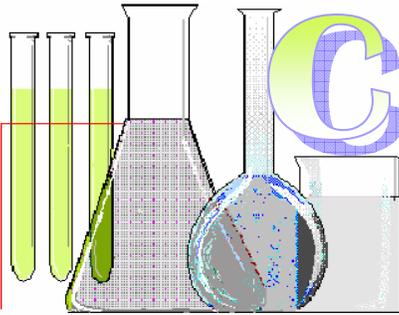


Maryland Department of Health & Mental Hygiene



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CRITICAL LINK



September 2008

Volume 12, Number 9

New Central Laboratory Building Project Moving Forward

The Department of Health and Mental Hygiene (DHMH) first identified the need for a new central public health laboratory in late 2002. Over the following four years, the need was fully justified and various potential facility sites were proposed and studied. The Laboratories Administration examined various key issues and developed a plan for required workspaces, staff, and instruments.

In 2006, the DHMH Office of Planning, Capital Financing, and Engineering & Maintenance (OPCEM), the Laboratories Administration, and an architectural consultant wrote and compiled a formal, 200-page Program of Requirements (POR) for the Laboratories Administration's new laboratory facility. The POR includes descriptions of laboratory functions, staffing, functional relationships, individual room and space data sheets, lists of laboratory equipment and instruments, and mechanical, plumbing, electrical and security requirements.

Early in 2007, due to the size, complexity, and cost of this project, the Maryland General Assembly asked that additional experts take a close look at the POR and report on its contents with respect to possible cost and space efficiencies that may have been overlooked by the POR's drafters. In the fall of 2007, after the OPCEM and the Laboratories Administration compared a number of formal proposals, the Department awarded a contract to the architectural firm of CUH2A to conduct an independent assessment of the POR.

Members of CUH2A met at least monthly from November 2007 through the spring of 2008 with representatives of the OPCEM, the Laboratories Administration, and the Department of Budget and Management (DBM), first, to obtain needed information related to the capital project

(Continued on page 2)

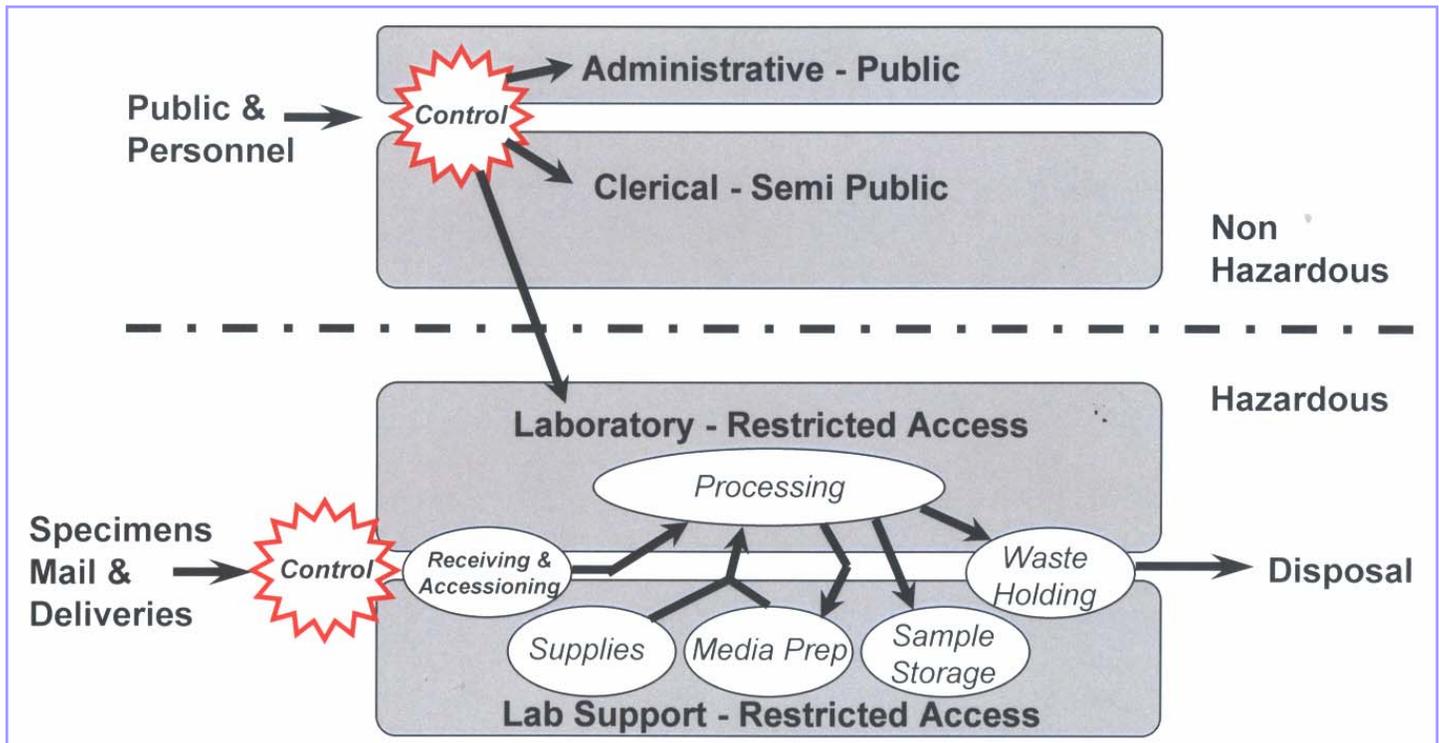
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LABORATORY STATISTICS Page 6



Over the past 10 years, new design and construction projects for Public Health Laboratories have trended towards large multidisciplinary open labs where possible. (Source CUH2A)



Trends in public health laboratories: building as a flow diagram (Source CUH2A)

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 New Central Laboratory Building Project Moving Forward

and the POR, and later, to vet the developing assessment data through those agencies, directors of other state public health laboratories, and CUH2A public health experts. A final report was submitted by CUH2A and reviewed by the various stakeholders in July 2008.

One method CUH2A employed to evaluate the POR quantitatively was based on tying mission to function, tying function to equipment, tying equipment to space and personnel, and tying space and personnel to cost. The Laboratories Administration's mission was closely reviewed up front because the ultimate cost of a laboratory is driven by its mission. CUH2A found the Administration's mission was appropriate for a public health laboratory responsible for the full range of core public health laboratory functions.

CUH2A also employed a number of validation methods to arrive at justifiable conclusions regarding how appropriate the POR information is compared to other state public health laboratories. These included looking at current trends in public health, the amounts of space requested, net square feet per person, state to state comparison, and formulaic space estimation. By comparing the outcomes of these methods, CUH2A was able to make determinations regarding the accuracy of the POR space approximations. Some of the key points and findings from the report are discussed here.

Trends in Public Health

One reason the State requires a new central public health laboratory is the current laboratory has far too few biosafety level-3 (BSL-3) containment laboratories and those it does have are too small and poorly located. The CUH2A report states:

“Science drivers in the public health realm are creating a need for increased molecular testing, trace level chemical analyses, and ever evolving test methodologies. Emerging and re-emerging infectious diseases, multiple drug resistant strains, modified routes of transmission, and modified diagnostic characteristics of organisms are fueling the need for increased biocontainment space. The new Maryland Public Health Laboratory must be capable of handling agents of unknown origin. In response to this need, this report makes recommendations for an All Hazards Receiving Facility, ample accessioning space, and significantly more BSL-3 space than the existing building. The nature and amount of [biosafety level-3] containment space is necessary to protect the laboratory staff, provide suitable capability to support the state laboratory's mission and to prevent the accidental discharge of agents with potential consequence on the outside environment.”

Before 9/11, new public health laboratories were designed with much less BSL-3 space. For example, the Virginia laboratory, designed in 2000, has BSL-3 spaces

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totaling only 5,567 square feet. Newer laboratories currently under construction (e.g., North Carolina, New Jersey) have nearly double that amount of BSL-3 space. CUH2A recommended that the new Maryland Public Health Laboratory be designed to include 10,000 square feet of BSL-3 spaces. The consultant report also strongly supported the POR's requirements related to general laboratory and other specialty spaces.

“Over the past 10 years, new design and construction projects for Public Health Laboratories have trended towards large multidisciplinary open labs where possible. Open laboratories provide increased ability to expand and contract on changes in mission, science, and equipment, as well as increasing opportunities for equipment sharing, and interdisciplinary collaboration.

“Other design drivers respond to security requirements of the laboratory. In Public Health, training and public access are important to the overall functionality of the laboratory

and to relationships with the community. The public access requirements must be kept separate from the laboratory zones and other private functions. Private deliveries, secure loading docks, public lobbies, chain of custody requirements, and relationships with the FBI, CDC and state police further complicate the strict separation requirements.”

Module Size

Most laboratories are designed around a module of standard size that can be replicated throughout the laboratory and to make larger individual laboratory spaces and laboratory suites. The module used in the POR was based on design using the National Institute of Health (NIH) laboratory module size of 10'8"x11'. The consultants found that a planning module of that size is larger than necessary and recommended a module size of 10'6"x10'6", which is consistent with peer public health laboratories around the country. “The smaller module size is still sufficient to accommodate equipment and casework

(Continued on page 4)



Trends in public health laboratories : open-space laboratories (Source CUH2A)

Laboratories Administration Welcomes New Division Chief of Virology/Immunology

After a four-year recruitment effort, the Laboratories Administration has filled the position of Chief of the Virology/Immunology Division. We are extremely pleased to announce that Maria Carlos, D.V.M., Ph.D. has accepted the position and will take up her scientific and administrative duties on September 24, 2008.

Dr. Carlos is uniquely qualified for this position, with 16 years working experience in public health virology, public health immunology, and laboratory management. She holds New York State Department of Health Certificates of Qualification as a Laboratory Director in Virology and in Diagnostic Immunology. For the past four years, she has been serving the New York City Department of Health Laboratory as its Deputy Director of Virology (2005-2006), Chief of Virology (2006-2007), and as Director of Virology (2007-2008).

In 2003, under an appointment with the University of California, Davis (UCD), Dr. Carlos served in the AIDS Reference Laboratory and as an Associate Professor in

the Department of Microbiology at the Ponce School of Medicine in Puerto Rico (PR). There she served as liaison to the Centers for Disease Control and Prevention (CDC) and PR Department of Health, and supported the AIDS Reference Laboratory in a wide range of managerial and scientific/technical matters that included establishing a new clinical site, training a study team, obtaining National Institutes of Health (NIH) funding, and initiating HIV-1 RNA detection in breast milk from HIV-infected mothers.

From 2002-2004, Dr. Carlos also served as an Assistant Research Immunologist in the Department of Medical Microbiology and Immunology at UCD. There she served as lecturer in immunology for undergraduate and graduate students. She also conducted immune response studies in infected individuals to hepatitis C virus (HCV) and human papillomavirus (HPV) immunodominant epitopes, and validated testing for HIV-1 RNA detection in breast milk.

From 1995-2002, she served as a postdoctoral researcher and laboratory manager in the Department of Medical Microbiology and Immunology, UCD, supervising a staff of 15. She performed and supervised molecular cloning, polymerase chain reaction (PCR), cell culture, virus propagation and titration, co-cultivation of virus, neutralization assays, fluorescent antibody (FA), enzyme linked immunosorbent assay (ELISA), Western Blot (WB), flow cytometry, peptide synthesis, etc. She also provided financial management, coordinated laboratory efforts within operating budgets, and prepared grants and budgets to obtain extramural funding.

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New Central Laboratory Building Project Moving Forward

and provide ample circulation space between working zones." This change allowed CUH2A to significantly reduce the project's gross square footage requirement.

Net to Gross Efficiency

The original POR included a net (usable) to gross square foot ratio of approximately 58%. CUH2A recommended a gross efficiency factor of 65%, a ratio currently being met by other public health laboratory projects across the country. The consultants showed that this efficiency factor could be met by including utilities in the main building rather than as a stand-alone utility building, emphasizing the open-laboratory concept to maximize program space and minimize corridors, right-sizing the total BSL-3 space to 10,000 square feet, using a smaller laboratory module, and reducing some of the POR's NIH criteria for redundancy in accordance with applicable codes and standards.

Cost Reductions

This program analysis resulted in a number of major recommendations that will reduce the overall cost of the construction project: A smaller laboratory module; reducing the total BSL-3 space to 10,000 square feet; eliminating a separate utility building; and emphasizing open-space laboratories. CUH2A also recommended the elimination of blast criteria (a design allowing a building to withstand an explosion) and other standards that are not required on this project. Overall, the consultant identified efficiencies and made recommendations that, when taken together, could reduce the new facility's space requirements by around 65,000 gross square feet and save several tens of millions of dollars.

This article was prepared by Dr. Jack DeBoy.

Reference

CUH2A. New Maryland Public Health Laboratory Program Analysis: Final Report", 1054-001.o1, July, 2008

(Continued from page 4)

Laboratories Administration Welcomes
New Division Chief to Virology/Immunology

Dr. Carlos also taught virology to medical students, and basic immunology to both graduate and undergraduate students (1999-2001). During that period she also served as a NIH National Cancer Center Postdoctoral Fellow and served as NIH HIV Phase I and II Vaccine trial Clinical Research Coordinator of immunology, serology, and virology assays. From 1992-1995, she served as a post-graduate researcher in the Departments of Pathology and Epidemiology in the School of Veterinary Medicine at UCD. In that position, she established molecular diagnostic protocols for Pulsed-Field Gel Electrophoresis (PFGE) and slot blot hybridization for the detection of *Escherichia coli* O157, verotoxigenic *E. coli*, and Shigella-like Toxins I and II.

Dr. Carlos also has a dozen scientific articles to her name and is a member and active participant in a half-dozen professional associations, including the Association of Public Health Laboratories, the American Society for Microbiology, the Pan American Society for Clinical Virology, and the Council of State and Territorial Epidemiologists. She has also served as a reviewer on the *Journal of Immunology* and on the International AIDS Conference Program Review Committee. Additionally, Dr. Carlos has been active in a range of projects that included serving as NIH NCRK-12 Science Education Program Mentor, co-developing an HIV/AIDS (EDUSIDA) awareness program for Venezuela, and co-founding the Symposium for Latin American Scientists in Biomedical Research.

We hope all of the Laboratories Administration's customers and partners will join with our laboratory staff in welcoming and supporting Dr. Carlos, as she begins her tenure in a highly challenging job in a division with a rapidly evolving scientific and public health mission.



MARYLAND

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Department of Health & Mental Hygiene

201 W. Preston Street
Baltimore, MD 21201
(Phone 410-767-6909)

Critical Link: Production Manager
Georgia Corso

Editorial Board: Jack DeBoy, Dr. P.H.
Prince Kassim, Ph.D.
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Questions concerning technical content of this
newsletter may be referred to
Dr. Jack DeBoy at 410-767-6100

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Laboratory Statistics

NS – Not Speciated
 NT – Non-Typeable
 VRE – Vancomycin Resistant
 SP – Species
 NG – No Growth

* This genus has recently been given a new genus name. The genus name in parenthesis is the old name.

** Formerly a part of the *Trichosporon beigeli* complex.

***Alpha streptococci other than *S. pneumoniae* and *Enterococcus*

REPORTED 6/01/08 - 6/30/08

ENTERIC BACTERIOLOGY

GENUS SEROVAR

SEX	AGE	#	JURISDICTION
CAMPYLOBACTER JEJUNI			
U	0	1	ALLEGANY
F	0	1	ALLEGANY
M	0	1	ALLEGANY
F	0	1	BALTIMORE
M	0	1	BALTIMORE
M	0	1	BALTIMORE
M	0	1	BALTIMORE
M	42	1	BALTIMORE
U	0	1	BALTIMORE CITY
M	0	1	BALTIMORE CITY
M	37	1	BALTIMORE CITY
U	42	1	FREDERICK
F	38	1	FREDERICK
M	23	1	FREDERICK
F	0	1	HARFORD
M	1	1	KENT
F	49	1	MONTGOMERY
M	23	1	OUT OF STATE
M	38	1	OUT OF STATE
ESCHERICHIA COLI SEROTYPE O157:H7			
M	0	1	BALTIMORE
F	77	1	PRINCE GEORGE'S
U	11	1	OUT OF STATE
SALMONELLA ABERDEEN			
F	0	1	PRINCE GEORGE'S
SALMONELLA BARDO			
F	1	1	OUT OF STATE
F	1	1	WICOMICO
SALMONELLA BAREILLY			
M	2	1	MONTGOMERY
SALMONELLA BERTA			
F	0	1	BALTIMORE
F	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
SALMONELLA CHESTER			
F	27	1	CARROLL
SALMONELLA CONCORD			
F	0	1	BALTIMORE
F	0	1	BALTIMORE
F	0	1	BALTIMORE
F	0	1	BALTIMORE
F	0	1	BALTIMORE
M	0	1	BALTIMORE
M	0	1	BALTIMORE
M	0	1	BALTIMORE

M	24	1	BALTIMORE
M	52	1	BALTIMORE
SALMONELLA ENTERITIDIS			
U	0	1	BALTIMORE CITY
U	0	1	BALTIMORE CITY
U	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	3	1	BALTIMORE CITY
F	7	1	BALTIMORE CITY
F	17	1	BALTIMORE CITY
F	31	1	BALTIMORE CITY
F	44	1	BALTIMORE CITY
F	47	1	BALTIMORE CITY
F	56	1	BALTIMORE CITY
M	0	1	BALTIMORE CITY
M	0	1	BALTIMORE CITY
M	0	1	BALTIMORE CITY
M	0	1	BALTIMORE CITY
M	0	1	BALTIMORE CITY
M	1	1	BALTIMORE CITY
M	1	1	BALTIMORE CITY
M	2	1	BALTIMORE CITY
M	8	1	BALTIMORE CITY
M	29	1	BALTIMORE CITY
F	22	1	CALVERT
M	20	1	CARROLL
F	31	1	MONTGOMERY
U	3	1	OUT OF STATE
U	36	1	OUT OF STATE
U	37	1	OUT OF STATE
U	56	1	OUT OF STATE
M	50	1	OUT OF STATE
F	39	1	PRINCE GEORGE'S
SALMONELLA GIVE VAR 15+			
F	39	1	BALTIMORE CITY
SALMONELLA HEIDELBERG			
M	0	1	ANNE ARUNDEL
M	21	1	BALTIMORE CITY
M	61	1	BALTIMORE CITY
SALMONELLA HVITTINGFOSS			
M	61	1	TALBOT
SALMONELLA INFANTIS			
F	75	1	OUT OF STATE
M	8	1	OUT OF STATE
M	0	1	OUT OF STATE
SALMONELLA NEWPORT			
F	0	1	BALTIMORE CITY
M	0	1	MONTGOMERY
SALMONELLA ORANIENBURG			
M	0	1	ALLEGANY
SALMONELLA PANAMA			
M	29	1	BALTIMORE CITY
M	2	1	MONTGOMERY
SALMONELLA SAINTPAUL			
F	26	1	ANNE ARUNDEL
F	28	1	ANNE ARUNDEL
M	18	1	ANNE ARUNDEL
M	25	1	ANNE ARUNDEL
M	26	1	ANNE ARUNDEL
M	65	1	ANNE ARUNDEL
F	0	1	BALTIMORE
F	0	1	BALTIMORE
F	0	1	BALTIMORE

F	0	1	BALTIMORE
F	0	1	BALTIMORE
M	0	1	BALTIMORE
M	14	1	BALTIMORE
U	0	1	BALTIMORE CITY
U	0	1	BALTIMORE CITY
F	0	1	BALTIMORE CITY
F	2	1	BALTIMORE CITY
F	25	1	BALTIMORE CITY
M	0	1	BALTIMORE CITY
M	49	1	BALTIMORE CITY
M	62	1	BALTIMORE CITY
F	20	1	MONTGOMERY
M	0	1	MONTGOMERY
M	0	1	MONTGOMERY
M	44	1	MONTGOMERY
U	0	1	OUT OF STATE
U	5	1	OUT OF STATE
U	14	1	OUT OF STATE
U	25	1	OUT OF STATE
U	33	1	OUT OF STATE
U	49	1	OUT OF STATE
M	9	1	OUT OF STATE
M	19	1	OUT OF STATE
U	23	1	PRINCE GEORGE'S
F	19	1	PRINCE GEORGE'S
SALMONELLA SANDIEGO			
M	59	1	WASHINGTON
SALMONELLA SCHWARZENGRUND			
M	38	1	BALTIMORE CITY
M	3	1	BALTIMORE CITY
SALMONELLA SER 4512:I:-			
U	31	1	OUT OF STATE
U	46	1	OUT OF STATE
SALMONELLA TYPHI			
M	28	1	BALTIMORE CITY
M	51	1	BALTIMORE CITY
F	35	1	MONTGOMERY
M	1	1	PRINCE GEORGE'S
SALMONELLA TYPHIMURIUM			
F	0	1	ALLEGANY
F	0	1	BALTIMORE
F	20	1	BALTIMORE
F	30	1	BALTIMORE
M	0	1	BALTIMORE
M	0	1	BALTIMORE
F	30	1	BALTIMORE CITY
F	49	1	BALTIMORE CITY
F	62	1	BALTIMORE CITY
M	20	1	CHARLES
U	25	1	OUT OF STATE
U	53	1	OUT OF STATE
M	21	1	PRINCE GEORGE'S
SALMONELLA TYPHIMURIUM VAR COPENHAGEN			
M	0	1	BALTIMORE
U	0	1	OUT OF STATE
U	55	1	OUT OF STATE
M	0	1	WICOMICO
SALMONELLA UGANDA			
U	37	1	OUT OF STATE
F	33	1	PRINCE GEORGE'S
SALMONELLA VIRCHOW			
U	24	1	OUT OF STATE
SALMONELLA VIRGINIA			
M	0	1	BALTIMORE CITY
SHIGELLA BOYDII SEROVAR 10			
U	0	1	OUT OF STATE

SHIGELLA SONNEI

M	45	1	ANNE ARUNDEL
F	11	1	BALTIMORE
F	0	1	MONTGOMERY
U	8	1	OUT OF STATE
U	63	1	OUT OF STATE
U	70	1	OUT OF STATE
F	14	1	OUT OF STATE

VIBRIO PARAHAEMOLYTICUS

U	24	1	BALTIMORE CITY
F	81	1	BALTIMORE CITY
M	49	1	BALTIMORE CITY
F	56	1	CHARLES
M	45	1	PRINCE GEORGE'S

TOTAL

167

ISOLATES – THROAT CULTURES

COUNTY	GROUP A ¹	NON-GROUP A
CARROLL	1	0
HOWARD	0	1
PRINCE GEORGE'S	0	1
WORCESTER	3	3
BALTIMORE CITY	3	1
TOTAL	7	6
¹ <i>Streptococcus pyogenes</i>		

BACTERIOLOGY IDENTIFICATIONS

Referrals

GENUS SPECIES

SOURCE # JURISDICTION

HAEMOPHILUS INFLUENZAE NON-TYPABLE

BLOOD	1	ANNE ARUNDEL
BLOOD	1	BALTIMORE
BLOOD	2	BALTIMORE CITY
BLOOD	2	CARROLL
BLOOD	5	MONTGOMERY
BLOOD	1	OUT OF STATE
BLOOD	1	PRINCE GEORGE'S
WOUND	1	WORCESTER

HAEMOPHILUS INFLUENZAE SEROTYPE F

BLOOD	1	BALTIMORE
BLOOD	1	MONTGOMERY

KLEBSIELLA PNEUMONIAE

SPUTUM	1	WICOMICO
URINE	3	WICOMICO
WOUND	1	WICOMICO

NEISSERIA MENINGITIDIS NONGROUPABLE

CSF	1	BALTIMORE
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NEISSERIA MENINGITIDIS SEROGROUP C

BLOOD	1	MONTGOMERY
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NEISSERIA MENINGITIDIS SEROGROUP Y

BLOOD	1	ANNE ARUNDEL
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PROTEUS MIRABILIS

WOUND	1	WICOMICO
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STAPHYLOCOCCUS AUREUS

ABSCCESS	1	WICOMICO
BLOOD	1	WICOMICO
SPUTUM	1	WICOMICO
WOUND	2	WICOMICO

TOTAL

30

ISOLATES – MISCELLANEOUS

GENUS SPECIES SOURCE	#	JURISDICTION
CORYNEBACTERIUM ACCOLENS		
BLOOD	1	BALTIMORE CITY
CORYNEBACTERIUM SPECIES		
WOUND	1	FREDERICK
ESCHERICHIA COLI		
WOUND	1	BALTIMORE CITY
GRAM NEGATIVE RODS		
BLOOD	1	BALTIMORE CITY
HAEMOPHILUS INFLUENZAE		
BLOOD	1	BALTIMORE CITY
STAPHYLOCOCCUS AUREUS		
WOUND	1	BALTIMORE
BLOOD	1	BALTIMORE CITY
WOUND	2	CARROLL
OTHER	1	FREDERICK
WOUND	4	FREDERICK
STAPHYLOCOCCUS EPIDERMIDIS		
BLOOD	2	BALTIMORE CITY
STAPHYLOCOCCUS SPECIES CONGULASE NEGATIVE		
WOUND	3	CARROLL
WOUND	1	FREDERICK
STREPTOCOCCI BETA HEMOLYTIC GROUP B		
VAGINA	2	BALTIMORE
VAGINA	1	HOWARD
VAGINA	7	PRINCE GEORGE'S
STREPTOCOCCUS ALPHA-HEMOLYTIC		
BLOOD	2	BALTIMORE CITY
STREPTOCOCCUS BETA-HEMOLYTIC GROUP G		
BLOOD	2	BALTIMORE CITY
TOTAL	34	

SEXUALLY TRANSMITTED DISEASES

GENUS SPECIES SEX	#	JURISDICTION
SYPHILIS SEROLOGY		
F	1	ALLEGANY
M	2	ALLEGANY
F	2	ANNE ARUNDEL
M	4	ANNE ARUNDEL
F	4	BALTIMORE
M	3	BALTIMORE
F	13	BALTIMORE CITY
M	34	BALTIMORE CITY
U	2	BALTIMORE CITY
F	1	CARROLL
F	1	CECIL
F	1	CHARLES
M	2	CHARLES
F	1	HOWARD
M	1	HOWARD
F	7	MONTGOMERY
M	9	MONTGOMERY
U	1	MONTGOMERY
F	9	PRINCE GEORGE'S
M	30	PRINCE GEORGE'S
M	1	TALBOT
F	2	WASHINGTON
F	1	WICOMICO
M	1	WICOMICO
TOTAL	133	
CHLAMYDIA TRACHOMATIS		
M	7	ALLEGANY
F	9	ANNE ARUNDEL

M	24	ANNE ARUNDEL
F	3	BALTIMORE
M	2	BALTIMORE
F	9	BALTIMORE CITY
M	41	BALTIMORE CITY
M	1	CHARLES
M	8	HARFORD
M	1	HOWARD
F	26	MONTGOMERY
M	28	MONTGOMERY
U	4	MONTGOMERY
F	2	PRINCE GEORGE'S
M	44	PRINCE GEORGE'S
M	4	SOMERSET
F	2	WICOMICO
M	2	WICOMICO

TOTAL 217

NEISSERIA GONORRHOEAE

M	1	BALTIMORE
F	1	CALVERT
F	1	CAROLINE
F	1	CHARLES
M	1	FREDERICK
F	2	HARFORD
F	2	HOWARD
F	1	MONTGOMERY
F	4	PRINCE GEORGE'S
M	22	PRINCE GEORGE'S
M	1	ST. MARY'S
F	1	TALBOT
M	2	WICOMICO
M	1	WORCESTER
F	1	BALTIMORE CITY
M	2	OUT OF STATE

TOTAL 44

MYCOBACTERIOLOGY

GENUS SPECIES SEX	AGE	#	JURISDICTION
MYCOBACTERIUM ABSCESSUS			
M	32	1	ANNE ARUNDEL
F	6	1	BALTIMORE CITY
F	83	1	MONTGOMERY
MYCOBACTERIUM AVIUM COMPLEX			
F	80	1	BALTIMORE
F	79	1	BALTIMORE
F	79	1	BALTIMORE
F	79	1	BALTIMORE CITY
F	93	1	BALTIMORE CITY
M	29	1	BALTIMORE CITY
F	34	1	BALTIMORE CITY
F	50	1	BALTIMORE CITY
F	46	1	FREDERICK
F	85	1	FREDERICK
M	45	1	FREDERICK
M	76	1	FREDERICK
M	69	1	FREDERICK
F	82	1	FREDERICK
F	89	1	FREDERICK
F	91	1	FREDERICK
M	66	1	HOWARD
F	52	1	MONTGOMERY
F	82	1	MONTGOMERY
F	41	1	MONTGOMERY
F	29	1	PRINCE GEORGE'S

M	30	1	PRINCE GEORGE'S
M	77	1	WICOMICO
MYCOBACTERIUM CHELONAE			
F	61	1	PRINCE GEORGE'S
MYCOBACTERIUM FORTUITUM			
M	18	1	BALTIMORE
F	66	1	OUT OF STATE
M	51	1	OUT OF STATE
MYCOBACTERIUM FORTUITUM COMPLEX			
F	17	1	BALTIMORE CITY
F	56	1	MONTGOMERY
F	61	1	PRINCE GEORGE'S
MYCOBACTERIUM GORDONAE			
F	59	1	ANNE ARUNDEL
F	46	1	BALTIMORE
F	49	1	BALTIMORE CITY
M	56	1	BALTIMORE CITY
F	73	1	MONTGOMERY
M	84	1	MONTGOMERY
M	84	1	MONTGOMERY
MYCOBACTERIUM SCROFULACEUM			
M	44	1	CECIL
MYCOBACTERIUM TUBERCULOSIS			
M	59	1	ALLEGANY
F	38	1	BALTIMORE
M	78	1	BALTIMORE
F	82	1	BALTIMORE CITY
M	36	1	BALTIMORE CITY
M	31	1	BALTIMORE CITY
M	75	1	BALTIMORE CITY
M	39	1	BALTIMORE CITY
M	56	1	BALTIMORE CITY
M	86	1	CARROLL
F	52	1	FREDERICK
M	27	1	FREDERICK
F	20	1	MONTGOMERY
F	36	1	MONTGOMERY
F	42	1	MONTGOMERY
F	52	1	MONTGOMERY
M	26	1	MONTGOMERY
F	33	1	MONTGOMERY
F	73	1	MONTGOMERY
M	20	1	OUT OF STATE
M	24	1	PRINCE GEORGE'S
M	43	1	PRINCE GEORGE'S
M	20	1	PRINCE GEORGE'S
M	28	1	PRINCE GEORGE'S
MYCOBACTERIUM TUBERCULOSIS COMPLEX			
M	50	1	BALTIMORE
F	35	1	BALTIMORE CITY
M	78	1	CARROLL
M	27	1	FREDERICK
M	40	1	FREDERICK
F	52	1	FREDERICK
F	42	1	MONTGOMERY
F	52	1	MONTGOMERY
M	48	1	MONTGOMERY
M	78	1	MONTGOMERY
F	39	1	MONTGOMERY
F	64	1	MONTGOMERY
M	26	1	MONTGOMERY
F	36	1	MONTGOMERY
M	28	1	MONTGOMERY
M	34	1	OUT OF STATE
M	81	1	OUT OF STATE
M	46	1	OUT OF STATE

M	43	1	OUT OF STATE
M	31	1	PRINCE GEORGE'S
M	49	1	PRINCE GEORGE'S
F	28	1	PRINCE GEORGE'S
M	26	1	PRINCE GEORGE'S
M	28	1	PRINCE GEORGE'S
M	43	1	PRINCE GEORGE'S
M	20	1	PRINCE GEORGE'S
M	29	1	PRINCE GEORGE'S
M	65	1	SAINT MARY'S
M	58	1	WICOMICO
M	37	1	WICOMICO
RAPIDLY GROWING MYCOBACTERIA			
M	29	1	MONTGOMERY
M	73	1	MONTGOMERY

TOTAL **97**

MYCOBACTERIUM SUSCEPTIBILITY RESULTS

DURING JUNE, 2008, SUSCEPTIBILITY RESULTS ON 29 ISOLATES OF *M. TUBERCULOSIS* COMPLEX * WERE IDENTIFIED.

TOTAL: 3 DRUG RESISTANT STRAINS FOUND

#	COUNTY	DRUG(S)
1	MONTGOMERY	® to ISONIAZID and STREPTOMYCIN
1	MONTGOMERY	® to STREPTOMYCIN
1	PRINCE GEORGE'S	® to ISONIAZID

® RESISTANT

**Mycobacterium tuberculosis* complex consists of:

M. tuberculosis
M. bovis
M. bovis, BCG
M. africanum
M. microti
M. canettii

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MYCOLOGY

GENUS SPECIES	SEX	AGE	#	JURISDICTION
ALTERNARIA SPECIES				
M		2	1	CALVERT
F		67	1	PRINCE GEORGE'S
ASPERGILLUS FLAVUS				
F		88	1	TALBOT
ASPERGILLUS FUMIGATUS				
F		0	1	ANNE ARUNDEL
M		54	1	FREDERICK
M		56	1	PRINCE GEORGE'S
F		70	1	TALBOT
M		46	1	BALTIMORE CITY
M		67	1	BALTIMORE CITY
ASPERGILLUS NIGER				
U		0	1	ALLEGANY
BEAUVERIA				
M		47	1	MONTGOMERY
BIPOLARIS				
F		12	1	CALVERT
CANDIDA ALBICANS				
M		70	1	ANNE ARUNDEL
F		23	1	BALTIMORE
F		41	1	BALTIMORE
F		24	1	CALVERT
F		42	1	CALVERT
F		22	1	CECIL
F		30	1	CECIL
U		83	1	MONTGOMERY
F		35	1	MONTGOMERY
F		44	1	MONTGOMERY
F		50	1	MONTGOMERY
F		50	1	MONTGOMERY
F		60	1	MONTGOMERY
F		61	1	MONTGOMERY
F		78	1	MONTGOMERY
M		80	1	MONTGOMERY
F		26	1	MONTGOMERY
F		39	1	MONTGOMERY
F		41	1	MONTGOMERY
F		46	1	MONTGOMERY
M		23	1	MONTGOMERY
F		36	1	PRINCE GEORGE'S
F		67	1	PRINCE GEORGE'S
F		78	1	PRINCE GEORGE'S
M		56	1	PRINCE GEORGE'S
M		80	1	PRINCE GEORGE'S
M		53	1	PRINCE GEORGE'S
M		89	1	PRINCE GEORGE'S
M		48	1	PRINCE GEORGE'S
F		20	1	PRINCE GEORGE'S
F		27	1	PRINCE GEORGE'S
F		18	1	PRINCE GEORGE'S
F		20	1	PRINCE GEORGE'S
F		23	1	PRINCE GEORGE'S
F		28	1	PRINCE GEORGE'S
F		29	1	PRINCE GEORGE'S
F		21	1	SOMERSET
F		50	1	BALTIMORE CITY
CANDIDA GLABRATA				
F		75	1	ANNE ARUNDEL
M		57	1	PRINCE GEORGE'S
M		69	1	PRINCE GEORGE'S
F		71	1	PRINCE GEORGE'S
M		75	1	BALTIMORE CITY
CANDIDA GUILLIERMONDII				
M		68	1	FREDERICK
CANDIDA LAMBICA				
F		65	1	PRINCE GEORGE'S
CANDIDA PARAPSILOSIS				
M		56	1	ANNE ARUNDEL

F	68	1	BALTIMORE
M	66	1	BALTIMORE
F	69	1	CALVERT
M	54	1	FREDERICK
M	61	1	FREDERICK
M	62	1	BALTIMORE CITY
CANDIDA TROPICALIS			
F	73	1	PRINCE GEORGE'S
M	0	1	BALTIMORE CITY
CHRYSOSPORIUM SPECIES			
F	60	1	TALBOT
CLADOSPORIUM SPECIES			
M	81	1	ALLEGANY
M	81	1	ALLEGANY
F	50	1	TALBOT
EPICOCCUM SPECIES			
M	81	1	ALLEGANY
FUSARIUM SPECIES			
F	0	1	ANNE ARUNDEL
U	66	1	FREDERICK
M	72	1	MONTGOMERY
M	0	1	WICOMICO
MOULD			
M	0	1	WICOMICO
MUCOR SPECIES			
U	65	1	ALLEGANY
PAECILOMYCES VARIOTII			
F	42	1	CALVERT
F	64	1	TALBOT
PENICILLIUM SPECIES			
M	67	1	ALLEGANY
F	55	1	BALTIMORE
F	86	1	MONTGOMERY
F	78	1	PRINCE GEORGE'S
PHIALEMONIUM			
F	67	1	TALBOT
RHODOTORULA SPECIES			
F	61	1	PRINCE GEORGE'S
SACCHAROMYCES CEREVISIAE			
M	67	1	BALTIMORE
STERILE, NON-SPORULATING HYPHAE FOUND.			
F	66	1	BALTIMORE CITY
TRICHODERMA			
F	92	1	WICOMICO
TRICHOPHYTON RUBRUM			
F	56	1	ALLEGANY
M	45	1	ALLEGANY
M	67	1	ALLEGANY
M	81	1	ALLEGANY
F	62	1	ANNE ARUNDEL
F	16	1	TALBOT
M	0	1	WICOMICO
M	42	1	WICOMICO
TRICHOPHYTON TONSURANS			
U	6	1	TALBOT
F	7	1	TALBOT
M	3	1	TALBOT
M	3	1	TALBOT
M	3	1	TALBOT
F	6	1	BALTIMORE CITY
TRICHOSPORON ASAHII			
U	87	1	TALBOT
TOTAL		103	

WATER MICROBIOLOGY

	# TESTED	# NON-COMPLIANT
COMMUNITY	18	5
NON-COMMUNITY	378	128
TOTAL	396	133

PARASITOLOGY

GENUS SPECIES	#	JURISDICTION
PROTOZOA		
CHILOMASTIX MESNILI	1	MONTGOMERY
ENDOLIMAX NANA	3	HOWARD
	3	PRINCE GEORGE'S
	1	MONTGOMERY
	1	PRINCE GEORGE'S
ENTAMEBA COLI	1	MONTGOMERY
	3	PRINCE GEORGE'S
	5	FREDERICK
	2	PRINCE GEORGE'S
	1	MONTGOMERY
	1	CARROLL
GIARDIA LAMBLIA	9	PRINCE GEORGE'S
IODAMEBA BÜTSCHLI	3	MONTGOMERY
TOTAL	34	
NEMATODES		
BLASTOCYSTIS HOMINIS	4	PRINCE GEORGE'S
	2	MONTGOMERY
	1	FREDERICK
	2	MONTGOMERY
	4	HOWARD
	1	PRINCE GEORGE'S
ENTEROBIUS VERMICULARIS	2	WASHINGTON
	1	ANNE ARUNDEL
	1	SAINT MARY'S
	1	FREDERICK
	1	HOWARD
TOTAL	20	

ARTHROPOD IDENTIFICATION

NONE

TICK IDENTIFICATION

NONE

FOOD SAFETY

FOOD AND SHELLFISH MICROBIOLOGY

	# OF SAMPLES	NOTABLE PATHOGENS
FOOD	42	9 SALMONELLA SP.
		# STANDARDS EXCEEDED *
CRABMEAT	0	0
		# STANDARDS EXCEEDED **
SHELLFISH	0	0
SHELLFISH GROWING WATERS	275	
TOTAL	317	9

STANDARDS

* CRABMEAT-FRESH
ESCHERICHIA COLI = LESS THAN 36 MPN/100 GRAM
STANDARD PLATE COUNT = LESS THAN 100,000 PER GRAM

** SHELLFISH
FECAL COLIFORMS = LESS THAN 230 MPN/100 GRAM
STANDARD PLATE COUNT = LESS THAN 500,000 PER GRAM

VIRAL HEPATITIS

ORGANISM	# OF SPECIMENS	POSITIVES	JURISDICTION
HEPATITIS A			
	1	0	BALTIMORE
	1	0	CECIL
	1	0	MONTGOMERY
	2	0	PRINCE GEORGE'S
	1	0	SOMERSET
SUBTOTAL	6	0	
HEPATITIS B			
	54	0	ALLEGANY
	91	0	ANNE ARUNDEL
	69	1	BALTIMORE
	583	8	BALTIMORE CITY
	9	0	CALVERT
	45	1	CARROLL
	159	1	CECIL
	3	0	CHARLES
	1	0	DORCHESTER
	91	1	FREDERICK
	17	0	GARRETT
	41	0	HARFORD
	38	0	HOWARD
	4	0	KENT
	295	8	MONTGOMERY
	297	8	PRINCE GEORGE'S
	4	0	QUEEN ANNE'S
	1	0	SAINT MARY'S
	1	0	SOMERSET
	17	0	TALBOT
	4	0	UNKNOWN
	34	0	WASHINGTON
	115	1	WICOMICO
	1	0	WORCESTER
SUBTOTAL	1,974	29	
HEPATITIS C			
	52	6	ALLEGANY
	103	30	ANNE ARUNDEL
	75	5	BALTIMORE
	241	72	BALTIMORE CITY
	9	0	CALVERT
	47	10	CARROLL
	74	5	CECIL
	2	0	CHARLES
	1	0	DORCHESTER
	99	6	FREDERICK
	18	0	GARRETT
	13	0	HARFORD
	6	0	HOWARD
	4	0	KENT
	30	3	MONTGOMERY
	159	1	PRINCE GEORGE'S
	3	2	QUEEN ANNE'S
	4	0	SAINT MARY'S
	16	1	TALBOT
	2	0	UNKNOWN
	14	0	WASHINGTON
	19	1	WICOMICO
	1	0	WORCESTER
SUBTOTAL	992	142	
TOTALS	2,972	171	

RABIES

SOURCE	#	JURISDICTION
BAT	2	ANNE ARUNDEL
	2	BALTIMORE
	3	MONTGOMERY
CAT	1	BALTIMORE
	1	CECIL
	1	FREDERICK
FOX	1	HARFORD
	1	CHARLES
	1	DORCHESTER
	1	HARFORD
	1	MONTGOMERY
	1	ST. MARY'S
	1	SOMERSET
	1	TALBOT
	1	WASHINGTON
	1	WICOMICO
GROUNDHOG RACCOON	4	MONTGOMERY
	1	ALLEGANY
	1	ANNE ARUNDEL
	2	BALTIMORE
	1	CECIL
	3	FREDERICK
	1	GARRETT
	4	MONTGOMERY
	2	ST. MARY'S
	1	SOMERSET
	1	TALBOT
	1	WASHINGTON
	2	WORCESTER
SKUNK	2	ST. MARY'S
	1	WASHINGTON
TOTAL POSITIVES	47	
TOTAL SPECIMENS	546	

CHLAMYDOPHILIA (CHLAMYDIA) PSITTACI

REPORTED QUARTERLY

FOR APRIL 1, 2008 THROUGH JUNE 30, 2008
NO SPECIMENS RECEIVED

CD4 FLOW CYTOMETRY WORKLOAD

REPORTED QUARTERLY

COMPARING APRIL 1, 2008 THROUGH JUNE 30, 2008 TO
APRIL 1, 2007 THROUGH JUNE 30, 2007

CASE DEF.	LEVEL 1	LEVEL 2	LEVEL 3	TOTAL
	<14%	28%-14%	≥29%	
4/1/2008 - 6/30/2008	229	490	301	1,020
4/1/2007 - 6/30/2007	331	648	290	1,269

NEWBORN & CHILDHOOD SCREENING

STATISTICS FOR JUNE 2008

PRESUMPTIVE POSITIVES	
DISORDERS	#
PHENYLKETONURIA	6
MAPLE SYRUP URINE DISEASE	0
HOMOCYSTINURIA	9
TYROSINEMIA	18
ARGININEMIA	0
CITRULLINEMIA	2
GALACTOSEMIA	0
BIOTINIDASE DEFICIENCY	2
HYPOTHYROIDISM	75
HEMOGLOBIN -DISEASE	13
HEMOGLOBIN -BENIGN	290
CONGENITAL ADRENAL HYPERPLASIA (CAH)	20
CYSTIC FIBROSIS	2
FATTY ACID OXIDATIONS	8
ORGANIC ACIDEMIAS	10
ACYLCARNITINE - BORDERLINE	3
ACYLCARNITINE - OTHERS	1

MONTHLY TOTALS	
# OF SPECIMENS SCREENED	9,902
NUMBER OF TESTS	753,902
% OF UNSATISFACTORY SPECIMENS	2

YEAR-TO-DATE CONFIRMED CASES	
CONDITIONS	# CONFIRMED
MCAD	2
3MCC	1
SCAD	0
VLCAD	0
GA-I	1
PA	1
MAPLE SYRUP URINE DISEASE	0
PKU- CLINICALLY SIGNIFICANT VARIANT	2
PKU- NOT CLINICALLY SIGNIFICANT VARIANT	1
GALACTOSEMIA- CLASSICAL GALT DEFICIENCY	2
GALACTOSEMIA - VARIANT	1
BIOTINIDASE DEFICIENCY	0
GALACTOSE EPIMERASE DEFICIENCY	0
PARTIAL BIOTINIDASE DEFICIENCY	0
CAH- CLASSICAL SALT WASTING	2
CAH-NON-CLASSICAL	0
HYPOTHYROIDISM - PRIMARY	8
OTHER HYPOTHYROIDISM	4
SECONDARY HYPOTHYROIDISM	1
SICKLE CELL DISEASE -SS	7
SICKLE CELL DISEASE -SE	1
SICKLE CELL DISEASE -SC	3
SICKLE CELL DISEASE -S BETA THALASSEMIA	4
CYSTIC FIBROSIS	3

ENVIRONMENTAL CHEMISTRY

SAMPLES	# NON-COMPLIANT	# TESTED
ASBESTOS		
AIR	0	0
BULK	3	15
AIR QUALITY		
PM _{2.5}	0	599
PM ₁₀	0	0
RADIATION		
AIR/CHARCOAL FILTERS	0	74
MILK	0	4
WIPES	0	57
RAW WATER	0	10
VEGETATION	0	0
OTHER	0	0
DRINKING WATER		
METALS		
COMMUNITY	3	7
NON-COMMUNITY	2	4
PRIVATE WELLS	65	202
PESTICIDES & PCBs		
COMMUNITY	0	47
NON-COMMUNITY	0	20
PRIVATE WELLS	0	0
VOLATILE ORGANIC COMPOUNDS		
COMMUNITY	4	382
NON-COMMUNITY	0	135
PRIVATE WELLS	4	103
RADIATION		
COMMUNITY	7	74
NON-COMMUNITY	0	0
PRIVATE WELLS	3	11
INORGANICS		
COMMUNITY	0	12
NON-COMMUNITY	6	55
PRIVATE WELLS	6	236
FOOD CHEMISTRY		
SUSPECTED TAMPERING	0	0
MICROSCOPIC FILTH	0	0
LABELING	0	0
SURVEILLANCE	0	0
CHEMICAL CONTAMINATION	0	0
TOTAL	103	2,047

LEAD ENVIRONMENTAL

TEST	#	ELEV	BRL	UNSAT
TOTAL PAINT	9	2	2	0
TOTAL SOIL	26	15	2	0
DUST				
FLOOR	353	21	310	1
SILL	563	10	461	4
WELL	240	13	149	0
OTHER	14	3	7	2
TOTAL DUST	1,170	47	927	7
GRAND TOTAL	1,205	64	931	7

INTERPRETATION OF RESULTS:

= Number of Samples Received

ELEV= Elevated

BRL= Below Reporting Limit

UNSAT = Unsatisfactory

PAINT Positive in excess of 0.5%

SOIL Action level 400 - 5,000 ppm

DUST Clearance limits: Floor/Other 40 ug/sq ft

Window Sill 250 ug/sq ft

Window Well 400 ug/sq ft

LEAD SCREENING - BLOOD LEAD

CLASS	RANGE ug/dl	# TESTED
MARYLAND		
I	<10	106
IIA	14-Oct	9
IIB	15-19	7
III	20-44	13
IV	45-69	0
V	>69	0
TOTAL		135
WASHINGTON DC		
I	<10	0
IIA	14-Oct	0
IIB	15-19	0
III	20-44	0
IV	45-69	0
V	>69	0
TOTAL		0

HIV ANTIBODY SCREENING – BLOOD (JUNE 2008)

SPECIMEN SOURCES	TOTAL	POSITIVE EIA	%	POSITIVE WB	%
HEALTH DEPARTMENTS AND CLINICS	2,315	108	4.66%	105	97.22%
HOSPITALS	147	8	5.44%	7	87.50%
DETENTION CENTERS	203	3	1.48%	3	100.00%
PRIVATE PHYSICIANS	9	0	0.00%	0	0.00%
STUDENT HEALTH CLINICS	72	1	1.38%	1	100.00%
EMPLOYEE HEALTH CLINICS	11	0	0.00%	0	0.00%
AUTOPSIES	306	15	4.90%	7	46.66%
ORGAN/TISSUE DONORS	77	1	1.30%	0	0.00%
TOTAL	3,140	136	4.33%	123	90.44%

VIRAL LOAD SPECIMENS (JUNE 2008)

HIV-1 RNA Copies/ml	<10 ³	10 ³ – 10 ⁴	10 ⁴ – 10 ⁵	>10 ⁵	Totals
ALLEGANY	10	2	1	0	13
FREDERICK	1	1	0	1	3
MONTGOMERY	91	8	12	7	118
PRINCE GEORGES	78	9	14	5	106
SOMERSET	3	0	0	0	3
WASHINGTON	4	3	2	0	9
WICOMICO	0	0	2	0	2
SUBTOTALS	187	23	31	13	254
DEPT. OF CORRECTIONS	36	9	8	5	58
TOTALS	223	32	39	18	312



MAILING LABEL

Maryland Department of Health & Mental Hygiene
 J. Mehsen Joseph Public Health Laboratory
 Critical Link c/o Georgia Corso L-15
 201 West Preston Street
 Baltimore Maryland 21201

