

Atlanta EMA Oral Health Services Feasibility Study

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Prepared for Fulton County Government Ryan White Part A Program and the
Metropolitan Atlanta HIV Health Services Planning Council

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EXECUTIVE SUMMARY

The 2010 Oral Health Feasibility Study was carried out by the Center for Applied Research and Evaluation Studies (CARES) at the Southeast AIDS Training and Education Center (SEATEC), Department of Family and Preventive Medicine in the Emory University School of Medicine, on behalf of the Fulton County Government Ryan White Part A Program, which requested this project to support oral health services planning in the 2010 fiscal year. This study aims to provide a thorough assessment of the existing system of oral health care delivery in the Atlanta Eligible Metropolitan Area (EMA), propose and describe a viable alternative system, and discuss the impacts and limitations the new system would be expected to have.

Despite the important role of oral health care in the treatment of people living with HIV (PLWH), data from previous studies in the Atlanta EMA and beyond consistently identify gaps in access to and receipt of equitable, comprehensive oral health services. In light of these findings, the current oral health care delivery system in the Atlanta EMA was examined, and pilot programs and studies designed to enhance access of PLWH to oral health services in similar contexts were reviewed. Based on these results, recommendations are presented for the centralization of oral health training, data collection, quality assurance, and case management, and the reorganization and select expansion of oral health resources and personnel.

BACKGROUND INFORMATION

Accessibility to oral health services among people living with HIV (PLWH) is a growing concern among public health professionals nationwide. PLWH are more susceptible to reoccurring oral lesions, tooth decay, and gum disease, which can affect the quality of life and treatment regimens of infected persons. For example, approximately 30% of PLWH experience moderate to severe xerostomia (extreme dry mouth due to lack of saliva production), which can

result in rapid dental decay and other periodontal diseases that require invasive oral treatment such as dental restorations and extractions.¹ In addition, oral lesions in PLWH are known to be particularly painful and aggressive.² Evidence also suggests that periodontal disease is linked to systemic health problems—such as heart disease, COPD, diabetes, and preterm delivery—and psychosocial issues including the avoidance of social contact and the depressive effects of chronic pain.³ Therefore, adequate dental care for PLWH is essential for the maintenance of overall health.

Moreover, the demand on dental services has increased among Ryan White Dental Partnerships.⁴ In 2006, patient enrollment rose to 4,328 (34% since startup in 2003) and patient service visits reached 22,566 (nearly a 64% increase since 2004).⁵ As shown in the figure below, periodontal, restorative, and diagnostic services increased respectively by 816, 1906, and 1164 visits from 2004 to 2006. However, this increase in demand has not been met by an increase in the professional dental workforce. The Centers for Disease Control and Prevention (CDC) report that the dental workforce in the state of Georgia remains limited. Despite promising growth between 2001 and 2003, in 2005 there were an estimated 4,269 dentists, a 16% decrease from 2001.⁶ This reduction in workforce has exacerbated pre-existing capacity and structural issues regarding oral health care services. Capacity concerns such as long waiting times, unavailable or restricted services, proximity to services, and availability of appointments constitute barriers to

¹ Abel S and Resnick D. “Current Trends in HIV Oral Health Care.” New York/New Jersey AIDS Education and Training Center and the Southeast AIDS Training and Education Center. Slide presentation. March 28, 2007.

² Ibid

³ Ibid

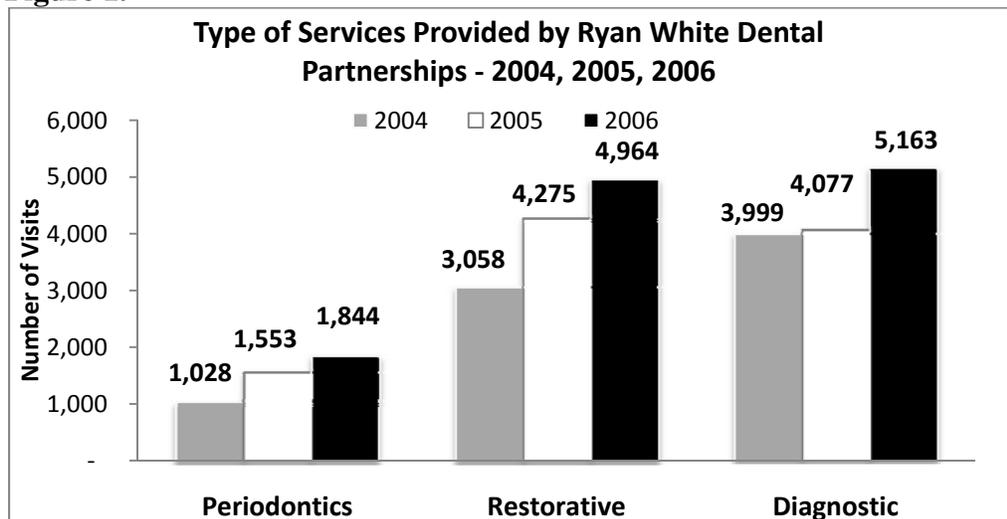
⁴ Health Resources and Services Administration, U.S. Department of Health and Human Services (2008). Dental Partnerships, Ryan White HIV/AIDS Program, Community Based Dental Partnership Program 2008 Program Report.

⁵ Ibid

⁶ Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion (2008). Oral Health Resources: Synopses of State and Territorial Dental Public Health Programs. Available at: <http://apps.nccd.cdc.gov/synopses/StateDataV.asp?StateID=GA&Year=2008>.

oral health care and are of particular concern for PLWH. Indeed, among the 46% percent of Consumer Survey participants in the Atlanta Eligible Metropolitan Area (EMA) who reported an unmet need for dental care in 2008, the second-most often type of barrier reported was capacity.⁷

Figure 1.⁸



These structural and capacity-related challenges are important barriers to address because oral health is a key component in the continuum of care in the Atlanta EMA and can affect quality of life for PLWH. The benefits that result from quality oral health services include accessibility to preventive care to avoid emergency situations, treatment of conditions that exacerbate tooth decay, prevention and/or mitigation of disabilities, reduction of head and neck pains, treatment of conditions that inhibit swallowing to ensure that medication can be taken properly, and the overall improvement in quality of life for PLWH.⁹ Moreover, dental

⁷ Center for Applied Research and Evaluation Studies, Southeast AIDS Training and Education Center, Emory University School of Medicine (2009). 2007-08 Atlanta Eligible Metropolitan Area HIV Consumer Survey. Prepared for Fulton County Government Ryan White Program & Metropolitan Atlanta HIV Health Services Planning Council.

⁸ Health Resources and Services Administration, U.S. Department of Health and Human Services (2008). Dental Partnerships, Ryan White HIV/AIDS Program, Community Based Dental Partnership Program 2008 Program Report.

⁹ Ibid

professionals are positioned to pick up on the early signs of HIV disease progression by properly recognizing HIV-related oral abnormalities—therefore encouraging patients to start early antiretroviral therapy—and they have opportunities to re-introduce patients into the health care system and facilitate doctor-patient communication.¹⁰

OBJECTIVES

Given the structural and workforce capacity concerns in the Ryan White Part A oral health care network in the Atlanta EMA, the purpose of this report is to explore alternative models of dental care for this area. In order to accomplish this goal, performance measures (described below) were identified to characterize the current system of dental care for PLWH in the EMA. These performance measures target the availability and timeliness of providing essential oral health services (preventive, diagnostic, periodontal, and restorative) to HIV-infected patients. Evaluating these measures across the individual sites has allowed us to make recommendations on how to streamline services and maximize funds to provide timely and appropriate care. Restructuring the current system and incorporating new ideas proven effective elsewhere will help reduce barriers to care and increase access to quality and comprehensive oral health services. The ideal oral health care delivery model would provide a wider range of oral health services and operate at higher capacity with greater patient utilization and shorter waiting times for appointments.

METHODOLOGY

In exploring alternative models of oral health care delivery for the Atlanta EMA, this report evaluates the productivity and performance of each agency that expends Ryan White

¹⁰ Health Resources and Services Administration, U.S. Department of Health and Human Services (2008). Dental Partnerships, Ryan White HIV/AIDS Program, Community Based Dental Partnership Program 2008 Program Report.

funds on dental services. The data used for this purpose were collected from several sources including: CAREWare, the 2008 Atlanta EMA Ryan White Part A Chart Review,¹¹ the 2007-2008 Atlanta EMA HIV Consumer Survey,¹² the Oral Health Task Force Survey,¹³ HRSA and Atlanta EMA oral exam performance measures,¹⁴ ¹⁵ 2008 Ryan White HIV/AIDS Program Data Reports (RDRs) for all agencies,¹⁶ and 2009-10 agency grant applications. Data elements analyzed included number of clients served, number of oral health service visits, funding distribution and expenditures, range of services provided, appointment scheduling wait times, and capacity to expand. Examination of these data permitted an assessment of service utilization and an evaluation of the productivity of each site. After performance issues and barriers to providing comprehensive oral health services were identified, recommendations were developed with regard to the distribution of services, workforce, and other resources to improve availability of and access to care within the oral health system. These recommendations address the challenges identified at individual sites that were uncovered over the course of our evaluation.

¹¹ Center for Applied Research and Evaluation Studies, Southeast AIDS Training and Education Center, Emory University School of Medicine (2008). Atlanta Eligible Metropolitan Area Ryan White Part A Chart Review. Prepared for Fulton County Government Ryan White Program & Metropolitan Atlanta HIV Health Services Planning Council.

¹² Center for Applied Research and Evaluation Studies, Southeast AIDS Training and Education Center, Emory University School of Medicine (2009). 2007-08 Atlanta Eligible Metropolitan Area HIV Consumer Survey. Prepared for Fulton County Government Ryan White Program & Metropolitan Atlanta HIV Health Services Planning Council.

¹³ Metropolitan Atlanta HIV Health Services Planning Council (2008). Atlanta EMA Oral Health Task Force Survey (unpublished data).

¹⁴ Health Resources and Service Administration, U.S. Department of Health and Human Services. HAB HIV Core Clinical Performance Measures: Oral Exam. Revised August 1, 2008.

¹⁵ Metropolitan Atlanta HIV Health Services Planning Council. Quality of Service Indicators. Revised April 2, 2009.

¹⁶ HIV/AIDS Bureau, Division of Science and Policy, Health Resources and Services Administration. 2008 Ryan White HIV/AIDS Program Data Reports.

OVERVIEW OF CURRENT SYSTEM

Barriers and unmet needs

Although oral health services are an important component of health care for PLWH, the 2007-2008 Atlanta EMA HIV Consumer Survey reports that dental care is rated as the top unmet need out of a range of health care and support services for PLWH. Although the majority (18/26) of service needs within the EMA are met, dental care was the most frequently reported service needed but not received in the previous 30 days (46% of respondents). A substantial number of PLWH experience barriers to comprehensive oral health care. Only 25% of the Consumer Survey participants accessed dental services within the previous 30 days, and a total of 192 barriers to using oral health services were reported by the 46% of respondents who needed but did not receive dental care. The most frequently reported barriers related to dental care included personal (25%), capacity (22%), and financial (20%).

Client utilization data in the Atlanta EMA showed that the number of dental clients grew at a higher rate than the total number of clients from 2006 to 2007. In addition, client-level data from CAREWare showed that the proportion of clients who received at least one dental service rose from 16% (2,350/10,527) of clients in 2002 to 25% (2,709/10,869) of clients in 2007. However, the Atlanta EMA network still falls short on a core HRSA clinical performance measure: the percentage of clients with HIV infection who received an oral health exam at least once during the measurement year. Among the EMA agencies, the indicator average for the 12-month period from July 2006 to June 2007 was just 28%,¹⁷ while the benchmark set by the Metropolitan Atlanta HIV Health Services Planning Council for this indicator is 50%.¹⁸

¹⁷ Center for Applied Research and Evaluation Studies, Southeast AIDS Training and Education Center, Emory University School of Medicine (2008). Atlanta Eligible Metropolitan Area Ryan White Part A Chart Review.

Furthermore, there are significant racial and gender disparities in unmet need for those seeking oral health services. Similar to the 2000 and 2003 surveys, the 2007-2008 Atlanta EMA Consumer Survey shows that larger proportions of Black and Hispanic survey participants (50% and 46% respectively) reported unmet need for dental care when compared to Whites (33%). Men also reported a higher unmet need for dental health services (48%) than women (41%) or women of childbearing age (37%). The gaps in oral health care services likely will become more problematic as PLWH have longer life expectancies, and the number of Blacks and Hispanics entering into the HIV/AIDS care system increases. Although Blacks reported a greater unmet need for dental care in comparison to other racial/ethnic groups, Hispanics reported more frequent barriers to accessing dental care (33%) compared to Blacks (13%) and Whites (17%). Blacks reported personal barriers (26%) most often, whereas Whites reported capacity barriers (28%) as their top obstacle to oral health services. System barriers such as regulations, case management issues, dissatisfaction, stigma, and responsiveness were reported 16% of the time among all racial/ethnic groups.

Anecdotal reports suggest that clients who currently receive oral health services and require more than preventive or basic restorative procedures (i.e., cleanings, extractions, fillings) may not be able to access the care they need at all dental sites within the EMA network. Furthermore, barely one-half of English-speaking participants in the 2008 Atlanta EMA Client Satisfaction Survey reported that they always were able to schedule an appointment for routine (51.4%) and emergency (51.5%) dental care soon enough for their needs.¹⁹ Spanish-speaking

Prepared for Fulton County Government Ryan White Program & Metropolitan Atlanta HIV Health Services Planning Council.

¹⁸ Metropolitan Atlanta HIV Health Services Planning Council. Quality of Service Indicators. Revised April 2, 2009.

¹⁹ Center for Applied Research and Evaluation Studies, Southeast AIDS Training and Education Center, Emory University School of Medicine (2008). Atlanta Eligible Metropolitan Area Client Satisfaction Survey. Prepared for Fulton County Government Ryan White Program & Metropolitan Atlanta HIV Health Services Planning Council.

participants reported even lower rates of timely scheduling for routine (41.2%) and emergency (35.3%) dental appointments. Agency-specific data from the 2008 Oral Health Task Force Survey, 2008 Ryan White Data Reports (RDRs), and CAREWare corroborate these reports and are discussed more fully in the next section.

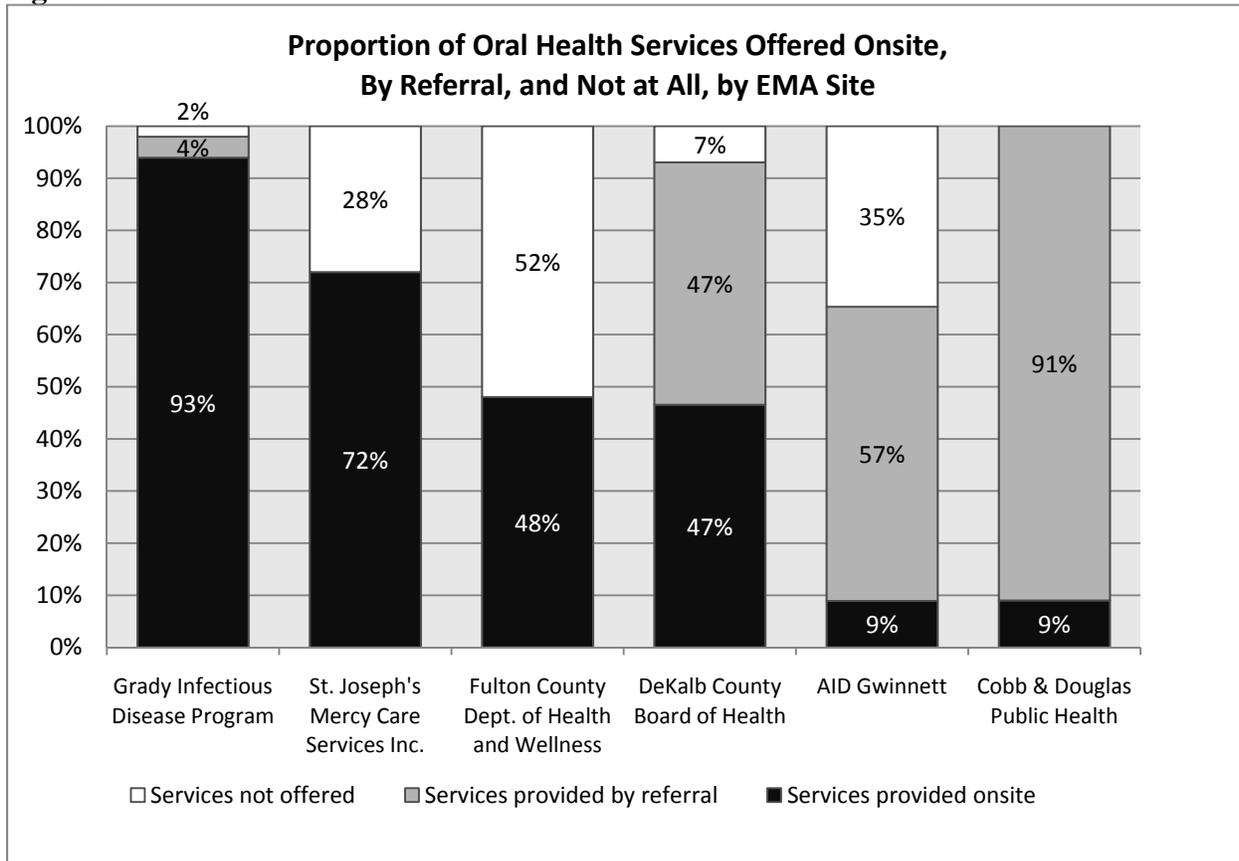
Funding and services offered

In order to lay the ground work for alternative models, this section provides an overview of the Atlanta EMA dental service system in calendar year 2008, followed by individual descriptions of each of the six (6) EMA agencies that expended Ryan White funds on oral health services in the same year. These agencies are: AID Gwinnett, Cobb & Douglas Public Health, DeKalb County Board of Health, Fulton County Department of Health and Wellness, Grady Infectious Disease Program (IDP), and St. Joseph's Mercy Care Services Inc. Client utilization data in this section are drawn from CAREWare, and expenditure data have been pulled from 2008 RDRs and 2009-10 agency grant applications. Information on staffing and the services provided comes from the Oral Health Task Force Survey completed by each agency in 2008.

In 2008, the six Atlanta EMA agencies listed above (hereinafter referred to as "oral health sites") received a total of \$14.9 million of Ryan White funding from Parts A, B, C, and D. Nine percent (\$1.39 million) of the total Ryan White HIV/AIDS Program funds within these agencies was expended on oral health. According to the 2008 RDRs, the six EMA oral health sites had a total of 2,772 clients with a collective total of 7,951 service visits during the 12-month reporting period. (Although this total includes only unduplicated counts of clients from each site, it may include some clients that are duplicated across sites if the same client received oral health services at multiple EMA sites within the same year.)

Overall, the Atlanta EMA Ryan White Program funds an oral health care staff that includes dentists, hygienists, dental assistants, and administrative support. This staff comprises a total of 28.4 full-time equivalent (FTE) employees and provides a wide range of services that includes diagnostic and surgical dental procedures. The figure below provides a breakdown of HIV oral health services provided onsite, offered by referral, and not offered at all at each of the oral health sites in the Atlanta EMA. Of the forty-five (45) services listed on the Oral Health Task Force Survey tool, porcelain veneers and panoramic x-rays (Panorex) were the only procedures not performed at any of the sites in the EMA network.

Figure 2.



Data from the Task Force Survey indicate that Grady IDP provides the largest array (93%) of the selected oral health services on site, followed by St. Joseph’s Mercy Care (72%). Of all of the agencies, Cobb & Douglas Public Health and AID Gwinnett provide the most

services by referral (91% and 57% respectively), followed by DeKalb County Board of Health (47%). With this distribution of oral health services provided by each site and 28.4 total FTE employees across all sites, the appointment scheduling wait times range from 1 to 6 weeks depending on the agency.²⁰ The services offered and distribution of resources within each site provide a clearer picture of the barriers to providing oral health care to patients in the Atlanta EMA system.

Grady IDP

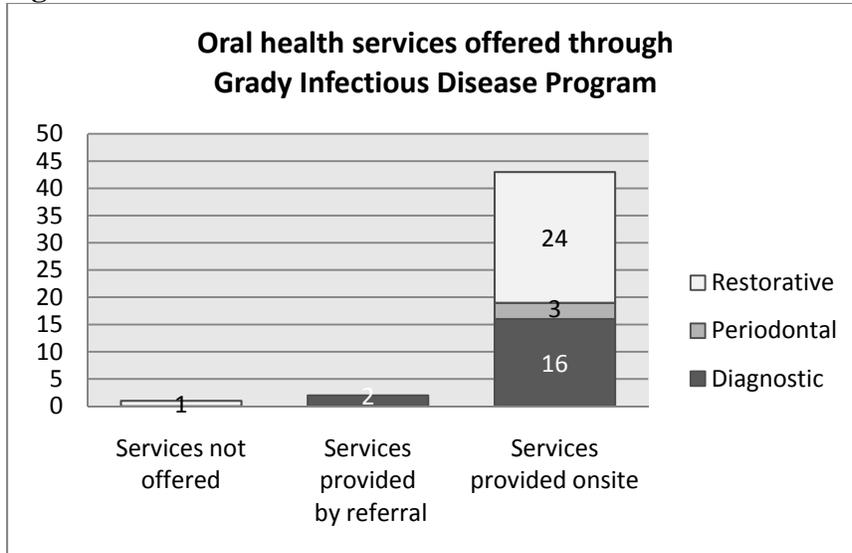
Grady IDP has the highest concentration of AIDS patients of all Atlanta EMA oral health sites. Sixty percent (2,913) of the clients receiving care at Grady IDP have CDC-defined AIDS. According to its RDR, Grady received about \$7.6 million of Ryan White funding (51% of the six sites with oral health outlays) from Parts A, B, and D. Over 10% (approximately \$773,000) of Grady's total Ryan White Program funds were expended on oral health in 2008. This site had a total of 1,629 unduplicated oral health clients with 4,995 service visits during the 12-month reporting period. The average number of visits per client is the highest of all six sites (3.07). This high level of utilization may be a function of the range of dental services available to PLWH receiving care at Grady IDP.

Grady also has the most diversity in job specialties of all oral health sites. Data from the Task Force Survey show that the Grady IDP dental staff includes 3.6 FTE dentists, 3 FTE dental hygienists, 5 FTE dental assistants, 3 FTE administrative support staff members (including a sterilization technician), and 4-5 FTE eligibility determination staff members. With a total of 18.6 FTE employees, Grady provides a wide range of dental procedures that includes diagnostic,

²⁰ Metropolitan Atlanta HIV Health Services Planning Council (2008). Atlanta EMA Oral Health Task Force Survey (unpublished data).

periodontal, and restorative services. The figure below shows the types of HIV oral health services offered at Grady IDP by service provided onsite, offered through referral, or not offered.

Figure 3.



As shown above, 43 of the selected services are provided on site at Grady IDP: 24 restorative procedures, 4 periodontal procedures, and 16 diagnostic procedures. Prescription of nicotine cessation medications and Panorex are the two services provided by referral. Although Grady IDP did not respond to the Task Force Survey question about average appointment waiting times, its 2009-10 grant application indicated a three-month wait for new, non-emergency patient appointments. As reported on the survey, Grady IDP does see emergency walk-in patients the same day, but the number of walk-ins is increasing in part because of the three-month waiting time. Grady also indicated that it would have the capacity to expand its services if it had more funding since it has equipment and chairs that are currently unused.

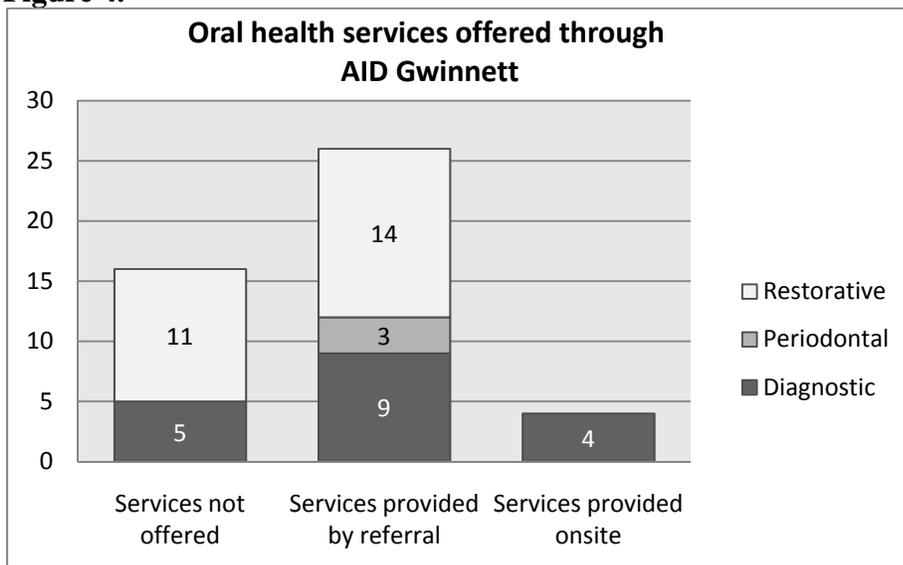
AID Gwinnett

The 2008 RDR for AID Gwinnett reveals that 324 (42%) of the clients receiving care at AID Gwinnett have CDC-defined AIDS. AID Gwinnett received about \$1.3 million of Ryan

White funding (8.6% of the six-site total) from Parts A, B, and C.²¹ Nearly 11% (approximately \$137,000) of AID Gwinnett’s total Ryan White Program funds were expended on oral health in 2008. This site had a total of 149 unduplicated oral health clients with 333 service visits during the 12-month reporting period. The average number of visits per client was 2.23 for the year.

According to the Oral Health Task Force Survey data, AID Gwinnett does not have any dental staff located within its facility; therefore clients are referred to an outside provider for the majority (26/46) of the selected services. Furthermore, the oral health care offered at AID Gwinnett is limited to diagnostic services provided by clinicians such as nutritional and smoking cessation counseling, examination of head and neck to determine the presence of abnormalities, and medical/dental histories.

Figure 4.



As shown above, most (14/26) of the services that are referred out to other oral care centers are restorative procedures. With very few services offered, no operation on Fridays, and the lack of full-time dental staff working on site, the waiting time for a scheduled appointment is

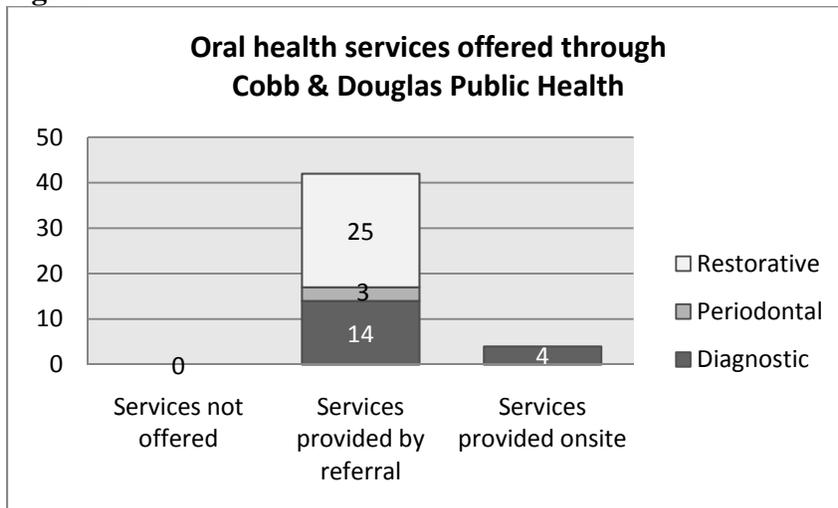
²¹ HIV/AIDS Bureau, Division of Science and Policy, Health Resources and Services Administration. 2008 Ryan White HIV/AIDS Program Data Reports.

6 to 8 weeks to meet with a dental hygienist and 2 to 4 weeks for a dentist. AID Gwinnett indicated on the Task Force Survey that the agency would have the capacity to expand if funds were made available.

Cobb & Douglas Public Health

Fifty-five percent (286) of the clients receiving care at Cobb & Douglas Public Health have CDC-defined AIDS. The 2008 RDR for Cobb & Douglas shows that the agency received about \$951,000 of Ryan White funding (6% of the 6-site total) from Parts A, B, and C. Less than half a percent (approximately \$3,500) of the Cobb & Douglas total Ryan White Program funds were expended on oral health in 2008. This site had a total of eight (8) unduplicated oral health clients that had 10 service visits during the 12-month reporting period. The average number of visits per client is the lowest of all six sites (1.25). The small number of clients and service visits is likely a reflection of the fact that the only staff at Cobb & Douglas Public Health dedicated to providing dental services is two (2) eligibility determination specialists.²²

Figure 5.



²² Metropolitan Atlanta HIV Health Services Planning Council (2008). Atlanta EMA Oral Health Task Force Survey (unpublished data).

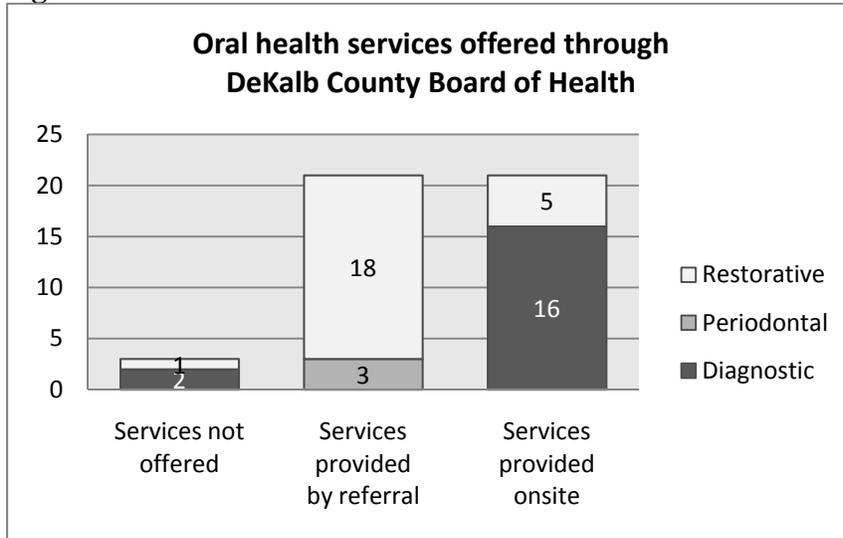
As the data from the Oral Health Task Force Survey show in the figure above, 42 of the selected services are referred to other sites: 25 restorative procedures, 3 periodontal procedures, and 14 diagnostic procedures. The four (4) services offered at Cobb & Douglas Public Health are diagnostic procedures such as initial examinations for the presence of abnormalities and documentation of medical and dental histories. The current waiting time is between 6 and 8 weeks for a new patient and about 1 to 2 weeks for an existing patient to see a dentist or dental hygienist. Cobb & Douglas Public Health also indicated on this survey that it would be able to increase capacity if there were additional funding.

DeKalb County Board of Health

The 2008 RDR reports that 20% (152) of the clients receiving care at DeKalb County Board of Health have CDC-defined AIDS. DeKalb County Board of Health received about \$1.2 million of Ryan White funding (8% of the six-site total) from Parts A and C. Less than 4% (approximately \$48,000) of DeKalb's total Ryan White Program funds were expended on oral health in 2008. This site had a total of 175 unduplicated oral health clients with 358 service visits during the 12-month reporting period. The average number of visits per client is 2.05.

The DeKalb County oral health program reported on the Oral Health Task Force Survey that it is staffed by 0.8 FTE dentists, 0.4 FTE hygienists, 0.8 FTE clerical/billing personnel and 0.8 FTE administrative personnel. With this limited staff, DeKalb provides only diagnostic services (16 selected procedures) and a few restorative services (5 selected procedures). The figure below shows the types of HIV oral health services offered at DeKalb by service provided on site, through referral, or not at all.

Figure 6.



As shown above, 21 of the selected services are provided on site at DeKalb: 5 restorative procedures and 16 diagnostic procedures. The majority of restorative oral services, as reflected in its policy and procedure manual, are offered through referral to a reduced fee private clinic or the Grady Oral Surgery Clinic. The waiting time for new and existing patients to see a dentist or dental hygienist can range from 2 days to 1 week, meaning that DeKalb County has the shortest waiting time for patient appointments out of all six oral health sites. DeKalb County also reported on the Task Force Survey that it has additional unused operatory space that could be utilized if additional funding became available.

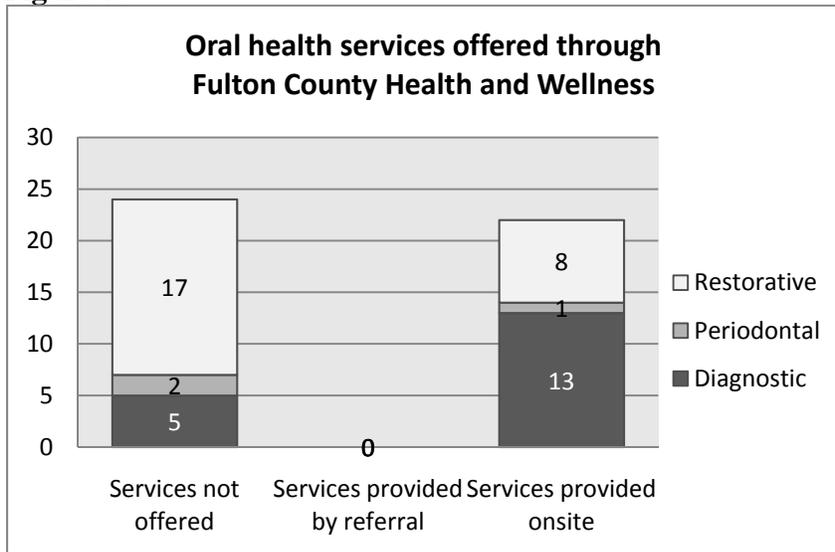
Fulton County Health and Wellness

According to the 2008 RDR, 15% (184) of the clients receiving care at Fulton County Health and Wellness have CDC-defined AIDS. Fulton County received about \$2.6 million of Ryan White funding (17% of the six-site total) from Part A. Five percent (approximately \$133,000) of Fulton’s total Ryan White Program funds were expended on oral health. This site had a total of 207 unduplicated oral health clients with 423 service visits during the 12-month

reporting period. The average number of visits per client (2.04) is the third-highest of all six sites after Grady IDP and St. Joseph’s Mercy Care Services.

Fulton County Health and Wellness reported on the Oral Health Task Force Survey that it has one (1) FTE dental assistant and a 0.5 FTE dentist that provide oral services to clients receiving ambulatory care at the site.

Figure 7.



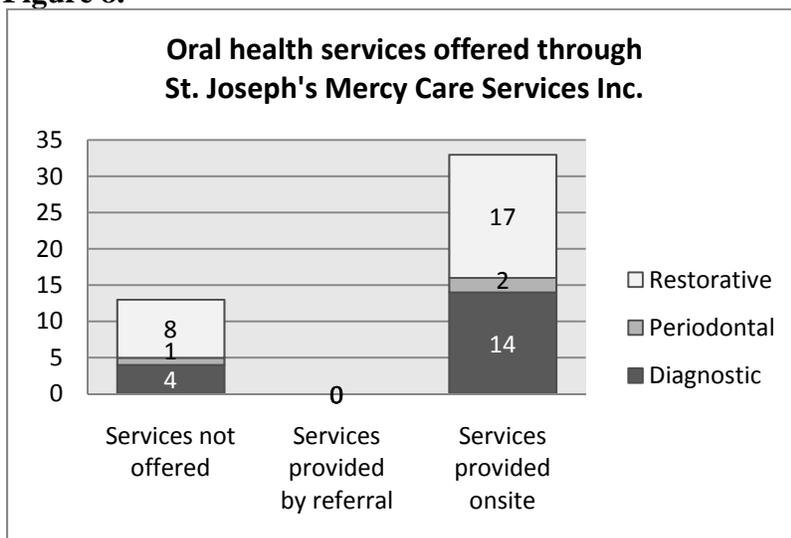
As shown in the figure above, 22 of the selected services are provided on site at Fulton County Health and Wellness: 8 restorative procedures, 1 periodontal procedure, and 13 diagnostic procedures. The level of difficulty and predicted complexity of some restorative procedures (such as surgical extractions and emergency palliative care) determine whether or not the procedure is performed on site or referred to other facilities. The average waiting time for a scheduled appointment with the part-time dentist at Fulton County Health and Wellness is 3 weeks for both new and existing patients.

St. Joseph's Mercy Care Services, Inc.

According to its 2008 RDR, 22% (199) of the clients receiving care at St. Joseph's Mercy Care Services have CDC-defined AIDS. St. Joseph's received about \$1.2 million of Ryan White funding (8% of the six-site total) from Parts A and C in 2008. St. Joseph's Mercy Care contributes more to oral health services in comparison to other sites within the Atlanta EMA. Twenty-three percent (approximately \$292,000) of the total Ryan White Program funds at St. Joseph's were expended on oral health in 2008. According to the RDR, this site had a total of 604 unduplicated oral health clients with of 1,832 service visits during the 12-month reporting period. The average number of visits per client is among the highest of all six sites at 3.03. Like Grady IDP, this may illustrate that clients are utilizing the expanded services available to them.

On the Oral Health Task Force Survey, St. Joseph's Mercy Care reported that it has 2.5 FTE employees that provide oral health services: one (1) FTE dentist, one (1) FTE dental assistant, and a 0.5 FTE dental hygienist. In addition, St. Joseph's does not provide oral health care services by referral. As shown below, 33 of the selected services are provided on site at St. Joseph's: 17 restorative procedures, 2 periodontal procedures, and 14 diagnostic procedures.

Figure 8.



Although St. Joseph's provides the majority of its oral health services on site, the average waiting time for a scheduled appointment is 5 to 6 weeks for the dentist and 10 to 12 weeks for the dental hygienist. St. Joseph's indicated on the Task Force Survey that additional funding would help the agency hire a clerical assistant that would free the dental assistants to focus on clinical duties. However, the agency has space limitations which would inhibit its ability to significantly increase capacity, so this would only be applicable if additional funds freed up the hygienist.

Summary of Current System

Currently Grady IDP and St. Joseph's Mercy Care Services Inc. provide the most comprehensive range of oral health services, in addition to having higher patient volumes and receiving the majority of the Atlanta EMA dental funding. As a result of the high patient volumes, wait times for appointments can be as long as 3 months, which at least partly accounts for the capacity- and system-related barriers to accessing dental care identified by Consumer Survey participants. However, there is not good data to indicate wait times for emergency dental care. By contrast, AID Gwinnett and Cobb & Douglas Public Health do not have a dental workforce on site and provide oral health services through referral to other agencies or oral health facilities. Average waiting times for appointments at AID Gwinnett and Cobb & Douglas are between 2 and 4 weeks. However, the negotiated rates for these services were not examined in this study. Between these extremes in the Atlanta EMA dental system are DeKalb County Board of Health and Fulton County Health and Wellness, each of which has a part-time dental staff that includes a dentist and dental assistant(s), who provide limited diagnostic services and perform some restorative procedures. The average waiting times for an appointment at these two sites are the shortest in the Atlanta EMA network (1 to 3 weeks).

As a result of these inequities in service delivery in the EMA oral health system, a degree of centralization is needed to establish equitable access of PLWH to quality oral health care. However, “centralization” of oral health services in the Atlanta EMA is recommended only insofar as training, data collection, quality assurance, and case management are centrally coordinated by a veteran agency (e.g. Grady IDP). Otherwise, oral health services generally should be expanded at various sites, not reduced. The specifics of the proposed reorganization of the system are described below.

PROPOSED ALTERNATIVE SYSTEM & IMPACTS

The proposed alternative system includes changes that can be implemented at selected sites that would utilize equipment not in use, reduce waiting and scheduling times, reduce daily patient volumes, increase the number of services provided, and increase the accessibility of quality oral health care. Additionally, the proposed system addresses the lack of dental workforce and establishes professional relationships with surrounding communities. This proposed system comprises five recommendations:

1. Expand data available for oral health services planning in the Atlanta EMA
2. Increase access to and retention in oral health services through dental case management
3. Increase capacity and equity of oral health system through expansion and task-shifting of dental staff
4. Increase availability of and access to oral health services through weekend hours, passenger vans, and rented operatory space
5. Assure quality and equity of oral health services through ongoing training

1. Expand data available for oral health services planning in the Atlanta EMA

Having accurate and comprehensive data on oral health service utilization by PLWH in the EMA is essential to effective resource distribution and system planning. Currently, there is no effective mechanism from tracking patients' use of services to which they are referred. Such information is an important tool in maximizing the efficacy of an integrated oral health care delivery system that spans several treatment sites. Dental case managers could help meet this need by assisting in tracking patients' service use following referral. (See next section.)

In addition to information about PLWH and dental care, more information is needed about current provider practices at some EMA sites. An examination of the data on the number of services offered at individual sites reveals that there are three *de facto* levels of service provision among the agencies in the EMA. Grady IDP and St. Joseph's Mercy Care provide the most comprehensive range of dental care with 43 and 33 types of services respectively. Fulton County Health and Wellness (22) and DeKalb County Board of Health (21) provide a mid-range number of services.²³ Lastly, Cobb & Douglas Public Health and AID Gwinnett provide the lowest number of services, each providing only four types of services that are categorized as diagnostic.²⁴ In order to improve oral health service provision across the EMA, it is necessary to understand the barriers to comprehensive dental care provision faced by these mid-tier and referring agencies.

While both Fulton and DeKalb provide a considerable amount of dental services, the number of services they each provide is still approximately half of what Grady IDP, the most comprehensive service provider in the EMA, offers. It is necessary to explore what difficulties these agencies may be having in providing a more complete range of oral health services,

²³ Metropolitan Atlanta HIV Health Services Planning Council (2008). Atlanta EMA Oral Health Task Force Survey (unpublished data).

²⁴ Ibid

including an assessment of any clinical training needs their providers may have. Understanding these barriers will provide information about ways to reduce them and increase the capacity of these agencies to provide more comprehensive oral health care.

Cobb & Douglas Public Health and AID Gwinnett both report that, while they offer limited diagnostic dental services, they refer the overwhelming majority of their patients to private providers whom they then reimburse with Ryan White funds.²⁵ It would be useful to examine why these agencies have chosen to refer patients as opposed to providing more comprehensive oral health services on site. Examining this choice is particularly important because both organizations spend considerably larger amounts per visit than the other EMA sites, with AID Gwinnet paying \$410.08 and Cobb & Douglas Public Health paying \$349.60.²⁶ In contrast, Fulton pays \$313.73 per visit, and the other agencies all pay between \$130.00 and \$180.00.²⁷ While it may be true that comprehensive onsite care may not be feasible at these more peripheral agencies, additional options for oral health care service delivery should be explored for both Cobb & Douglas Public Health and AID Gwinnett. In doing so, it may be found that another option is more cost effective and allows Ryan White funds to reach more PLWH in need of dental care.

2. Increase access to and retention in oral health services through dental case management

The Evaluation Center on HIV and Oral Health (ECHO) reports that nine of the 15 demonstration sites included in its five-year evaluation study use dental case managers to

²⁵ Metropolitan Atlanta HIV Health Services Planning Council (2008). Atlanta EMA Oral Health Task Force Survey (unpublished data).

²⁶ HIV/AIDS Bureau, Division of Science and Policy, Health Resources and Services Administration. 2008 Ryan White HIV/AIDS Program Data Reports.

²⁷ Ibid

improve oral healthcare delivery.²⁸ These individuals serve as a central point of contact for PLWH accessing dental care, often scheduling appointments and following up with patients afterward, especially in the case of no-shows.²⁹ Individuals in these case manager positions in the EMA would thus be well positioned to carry out systematic data collection with regard to patients' use of services. Through patient follow up, dental case managers may also be able to provide more information about the quality of care received.

While HIV case management is widely practiced and well established, dental case management is a relatively new concept. As mentioned above, several dental care clinics across the country including nine of the 15 Special Projects of National Significance (SPNS) Oral Health Initiative demonstration sites practice some form of dental case management.³⁰ Dental case managers coordinate appointments, arrange transportation, provide patient education, and assist with referrals for follow-up care. They are able to see many more clients per person than typical medical case managers because of their specialization in oral health services. Moreover, the use of a dental case manager has been shown to reduce no-show rates, which shortens waiting times for all patients as more available appointment slots are utilized.³¹ In addition, patient satisfaction with these individuals is often high, as it has been found that a high percentage of patients who utilize dental case managers report that these individuals assist them in receiving the dental care they need by scheduling appointments, coordinating care, and providing needs assessments and comfort.³² Therefore, the hiring of three (3) FTE dental case

²⁸ Tobias C, Martinez T, Bednarsh H, Fox J. (2008). "Increasing Access to Oral Health Care for People Living with HIV/AIDS: The role of dental case managers, patient navigators and outreach workers." Boston University School of Public Health, Health & Disability Working Group, ECHO. Retrieved June 2009 from: <http://www.hdwg.org/echo/>.

²⁹ Ibid

³⁰ Ibid

³¹ Ibid

³² Lemay, CA, Kretsedemas, M, Graves, JR. (2010). "Satisfaction with Dental Case Management Among People Living With HIV/AIDS." *Journal of Community Health*, 35(1).

managers for the Atlanta EMA, at least one of which is dedicated to the Cobb & Douglas and AID Gwinnett patient populations in order to address the barriers specific to communities outside the Perimeter, is recommended. Dental assistants can be cross-trained to perform dental case management duties and assist with data collection and tracking of patients.

In addition to arranging transportation of patients requiring more complex care to the more comprehensive oral health sites, dental case managers could help alleviate the burden on agencies like Grady IDP and St. Joseph's Mercy Care. The in-town dental case managers would serve an important function in the triage of some IDP patients and their referral to other EMA agencies for oral health care. As "mid-tier" oral health sites, like Fulton County Health and Wellness and DeKalb County Board of Health, expand their capacity to provide preventive, diagnostic, and basic restorative procedures to more patients (see next section), they can begin to treat some Grady patients who do not have complex oral health problems. Providers at the Grady IDP Oral Health Center can identify patients who do not need extensive restorative work and are willing to go elsewhere for basic diagnostic and preventive services. Then the dental case manager, upon referral from the care provider, would assist these patients with scheduling appointments at and securing transportation to other EMA sites. This triage system, supported by effective case management to ensure continuity of care, could benefit Grady IDP clients for whom other sites (such as DeKalb) are more convenient, and it would reduce waiting times by allowing IDP dental care providers to focus on patients with complex oral health needs, much as IDP medical providers focus on patients with advanced HIV disease.

3. Increase capacity and equity of oral health system through expansion and task-shifting of dental staff

Expanding preventive and restorative treatment capacity through the recruitment of additional dental hygienists and dental assistants has numerous advantages for both the patients and the operation of oral health sites in the EMA. Increasing the number of FTE dental hygienists and expanding the responsibility of hygienists to include more preventive and diagnostic procedures would allow sites the opportunity to provide more services. Procedures that can be performed by hygienists include fluoride treatments, sealants, x-rays, gingival scaling, root planing, and prophylaxis. Dental assistants and/or hygienists can also perform duties that can increase patient retention in oral health care such as conducting follow-up appointments for surgical procedures and providing one-on-one patient hygiene education. By expanding the responsibilities and increasing the number of FTE dental assistants and hygienists, there will be time within the work week for dentists to perform more restorative procedures for patients in need of complex oral health care, because the patient load for the dentist will be reduced. With more diagnostic, periodontal, and restorative services on site, the referral rates will diminish, which ought to reduce the waiting times and the patient volumes at Grady IDP and St. Joseph's Mercy Care.

Cobb & Douglas Public Health provided oral health services to just eight (8) unduplicated patients last year and has no dental staff; therefore, virtually all oral health care is provided through referrals. With a part-time dental hygienist and an oral health case manager, oral health education and other preventive services could be offered to existing patients on site. In particular, a registered hygienist can perform prophylactic cleaning, fluoride treatment, sealant application, root planing, and gingival scaling for Cobb & Douglas patients two to three days a

week. A dental case manager can also provide the current patients at Cobb & Douglas with additional oral health support such as follow-up appointment scheduling and transportation arrangements for restorative procedures at other sites. This recommendation, if adopted, would require increased dental funding (\$8400 per annum in 2008) for the Cobb & Douglas oral health site. In addition, the hygienist would need to utilize an existing dental operatory, if available, which current data sources do not show.

DeKalb County Board of Health had 175 dental patients last year and provides 21 types of oral health services (16 diagnostic and 5 restorative procedures). With a modest staff that includes a 0.8 FTE dentist and a 0.4 FTE dental hygienist, this site can use a part time (0.5 FTE) dental assistant to perform supporting preventive and diagnostic functions, such as x-rays and patient education. Furthermore, a 0.6 FTE hygienist can be added to ensure there is more hygienist time for mid-level procedures such as fluoride therapy and sealant application. This will allow for an increase in the number of restorative procedures that are performed by the dentist and thus decrease the referral rates to other sites. Although most DeKalb patients with complex restorative dental needs are currently referred to a reduced fee private clinic, others are sent to Grady IDP, especially for surgical extractions. A more complete support staff of one (1) FTE hygienist and up to 0.75 FTE dental assistant would expand the services currently available at DeKalb and reduce the need for any DeKalb patients to access the already heavily utilized Oral Health Center at Grady IDP—all without compromising the relatively short waiting times DeKalb patients currently experience.

Similarly, if Fulton County Health and Wellness were to add a 0.5 FTE dental hygienist to perform mid-level preventive and diagnostic procedures, this site would be able to increase the number of oral health services it provides onsite from 22 (13 diagnostic, 1 periodontal, and 8

restorative). Fulton County currently has one FTE dental assistant that can specialize in patient hygiene education, appointment scheduling and telephone follow-up. By having a dental hygienist specializing in prophylaxis and other preventive procedures while the dentist performs more restorative services, the number of referrals to other oral health sites may decrease. Because of space restrictions at Fulton County (there are currently no additional dental chairs), this expansion in capacity could be achieved by extending operating hours into the afternoon with the dentist and hygienist alternating half-days throughout the week.

AID Gwinnett provided oral health care to 149 patients in 2008 through a referral process to contracted dentists in the surrounding area. AID Gwinnett uses its Ryan White dental funding to reimburse the providers at these contracted sites, reportedly at Medicaid rates, for the oral health services its patients receive. If AID Gwinnett uses funding to purchase two dental chairs and the equipment necessary for preventive, diagnostic, and basic restorative procedures, and employs one (1) FTE dentist and one (1) FTE dental assistant, it will be able to provide oral health services directly to its patients. Because paying for staff is generally less expensive than paying for units of services, AID Gwinnett should recoup the front-end cost of this investment over time on a per-client basis. While many companies will provide free layouts for space modifications required with the installation of dental chairs, this construction would add to the upfront costs. Although it is unclear from the data and surveys whether there would be any relief to waiting times at other EMA agencies, developing an oral health system at AID Gwinnett would directly benefit patients in the East Metro Health District. Providing services at a single site would be convenient for the clients located in the Gwinnett County area, reduce dependence on private providers who may or may not continue to accept patients at Medicaid rates, and build administrative support to track the utilization of more complex restorative services for which

Gwinnett patients are referred elsewhere. By establishing independence from contractual services, resulting in more efficient use of funds, AID Gwinnett can develop into a model that resembles the current services and structure of the oral health programs at Fulton County Health and Wellness and DeKalb County Board of Health.

Although this proposed system has its benefits, there are barriers to implementing such a recommendation. The primary barrier is the lack of dental workforce in Georgia. Georgia has only one dental school at the Medical College of Georgia in Augusta, and currently there are no dental students/interns at the six sites of the Atlanta EMA. However, by recruiting students currently pursuing an Associate of Science in Dental Hygiene degree from local institutions such as Georgia Perimeter College and Clayton State University, there is an opportunity to expose students earlier to the oral health services that are needed by PLWH. By creating incentives, such as credit-granting internship and training opportunities, there can be a collaborative effort between the Ryan White Atlanta EMA oral health sites and the Georgia institutions that offer programs in the dental health professions. Such collaboration would result in unique training experiences that build competent and knowledgeable dental hygienists, and it would provide a valuable workforce resource for the Atlanta EMA oral health network. Hygienist students who work under dentists can do cleaning and minor restoration work. Thus, the addition of even just a few hygienist students can increase the number of patients as demonstrated by a SPNS site in Oregon.³³

The Dental Pipeline Program is one initiative that offers a precedent. This program aimed to increase dental students' knowledge of the issues regarding dental health in

³³ Tobias C, Abel, SN, Martinez, T, Bednarsh, H. (2009). "Lessons learned in engaging and retaining people living with HIV/AIDS in oral health care." Boston University School of Public Health, Health & Disability Working Group, ECHO. Retrieved July 2010 from: <http://hdwg.org/sites/default/files/resources/ECHOEngagementAndRetention.pdf>

underserved populations and to reduce oral health disparities. The program supported 15 schools in the first round of activities between 2002 and 2007 in an effort to decrease oral health care access disparities by recruiting minority students and ensuring that all students spent a minimum of 60 hours working with the underserved in their community.³⁴ In addition, the curriculum at participating schools was modified to include a component that stressed the issues surrounding dental care for underserved groups.³⁵ Designing a similar program which fosters relationships between the EMA dental care sites and surrounding schools would not only teach incoming dental students about oral health in PLWH but also provide increased services for patients in need of care.

4. Increase availability of and access to oral health services through weekend hours, passenger vans, and rented operatory space

Grady IDP and St. Joseph's Mercy Care have the greatest number of oral health patients and service visits in the Atlanta EMA oral health network. The average visits per client at Grady and St. Joseph's are 3.01 and 3.03 respectively. The average waiting time for an appointment at these sites ranges from 10 to 12 weeks. Operating during the weekend or evening for a limited number of hours can alleviate the patient volumes during normal business hours and possibly reduce the number of emergency walk-in visits. Weekend and/or evening hours would allow patients more scheduling opportunities and decrease no-show rates. This option would be especially useful in the case of St. Joseph's, which lacks the physical space to expand its service capacity, but is highly accessible to the community given its proximity to a central MARTA train station.

³⁴ Bailit, HL, Formicola, AJ, Herbert, KD, Stavisky, JS, Zamora, G. (2005). "The Origins and Design of the Dental Pipeline Program." *Journal of Dental Education*, 69(2): 232-238.

³⁵ Bailit HL, Formicola AJ, Herbert KD, Stavisky JS, Zamora G. (2005). "The Origins and Design of the Dental Pipeline Program." *Journal of Dental Education*, 69(2): 232-238.

However, the feasibility of expanded operating hours may be limited by security concerns. In-town facilities are located in areas where patient and staff security cannot be assured without dedicated personnel, and the extension of operating hours into the weekend and/or evening would necessitate revisiting contracts with security companies. In addition, the lack of weekend or evening administrative personnel at these sites would add to the demands on oral health care providers. At Fulton County Health and Wellness, some administrative tasks are carried out by the dental assistant in addition to her clinical duties; any dentist or hygienist that is available for limited weekend hours at Grady IDP or St. Joseph's may require a dental assistant to perform these functions in addition to assisting in the operatory.

As Cobb & Douglas and AID Gwinnett refer out for most services, patients may require transportation to the locations to which they are referred for care. One option for expanding access to oral health services for the patients of Cobb & Douglas Public Health is to assist with transportation to other sites that are equipped with staff and services to handle more complex restorative procedures. Using a passenger van that periodically transports patients inside the Perimeter for oral health care would reduce inequities in access across the EMA and present an opportunity to educate patients on the importance of oral health and teach prevention techniques. Dental case managers could be essential in coordinating and facilitating such a service. A successful pilot project at a Ryan White program in Oregon, funded by the SPNS Oral Health Initiative, hired case managers that also function as drivers of the passenger vans to transport patients in isolated rural settings into urban areas for health care.³⁶

³⁶ Tobias C, Martinez T, Bednarsh H, Fox J. (2008). "Increasing Access to Oral Health Care for People Living with HIV/AIDS: The role of dental case managers, patient navigators and outreach workers." Boston University School of Public Health, Health & Disability Working Group, ECHO. Retrieved June 2009 from: <http://www.hdwg.org/echo/>.

However, the daily operations of a passenger van may take extra consideration and planning on the part of the dental case manager to maximize the number of patient visits per trip traveled. In addition, there can be dental circumstances that may require a subsequent appointment the following day, which would complicate the logistics of van operation. A dental case manager can also work with the dental team to schedule longer appointments in order to avoid day after returns for patients. In addition, it is not possible to tell from the available information whether AID Gwinnett already has the capacity to transport patients to oral health appointments with its existing passenger van. At the very least, gas cards and/or public transportation fare ought to be provided to clients in need of transportation services for oral health care. With or without van transportation, the utilization of three (3) FTE dental case managers would increase access to oral health care in presently underserved areas of the Atlanta EMA as well as improve patient tracking and retention. (See Recommendation #2.)

Another option for Cobb & Douglas Public Health and AID Gwinnett is to establish space-sharing partnerships with local private dental offices. If these sites can rent or use a private dental office 1 to 2 times a week or after hours of operation, they would be able to increase patient access to oral health services in their area and also reduce patient transportation barriers. As with any localized service, keeping patients within the same dental network, even if that means accommodating them off site, will improve documentation of patient service utilization, quality of care, and patient retention. This option may also be a possibility for in-town Atlanta sites that cannot modify or extend the operating hours at their agencies; Hughes Spalding Children's Hospital may have unused dental operatories and is one candidate to approach about facility rental. There may be space-sharing opportunities with Federally Qualified Health Centers that already have dental operatories, but are not required to provide

dental services. A SPNS Oral Health Initiative grantee in New York provides a model for a partnership in which a Ryan White agency rented space from a private facility for one half-day per week.³⁷ One possible barrier to implementing such a network might be a lack of general dentists willing to lease out their office space and equipment to service the population living with HIV/AIDS.

5. Assure quality and equity of oral health services through ongoing training

The EMA oral health network should continue to develop the preventive services available at each site with the goal to improve patient health and quality of life. Oral hygiene education and early treatment for conditions reduces the chance of more invasive oral procedures and the associated high cost for dental care. Nonetheless, advanced restorative and periodontal interventions will continue to be essential components of comprehensive oral health care for PLWH. Expanding the training opportunities available to dentists interested in providing care to PLWH would increase the capacity of the workforce to offer a wider array of services. These opportunities should include mini-residencies, or preceptorships, which would be provided at the clinical site of the instructor and involve observation and participation in dental procedures with real patients. Clinical preceptorships ought to be mandatory for all new EMA dentists, and they should be made available to interested non-EMA dental providers, as well.

The continued quality of oral health care can be assured in part by mandatory yearly training updates for all oral health care providers (dentists, hygienists, and dental assistants). These updates should consist of at least a half-day workshop of skills-building activities (i.e. not just lecture) facilitated by an experienced trainer, and they should count toward the six hours of

³⁷ Fox J. Boston University School of Public Health, Health & Disability Working Group, ECHO. Personal communication. July 13, 2009.

continuing education expected of licensed staff every two years.³⁸ In addition, one-on-one, onsite training experiences should be offered to current EMA dentists on a periodic basis, utilizing the dentist’s own patients and clinical environment. The objective of such onsite trainings would be to identify obstacles to providing the full spectrum of oral health services and working with the provider on ways to overcome those obstacles. Training events ideally would be lead by a seasoned clinician in the area of HIV and oral health from one of the more comprehensive dental sites in the EMA. Potential barriers to implementing these quality assurance measures may include the comfort level of existing EMA dentists toward training and feedback and their willingness take on more than what they already are doing. In such cases, outreach from the Oral Health Task Force and Fulton County Government Ryan White Program may prove helpful.

The characteristics of this proposed alternative system for oral health care delivery in the Atlanta EMA are summarized in the figure below.

Figure 9. Characteristics of Proposed Alternative Oral Health Care System

Recommendation	Necessary Elements	Potential Impact
1. Expand data available for oral health services planning in the Atlanta EMA	<ul style="list-style-type: none"> Track patient use of referred dental services Assess barriers to providing more extensive services onsite 	Better understanding of whether patients are able to receive recommended dental care at EMA sites
2. Increase access to and retention in oral health services through dental case management	<ul style="list-style-type: none"> Hire 3 full-time equivalent dental case managers (1 for OTP sites) Arrange for care of non-complex Grady patients at other dental sites 	Improved coordination of care; reduced wait times and no-shows; increased patient satisfaction
3. Increase capacity and equity of oral health system through expansion and task-shifting of dental staff	<ul style="list-style-type: none"> Expand number and responsibilities of dental hygienists Allow dentists to focus more on complex restorative procedures Establish “pipeline”-type program with local dental hygiene schools 	Greater number of services provided at each oral health site; expanded HIV-knowledgeable dental workforce

³⁸ Atlanta Eligible Metropolitan Area Quality Management Standards and Measures – Oral Health. Revised December 2007.

4. Increase availability of and access to oral health services through weekend hours, passenger vans, and rented operatory space	<ul style="list-style-type: none"> • Open Grady IDP and/or St. Joseph’s at least part of one weekend day • Operate passenger van(s) to referral appointments in town • Rent private dental office once a week or after hours 	Reduced wait times for appointments due to no-shows; increased patient satisfaction and receipt of recommended services
5. Assure quality of dental care and equity of oral health services through ongoing training	<ul style="list-style-type: none"> • Increase clinical preceptorship opportunities for dentists • Carry out yearly update workshops with all oral care providers 	Improved provider skills; sustainment of expanded services across sites

LIMITATIONS

The recommendations in this report are based on findings from secondary data sources; primary data collection was outside the scope of this study. Some of these secondary data were collected for purposes unrelated to understanding the current Atlanta EMA oral health care system and how it might be restructured. In addition, the success of the proposed alternative model of oral health care delivery in expanding capacity—resulting in greater patient utilization of and reduced barriers to accessing oral health services—is still theoretical in this context. Although the adoption of the recommendations outlined above cannot be guaranteed to improve health outcomes for PLWH in the Atlanta EMA, they are based on empirical examples from comparable locations and logically follow the observations of the current system. Therefore, thoughtful consideration of their implementation is warranted.

APPENDIX: Summary of existing data

	Cobb & Douglas Public Health	AID Gwinnett	DeKalb County Board of Health	Fulton County Health and Wellness	St. Joseph's Mercy Care Services Inc.	Grady Infectious Disease Program	Atlanta EMA (Six Sites Only)
Ryan White Funding 2008							
TOTAL FUNDING	\$ 951,218	\$ 1,280,625	\$ 1,224,801	\$ 2,602,591	\$ 1,252,620	\$ 7,642,294	\$ 14,954,149
Part A	\$ 503,382	\$ 544,349	\$ 806,728	\$ 2,602,591	\$ 652,573	\$ 7,206,379	\$ 12,316,002
Part B	\$ 269,045	\$ 283,642	\$ -	\$ -	\$ -	\$ 85,704	\$ 638,391
Part C	\$ 178,791	\$ 452,634	\$ 418,073	\$ -	\$ 600,047	\$ -	\$ 1,649,545
Part D	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 350,211	\$ 350,211
Amount of Ryan White funds expended on oral health care	\$ 3,496	\$ 136,558	\$ 47,528	\$ 132,732	\$ 292,140	\$ 773,242	\$ 1,385,696
% allocated to dental services	0.37%	10.66%	3.88%	5.10%	23.32%	10.12%	9.27%
% of total funding (for 6 sites)	6.36%	8.56%	8.19%	17.40%	8.38%	51.10%	n/a
% of EMA dental funding	0.25%	9.85%	3.43%	9.58%	21.08%	55.80%	n/a
Patient Population & Visits 2008							
% of patients with AIDS	55.32%	42.04%	20.57%	15.11%	22.31%	60.76%	n/a
Total # of unduplicated oral health clients	8	149	175	207	604	1629	2772
Total # of oral health service visit (by date)	10	333	358	423	1832	4995	7951
Oral Health Workforce							
Total Ryan White Program- funded staff members (FTE)	9	20	20	23.5	10	114	196.5
DDS/DMD	0	0	0.8	0.5	1	3.6	5.9
Dental Residents	0	0	0	0	0	0	0
Dental Hygienists	0	0	0.4	0	0.5	3	3.9
Dental Assistants	0	0	0	1	1	5	7
Clerical/Billing	0	0	0.8	0	0	1	1.8
Eligibility Determination	2	0	0	0	0	5	7
Administrative	0	0	0.8	0	0	1	1.8
Other	0	0	0	0	0	1	1
TOTAL DENTAL STAFF (FTE)	2	n/a	2.8	1.5	2.5	19.6	28.4

	Cobb & Douglas Public Health	AID Gwinnett	DeKalb County Board of Health	Fulton County Health and Wellness	St. Joseph's Mercy Care Services Inc.	Grady Infectious Disease Program	Atlanta EMA (Six Sites Only)
Oral Health Services							
Services not offered	0	16	3	24	13	1	
Diagnostic	0	5	2	5	4	0	
Periodontal	0	0	0	2	1	0	
Restorative	0	11	1	17	8	1	
Services provided by referral	42	26	21	0	0	2	
Diagnostic	14	9	0	0	0	2	
Periodontal	3	3	3	0	0	0	
Restorative	25	14	18	0	0	0	
Services provided on site	4	4	21	22	33	43	
Diagnostic	4	4	16	13	14	16	
Periodontal	0	0	0	1	2	3	
Restorative	0	0	5	8	17	24	
Wait Times for Appointments							
Hygienist	1-2 weeks	6-8 weeks	1 week	n/a	10-12 weeks	12 weeks	
Dentist	1-2 weeks	2-4 weeks	1 week	3 weeks	5-6 weeks	12 weeks	
Walk-ins		same day	same day	rescheduled	depends on symptoms	same day	
Summary Measures							
Mean service visits per oral health client	1.25	2.23	2.05	2.04	3.03	3.07	2.87
Mean clients per dentist	n/a	n/a	218.8	414.0	604.0	452.5	469.8
Mean service visits per dentist	n/a	n/a	447.5	846.0	1832.0	1387.5	1347.6
Mean Ryan White dental funding per oral health client	\$ 437.00	\$ 916.50	\$ 271.59	\$ 641.22	\$ 483.68	\$ 474.67	\$ 499.89
Mean Ryan White dental funding per service visit	\$ 349.60	\$ 410.08	\$ 132.76	\$ 313.79	\$ 159.47	\$ 154.80	\$ 174.28