Georgia Department of Audits and Accounts
Performance Audit Division
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Office of HIV/AIDS

Improvements to linkage and retention of HIV-positive clients are critical

Why we did this review

The number of HIV infections has increased nationally and the rate of new infections is especially high in the south. Georgia now ranks fifth highest in the number of new cases and highest in the rate of new HIV diagnoses per 100,000 adults/adolescents.

Effective medical treatments now exist and persons living with HIV can significantly reduce viral loads and reduce infection rates if they are linked to and retained in medical care. This audit examines the systems and outcomes of state operations to link people with HIV to medical care and to retain those receiving care at state sponsored HIV care clinics.

About the Office of HIV/AIDS (OHA)

OHA works to prevent the spread of HIV/AIDS, improve the health of citizens diagnosed with HIV, and reduce the overall burden of the HIV epidemic in Georgia. OHA receives funding for prevention from the Centers for Disease Control and funding for medical care and support services from the Health Resources and Services Administration and the state. OHA distributes funds and monitors the activities and outcomes of local public/community-based testing sites and specialized medical clinics. In 2016, OHA funded centers conducted approximately 85,000 tests and specialized care centers treated approximately 10,000 clients.

What we found

While there is no cure for HIV, linking a person who has tested positive to medical care soon after diagnosis can ensure he or she begins effective treatment to control the disease and reduces the risk of transmission. The current treatment, antiretroviral therapy (ART), can prevent HIV from progressing. If clients adhere to the treatment, the virus can be suppressed and effects of the virus on the immune system reduced, which prolongs the patient's life dramatically, and lowers the risk of infecting others. However, retaining clients in care has historically proven difficult.

At the time of the audit, OHA did not track linkage to care by individual client for prevention purposes. Rather, it estimates linkage to care rates using test-event data (as opposed to person-based data). Recently, OHA began focusing efforts on key stages of the linkage process and is now addressing limitations in tracking clients. For example, it has begun allowing local staff access to additional information systems and increasing funding for hiring staff who specialize in linkage to care. However, additional steps may be necessary to ensure the planned actions fully address the timely identification of those who fall out of care.

We identified 620 clients diagnosed with HIV in OHA-funded clinics during calendar years 2015 and 2016. Of these, 72% (448 of 620) were successfully linked to medical care. Approximately 53% of clients were linked within 90 days of initial diagnosis and 22% were linked within 30 days. We also identified 1,577 clients who were newly enrolled in OHA-funded clinics during fiscal year 2015. Of these, 58% (912 of 1,577) were still engaged in medical care at these clinics as of July 2017.

In addition to ensuring those who fall out of care are identified in a timely manner, we also identified a need for local providers to develop and formalize linkage to care and retention protocols. OHA also needs to expand its monitoring to ensure the protocols are adequate and properly applied.

At the time of our review, data was not maintained in a manner that allowed tracking of clients from initial diagnosis to medical treatment through retention. OHA is now developing a mechanism for local providers to use to track individual clients from diagnosis through first linkage to care. It should also work with local providers to improve the completeness and accuracy of medical care data transmitted to the state. The data could be used to identify clients at risk of falling out of care and forward the information to local providers for follow-up.

Successful linkage to care and treatment of HIV is cost effective and also acts as a form of prevention because it suppresses the virus, making transmission less likely and preventing the spread of the disease. Similarly, retaining clients in care is critical to ensuring the clients stay virally suppressed and prevent further spread of the disease. Most recent estimates of lifetime HIV treatment costs are more than $350,000 per patient. Preventing the spread to only 15 individuals who would otherwise be served by the state saves an estimated $5.6 million in treatment costs, which exceeds Georgia's total prevention funding in fiscal year 2018.

What we recommend

Both OHA and local providers should work to develop and formalize comprehensive linkage to care protocols. OHA should audit the design and implementation of the protocols. Additionally, OHA should continue efforts currently underway to improve data collection and client outcome monitoring related to linkage to care.

OHA should also take steps to improve the quality of the data contained in CAREWare, the state's primary HIV care database that clinics use to report care and services to OHA and the Health Resources and Services Administration (HRSA). Improvements include working with local providers to ensure the accuracy and completeness of the data they enter into the system.

Finally, with regard to retention efforts, local clinics should establish written protocols clearly explaining the follow-up and reengagement efforts staff should execute, including short-term, mid-term, and long-term efforts. OHA should consider developing a template for short-term follow-up and long-term reengagement efforts as well. Auditing of these efforts during site visits is also recommended.

See Appendix A for a detailed listing of recommendations.

DPH's Response: DPH provided a response to the report indicating agreement with several findings and disagreement with others. The specifics of their response are included at the end of each finding in the body of the report.

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Purpose of the Audit

This audit examines the operations and oversight of HIV/AIDS testing and care activities funded, executed, and monitored by the Department of Public Health (DPH), Office of HIV/AIDS (OHA), local health districts, and medical care clinics. The audit has two objectives:

a. To determine how effective the DPH OHA and local units have been at linking HIV-positive clients to medical treatment.

b. To determine how effective the DPH OHA and local units have been in identifying and re-engaging clients who cease medical care.

The objectives, scope, and methodology used in this review is included in **Appendix B**. We provided a draft report to DPH OHA and integrated pertinent responses throughout.

Background

Human Immunodeficiency Virus (HIV) is a virus that attacks the immune system by reducing the number of CD4 cells (also known as T cells) in the body. If not treated, HIV will progress, badly damage the body's immune system, and leave a person increasingly vulnerable to opportunistic infections and infection-related cancers that can cause death. This final progressive stage is known as acquired immunodeficiency syndrome (AIDS). Without treatment, people with AIDS typically survive about three years.

Transmission and Treatment of HIV

The three most common means of HIV transmission result from:

(1) having sex with someone who is HIV-positive without using a condom or without taking medications to prevent or treat HIV,

(2) sharing drug equipment (e.g., needles/syringes) with someone who is HIV-positive, or

(3) transmitting the virus from an HIV-positive mother to child during pregnancy, childbirth, or breastfeeding.

HIV cannot be cured, but treatment can lower viral load to undetectable levels

HIV is **not** transmitted by contact that is non-sexual (e.g., hugging, shaking hands, closed-mouth kissing), contact with common area surfaces (e.g., toilet seats, restaurant plates/utensils), common resources (e.g., swimming pool water), or by blood-sucking insects (e.g., mosquitoes, ticks).

There is no cure for HIV. Once a person acquires the virus, HIV will remain in the body for life. However, effective treatment does exist, and, with proper medical care, HIV can be controlled and risk of transmission significantly reduced. Current medical treatment for HIV requires a daily dose of antiretroviral therapy (ART).[1] ART can prevent HIV from progressing; and if patients adhere to ART therapy, there is a high

[1] Failure to adhere to protocol greatly reduces treatment effectiveness.

likelihood of suppressing the virus. Viral suppression reduces the effects HIV has on the immune system, prolongs patients' lives dramatically, and greatly lowers chances of infecting others. Additionally, the CDC maintains that condoms remain a highly effective method of preventing HIV and other sexually transmitted diseases. According to the CDC, when paired with ART, the chance of infecting others is further decreased and the HIV positive individuals protect themselves from other sexually transmitted diseases.

Prevalence in Georgia

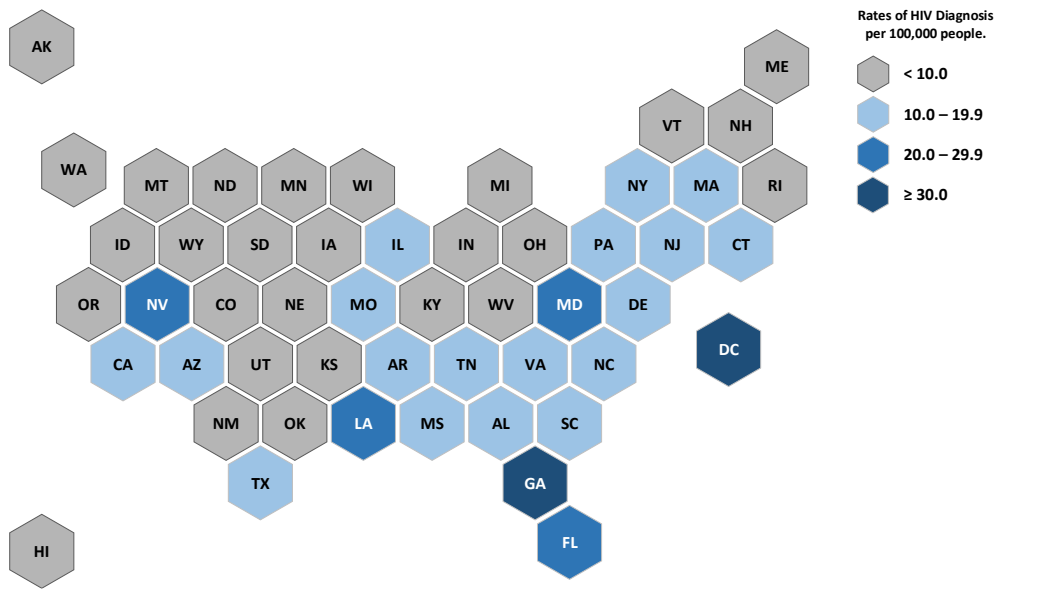
Georgia ranks fifth among states in the total number of cases of HIV/AIDS

Georgia ranks fifth among states (behind Florida, California, Texas, and New York) in the total number of people living with HIV according to the Center for Disease Control and Prevention (CDC).

Georgia's Department of Public Health (DPH) estimates that approximately 57,000 Georgians were living with HIV at the end of calendar year 2016. Approximately 30,000 of the 57,000 Georgians with HIV have received a diagnosis of AIDS.

DPH reported approximately 2,600 new diagnoses in calendar year 2016. As shown in **Exhibit 1**, in 2016, Georgia and Washington D.C. had the highest prevalence of new cases in the nation with greater than 30 per 100,000. Rates of HIV diagnoses are elevated in the South generally; and the CDC estimates that approximately 45% of all people in the U.S. living with HIV reside in the region.

Exhibit 1
New HIV Infection Rates in Georgia are Among Highest in the U.S.



Source: Centers for Disease Control and Prevention (2016)

HIV by Population

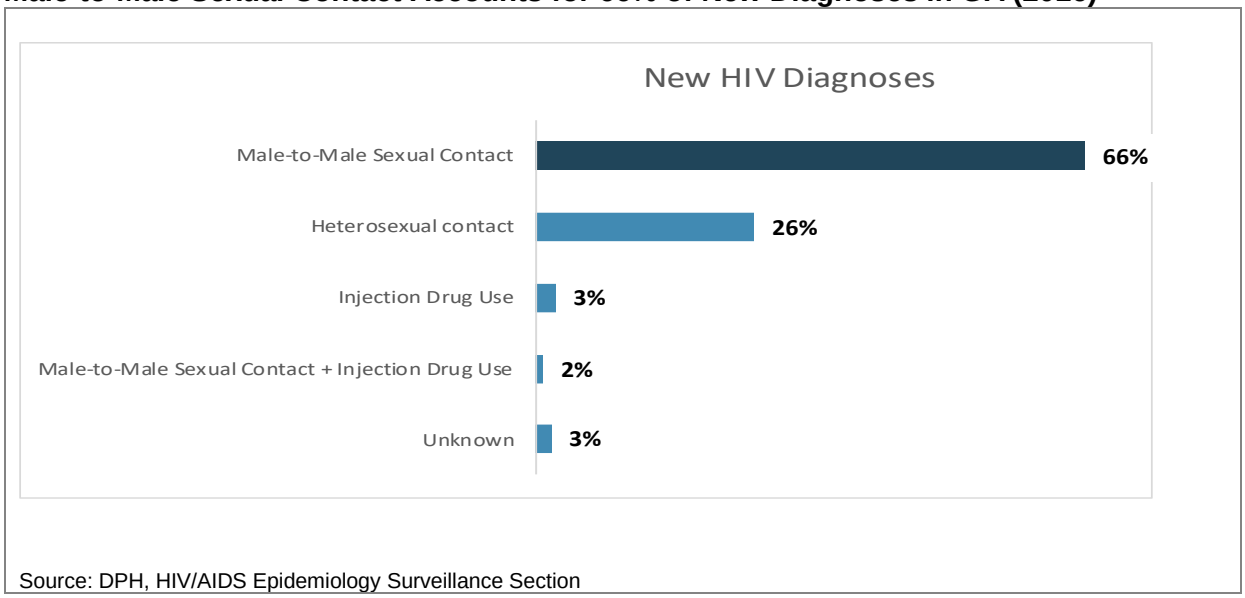
HIV infection occurs at varying rates among different populations. Reported surveillance data is typically presented to show HIV infections in various ways, including the method of HIV transmission (e.g., sex, needle exchange) or using demographic data points such as race/gender/age. The most heavily affected populations by both transmission method and race are described below.

By Transmission Method

As shown in **Exhibit 2**, the largest percentage of new HIV diagnoses in Georgia resulted from male-to-male sexual contact, representing 66% of diagnoses during calendar year 2016. This pattern is in line with national patterns that show gay, bisexual, and other men who have sex with men (MSMs) being most at risk for contracting HIV.[2]

The second largest percentage of new HIV diagnoses in Georgia resulted from heterosexual contact (26%), with a significantly smaller percentage occurring due to intravenous drug use (IDU) (3%).

Exhibit 2
Male-to-Male Sexual Contact Accounts for 66% of New Diagnoses in GA (2016)



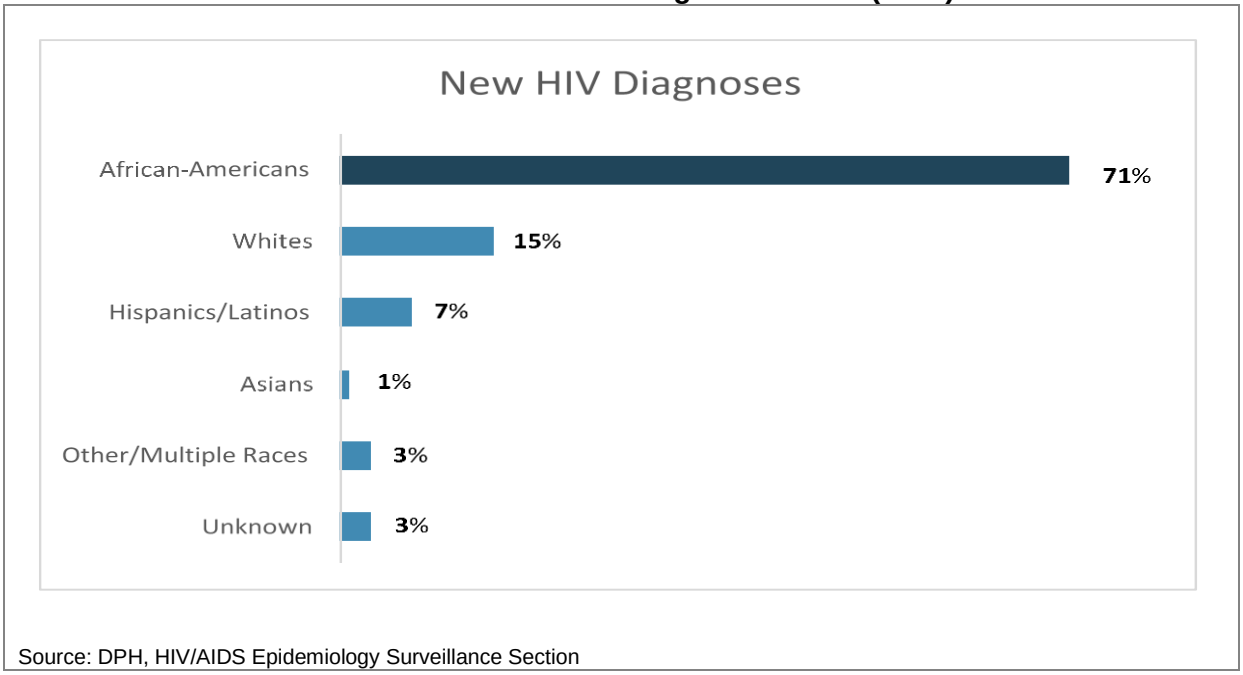
Source: DPH, HIV/AIDS Epidemiology Surveillance Section

By Race

As shown in **Exhibit 3**, African Americans accounted for the largest percentage of new HIV diagnoses in calendar year 2016 at 71%. In Georgia, African Americans are disproportionately impacted by HIV, accounting for 68% of those living with HIV while making up only 31% of Georgia's population. White/Non-Hispanics account for 53% of Georgia's general population but accounted for only 15% of new cases in 2016 and account for only 19% of those living with HIV.

[2] Men who have sex with men (MSMs) is the medical community's terminology to classify men who engage in sexual activities with men irrespective of how the person self-identifies sexual identity (e.g., gay, bisexual, straight).

Exhibit 3
African-Americans Account for 71% of New Diagnoses in GA (2016)



Source: DPH, HIV/AIDS Epidemiology Surveillance Section

National HIV/AIDS Strategy

The 2010 National HIV/AIDS Strategy was the first of its kind. It is intended to coordinate a national response to the HIV/AIDS epidemic

In 2010, the first National HIV/AIDS Strategy (NHAS) was released. The strategy was updated in 2015 with goals and objectives through 2020 and puts forth principles, priorities, and actions to inform and guide a collective response to address the national HIV/AIDS epidemic.

Four goals of the NHAS are to: (1) reduce new infections, (2) improve health outcomes, (3) reduce health disparities/inequities, and (4) improve national response coordination. The strategy emphasizes the importance of testing, linking people with HIV to medical care, and retaining patients in medical care. These steps in client care are collectively referred to as the HIV Care Continuum.

HIV Care Continuum

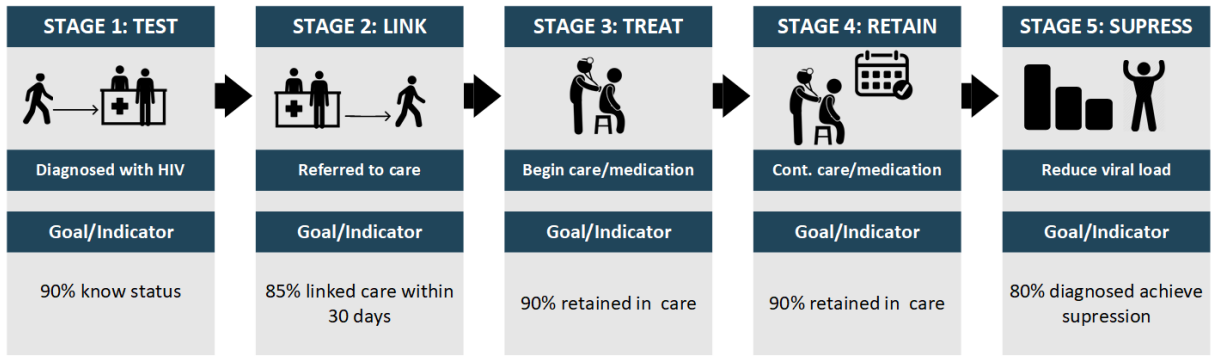
The updated NHAS strategy describes the HIV Care Continuum as a foundation for successful client management. It outlines the sequential stages of HIV medical care that people living with HIV would ideally go through to achieve viral suppression. Although depictions of the Care Continuum vary, the basic model includes the following four-part sequence:

- patient is diagnosed with HIV,
- patient is linked to medical care provider,
- patient is treated with an anti-retroviral treatment (ART), and
- the patient's viral load is suppressed. [3]

[3] Viral suppression is only achievable if the patient remains in medical care and adheres to ART medications. As a result, some models of the Care Continuum will include a fifth "retained in care" step.

As shown in **Exhibit 4**, the stages in the continuum are accompanied by a set of goals and indicators designed to increase the percentage of persons living with HIV to achieve viral suppression.

Exhibit 4
NHAS Goals/Indicators in the HIV Care Continuum



Source: *National HIV/AIDS Strategy: Updated to 2020* and DOAA Analysis

The Care Continuum approach to managing the HIV epidemic in the community not only improves individual health outcomes, but is cost effective as well. Successful treatment of the HIV virus is also an effective form of prevention as it suppresses the virus, making transmission less likely and preventing the disease from spreading. Likewise, retaining clients in care is also a critical way to ensure clients stay virally suppressed and prevent further spread of the disease. Using treatment as prevention has the potential for substantial cost savings as well. The most recent published estimates of lifetime HIV treatment costs are more than $350,000 per patient. If successful treatment and retention prevented the spread of HIV to 16 individuals, an estimated $5,600,000 in treatment costs would be avoided, which exceeds an entire year of prevention funding for Georgia.

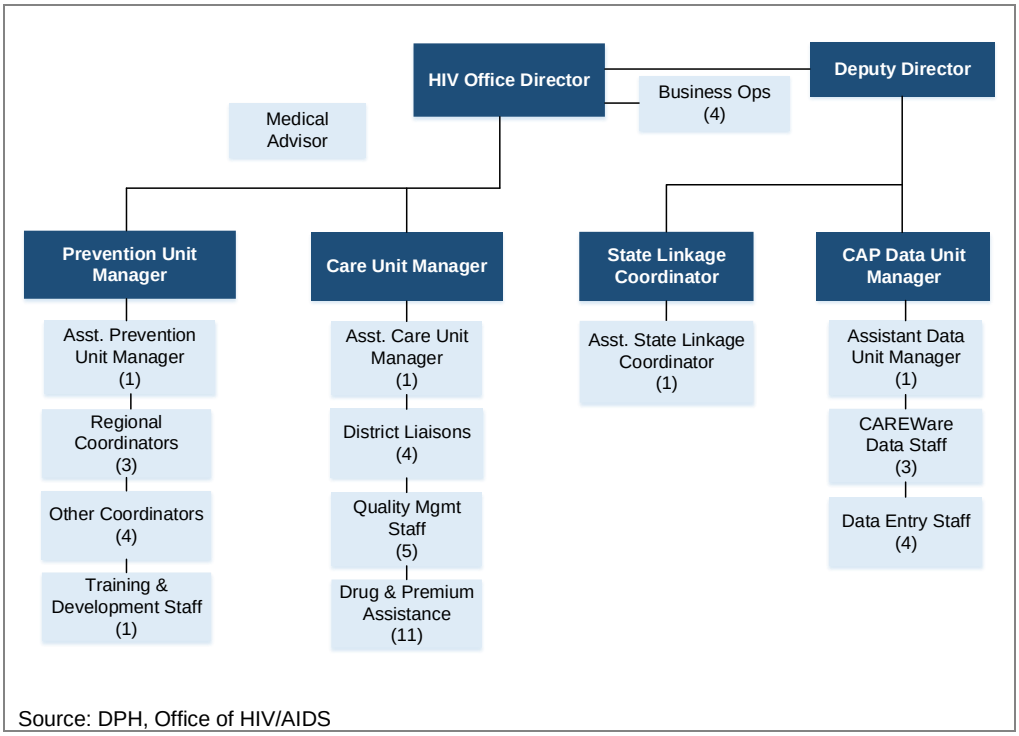
The State's Role in HIV Prevention, Detection, and Treatment

The Department of Public Health, Office of HIV/AIDS (OHA) is the lead unit for coordinating state efforts to prevent, detect, and care for people with HIV. (See **Exhibit 5** for organizational chart.) The majority of OHA's financial support comes from federal partners with some operational support from other state and local partners. The OHA organization, its role, and the roles of supporting entities are described in detail below.

Office of HIV/AIDS

OHA is responsible for improving the health status of Georgians diagnosed with HIV, preventing the spread of HIV/AIDS, and reducing the overall burden of the HIV epidemic in Georgia. OHA currently has 48 employees (and 2 vacancies); it is located in DPH headquarters in downtown Atlanta. The unit is led by the State AIDS Director.

Exhibit 5
Office of HIV/AIDS Organization Chart



Source: DPH, Office of HIV/AIDS

The **Prevention Unit** distributes prevention and testing grant funds from the Centers for Disease Control and Prevention (CDC) to local entities, coordinates the HIV testing program and data reporting for the state public health system, provides training for community partners and public health staff, and coordinates HIV testing and prevention efforts among the public health system statewide.[4]

The Office of HIV/AIDS works with federal agencies and local testing & care units to coordinate state efforts for HIV prevention, detection, and care.

The **Care Unit** manages medical and support services for persons with HIV using mostly Ryan White Part B Program grant funds from the Health Resources and Services Administration (HRSA) and matching state funds. The unit distributes Ryan White Part B funds to medical treatment facilities across the state and assures compliance with treatment protocols.[5] (For a description of the Ryan White Program and the various grant sections, see **Appendix C.**)

Linkage to Care Staff within the Care Unit oversee specialized case managers (known as linkage to care coordinators) who work in the local clinics. The coordinators are charged with receiving patient referrals from testing personnel and

[4] During the period under review, the Fulton County Board of Health received HIV prevention funding directly from CDC, and Fulton County funded DeKalb County Board of Health as a sub-grant recipient. As a result, OHA did not have direct oversight over prevention efforts and initiatives for these two metro-Atlanta Health Districts. As of January 1, 2018, (with the reorganization of Fulton County Board of Health under the Georgia Department of Public Health), CDC grant funds are now distributed to OHA and Fulton and DeKalb counties are managed similarly to other health districts.

[5] In addition, the care unit manages the AIDS Drug Assistance Program (ADAP) which provides HIV/AIDS medications to low-income individuals with little/no health coverage and manages the Health Insurance Continuation Program, which provides payment assistance for health insurance.

assisting in actively linking patients to HIV care providers once a client is diagnosed as HIV-positive.

The **Care and Prevention (CAP) Data Unit** collects, manages, and analyzes HIV testing and diagnoses data in the public health sector and manages Georgia's statewide HIV care database.

HIV/AIDS Epidemiology Section

DPH's HIV/AIDS Epidemiology Section (HAES) is separate from OHA and manages the state HIV/AIDS surveillance system, which collects testing data on all HIV cases, irrespective of whether the test occurred in a public health setting. HAES monitors the HIV/AIDS epidemic over time, provides epidemiological support for planning and evaluation of OHA programs, and collaborates with federal, state, and local entities in programs and services. HAES submits surveillance data on HIV to the CDC and produces annual reports on the state of HIV/AIDS in Georgia.

Federal Grantors

In fiscal year 2018, CDC and HRSA provided approximately 75% of the total funding to support OHA efforts for HIV testing, prevention, and care. (Funding details are discussed in the next section.) OHA serves as the grant manager and distributes federal and state matching funds to local entities and monitors compliance and performance. Below is a summary of the general scope of the federal grants.

- **CDC** distributes funds to OHA under the Integrated HIV Surveillance and Prevention Funding for Health Departments grant.[6] Grant funds are intended to improve and maintain HIV prevention and surveillance systems. In Georgia, this includes providing funds to OHA for supplies (e.g., testing kits) and funding for local entities, such as county health departments and community based organizations, to educate the local population on prevention options, test and diagnose clients on-site and conduct community outreach testing.

- **The Health Resources and Services Administration (HRSA)** distributes funds to OHA under the Ryan White grant (Part B). These grant funds support specialized medical treatment clinics, establish drug assistance programs, and provide financial support for client's with health insurance. (For a description of the Ryan White Program and the various grant sections, see **Appendix C.**)

Local Partners

Local partners deliver direct services to patients with OHA grant and management support and consist of select personnel in DPH health districts, county health departments, community based organizations, and specialized treatment clinics. A brief description of these local partners is provided below.

Health Districts and County Health Departments

The state is divided into 18 public health districts. Each public health district is comprised of one or more (up to 16) of the state's 159 counties and is led by a district health director who is a Georgia-licensed physician. (**Appendix D** provides a map of the state health districts.) Each health district has an HIV

[6] Prior to 2018, CDC's grants for HIV prevention and HIV surveillance were distributed separately.

prevention coordinator who works with OHA to oversee grant funds as well as coordinate and manage prevention activities, including HIV testing and counseling and reporting.

Every county health department (CHD) offers HIV testing and counseling services. Primary clinical staff in the CHDs are expanded-role nurses (e.g., nurse practitioners, licensed practical nurse, and registered nurse), who perform most HIV clinical and outreach testing, as well as HIV-related counseling. Most of the health districts have a linkage to care coordinator who works with testing personnel to facilitate patients to a medical care facility if they test HIV-positive in the public health setting.

Treatment Clinics

OHA contracts with and oversees a network of public/non-profit treatment clinics in 16 of 18 health districts across the state that specialize in providing care to persons with HIV/AIDS.[7] These specialized clinics, known as Ryan White clinics, may be physically adjacent to CHDs or in different locations. Each health district has at least one Ryan White clinic. OHA funded or co-funded 34 Ryan White clinics in grant year 2018.[8] (**Appendix E** provides a map of the Ryan White clinics that received OHA funding). These clinics have approximately 200 to 1,300 active patients per clinic.

All of Georgia's Ryan White clinics have at least one physician with advanced training in treating HIV who can prescribe HIV medications. Additionally, Ryan White clinics may have physician assistants and nurses with training in treating HIV and limited prescriptive authority. Ryan White clinics often serve clients with limited means to pay for HIV treatment and services and operate on a needs-based sliding fee scale for copays.

Community Based Organizations

OHA contracts with four community-based organizations (CBOs) that specialize in HIV testing and/or medical care. These organizations specialize in public health services, may serve high volumes of patients, and can receive additional funding (e.g., additional grants or private funding). Local health districts may contract with community based organizations directly. For example, in the Albany area, the county health department has contracted with a local non-profit care provider to serve people with HIV, while the CHD staff focus efforts on non-medical support services.

[7] Districts 3-2 (Fulton) and 3-5 (DeKalb) are supervised by a similar program within Fulton County.

[8] These clinics are typically referred to as Ryan White B programs because the grant issued to the state is classified as Part B of the HRSA Ryan White program. HRSA also provides funds for medical care and support services directly to Fulton County which operates a program similar to OHA for the "Atlanta Eligible Metropolitan Area".

The Metropolitan Atlanta Public System for HIV Prevention and Care

HIV prevention and treatment efforts in public health for parts of the Atlanta metropolitan region have been historically funded and managed outside of the DPH OHA. Below is a summary of the public health system of prevention and care in metro Atlanta.

Prevention: *The Fulton County Board of Health (FCBH) operated HIV prevention efforts independently of DPH OHA before July 1, 2017 and received HIV prevention funding directly from the Center for Disease Control (CDC) prior to January 1, 2018. FCBH provided funding to DeKalb County Board of Health (DCBOH) during this period as a grant sub-recipient and oversaw all HIV prevention efforts in Fulton and DeKalb counties. The General Assembly repealed the statute that allowed FCBH to operate independently of DPH in 2016.*[9] *The state integrated Fulton County Board of Health into DPH operationally beginning July 1, 2017. Fulton and Dekalb County prevention programs came under OHA oversight beginning January 1, 2018, coinciding with the new CDC grant cycle.*

Care: *Health Resources and Services Administration (HRSA) has identified Atlanta as an "Eligible Metropolitan Area" (EMA). This classification establishes metro Atlanta as a directly funded area; and HRSA issues a program grant to the Ryan White Part A Program (administered by the Part A Planning Council). The RWA program funds clinics in a 20 county region in and around the city of Atlanta. With exception of Fulton and DeKalb counties (that receive only Part A HRSA funds), Ryan White clinics in metro Atlanta may receive Part A funds as well as Part B funds through OHA.*

Funding for Prevention and Treatment

OHA is awarded federal grants, which the state matches according to the grant requirements. OHA then distributes the funds to local health districts and medical care clinics throughout the state. As shown in **Exhibit 6**, the majority of funding to support OHA efforts is from federal funds. HIV testing and prevention funding is provided by the CDC and medical care and support services funding is provided by HRSA. Georgia contributes no funding to HIV prevention, but, as noted above, matches a portion of HIV care funds based on federal grant requirements. **Appendix F** and **Appendix G** show a breakout of funding for grant year 2018 by health district.

Exhibit 6
Office of HIV/AIDS Funding (State Fiscal Years 2015-2018)

Fund Sources	2015	2016	2017	2018
Federal[1]	$59,416,854	$116,761,567	$48,889,725	$65,633,765
Other	$4,847,884	$0	$2,025,797	$5,043,522
State	$16,461,147	$16,464,639	$16,708,404	$17,262,544
Total	**$80,725,885**	**$133,226,206**	**$67,623,926**	**$87,939,832**
Expenses				
Personal Services	$5,761,261	$6,504,929	$7,232,613	$7,351,975
Regular Operating Expenses	$51,350,268	$99,565,318	$39,145,177	$60,779,360
Equipment	$0	$41,718	$0	$250,764
IT Expenditures	$5,940	$27,892	$1,804	$19,243
Real Estate Rentals	$177,210	$181,561	$174,782	$195,003
Voice/Data Communication Service	$2,321,198	$1,999,420	$195,125	$345,325
Contractual Services	$9,899,828	$13,382,523	$9,555,773	$5,950,506
Grants and Benefits	$11,210,181	$11,522,844	$11,318,652	$13,047,655
Total	**$80,725,885**	**$133,226,206**	**$67,623,926**	**$87,939,832**

[1] Federal grant periods do not correspond to state fiscal years. As a result, federal expenses reported during state fiscal years do not correspond to award amounts for the grant periods.
Source: Teamworks Financial System

[9] O.C.G.A 31-3-2.1 allowed counties with 800,000 or more residents to create an independent board of health that operated independently of DPH.

Activity Data for OHA Funded Entities

Entities funded with OHA sub-grants are required to collect and report data on test events and medical care to the state. OHA uses this data for program analysis and to report to the federal grantors.

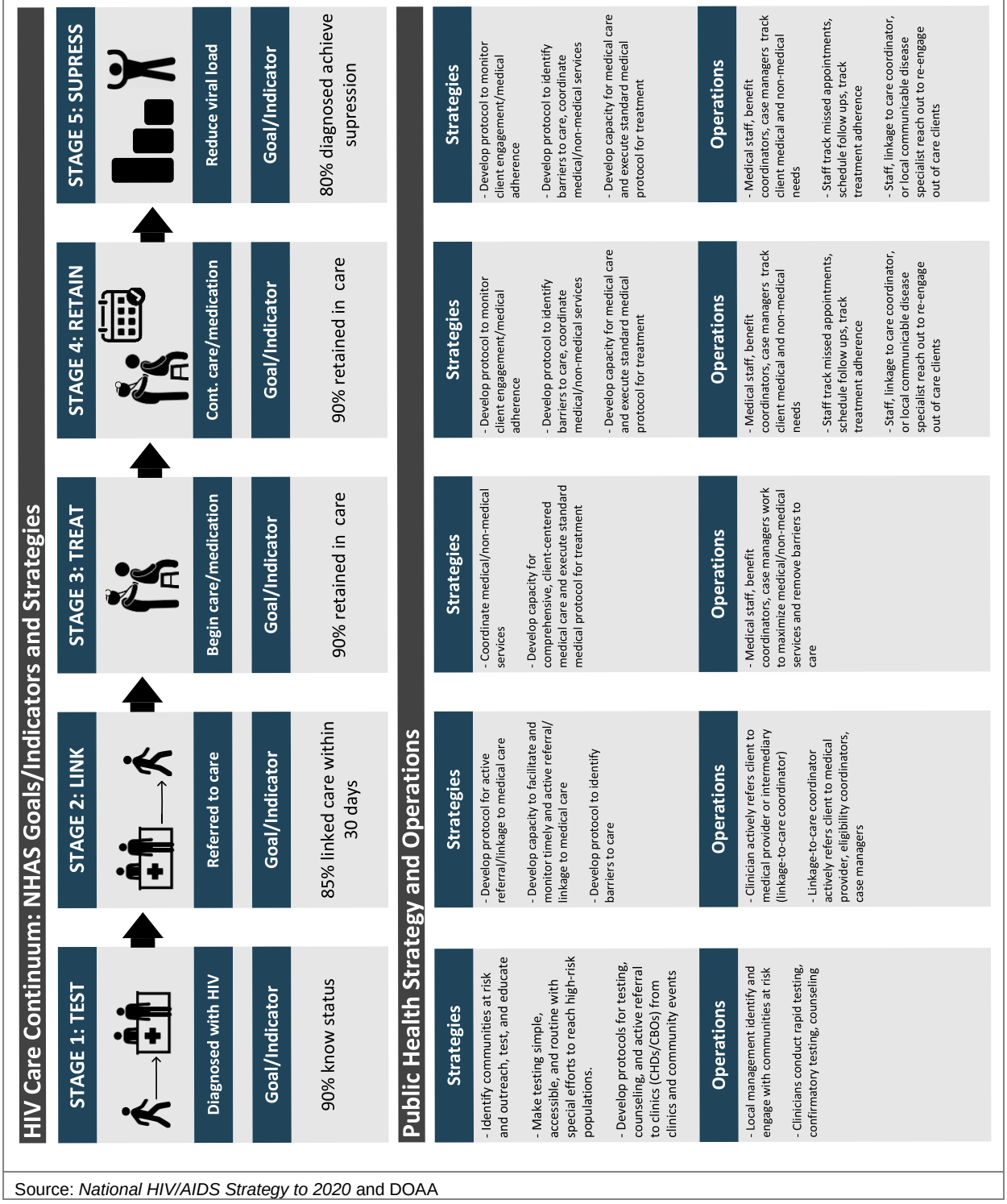
County health departments and community-based organizations funded with OHA grant funds are required to report the number of HIV tests they conduct and the number of tests that are positive for HIV. According to OHA records, these organizations conducted approximately 85,000 tests in 2016 grant year, with 524 (0.6%) positive results. **Appendix H** presents the number of tests conducted and the number of positive tests by health district as reported by OHA.

In 2016, clinics that received Ryan White B grants through OHA reported serving approximately 10,400 clients statewide. **Appendix I** presents the number of patients receiving care in OHA funded clinics by health district as reported by OHA.

Moving Patients through the Public Health System

OHA has incorporated core aspects of the National HIV/AIDS Strategy (NHAS) in its approach to management of HIV. In so doing, OHA and grant sub-recipients have adopted the NHAS HIV Care Continuum. **Exhibit 7** presents an expanded version of the HIV Care Continuum, which includes NHAS programmatic goals, strategies, and indicators that have been adopted by OHA/local entities as well as work steps typically executed by local staff charged with moving HIV-positive patients through the Care Continuum. A more detailed description of the work steps executed during the stages in the HIV Care Continuum are presented in **Exhibit 7** and on pages 12-14.

Exhibit 7
How the State Public Health System Implements the HIV Care Continuum



Source: *National HIV/AIDS Strategy to 2020* and DOAA

Stage 1: Testing and Counseling

Clinical staff in OHA-funded CHDs and CBOs are responsible for conducting HIV testing and counseling. OHA has established protocols explaining both the technology to be used as well as the protocols to employ for testing and counseling.

- **Testing:** Nearly all CHDs and CBOs funded by OHA use rapid HIV testing technology that deliver preliminary results within 5 to 20 minutes. If a rapid test result is HIV-positive, the clinician will conduct another test to confirm the accuracy of the initial rapid test result and is expected to counsel the patient and take immediate action to link the patient with a medical provider or put them into contact with a local linkage to care coordinator.[10]

- **Counseling:** Local clinical staff are expected to counsel patients who test HIV-positive and those who test HIV-negative but have increased risks of contracting the virus based on reported behaviors (e.g., multiple sexual partners).

Stage 2: Linking Patients to Care (Active Referrals)

Clinicians and linkage to care coordinators are local staff responsible for actively referring (i.e., linking) a person diagnosed with HIV to an appropriate medical care provider. This linkage to care process is recognized in the NHAS as a critical juncture in the successful movement of patients through the HIV Care Continuum.

Once a person tests positive for HIV in a public health setting, local staff are expected to begin an active referral process to successfully link the patient to an appropriate medical provider quickly. Effective July 2015, the NHAS adopted a time target of linking newly diagnosed patients to a medical provider within 30 days. [11]

In addition to linking HIV-positive clients to medical care providers, linkage to care coordinators work with additional staff (such as case managers and eligibility specialists) to help facilitate and maximize the medical and non-medical services that may be available to the patient (e.g., assistance with the cost of medications and health insurance premiums, and transportation).

Once the patient has attended the first appointment with a medical provider, the linkage to care is considered completed and the linkage to care coordinator's formal responsibility for the patient is considered complete.

[10] The initial rapid positive result is considered a sufficient result for initiating the patient for medical care. The local clinician will either conduct a second rapid test or will draw a blood sample and send it to a laboratory to receive a confirmation result. OHA encourages the "rapid/rapid" testing protocol, but some local units still conduct the "rapid/blood draw" testing protocol. Before advancement in testing accuracy, the latter protocol was typical.

[11] Some local providers have established more aggressive time targets to link clients within 2-3 days of testing.

Linking Within and Outside of the State System

Which medical provider a clinician or linkage to care coordinator will refer a patient to depends on factors such as the location of the clinic or whether the client has private insurance. If the patient has private insurance, or does not meet earning level qualifications for receiving Ryan White services (above 400% Federal Poverty Level), the patient will likely be referred to a private medical provider or a discount provider, such as a Federally Qualified Health Center (FQHC). If the patient does qualify for Ryan White services, the linkage coordinator will work with the patient to schedule a first medical appointment with a clinic receiving Ryan White funds.

Case Management, Medical Care, and Non-Medical Support Services

Clients are typically linked with a case manager who works to identify client needs and identify appropriate Ryan White medical and non-medical services the patient needs to be successful in care. Case managers usually meet with clients who present significant barriers to treatment or program compliance more frequently than clients who have fewer barriers to care and more success in self-managing. If clients are referred to a private provider or a federally qualified health center, case management is revisited to determine eligibility for services.

Ryan White Program Eligibility

Individuals seeking care at Ryan White clinics in Georgia must be HIV-positive and Georgia residents. Additionally, if they are below 400% of the federal poverty level, they are eligible for subsidization of their medical costs through AIDS Drug Assistance Program (ADAP) if they lack health insurance or the Health Insurance Continuation Program (HICP) if they have health insurance.

Patients receiving medical care from OHA-funded clinics will meet with a physician (or other medical staff who can prescribe ART), receive blood work to establish baseline data, and begin antiretroviral treatment (ART) soon after their initial appointment. Strict medical protocol for treatment exists and patients must remain adherent to improve health outcomes.

In addition, local personnel work with clients to provide appropriate non-medical services. Ryan White program permits client assistance for items such as transportation, utility, rent, or food costs—items that reduce barriers to successful care.

Stages 3 and 4: Treating and Retaining Patients in Care

Treating HIV with ART is the most effective way to lower a patient's chances of transmitting HIV and keep them healthy. Therefore, ensuring HIV-positive individuals attend medical appointments and adhere to ART are imperative to achieve viral suppression—the final stage in the HIV Care Continuum and the ultimate goal in patient management. However, medical care drop out is a risk for many patients facing barriers to care.

Protocol for assuring the timely identification/follow up with patients that miss medical appointments and methods for tracking patient adherence to ART are not

standard from clinic to clinic. Staff who may be involved with identifying clients who miss appointments or fail to adhere to care protocols include case managers, linkage coordinators, peer advocates, and scheduling personnel.

Information Systems

There are several major data systems DPH uses to track HIV testing, linkage to care, and treatment within the State's public health system, including an epidemiological surveillance system. These are briefly described below.

EvaluationWeb

EvaluationWeb (EW) is OHA's primary data system for collecting HIV testing information within state-funded health departments. EW was developed by CDC and grantees (like OHA) are required to use the system to collect and report on testing conducted.

CAREWare

CAREWare is the state's primary HIV care database that Ryan White clinics use to report HIV care and support services to HRSA. HRSA provides access to CAREWare for all Ryan White grant recipients and their providers nationwide. All health districts receiving Ryan White Part B funding are required to document aspects of service provision in CAREWare. These include lab results, service visits, and enrollment status.

eHARS

HIV Surveillance Unit maintains Georgia's Electronic HIV/AIDS Reporting System (eHARS), which collects laboratory results from all HIV-positive cases around the state – regardless of whether the patient was tested in an OHA-funded entity. The HIV Surveillance Unit uses eHARS to compile surveillance reports of the entire state on HIV and sends them to federal agencies like CDC.

SENDSS

Georgia's State Electronic Notifiable Disease Surveillance System (SendSS) is an in-house developed, web-based software used to capture, analyze, and share data essential for disease surveillance in Georgia, including HIV. It is maintained by the DPH Division of Information Technology and currently accepts web-based data entry from District Health Offices, County Health Departments, hospitals, laboratories, and private physicians. Public health providers around the state have access to SendSS and can view notifications from DPH if certain diseases are reported within their jurisdictions. Although providers submit case report forms to DPH when they diagnose a notifiable disease, HIV is not currently included in the notifications to local health officials. Electronic submission of HIV case reports can occur through SendSS.

Findings and Recommendations

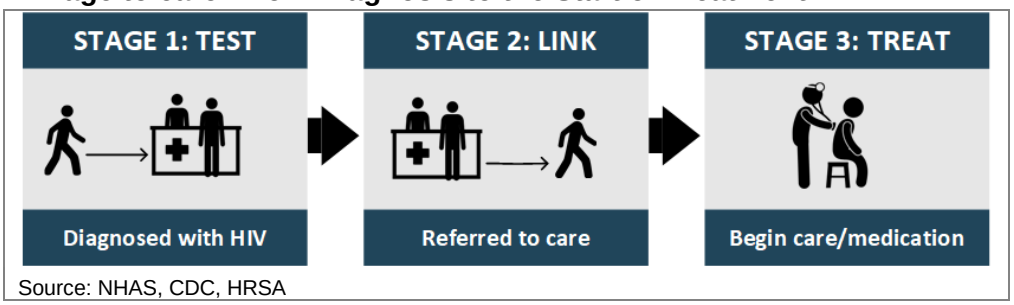
Section 1: Linking Clients to Medical Care

The Importance of Linking Clients to Medical Care

Linking a person with HIV to medical care soon after diagnosis and initiating medical care can lower the patient's viral load and reduce the likelihood of transmitting the virus.

As shown in **Exhibit 8**, the process of "linking" a client to medical care begins with the initial diagnosis and ends after the client has been seen by a medical provider qualified to begin treatment. Within the public health system of Georgia, an initial diagnosis typically occurs in a county health department, a community outreach event, or in a specialized clinic (e.g., a community based organization that specializes in testing and care). After diagnosis, the patient is referred to either a linkage to care specialist or directly to a medical provider. The patient may be referred to either a Ryan White medical clinic (if the client meets program eligibility requirements) or an alternative provider (e.g., private or other public) .

Exhibit 8
Linkage to care: From Diagnosis to the Start of Treatment



Source: NHAS, CDC, HRSA

In the *NHAS through 2020*, medical providers and program managers are being challenged to increase the percentage of newly-diagnosed clients who begin medical care within one month of diagnosis to 85% by 2020. The CDC reports the current national linkage to care rate as 75% within 30 days and 84% within 90 days of HIV diagnosis.

Our audit was designed to determine how effective OHA and local units have been at linking HIV-positive clients to medical treatment. Our findings on the topic are presented in the following sections. We collected and analyzed HIV testing data collected by OHA from local units for calendar years 2015 and 2016. HIV-positive case results were compared to locally-maintained records, and the success rate of OHA funded entities in linking HIV-positive to medical care was measured.

Finding 1: Using data from local clinics, we estimate that 72% of the unique persons we identified as diagnosed in OHA-funded settings were successfully linked to care; 53% were linked within 90 days.

We identified 620 persons diagnosed with HIV in settings funded by OHA during calendar years 2015 and 2016. [12] Of these, 72% (448 of 620) of clients were linked to care. Of the total 620, 53% (327) were successfully linked to medical care within 90 days (see **Exhibit 9**). Our results are based on data requested from 16 local health districts that received funding from OHA to test and link to care patients who test HIV-positive.[13] Of the 16 public health districts, 11 provided data. Providers did not have accurate data on the link to care date for 8% (50 of 620) of patients, so it is possible that the percentage of clients linked to care within 90 days could be as high as 61%; however, we cannot be sure. Slightly over half of these untraceable cases were linked to a provider not funded by OHA.

During the period under review, OHA established a performance standard to "successfully link" 80% of clients diagnosed with HIV to a medical care provider within 90 days.[14] OHA estimates linkage to care using test-event data (as opposed to person-based data) contained in EvaluationWeb, which is a database funded by the CDC. OHA reported to CDC that its linked to care rate was 78% within 90 days in 2017. In 2014, CDC reported a national success rate of 84% of newly diagnosed persons with HIV being linked to a medical provider within 90 days of that diagnosis. In the most recent five-year CDC grant awarded to OHA (2018–2022), the performance target for linkage-to-care has been increased to 85% of newly-diagnosed clients within 30 days. CDC reported the 2014 national linkage to care rates within 30 days as 75%.

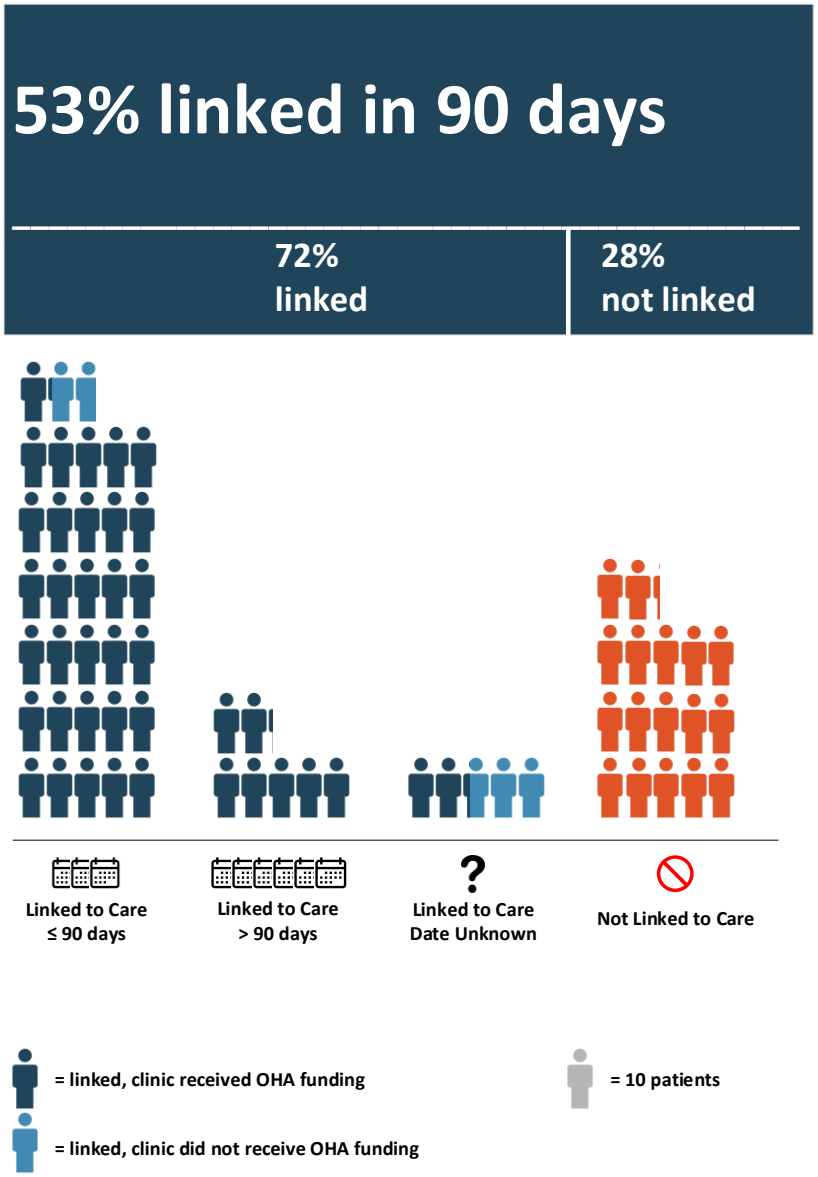
Of the 620 records we reviewed, 22% (138) of clients were successfully linked to medical care within 30 days. This baseline suggests that a focus to improve linkage to care outcomes and timeliness will be required in the future. Strategic and operational efforts OHA and local entities are taking to improve these outcomes are discussed in the next finding.

[12] Data was requested from all 16 public health districts under DPH purview. Data was provided by 11, (one of which provided data for itself and a separate community based test site that is directly funded by OHA). The 620 clients represents the whole population reviewed. The results of our analysis cannot be extrapolated to those districts that did not respond to the data request.

[13] Due to concerns about data reliability, we did not rely on the data maintained by OHA to document linkage to care results. (See Finding 3 for discussion on data reliability concerns.)

[14] The NHAS adopted a 30 day timeframe July 2015, but this timeframe was not implemented into CDC's grant requirement until grant year 2018.

Exhibit 9
Linkage to Medical Care within 90 days (Calendar Years 2015-2016)



Source: Local Clinics and DOAA analysis

DPH's Response: DPH indicated that current initiatives are underway to improve the monitoring and reporting of linkage to care for persons for persons with a positive HIV test (beginning with diagnosis and ending with treatment). This includes program collaborations, development of data collection tools/systems, and trainings that will result in more efficient capturing and quality linkage activities with an emphasis on public health informatics. It also stated that "based on a spreadsheet recently pulled together by HIV Surveillance specifically to look at linkage to care by facility," it found of 168 people diagnosed at health department clinics "73% were linked to care in 90 days." These numbers were based on analysis of 2016 diagnoses using three databases: 1) EvaluationWeb – a CDC test-

event based database overseen by OHA intended to monitor testing and linkage to care outcomes. 2) eHARS – a person-based relational database maintained by the DPH HIV Suveillance Epidemiology program for state-level population tracking; and, 3) Careware – a HRSA client-based database maintained by OHA to track diagnosis and treatment.

Auditor's Response: The analysis detailed in the finding was designed to identify unique clients who tested positive in OHA funded-testing centers and to measure the success rates and time duration for linking these clients to medical care. Due to concerns with data reliability of EvaluationWeb (as discussed in finding 3), we decided to directly survey health districts and establish a record of unique clients who tested positive. Our results discussed in the finding above are directly related to the 620 clients identified and their linkage experience. Additionally, we requested supporting evidence for the analysis OHA cited above and compared it to our records from the survey. In every district, our survey results reported a higher number of positive cases than OHA's reported numbers, which confirmed our decision to use survey data to assess linkage .

Finding 2: OHA and local managers have taken action to improve linkage to care, but additional steps are needed to clarify management expectations, formalize referral protocols, and expand oversight.

OHA and local units are appropriately focusing management attention on linking clients diagnosed with HIV to medical care as soon as possible. OHA has integrated NHAS and the HIV Care Continuum management goals and initiatives into its own initiatives. Further, it has dedicated funding to increase the number and distribution of staff throughout the state who specialize in linking clients to medical care. In addition, OHA has undertaken efforts to create and improve data systems to track clients from the point of testing and diagnosis to medical care.

While this attention is designed to improve the linkage to care process, additional areas also require action. For example, many local units have not developed linkage to care protocols as recommended by OHA. Additionally, OHA's auditing is limited in both scope and coverage regarding linkage to care methods and outcomes. The actions OHA has undertaken and the additional steps needed are discussed in the following sections.

- **OHA has appropriately adopted the shortened linkage timeframe established in the NHAS.** The National Strategy emphasize the need for actively linking HIV-positive clients in a timely manner to medical care. In 2012, OHA used CDC funding to establish the *Test-Link-Care* pilot program which became a permanent part of their prevention programming in 2016. The pilot program was intended to improve upon the traditional model of passive client referral from a testing center to a medical care facility through the use of case management specialists, known as linkage-to-care coordinators (LCCs). These LCCs specialize in actively referring HIV-positive clients to medical care, coordinating with care specialists, ensuring needed non-medical and support services are received, and confirming that clients attend a first appointment with an HIV specialized medical provider. LCCs were positioned in 7 of 16 health districts during the pilot program.

  In 2018, the pilot program was fully integrated into the general grant-in-aid for HIV/AIDS prevention. The grants now charge LCCs to link HIV-positive

clients to appropriate treatment and care within 30 days of the confirmed test result, a time standard that meets the NHAS performance standard. To achieve this level of performance will require significant improvement upon the recent past (see Finding 1), but reduction of the timeframe is an appropriate integration of those put forth nationally. In the current annex, OHA has put forth a performance goal of linking 85% of persons identified as HIV-positive to medical care within 30 days of diagnosis, which matches NHAS standards.

- **OHA has increased staffing resources for LCCs.** In grant year 2018, OHA increased both the number and geographic distribution of funded LCC positions. As of June 2018, there are 24 funded LCC positions distributed among 15 of 18 health districts for which OHA manages prevention grant funds, including Fulton and DeKalb health districts, which were integrated under OHA's Prevention Program oversight this grant year. **Exhibit 10** provides a map of the funded LCCs in health districts throughout the state.

- **OHA is addressing the limitations in tracking client linkage.** Starting in 2018, LCCs (and other identified local staff) can use the State Electronic Notifiable Disease Surveillance System (SendSS) to report clients who have linked to medical treatment and to search for clients who have linked to care in other health districts. This improvement will allow OHA to track individual clients throughout the linkage to care process. During the period under review, data systems prevented OHA from tracking individual clients who have tested HIV positive at an OHA funded testing site. EvaluationWeb (the CDC system used to capture testing data) captures test events and not unique client level data; and linkage to care fields in EvaluationWeb are not consistently used by local testing staff. In addition, concerns about the reliability of EvaluationWeb data exist that are discussed in the Finding 3.

  If fully implemented to capture every HIV-positive client diagnosed within OHA-funded entities, the new linkage component of SendSS should improve both the accuracy and the timeliness of data submitted to the state and monitored locally. OHA is in the process of identifying appropriate personnel in each district to enter data into this system.

Data Systems for Linkage to care

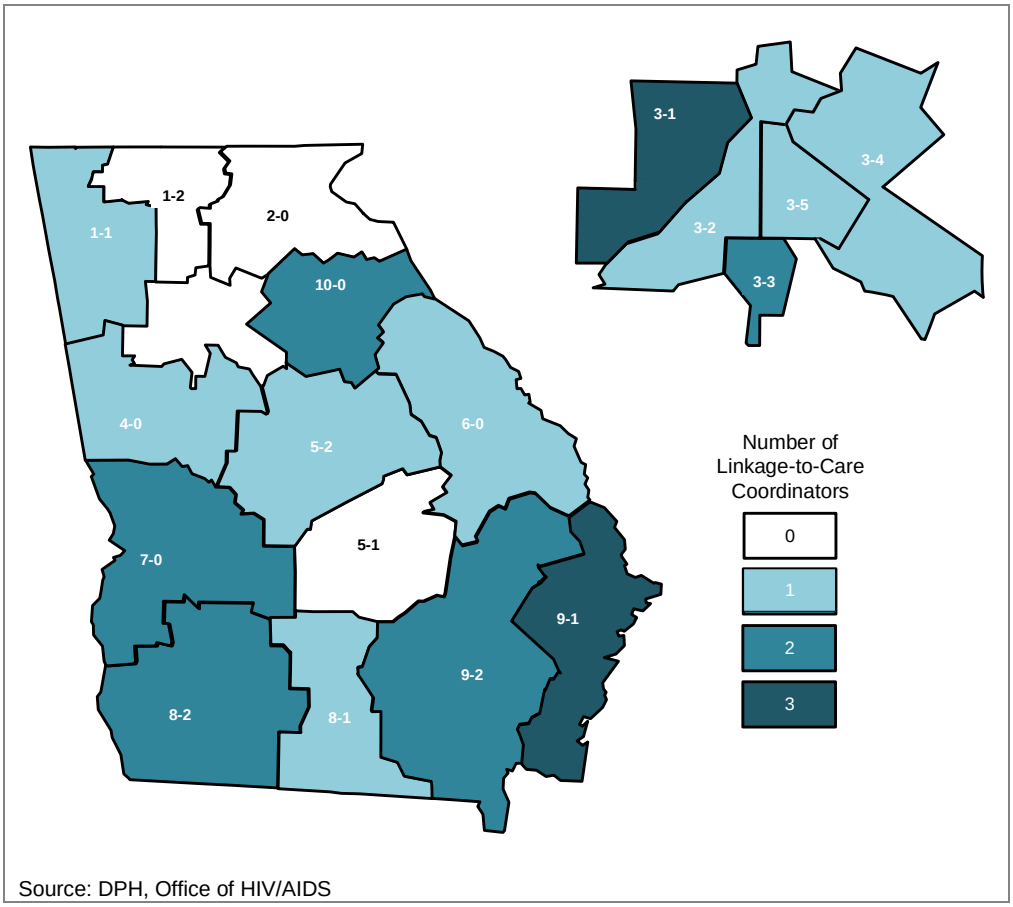
OHA has made significant changes to the data systems designed to collect information on clients who test positive for HIV in DPH-funded entities. As a result, improvements in client tracking from diagnosis to medical treatment should be available to OHA and local managers in 2018.

- **Many local units have not developed written linkage to care protocols.** OHA has established minimum quality standards recommending that local clinics develop linkage protocols that identify staff responsibilities for linking HIV-positive clients to medical care services. However, we contacted health district personnel throughout the state and found that only 8 of 16 health districts had some form of written linkage to care protocols. Among these, protocols were often supplemental to more general procedures and few explained linkage procedures comprehensively, often lacking how staff

charged with testing should contact LCCs or what staff should do if the client was not ready to link to care immediately. Few explained how LCCs should coordinate referral and confirm medical visits for non-Ryan White medical providers.

- **OHA's audits are currently limited.** Annually, OHA conducts on-site audits to review activities at field offices that are required in the annex between OHA and health districts. These visits are typically limited to the lead county within each district, but staff do not verify linkage results reported to OHA. OHA should incorporate a rigorous review of linkage to care procedures and case files to determine whether local staff are executing expected protocols and satisfying minimum standards. In addition, OHA should consider expanding audits to include procedures and linkage confirmation to more counties to ensure that linkage protocols throughout the state meet minimum quality standards. In total, 141 of 157 counties (excluding Fulton and DeKalb) are not reviewed under the present audit coverage method. According to OHA data systems, approximately 35% of positive tests occurred in these counties.

Exhibit 10
Linkage to Care Specialists Are Being Positioned Throughout the State



Source: DPH, Office of HIV/AIDS

RECOMMENDATIONS

1. OHA should be commended for adopting national goals for linking HIV-positive clients to medical care, focusing staffing and management attention on the process of linking clients to care, and in making improvements to data collection and monitoring for linkage to care activities and outcomes.

2. Local units should develop written linkage to care protocols that are comprehensive, and OHA should consider auditing the design and execution of linkage work.

3. OHA should continue to monitor linkage to care success and emphasize the importance of timely and accurate data being entered into the system as well as the new time target of 30 days.

4. OHA should consider monitoring linkage by provider type (OHA funded and those outside the OHA system) and establish specific protocol for how/whether to confirm initial linkage appointment for non-Ryan White providers in particular.

DPH's Response: DPH agreed with the finding and indicated it is working to standardize and streamline linkage to care processes via the increased linkage to care staff throughout the state. In addition, linkage to care coordinators are using online tools developed by the OHA and HIV Surveillance Program to improve client reengagement efforts.

Finding 3: Data collected and maintained by OHA were not sufficiently reliable to estimate the percentage of unique clients successfully linked to a medical provider.

We found data collected and maintained by OHA to be unreliable for determining (or reasonably estimating) how effectively local testing sites linked unique HIV-positive clients to medical treatment during calendar years 2015 and 2016. The unreliability of OHA maintained data is significant because the program has historically relied on this data to inform program management and to comply with CDC's reporting requirements. In January 2018, OHA completed a new linkage to care module that works within the state's notifiable disease system (SendSS). This change should result in improvements in data reliability regarding linkage to care outcomes. The limitations we encountered are discussed below.

- **Due to the method of capturing, reporting and tracking test data, it was not possible to identify unique clients.** During the period we reviewed, OHA tracked linkage to care outcomes using data collected on hard copy forms. Local staff, in accordance with CDC prevention grant requirements, document HIV testing results (positive or negative) on the forms.[15] Local staff

[15] These forms capture data to support CDC efforts to track grant recipients' HIV prevention efforts. Once test results and data points (e.g., demographic information, behaviors, and linkage information) are entered, local staff are required to mail the forms to OHA. OHA program staff transcribe the data into EvaluationWeb, the information system used to capture and report the CDC grant data.

assign a test control number and certain sites also assign a non-identifiable client number to the test form. If the test is positive for HIV, local staff are required to enter additional data points related to the linkage to care process, including whether the client was referred to medical care and whether the client was linked to care within 90 days. Upon completion of the form, local staff mail the form to OHA for data entry into the CDC information system used for tracking test events. There were three limitations in the testing data:

- **Test Event, Not Unique Client**: The CDC testing form identifies a unique *HIV-test number* but does not establish a *unique client identifier* (e.g., DOB and last four SSN). Though a field exists on the testing form submitted to OHA to indicate a client identification number assigned by test sites, it is not consistently used across testing sites. Therefore, we could not track unique individuals but had to rely on unique tests as a proxy.
- **ID Number Does Not Transfer from Test Site to Care Site**: Testing clinics may establish a non-identifiable client number on a test form, but this client number is not consistently adopted by the medical clinic into which a client may be referred. As a result, we could not trace clients from testing sites to medical sites to reconstruct the linkage to care data.
- **Inconsistent Use of Linkage to care Data Field**: During field visits to testing centers, local staff gave varying definitions on how they interpreted linkage to care fields they were required to complete on the form. This suggested that the entry of that data point could be inconsistently applied in practice and the accuracy of the linkage to care data from the system suspect.

- **We were unable to corroborate the data reported in EvaluationWeb with data maintained at the local sites, making it unreliable for our purposes.** We attempted to corroborate the data reported in the HIV testing system by soliciting data directly from the local testing centers.[16]

  We received data on clients who tested HIV-positive during the period calendar year 2015 and 2016 from 11 of the 16 health districts solicited. We compared those records to data we extracted from EvaluationWeb and found important discrepancies between the two data sources.

  EvaluationWeb records identify 650 positive test events from these 11 health districts.[17] The total number of positive tests among the 11 districts was similar (630 compared to 650). However, when we isolated the results by district the absolute difference between the two sources was 70 records, or 11%. **Exhibit 11** presents the comparison.

[16] In our request, we asked for specific client identification data in order to gain assurance that we were measuring unique individuals who tested positive and data related to their referral to medical care. If the results we received had corroborated the data maintained by OHA, we would have used OHA-maintained data to document linkage to care results.

[17] As noted earlier, data was provided by 11 health districts, one of which provided data for itself and a separate community based test site that is directly funded by OHA.

Because of this error rate, we chose not to rely on EvaluationWeb data to estimate the population of unique clients in need of linkage to medical care. Instead, we relied on data we collected directly from local entities (as discussed in the prior findings).

Exhibit 11
Number of Positive HIV Testing Results Differed Significantly Between State and Local Data (CY2015-2016)[1]

Health District # (Area)	EvaluationWeb®	District Data	Difference	Ab Difference
1-1 (Rome)	11	10	-1	1
1-2 (North GA)	16	15	-1	1
3-1 (Cobb)	38	47	9	9
3-4 (GNR Health Depts)	44	53	9	9
3-4 (PIHC)	60	63	3	3
4 (La Grange)	48	52	4	4
5-2 (Macon)	120	118	-2	2
6 (Augusta)	46	41	-5	5
8-1 (Valdosta)[2]	30	25	-5	5
8-2 (Albany)	88	85	-3	3
9-1 (Savannah)	98	78	-20	20
9-2 (Waycross)	51	43	-8	8
Totals	**650**	**630**	**-20**	**70**

[1] The following districts did not submit corroborating data: North (Gainesville), Clayton, South Central (Dublin), West Central (Columbus), and Northwest (Athens)

[2] Valdosta submitted data for 2016 only

Source: OHA for EvaluationWeb and Health District Personnel for District Data

As noted earlier, in January 2018 OHA completed a new linkage to care module that works within the SendSS system. It allows local staff to generate a unique data record for any client that tests positive in OHA funded testing centers/events and agrees to be engaged in care. The system will improve the state's ability to monitor clients from an initial diagnosis through to when the client meets with a medical care professional and is considered linked to care. As a result, OHA should be able to monitor key outcomes—such as successful linkage to care and timeframes—more efficiently and more accurately in the future.

It will be essential for OHA to assure that each district (including those without a funded linkage coordinator position) have authorized staff and established protocol for assuring that all HIV-positive clients are entered into the system. Currently, OHA is working with local districts to establish coverage throughout the state.

RECOMMENDATION

1. OHA should be commended for the efforts taken to improve data collection and client outcome monitoring related to linkage to care. OHA should continue to work to assure that an accurate and timely record of unique clients can be monitored for relevant outcomes and performance by local and state staff.

2. OHA should ensure that data entry in the SendSS Linkage Module occurs in all health districts.

DPH's Response: DPH disagreed with this finding. It indicated it uses three primary data systems (eHARS, EvaluationWeb, and CAREWare) to collect and monitor linkage outcomes for HIV positive clients and federal funders require these systems. It noted that, like other states, Georgia does not have an integrated system for tracking, from both private and public providers, their linkage to care outcomes. In an effort to improve linkage to care data, OHA has developed a module in the SENDSS system. To improve data collected for EvaluationWeb, OHA is increasing training efforts, and it indicated completeness has improved. In 2012, 41% of records had missing data and in 2017, that figure had dropped to 9%.

Auditor's Response: As noted earlier, the purpose of our analysis was to assess the linkage to care outcomes for a unique set of clients. For reasons presented in this finding and other sections in the report, we concluded that directly surveying health districts would provide a more accurate record of unique clients diagnosed within OHA-funded clinics than EvaluationWeb. Subsequent comparisons of data using EvaluationWeb in conjunction with other data sets substantiates our concern.

Pre-Exposure Prophylaxis (PrEP)

Clinicians in local testing facilities also interact with clients who test HIV-negative, but exhibit high-risk behaviors (e.g., multiple partners, intravenous drug use, male-to-male sexual contact) that indicate their risk of contracting HIV remains high. In these cases, clinicians may recommend preventative pharmaceuticals. Currently, because these individuals have not been diagnosed with HIV, grant funding is not available to cover this preventative pharmaceutical. HRSA grant funds can only be used to fund HIV-positive clients who qualify for Ryan White services; and CDC grant funds are used for testing and prevention efforts such as education, but not medication as prevention.

Pre-exposure prophylaxis (PrEP) is a pharmaceutical regimen that is highly effective at preventing HIV infection when taken correctly and consistently. PrEP is intended for people who do not have HIV but are at high risk of becoming infected. Such groups include men who have sex with men (MSMs), heterosexual people with frequent/multiple sexual partners, and intravenous drug users (IDUs). In July 2012, the U.S. Food and Drug Administration (FDA) approved Truvada™ as PrEP. Currently, Truvada™ is the only HIV medicine approved for PrEP, although clinical trials (including injectable forms of PrEP) are ongoing and others may come onto market in the coming years.

Clinical Guidelines

Clients who begin Truvada™ for PrEP must be HIV negative. The clinical guidelines (issued in 2014) recommend clients receive HIV testing prior to receiving a prescription for PrEP and get retested every three months. In its current form, PrEP requires clients to take one pill daily. Failure to adhere to the daily regimen significantly decreases the medicine's effectiveness in preventing HIV infection. If a client becomes HIV-positive, continuing PrEP could cause resistance to HIV treatment regimens.

PrEP Costs

The primary costs for PrEP include the provider visit, costs of periodic labs to test for HIV and medication side effects (including staff time) and the PrEP medication. Truvada™ is covered by many health insurance plans and a medication assistance program from its manufacturer currently provides free and/or reduced costs PrEP to people with limited income and/or no insurance, although this program may be time-limited.

PrEP Access from General Health Providers/ Public Health System

Any general health provider who is qualified to write a prescription can prescribe PrEP. This includes doctors, nurse practitioners, and physician assistants. However, because the treatment is still relatively new, many general health providers are not familiar with the prevention strategy. For example, a national 2015 survey found that 34% of primary care doctors and nurses had never heard of PrEP.

Although testing and counseling for HIV is conducted in county health departments and through community outreach events, access to PrEP within the state public health system is limited. Clients may receive a prescription for PrEP in the public health system in Georgia under two scenarios, but neither scenario is broadly available.

- **Independent License**: The first scenario is similar to the general health provider access described above. Clinical staff working in county health departments may have licenses that grant authority to write prescriptions (e.g., medical doctors, nurse practitioners, and physician assistants).
- **Prescriptive Protocols**: The second scenario is unique to the state public health system. If clinical staff do not have a license that grants them authority to write prescriptions independently (e.g., licensed practical nurse, registered nurse), staff may be authorized to do so when working under strict nursing protocols approved by either (1) the local district health director (a medical doctor) or (2) the Georgia Department of Public Health (for use in all health districts). In either of these scenarios, clinical staff work under the medical license of the local district health director and may write prescriptions.

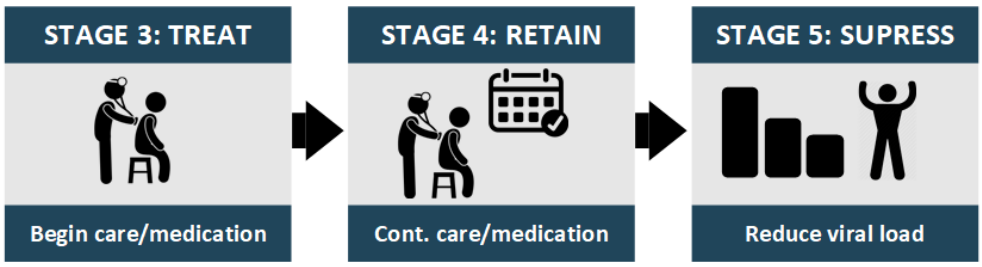
  Currently, the state nursing protocols do not include PrEP. Though DPH officials have drafted prescriptive protocols for PrEP, a timeline for approval and implementation is not set. Until either a state-level protocol or all health districts have developed independent protocols, however, HIV negative clients who may be appropriate candidates for PrEP do not have equal access to PrEP within the public health system.

Section 2: Retaining/Re-engaging Clients in Medical Care

The Importance of Retaining Clients in Medical Care

Retention in medical care reduces HIV viral load and improves a client's chance of survival, but it has proven difficult historically. It is estimated nationally that only about two-thirds of clients who are successfully linked to medical care are retained. As shown in **Exhibit 12**, retention in medical care is an essential element of the *National HIV/AIDS Strategy: Through 2020* and is a critical stage in the HIV Care Continuum. As such, retention and reengagement is one of the areas of focus for OHA and local entities charged with administering medical care and managing clients.

Exhibit 12
Treatment/Retention are Critical to Viral Suppression



Source: *National HIV/AIDS Strategy: Through 2020*

Our audit was designed to determine how effective the DPH/OHA (and local units) have been at identifying clients that cease medical care and attempting to re-engage them in treatment. We collected laboratory records for clients who were newly-enrolled in medical clinics that received Ryan White B funds from OHA and tracked patterns of laboratory results for a three year period to determine retention patterns and rates. In addition, we conducted visits to medical clinics in 8 of the 16 health districts to review case files, interview staff, and examine standards for identifying and responding to clients who missed medical appointments and at risk of ceasing medical treatment.

Finding 4: We estimate that OHA-funded medical care clinics successfully retained 58% of newly-enrolled unique clients over a three-year period.

Records we compiled from OHA and local medical clinics indicate that 1,577 unique clients were newly-enrolled in Ryan White B clinics (at least partially) funded by OHA/HRSA grants during fiscal year 2015.[18] Approximately 58% of clients were still in medical care (retained) as of June 2017. Approximately 35% of clients began but ceased care during the period, and 8% appear to have never engaged in care after being enrolled.

Retention remains a challenge for HIV programs and a sizable amount of research and program design is dedicated to providing appropriate support to address "barriers to care" that are prevalent in the population. This finding presents the results of our retention analysis. Finding 6 presents our review of management design and procedures that can be improved to increase retention rates.

Care Retention Analysis

CAREWare is the state's primary HIV care database, and Ryan White clinics use it to report HIV care and support services to OHA and to HRSA. All health districts receiving Ryan White Part B funding are expected to document aspects of service provision in CAREWare. These include lab results, service visits, and client enrollment status.

We analyzed laboratory results from CAREWare for a cohort of 1,577 clients enrolled in Ryan White B clinics during fiscal year 2015 in order to determine whether the client continued to receive medical care at least every six months from point of enrollment through June 2017. Clients were classified into five categories based on laboratory patterns. Categories indicated whether the client was in care (or likely in care) or not (see **Exhibit 13.**).

Exhibit 13
Client Status Categories

In-Care Categories	
Retained in Care	At least one lab in every six month period
Potentially Retained in Care	At least one lab in every six month period except the final one, and viral suppression indicated in most recent lab result[1]
Reengaged in Care	One or more six month period(s) without lab, accompanied with a lab result in the final period
Out-of-Care Categories	
Disengaged – Labs	At least one lab during period, but no lab during final period and no evidence of viral suppression in next to last period
Disengaged – No Labs	No lab during the period
[1] Virally-suppressed clients may be instructed to follow-up with physician at an interval greater than six months.	
Source: DOAA	

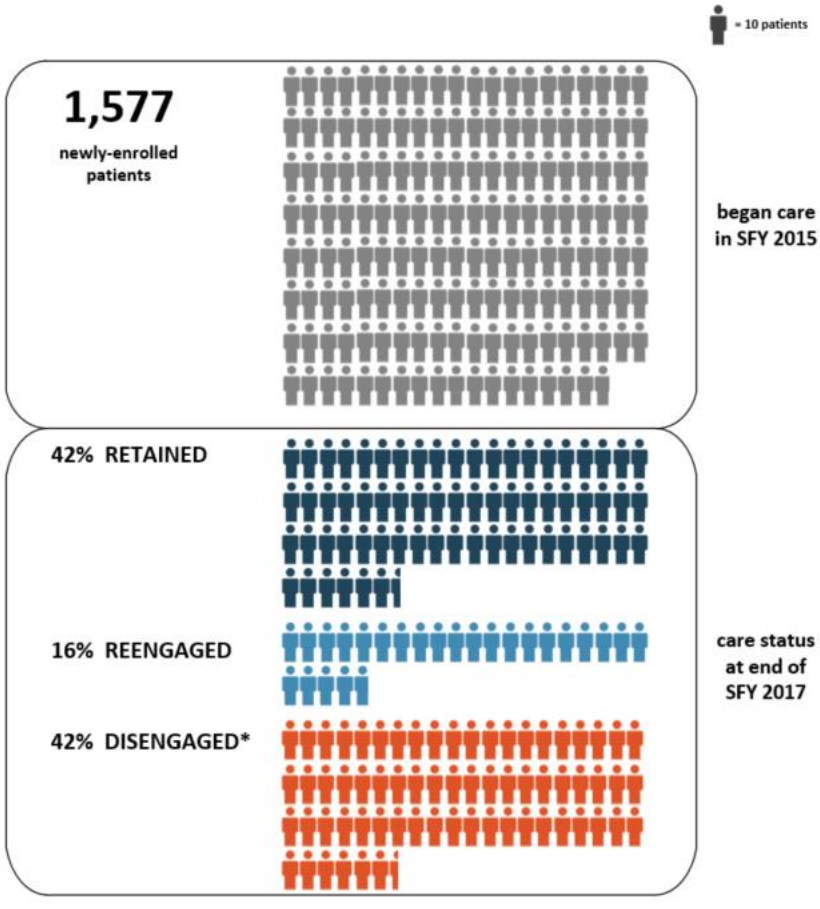
[18] We identified all clients with an enrollment date within fiscal year 2015; there were 1,577 clients who met this criteria.

As shown in **Exhibit 14**, approximately 42% of newly-enrolled clients were retained/potentially retained in care during the period reviewed, while approximately 16% of clients were reengaged after having fallen out of care for at least 6 months at some point during the period reviewed. Approximately 35% of clients ceased medical care during the period and 8% never engaged care after enrollment.

An overall retention rate of 58% is not out of line with results presented in academic literature; however, it is below the 69% national retention average reported by HRSA.[19] It is also far below NHAS' newly-established 90% goal, suggesting significant improvements are necessary to meet national standards.

Although we found the data sufficient for estimating retention rates, issues were identified with completeness and accuracy that should be addressed. These data issues and other potential uses for the data are discussed in the next finding.

Exhibit 14
Retention Rate is 58% After Three Years



*Includes 120 clients who never received laboratory tests.
Source: CAREWare and DOAA Analysis

[19] HRSA's retention definitions relate to medical visits, their frequency and/or gaps between visits. We applied a similar definition using lab result frequency.

DPH's Response: DPH did not agree with this finding citing that the auditors did not use the client retention definition applied by the federal grantor for Ryan White care. It indicated the HRSA definition is calculated as the percentage of persons living with HIV (PLWH) who have at least two care visits within a calendar year (the first visit must occur before September 1). It noted that, using this definition for 2016, Georgia's Ryan White retention rate was 85.5% and the OHA Ryan White program retention rate was 80.2%

Auditor's Response: We were interested in evaluating the successful long-term retention of unique clients within OHA-funded clinics and in the management response to at-risk clients. We based our methodology on medical visit frequency, which is a HRSA retention performance indicator intended for HIV client and program monitoring. During our review, both DPH and local officials raised questions about the completeness and accuracy of the information reported as medical visits. As a result, we relied on client lab results instead of medical visits due to concerns about the accuracy of the medical visits data. In addition, the lab results allowed us to be more nuanced in our review, allowing us to identify individuals who were virally suppressed and therefore less of a concern for immediate follow-up action. Using this methodology, we were also able to track clients for two and a half to three years and the HRSA measure is for only one year.

Finding 5: OHA should take steps to correct issues with the accuracy and completeness of data contained in the CAREWare system and consider additional uses for this data.

OHA reports data from the CAREWare information system to HRSA on required performance indicators such as client viral suppression and medical visit attendance. CAREWare also contains individual client medical history data OHA management can use to determine district retention success rates. OHA should be able to use these records to conduct effective oversight of clinic activity. For example, lab history and enrollment status can be used in combination as a proxy measure for how well local clinics are retaining clients; this information can be relayed to local providers to facilitate follow-up for clients at risk of ceasing medical care. We found problems in these fields, however, including inaccuracies in the client enrollment status and incomplete lab test records. Limitations we identified are discussed below.

- **Laboratory Test Events: CAREWare vs. Local Records:** We found significant discrepancy between laboratory test events documented in local health clinic records and those reported to OHA by local entities via CAREWare. We reviewed 226 of 675 (33%) case files from eight health districts for clients that had missed significant periods of care (6 months or greater). For 39 of 226 (17%) clients, laboratory records differed significantly in the local records compared to those in CAREWare. For 35 of these clients (16%) lab discrepancies would have changed our initial classification of the client (e.g., "reengaged" instead of "disengaged with labs").[20]

  These discrepancies can be attributed (at least in part) to the fact that the CAREWare data system is not the primary care management system used by clinical staff to manage patients. As a result, the data entry into CAREWare is

[20] Though we generally assume that the local records will provide a more accurate data source of client lab work (since CAREWare is not the primary data system used by clinics), the magnitude of discrepancies was considered excessive.

secondary (and sometimes duplication of data entry by staff) that is executed primarily to satisfy grant reporting requirements. This type of secondary data entry is susceptible to delays and inaccuracies. Our file reviews determined data entry omissions and errors to be the primary reason CAREWare lab records differed from local records. A limited number of units have an automated batch uploading capability, but that is not the standard.

OHA and local entities should work to establish the most efficient method for the timely and accurate entry of laboratory records in CAREWare so that results in CAREWare can be confirmed accurate for reporting and planning.

- **Enrollment Status vs. Lab Patterns**: As part of our data reliability assessment (not our cohort analysis), we compared the enrollment status in CAREWare records to the lab patterns of clients for the entire CAREWare data set. We found 3,179 records (approximately 10%) of records classified as "active" clients in the system but the clients had lab patterns suggesting they were not actively receiving medical care. Within our cohort we found 98 of 226 records (43%) had incorrect enrollment status assigned.

  Our file reviews revealed failure to update enrollment status in CAREWare as the primary reason for discrepancies between CAREWare and local records. Discrepancies also resulted from local staff misinterpreting the working definitions of the enrollment status in CAREWare. OHA should make sure local health districts promptly update enrollment status as client circumstances change. Guidance on how to define and supervise the accuracy of enrollment status entries should also be provided by OHA. Finally, OHA and local entities should develop standards for conducting periodic logic tests on CAREWare data to identify and reconcile these types of discrepancies.

- **Enrollment Date**: We excluded client records with no enrollment date in CAREWare from our cohort analysis, but we identified a significant discrepancy in data related to enrollment date in the process. Approximately 4,000 client records in CAREWare had no enrollment date (14% of all records in CAREWare), with nearly all of the clients assigned to one health district. We interviewed staff from the districts and confirmed that the clients were not active but resulted from a misinterpretation years ago that resulted in the creation of client records for HIV-negative people who had been tested. CAREWare is intended to contain only HIV positive clients seeking treatment. OHA data staff also indicated data errors at the central office which had not yet been reconciled may have played a role.

RECOMMENDATION

1. OHA should conduct periodic data compilation and analysis to clean up CAREWare data and provide records of concern to local districts to help them eradicate problems.

2. OHA should make sure that staff responsible for entering key data fields (e.g., enrollment status) are informed of the working definitions of the options so that data is consistent across the system and state.

3. OHA should make sure local health districts promptly update enrollment status as client circumstances change.

4. OHA should consider the benefits of using CAREWare lab test data as a proxy for early identification of clients who may have fallen out of care.

DPH's Response: DPH agreed with the finding. It indicated that the program currently complies with HRSA reporting requirements. It has recently hired a database manager to work with the Ryan White B care data system. It indicated having "a full CAREWare team will allow the program to improve data cleaning, and to provide more detailed technical assistance and training around service definitions and data parameters." It noted that the "all data related improvements are due to be completed by July 30, 2019."

Finding 6: Local medical clinics and OHA can improve protocols, coordination, and data used to guide follow-up and reengagement efforts with clients who miss appointments and/or cease treatment.

We reviewed written protocols and interviewed local medical and OHA staff to understand the methods used to identify and attempt to reengage clients who miss appointments or cease medical care for an extended period. To understand how follow-up efforts were occurring in practice, we visited 8 of the 16 health districts and reviewed 226 of 913 (25%) local medical case records for clients that met the established criteria.[21] We found that 4 of 16 clinics we contacted had written protocols. In addition, local staff in some clinics can better document and more consistently execute follow up and reengagement efforts. In 3 of 8 clinics we visited, over 40% of cases did not include documentation of follow up efforts with one district having 75% of cases with no follow-up indicated. Lastly, efforts to contact and reschedule clients varied among clinics and were not consistently performed or documented.

HIV-treatment clinics work to keep clients in medical care long-term, but retention rates are typically lower than desired. To improve retention efforts, local staff must develop a system that consistently and quickly identifies and follows up with clients who miss medical appointments. In addition, clinics must develop strategies and methods to contact and attempt to reengage clients who have ceased medical care for an extended period. Both local medical units and OHA can make improvements in follow up and reengagement protocols, coordination, and data used to guide follow up and reengagement efforts.

OHA is making efforts to enhance reengagement efforts but can do more. First, OHA has initiated a "data to care" project that utilizes data from the DPH surveillance unit to identify clients in health districts that may be out of care long-term and provides these records to local medical clinics. Second, OHA has expanded the role of linkage to care coordinators to include reengagement efforts, not just the initial linkage to

[21] Clients included those who (1) were newly enrolled in OHA-funded clinics during fiscal year 2015 and (2) ceased medical care for a six-month period or longer through June 2017. The selection of records to review was a targeted selection based on a number of risk factors identified; however, it was not a statistically valid sample that can be extrapolated to the whole population of Ryan White B clients.

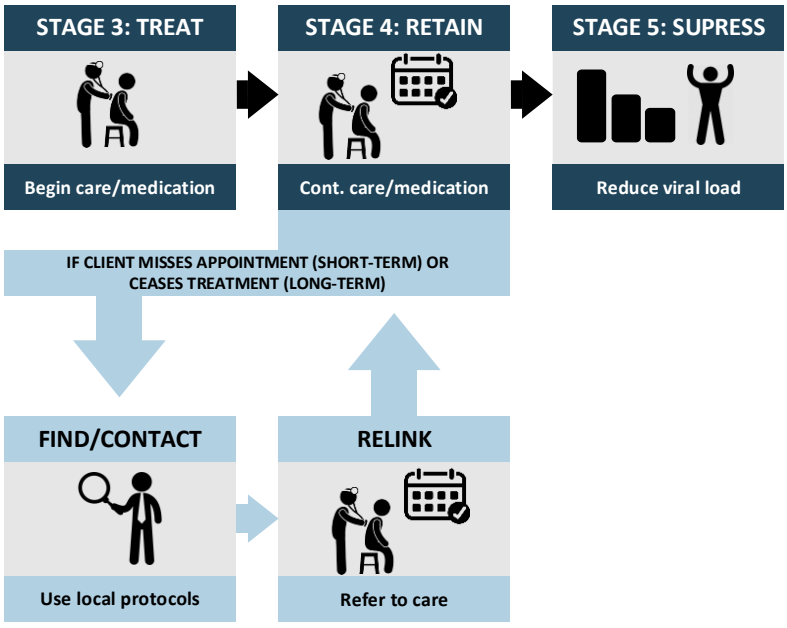
care. In addition, OHA can improve oversight of the design and execution of follow up and reengagement efforts by incorporating reviews of re-engagement efforts into OHA's existing medical care site reviews.

Retention in Care

Retaining HIV-positive clients in medical care is essential for achieving the viral suppression necessary for optimal health of HIV clients and preventing spread of the disease. People living with HIV who take HIV medicine as prescribed and obtain and maintain an undetectable viral load are not only healthier, but have effectively no risk of transmitting HIV. If clients fail to show for scheduled medical visits or cease medical care altogether, viral suppression is not likely, the client's health will degrade, and transmission risk remains high.

The *National HIV AIDS Strategy: Through 2020* and the HIV Care Continuum stress the need to retain HIV-positive clients in medical care/treatment in order to achieve the ultimate goal of viral suppression. **Exhibit 15** depicts the client reengagement process within the care continuum.[22] As the exhibit indicates, reengagement should be considered as a sub-component of the retention stage if the client ceases medical treatment.

Exhibit 15
Client Reengagement Process



Source: *NHAS through 2020* and HIV Care Continuum and Local Clinical Procedures

[22] Although reengagement is not typically a stage presented in the HIV Care Continuum, it is implied as a component of the retention stage.

Demand for Reengagement Efforts

The percentage of clients that local clinics are expected to respond to with some form of reengagement effort is large. As discussed in Finding 4, at least 58% of clients were candidates for significant reengagement follow up efforts because of extended periods without medical care.[23] In addition, clients who did not miss extended periods of medical care may occasionally miss scheduled medical appointments and require some follow up efforts by local staff. Therefore, we expect that local staff may have to identify and attempt to reengage a majority (and possibly a large majority) of clients under their care.

Typically, reenagement efforts by local medical staff and OHA can be categorized as short/mid term or long term as described below.

- **Short Term (0-30 days)/Mid Term (31-180 days):** If a client misses a scheduled appointment, local medical clinic personnel typically are charged with attempting a series of activities to reengage the client (e.g., make telephone calls, mail letters, send emails).[24] Which specific staff are charged with these activities varies among medical clinics, but staff may include front-desk schedulers, peer advocates, medical/non-medical case managers, benefit coordinators, and linkage to care coordinators.

- **Long Term (>180 days):** OHA or local medical units can run an out-of-care report from CAREWare (the HRSA information system) that shows clients who were under care but have had a lapse in medical care of 180 days (6 months) or longer. During the period we reviewed OHA had not established standards for how to run these reports; however local clinics reported that either CAREWare reports or reports from their local electronic records system were run to identify out of care clients needing follow-up. The type of follow-up that occurs with out-of-care clients varies across districts, but all districts at least use phone calls and letters to attempt to re-engage clients.

Ways to Improve Execution and Oversight of Reengagement Efforts

OHA has taken steps to improve reengagement efforts, but we identified several areas in which further improvements can be made.

- **Written Protocols**: Many local clinics have not established written protocols that clearly explain the roles, methods, and extent of follow up and reengagement efforts staff should execute. Four of sixteen medical clinic providers had a written set of follow up/reengagement protocols, but they varied in degree of comprehensiveness.

  To be comprehensive, protocols should distinguish between short-term, mid-term, and long-term efforts because the staff, methods, and data required to follow up or reengage a client may differ the longer the client is out of care. This includes an immediate response to missed appointments as well as more comprehensive efforts to locate and

[23] Clients classified as disengaged from medical care for a period of 6 months or more.

[24] Short and mid-term staff efforts (follow up on missed appointments, attempts to contact) are most typically logged in the local medical clinic's medical record system, not the state's medical care system.

reengage clients by staff (e.g., linkage to care coordinators, case managers). OHA should consider developing template/standard protocols for short-term follow up and long-term reengagement efforts.

- **Short-Term Follow Up and Mid-Term Reengagement Efforts**: Approximately 44% of client files we reviewed, where follow-up was required, had no documentation of follow-up attempts. A majority of these files originated from 4 of the 8 district medical units we visited. We also found that efforts to contact and reschedule clients varied among clinics and were not consistently performed or documented. Developing written protocols to clarify how staff should execute and document follow up and reengagement efforts should improve the record of efforts and provide local management and OHA with a record to review.

  In general, follow-up during the mid-term (31-180 days) was less common. Existing staffing resources (such as linkage to care coordinators) could be leveraged for this purpose.[25]

- **Long-Term Reengagement Efforts** – OHA has taken active steps to improve the data provided to local health districts by developing "out of care" reports using DPH Surveillance unit data. With an increase in linkage to care coordinators, it is expected that more effort can be directed at locating and reengaging clients that have ceased medical care for an extended period.

  In addition, coordination with other public health staff trained for outreach and home visits (i.e. Infectious Disease Specialists and Community Health Workers) should be pursued where feasible. Two districts we visited had established formal, collaborative efforts with staff trained to do outreach and more intensive follow-up efforts. This model could be emulated in other health districts.

- **Oversight/Auditing**: OHA has not established minimum quality standards on the procedures related to reengagement of previously-active clients. Either of these efforts would likely improve consistency of work in medical clinics and would give OHA insight into the quality of reengagement work conducted by the local staff.

  Local medical clinic management should remain tasked with developing the protocols and procedures that establish who, how, and how much to dedicate resources to the task of reengaging clients. However, OHA can provide guidance to improve standardization of re-engagement efforts and strengthen its review and oversight of work occurring in this area to ensure appropriate action is being taken.

[25] During the current grant year, OHA has increased both the number and geographic distribution of linkage coordinator positions throughout the state which should amplify efforts to retain and reengage clients at risk of falling out of care. However, development of written procedures and protocols at the local level to direct the effort of coordinators is advised.

RECOMMENDATIONS

1. Local clinics should establish written protocols that clearly explain the roles, methods, and extent of follow up and reengagement efforts staff should execute. Protocols should distinguish between short-term, mid-term, and long-term efforts. Specific consideration should be given to designing appropriate methods for mid-term follow-up efforts. OHA should consider developing templates and/or standard protocols for short-term follow up and long-term reengagement efforts.

2. OHA and local Ryan White clinics should consider coordinating with other public health staff trained for outreach and home visits (i.e. Infectious Disease Specialists and Community Health Workers).

3. OHA should consider auditing follow up and reengagement efforts executed by local clinics during site reviews.

DPH's Response: DPH agreed with this finding. It indicated that it is currently drafting a linkage to care protocol to be adopted statewide. The guide is intended to be used by local clinics to standardize staff coordination and to improve the identification and reengagement of clients who may have ceased medical care. In addition, the Ryan White B program is conducting a review of local appointment processes (including client "no-show" follow up, rescheduling, and reengagement) to determine whether best practices can be identified and shared among districts and clinics. It estimates this effort will be completed by June 2019.

HRSA 340B Discount Drug Pricing Program

Additional revenue may be available to local clinics through HRSA's 340B Discount Drug Pricing Program. The Program allows qualifying Ryan White clinics to purchase medications at discounted prices and accrue program income from patients with private insurance or Medicare, since these forms of insurance pay more than the discounted price for medications.

Program Utilization and Revenue

OHA administers the state's AIDS Drug Assistance Program (ADAP), which purchases medications at 340B pricing for patients without insurance. However, in addition to the state HIV/AIDS program, the 340B program can be utilized by clinics directly. We inquired about the uptake of the program in 16 health districts and found that 10 of 16 health districts began utilizing this program during the period 2011 – 2017. 5 of 16 clinics estimated that approximately 25% to 50% of active clients have private insurance or Medicare. Clinics indicated that 340B drug discount revenue can be substantial, with an annual per-client discount revenue ranging from approximately $5,000 - $20,000 depending upon the number and costs of pharmaceuticals clients are prescribed. Participating clinics reported a range of annual program income from the 340B discount program from approximately $120,000 to $3,600,000.

Program Requirements

Most commonly, Ryan White clinics qualify for the 340B Program through Part C, which directly funds comprehensive health care services. Clinics must meet eligibility criteria and recertify annually. To qualify and participate in the program, clinics must either establish an in-house pharmacy or enter into an agreement with a contract pharmacy. To ensure that funds accrued through the 340B Program in Ryan White clinics are spent on services for HIV-positive individuals, clinics must use income on services provided by the grant used to qualify for the program. (Clinics reported using program income to subsidize client copays and deductibles, update technology, expand transportation services, and hire staff.)

Advantages and Risks

Clinics participating, or planning to participate, in the 340B program should be aware of both advantages and risks related to the program. We identified the following:

Advantages:

- 340B program income is not subject to the 10% spending cap on administrative costs that HRSA imposes on Ryan White grants. Therefore, 340B funds can be used for a wider array of services.
- Although client participation in the program is voluntary, clinical staff indicated that clients may favor increased anonymity and auxiliary services offered through contract pharmacies.

Risks:

- The future of 340B is uncertain. Changes to the program projected to lower program income for certain hospitals were enacted in 2017. While Ryan White clinics have not been affected, 340B continues to face scrutiny for the significant increase in utilization by hospitals over the last decade.
- If clinics fail to comply with 340B programmatic requirements, they are solely liable and must repay all income accrued through noncompliant methods. For example, prospective applicants to the 340B program must decide whether or not to prescribe discounted medications to Medicaid patients and ensure that discounts are not applied twice.
- Clinics must spend program income accrued from the previous month before spending allocated grant funds for their 340B-qualifying grant. If clinics consistently fail to spend all of their grant funds over the course of the fiscal year, they risk receiving lowered amounts of funds in future years.
- If using a contract pharmacy, clinics must open a separate bank account to conduct all transactions with the pharmacy.

Appendix A: Table of Recommendations

Finding 1: Using data from local clinics, we estimate that 72% of the unique persons we identified as diagnosed in OHA-funded settings were successfully linked to care; 53% were linked within 90 days.
None
Finding 2: OHA and local managers have taken action to improve linkage to care, but additional steps are needed to clarify management expectations, formalize referral protocols, and expand oversight.
1. OHA should be commended for adopting national goals for linking HIV-positive clients to medical care, focusing staffing and management attention on the process of linking clients to care, and in making improvements to data collection and monitoring for linkage to care activities and outcomes. 2. Local units should develop written linkage to care protocols that are comprehensive and OHA should consider auditing the design and execution of linkage work. 3. OHA should continue to monitor linkage to care success and emphasize the importance of timely and accurate data being entered into the system as well as the new time target of 30 days. 4. OHA should consider monitoring linkage by provider type (OHA funded and those outside the OHA system) and establish specific protocol for how/whether to confirm initial linkage appointment for non-Ryan White providers in particular.
Finding 3: Data collected and maintained by OHA were not sufficiently reliable to estimate the percentage of unique clients successfully linked to a medical provider.
5. OHA should be commended for the efforts taken to improve data collection and client outcome monitoring related to linkage to care. OHA should continue to work to assure that an accurate and timely record of unique clients can be monitored for relevant outcomes and performance by local and state staff. 6. OHA should ensure that timely data entry into the SendSS Linkage Module occurs in all health districts.
Finding 4: We estimate that OHA-funded medical care clinics successfully retained 58% of newly-enrolled clients over a three-year period.
None
Finding 5: OHA should take steps to correct issues with the accuracy and completeness of data contained in the CAREWare system and consider additional uses for this data.
7. OHA should conduct periodic data compilation and analysis to clean up CAREWare data and provide records of concern to local districts to help them eradicate problems. 8. OHA should make sure that staff responsible for entering key data fields (e.g., enrollment status) are informed of the working definitions of the options so that data is consistent across the system and state. 9. OHA should make sure local health districts promptly update enrollment status as client circumstances change. 10. OHA should consider the benefits of using CAREWare lab test data as a proxy for early identification of clients who may have fallen out of care.

Appendix A: Table of Recommendations, continued

Finding 6: Local medical clinics and OHA can improve protocols, coordination, and data used to guide follow-up and reengagement efforts with clients who miss appointments and/or cease treatment.
11. Local clinics should establish written protocols that clearly explain the roles, methods, and extent of follow up and reengagement efforts staff should execute. Protocols should distinguish between short-term, mid-term, and long-term efforts. Specific consideration should be given to designing appropriate methods for mid-term follow-up efforts. OHA should consider developing templates and/or standard protocols for short-term follow up and long-term reengagement efforts. 12. OHA and local Ryan White clinics should consider coordinating with other public health staff trained for outreach and home visits (i.e., Infectious Disease Specialists and Community Health Workers). 13. OHA should consider auditing follow up and reengagement efforts executed by local clinics during site reviews.

Appendix B: Objectives, Scope, and Methodology

Objectives

This report examines the operations and oversight of HIV/AIDS testing and care activities funded, executed, and monitored by the Department of Public Health (DPH), Office of HIV/AIDS (OHA), local health districts, and medical care clinics. The audit set out to determine the following:

1. How effective the DPH OHA and local units have been at linking HIV-positive clients to medical treatment.

2. How effective the DPH OHA and local units has been in identifying clients that cease care and attempt to re-engage them in treatment.

Scope

This audit reviewed OHA program activity for fiscal years 2015, 2016, and 2017 related to linkage to and retention in HIV/AIDS care. Information used in this report was obtained by interviewing program staff, reviewing federal and state laws, reviewing OHA's policies and procedures, and program documentation. Additionally, HIV/AIDS literature, care models, reports, and research discussing best practices were consulted, with the Centers for Disease Control (CDC) and the Health Resources and Services Administration's (HRSA) HIV/AIDS Bureau being key resources.

The audit examined multiple information systems used by DPH OHA to track HIV testing, linkage to care, and retention in care (EvaluationWeb, CAREWare, and data locally maintained at testing sites). Key data used to support the findings include:

- Linkage to care activity occurring in calendar years 2015 and 2016 (obtained from local testing entities).

- Laboratory visits for Ryan White clients contained in the CAREWare system for fiscal years 2015, 2016, and 2017.

Additionally, we interviewed DPH/OHA staff and reviewed agency documentation of the newly implemented linkage to care module that works within the SendSS system in order to gain understanding of what potential the system has for improved monitoring of client linkage.

Government auditing standards require that we also report the scope of our work on internal control that is significant within the context of the audit objectives. We reviewed internal controls as part of our work on both objectives 1 and 2. Specific information related to the scope of our internal control work is described by objective in the methodology section below.

Methodology

Our goal was to (1) identify all clients who tested HIV-positive in OHA-funded settings during state fiscal year 2015 and (2) track each client's outcome through July 2017 to determine success rates for key indicators such as linkage to/retention in medical care and viral suppression. However, due to limitations in the data and data systems we could not track clients from initial diagnosis through to medical

treatment/retention. Instead, we analyzed linkage and retention component parts separately by identifying and analyzing outcomes of two distinct cohorts. First, we attempted to identify all clients who tested HIV-positive in OHA-funded settings during state fiscal year 2015 to determine if the client was successfully linked to medical care provider. Second, we attempted to determine the success rates of clients who were engaged in medical care in OHA-funded treatment clinics during fiscal year 2015 to determine whether the client was retained in medical care through July 2017.

In order to determine **how effective the DPH OHA and local units have been at linking HIV-positive clients to medical treatment**, we interviewed both OHA staff in the central office and district office staff (including community-based organization staff where applicable) about procedures for identifying positive clients and linking them to care, linkage documentation and reporting, the existence of written linkage protocols, and linkage to care definition used by their respective district/organization. District staff were interviewed in 7 health district offices and one community based organization. In addition, we reviewed various agency documents, including OHA linkage to care Annex contracts (indicating performance expectations), OHA's Minimum Quality Standards related to linkage, the OHA Prevention Program policies and procedures, and linkage training materials and forms required for OHA linkage funding.

We originally intended to examine linkage to care outcomes contained in the EvaluationWeb testing data, but determined this data source to be unreliable for determining (or reasonably estimating) the effectiveness of local testing sites at linking HIV-positive clients to medical treatment. We compared testing events contained in EvaluationWeb to testing events reported monthly by district offices to the OHA Prevention Program staff and found a lack of consistency in the two data sources. We chose to instead examine data collected from local testing entities (health districts and community organizations) that receive OHA funding (the source data for EvaluationWeb) to answer our audit question on linkage. Data was requested from all 16 public health districts under DPH purview, and 11 districts ultimately provided data. They were Districts 1-1 Rome, 1-2 North Georgia, 3-1 Cobb-Douglas, 3-4 East Metro, 4 LaGrange, 5-2 North Central, 6 Augusta, 8-1 South (2016 data only), 8-2 Southwest, 9-1 Coastal, and 9-2 Southeast. East Metro (Lawrenceville) provided data for both testing sites under the umbrella of the health department and a separate community based organization test site that is directly funded by OHA. The following districts did not respond to the data request: Districts 2 North, 2-2 Clayton, 5-1 South Central, 7 West Central, and 10 Northwest. Data was received for 620 clients who tested positive in fiscal years 2015 and 2016. Data received was compiled by DOAA into a database and analyzed to determine linkage success rates and timeframes. Data from this analysis cannot be extrapolated to the clients of those districts that did not submit data.

In order to determine **how effective the DPH OHA and local units have been in identifying clients that cease care and attempt to re-engage them in treatment**, we interviewed both OHA staff in the central office and district office staff (including community-based organization staff where applicable) about procedures and methods for tracking client engagement with HIV medical services and medication adherence, staffing time and resources dedicated to client retention and re-engagement, retention/re-engagement activity documentation, and data systems used to aid in these efforts (where applicable). In addition, we reviewed federal and state agency documents and reports relating to retention such as the HRSA Core Measure

measures, Ryan White Part B Quality Management program documents, and HRSA HIV/AIDS Bureau Performance Measures reports.

CAREWare data for Ryan White clients receiving care in DPH funded clinics over a 3 year period were obtained and analyzed for retention outcomes. Laboratory visits for a cohort of 1,577 clients enrolled in fiscal year 2015 were analyzed to determine whether the client continued to receive medical care (using labs as a proxy) at least every six months from date of enrollment through June 2017. Clients were classified into five categories based on laboratory patterns (three "in care categories" and two "out of care" categories). Clients included those who (1) were newly enrolled in OHA-funded clinics during fiscal year 2015 and (2) ceased medical care for a six-month period or longer through June 2017. The selection of records to review was a targeted selection based on a number of risk factors identified; however, it was not a statistically valid sample that can be extrapolated to the whole population of Ryan White B clients.

Though we determined CAREWare data to be sufficiently reliable to estimate retention rates, other sizable errors were discovered in data reliability test prior to conducting the lab visit analysis. Approximately 10% of all records in CAREWare had an enrollment status as "active" when lab patterns suggested they were not actively receiving medical care. In addition, 14% of all demographic records in CAREWare had a blank enrollment date (later determined to be an issue isolated primarily to one district and reflective of a data cleanup issue).

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix C: The Ryan White Program

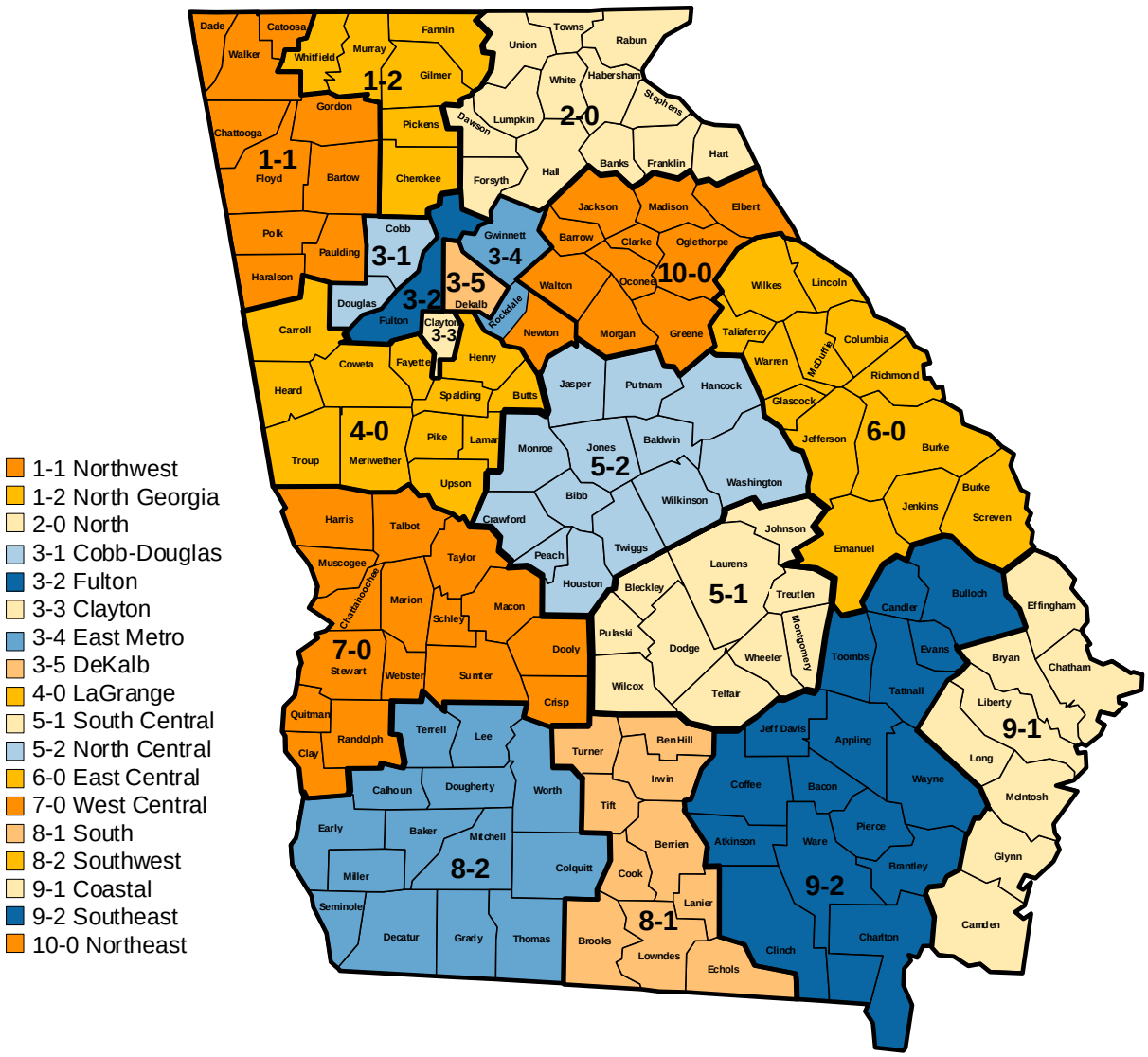
The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act was originally passed in 1990 and most recently renewed in 2009 (as the Ryan White HIV/AIDS Treatment Extension Act of 2009). The Act funds community-based HIV care and support services for low-income, uninsured, and underinsured people. The Ryan White HIV/AIDS Program (RWP) created by the Act is administered by the Health Resources and Services Administration (HRSA) HIV/AIDS Bureau and is the largest federal program focused exclusively on HIV care, treatment, and support services. The RWP is a payer of last resort that fills the gaps for people who have no health insurance coverage or face coverage limits. The RWP has five statutorily defined parts:

- **Part A** provides grant funding for medical and support services to Eligible Metropolitan Areas (EMAs) and Transitional Grant Areas (TGAs). EMAs and TGAs are population centers that are the most severely affected by the HIV/AIDS epidemic.[26]
- **Part B** provides grant funding to states and territories to improve the quality, availability, and organization of HIV health care and support services. Part B also includes grants for the AIDS Drug Assistance Program (ADAP) and the Health Insurance Continuation Program (HICP).[27]
- **Part C** provides grant funding to local community-based organizations to support outpatient HIV early intervention services and ambulatory care. Part C also funds planning grants, which help organizations more effectively deliver HIV care and services.
- **Part D** provides grant funding to support family-centered, comprehensive care to women, infants, children, and youth living with HIV.
- **Part F** provides grant funding that supports several research, technical assistance, and access-to-care programs.

[26] In Georgia, Part A funding is awarded directly to the Fulton County Part A Planning group and is not under the purview of OHA.

[27] In Georgia, Part B funding is awarded to the Department of Public Health and then reallocated to public health districts and community-based organizations to provide services.

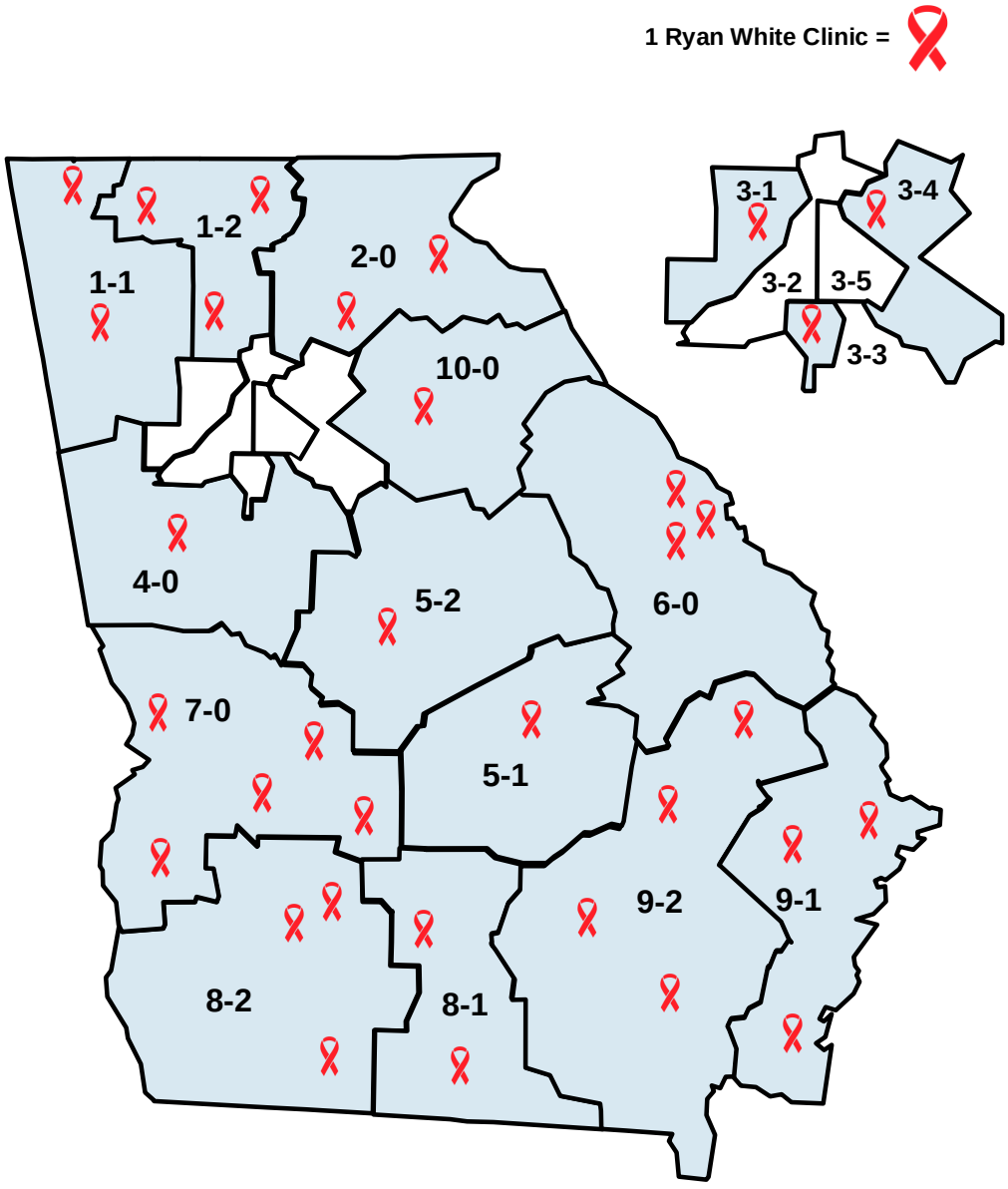
Appendix D: DPH Public Health Districts



Appendix E: Ryan White Clinics Supported by OHA (Part B)

This map shows the location of Ryan White clinics that received Ryan White Part B grant funding from OHA in grant year 2018. With the exception of Health Districts 3-2 (Fulton) and 3-5 (DeKalb), each health district has at least one Ryan White clinic funded in part by the Part B grant. These clinics may receive additional funding directly from HRSA through different parts of the Ryan White program.

HRSA provides grant funding for medical and support services to Eligible Metropolitan Areas (EMAs) and Transitional Grant Areas (TGAs) directly. Through this program grant, districts 3-2 and 3-5 (and clinics in 18 other metro-Atlanta counties) receive funding from Part A of the Ryan White program.



Source: DPH OHA

Appendix F: Prevention Funding Grant Year 2018

The state has not historically contributed funds for HIV prevention, testing, and counseling. In January 2018, as part of a five-year grant, CDC provided approximately $15.2 million in funds to OHA for prevention and testing activities via the PS18-1802 grant. The table below shows the grant funds distributed to local health districts in grant year 2018 for HIV prevention, testing, and outreach.

District	Award Amount
1-1: Northwest (Rome)	$100,000
1-2: North GA (Dalton)	$100,000
2-0: North (Gainesville)	$100,000
3-1: Cobb/Douglas (Marietta)	$609,432
3-2: Fulton	$4,000,000
3-3: Clayton (Morrow)	$482,568
3-4: East Metro (Lawrenceville)	$521,911
3-5: DeKalb	$2,000,000
4-0: LaGrange	$369,353
5-1: South Central (Dublin)	$100,000
5-2: North Central (Macon)	$359,718
6-0: East Central (Augusta)	$322,782
7-0: West Central (Columbus)	$200,000
8-1: South (Valdosta)	$200,000
8-2: Southwest (Albany)	$200,000
9-1: Coastal (Savannah)	$386,215
9-2: Southeast (Waycross)	$200,000
10-0: Northeast (Athens)	$200,000
Total:	**$10,451,979**

OHA provides funds to health districts via annual contracts, called Annexes, which are assigned numbers. Districts may receive grant funds for prevention and medical care. With the exception of Fulton and Dekalb health districts, OHA awards these grant funds to all health districts in the state via Annex 044. Grant funds for Fulton and Dekalb (recently transitioned under OHA oversight) are distributed through a similar but separate Annex 645. Both Annexes establish performance targets similar to those adopted in the *NHAS through 2020*.

With the exception of Fulton and DeKalb, service commitment from each health district is linked to funding amounts; and the 2018 Annex established a three-tier system, whereby supplemental services are required to receive additional funds. Requirements for receiving grant funds are summarized below.

- **Tier 1: ($100,000) districts** – must perform clinical HIV testing services, link HIV positive clients to medical care, and conduct outreach events to target high-risk groups.
- **Tier 2: ($100,001 - $200,000) districts** – in addition to Tier 1 requirements, districts must designate a full-time linkage to care coordinator to implement linkage, retention, and re-engagement services for clients.
- **Tier 3: (Greater than $200,000)** – in addition to Tier 1 and Tier 2 requirements, districts must work collaboratively with contract monitors to oversee local, DPH-funded HIV prevention contracts.

Appendix G: Medical Care Funding Grant Year 2018

The Health Resources and Services Administration (HRSA) provided $64.4 million in funds to OHA for the delivery of health and support services for individuals living with HIV/AIDS in fiscal year 2018. Approved HIV care and support services are defined by HRSA and do not include HIV counseling, testing, or prevention activities. Approximately 21% of the fiscal year 2018 HRSA funding is for core medical and support services, while 69% of the HRSA funding is allocated to the AIDS Drug Assistance Program (ADAP) which provides HIV/AIDS medications to low-income individuals with little or no insurance coverage. The breakdown of OHA Part B funding received in fiscal year 2018 is as follows:

Part B Category	Funding Category Description	Fiscal Year 2018 Award
Base Award	Funds core medical and support services.	$13,448,517
AIDS Drug Assistance Program (ADAP)	Provides access to HIV-related medications through the purchase of medication and/or health insurance coverage.	$35,272,071
ADAP Supplemental	Awarded to jurisdictions demonstrating a severe need for medication assistance.	$8,934,091
Emergency Relief Fund	Competitive funding for jurisdictions that demonstrate need for additional funding to prevent, reduce, or eliminate ADAP waiting lists.	$5,261,556
Minority AIDS Initiative	Funds outreach and education to improve minority access to medication assistance programs, including ADAP.	$599,252
Emerging Communities	Additional funding for communities that report between 500 and 999 cumulative reported AIDS cases over the most recent five years.	$167,886
Supplemental Award	Additional funding for recipients with demonstrated need.	$700,000
Total		**$64,383,373**

Similar to prevention funding (discussed in **Appendix F**), OHA provides care funds to health districts via annual contracts, called Annexes, which are assigned numbers. Most health districts received funding via Annex 094 (Ryan White Part B HIV Care and Support). Fulton and DeKalb are designated Eligible Metropolitan Areas that receive funding directly from HRSA through Ryan White Part A and therefore do not receive OHA 094 Annex funding. OHA also provides HIV care funding directly to community based organizations (CBO) in La Grange and East Metro health districts instead of Annex funding to the health district themselves. These CBO's incorporate the same scope of clinic services as Ryan White clinics operated by the more traditional Ryan White clinics; and their contracts with OHA mirror the 094 Annex contracts with health districts.

The Annex establishes performance targets that are based on the HRSA HIV and AIDS Bureau (HAB) performance measures and the Ryan White Part B Quality Management Program. For instance, there are five core HAB performance measures used to demonstrate prompt prescription of antiretroviral therapy and other prophylactic treatment, regular attendance at medical visits, achievement of viral suppression Ryan White clinic clients.

Appendix G: Medical Care Funding Grant Year 2018 - continued

The service commitment from all districts receiving Ryan White 094 Annex funding is essentially identical. Allocation of funding is primarily determined by a funding formula that considers prior funding and current Ryan White patient counts in the districts. However, HIV prevalence according to surveillance data and other specific needs are considered. Districts and CBO's annually submit a request justifying funding requested.

The table below shows the grant funds distributed to local health districts in grant year 2018 for HIV/AIDS care and support services.

District	FY 2018 Award Amount
1-1: Northwest (Rome)	$ 212,713
1-2: North GA (Dalton)	$ 262,272
2-0: North (Gainesville)	$ 238,834
3-1: Cobb/Douglas (Marietta)	$ 332,268
3-3: Clayton (Morrow)	$ 272,580
3-4: East Metro (Lawrenceville)	$ 679,794
4-0: LaGrange	$ 407,175
5-1: South Central (Dublin)	$ 369,693
5-2: North Central (Macon)	$ 658,943
6-0: East Central (Augusta)	$ 1,167,826
7-0: West Central (Columbus)	$ 674,004
8-1: South (Valdosta)	$ 489,801
8-2: Southwest (Albany)	$ 717,389
9-1: Coastal (Savannah)	$ 1,054,994
9-2: Southeast (Waycross)	$ 574,220
10-0: Northeast (Athens)	$ 515,694
Total:	**$ 8,628,200**

In addition to 094 Annex funding, one district (East Central) also received $167,886 in 440 Annex funding in fiscal year 2018 that is allocated only to districts designated as an "Emerging Community" (jurisdiction that reports a high incidence of new HIV cases based on HRSA definition). Approximately $767,000 in Minority AIDS Initiative funding was also divided between nine health districts in fiscal year 2018.

Appendix H: Test Events and HIV Positive Results (Calendar Year 2016)[1]

Health District[2]	Test Events	% of Test Events	HIV Positive Result	Positivity Rate
1-1 Northwest (Rome)	3,131	3.70%	5	0.20%
1-2 North GA (Dalton)	3,741	4.40%	10	0.30%
2 North (Gainesville)	2,543	3.00%	11	0.40%
3-1 Cobb/Douglas	4,869	5.70%	68	1.40%
3-3 Clayton (Morrow)	3,820	4.50%	26	0.70%
3-4 East Metro (Lawrenceville)	6,006	7.00%	58	1.00%
4 LaGrange	5,583	6.50%	29	0.50%
5-1 South Central (Dublin)	2,146	2.50%	11	0.50%
5-2 North Central (Macon)	8,585	10.00%	72	0.80%
6 East Central (Augusta)	5,636	6.60%	26	0.50%
7 West Central (Columbus)	2,986	3.50%	29	1.00%
8-1 South (Valdosta)	3,871	4.50%	30	0.80%
8-2 Southwest (Albany)	4,926	5.80%	45	0.90%
9-1 Coastal (Savannah)	7,889	9.20%	64	0.80%
9-2 Southeast (Waycross)	6,093	7.10%	27	0.40%
10 Northeast (Athens)	6,473	7.60%	12	0.20%
Totals	**85,435**	**100.00%**	**524**	**0.60%**

[1] As of March 2018, this was the most recent data available.

[2] Fulton and DeKalb are not included as they were not OHA funded entities in calendar year 2016.

Source: EvaluationWeb

Appendix I: Active Patient Count in OHA Funded Clinics (Calendar Year 2016)[1]

Health District[2]	Number of Clients Served
1-1 Northwest (Rome)	249
1-2 North GA (Dalton)	201
2 North (Gainesville)	230
3-1 Cobb/Douglas	501
3-3 Clayton (Morrow)	400
3-4 East Metro (Lawrenceville)	1,144
4 LaGrange	467
5-1 South Central (Dublin)	266
5-2 North Central (Macon)	771
6 East Central (Augusta)	1,189
7 West Central (Columbus)	643
8-1 South (Valdosta)	506
8-2 Southwest (Albany)	1,201
9-1 Coastal (Savannah)	1,291
9-2 Southeast (Waycross)	813
10 Northeast (Athens)	545
Total Clients	**10,417**

[1] As of March 2018, this was the most recent data available.

[2] Fulton and DeKalb are not included as they are not OHA funded entities.

Source: DPH CAREWare

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The Performance Audit Division was established in 1971 to conduct in-depth reviews of state-funded programs. Our reviews determine if programs are meeting goals and objectives; measure program results and effectiveness; identify alternate methods to meet goals; evaluate efficiency of resource allocation; assess compliance with laws and regulations; and provide credible management information to decision makers. For more information, contact us at (404)656-2180 or visit our website at www.audits.ga.gov.