Maryland HIV/AIDS Epidemiological Profile

Second Quarter 2012

Data reported through June 30, 2012

Center for HIV Surveillance, Epidemiology and Evaluation
Infectious Disease Bureau
Prevention and Health Promotion Administration
Maryland Department of Health and Mental Hygiene
http://ideha.dhmh.maryland.gov/oideor/chse
1-800-358-9001

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Section I – Background Information

HIV/AIDS Reporting Requirements

The Maryland HIV/AIDS Reporting Act of 2007 went into effect on April 24, 2007. The law expanded HIV/AIDS reporting and required that HIV cases be reported by name. The following highlights the reporting requirements of Health-General Articles 18-201.1, 18-202.1, and 18-205 of the Annotated Code of Maryland, as specified in COMAR 10.18.02.

- Physicians are required to report patients in their care with diagnoses of HIV or AIDS immediately to the Local Health Department where the physician's office is located by mailing DHMH Form 1140. Reports are also accepted by phone.

- Physicians are required to report infants born to HIV positive mothers within 48 hours to the State Health Department by mailing DHMH Form 1140. Reports are also accepted by phone.

- Clinical and infection control practitioners in hospitals, nursing homes, hospice facilities, medical clinics in correctional facilities, inpatient psychiatric facilities, and inpatient drug rehabilitation facilities are required to report patients in the care of the institution with diagnoses of HIV or AIDS within 48 hours to the Local Health Department where the institution is located by mailing DHMH Form 1140. Reports are also accepted by phone. Facilities with large volumes are encouraged to contact the State Health Department to establish electronic reporting.

- Laboratory directors are required to report patients with laboratory results indicating HIV infection (e.g., positive confirmatory HIV diagnostic tests, all CD4 immunological tests, all HIV viral load tests, and all HIV genotype and phenotype tests) within 48 hours to the Local Health Department where the laboratory is located, or if out of state to the Maryland State Health Department, by mailing DHMH Form 4492. Laboratories are encouraged to contact the State Health Department to establish electronic reporting.

Reporting forms and instructions are available at: http://ideha.dhmh.maryland.gov/chse/reporting-material.aspx

For Assistance with HIV/AIDS Reporting

For assistance with reporting, including establishment of routine, electronic, or other alternate methods of reporting to the Health Department, please contact the Center for HIV Surveillance, Epidemiology and Evaluation at the Maryland Department of Health and Mental Hygiene (410-767-5061).

Limitations in the HIV/AIDS Data

This epidemiological profile only contains data for HIV and AIDS cases that have been diagnosed by a health care provider, were reported to the health department by name, and were residents of Maryland at the time of diagnosis. Nationally, it has been estimated that 20% of people living with HIV infection are undiagnosed. In addition, despite a massive effort during which over 17,000 HIV cases were reported after the Maryland HIV reporting law changed on April 24, 2007, not all diagnosed HIV cases previously reported by Maryland's code-based identifier were located and re-reported by name, so the number of living HIV cases is lower than previously reported. In addition, many of the re-reported HIV cases were identified by a recent diagnosis and not by their earliest diagnosis, resulting in an under-reporting of HIV diagnoses before 2001 and an over-reporting of HIV diagnoses from 2001 to 2008. Caution should be exercised in using the number of living HIV cases without AIDS and in interpreting trends in the number of reported HIV diagnoses. In addition, the laboratory data are only available for cases receiving medical care, usually only at facilities in Maryland, and only includes test results that have been reported to the health department.

Stages of a Case of HIV/AIDS

Untreated HIV disease progresses from HIV infection to AIDS to death. These are biological events that occur whether or not a person receives any medical care. For example, a person can be HIV infected but never have an HIV test and so they do not have an HIV diagnosis. A medical provider diagnoses that these biological events have occurred and records them as a medical event. The law requires medical providers to report these medical events to the Health Department, thereby creating a surveillance event.

Time Point	Biological Event	Medical Event	Surveillance Event
1	HIV Infection		
2		HIV Diagnosis	
3			HIV Report
4	AIDS Conditions		
5		AIDS Diagnosis	
6			AIDS Report
7	Death		
8		Death Diagnosis	
9			Death Report

A case of HIV/AIDS can only move through time in one direction, from HIV infection to death report [from time point 1 to time point 9], but may skip over individual stages. Events can occur simultaneously, but usually there is a time lag between them. The time lag between events can be measured in days, months, and years.

For example, the time between HIV infection [time point 1] and the test that diagnoses HIV [time point 2] may be several years, and it may then take several days for the laboratory and physician to report the diagnosis to the health department [time point 3]. In a second example, a person with diagnosed and reported HIV infection [time point 3] may die [time point 7] without developing AIDS, thereby skipping the three AIDS events (conditions, diagnosis, and report [time points 4, 5 and 6]). And in a third example, a person with undiagnosed HIV infection [time point 1] may become sick, enter the hospital, and die [time point 7] of what is later determined to be AIDS. In that situation, HIV diagnosis [time point 2], AIDS diagnosis [time point 5], and death diagnosis [time point 8] would all occur at the same time, and that would probably be many years after the initial HIV infection [time point 1].

Changes in Case Terminology

The terminology for HIV and AIDS cases was changed from earlier epidemiological profiles to be more precise, with Reported Diagnoses replacing Incidence and Living Cases replacing Prevalence. Incidence is a measure of the number of new events (such as HIV infections) in a population during a period of time. Prevalence is a measure of the number of people living with a condition (such as HIV) in a population at a certain time. Prevalence includes both new and old cases. For HIV, Incidence and Prevalence cannot be directly measured and must be estimated using statistical methods. The HIV surveillance system is able to provide the actual number of diagnoses and deaths that are reported in the population.

For this epidemiological profile, the reports received through a certain time (the end of the first quarter) are used to generate the number of diagnoses during the prior years. This one year lag allows for delays in reporting and time to complete investigations. For example, the Reported HIV Diagnoses for 7/1/2010-6/30/2011 are the total of the reported HIV cases with or without an AIDS diagnosis, diagnosed with HIV during 7/1/2010-6/30/2011, as reported by name through 6/30/2012.

To calculate the number of Living Cases we count up all of the Reported Diagnoses from the beginning of the epidemic (all the new cases each year) and subtract all of the Reported Deaths. For example, the Total Living HIV Cases on 6/30/2011 are the total of the reported HIV Cases with or without an AIDS diagnosis and not reported to have died as of 6/30/2011 as reported by name through 6/30/2012.

Changes in this Epidemiological Profile

This quarterly update to the Maryland HIV/AIDS Epidemiological Profile contains only the five tables of adult/adolescent cases by jurisdiction. The full set of tables and figures by demographics and other descriptive variables will be available in the year-end fourth quarter report.

Laboratory Data

CD4 tests are measures of a person's immune system function. An HIV infected person is considered to have AIDS if they have less than 200 CD4 cells per microliter of blood. Viral load (VL) tests are measures of the amount of HIV in a person's body. The goal of HIV treatment is to have a very low number of copies of virus per milliliter of blood, below what the test can measure, which is called an undetectable level. Treatment recommendations are that a person in HIV medical care should have their CD4 and VL levels measured at least 2-3 times per year. We use the presence of these lab tests as an indicator that someone has been linked to care after diagnosis or is "in care".

Sources of Data

Information on HIV and AIDS diagnoses, including residence at diagnosis, vital status, and CD4 and HIV viral load test results are from the Maryland Department of Health and Mental Hygiene's Enhanced HIV/AIDS Reporting System (eHARS), June 30, 2012.

Population data are from the Maryland Department of Planning's intercensal population estimates for July 1, 2010.

Section II – Adult/Adolescent Cases by Jurisdiction

Table 1 – Adult/Adolescent HIV Cases by Jurisdiction, Diagnoses during 7/1/2010-6/30/2011

Age 13+ Population Estimate for 7/1/10, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis, Diagnosed with HIV during 7/1/2010-6/30/2011 (Adult/Adolescent Reported HIV Diagnoses), Number and Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with a First Reported CD4 Test Result in the 12 Months following HIV Diagnosis (First CD4 Test Result) and Median Count of the First CD4 Test Results, Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with a Reported CD4 Test Result or a Reported HIV Viral Load Test Result in the 3 Months following HIV Diagnosis (Linked to Care), and Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with an AIDS Diagnosis in the 12 Months following HIV Diagnosis (Late HIV Diagnosis), by Jurisdiction of Residence at HIV Diagnosis, as Reported by Name through 6/30/2012

JURISDICTION OF RESIDENCE AT HIV DIAGNOSIS	Population Age 13+	Adult/Adolescent Reported HIV Diagnoses							
		No.	% of Total	Rate	First CD4 Test Result			% Linked to Care	% Late HIV Diagnosis
	No.				No. with Test	% with Test	Median Count		
Allegany	65,672	1	0.1%	1.5	***	***	***	***	***
Anne Arundel	449,347	53	4.1%	11.8	43	81.1%	386	79.2%	32.1%
Baltimore City	523,635	402	31.2%	76.8	287	71.4%	341	67.4%	26.1%
Baltimore	680,992	222	17.2%	32.6	166	74.8%	341	71.6%	27.9%
Calvert	73,267	4	0.3%	5.5	***	***	***	***	***
Caroline	27,102	6	0.5%	22.1	5	83.3%	367	66.7%	33.3%
Carroll	139,286	2	0.2%	1.4	***	***	***	***	***
Cecil	83,463	5	0.4%	6.0	3	60.0%	***	***	***
Charles	120,381	19	1.5%	15.8	15	78.9%	175	68.4%	42.1%
Dorchester	27,608	7	0.5%	25.4	6	85.7%	253	85.7%	42.9%
Frederick	192,621	11	0.9%	5.7	7	63.6%	337	63.6%	18.2%
Garrett	25,648	0	0.0%	0.0	--	--	--	--	--
Harford	203,100	20	1.6%	9.8	12	60.0%	301	60.0%	25.0%
Howard	236,942	25	1.9%	10.6	17	68.0%	545	56.0%	20.0%
Kent	17,667	3	0.2%	17.0	***	***	***	***	***
Montgomery	808,312	126	9.8%	15.6	97	77.0%	295	61.9%	35.7%
Prince George's	718,672	279	21.6%	38.8	197	70.6%	270	64.9%	38.4%
Queen Anne's	39,948	3	0.2%	7.5	***	***	***	***	***
Saint Mary's	85,865	3	0.2%	3.5	***	***	***	***	***
Somerset	23,296	5	0.4%	21.5	4	80.0%	***	***	***
Talbot	32,699	4	0.3%	12.2	***	***	***	***	***
Washington	123,472	16	1.2%	13.0	16	100.0%	182	87.5%	75.0%
Wicomico	82,968	8	0.6%	9.6	8	100.0%	233	100.0%	62.5%
Worcester	45,011	4	0.3%	8.9	***	***	***	***	***
Corrections	--	62	4.8%	--	50	80.6%	442	82.3%	19.4%
TOTAL	4,826,972	1,290	100.0%	26.7	955	74.0%	322	68.7%	31.3%

*** Data withheld due to low population and/or case counts

Table 2 – Adult/Adolescent AIDS Cases by Jurisdiction, Diagnoses during 7/1/2010-6/30/2011

Age 13+ Population Estimate for 7/1/10, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with an AIDS Diagnosis, Diagnosed with AIDS during 7/1/2010-6/30/2011 (Adult/Adolescent Reported AIDS Diagnoses), and Average Years from HIV Diagnosis to AIDS Diagnosis, and Percent by Jurisdiction of Adult/Adolescent Reported AIDS Diagnoses with an HIV Diagnosis in the 12 Months preceding AIDS Diagnosis (Late HIV Diagnosis), by Jurisdiction of Residence at AIDS Diagnosis, as Reported by Name through 6/30/2012

JURISDICTION OF RESIDENCE AT AIDS DIAGNOSIS	Population Age 13+	Adult/Adolescent Reported AIDS Diagnoses				
	No.	No.	% of Total	Rate	Years from HIV Diagnosis	% Late HIV Diagnosis
Allegany	65,672	1	0.1%	1.5	***	***
Anne Arundel	449,347	45	5.5%	10.0	3.0	51.1%
Baltimore City	523,635	274	33.8%	52.3	4.6	37.6%
Baltimore	680,992	157	19.4%	23.1	3.8	52.2%
Calvert	73,267	0	0.0%	0.0	--	--
Caroline	27,102	2	0.2%	7.4	***	***
Carroll	139,286	1	0.1%	0.7	***	***
Cecil	83,463	3	0.4%	3.6	***	***
Charles	120,381	10	1.2%	8.3	1.8	80.0%
Dorchester	27,608	7	0.9%	25.4	7.3	42.9%
Frederick	192,621	2	0.2%	1.0	***	***
Garrett	25,648	0	0.0%	0.0	--	--
Harford	203,100	11	1.4%	5.4	4.8	54.5%
Howard	236,942	6	0.7%	2.5	0.4	83.3%
Kent	17,667	1	0.1%	5.7	***	***
Montgomery	808,312	59	7.3%	7.3	1.9	72.9%
Prince George's	718,672	175	21.6%	24.4	2.6	64.6%
Queen Anne's	39,948	3	0.4%	7.5	***	***
Saint Mary's	85,865	2	0.2%	2.3	***	***
Somerset	23,296	2	0.2%	8.6	***	***
Talbot	32,699	1	0.1%	3.1	***	***
Washington	123,472	14	1.7%	11.3	2.2	71.4%
Wicomico	82,968	8	1.0%	9.6	3.2	62.5%
Worcester	45,011	4	0.5%	8.9	***	***
Corrections	--	23	2.8%	--	5.9	30.4%
TOTAL	4,826,972	811	100.0%	16.8	3.6	52.3%

*** Data withheld due to low population and/or case counts

Table 3 – Adult/Adolescent HIV Cases by Jurisdiction, Alive on 6/30/2011

Age 13+ Population Estimate for 7/1/10, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 6/30/2011 (Adult/Adolescent Living HIV Cases without AIDS, Living HIV Cases with AIDS, and Total Living HIV Cases), and Ratio of People per Case (1 case in every X people) for Total Living HIV Cases, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 6/30/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Population Age 13+	Adult/Adolescent Living HIV Cases without AIDS			Adult/Adolescent Living HIV Cases with AIDS			Adult/Adolescent Total Living HIV Cases			
	No.	No.	% of Total	Rate	No.	% of Total	Rate	No.	% of Total	Rate	Ratio (1 in X)
Allegany	65,672	36	0.3%	54.8	39	0.2%	59.4	75	0.2%	114.2	875
Anne Arundel	449,347	437	3.4%	97.3	650	3.7%	144.7	1,087	3.6%	241.9	413
Baltimore City	523,635	5,656	44.4%	1,080.1	7,505	43.0%	1,433.3	13,161	43.6%	2,513.4	39
Baltimore	680,992	1,158	9.1%	170.0	1,606	9.2%	235.8	2,764	9.2%	405.9	246
Calvert	73,267	42	0.3%	57.3	56	0.3%	76.4	98	0.3%	133.8	747
Caroline	27,102	32	0.3%	118.1	28	0.2%	103.3	60	0.2%	221.4	451
Carroll	139,286	58	0.5%	41.6	66	0.4%	47.4	124	0.4%	89.0	1,123
Cecil	83,463	45	0.4%	53.9	63	0.4%	75.5	108	0.4%	129.4	772
Charles	120,381	153	1.2%	127.1	165	0.9%	137.1	318	1.1%	264.2	378
Dorchester	27,608	33	0.3%	119.5	74	0.4%	268.0	107	0.4%	387.6	258
Frederick	192,621	127	1.0%	65.9	153	0.9%	79.4	280	0.9%	145.4	687
Garrett	25,648	2	0.0%	7.8	4	0.0%	15.6	6	0.0%	23.4	4,274
Harford	203,100	150	1.2%	73.9	220	1.3%	108.3	370	1.2%	182.2	548
Howard	236,942	192	1.5%	81.0	216	1.2%	91.2	408	1.4%	172.2	580
Kent	17,667	15	0.1%	84.9	20	0.1%	113.2	35	0.1%	198.1	504
Montgomery	808,312	1,285	10.1%	159.0	1,824	10.5%	225.7	3,109	10.3%	384.6	259
Prince George's	718,672	2,387	18.7%	332.1	3,282	18.8%	456.7	5,669	18.8%	788.8	126
Queen Anne's	39,948	15	0.1%	37.5	32	0.2%	80.1	47	0.2%	117.7	849
Saint Mary's	85,865	43	0.3%	50.1	59	0.3%	68.7	102	0.3%	118.8	841
Somerset	23,296	22	0.2%	94.4	28	0.2%	120.2	50	0.2%	214.6	465
Talbot	32,699	26	0.2%	79.5	30	0.2%	91.7	56	0.2%	171.3	583
Washington	123,472	157	1.2%	127.2	143	0.8%	115.8	300	1.0%	243.0	411
Wicomico	82,968	102	0.8%	122.9	117	0.7%	141.0	219	0.7%	264.0	378
Worcester	45,011	34	0.3%	75.5	48	0.3%	106.6	82	0.3%	182.2	548
Corrections	--	533	4.2%	--	1,016	5.8%	--	1,549	5.1%	--	--
TOTAL	4,826,972	12,740	100.0%	263.9	17,444	100.0%	361.4	30,184	100.0%	625.3	159

Table 4 – CD4 Testing for Adult/Adolescent HIV Cases by Jurisdiction, Alive on 6/30/2011

Number of Adult/Adolescent Reported HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 6/30/2011 (Adult/Adolescent Total Living HIV Cases), Number and Percent by Jurisdiction of Adult/Adolescent Total Living HIV Cases with a Reported CD4 Test Result in the Previous 12 Months (Recent CD4 Test Result), and Median Count in Cells per Microliter and Percent Distribution by Jurisdiction of Counts for the Last Recent CD4 Test Results, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 6/30/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Adult/Adolescent Total Living HIV Cases							
	No.	Recent CD4 Test Result						
		No. with Test	% with Test	Median Count	<200	200-349	350-499	500+
Allegany	75	46	61.3%	578	17.4%	4.3%	13.0%	65.2%
Anne Arundel	1,087	521	47.9%	443	18.2%	19.4%	18.4%	44.0%
Baltimore City	13,161	6,239	47.4%	442	18.4%	19.3%	20.3%	41.9%
Baltimore	2,764	1,391	50.3%	451	19.4%	18.4%	18.4%	43.8%
Calvert	98	46	46.9%	413	17.4%	19.6%	21.7%	41.3%
Caroline	60	18	30.0%	603	22.2%	5.6%	16.7%	55.6%
Carroll	124	40	32.3%	459	10.0%	27.5%	22.5%	40.0%
Cecil	108	28	25.9%	404	14.3%	17.9%	35.7%	32.1%
Charles	318	130	40.9%	443	20.0%	17.7%	16.9%	45.4%
Dorchester	107	51	47.7%	431	25.5%	15.7%	17.6%	41.2%
Frederick	280	136	48.6%	489	12.5%	11.0%	27.2%	49.3%
Garrett	6	2	33.3%	***	***	***	***	***
Harford	370	179	48.4%	488	17.3%	18.4%	16.8%	47.5%
Howard	408	187	45.8%	556	15.0%	13.9%	15.5%	55.6%
Kent	35	18	51.4%	529	***	***	***	***
Montgomery	3,109	1,155	37.2%	467	12.6%	17.8%	25.2%	44.4%
Prince George's	5,669	1,998	35.2%	424	21.3%	17.7%	20.7%	40.4%
Queen Anne's	47	27	57.4%	372	25.9%	18.5%	18.5%	37.0%
Saint Mary's	102	43	42.2%	355	23.3%	25.6%	9.3%	41.9%
Somerset	50	19	38.0%	418	15.8%	21.1%	21.1%	42.1%
Talbot	56	27	48.2%	469	14.8%	14.8%	25.9%	44.4%
Washington	300	142	47.3%	506	15.5%	15.5%	17.6%	51.4%
Wicomico	219	86	39.3%	419	24.4%	22.1%	10.5%	43.0%
Worcester	82	34	41.5%	506	26.5%	11.8%	11.8%	50.0%
Corrections	1,549	780	50.4%	407	21.0%	19.9%	20.1%	39.0%
TOTAL	30,184	13,343	44.2%	444	18.5%	18.6%	20.3%	42.6%

*** Data withheld due to low population and/or case counts

Table 5 – HIV Viral Load Testing for Adult/Adolescent HIV Cases by Jurisdiction, Alive on 6/30/2011

Number of Adult/Adolescent Reported HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 6/30/2011 (Adult/Adolescent Total Living HIV Cases), Number and Percent by Jurisdiction of Adult/Adolescent Total Living HIV Cases with a Reported HIV Viral Load Test Result in the Previous 12 Months (Recent Viral Load Test Result), Percent by Jurisdiction of the Last Recent Viral Load Test Results that were Undetectable, and the Median Detectable Result in Copies per Milliliter, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 6/30/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Adult/Adolescent Total Living HIV Cases				
	No.	Recent Viral Load Test Result			
		No. with Test	% with Test	% Un-detectable	Median Detectable
Allegany	75	47	62.7%	66.0%	2,206
Anne Arundel	1,087	466	42.9%	43.3%	985
Baltimore City	13,161	5,242	39.8%	40.2%	1,500
Baltimore	2,764	1,258	45.5%	42.1%	1,000
Calvert	98	44	44.9%	54.5%	16,277
Caroline	60	21	35.0%	47.6%	2,336
Carroll	124	46	37.1%	43.5%	117
Cecil	108	19	17.6%	57.9%	9,026
Charles	318	125	39.3%	48.8%	2,244
Dorchester	107	45	42.1%	48.9%	5,725
Frederick	280	119	42.5%	61.3%	168
Garrett	6	2	33.3%	***	***
Harford	370	177	47.8%	51.4%	452
Howard	408	168	41.2%	57.7%	491
Kent	35	17	48.6%	***	335
Montgomery	3,109	1,129	36.3%	65.3%	628
Prince George's	5,669	1,946	34.3%	53.1%	2,240
Queen Anne's	47	23	48.9%	52.2%	22,949
Saint Mary's	102	42	41.2%	42.9%	925
Somerset	50	20	40.0%	35.0%	390
Talbot	56	25	44.6%	68.0%	1,651
Washington	300	139	46.3%	69.8%	2,339
Wicomico	219	84	38.4%	42.9%	5,130
Worcester	82	28	34.1%	60.7%	1,316
Corrections	1,549	725	46.8%	44.7%	2,108
TOTAL	30,184	11,957	39.6%	46.7%	1,390

*** Data withheld due to low population and/or case counts