative clients who have discontinued PrEP medication for reasons other than insurance ineligibility or potential side effects and who are still at high risk for acquiring HIV, for purposes of re-engaging into PrEP services*.	a) Re-engage PrEP initiative clients who discontinued PrEP services but are still at high risk of getting HIV b) Seek funding/resources to address barriers to PrEP services for PrEP initiative clients.	% Percentage of high risk clients re-engaged into PrEP services Calculation: (Number of high risk clients re-engaged into care/Total number of high risk clients who dropped out of care) *100	95%	98%	100%	a) PrEP Initiative Providers b) PrEP Initiative Providers, MCPH

* For purposes of this goal, "efforts are made to contact" means follow-up phone calls, emails, text messages and/or letters on at least 2 occasions, by the PrEP Initiative clinic recently caring for the patient, or outreach representatives responsive to the clinic. Also, "...are re-engaged into PrEP services" means interaction with the client to encourage HIV re-testing, re-start of PrEP medication and counseling on other methods of HIV transmission prevention.

Please note that no patient can be forced or coerced into taking PrEP therapy, so an attainable goal must reflect the efforts made to convince

clients to re-engage in PrEP. The goal cannot not be built around a specific number of patients expected to re-engage, although a high level of re-engagement is to be sought by making a high level of effort to convince clients to re-engage.

SMART Objective I.D	SMART Objective	Activities	Measure	2020	2021	2022	Responsible Party (ies)
TaSP 1	<p>a) By the end of 2022, create U=U awareness in at least 50% of the high-risk population in MeckCo.</p> <p>b) By the end of 2022, create U=U awareness in at least 50% of medical providers with prescriptive abilities</p>	<p>a) Design and implement U=U campaign (by Q2 of 2020)</p> <p>b) Educate clinicians with prescriptive authorities about U=U</p> <p>c) Contract with community organizations and FBOs to provide educational sessions on U=U within the community.</p> <p>d) Encourage local HD, community partners, and FBOs to become "U=U Partners".</p>	<p>% of MeckCo. population and medical providers who are aware of U=U</p> <p>Calculation: (Number of MeckCo. population reached with U=U campaign message / Total number of MeckCo population) *100</p> <p>Calculation: (Number of primary care providers educated on U=U / Total number of Primary Care providers)*100</p>	30	40	50%	<p>a) G2Z group will design the campaign materials, MCPH will implement by outsourcing to a marketing firm.</p> <p>b) MCPH</p> <p>c) Community organizations and FBOs</p> <p>d) G2Z MeckCo group.</p>

TaSP 2	BY 2022, at least 90% of persons newly diagnosed with HIV are linked to care within 7 calendar days	<ul style="list-style-type: none"> a) Identify funding to enhance the HIV workforce within MeckCo. b) Advocate for "Test and Treat" as a standard of care. c) Identify funding to address unmet support services. d) Create data sharing agreements with HIV care providers within MeckCo. to collect real time data. e) Identify funding to create a system to obtain and maintain real time linkage data 	<p>% newly diagnosed persons linked to care within 7 days</p> <p>Calculation: (Number of persons newly diagnosed with HIV who are linked to care within 7 days/Total number of newly diagnosed HIV positive persons)*100</p>	85	87	90%	<ul style="list-style-type: none"> a) Community partners/MCPH b) G2Z Group/Medical Providers c) HIV care providers d) Community partners/MCPH
TaSP 3	By 2022, at least 90% of persons living with HIV and who in care are virally suppressed.	<ul style="list-style-type: none"> a) Advocate for "Test and Treat" as a standard of care b) Seek funding to facilitate EIS and linkage efforts c) Create a directory of support services offered by community organizations. d) Provide Trauma Informed Care training to general practitioners, Infectious Disease providers, and frontline clinic staff. 	<p>% Persons living with HIV who are virally suppressed</p> <p>Calculation: (Number of persons living with HIV who are virally suppressed/Total number of persons living with HIV) * 100</p>	80%	85%	90%	<ul style="list-style-type: none"> a) G2Z group/Medical Providers b) Community organizations/MCPH c) G2Z group d) MCPH

Appendix B

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Glossary

Acute HIV infection: Early stage of HIV infection that extends approximately 1 – 4 weeks from initial infection until the body produces sufficient HIV antibodies to be detected by an HIV antibody test. Acute HIV infection can be diagnosed with an HIV RNA test that is positive before HIV antibodies are present.

AIDS (Acquired Immunodeficiency Syndrome): An epidemiological term used to define the advanced stage of HIV infection when the CD4 count is <200 cells/ μ L or when an AIDS-defining illness occurs; now also called CDC Stage 3.

Antiretroviral Therapy (ART): Therapy (or treatment) using ARVs, given to patients to treat the HIV infection.

Antiretrovirals (ARVs): Drugs used, usually in combination, to prevent HIV from replicating. These drugs act specifically on the HIV to suppress the virus in blood and tissues; or to prevent HIV transmission.

Aunt Bertha Referral Platform: A social needs-based referral platform that works with organizations to provide instant access to comprehensive, localized listings with hundreds of programs in every ZIP Code in the United States.

CD4 Cell Count: The number of T-helper lymphocytes per microliter (μ L) of blood (which is equal to about 1/50th of a drop blood). The CD4 count is a good predictor of immunity. As CD4 cell count declines, the risk of developing opportunistic infections increases. The normal adult range of CD4 cell counts is 500-1500 μ L. A CD4 count of 200 or less is an AIDS-defining condition.

Centers for Disease Control and Prevention (CDC): The U.S. agency charged with tracking and investigating public health trends. The CDC provides leadership for HIV prevention research and surveillance and the development and testing of effective biomedical interventions to reduce transmission and HIV disease progression in the U.S. and internationally.

Charlotte Area Health Education Centers (AHEC): Provides educational opportunities and services for all healthcare professional by building partnerships, promoting recruitment and retention of healthcare professionals, and advancing healthcare quality.

Charlotte Ryan White Transitional Grant Area (Charlotte TGA): To be eligible for TGA status, an area must have reported 1,000 to 1,9999 AIDS cases in the most recent five years and have a population of at least 50,000.

Disease Intervention Specialists (DIS): Specially trained public health staff who work with local health departments to locate infected patients and exposed partners to perform HIV and syphilis notification, intervention, and counseling services.

Federal Drug Administration (FDA): A federal agency of the U.S. Department of Health and Human Services responsible for protecting and promoting public health through control and supervision of food safety, tobacco products, dietary supplements, prescription and over-the-counter medications, vaccines, biopharmaceuticals, blood transfusions, medical devices, electromagnetic radiation emitting devices, cosmetics, animal foods and feed, and veterinary products.

Food Deserts: Parts of the country, especially one with low-income residents, lacking fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished areas. This is largely due to a lack of grocery stores, farmers' markets, and healthy food providers.

Food Insecurity: A state in which a lack of consistent access to adequate food is limited by a lack of money and other resources.

Health and Human Services Office of Minority Health: Agency dedicated to improving the health of racial and ethnic minority populations through the development of health policies and programs that will eliminate health disparities.

Health Resources and Services Administration (HRSA): The agency of the U.S. Department of Health and Human Services that administers various primary care programs for the medically underserved, including the Ryan White HIV/AIDS Program.

Hepatitis C Virus (HCV): A type of virus that causes an inflammation of the liver (hepatitis). HCV is usually transmitted through blood but can also be transmitted sexually, mainly among men who have sex with men (MSM). HCV infection progresses rapidly in people co-infected with HIV than in people without HIV.

HIV Care Continuum: A model that outlines the sequential steps or stages of HIV medical care that people living with HIV go through from initial diagnosis to achieving the goal of viral suppression, and shows the proportion of individuals living with HIV who are engaged at each stage.

HIV Medication Assistance Program (HMAP): The government funded drug assistance program for the state of North Carolina designed to provide financial assistance to low-income state residents for the purchase of medications specifically used to combat HIV and the opportunistic infections which are specific to AIDS.

HIV RNA: The genetic material of the human immunodeficiency virus (HIV). It can be measured in the blood and reported as copies/ μ l. The goal of antiretroviral therapy is to decrease the amount of HIV RNA in the blood to levels below the limit of detection.

Injection Drug Use: A method of illegal drugs in which the drugs are injected into a vein, into a muscle, or under the skin with a needle. Blood-borne viruses, including HIV and hepatitis B and C, can be transmitted via shared needles or other shared drug injection equipment.

International Association of Providers in AIDS Care: Formerly the Physicians Association for AIDS Care (PAAC). The first organization to support U.S. physicians in the mid-1980s as they ministered to people who, given limited treatment options, were quickly dying of AIDS-related complications. The new name reflects contributions made by various cadres of professional and paraprofessional providers of HIV prevention, care, and treatment services.

Linkage to Care: The process that leads a patient to enter care after diagnosis. In HIV, it refers to the initiation of HIV outpatient care. The goal of the National AIDS Strategy is that a person completes a visit with an HIV medical provider \leq 30 days after their HIV diagnosis.

Mecklenburg County Board of County Commissioners (BOCC): The governing body of Mecklenburg County. Major responsibilities include adopting the annual County budget, setting the County property

tax rate, and assessing and establishing priorities on the many community needs, especially those related to health, education, welfare, mental health and the environment. The Board also makes appointments to citizen advisory committees.

Memorandum of Understanding (MOU): An agreement between two or more parties that expresses a convergence of wills and indicated an intended common line of action.

Men Who Have Sex with Men (MSM): Male persons who engage in sexual activity with members of the same sex, regardless of how they identify themselves; many such men do not sexually identify as gay, homosexual, or bisexual.

North Carolina AIDS Education and Training Center (NCATEC): Training center in NC for health care professionals who work to prevent and treat HIV as well as other STIs and hepatitis C.

Partner Services: Services that are offered to persons with HIV infection, syphilis, gonorrhea, or chlamydial infection AND to their partners.

Patient Navigation Services: A process of service delivery to help a person obtain timely, essential, and appropriate HIV/STD/HCV-related medical and social services to optimize his/her health and prevent HIV transmission.

Peer Education: An approach to health promotion in which community members are supported to promote health-enhancing change among their peers. It involves the teaching or sharing of health information, values, and behavior in educating others who many share similar social backgrounds or life experiences.

Persons Who Inject Drugs (PWID): Among the groups most vulnerable to HIV infection. HIV prevalence is 28 times higher than among the rest of the population.

The PLAN: Mecklenburg County's Plan for continuous reduction in new cases of HIV, also known as "the PLAN", established in 2018, and to be periodically revised based on regular re-assessments and changing needs in Mecklenburg County.

Pre-exposure Prophylaxis (PrEP): An HIV prevention method for people who are HIV negative and at high risk of HIV infection. PrEP involves taking a specific combination of HIV medicines daily to reduce the risk of infection if exposed to HIV. PrEP should be combined with condoms and other HIV prevention intervention.

Rapid ART Program for Individuals with and HIV Diagnosis (RAPID): A program at San Francisco General Hospital that offers antiretroviral therapy (ART) on the same day as HIV diagnosis that led to a high rate of treatment uptake and more rapid viral load suppression compared to standard practices.

Retention: Retention in care means keeping patients engaged in outpatient care. An estimated 50% of persons living with HIV in the U.S. are not retained in care. Retention is essential to providing ongoing treatment to all HIV-positive persons, including those not yet receiving ART. Retention is not necessarily "all or nothing" and some patients may exhibit cyclical in-and-out patters of care (see "Reengagement").

Routine Opt-out HIV Screening/Testing: Performing an HIV test after informing the patient that the test is performed as a routine part of care, but that he/she may elect to decline or defer testing. Assent is then assumed unless the patient declines the testing.

Ryan White HIV/AIDS Act of 2009 (Ryan White HIV/AIDS Program): Enacted in 2009, this legislation reauthorized the Ryan White Program, formerly called the Ryan White CARE Act and the Ryan White HIV/AIDS Treatment Modernization Act of 2006.

Serostatus: The state of either having or not having detectable antibodies against a specific antigen, as measured by blood test (serologic test). For example, HIV seropositive means that a person has detectable antibodies to HIV; seronegative means that a person does not have detectable antibodies to HIV.

Socioeconomic status (SES): An economic and sociological combined total measure of a person's work experience and of an individual's or family's economic and social position in relation to others, based on income, education, and occupation.

Social and Structural Determinants of Health: Conditions in the environment in which people are born, grow, live, work, and age that affect a wide range of health, functioning, and quality of life outcomes and risks. They include factors like socioeconomic status, education, physical environment, employment, and social support networks, as well as access to health care.

Substance Abuse and Mental Health Services Administration: Branch of U.S. Department of Health and Human Services charged with improving the quality and availability of treatment and rehabilitative services in order to reduce illness, death, disability and the cost to society resulting from substance abuse and mental illness.

Syphilis: A highly contagious sexually transmitted disease that can be passed through vaginal, anal, and oral sex. Signs and symptoms vary depending on which of the four stages it presents (primary, secondary, latent, and tertiary).

Syringe Exchange Program (or Syringe Services Programs; SSPs): A social service that allows injection drug users (IDUs) to obtain clean hypodermic needles and associated paraphernalia at little or no cost.

Targeted Case Management: Case management geared to meet a particular population that addresses the social determinants of health that prevent a person from staying in care and adhering to treatment.

Treatment as Prevention (TasP): The use of antiretroviral therapy (ART) to prevent HIV transmission by prescribing antiretroviral drugs to those who are living with HIV in order to reduce the amount of virus in their blood to undetectable levels so that there is effectively no risk of transmission of HIV.

U.S. Department of Health and Human Services: A cabinet-level agency in the executive branch of the federal government charged with enhancing and protecting the well-being of all Americans by providing effective health and human services and fostering advances in medicine, public health, and social services.

U.S. Department of Housing and Urban Development (HUD): A government agency created to support community development and home ownership by improving affordable home ownership opportunities, increasing safe and affordable rental options ending chronic homelessness, fighting housing discrimination by ensuring equal opportunity in the rental and purchase markets, and supporting vulnerable populations.

U.S. Preventive Services Task Force (USPSTF): An independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services. The task force, a panel of primary care physicians and epidemiologists, is funded, staffed, and appointed by the U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality.

Viral Load: In relation to HIV, the quantity of HIV RNA in blood. Viral load is used as a predictor of disease progression and risk of transmission. Viral load test results are expressed as the number of copies per milliliter of blood plasma.

Viral suppression: Suppressing or reducing the function and replication of a virus. Viral suppression is the goal of successful HIV treatment regimen.

White House National HIV/AIDS Strategy: A five-year plan that details principles, priorities, and actions to guide our collective national response to the HIV epidemic.